WORLDRADIO

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ZL9CI —

You worked 'em, now read the story!

Kids' Day — Get some kids involved!

Quartzfest – Amateur Radio and RVs

And more!

OH2BH briefly activates North Korea

Renowned DXer Martti Laine, OH2BH, who first activated North Korea in 1995, briefly appeared on the air early 21 April from North Korea signing P51BH. According to the ARRL DXCC Desk, Laine showed up on 20-meter CW around 0530U, then shifted to 14.195 SSB at around 0640U and later to 21.295 on SSB. The short operation ended just before 0800U.

"Countless DXers have been eagerly waiting for activation of North Korea," said Laine in a press statement. "This country is the rarest of them all — for good reason." North Korea remains isolated from the rest of the world, and visits are allowed only for special purposes. Transmitting by radio from North Korea has been, and still is, a highly sensitive issue, he added.

Laine's sixth visit to North Korea, was not intended to be a full-blown DXpedition. The objective was to introduce the concept of Amateur Radio to those who have the power to decide its future in North Korea.

"It was a preliminary exercise," said DX Advisory Committee Chairman Wayne Mills, N7NG. "The on-air operation was a bonus." Mills said the trip was intended primarily to pave the way for future amateur operation from North Korea, and things went as well or even better than expected. "It fulfilled all expectations," Mills said.

The gear Laine used will remain in North Korea. "The antennas were left right there together with the Yaesu FT-847 equipment," Laine said in a posting to DX reflectors after he'd returned to Beijing. "It is just a matter of switching the power on, when the time is ripe, to allow North Korea to join the ranks of Amateur Radio."

During his brief stint from P5, Laine made 263 contacts, working mostly Europe and Japan, as well as 9K2HN and some West Coast U.S. stations.

The DXCC Desk advises those who might have missed this short opportunity to not worry. "Intermediate steps of this kind are always needed, and, at best, they may lead to more activations," said ARRL Membership Services Manager Bill Kennamer, K5FUV.

Several minutes of audio from the P51BH operation may be heard on 9K2HN's home page, www.qsl.net/9k2hn.

Laine says documentation for the P51BH operation will be sent to the ARRL shortly, and QSL cards will be released from his OH2BH Finland address "as soon as possible." — *ARRL Letter*

Amateurs respond as tornado strikes

The Cincinnati Section SKYWARN Weather Amateur Radio Net was in operation 09 April when a killer tornado struck the Blue Ash/Montgomery area of the city around 6 a.m. Six people died as a result of the storm, which caused heavy damage and power outages. WARN, with its W8NWS net control site at WLW radio, quickly reported weather conditions and damage as it occurred and alerted police and emergency crews.

As a result, WARN Public Information Officer and ARRL PIO Michael Nie, KB8VMX, ended up as the live lead story on the 6 o'clock news on 15 April on Cincinnati's WKRC-TV Channel 12. The station's Chief Meteorologist, Tim Hedrick, interviewed Nie live on the value of severe weather spotters and especially Amateur Radio spotters.

"I was shocked," said Nie. "All the press releases and business cards finally paid off." During the interview, Nie told how two local spotters used Amateur Radio to relay the first reports of a tornado on the ground, as they dove for cover in a ditch. Despite the close call, the spotters were not injured.

The Queen City Emergency Net provided communication support on VHF with operators at various emergency operating centers, command posts, shelters, and disaster relief agency headquarters. QCEN is affiliated with the Cincinnati Red Cross and typically provides damage assessment and communication support for the agency. The storm also affected parts of Indiana and Kentucky. — *W8LLY, KB8VMX, ARRL Letter*

PRB-1 bill clears Texas Senate

The Texas Senate has approved the Amateur Radio "tower bill," and the measure appears headed for passage. The measure passed its second and third readings 19 April. It now goes back to the House because of a minor change in an amendment first made on the House side.

The Texas bill, HB-1345, would incorporate the essence of the limited federal preemption, PRB-1, into state law. The measure would amend the Local Government Code in Texas to prevent local jurisdictions from enacting or enforcing ordinances that fail to comply with PRB-1. The bill further would require ordinances dealing with Amateur Radio antenna placement, screening, or height based on health, safety or aesthetics to "reasonably accommodate amateur communications" and "represent the minimal practicable regulation to accomplish the municipality's or county's legitimate purpose."

Johnson Space Center ARC President Karl Silverman, NØWWK, who's been a prime mover behind the bill says that, because the Senate made only a change to an amended portion of the House bill, it will not have to be heard by the full House. Instead, the bill's sponsor, Rep. Patricia Gray, just has to agree to the change.

After that, the Speaker of the House will send the measure to Governor George W. Bush's office for signing. "So, by the end of this week, the bill should be headed to the Governor's office," Silverman said.

A similar measure has been inching its way through the Maine legislature. — *ARRL Letter*

Probationary license

The FCC has put a new amateur on probation for a year, after he allegedly interfered with police communications while waiting for his license to arrive.

According to a letter on 14 April from FCC amateur enforcement chief Riley Hollingsworth, K4ZDH, Mike Mustachio, KC2EUT, of Rockaway Township, New Jersey, interfered with police communications by transmitting music on a police frequency five days before his amateur license was issued last month. The FCC set aside his license grant while investigating the incident, and reviewing the matter with the police department involved.

In the letter, Hollingsworth says the commission decided to reinstate Mustachio's Amateur Radio license but, in an innovative twist, for a term of only one year. "Due to the seriousness of the interference," Hollingsworth wrote, "we are granting you a short-term license." The letter then advised Mustachio to file a renewal application a month or two before the March, 2000, expiration date, and, quoting again, "if there are no further violations, it will be granted routinely for a normal license term." — *FCC, Newsline*

WORLDRADIO

June 1999 Year 28, Issue 12

On the cover

Worldradio has the story first. Over 90,000 QSOs were made from Campbell Island by the ZL9CI team. We're proud to present their story in a special two-part series.
— **page 18**.

Worldradio Interviews:

Dr. Bob Cox, K3EST, Editor of *CQ Contest*.
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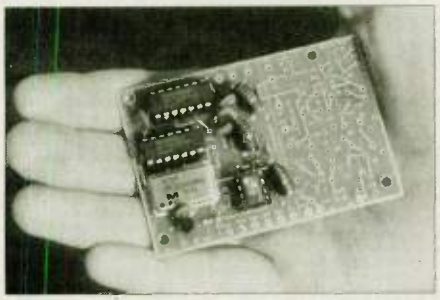

QRP Column

Would you believe this is a fully capable 40 mW QRP rig?
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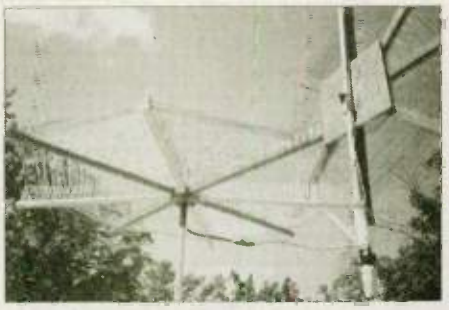
Wires & Pliers

A veteran Ham tests and improves the Petlowany antenna from the March 1998 issue of ***Worldradio***.
— **page 50**.



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Editor's Log

If your family is anything like mine they hound you with the same old question every holiday season or birthday. "What do you want for _____ (enter your own occasion)?" You could reply, "I want that new HF rig that goes from 160 Meters to 1.2 gHz, all mode, with the built-in Pentium VXII motherboard, 45 gig hard drive, Super-Duper MGA (it's better than VGA) and an ISDN modem and telephone line. It only retails for $9,099, but it's on sale for $8,999." Yeah, right.

Why not settle for something much more valuable than a fancy new HF rig, for a lot less money? Of course, I am talking about a lifetime subscription to your favorite Amateur Radio magazine, ***Worldradio***! These new lifers got what they want. Now it's your turn.

•

Our latest members of the lifetime subscribers club are:

- **Harold Bailey, WA3ZTI**
  Gaithersburg, MD
- **John Hanes Jr., KD9UN**
  Vincennes, IN
- **Jim Yetter, K6LIO**
  Mission Viejo, CA
- **Richard Niemtzow, N5EV**
  Mojave, CA

(If you need some pointers on how to get what you want from the XYL, drop me a line. I guarantee I can get you in all kinds of trouble!)

•

Two of the greatest events in Amateur Radio are right around the corner. Of course, I am talking about Field Day and Kid's Day.

Do you know what the original concept of Field Day was? It's supposed to be a demonstration to the public of what we do, how we do it, and why we do it. The emphasis was on what Amateur Radio can do for the average citizen.

In the past, traffic handling was a very important function of Amateur Radio, and clubs out on Field Day would take messages and pass them on through the National Traffic System. People were amazed that we could do this, and we did it free of charge. Consequently, there would usually be a stack of messages waiting to be sent. Then along came computers, cellular telephones and electronic mail. And so the need for our traffic handling skills have fallen on harsh times.

Where does that leave us? Our skills at sending and receiving traffic are still in demand. When is the last time that you or your club has provided communications for a public service event? If you or your club needs to practice the skills necessary for efficient communications, Field Day is the perfect scenario for you. But most clubs don't realize the increasing need to get Amateur Radio out in front of the public.

As technology advances, and better means of communications come on line, the public forgets all about us. All we are now is "that guy down the block that has a big ugly antenna sticking up in the air, and driving down the resale value of MY house!"

So, how do we remedy the situation? By inviting your neighbors into your shack, and demonstrating what you can do with that big ugly antenna, AND by getting our Field Day operations back in front of the public.

The second opportunity coming up is Kid's Day. This is a chance for you to get your neighbors AND their kids interested in Amateur Radio. I have printed flyers and I am passing them out in my neighborhood, inviting families over to my shack on Kid's Day. I am asking for an RSVP on the flyers, and who knows, if there is enough interest, I may even throw some hot dogs and burgers on the grill, too. Feed them AND show them Amateur Radio. Who in their right mind could pass up an invitation like that?

The point is, we HAVE to get Amateur Radio in front of the public, and we HAVE to do it now! If we don't, we are going to see results that will have a negative outcome for our hobby.

I hereby call on all clubs to look at their plans for Field Day 2000. Why go to a place that doesn't attract the public? There are lots of clubs with the notion that Field Day is a contest, with the opportunity to get out to that remote mountaintop for a decent signal and rack up an impressive score. Let's get back to the basics. Get in touch with your local shopping center, library, fire station, amusement park or law enforcement agency and plan Field Day 2000 — WHERE THE PUBLIC CAN SEE YOU!

The FCC is under tremendous pressure from Congress to become a "self-supporting" agency. How are they going to do this? The same way they have been doing it for several years. Auction off radio spectrum. Remember not too long ago, the LMCC attempt to take the 440 band from us? They almost got away with it! If we don't generate more interest, and if the numbers continue to decline, next time they may win!

So do me and all other Amateur Radio operators a favor. Get someone interested! And, DO IT NOW! — *Rick, WF6O*

HF ENTHUSIASM

Yaesu, Choice of the World's top DX'ers

FIELD COMMANDER

Over 40 years of experience in HF transceiver design has firmly established Yaesu as the choice of the world's top DX'ers. The knowledge that produced unequaled RF technology and design that is found in the State of the Art FT-1000MP can also be found in the miniature FT-100. The FT-100 while small in size 6.3" × 2.1" × 8.1"(160 W × 54 H × 205 D mm w/o knob) is large in features and performance. This is accomplished by using the most advanced manufacturing techniques and component mounting technology. High Dynamic range RF front-end technology and Advanced Digital technology such as DSP sets a new standard of receiver performance for miniature HF transceivers. The single piece die cast frame, dual cooling fan system and revolutionary RF high power design technique keeps the FT-100 running cool and smooth in the most adverse operating environments. (TX Power output=100W HF, 50W VHF,20W UHF) The TX Equalizer offers crisp, clear and clean TX audio reproduction that until now was only found in top of the line HF base stations. The optional ATAS-100 (active tuning antenna system) ushers in a new age of mobile and field day operation (from HF to UHF frequencies). Add the optional ATBK-100 base kit (Good for limited space, simple setup.) and you've got a base station that ranks among the best in the world.

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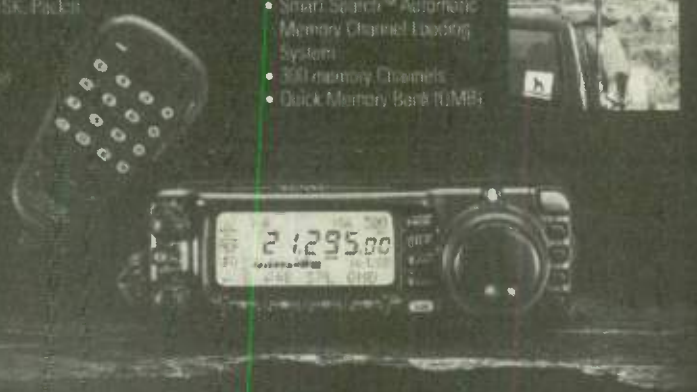

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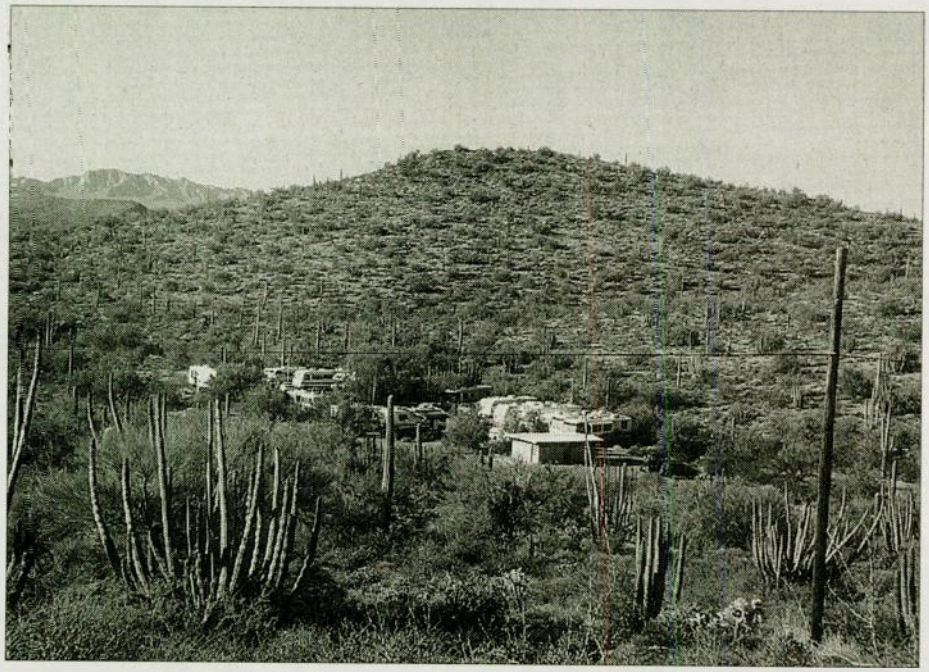
Quartzfest '99
— Amateur Radio and RVs



The beautiful Arizona desert is the setting for the annual get-together of RVing Hams.

Les Cobb, W6TEE

Quartzsite, Arizona is located on Interstate 10, 18 miles from the western edge of Arizona. This town of 2,100 hosts over one million visitors each winter, many of them RVers camped on the desert to visit the nine gem, mineral, and general mechandise "shows" or flea markets crowding the streets. The pleasantly warm Winter days here are also an inducement to come and stay a while.

Quartzfest '99 was the third annual Amateur Radio campout held here for Ham RVers from all over the country. 01-08 February were the official dates this year, but some stayed longer or shorter. A total of 74 RVs were there at one time or another. The Quartzfest campsite is in a BLM short-term camping areanext to Highway 95, 6 miles south of town. This was dry camping, so everyone had their own water, electricity, propane, and restroom facilities.

Quartzfest is an informal unsponsored campout that has the support of a number of RV Ham organizations. It does have the leadership of Harvey and Margie Tetmeyer, K5LJM and AB5ZX, of Sun City, Arizona. Their activities were very flexible, allowing everyone to come and go as they wanted to participate in as many campout activities as they wished.

The technical activities started on Monday, 01 February when Cap Latimer, WB6ZDF, held a seminar on Pactor, explaining Airmail, a computer program for linking Amateur Radio to email. This was of great interest to those traveling. On Tuesday, Bob Hart, WA7HRA, explained APRS and its applications.

Some had their APRS working by the end of the week. Wednesday featured VE testing of people from town and the campout, led by Bob and Laura Bingham, K9WMP and K9BZY. There were two new licenses, and some upgrades and added elements passed. A 75-meter mobile antenna shootout was held on Thursday. No laws of physics were violated in the process. On Friday, Jerry Sullivan, KD3AF, talked about computer maintenance and Y2K. Saturday morning brought the Ham swap meet to the camp. A lot of other Hams came for the day to help buy and sell.

A number of social activities took place, including morning donuts, a ladies coffee meeting, ladies' crafts projects, the traditional Fish Fry at Sweet Darlene's in town Friday afternoon, 4 PM social hours, and the popular evening campfires. For the social hour on Saturday, Dennis Peck, KC7YVO, flew over in his Piper Cub, greeted the campers by Amateur Radio, and dropped packages of commemorative favors for Quartzfest '99 by parachute.

Some serious HF operating was reflected in those RVs. Some attendees were full-time RVers. That means they live (and Ham) in their RVs. Operating mobile in motion is not that important to them. Some do, but their primary concern is to provide a quality Amateur Radio installation for use while parked. The antennas seen included most of the popular all-band trap verticals. These were mounted so they could be lowered to the roof when driving. Any number of methods are used to raise and lower antennas, including screwdriver motors, car window motors, satellite dish motors, RV TV antenna cranks, and just plain climbing up on the roof.

Everyone is looking forward to going again next year to see what they missed this time. They are already talking about plans for "Q2K". To quote Harvey, "Desert camping with RV Ham friends — It just doesn't get any better than this!"

Sam's Radio Hams at Quartzsite

The Sam's Radio Hams were also at Quartzsite enjoying the fun, 04-07 February. This Southern California Amateur Radio/RV group is a chapter of the popular Good Sam RV Owners Club, and this was one of their scheduled monthly campouts. Unlike the Quartzfest RVers, they camped at a commercial site in town for better access to the various "shows". Like most of the RVers, they were dry camping.

The Sams reported 38 member RVs at Quartzsite, along with 16 more from the Dana Point Yacht Club. There is some sharing of members between the two clubs, with the Sams recruiting new Hams from the yachting club and VE testing them. On this occasion, both clubs wanted to visit Quartzsite, and they did it together.

Many of these RVs were equipped for HF operating like at Quartzfest, but the boating influence was seen in the antenna setups. Some were using 23' unloaded Shakespeare marine antennas with SGC Smartuners. In most cases, these tuners were mounted on the ceiling adjacent to the base of the antenna with a short length of high voltage wire to feed the antenna. In fiberglass body RVs, the tuner was grounded to several adjacent metal structural ribs. Results were said to be comparable to trap verticals but with fewer frequency restrictions. Everyone commented on the rapid tuning speed of the Smartuner. Like the trap verticals used on RVs, these marine antennas were raised and lowered for travel by an assortment of electrical and mechanical schemes.

The Sams have several nets where they can test their installations and ragchew with the folks that stayed home. The club net is on Sunday morning at 9 AM Pacific on 7268.5 kHz., and their YL net is on Tuesday evening at 7:30 PM Pacific on 3918.5 kHz. In addition to these, there are informal nets associated with the Sams on Monday — Saturday at 8:45 a.m. Pacific on 7373 kHz., and Monday — Friday at 8:00 p.m. Pacific on 3918.5 kHz.

Although some Sams can operate HF mobile while in motion, usually with a separate mobile whip, communications while caravaning or arriving at camp is usually on their designated 2-meter FM simplex frequency. Besides being convenient, this allows members and spouses holding Technician licenses to take part.

Many tow a small vehicle to use while camped, and it's frequently a 4WD. At least once during a campout, the Sams like to organize a little 4WD trip to see the sights. They toured some petroglyphs and other area curiousities at Quartzsite. 2-meter FM was put to good use to keep the participants informed and on the right route.

After Quartzsite, the Sams had an optional "add-on" trip to Organ Pipe Cactus National Monument in Southern Arizona, on the Mexican border. They were kind enough to invite me to come along since Quartzfest '99, where I was camped, was ending at the same time.

They each left Quartzsite at different times, stopped for gas, propane, and sandwiches at random, and were in and out of 2-meter simplex range at times on the 237 mile trip to Organ Pipe.

The group campsite reserved at Organ Pipe accomodated the 19 RVs present. They stayed for three nights and spent most of their time on day trips around the Park, into Mexico, and on a back road 4WD trip to the town of Ajo.

The Sam's Radio Hams are looking forward to welcoming Y2K with a "Last Great Campout" at a technology free campsite in the desert.

Like other activity oriented Amateur Radio clubs, these folks have a higher percentage of spouses and family members that are licensed. And there's nothing wrong with that!

A typical antenna setup seen on most of the RVs at Quartzfest. Not something you would want to try while driving down the freeway.

David Splitt, KE3VV

You signed a waiver...

As I reported last month, the change in FCC enforcement practices in the March column instigated some interesting email, mostly anecdotes about intentional interference, lack of civility on the amateur bands, and frequency hogging by stations running what the writers suspected was way over the legal power limit. But there was virtually unanimous agreement that the stepped up enforcement was a good idea and, in fact, long overdue. But delving into the details of the enforcement provisions of the Communications Act of 1934 brought some more disputatious communications to the inbox of my *Outlook Express*.

Along with the praise for the new attitude and interest being shown by the FCC's Compliance and Information Bureau (CIB), there were some serious questions raised about some aspects of the "clean up the airwaves" campaign. I should have expected it.

The community of Amateur Radio operators is populated by men and women who are generally independent, patriotic, and self-reliant. I am sure that, if radio had been invented at the time of the Revolutionary War, Amateur Radio operators would have been at the forefront of those who stood up for their rights and pressed the cause of freedom to the limits. Little wonder that the late Barry Goldwater saw himself as a typical Ham. He was not only typical, but represented many of the qualities that exemplify the best aspects of Amateur Radio. Thus, as I said, it should have come as no surprise that a number of Hams raised serious questions about the right of the FCC (under Title 47 U.S. Code, Section 303(n)) "to inspect all radio installations associated with stations required to be licensed by any Act, or which are subject to the provisions of any Act, treaty, or convention binding on the United States (such as an unlicensed station), to ascertain whether in construction, installation, and operation they conform to the requirements of the rules and regulations of the Commission, the provisions of any Act, the terms of any treaty or convention binding on the United States, and the conditions of the license or other instrument of authorization under which they are constructed, installed, or operated."

One writer really took me to task. I won't reveal his call sign, because I don't want to embarrass him for voicing a concern that was shared by several others. "You sound like a lawyer," he wrote, "haven't you ever heard of the Fourth Amendment to the Constitution? The FCC has to have probable cause and a warrant from a judge before they can enter your home!" Well, folks, I do indeed practice law (and have taught a number of legal courses in several law schools), and I am also familiar with the Fourth Amendment. For those of you who may have lost track of its exact wording, it reads, "The right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated, and no Warrants shall issue, but upon probable cause, supported by Oath or affirmation, and particularly describing the place to be searched, and the person or things to be seized."

Consent and waiver

I'm not going to turn this column into a law review article, filled with caselaw citations to dust-covered books and footnotes filled with cryptic annotations. Nevertheless, it might be interesting to take a look at the reasons why you can't look to the Fourth Amendment to keep the FCC from exercising its authority to inspect the rig you use to transmit. There are actually several legal grounds for upholding FCC inspections. First is the notion of consent. It is unlawful to operate a radio transmitter without

Amateur Radio Call Signs

The following shows the last call sign in each group to be assigned for each VEC Region under the sequential call system as of 01 April 1999.
For more information about the sequential call sign sytem, see Fact Sheet PR5000 #206-S dated August 1996, or contact the Federal Communications Commission, Consumer Assistance Branch, 1270 Fairfield Road, Gettysburg, PA 17325-7245, toll-free 1-888/225-5322.

Radio District	Group A Am Extra	Group B Advanced	Group C Tech./Gen.	Group D Novice
0	ABØIL	KIØPT	++	KCØFLA
1	AA1UK	KE1LE	++	KB1DWJ
2	AB2GA	KG2QD	++	KC2EWP
3	AA3SJ	KF3CX	++	KB3DPT
4	AF4OA	KU4YY	++	KG4CRA
5	AC5SM	KM5UT	++	KD5GUP
6	AD6II	KR6AL	++	KF6VNK
7	AC7AR	KK7SM	++	KD7ETA
8	AB8DX	KI8IC	++	KC8MCO
9	AA9WX	KG9PL	++	KB9UKL
N Mariana Is	NHØM	AHØBC	KHØHY	WHØABM
Guam	++	AH2DK	KH2UC	WH2AOA
Hawaii	NH7Z	AH6PS	KH7JZ	WH6DFP
American Samoa	AH8R	AH8AH	KH8DO	WH8ABI
Alaska	ALØN	AL7RL	KLØSP	WL7CVC
Virgin Islands	++	KP2CP	NP2KJ	WP2AIK
Puerto Rico	WP3D	KP3BM	WP3CD	WP4NON

++All call signs in this group have been issued in this district.

Very Important Notice!!

If you received this copy of ***Worldradio*** and you're not a regular subscriber, this was your free sample copy. We sent it to you so you could see all the news, features and columns in ***Worldradio***.

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a license.

When you get your license from the FCC to run a transmitter, you are charged with knowledge of the rules and procedures that cover operation of the equipment. Not just the rules covered in the pre-published test questions (and the answers you meticulously memorized to pass the test), but all of the regulations bearing on the safe and lawful use of the airwaves. As the Supreme Court held in the case of Katz v. United States, the Fourth Amendment protection against search and seizure does not apply when you consent to the search. Under this approach, by accepting a license, you have given blanket consent to the government to inspect your Ham shack. I don't particularly like this reasoning, but it fits in with the other legal theories.

Closely related (and perhaps no different for practical purposes) is "waiver." Simply stated, undertaking certain privileges or licenses includes a waiver of certain rights that would apply if you did not engage in an activity that was closely regulated by the government. Supreme Court cases like Colonade Catering Corp. v. United States upholds this expansion of government regulatory power. In that case, involving liquor licensing, the Court found there was a blanket waiver of search and seizure rights where the government had a right to conduct inspections. I'm sure you can think of other examples; interstate trucks can be inspected without a warrant, nuclear workers waive their rights to object to drug tests in order to keep their jobs, and sellers of firearms cannot object to inspection of their records and inventory.

Regulatory schemes

The cases that I think are most relevant to Ham shack inspections are those like Donovan v. Dewey (which involved enforcement of mine safety rules) and other court decisions upholding the authority of the government to make inspections without a warrant where the Congress has specifically given a federal agency the right to oversee some industry or activity. In the case of Amateur Radio stations, there is an additional basis for unfettered inspections.

A radio transmitter license allows you the use of the public airwaves. Like the interstate highways used by truckers and the waterways plied by maritime vessels, a radio transmitter extends what you are doing in the privacy of your home into the public arena. In other words, what goes out through the coax and radiates from your antenna is, both legally and practically, not a private act. Once those electrons leave your property on their way to Texas or Tanzania, you have opened up your door and torn down the fence.

You can think about it in a number of ways, but the result is the same. Because constitutional rights are applied in a society, where the interests of everyone are balanced against those of the individual, those rights have limits and conditions. You may exercise your First Amendment guarantee of free speech in many ways, but you can't yell "fire" in a crowded theater. In the case of an Amateur Radio operator, once you obtain a license and exercise the privileges of that license, you have voluntarily subjected yourself to the laws enacted by Congress and the regulatory scheme set up by the FCC. Those laws and rules are part of the knowledge you are presumed to have as a licensed Amateur Radio operator, whether you bothered to learn them or not.

What happens if you refuse entry to the FCC field inspector who arrives at your door accompanied by the local sheriff? First of all, they are not likely to break down the door at gunpoint and tear up your house looking for the ultimate ultra-QRO amplifier. More than likely, they will return to their vehicle and leave you to your private musings. Of course, it won't end there. Your failure to allow the inspection is a violation of federal law and the terms and conditions of your license. So without further ado or legal process, the FCC can simply suspend or revoke your license to operate. If you continue to operate, you are then an unlicensed operator and are subject to some major penalties, including fines and jail time.

Cleaning up the airwaves

Having cleared up any remaining confusion over the FCC's right to enter your Ham shack to see if you are operating within the law, let's answer some of the other email. As one Ham put it rather succinctly, "I agree with what the FCC is doing, and I would like to file a complaint, but how do I put a case together that the FCC will act on?" Presuming that the "squeaky wheel" theory still applies, the number of complaints about a particular violator or situation is bound to have some impact. But vague allegations of misconduct, no matter how many amateurs file them, are going to be difficult to follow up with warnings and enforcement. That does not mean the FCC expects you to become a private airwaves detective or invest in the kind of direction finding and power level detection equipment they carry around with them. Remember that the information that you accumulate on a violator is not really evidence that will necessarily be used in the enforcement effort. It is up to the FCC to make the case against a violator. But there are a few things you can do to help your case.

Keep a log

The most important is to keep a complete and accurate log. At a minimum, it seems to me that the contents of the log should include (a) the date of each incident, (b) the time (UTC) at which the unlawful activity began, (c) the time (UTC) when the activity stopped, (d) the frequency (or frequencies) on which it occurred (not just the band, but the precise frequency as shown on your receiver), and (e) a description of the activity. Don't be too cryptic, such as "intentional interference," because that is both vague and conclusory. Just write down what happened in narrative form without making legal judgments. Of course, it might help to have a record-

ing of the offending transmissions. Some things may seem helpful, such as S-meter readings, but really aren't what a lawyer would call "dispositive." Your S-meter is not a power meter, and just because a signal is 40 dB over S-9 doesn't necessarily mean that the offending station is using too much power. There are just too many variables. But if you are trying to conduct a QSO or net and another amateur is transmitting 4 kilocycles up the band and your S-meter shows 10 dB over S-9 every time he dims the lights in his neighborhood, it is certainly an observation worth including.

In the case of intentional interference, noting or recording what the other amateur says in your complaint may help establish intent, especially if the interfering Hams discuss the fact that they know they are messing up your QSO. "Yeah, Jethro, let's crank up the processing and heat up a couple more kW and that'll teach those sissy ops not to ask us to QSY!"

In any case, remember that the purpose of your logging is not to prepare a case for prosecution by the U.S. Attorney, but to put together enough documentation of the events you believe are violations of FCC operating rules to get the attention of the FCC enforcement officials, as well as give them a good foundation for their own investigation.

A final note; While monitoring a frequency on which a net was operating the other evening, I overheard the net control operator and several other Hams discussing several instances of what they considered intentional interference by other Hams with ongoing net operations. After comparing notes on their observations and how they had filed several complaints with Riley Hollingsworth, K4ZDH, the FCC attorney leading the newly reorganized enforcement activity, the net control station said, "Remember, guys," he said, "if we are gonna complain about these other operators, we have to be sure to keep our own house in order." Good advice.

Turning your own amp up beyond the legal limit, punching in the processor, and engaging in verbal and electronic warfare only makes it harder for a neutral observer (like the FCC) to tell who the real violators are. Keep your temper and your logs, and let the FCC do its job. So far, it seems like they are making a lot of progress in cleaning up the airwaves. Let me hear what you think. I'll only use your call in the column if you give your permission. — *David Splitt, KE3VV, can be reached at: 611 Utah Avenue, N.W. Washington, DC 20015, or via email at: davidsplitt@erols.com*

Retesting, short-term renewals are enforcement tools

The FCC's top amateur enforcer, Riley Hollingsworth, K4ZDH, says he plans to make judicious use of both the short-term renewal and retesting to boost amateur compliance.

Hollingsworth employed a short-term renewal as a sanction in a recent amateur case where a newly licensed teenaged Ham was found to be transmitting music on a police frequency using a modified hand-held. On 14 April Hollingsworth reinstated the Ham's Technician license, which had been suspended, but imposed a one-year renewal. Local police in New Jersey had reported to the FCC that Mike Mustachio, now KC2EUT, had transmitted music on a police frequency for about 12 minutes on 16 March, just days before his Ham ticket was granted.

Hollingsworth said he spoke with the 14-year-old licensee and his parents before making a judgment call in the case to go with a short-term renewal. He expects the sanction might come in handy in other pending enforcement cases as well, but he still expects to use it only "in rare cases where there are mitigating circumstances and a good likelihood of compliance."

He said short-termed licensees may appeal, but then the case goes to a hearing, and the process can get much more formalized and complicated. "It just tells them we're watching them," he said.

Retesting is another administrative prerogative that Hollingsworth has been taking advantage of. The FCC has the authority to request that any amateur who obtained a license through the Volunteer Examiner program retest either at an FCC office or using another Volunteer Examiner Coordinator.

Earlier this year, Hollingsworth notified a Delaware Ham that she had to retake her Extra class examination or lose her ticket. More recently, the FCC asked a Michigan amateur to retake his General and Advanced class examinations. Hollingsworth said other retesting requests will be going out soon in several cases where licensees either have not responded to a written Warning Notice or where something about the licensee's actions or responses might have raised questions about the individual's qualifications.

He also says that in situations where the FCC has received "substantiated or well-founded complaints," the FCC may decide to investigate either by asking questions about how the exam was administered or by retesting.

Hollingsworth says recent testing "recalls" should not give rise to speculation that the Commission intends to institute routine retesting calls. He said examination irregularities need at least some attention "just as reviews of operating violations," but he said the Commission won't be calling in Hams on a wholesale basis to retake their tests.

"We're going to use this very carefully," Hollingsworth said. "We don't want to scare everybody into thinking that they could get a recall in the mail." — *ARRL Letter*

Dr. Bob Cox, K3EST
Editor, *CQ Contest*

In our continuing series of interviews with some of the movers and shakers of Amateur Radio, I interviewed Bob Cox, the Editor of *CQ Contest* magazine, a monthly publications dedicated to the art of contesting in Amateur Radio.

Q: The K3EST means you are from back east somewhere. Where exactly?

A. Washington, DC. My first call was KN3EST in 1958.

Q: What steered you towards Amateur Radio?

A. The Boy Scouts. I was in the Boy Scouts, and one of the adult advisors had been a Ham, and worked for an electronics company, but had let his license lapse. He got me interested in electronics, and I tried to build a Heathkit.

Q. Did it work?

A. Yeah, it actually worked but it was like an AR2, and it had a band spread of about a sixteenth of an inch. The dial was very, very small and you had to really do very fine adjustments. I set up my first radio station at a Boy Scout camp on Chesapeake Bay. It was crystal controlled, because back then Novice licensees weren't allowed to use a VFO. It was fun because you always had a stack of crystals so you could change frequencies.

Q. How long did you stay in the Maryland area?

A. I was there until 1986.

Q. And then you came out here to Davis, California. You mentioned that the University of California at Davis medical school brought you out here. I noticed the Doctor title, is that medical doctor?

A. No, I have a doctorate in neurophysiology and human anatomy.

Q. You are the editor of *CQ Contest*. How did that come about?

A. Well, it was my idea and I sold it to Dick Ross, and here we are.

Q. How long have you been doing it?

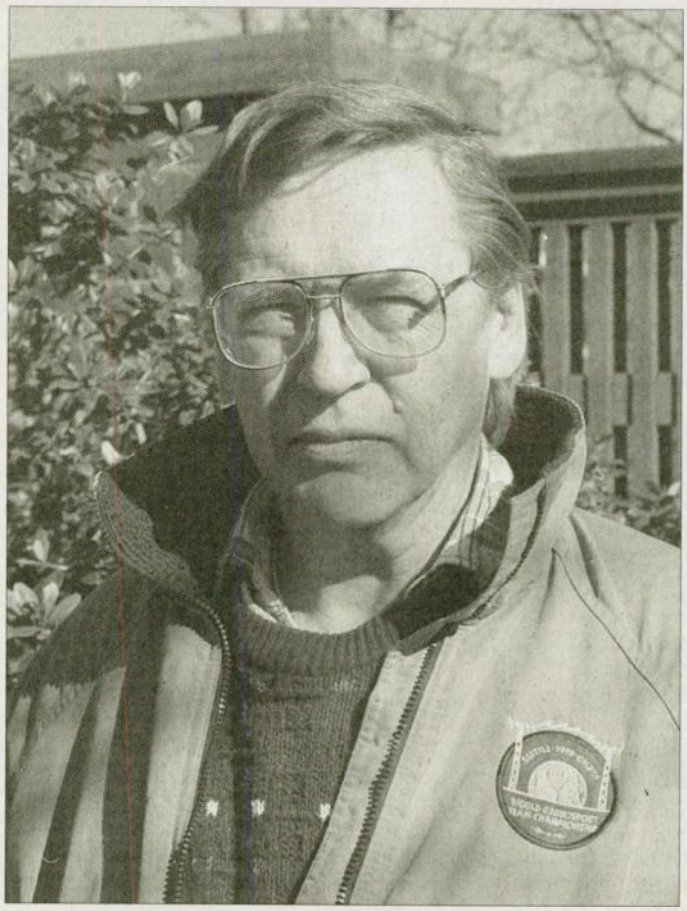
A. *CQ Contest* was first published in January 1996. But there was a lot of preliminary stuff to do, so I have been with them since the summer of 1995.

Q. Did you start out as a contest columnist for *CQ*?

A. No, I started out by essentially running the *CQ* WW contests. I have been the director of the *CQ* WW contests since 1976.

Q. That must be really interesting.

A. Oh, yes, it definitely is. I see practically everything that exists in terms of people and Amateur Radio. If you don't count Field Day, which is not a contest, *CQ* WW os the largest contest in the world.



Dr. Bob Cox, K3EST, Editor of CQ Contest, a must-read publication for serious contesters.

Q. Field Day was never designed as a contest, was it?

A. Field Day was originally supposed to be a demonstration of Amateur Radio for the public. Demonstrating what we can do for the public is a real interesting idea.

Q. You are one of the premier contest operators in the U.S.

A. Well, there's lots of them.

Q. What kind of setup do you have?

A. I have hardly anything. I essentially travel to other places when I'm in a serious contest. I have a TS-950 at home with a small antenna which I use for day-to-day stuff. But if I want to be in a serious contest, I go somewhere.

Q. Have you ever done any contesting from overseas?

A. Every year I go to the Caribbean for the *CQ* WW Phone contest.

Q. And operate from where?

A. The Netherlands Antilles. The call we have been using is PJ9B. We've used that call for several years.

Q. That call sounds familiar.

A. We've probably worked every amateur at least once!

Q. What kind of setup do you have there?

A. We've been at this same location since 1985. It's a group effort and we usually have between nine and fifteen operators for the multi-multi category of *CQ* WW. We have 4 permanent towers, about 110 feet high. We set up and take down the antennas every year. None of them are left up because of the salt air environment. They will corrode real fast in that marine air.

Q. Do you go down there often?

A. No, just every October for ten days or so. It's like a fishing or hunting trip with the guys. It's a chance to get away for awhile.

Q. Any other contests that you get involved with on a regular basis?

A. Ever since I have been an Amateur Radio operator, I have rarely missed any of the ARRL contests. I'm always involved in the ARRL DX contest, the WPX, the 10-meter contests and many others.

Q. I see your callsign listed in the contest results for just about every contest there is.

A. I like to enter and support all kinds of contests, not just *CQ* contests. I enter quite a few contests from other parts of the world. The California QSO party

is another really fun event.

Q. Do you do anything above HF?

A. Not really. I'm interested in it, but I just haven't done much with VHF or UHF. Occasionally, I will get on 6 Meters. I do try to make a few QSOs in the ARRL VHF contest and the *CQ* VHF contest, but that's about it. I'm not on above 30 MHz too often.

Q. Every once in a while we get a 6-meter opening. Do you get on 6 Meters then?

A. Oh yes, 6 Meters is a fun band.

Q. What do you find so interesting about contesting?

A. The first thing about getting into contesting is that it requires so many skills essential to Amateur Radio. A contester has to be able to understand how a radio works, and especially about propagation. You have to know about how to make better antennas, how feedlines work, how filters work, in other words, everything that is fundamental to Amateur Radio is fundamental to contesting in a very pro-active way. The more experience you get and the higher you score in various contests, the more knowledge you gain about wire antennas, how beverage antennas work, how to make a better beam, when is the long path opening to the Far East, when does it occur and why does it happen. So there's that level of contesting, but there's the other side of contesting that's the thrill of working new countries, new people and doing this all at once. But the unique thing about contesting is that once you have been in it for a few years, you discover that contesters are a real fraternity. If you go to Dayton or Pacificon or another convention, and you meet another contester, you are always asking about what kind of antennas they use or what contests they enter. It really is a brotherhood or sisterhood. Whenever I travel overseas I can go anywhere and total strangers would be just like family. There's not many professions or hobbies where that happens. In a nutshell, that's what contesting is to many people.

Q. For someone that has never been in a contest before and is thinking about entering their first one, what would your words of wisdom be?

A. Most people who are novices to contesting are afraid or scared by the din they hear on the air. There are lots of loud stations on the air, all at once, and it's a natural human response to shy away from something they feel is threatening. A novice to contesting should not let mike or key fright scare them off. Just go in. Basically, everyone wants to talk to you. If you don't jump in no one will talk to you, and that's what the contest is all about.

Q. Would you suggest that a novice to contesting first try Field Day to see what it's like?

A. Field Day is an excellent way to meet other people that are interested in the same things you are. It's a great way to learn how to set up a station from scratch, learn how to put up antennas under different limitations and conditions. You also meet a lot of the local Hams. Even though Field Day is a demonstration and is technically not a contest, it sounds just like a real contest and is a good way to learn how to operate in a contest environment.

Q. What personal rewards have you gained from contesting?

A. The friendships of people from all walks of life, from Kings to the heads of companies to students. You know everyone by their first name, and you sit around and talk about radio for eight hours or so. That's the most interesting part of contesting.

Q. One of the things I find most interesting is when you get a QSL card from someone with a little bit of biography about them on it. You never knew that "Tony" was the CEO of a company until you get his card. Do you consider Amateur Radio to be an equalizer?

A. Yes, it is. If you were to go and meet "Tony" he could be a billionaire, but more than likely he is going to greet you as a friend or a family member. You can sit with "Tony" and have a couple of beers and talk about contesting. He'll tell you about his plans for improving his station and ideas for antennas and so forth. And then afterwards you leave in your Volkswagen and he leaves in his Mercedes, but it really is a great equalizer.

Q. How long do you plan on staying with *CQ Contest*?

A. For a long time. The magazine is done electronically, so I can be anywhere in the world and do my job. But with the contests there is so much paperwork involved that I have to be in one place. Right now I have eighteen boxes of *CQ* WW logs that have been opened and are being processed. The *CQ* WW is a special contest because it has a very good history and is an extemely easy contest. All you have to do is exchange callsigns and zones. The *CQ* WW is my driving force. I've been the director since 1976 and my interest is greater in contesting than it has ever been. I'm in this for the long haul.

Q. As long as you're having fun, that's all that counts right?

A. Absolutely!

How to handle an emergency

Art Goltz, N6ZZF

He is a Amateur Radio operator and has a handheld radio with him. He passes out. You are not a Ham operator. What can you do to help him?

F.C.C.97.403 states that anyone can use a communication radio in case of an emergency to obtain help in connection with the immediate safety for human life, welfare, and protection of property when normal communications are not available.

Before an emergency happens, you, as an Amateur, should train immediate family members and close friends who are not Ham operators how to use your radio. They should:

1. Turn on the radio.
2. Press the transmit button on the unit or microphone.
3. Say "Mayday" (Mayday is from the French M'aider" meaning "help me").
4. Use whatever frequency offers the best chance of getting an answer (especially repeaters).
5. Repeat this call a few times and wait for an answer. Repeat again as long as possible until there is an answer.
6. There is no need to identify yourself with a Ham call sign.
7. When an answer is received, be ready to give the precise location of the emergency, the nature of the emergency, and the type of assistance needed — medical, fire, police, etc.

Be sure to tell your relatives and friends to talk slowly, and that Amateur Radio is a one-way conversation — to pause and listen for an answer.

Some day this simple procedure could save your life!

The meaning of CW

Is CW an archaic relic of the past?

Ed Sieb, VA3ES

On 31 March 1995, the U.S. Coast Guard formally ceased CW operations, after 94 years of service. Several months previous, both the U.S. Navy and Marines had also ceased all CW operations.

Since 1995 many other Government and commercial communications services have abandoned the use of CW. Today, there are very few, if any commercial operations using CW as a mode of communications. In a world of satellite communications, wide-band fiber optic, Internet and very-high-capacity digital networks, this is as it should be. Let's face it, CW has no place in today's "Information Super-highway." In today's Amateur Radio, CW competes with high-speed, 56 and 128-KB packet backbones, as well as Amtor, Pactor, Clover and other modes of digital transmission. We can transmit vast volumes of information keyboard to keyboard, computer to computer, faster than one can send a paragraph of text at 60 wpm CW.

Where we amateurs used to be innovators at the forefront of the state of the art in communications, now we barely keep up. Other services covet our valuable frequencies, from HF to microwave. As well, the Amateur Radio Service faces pressures from governments to justify its continued existence.

In the spring of 1995, the government of New Zealand made a decision to actively seek the suppression of the pertinent ITU regulation that requires Morse code proficiency for amateurs licensed to operate below 30 MHz. The ZL government was repeatedly "briefed" at great length by "ORACLE" an organization actively seeking to abolish CW requirements for Hams in New Zealand.

(Informed insiders have indicated that "ORACLE" is a lobby group composed of CB radio retailers and CB groups in New Zealand. NZART, the New Zealand Association of Radio Transmitters, (the New Zealand national organization) came out strongly opposed to no-code dismissing ORACLE as a "small loud-mouthed organization of no significance". ORACLE openly declared their intent to bypass the national Amateur Radio organizations and lobby government directly to eliminate CW.)

And yet, through all this, ARRL and the International Amateur Radio Union continue to back the retention of CW as a requirement for licensing! Can you imagine? In this day and age!

(RAC accepted the dropping of Morse as a treaty requirement but did not back the removal of Morse as a "technical and operational qualification" for Amateur Radio examinations.)

Well, those good 'ol hide-bound amateur organizations are right!

"To be a 'radio amateur' is be a 'lover' of radio."

Yes, CW is archaic. Yes, it is slow and cumbersome compared to modern digital modes. So what? All these facts are irrelevant. The facts of CW's speed and traffic handling capacity are irrelevant to the whole argument. Those who would continuously harp on these meaningless statistics simply miss the whole point of CW. The continuing relevance of CW today and on through to the next century has NOTHING to do with its actual utility in sending traffic!

CW (or Morse code, if you wish) is absolutely essential to the Amateur Radio service and is an essential part what gives Ham radio its meaning. To learn the Morse code, is to open one's heart (and mind) to the essence (yes I keep using this word) of Ham radio and to grasp its soul. (I believe that CW is fundamentally necessary for Amateur Radio and that it is also its heart and soul.)

Ham radio would be just a cold, calculating hobby without it. The Ham radio language, its jargon, wouldn't exist without it. Oh sure, we might have some other kind of radio slang, but I bet it would be borrowed from truckers and other users of "personal radio." We wouldn't have Q signals or 73. And we definitely wouldn't have a history. Simply put, CW is the source of and forms the basis for the *culture* of Ham radio.

To be a "radio amateur" is be a "lover" of radio, one who studies it and appreciates it as an art. Other "amateurs" of art, of music, become lay experts in their fields. They study the subject historically, philosophically, even sociologically and develop a true appreciation of the subject in its entirety. To reject a single important historical aspect of an art or a culture because it is "archaic" is to lack even the most basic comprehension of the subject one purports to love! To learn CW is to make a connection with Ham radio's past and its history. Learning CW means that one has learned the basic reference points of the hobby. An analogy: to acquire my University degree, I had to take a few courses that I considered at the time quite irrelevant. I took some Humanities courses that studied the role of Women in Blues Music! I studied railroad hoboes of the '30s in my sociology classes! I studied Nietzsche, Hegel and Kant in my "Poli-Sci" courses. At the time, I wondered what the usefulness of all this was and what it had to do with Communications and Media, my major. Today, I appreciate that those "irrelevant" subjects made me a more literate, well rounded person. Well, not to put too fine a point on it, in my opinion, a Ham with out CW is simply, "illiterate"!

Today, in those countries, which have "no-code" licenses, (mainly Canada and the U.S.) among the more "veteran", long-time Hams, there has developed a mildly cynical attitude, bordering on contempt for the newer "no-code" VHF operators. They're derisively referred to as "2-meter CBers." This view stems from the perception that these new Hams lack the fundamental understanding of the roots of the hobby and that without code, they're "stuck on 2-Meters," unwilling or unable to expand their radio horizons. (In fact, those no-coders who came from the CB ranks, without CW upgrading, often continue to operate on 11 Meters. Those who've upgraded and have HF privileges, tend to abandon 11 Meters completely.) For their part, some no-coders complain

that they feel like second-class citizens within the amateur community, neither fully accepted, nor able to fully participate in Amateur Radio. They claim that the increasingly irrelevant need for "proficiency" in CW places an arbitrary and artificial obstacle in their paths. They suggest that being "stuck on 2 Meters" is boring and is causing some to lose all interest in the hobby.

Traditionally in Canada, once licensed, Hams always had the opportunity get involved in any aspect of the hobby without limitations. Veteran Hams are convinced that "no-coders" are short-changing themselves, by failing to upgrade. This saddens many veterans as they see this as a drastic change in the sociology of their beloved hobby; a change for the worse.

Here's my suggestion for an appropriate CW requirement for the late '90s and beyond. I'm not suggesting that one must know 15 wpm or even 10 wpm to get a Ham ticket. What I'd like to see is that every prospective Ham, whatever band they will operate, above 30 MHz or below, be required to comprehend all the letters, numbers and punctuation. The CW receiving exam might be something simple such as 100% copy of all characters sent at a slow speed, say possibly 5 wpm or so.

The speed itself is not critical, so long as there is 100% copy of all letters, numbers and punctuation, sent during a "reasonable" period of time. The successful candidate would then acquire a "scheduled" license allowing HF phone operation in certain segments of the bands, or possible restriction to certain bands only. Full band privileges would be acquired by upgrading the qualifications through either a more strenuous CW exam or a tougher technical exam, whatever the candidate's choice.

To those who wish to become amateurs, but adamantly reject CW and stubbornly refuse to learn the code, I say too bad! These persons have failed to appreciate the meaning of Amateur Radio and its *culture* and neither do they understand it. Amateur Radio is not just some fancy, high tech means of communication. It's a community, a service and a tradition with deep roots and a long history. Ham Radio is the whole reason for modern communications technology. Hams invented wireless communications; without us, there might not be any Internet today! Let's not destroy the very spark at the soul of the hobby.

Am I being too "orthodox" in my views? Or am I being an extremist? What do you think?

I encourage your comments and feedback on this subject. You can reach me at P.O. Box 8377, Ottawa Terminal, Ottawa, Ontario, K1G 3H8. Or at: esieb@gmsiworld.com.

Swatch retreats; Sputnik won't fly

Swatch Watch says the "Beatnik" satellite will not be sent into space from the Russian Mir space station as planned. The watchmaker says "a virtual Beatnik" will carry the messages in cyberspace instead and invited "Beat" fans to "stay tuned and join the first cybermission!"

Swatch announced early 16 April on its web site, http://www.swatch.com/beatnik/frameset.html, that the controversial messages the satellite was to have transmitted on the 2-meter amateur band would instead be read by a Russian cosmonaut aboard Mir during an 22 April videoconference, to be broadcast via the Internet.

The controversial messages, gathered via the Swatch Web site, related to the Swatch company's campaign to establish the "Swatch Beat" as a new "global concept of time." Swatch had solicited more than 5000 messages, including voice and text files, for possible transmission on the new satellite. Messages selected for use were supposed to include a reference to the "beat" theme.

But Amateur Radio operators around the world, citing international regulations, protested the plans because of their commercial connection.

Swatch pinned the blame for cancellation of its Beatnik satellite on the recent failure of the Luch 1/Gelios satellite the Mir crew uses for communication with Earth. "Swatch has decided to assist the Spaceflight Control Centre and donate the batteries supporting the Beatnik satellite to the Mir cosmonauts, thus cancelling the possibility of any radio transmission from space," Swatch said in a brief statement on its web site.

The Luch-1/Gelios, the only geostationary satellite available for Mir communications, suffered a technical failure 12 April. Just how the non-rechargeable batteries now in the mini-Sputnik aboard Mir would remedy the Luch-1/Gelios satellite failure was unclear from the Swatch posting.

The ARRL weighed into the Beatnik satellite controversy 07 April by suggesting to Swatch Group CEO Nicolas E. Hayek that the Swiss firm cancel the launch and use a commercial satellite for its project instead. Sumner noted that international regulations define the amateur service as one engaged in by "duly authorized persons interested in radio technique solely with a personal aim and without pecuniary interest."

Although Swatch asserted the messages were not advertising, Sumner pointed out to Hayek that the commercial nature of the arrangements to transmit the messages on amateur frequencies was contrary to international law. "I think this was a new thought to him, frankly, because this is not the way they had been viewing it," Sumner said.

It's not yet known what will become of the mini-Sputnik itself. The satellite had arrived on Mir aboard a Progress rocket 04 April and was set for launch 16 April during a space walk. — *ARRL Letter*

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You can read Complex Impedance as series resistance and reactance (R+jX) or as magnitude (Z) and phase (degrees).

You can determine velocity factor, coax cable loss in dB, length of coax and distance to a short or open in feet.

You can read SWR, return loss and reflection coefficient at any frequency simultaneously at a single glance.

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Find your antenna's true resonant frequency. Trim dipoles and verticals.

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Measure your antenna's 2:1 SWR bandwidth on one band, or analyze multiband performance over the entire spectrum 1.8-170 MHz!

Check SWR outside the ham bands without violating FCC rules.

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Accurately measure distance to a short or open in a failed coax. Measure length of a roll of coax, coax loss, velocity factor and impedance.

Measure inductance and capacitance. Troubleshoot and measure resonant frequency and approximate Q of traps, stubs, transmission lines, RF chokes, tuned circuits and baluns.

Adjust your antenna tuner for a perfect 1:1 match without creating QRM.

And this is only the beginning! The MFJ-259B is a complete ham radio test station including -- frequency counter, RF signal generator, *SWR Analyzer*™, RF Resistance and Reactance Analyzer, Coax Analyzer, Capacitance and Inductance Meter and much more!

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MFJ's comprehensive instruction manual is packed with useful applications -- all explained in simple language you can understand.

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SWR Analyzer Accessories

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MFJ-29C, $24.95. Tote your MFJ-259B anywhere with this *genuine* MFJ custom carrying case. Has back pocket with security cover for carrying dip coils, adaptors and accessories.

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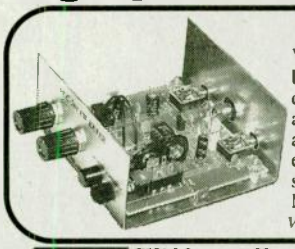

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VEC-201K shown in optional case (vinyl cover top not shown). VEC-201KC, $14.95

CW Memory Keyer Kit stores 512 characters in four 128 character non-volatile EEPROM message memories. *Carry on entire QSOs by just pressing memory message buttons.* True sinewave sidetone with soft rise and fall time eliminates harsh keyclicks. Has all features of VEC-201K CW Keyer Kit. 1¾x 6¼x5¼ in. *Simple skill level.* Order **VEC-221K, $69.95.**

20/30/40/80 Meter Receiver Kits give high performance! Covers entire band or tailor to cover desired portion. Copy CW/SSB/AM. NE602/ 612 mixer-oscillator, LM386 high gain audio amplifier. 1¾x4¾x 5¼ in. *Moderate skill level.* Order **VEC-1120K** (20 Meters),**VEC-1130K**(30 Meters),**VEC-1140K** (40 Meters), **VEC-1180K** (80 Meters), **$29.95 ea.**

20/30/40/80 Meter QRP CW transmitter Kits let you work the world! Variable crystal oscillator tuning, front panel switch selects 1 of 2 crystals. 1 crystal for popular frequency included. Transmit/Receive switch lets you connect receiver. 1¾x4x3½ in. *Intermediate skill level.* Order **VEC-1220K** (20 Meters), **VEC-1230K** (30 Meters), **VEC-1240K** (40 Meters), **VEC-1280K** (80 Meters), **$29.95 ea.**

Tunable SSB/CW Audio Filter Kit has sharp *four* pole peak and notch filters. Eliminate interference. Zero in with frequency control and adjust bandwidth for best response. Extra steep skirts. Tune frequency from 300 to 3000 Hz. Vary bandwidth from 80 Hz to nearly flat. Notch is an outstanding 50 dB. 1 Watt amplifier. Speaker/Phone jacks. 12 VDC at 300 mA. 1¾x4¾x5¼ inches. *Intermediate skill level.* Order **VEC-841K, $34.95.**

Super CW Audio Filter Kit gives you three bandwidths: 80, 110, 180 Hz. Eight poles gives super steep skirts with no ringing. Pull CW QSOs out of terrible QRM! Plugs into phone jack to drive phones. QRM down 60 dB one octave from center frequency (750 Hz) for 80 Hz bandwidth. Improves S/N ratio 15 dB. Use 9V battery. 1¾x4x 3½ in. *Simple skill level.* Order **VEC-820K, $19.95.**

Super CW filter/amplifier Kit has powerful 1 watt audio amplifier to drive speaker. Pull CW signals out of QRM with extremely narrow 80 Hz bandwidth without ringing. 8 poles active IC filtering uses cascaded low-Q stages. Razor sharp selectivity. 3 bandwidths: 80,110, 180 Hz. Center frequency: 750 Hz. Up to 15 dB of noise reduction. Auto noise limiter knocks down static crashes, impulse noises. Use 9-18VDC, 300 mA max. 1¾x4 x3½ in. *Simple skill level.* Order **VEC-821K, $29.95.**

Super SSB Audio Filter Kit dramatically improves readability with 8 poles. Optimizes audio bandwidth, reduces sideband splatter, low, high pitched interference, hiss, static crashes, background noise, 60/120 Hz hum. 375 Hz highpass cutoff. 2.5, 2, 1.5 kHz low-pass cutoffs. Plugs into phone jack to drive head phones. Use 9V battery. 1¾x4x 3½ in. *Simple skill level.* Order **VEC-830K, $19.95.**

144/220/440 MHz Low-Noise Preamplifier Kits soup up your antenna system. Helps pull in weak signals. Works wonders for scanner or ham-band receiver. Quality microwave type bipolar device gives great low-noise performance and immunity from damaging electrostatic discharge. 1x1½ in. *Simple skill level.* Order, **VEC-1402K** (144 MHz),**VEC-1422K** (220 MHz), **VEC-1444K** (440 MHz), **$17.95.**

High-performance 2 Meter Preamp Kit pulls weak signals out of noise. Solves three reception problems -- boosts signals using a 1-dB noise figure microwave transistor, provides razor-sharp bandpass filtering, eliminates unwanted electrical noises with built-in balun. Uses 9-14 volts DC. Tiny 1½x3x1 in. fits in any size box. *Intermediate skill level.* Order **VEC-1402DK, $59.95.**

2/6/10 Meter FM Receiver Kits let you tune into the world of ham radio. Catch all the action! Each covers the entire FM sub-band and runs off your 9 volt battery. Plug in speaker or headphones for loud clear reception. 1¾x4x3½ in. *Intermediate skill level.* Order **VEC-1002K** (2 Meters), **VEC-1006K** (6 Meters), **VEC-1010K** (10 Meters), **$34.95 each.**

2 Meter Monitor Kit receives 144-148 MHz. Low noise, high gain RF preamp gives you excellent 0.1 uV sensitivity. Air variable tuning capacitor has 8:1 reduction. Dual conversion superhet provides selectivity and stability. Automatically eliminates squelch tails. Built-in speaker, squelch, tone, volume controls. 19¼ in. telescopic whip. 9V battery. 2x4¼x4 in. *Intermediate skill level.* Order **VEC-104K, $79.95.**

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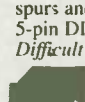
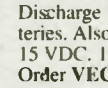


All purpose Ni-Cad/Ni-MH Rapid Battery Conditioner Kit safely quick charges expensive batteries -- no overcharging -- many in less than an hour. HTs, cell phones, camcorders. lap top computers. Handles 1 to 12 cells. Charging status LEDs. Discharge before charge function reconditions batteries. Also removes memory effect. Runs on 12-15 VDC. 1¾x4¾x5¼ in. *Moderate skill level.* Order **VEC-412K, $49.95.**



Crystal radio set Kit lets you relive the experience of early radio pioneers. This baby really works! Wind your own inductor, wire up the earliest radio circuit without soldering a thing and listen to the magic of radio that needs no power. Put up an antenna, connect a ground. Stations come in amazingly loud and clear. Includes antenna wire, sensitive earphone. 1¾x5x6½ in. *Simple skill level.* Order **VEC-121K, $19.95.**

Shortwave Receiver Kit lets you listen to the world! Covers 75/80, 49, 40, 30, 31, 20, 25, 22, 19, 17, 16, 15 and 13 Meter bands. Explore AM, SSB, CW, WWV, RTTY and Packet signals. Vernier reduction drive, smooth regeneration control, RF stage. *Includes all metal cabinet.* 2 earphone jacks. Use 9V battery. 2½x7x6 in. *Intermediate skill level.* Order **VEC-102K, $59.95.**

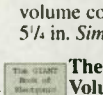
Shortwave Converter Kit converts AM or AM/FM radios to shortwave receivers at a push of a button. Hear stations all over the world at various times of the day and year. Choose two 1 MHz bands between 3 and 22 MHz. Popular 13, 16, 19, 25, 31, 41, 49 and 60 Meters international broadcast bands. On/off bypass, NE-602/612 mixer-oscillator IC and tuned input circuit. Use 9 V battery. 1¾x4x3½ in. *Intermediate skill level.* Order **VEC-101K, $27.95.**

Aircraft Receiver Kit tunes entire voice aircraft band 118-136 MHz. Picks up air traffic 100 miles away. Track progress of incoming/outgoing traffic in your area, gain advanced weather information, and discover how the National Air Traffic System really works. Great way to learn about aviation. Use 9V battery. Drives external speaker/phones. 1¾x4x3½ in. *Intermediate skill level.* Order **VEC-131K, $29.95.**

AM Radio Transmitter Kit lets you set up your own AM station and broadcast crystal clear programming from your studio with *you* as the disc jockey or talk show host. Play music from CD player, tape deck or other source. Choose clear frequency from 530-1750 KHz. Standard line level or microphone input. Easy to connect to CD, tape deck or mike mixers. Audio level adjustment. Has high level AM modulation for low distortion. 1¾x4x3½ in. *Simple skill level.* Order **VEC-1290K, $29.95.**

TV Transmitter Kit lets you plug in camcorders, VCRs or TV cameras and transmit high quality audio/video to nearby TV sets. Imagine watching your favorite movie on a portable TV by the pool with a tape playing indoors. Create your own personal TV station for some great neighborhood fun! Use a hidden video camera to monitor remote areas. Adjustable to channels 3-6. 1¾x4¾x5¼ in. *Moderate skill level.* Order **VEC-1294K, $27.95.**

SCA Decoder Kit tunes in SCA programming hidden in FM broadcast signals. You'll find commercial free background music, all news programs, weather reports, stock quotes, digital data, ethnic programs, reading services for the blind! Tunes entire SCA band 50-100 KHz with front panel tuning/ volume control. Drives external speaker. 1¾x4¾x 5¼ in. *Simple skill level.* Order **VEC-422K, $27.95.**



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ZL9CI - DXpedition to Campbell Island

Lee Jennings, ZL2AL

"Never again" I said to Ken Holdum, ZL2HU as we departed the yacht *Evohe* in 1996 after the ZL8RI Kermadecs Dxpedition. ZL8RI was exhilarating but the voyage was very difficult. Fortunately we both have short memories. Within two weeks, I said to Ken, "We have to do Campbell." "I don't even want to think about it for three months," he replied. Three months later his reply to the same question was "When?" We both agreed on January 1999 as it is summer holiday time in New Zealand. Campbell Island is 1,400 km and 52 degrees South with a sub-Antarctic climate. Getting there was going to be a problem. Getting a permit was going to be difficult as Campbell Island is a nature reserve, protected and administered by the New Zealand Department of Conservation.

Bureaucracy and all that

The first hurdle was obtaining a permit. The Kermadec DX Association was well known to the NZ Department of Conservation (DoC). They had no problem with us as a group as they knew that we were only interested in Amateur Radio and our track record in the Kermadecs was impeccable. They had written policy that stated because Campbell Island has a rich abundance of flora and fauna, any overnight tourist stay would impact on the island's environment. If the DoC let us "tourists" stay, a precedent would be set and then they would have to allow other groups to stay on Campbell Island. Ken used every possible argument to persuade the DoC to give us special dispensation. Numerous letters were exchanged and at the end of the day, it was take it or leave it. Activate Campbell Island with some loss of nighttime operations or don't activate it at all. We made the decision in early 1997 that we had to go, in spite of the restrictions. New Zealand has applied to the UN to give Campbell Island "World Heritage Park" status which could mean even more restrictions in the future. Our Permit was duly issued by the DoC but the overnight restrictions remained. The DoC stipulated that we must take their representative with us to supervise our activities.

Coming soon to a mailbox near you! The official four-page ZL9CI QSL card in living color.

The team

Compatibility of personalities and the commitment of the individual team members accounted for the success of the operation. The key was always going to be the "right" people. We wanted team players who could also be responsible for specific areas of the DXpedition. Definitely no pessimists! The DX community is a small one and it was not that difficult to find eleven out of the nearly 100 excellent applicants for a place on the team. Ken Holdom, ZL2HU, was the leader and administrator, Lee Jennings, ZL2AL, was in charge of the logistics of planning people and equipment, James Brooks, 9V1YC, was the radio operations manager. Declan Craig, EI6FR, and Andrew Williamson, GIØNWG, were in charge of the design and operation of the antenna systems. Ken, ZL2HU, and Murray Woodfield, ZL1CN, were in charge of the power distribution. Junichi Tanaka, JH4RHF, supervised over the operation of RTTY and 6 Meters. Trey Garlough, N5KO, and Wilbert Knol, ZL2BSJ, were the overseers of computer operations and logs. Brian Biggings, VE3XA, took care of safety and Jason Christensen, ZL2URN, was the Department of Conservation representative which made the team of eleven. The operators and leaders were firmed up by October 1999.

Financing

It's a fact of life that modern DXpeditions no longer run on shoestring budgets. Our biggest problem was finding the perfect ship. The *Braveheart* was excellent for our purposes as we were able to live on board for a month. The *Braveheart* is an ex-Japanese research vessel of around 134' long with a high bow for breaking into heavy seas. It is capable of a 9,000 km journey at a speed of just under 10 knots, but it was expensive for a small organization such as ours. Each member of the team was required to put "money on the table" many months before we left to cover part of the $90,000 budget. This requirement sorted out the serious DXers. The Kermadec DX Association relied heavily upon many sponsors and many donations from the individuals and DX organizations around the world.

Objectives

It was clear from the outset that this operation must not fail from lack of management and organization. Ken, ZL2HU, the DXpedition organizer, was very skilled in dealing with bureaucracy and Lee, ZL2AL, enjoyed the logistics and planning. To be successful, we needed quality leadership, an excellent operating team and a committed group of support "pilots" and helpers. We also needed reliable radio gear, as many sunspots as possible, generous financial support from the international amateur community, the support of our long suffering HRWs (Ham Radio Widows) and, bit of old fashioned good luck. Lastly, we needed a very expensive ship, as the vessel must be waiting there at Campbell Island during the DXpedition according to our DoC permit.

Most of the planning was outlined in a comprehensive operations manual which detailed every aspect of how the DXpedition would progress from start to finish. Lee wrote a set of objectives to define the aims of the DXpedition. Some of these objectives were:

1. To arrive on Campbell Island and be on the air with at least four stations simultaneously within 36 daylight hours of arrival and to maintain six operational stations for the duration of the DXpedition.
2. To achieve 60,000 Plus QSOs — with at least 30,000 on CW.
3. To operate 160 Meters, the WARC bands, 6 Meters, and RTTY.
4. To complete the DXpedition safely with no equipment failures, no accidents, no major medical problems and to satisfy all DoC and ARRL DXCC requirements.
5. To have fun and all to return home with a great sense of accomplishment and camaraderie.

Campbell Island

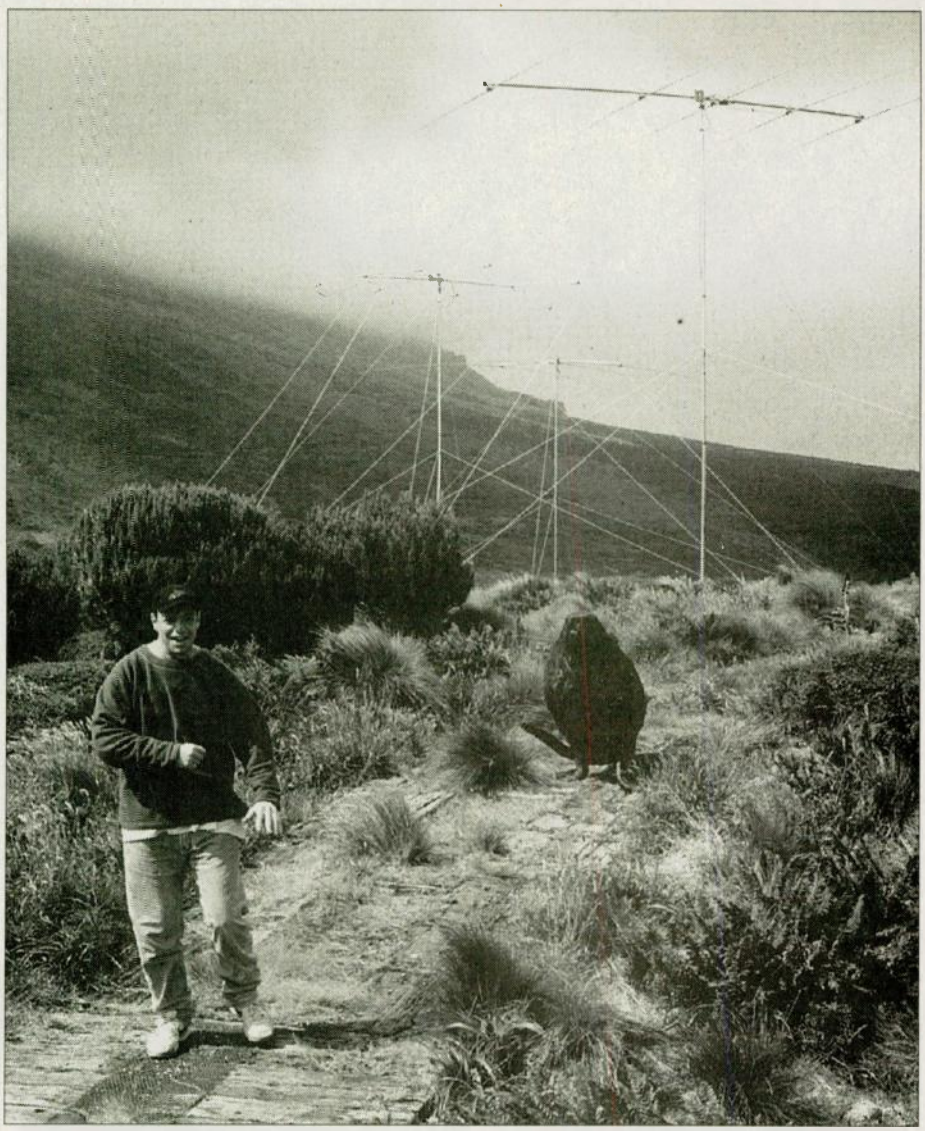
Campbell Island is situated at 52 degrees South, about 1400 km South of Wellington. There are no regularly scheduled ship or aircraft services to the island. In fact, the original purpose of a weather station was superseded by an automated satellite weather service when Campbell was abandoned a few years ago. We were forced to take everything. Five tons of gear, 23,000 watts of generated power and enough antennas to put a signal everywhere in the world so that ZL9CI would be easy to work. Campbell Island is a nature reserve. The flora and fauna are protected, and for good reason. During the middle 1800s, Campbell, McQuarrie, Auckland, Heard and other islands in the Southern ocean had huge populations of sea lions, elephant seals and whales. Most of these species were decimated by the whalers and sealers of the past. It's a fact, that in one year alone, one whaling company based in Australasia took 165,000 skins and 56 tons of seal and whale oil. It is hard to imagine how Perseverance Harbour, named after the ship that discovered it, looked a long time ago.

The semi-permanent residents of Campell Island were less than enthusiastic about our arrival.

The ZL9CI Site was located at Tucker Cove in Perseverance Harbor. The harbor is about 1 km wide and 4 km long. The weather can change from 8°C and pleasant sunshine to a howling gale with 70 knot winds and horizontal driving rain within an hour. Rain falls on an average of 325 days of the year and winds of over 50 knots occur on over 100 days in the year. It is cold, wet, windswept, wild and strikingly beautiful. The rapid weather changes are quite remarkable as we found out on the third day there. The CW antenna site was situated south of the "Technical" building (the old meteorological office) which became the shack and the SSB antenna site was sited 100 meters north. Each antenna field was separated by about 200 meters.

Voyage to Campbell

Ken, ZL2HU, offered to host the



James, 9V1YC, being pursued by the local authority and owner of the land temporarily being used as an antenna farm.

whole team in his Wellington home until we left. Ken's wife, Emily, was extremely tolerant and a wonderful hostess. 29 January saw the first meeting of the full team and it was obvious we had an extremely talented and enthusiastic team. We then began loading five tons of equipment on the *Braveheart* and just finished as the crew of the ship was frantically making last minute preparations and loading provisions. We had many local helpers and support people, such as Ron Wills, ZL2TT; Chris Hannagan, ZL2DX; Win Banks, ZL2GI; Bob Sutton, ZL1RS and others. The following night saw many of the local amateurs call at Ken's home and wish us well for the voyage South. We were ready to leave on 01 January. Emily was ready for us to leave also!

Up early, some team members were showing the effects of New Year's Eve. The trip out of Wellington Harbor was magnificent and we were joined by dolphins, obviously a good omen. Shipboard life was settled into very quickly and you could feel the excitement building within the team. A 20M dipole was hoisted into the rigging and dinnertime saw us cruising East of the South Island working the mainland local 2-meter repeaters in glorious weather with six foot swells. Brian, VE3XA, kept track of our progress on his portable GPS. 02 January was antenna day. Eight antennas were assembled on the rear deck of the ship in excellent weather.

The *Braveheart* was stable with a gentle pitch and roll. Seabirds, like miniature fighter aircraft, did runs at the boat looking for food in the ship's wake. A beautiful sunset appeared on the horizon as we left Stewart Island at the bottom of New Zealand. We changed course and headed Southeast to begin the run for Campbell Island. Immediately the ocean changed with larger swells. The boat rolled and pitched in protest. Great fun was had on the air with the FT900 and dipole hung up in the rigging. And then the weather began to deteriorate. There was a cold snap in the air. Waves grew larger and the boat was being tossed around. 40 knot winds howled across the rear deck and the wind was blowing froth off the top of the waves. It was quite uncomfortable. Most of the team went into hibernation down below in their bunks. Less rolling there. Few of the team had lunch. Dinner was a non-event. Days turned into nights and soon the Captain confirmed that we would make landfall at Campbell much earlier than expected.

Arrival and Setup

On the evening of 04 January, Campbell Island appeared on the ship's radar. Soon it loomed out of the mist. We arrived at Perseverance Harbour around 9 p.m., having arrived 24 hours earlier than planned. Sea lions played around the boat while giant Royal albatross cruised the cliffs above the harbor. The complete team suddenly appeared on the deck, having made a miraculous recovery from their seasickness. Congratulations all around was followed by a meeting with Nigel and the crew of the *Braveheart*. They would help us get the equipment ashore at 4 a.m. Antennas were top priority. We could only pray that the weather would hold.

The next day saw us up at 3:30 a.m. and on to Campbell Island by 4 a.m. A look around and it was decided to set up the eight complete stations at the old Meteorological Office. Simultaneous CW and SSB operation on the same band was a priority and it was decided

by Declan and Andrew that two antenna sites would be developed. The first antenna field for SSB was north of the building and the CW antenna site was developed south of the shack. The separation was 200 meters.

The sea lions were incredibly inquisitive, very aggressive and quite territorial. As we landed they were around the wharf and foreshore challenging us with large grunts and aggressive behavior. Later on in the morning, as we were assembling the yagis with the 15 and 20-meter monoband yagis on the ground in pieces, two young male sea lions approached and chased several team members around a small shed. The sea lions then reclaimed their territory, which unfortunately was covered by two very large yagis. Chaos reigned with sea lions, guy wires, yagi elements, nuts and bolts, hand tools, coaxial cables and guy ropes all mixed up together. After much laughter and a lot of running by the team members the sea lions departed the antenna assembly area. We stayed a safe distance away as they left and worked the rest of the day looking over our shoulders.

Jun, JH4RHF, joined the ZL9CI DXpedition making it a truly international effort.

After 14 hours of setup time without a break, both Nagara WARC antennas, the 20M Force 12 and Cushcraft 20M yagis, both Cushcraft 15M 5el yagis and the two Cushcraft 5el 10M yagis were in place. The 30M Gladiator vertical, 80M vertical and Battlecreek Special 80M/160M were installed the next morning. All equipment was off loaded from the boat and the generators were ready for operations.

The next day, starting at 4 a.m., saw us setting up the shack and running antenna tests. We could actually hear amateurs around the world talking about ZL9CI before we went on the air. The whole ZL9CI site was ready to go in 29 hours of setup time. The weather was perfect. 07 January saw frantic, last minute preparations. The shack turned into a battle zone with James, the five star general in command, issuing orders, answering questions and getting the last minute checks completed. The first QSO was completed with Don Greenbaum, N1DG, one of our two U.S. pilots. James called a team meeting for 20 minutes and then said "Have fun guys," It was all go.

(Next month - The conclusion of the ZL9CI story.)

More on taking back 40M from broadcasters

O.E. Gardner, W9RWZ

(Ed. The following is additional information the author felt should be included with his story that appeared in the January 1999 issue.)

The nulling-loops antenna described in the January 1999 issue of ***Worldradio***, neglected to describe a very important concept without which amateurs in the western half of the U.S. might be inclined to discount it as being ineffective in the direction of the null. Observation of the antenna plots at radiation angles of 5 degrees, 30 degrees, and 45 degrees (EZNEC plots over real ground) shows that quite the opposite is true. Foreign broadcast arrives at angles of 5 degrees or below (even if it takes two hops).

A radiation angle of about 45 degrees returns to earth at a distance of 400 to 650 miles. A radiation angle of about 30 degrees returns to earth at 700 to 1200 miles.

An inspection of the plots shows a null of -55 dBi at 5 degrees angle of radiation.

At 30 degrees angle of radiation it's about -15 dBi, a 40 dB advantage (in the null direction). At 45 degrees it's -10 dBi for a 45 dB advantage over the foreign broadcast in the null direction. Most other directions range from -5 dBi to +5 dBi for about a 55 dB advantage.

These figures should be encouraging for night-time 40-meter activity, especially in the earlier evening hours when foreign broadcast still interferes during the useful short-skip hours.

The care and feeding of an Amateur Radio operator or ...

Why I'm not dead yet!

George C. Cook, AA3JU

I sat down in the command chair tonight, rig and computer all aglow in the pale darkness of the late night. Listening to the chatter of a hundred stations calling out to some obscure speck in the sea, determined to write a new, witty article for ***Worldradio***.

As I rolled back in the chair I ran over a Coke can and stopped for a moment. I surveyed the shack and found the following: Five empty 44oz soda cups from some obscure convienience store, several deflated bags of Cheetohs, a stack of ransacked cookie packages, many flattened donut boxes in the recycling bin, some miscellaneous candy bar wrappers and a leaning tower of Coke cans in the corner.

I took a mighty hit of my Yoo-Hoo and thought about my dietary habits and what sort of thought process (or lack thereof) leads me to eat everything my mother told me was bad for me while parked in front of my shrine to the Holy Electron. Grasping firmly a Twinkie in one hand and a Suzee Q in the other I sat down to the grim task.

For starters each of the basic foods that I consume have a direct if somewhat obscure correlation to Amateur Radio. Hence I will try to describe the various assets of the various morsels of death that I consume.

First of all, I know that most of you reading this would love to one day be in the old 20 wpm Morse code club. You know get your EXTRA! Well if you really wanna send code at 20, heck, 50 wpm right now tonight, eat a half dozen or so Old Dutch Mill sugar glazed donuts and wash it down with two or three cans of Coke. (original recipe only!) Now hit that key! See how fast you send? And it's perfectly legal, or at least I see nothing mentioned forbidding this in part 97.

Let's move on to the Big Gun stuff.

"Eskimo Pies are the Amateur Radio operators perfect dinner."

Ever wonder how you will ever copy anything through the QRM on 80 and 160? Those static crashes will drive you crazy! Well, here is an AA3JU training tip: While ragchewing on the local repeater munch on some Extra Crunchy Fried Cheetohs. That grinding and popping while listening to fairly clear channel communications is just the thing to train your "brain filter" to ignore the background noise and hear what is being transmitted. And here you thought you'd have to buy a $350 DSP filter.

Also, I have found that the fine orange patina that forms on your fingers while eating Cheetohs can be a life saver. Yup, it has amazing insulating properties. I found this out one night while working on my old Drake. I pulled off the plate cap of the finals without ever shutting off the B+. My only sensation was a mild tingle. I am sure that had I not been practicing my QRM technique heavily that night, I would have been killed or seriously injured.

Now what about all those chocolate bars? We all know that chocolate is an instant energy food, and you need that while trying to bust through the pile ups while working DX. I mean once the big guns have gotten the DX, you need that extra edge with the rest of the 100 watt crowd. And, my friend, Clark Bars is that edge!

Just a note on Eskimo Pies. This is not, contrary to popular belief, a dessert. In fact it fits all the criteria for a main course since the main ingredient, Ice Cream, is made from milk. And since milk is nature's "perfect" food, Eskimo Pies are the Amateur Radio operators perfect dinner.

We mentioned dinner but there is a certain rule of breakfasts that I follow. This generally is a meal only eaten before a Hamfest. Now, if I am the backseat passenger, and have to buy for you, the driver, I always make sure to have plenty of Hostess powdered donuts on hand. If, however, I am the driver and you feel compelled to buy me breakfast, I know of nothing better to start the day than 3 eggs, 2 sausage, 4 strips of bacon, scrapple, home fries, a short stack and toast. All washed down by an extra large Pepsi. Unless of course you are over 70, have a really good rig, and a heart condition. Then I will be happy to buy you a Bacon, Egg and Cheese sandwich, on a buttered roll, regardless of who drove.

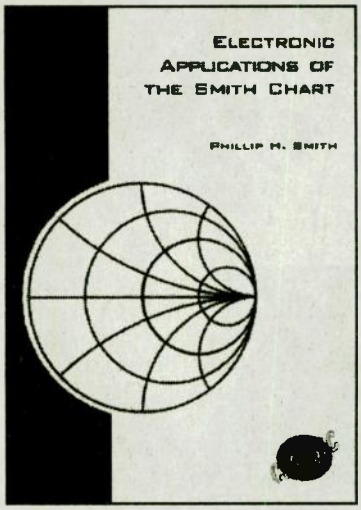
Now you might be thinking, "Hey, George has flipped his wig." But really; I see more skinny Hams with a faint coating of powdered sugar on their lips living on to age 100 than any doctor or nutritionist. Let's face it. Do you know ANYONE older than the average denizen of a 40-meter sideband net? And what do you suppose they eat? Ho-Hos and Malomars, I would bet if the truth be told.

So there you have it. If you want to live to be really old and reasonably happy, forget all that bunk you hear from your Mom or your Cardiologist. Listen to me and hit the snack aisle at the 7-11 and buy a Cherry Slurpee to go on the way out. Tell the clerk I'll be in later. Go home and Ham it up! You'll surely live almost forever and love every minute of it.

The Smith Chart

Electronic Applications of the Smith Chart

by Phillip H. Smith

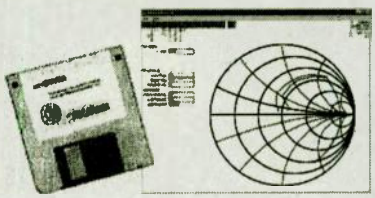


This is an updated edition of the original, classic reference book by the legendary Smith Chart inventor himself. This book describes how the Smith Chart is used for designing lumped element and transmission line circuits and includes tutorial material on transmission line theory and behavior, circuit representation on the chart, matching networks, network transformations and broadband matching. It also includes a new chapter with example designs and a description of *winSMITH (see below).*

Our Price $59.00

*win*SMITH

An easy-to-use computerized Smith Chart for your PC



winSmith, *by Eagleware Corp*

With ***winSMITH***, engineers can have their PCs draw the Smith Chart and measure the distances from one point to another. Easily creates ladder networks of up to nine elements, which can be transmission line segments, inductors, resistors or capacitors, or user-defined elements. Schematic entry simplifies circuit definition, and the Smith Chart display makes manipulation of values a simple task. Can do frequency sweeps, fine or coarse tuning as needed, and provides precise numerical results.

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This video teaches the Smith Chart in 50 minutes. ***Introduction to the Smith Chart*** is all engineers need to start using the chart to solve all types of transmission line and matching problems. This is a painless way to learn about the chart, designed to accompany the book *Electronic Applications of the Smith Chart* and the *winSMITH* software package described above. An excellent way for young engineers to learn this important visualization tool and a good review for experienced engineers.

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Silent Keys

RONALD G. MARTIN, W6ZF

Ron Martin, W6ZF, died 16 March 1991 in Napa, CA. He was born in Clearlake, Iowa. At age 9, an illness kept him bedridden for a long period of time, so his father taught him Morse code at 25 wpm. He earned his first Amateur Radio license at the age of 11 and received the call 9HW in 1918. Before he finished high school, Ron went to work as a wireless operator on a lumber schooner on Lake Superior. After a family move to Berkeley, CA, he went to work for the Dollar Shipping Lines as a shipboard wireless operator and made nine trips around the world.

In 1928, he was hired as a supervisor for communications for the *San Francisco Examiner* radio station KUP, a press wireless station for the Hearst newspaper chain. During this period he took part in many historic events such as the around-the-world flight of the *Graf Zepplin*, flying out in a biplane to greet the airship, and sent reports from the back seat back to San Francisco. During his time with Hearst, Ron was asked by Mr. Hearst to set up a radio station at the Hearst Castle in San Simeon. Mr. Hearst was very pleased with the installation and gave Ron a $1,000 bonus. Ron bought his first automobile with the bonus.

In 1936, Ron left KUP and went to work for the Pacific Telephone Company, staying until WWII. Because of his communications service he received a commission as a first lieutenant in 1942, rising to the rank of major within nine months. His assignment was as an equipment coordinator with the Army Airways Communication System, AACS. It wasn't long before Ron realized equipment used by Amateur Radio operators was far superior to military equipment. As a result, AACS started many radio stations using amateur equipment.

After the war, Ron moved to Sacramento and returned to the telephone company, but remained in the reserves as a communications officer at McClellan Field. When the Korean war began, Ron was called to active duty. He was assigned to Andrews AFB in Maryland. He was also assigned to the Pentagon's advisory board of the Military Amateur Radio System. Many U.S. allies did not approve of amateur operators and protested MARS. At a meeting to discuss replacing the word "amateur," Ron and his good friend Ed Handy of the ARRL suggested in unison "affliated." The change was immediately approved. He also had several meetings with President Truman while stationed at Andrews AFB. After release from active duty, Ron continued with MARS and with the Air Force Reserves at McClellan and Hamilton AFB.

In 1967, Ron retired as a colonel and also as Pacific Division Vice Director with the ARRL. In 1972, Ron retired from Pacific Bell and worked for a short time for Christian Brothers Winery in public relations. He continued to provide propagation forecasts for the Air Force Western Region.

Ron was a lifetime member of the ARRL, Society of Amateur Radio Operators and the Society of Wireless Pioneers. He was a longtime member of the Silverado Amateur Radio Society of Napa Valley, CA. — *AC6LE*

RUSSELL MCCABE, W6GIP

Russell McCabe, W6GIP died recently in Napa, CA. He was born 25 May 1902 in a small town in Indiana, and moved to Dinuba, CA in 1909. He graduated from Dinuba High School in 1921, and attended the University of Southern California. He married his XYL, Glenna, in 1923.

Russel was employed at the Mare Island naval Shipyard for 31 years, 20 years in the sheet metal shop and eleven years in the training division, retiring in 1959.

He built his first radio receiver in 1917, and built a Ford spark-coil transmitter in 1920. Glenna became a "cat whisker" expert before the move to tube equipment. He was a member of the Society of Radio Amateur Operators and the Napa ARC. Russell earned his Amateur Radio license in 1949.

NFCC meets with Hollingsworth

Another group of amateurs has met FCC's Amateur Radio enforcer Riley Hollingsworth. This meeting was between Hollingsworth and a delegation representing the National Frequency Coordinators Council.

The NFCC folks met with Hollingsworth in early March and came away impressed. Word is that Hollingsworth told them the Commission might be receptive to a proposal aimed at giving coordination some legal standing. Hollingsworth also told the NFCC delegation that right now only the most egregious repeater related problems are FCC targets, but smaller ones are also on the list for future action. — *Newsline*

Riley Hollingsworth at NAB convention

Hollingsworth was a surprise guest at the gathering of 800 or so Amateur Radio operators who are also broadcast executives, managers and engineers. It took place at the National Association of Broadcasters Amateur Radio reception in Las Vegas on 21 April. In his short address, Hollingsworth was quick to give credit to others in the bureau who he says has made enforcing the Amateur Radio rules a top priority.

The warm welcome afforded Hollingsworth has to have impressed other FCC officials at the reception. If any wondered how Hams felt about the renewed Amateur service rules enforcement, the applause and cheers have delivered a strong message. One that tells the FCC and Riley Hollingsworth to keep up the good work.— *Newsline*

Contact All Time Zones

To help commemorate 25 years of ***Worldradio***, we announced an award known as "Contact All Time Zones" (CATZ).

- **Rules**

The start date for valid contacts is 01 July 1996 at 0000Z.

The world is divided into 24 time zones. Each time zone is 15 degrees wide. For the sake of this award, half-hourly zones and out-of-zone artificial time changes will be ignored.

This award is based on the true 15 degrees each, world map 24 time zones.

The applying station must have one (two-way) contact on Amateur Radio allocated frequencies with a station in each of the world's 24 time zones. Contact with one's own nation does not count.

The operator applying for the award must have made all 24 contacts from a location within the same country.

The award may be endorsed as the applicant wishes in regard to band and/or modes.

- **Application**

The applying radio operator must be in possession of 24 QSL cards, one from each of the time zones.

A list shall be made showing each contact's call sign, date, band, mode and the time zone starting with the prime meridian (0°) and moving eastward.

There is a fee of $5 to cover the cost and mailing of the 8 x 10 certificate (mailed unfolded).

It is not necessary to mail your QSL cards to ***Worldradio***. Send a statement signed by two other licensed radio amateurs (General Class or above) that they have inspected and verified the required QSL cards.

Address applications to CATZ Award, ***Worldradio***, 2120 28th St., Sacramento, CA 95818.

Recipients of the CATZ award will be announced in the ***Worldradio*** DX column.

Letters to the Editor

"The problem with Amateur Radio is..."

First, K8BNO is probably not aware of the new FCC enforcement policy started by Riley Hollingsworth, K4ZDH, and described in the April 1999 issue of *QST*. This should take some poor operators off the air and cause others to rethink their operating habits.

Second, having an amateur license is a gateway to other public service volunteer projects. RACES, MARS and CAP are some. I've been a member of Navy-Marine Corps MARS for over fifteen years and find it very rewarding.

Third, for experimenters, amateurs are using new techniques like DSP, Amtor, Packet and Pactor. Poor operators stay with phone.

I've been a Ham radio operator for fifty years and I think there is hope for the hobby.

Bob Schuetz, W2BDG
Cave Creek, AZ

No card

Like "Red", W7LQU, I also worked the U.S.S. Hornet, K6PUD on 18 July 1998 at 1828U. Also like "Red", no QSL card was received from them. I sent the SASE as usual, along with my QSL. That particular weekend was the "Museum Ships Special Event." I worked several ships that weekend and the certificate does indicate that I did indeed work the U.S.S. Hornet, K6PUD, but like "Red", no direct QSL card from the Hornet.

Greg Hanson, KI8AF
Marquette, MI

Thanks, Kurt!

As a relatively new Ham, I can't thank you enough for the great articles and columns every month. A very special thanks to Kurt N. Sterba. I have learned more about antennas from reading his monthly rage against the unwashed than from any other source. The main thing I enjoy about his writings is that he backs up his statements with reproducible methods. Yes, I have put my power meter after the tuner to prove a point to a few people. Are there any of Kurt's white hats still floating around? I was tardy in getting one ordered since I was out trying some of Kurt's antenna designs.

Keep up the great work, and I will keep up the subscription.

Phil Sikes, N7UX
Oak Harbor, WA

(*Ed. Yes, we have a few hats left.*)

11-oz. cobalt blue ceramic mug.
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Station Appearance

*Send **Worldradio** a picture of your shack and the staff will choose a winner to receive a free one-year subscription to **Worldradio**! Stations will be judged by neatness (wires tucked away, etc.) and accessibility of equipment. Monetary value of equipment is not a consideration.*

Mark Habberfield, KB9OPW

Mark Habberfield, KB9OPW, submitted the winning entry for this month's Station Appearance. It's a shame we can't show you this photo in color! His desk matches the wall very nicely.

On the bottom shelf, Mark has a Davis weather station, a Kenwood TS-520S with a matching SP520 speaker, DG5 Digital display, PC1 phone patch, Astron RS35M power supply and a TNC-2 packet TNC.

On the next shelf is a Midland 13-509 rockbound 220, Radio Shack Pro 2046 scanner, an MFJ Versatuner II, and a Yaesu 8100R dual band mobile.

The top shelf holds an interesting collection of various tubes.A Pentium computer used for logging rounds out this neat and tidy shack.

All of this hooks up to an MFJ dual band Yagi and a Force 12 C3 classic antenna turned by a Hy-gain HAM IV rotator.

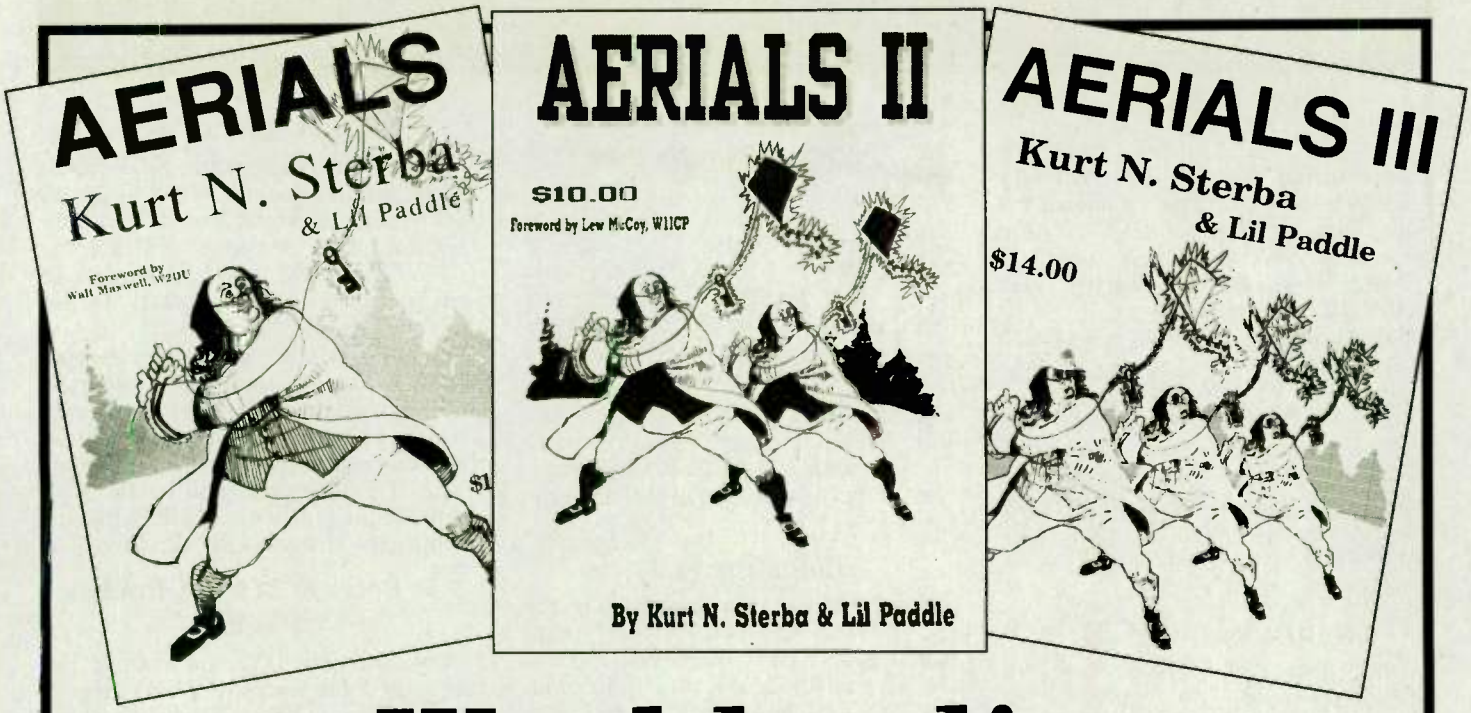
Amateur "Hi"

*Ever had a funny or strange experience with Amateur Radio, on or off the air? If so, type it up (or print neatly) and send it to us for consideration in our monthly AMATEUR "HI" contest. You could win a free year's subscription to **Worldradio**!*

Rudy and the code

Abe Sommer, KF6PF

When I became interested in Amateur Radio, I set about teaching myself Morse code. It was an activity I could do while walking our bright, alert family pooch in the still of each morning. I would tuck my little recorder into my pocket as we set out, and it would spit out dits and dahs into the early morning air. I would announce, loud and clear, "B! or C!" ond on through the alphabet. Rudy dutifully trotted along on his leash. "M! N! O! P!" and so on. Some ten days into the routine, I stared in amazement as Rudy lifted his hind let to do his thing whenever I said the letter "P." From then on, Rudy was on his own. Every time ". -- ." came out of the speaker, up came his hind leg. That Rudy had learned Morse code became indisputable. In only a few more days, he stopped waiting for me to call out the letter and when he heard ". -- .," he did his duty. Poor dog, when he passed away at the ripe old age of 17, our veterinarian was convinced that the cause of death was a super-dry bladder. We know better, he just ran out of gas. 73 to you, Rudy, we hope you teach all the other dogs the code in "Dog Heaven."



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Once again the wise words of our advocates for truthfulness in dB claims illuminate our minds. This is Kurt & Lil's latest collection of antenna insights. 160 pp. $14.00 + $2.00 s/h ($4.00 for non-US ZIP air delivery.) CA residents add $1.09 tax.

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W-100-N

Two DXers applied for the ***Worldradio*** Worked 100 Nations Award this period and both made all the necessary contacts via CW. Their awards have been endorsed as such.

548. Russell W. Young, Jr. WA2VQV 01 April 1999

549. Eustache E. Ames W4UUU 01 April 1999

Maldive Islands (8Q)

DX bulletins have reported that DH5HV will be active from the Maldive Islands (AS-013), 17-31 May, while on his honeymoon. Now, who in his right mind would bring a radio along on his honeymoon?

Nauru Island (C2)

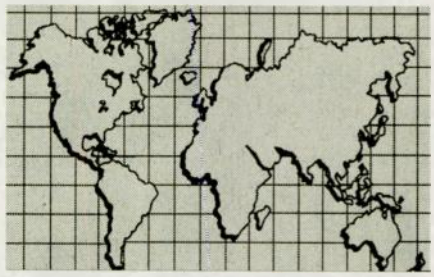
Roger Western, G3SXW, and Bob Henderson, G3ZEM, who operated recently from Nauru Island (OC-031) as C21SX and C21ZM, respectively, made over 20,000 CW contacts in 132 different DXCC entities between 27 February and 7 March, according to the *Ohio/Penn DX Bulletin*. Of that count some 38 percent were made on the three WARC bands. All QSL requests should be sent to the individual operator via the bureau or direct.

Gambia (C5)

Steve Wilson, G3VMW, is pleased with his recent operation as C56SW where he operated between 5 and 18 March 1999. Steve collected some 12,285 contacts after deleting the duplicates. The largest amount was on 10 Meters. His operation took place from the Senegambia Hotel.

St Paul Island (CY9)

Look for CY9CWI from St Paul Island (NA-094) this summer. The *Ohio/Penn DX Bulletin* reports their scheduled operation to be between 21 and 28 July, including the IOTA contest. The operators include: Helen, VE2YAK; Fred,



VE2SEI; Al, VO1NO; Reg, VE2AYU; Bill, VE1MR; Dragan, VE2ZIV; Lowell, VY2OX; and Jeff, VE2TBH, all members of the West Island Amateur Radio Club.

Palestine (E4)

Some question arose regarding the legality of the call E41/OK1DTP operation in March as to the deviation from the normal prefix of E44. Zoli Pitman, HA1AG, who had just operated from Palestine with the E44 appended to his call told the DX community that he had seen the license with his own eyes. The reason for the E41 prefix is that the operation was from the West Bank, where the earlier operations were from the Gaza Strip using the E44 prefix.

However, that's one story. Bernie McClenny, W3UR, of *The Daily DX*, says the E44 prefix is for temporary calls, where the E41 prefix is for permanent calls, those good for one year and renewable.

Laci, HAØHW, says the recent Palestine DXpedition team signing with E44/HA1AG collected 40,500 contacts In less than nine days of operating. The team of four operators each worked 12 hours a day.

Wallis Island (FW)

Cedric Baechler, HB9HFN, comments on his recent FW5FN DXpedition to Wallis Island (OC-054). It seemed everything was going fine for the first 300 contacts until he forgot to switch bands on his amplifier, blowing one of the MOSFET transistors. He ran 100 watts for the remainder of the DXpedition with some 7,554 contacts in the log after two weeks of operating. 25% of that was with Europeans.

Market Reef (OJØ)

DennisMotschenbacher, K7BV, Editor for the *National Contest Journal*, will be going to Aland Island to operate the new super station, OHØZ, for the *CQ* WPX Contest in May. Dennis also will go, (a high probability) to Market Reef for three to four days.

He will be accompanied by Seppo, OH1VR, one of several who control the beacon located on the reef. The exact dates are not known, but the period will be sometime between 23 May and 03 June. The operation will be the preferred mode of CW on all HF bands including the three WARC bands.

St Peter & St Paul Rocks (PYØS)

The Brazilian DXpedition to St Peter & St Paul Rocks (SA-011) arrived in the area on time. However, their landing was delayed by two days due to rough seas. Once ashore they quickly assembled and were operating ZYØSB on SSB and ZYØSW on CW.

Central African Republic (TL)

Alex van Hengel, PA1AW, says that after dismantling the 80-meter antenna on 03 March, the log for TL5A saw over 74,000 contacts. And, together with that of TLØR, it was over 80,000. This operation should make a lot of deserving DXers happy.

Campbell Island (ZL9CI)

Ken Holdom, ZL2HU, reports that the recent DXpedition to Campbell Island has been accepted at the DXCC Desk and as of early March they were still waiting for the QSL cards being printed in Japan.

IOTA

425 DX News notes that Guy, FO5QA, is a newly licensed amateur living on Tikehau Atoll (OC-066) in the Tuamotu Archipelago in French Polynesia.

Between 15 and 20 March, Bernard, DL2GAC, operating as H44MS, operated from Rennel Island (OC-127). As no commercial power was available from the island he used battery power and a solar panel. Bernard made a request that those who had this IOTA group confirmed please not contact him and to avoid multi-band contacts. From what I observed he restricted his operations to the WARC bands. So what was his point? Don't call me if you have this one? If his point was to go there to give those a chance to work him for a new

one why didn't he just operate from the IOTA frequencies? I must be missing something here.

The following IOTA operations have provided validation material and been accepted by the IOTA committee:

AF-038 E3ØLA	Dahlak Kebir Is.	Jan/Feb 1999
AF-038 E3ØMA	Dahlak Kebir Is.	Jan/Feb 1999
AF-080 E3ØLA	Sheikh Said Island	Feb 1999
AF-080 E3ØMA	Sheikh Said Island	Feb 1999
AF-081 E3ØLA	Gerebsasa Island	Feb 1999
AF-081 E3ØMA	Gerebsasa Island	Feb 1999
OC-199 VK6ISL	Malus Island	Feb 1999
SA-021 LU1DK/D	Bermejo Island	Dec 1998
SA-021 LU4DA/D	Bermejo Island	Dec 1998
SA-021 LU5DV/D	Bermejo Island	Dec 1998
SA-021 LU7DP/D	Bermejo Island	Dec 1998

The IOTA committee is still waiting validation material from several other recent IOTA operations.

Several Japanese DXers operated from Oki Island (AS-041) during the latter part of March. The calls of these operators included: JA3CMY, JA4DND, JE4CIL, JHØIEW and JI3DST, all portable four!

And from Penghu Island (AS-103) several Japanese DXers operated as BV9A appended with their calls outside the WPX contest. BV9A was active during the contest. The operators included: 7M1STT, JG3TRB, JH3GCN, JP1RIW, and JR7TEQ.

Here is a selection of IOTA activity that was on the bands during the month of March 1999:

AF-043 TRØA/P	Banie Island	13-16 Mar
AF-072 C91RF/P	Benguerua Island	24-29 Mar
AF-077 ZS23I	Seal Island	25 Mar
AN-006 EM1LV	Galindez Island	01-04 Mar
AN-015 8J1RL	Ongul Island	23-30 Mar
AN-017 FT5YG	Petrels Island	24 Mar
AS-008 7K3EOP/1	Miyake Island	16-31 Mar
AS-015 9M2TO	Pinang Island	03-30 Mar
AS-017 JS6PSV	Okinawa Island	05 Mar
AS-024 JS6LIH	Taketomi Island	21 Mar
AS-024 JR6USF	Ishigaki Island	05-16 Mar
AS-026 HL4HLD	Cheju-do	23-25 Mar
AS-028 UAØQBA	Kotelney Island	10-26 Mar
AS-028 UAØQMU	Kotelney Island	03-29 Mar
AS-042 UA3SDK/Ø	Sredny Island	01-30 Mar
AS-045 HL5FUA	Ullang Island	13-31 Mar
AS-053 HSØIK4MRH	Phuket Island	01-29 Mar
AS-056 JA4PXE/6	Danjyo Archipelago	26-27 Mar
AS-079 JA5CKD/6	Miyako Island	19-31 Mar
AS-083 RA9LI/9	Belyy Island	10-26 Mar
AS-103 BV9A	Penghu Island	26-30 Mar
AS-127 S21K	Chittagong Region	29 Mar
EU-009 GM1RQD	Orkney Islands	01 Mar
EU-009 GM4CHX/P	Orkney Islands	29-31 Mar
EU-009 GMØHTT	Orkney Islands	19 Mar
EU-020 SM1LF	Gotland Island	20 Mar
EU-020 SM1BIQ	Gotland Island	18 Mar
EU-031 IC8JAH	Isle of Capri	23 Mar
EU-031 IC8/IN3XUG	Ischia Island	31 Mar
EU-036 LA8LA	Hitra Island	30-31 Mar
EU-037 SM7CRW	Oland Island	19 Mar
EU-038 PA/DF2QY/P	Texel Island	29-30 Mar
EU-038 PA/DG1YBO	Texel Island	29-31 Mar
EU-038 PA/DJ1YFK/P	Texel Island	29 Mar
EU-042 DK8OL	Isle of Sylt	14 Mar
EU-049 SV8CRI	Lesvos Island	20 Mar
EU-049 SV8CYV	Samos Island	23 Mar
EU-049 SV8DTL	Lesvos Island	08 Mar
EU-049 SV8DTP	Lemnos Island	09 Mar
EU-052 SV8JE	Kefalonia Island	13 Mar
EU-052 SV8CS	Zante Island	10-15 Mar
EU-052 SV8EP	Kefalonia Island	09 Mar
EU-057 DK2RA	Ruegen Island	30 Mar
EU-057 DL5RFF/P	Ruegen Island	25-30 Mar
EU-057 DL7UMA/P	Ruegen Island	07-08 Mar
EU-057 DL4PM	Ruegen Island	16-17 Mar
EU-067 SV8EUA	Syros Island	31 Mar
EU-093 EA5/DL1BKK/P	Tabarca Island	30 Mar
EU-105 F5OGG/P	Ile de Batz	21 Mar
EU-120 GM150SJF	Isle of Wight	04 Mar
EU-124 GWØSLM	Anglesey Island	02 Mar
EU-124 GWØMOI	Anglesey Island	14 Mar
EU-129 DL3BUM/P	Usedom Island	17-19 Mar
EU-130 IV3KTY	Grado Island	28 Mar
EU-131 IK3PQH	Lido Island	07 Mar
EU-133 R1ASP	Kotlin Island	03-31 Mar
EU-136 9A6DCR	Krk Island	16-29 Mar
NA-025 J8OC	The Grenadins	02-10 Mar
NA-031 AA1AC/p	Rhode Island	21 Mar
NA-034 AH6JN/4	Anna Maria Island	01-11 Mar
NA-034 KM4RX	Anna Maria Island	04 Mar
NA-036 VE7ZO	Vancouver Island	12 Mar
NA-036 VE7GDJ	Vancouver Island	16 Mar
NA-036 VE7IM	Vancouver Island	08-15 Mar
NA-041 KL7ISP	Alexander Archipelago	11 Mar
NA-047 VE8XYL	Baffin Island	17 Mar
NA-051 VE7TLL	Queen Charlotte Is.	03-19 Mar
NA-055 AK1L	Vintlhaven Island	02-14 Mar
NA-057 AH6PN/HR6	Roatan Island	11 Mar
NA-058 KB4HBH	Jekyll Island	13 Mar
NA-062 K2ZR/4	Key West	16-31 Mar
NA-065 N6FD/7	Fidalgo Island	01-29 Mar
NA-067 W2ET	Hatteras Island	11-13 Mar
NA-085 N4PN	St George Island	23 Mar
NA-092 K5HUT/5	Mustang Island	04 Mar
NA-110 K9JWV	James Island	20-29 Mar
NA-123 V31GI	Turneffe Islands	21-26 Mar
NA-141 K2OLG/M	Orchid Island	24 Mar
NA-180 V31GI	Glover's Reef	14-19 Mar
NA-180 V31GI	Little Water Caye	28-31 Mar
NA-199 FS/PA3GIO/P	Tintamarre Island	07-11 Mar
OC-011 V63KU	Moen Island	01-31 Mar
OC-027 FO5QB	Marquesas Islands	01 Mar
OC-027 FO5QG	Nuka Hiva Island	02-25 Mar
OC-046 FO5BI	Tahiti Island	22 Mar
OC-046 FO5JV	Tahiti Island	03-20 Mar
OC-059 V63CP	Kosrae Island	08-12 Mar
OC-059 V63AO	Kosrae Island	01-29 Mar
OC-064 A35LU	Vava'u Island	23-28 Mar
OC-065 H4ØMS	Pigeon Island	01-03 Mar
OC-067 FO5NL	Raiatea Island	23-25 Mar
OC-070 YE8XM	Ambon Is.(Saparua)	30-31 Mar
OC-127 H44MS	Rennel Island	15-20 Mar
OC-128 DU1/DC4PT/P	Palawan Islands	21-26 Mar
OC-128 DU1IMA	Palawan Islands	21-29 Mar
OC-129 K9AW/DU6	Negros Island	02-26 Mar
OC-129 DU6BG	Panay Island	15 Mar
OC-130 DU8DJ	Mindanao Island	22-30 Mar
OC-130 DU9HKD	Mindanao Island	05 Mar
OC-136 VK8AV/3	Phillip Island	03-13 Mar
OC-137 VK4CY	Lamb Island	20 Mar
OC-137 VK4LV	Bribie Island	03-27 Mar
OC-139 VK5IO/M	Kangaroo Island	22 Mar
OC-143 YB5QZ	Sumatra Island	21 Mar
OC-143 YB5QG	Sumatra Island	14 Mar
OC-143 YC5XIP	Sumatra Island	04-27 Mar
OC-146 YC8NLF	Sulawesi Island	19 Mar
OC-148 YC9MKF	Timor Island	05-22 Mar
OC-165 9M8QQ	Pulau Satang Is.	28-29 Mar
OC-169 A35RK	Ha'apai Island	01-02 Mar
OC-170 VK6EW1	Woody Island	14-20 Mar
OC-172 VK4CAY	Fitzroy Island	31 Mar
OC-195 VK7JR	King Island	29 Mar
OC-210 YC8TXW	Sangihe Island	29 Mar
OC-210 YC8RRK	Sangihe Island	18-29 Mar
OC-210 YC8RBC	Sangihe Island	15-22 Mar
OC-227 VK4CAY	Wellasley Island	29-30 Mar
SA-007 HK3JJH/Ø	Malpelo Island	09-31 Mar
SA-018 CE7OXZ	Chiloe Island	08 Mar
SA-023 PT7FX/6	Itaparica Island	12 Mar
SA-064 CE7AOY	Isla Las Huichas	22 Mar
SA-080 PT7WA/6	Tinhare Island	12-15 Mar
SA-080 ZY6XC	Tinhare Island	12-15 Mar
SA-080 PY7ZY/6	Tinhare Island	12-15 Mar
SA-080 PT7BZ/6	Tinhare Island	12-15 Mar
SA-084 HK3JJH/4	Cacagual Island	02-04 Mar

IOTA Contest

Here are some more planned IOTA DXpeditions anticipated during the July RSGB IOTA contest:

EU-064 Yeu Island TMØY
EU-081 St Marcouf Island TM2F

IARU

According to *The Daily DX*, member societies of the IARU overwhelmingly ratified the selection of Larry Price, W4RA, as the new president of the IARU, with David Wardlaw, VK3ADW, as vice-president. The outgoing officers are President Dick Baldwin, W1RU, and Vice President Michael Owen, VK3KI.

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DX World

DX Conventions

Don't forget the Pacific Northwest DX Convention, this year hosted by the Willamette Valley DX Club. This annual event will be at the Monarch Hotel in Portland the weekend of 30 July to 01 August. Al Rovner, K7AR, the convention chairman, says they will have DXCC card checking in addition to the regular program.

The total convention package is $55 for registrations post-marked prior to 30 June. After that date please add $5 to the amount. Checks should be made payable to WVDXC and mailed to Jim Fenstermaker, K9JF, P.O. Box 945, Brush Prairie, WA 98666-0945.

DXCC Desk

Bill Moore, NC1L, of the DXCC Desk, provides us with some additional information regarding DXCC applications. This one is from FAQ #4 (frequently asked questions). It is suggested that you save this information so not to experience any grief in preparing and submitting applications.

This session will cover contacting DXCC and requesting information from the DXCC Desk. In order to get a message direct to DXCC and increase your chance of a quick reply we suggest you use the following contact information:

E-mail contact:

Next to a direct telephone call this is one of the easiest ways to contact DXCC. The ONLY address to use is: Dxcc@arrl.org <mailto:Dxcc@arrl.org> This goes direct to the DXCC desk and nowhere else. Using this address will get your message or request direct to us and in most cases it will be handled the same day. Messages sent after 4 p.m. Eastern U.S. time will be handled the next work day.

If your question requires some research it may take longer to reply. If this is the case we will let you know we received your message and advise you that some period will be required to answer your request.

If your question is related to your DXCC account or credit listings please put your call sign, membership ID and all pertinent information in the message. Please include any previous call signs you were once assigned.

If you have questions on a submission please gather all information before sending the e-mail. List all information on the card by: Call sign / Complete Date / Band / Mode / Entity Name (as shown on the DXCC List only). Next to each entry note a word or two of what the problem is (ie: No Credit, Incorrect Credit, etc...) Keep your message as clear and concise as possible. Long explanations can cause confusion.

Note: DXCC can't send, by email, any file whole or in part, of your DXCC record. We can tell you what your totals are but it requires a manual look-up of this information.

Telephone contact:

To contact the DXCC desk by telephone call: 860/594-0234. This goes direct to the DXCC desk. If no one is there to take your call it will forward to the operator who will take a message. Please have all pertinent information ready before you place your call. If it is a question on your DXCC records please have a copy of your latest printout handy along with all QSL cards in question. Most times we can make corrections over the phone eliminating the need for cards to be sent back to ARRL.

The office hours for DXCC are Monday through Friday from 8 a.m. to 5 p.m. Eastern U.S. time. (There is no answering machine on the DXCC phone.) ARRL is closed weekends and several holidays. Holidays include but may not be limited to: New Year's Day, President's Day, Good Friday, Memorial Day, Independence Day, Labor Day, Thanksgiving + day after, Christmas Day. Please check your calendar for actual dates.

Fax:

The number to contact DXCC by fax is: 860/594-0259. Please include a cover sheet with all faxes. ARRL receives many faxes and a cover sheet will separate a fax addressed to others. This number is available 24 hours a day.

In person:

(See above for ARRL operating hours) No appointment is necessary. Please check the DXCC rules regarding checking of cards on walk-in. (See DXCC rule 15(b)) If you plan to have cards processed plan to wait approximately 1 hour if you have the maximum limit of 120 cards. If this is your visit a tour can be arranged for you, or you might be able to operate W1AW while you wait. It's best to come in before 3 p.m.

By regular mail:

To contact DXCC by regular mail write to: American Radio Relay League, c/o DXCC Desk, 225 Main Street, Newington, CT 06111 USA. If you require a reply, an SASE is required. Make sure the information you are sending or are requesting is clear and to the point.

Old records

If you have not submitted for DXCC credit since the latter part of 1991 your records have not been computerized. If you do not have a list of the credits you submitted previous to this period and you would like a copy. Please send your request by one of the contact methods listed above. Make sure that you include as much information as possible since DXCC records go back to the DXCC re-start in 1945. Include all old call signs, dates, award numbers and endorsement dates, if known. An SASE is required for requests by mail. Information on DXCC information prior to the World War II era is not available.

When asking for copies of records please include awards on all modes and bands you have a certificate for. When we update one award we want to bring in the information on all awards, if applicable.(ie: Often, someone will want to update a Phone award only. However, they also have a mixed record but might not care right now about that. We want to know ALL awards you have and convert them into the system all at once.)

If you have not submitted since this period and you have a copy of what you were previously credited with, all you need to do is complete the application form and send in ONLY the additional cards to add to your record. Once processed, you will receive a printout with a complete accounting of your DXCC credits. (Please see DXCC FAQ #3 for information on the printouts.) Note: prior awards do not have band credits. If you are applying for band awards and/or 5 Band DXCC, most often DXCC will need to see these old cards again so you can receive proper band credits. (The new DXCC fees apply here.)

If you have been away from the DXCC program for a while please check the DXCC web site for the latest information at: www.arrl.org/awards/dxcc/.

Hints and tips:

Have you heard of the VUCC Program? This is the sister program to DXCC and has been around since January 1983. You don't collect DXCC entities for this award, you collect grid squares, and there are 32,400 of them! Even maritime mobile counts! Complete program information can be found on the VUCC web site at: www.arrl.org/awards/vucc/ or contact us at vucc@arrl.org.

Everything from the rules to even the 1983 *QST* article introducing the program can be found here. This program is 100% field checkable by approved VHF Awards Managers (no cards are sent to ARRL and they can check everything). This award covers bands from 50 MHz and higher including satellite. (For satellite VUCC only, ALL contacts on HF and VHF count. So, if you have a satellite DXCC you probably qualify for a satellite VUCC.)

There are publications available for checking grid squares. The ARRL World Grid Locator Atlas is available for $5 and the North American Grid Locator is $1. Shareware programs are even available for tracking grid squares. (Not sold by ARRL.)

The monthly lists for February through September are now online on the ARRL Members Only website, and the 1997 Honor Roll list has been placed there. The 1998 Honor Roll list is scheduled for July *QST*. The 1998 DXCC Yearbook is scheduled to be out by 01 April 1999.

DXCC is currently processing applications received in late January 1999. Palestine (E4) has been added to the DXCC list. The official add date will be 01 October 1999. Contacts on or after 01 February 1999 will count. DXCC will not be accepting cards until 01 October 1999. Any cards sent prior to this date will be returned unprocessed. (This is because it is not currently included in the official list so there is nothing we can do with the credit right now.) The

DX Prediction — June 1999

Maximum usable frequecy from West Coast, Central U.S. and East Coast (courtesy of Engineering Systems Inc., Box 939, Vienna, VA 22183). 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/Tokyo, Oceania—Australia/Melbourne, Europe—Germany/Frankfurt, and South America—Brazil/Rio de Janeiro. Smoothed sunspot number = 134. Chance of contact as determined by path loss is indicated as bold ***MUF** for good, plain MUF for fair, and in *(parentheses)* for poor. UTC in hours.

CENTRAL U.S.A.

UTC	AFRI	ASIA	OCEA	EURO	SO AM
8	*(21)*	***22**	***23**	***20**	***20**
10	24	19	***21**	***22**	***22**
12	28	22	***19**	***25**	***29**
14	32	***23**	***18**	***27**	***35**
16	34	18	17	***28**	***38**
18	***35**	18	17	***29**	***41**
20	***35**	23	33	***27**	***43**
22	***29**	26	***40**	***23**	***40**
24	25	***28**	***43**	***20**	***36**
2	***22**	***29**	***43**	***17**	***30**
4	***24**	***27**	***41**	***16**	***25**
6	***25**	***26**	***34**	***20**	***22**

WEST COAST

UTC	AFRI	ASIA	OCEA	EURO	SO AM
10	24	***21**	***21**	21	***25**
12	27	***17**	***19**	23	22
14	30	***20**	***18**	25	***30**
16	33	***21**	17	***27**	***35**
18	***34**	***24**	17	***27**	***39**
20	***35**	***28**	***34**	24	***41**
22	***29**	***29**	***41**	***20**	***39**
24	25	***30**	***43**	17	***34**
2	22	***30**	***43**	15	***28**
4	***24**	***29**	***41**	20	***24**
6	29	***28**	***35**	24	***22**
8	24	***26**	***23**	21	***20**

EAST COAST

UTC	AFRI	ASIA	OCEA	EURO	SO AM
7	24	20	***26**	19	***20**
9	27	20	***22**	***22**	***21**
11	***34**	23	***20**	***25**	***29**
13	***38**	***25**	*(18)*	***27**	***34**
15	***41**	***22**	*(18)*	***29**	***38**
17	***42**	19	*(17)*	***30**	***41**
19	***38**	22	*(23)*	***29**	***42**
21	***32**	25	37	***27**	***41**
23	***27**	***27**	***42**	***23**	***37**
1	***23**	***28**	***43**	***20**	***31**
3	***19**	26	***42**	***16**	***26**
5	***28**	24	***35**	***20**	***23**

DX World

old Palestine, deleted 30 June 1968, does NOT count for the new Palestine credit. It was not the same common territory or government administration.

DXpedition Donations

Some DXers think that those involved with DXpeditions, especially QSL managers, collect nice financial awards. There are others who think that large contributors receive preferential treatment. This is far from the truth.

Steve Wheatley, KU9C, the QSL Manager for the BQ9P Pratis Island DXpedition, includes the following comments regarding donations for DXpeditions. Steve says, "Every penny that I have received, whether in the form of actual donations, extra IRCs, money in excess of postage, etc., is being completely returned to this and future Pratas Island DXpeditions. It has helped to pay for equipment and other items purchased for the DXpedition. Each individual operator paid their own way, and was not reimbursed. QSL cards were funded by these donations along with support from the NCDXF. Finally, any excess beyond these expenses are being applied to a future Pratas DXpedition, specifically to help aquire low band antennas and amplifiers so that you can work us on some new band/modes next time!"

QSL Information

There have been many guest operations from 3V8BB located in Tunisia. It is important to listen for the QSL route given by the operator and at times I try to give these routes, most of the time being YT1AD. One guest operator, Eddie Schneider, GØAZT, was there during the period of Ø9-13 October 1996, and can only answer QSL requests for that period. If you worked Eddie during that period, request a QSL card via P.O. Box 5194, Richmond, CA. The local address for 3V8BB is P.O. Box 2055, Bir-el-Bey, TUNISIA.

Frank Dlugokinski, WA1ECA, is not the QSL manager for ZA5G. This route has shown up in various QSL lists and is not correct. Frank no longer accepts QSL requests for 5X1C and 5X1F.

Thanks go to the following contributors for this month's column: G3VMW, HA1AG, HAØHW, HB9HFN, PA1AW, ZL2HU, WA1ECA, W6RLP, K7BV, N7NZ, KU9C, W9NN, Western Washington DX Club (WAØRJY), Northern Arizona DX Association (W7YS), American Radio Relay League (NC1L), WebCluster (OH2AQ), *425 DX News* (I1JQJ,), *The OPDX Bulletin* (KB8NW), *DX-News* (NJDXA), *The Low Band Monitor* (KØCS), *Island/DX News* (N5VL), *The Daily DX* (W3UR), *QRZ DX* (N4AA), and *DX News/Sheet* (G4BUE).

Although the recent *CQ* WPX Contest was not a genuine DX contest as their Worldwide DX Contest it provided an opportunity to work some new ones. Those of you who didn't bother might have missed out on working a new one. Hope you had a good month in DXing. 73 de John N6JM. — *John F.W. Minke III, N6JM can be reached at P.O. Box 310, Carmichael, CA 95609-0310 or via email at: n6jm@pacbell.net.*

Special Events

ANCIENT ASTRONOMERS

N5C Special Event station will be on the air from 1600-2400 on 19 & 20 June from Chaco Culture National Historical Park, New Mexico. This is the site of ancient astronomers recording their observations on the walls, for future generations to see. The Novice, Technician and General portions of the bands from 40 to 2 Meters will be used, using CW, SSB, AMTOR and FM. Certificates are available by sending your QSL and a #10 SASE to Jay Miller, WA5WHN, P.O. Box 6552, Albuquerque, NM 87197-6552. For more info: www.swcp.com/~n5zgt.

DLARC

The Delaware Lehigh ARC will be on the bands, en masse 05-06 June to enable amateurs throughout the world to earn the coveted and beautiful Worked All DLARC certificate. Amateurs need to log QSOs with at least 50 DLARC members on 160-10 Meters. Multiple QSOs and bands do not count extra. Endorsements are available in additional 50 member increments. VHF and UHF QSOs do not count for this award. Log the date, time, call, name, band, and signal reports exchanged. QSLs are not necessary, but are admired. Submit a copy of your log to the Dalaware Lehigh ARC, Greystone Building, Gracedale Complex, Nazareth, PA 18064. No strict time limits apply to the operating or award submission. DLARC members will be active on SSB around grequencies ending in 70 kcs. in the general calss license bands, and on cw aaround 50 kcs. Example frequencies are 3550, 3870, 3970, 7070 and 7270 kcs. Many novices and technician plus licensees will be active on 10 meters. The DLARC club station, W3OK, will also be active. The object is to make friends, obtain the beautiful certificate and practice on HF for the upcoming Field Day exercise. This is not a contest and rapid fire QSOs are discouraged. We want to encourage new amateurs to explore the low bands, gain confidence in operating, practice CW, and enjoy using their radios and antennas. For further information, contact Bill Goodman, K3ANS, phone: 610/253-2745 (office) or 610/258-5063 (home).

CORVETTE

Western Kentucky DX Association, KB4ALC will be on the air from 0001 04 June to 2359 05 June to celebrate National Corvette Homecoming. Suggested frequencies are 28.345, 21.345, 14.275, and 7.245. Certificates will be available. For more information, contact Kenneth Newman, 505 Emmett Ave., Bowling Green, KY, 42101.

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Ken, K1ZKM, Mgr.
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Bob, N9GG, Mgr.
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Joe, KDØGA, Mgr.

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Gary, N7GJ, Mgr.
1 mi. east of I-17

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Phil, N4DRO, Mgr.
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Mike, N4MDK, Mgr.
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7Q7FM GØIAS
7Q7HB GØIAS
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7Q7JWL GØIAS
7Q7LA GØIAS
7Q7RL GØIAS
7Q7RM GØIAS
7QJL GØIAS
7X2RO OM3CGN
8AØJ YBØAI
8P2K KU9C
8P6SH KU9C
8P9HR K4BAI
8P9JM K2ZD
8Q7AM EA5MB
9G1BJ G4XTA
9G5HK DL1IAL
9H3KI GØIAS
9H3XY G4ZVJ
9H3ZV G4ZVJ
9J2AM JAØJHA
9J2BO W6ORD
9J2PI KBØKVA
9K2GS W6JY
9M2/G3LIV G3LIV
9M2TO JAØDMV
9M6TUZ G4UZN
9M6UZT G4UZN
9M8QQ DF5UG
9N1FP RU6FP
9N1UD K4VUD
9N7RN IK4ZGY
9N7SZ JA9LSZ
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CM2CK AD4Z
CM2VK AD4Z
CM6YI CO6LG
CM8UB AD4Z
CM8VP AD4Z
CM8ZZ AD4Z
CN2UN ZP6CU
CN8WW DL6FBL
CO2HR AD4Z
CO2JD AD4Z
CO2MA AD4Z
CO2VG AD4Z
CO6XN HK5DOS
CO8AR AD4Z
CO8DM KU9C
CO8LY EA7ADH
CO8NA AD4Z
CO8ZZ AD4Z
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E4/G3WQU G3WQU
E41/OK1DTP OK1TD
E44/OZ5IPA OZ5AAH
E44/OZ6ACD OZ1ACB
EA5/DL1BKK DL1BKK
EA5CSL ON7TN
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EA9/JI6KVR EA5KB
EA9AU EA9IB
ED8GCC EA8AKN
EG1AV EA4URE
EG1BU EA4URE
EG1C EA4URE
EG1LE EA4URE
EG1LO EA4URE
EG1LU EA4URE
EG1O EA4URE
EG1OR EA4URE
EG1P EA4URE
EG1PO EA4URE
EG1S EA4URE
EG1SO EA4URE
EG1VA EA4URE
EG1ZA EA4URE
EG2BI EA4URE
EG2HU EA4URE
EG2NA EA4URE
EG2SS EA4URE
EG2TE EA4URE
EG2VI EA4URE

EG2Z EA4URE
EG3B EA4URE
EG3GI EA4URE
EG3L EA4URE
EG3T EA4URE
EG4BA EA4URE
EG4CC EA4URE
EG4CR EA4URE
EG4CU EA4URE
EG4GU EA4URE
EG4M EA4URE
EG4TO EA4URE
EG5ØURE EA4URE
EG5A EA4URE
EG5AB EA4URE
EG5CS EA4URE
EG5MU EA4URE
EG5V EA4URE
EG7AL EA4URE
EG7CA EA4URE
EG7CO EA4URE
EG7GR EA4URE
EG7H EA4URE
EG7J EA4URE
EG7MA EA4URE
EG7SE EA4URE
EG8GC EA4URE
EG8TF EA4URE
EG9CE EA4URE
EG9ML EA4URE
EI/EA3BOX EA3BOX
EL2WW ON5NT
EN5J KG6AR
ERØF UXØFF
ERØN UT7ND
ER4E UR4EYT
EU2ØØA EW4WW
EV2ØØAM EW4WW
EV2ØØM EW4WW
EW2ØØM EW4WW
EW4WW P.O.Box 88, Lida, 231300, Byelorussia
EX8NK IK2QPR
EX8NP IK2QPR
EX8W UA3AGS
EY8CQ DJ1SKO
EY9/RA3OO DJ1SKO
F/NH7A N2AU
FK8VHM F5TLP
FM5/F2PI F6BFH
FT5YG F5LBL
G0IASAllan R.Hickman, The Conifers, High Street, Elkesley, Retford, DN22 8AJ, Notts, England
G3WQU Peter McKay, Unilfil, P.O.Box75, Nahariyya, 22100, Israel
GB1ØØSFL GWØANA
GD4VGN DL4FF
GØANA/P GWØANA
GPØSTH G4DIY
H22H 5B4MF
H2G 5B4AGC
H44MS DL2GAC
H4ØFN HA8FW
H5AE GØIAS
HC8A WV7Y
HC8L N2AU
HC8N AA5BT
HI3LFE AD4Z
HI4M AD4Z
HI8LUZ AD4Z
HKØOEP NØJT
HLØZ/5 DS4CNB
HS7UCQ/P E21IZC
HSØAC HSØ/G3NOM
HSØZCW K4VUD
HU4A YT1AD
HV9PUL IWØDJB
II3L IV3KAS
II9R IT9HLR
IQ1Z IK1NLZ
IQ7R IK7XNF
IR1A IK1GPG
IR4B IK4AUY
IRØMFP IKØZME
IU8NA IK8PXD
IU8W IZ8CCW
J28BS F6KPQ
J3/K4LTA K4LTA
J3/K4UPS K4UPS
J38A K4LTA
J41YLS IK3ZAW
J45KLN SMØCMH

J4Z P.O. Box 40130, Thessaloniki 56000, GREECE
J8OC GØREP
JD1/JA9XBW JA9XBW
JJ1DWBMisao Tanzawa, 3-15 Yakata, Kofu, Yamanashi 400-0017, Japan
JM1LJS Hideyuki Kai, 4-22-15, Takata-higashi, Kohoku-Ku, Yokohama-City, 223-0065, Japan
JT1Y I0SNY
JW/SM7NAS SM7NAS
JX7DFA LA7DFA
JY9NE N3FNE
KG4BV N4OO
KG4GC W4WX
KG4OX W4OX
KG4SD W4SD
KG4TO N4TO
KG4VL N5VL
KG4WB N2WB
KH6T N2AU
KH6X N2AU
KH6XT N2AU
KHØXX JP1NWZ
KKØOEP NØJT
KL7RA KL7GNP
KL7Y N2AU
KP2/W6XK W6XK
KP3BH NP3GW
L2F LU9FDG
L44D LU4DFH
L75CB LU4AA
LO1F LU4FM
LO7H LU7HN
LO8DA LU4DQ
LOØD F6FNU
LR50D LU4DQ
LR6D LU6DK
LRØH LU9HS
LS7D LU7DW
LT1F LU1FKR
LT3C LU3CT
LU4AARadio Club Argentino, P.O.Box 97, 1000 Buenos Aires, CF, Argentina
LU4DQ P.O.Box 6, 1878 Quilmes, Buenos Aires, BA, Argentina
LU6DK Radio Club Comandante Espora, P.O.Box 25, 1832 Lomas de Zamora, BA, Argentina
LUØH LU4HH
LV2V LU3VAL
LV4V LU4VZ
LW7DX LU2DW
LX1T LX1KC
LX6T LX1KC
MØBYF OH6YF
M4U GØRGH
N4XP/V7 N4XP
NH7A N2AU
NP3WS WP4HNN
OHØM OH3LQK
OHØR OH2TA
OHØY OH6YF
OHØZ OH1EH
OJØ/IK7BV KU9C
OKDXF OK DX Foundation, P.O. Box 29306, Mlada Bolseslav, Bradlec, CZECH REPUBLIC
OR5EU IV3TIQ
OT9A ON7LR
OZ5HCA OZ3FYN
P2ØX P29NB
P29CC K1WY
P39P 5B4ES
P4ØN KW8N
P4ØW N2MM
P49M VE3MR
PAØN5JE ON5JE
PA7CN Cornu J.Nuijten, Halsterseweg 16, NL-4661, KN, Halsteren, Netherlands
PT1A PY1NX
PT1Z PY1NEZ
PT7FX/6 PT7WA
PW1S PY1KS
PYØFM JA1VOK
PY1LVF Jose Luiz Vieira Fernandes, P.O.Box 18009, Rio de Janeiro, RJ, 20722-970, Brazil
PYØFA PY4KL
PYØFF JA1VOK
PZ5RA PB7RK
R1ANL UA6AH
RAØZD/MM RAØZN
RAØZN P.O.Box 51, Petropavlovsk-Kamchatsky, 683049, Russia
RA2FBC DF4BV
RA9LI/9 DL2FG
RF9C RK9CWW
RM6A W3HNK
RSØF UAØFZ
RV9XF UA9XL
RZ9WZ N2AU
SØ7UN ZP6CU
S21K Rezaul Karim Chowdhury, Executive Director COAST, Charfassion, Bhola, 8340, Bangladesh
S21YP G3REP
S79AG SMØAGD
S79FAG DL7AFS
S79XB LA7XB
S79YL DL7AFS
S79ZG DL7AFS
SNØKAO SP9KAO
SØ9A EA2JG
SU9ZZ OM3TZZ
SVA2 SV1NA
SW2A P.O. Box 22013, Thessaloniki 55310, GREECE
T32RT W6UC
T33RD OK1RD
T3ØR OKDXF (*)
T42R CO2KG
T48RAC VE3ESE
T5EC DLØMAR
T77V W3HNK
T88CW JA2NQG
T88LJ JM1LJS
T88MT JJ1DWB
T88WX JA1WSX
T99KK PA1AW
TA2AJ DJ9ZB
TA3DD TA1KA
TG9/IK2NCJ I2MQP
TI7/KT4YI KT4YI
TL8CC IZ1CQD
TL8CG IZ1CQD
TM1CMI F8UFT
TM1CW F5KBM
TM2A F5BJW
TM2LYC F5MWZ
TM4W F8KLW
TM9FFP F6KUC
TMØY ON4AMM
TØØRM DL2JRM
TP5ØCE F6FQK
TR8CA F6CBC
TT8DF F5SWB
TX8DX VK4FW
TZ6AK Alexandre, P.O.Box 933, Bamako, Mali
TZ6JA JA3EMU
UAØCW W3HNK
UA3SDK/Ø RU3SD
UA7A UA9AB
UA9AB Gene T.Shcumat, P.O.Box 17, Troitsk, 457100, Chelyabinskoy, Russia
UA9FGR N2AU
UAØQBA EV6A
UE9WAA RW9WA
UE9WAB W3HC
UE9WAC W3HC
UE9WFJ RX9WN
UE9WGM RV9WZ
UE9WYL RW9WA
UE9WZZ RZ9WZ
UK8AFT IK2QPR
UK8OM IK2QPR
UL7FCW IK2QPR
UNØF IK2QPR
UNØN IK2QPR
UN7FW IK2QPR
UP4L UN7LZ
UP5F IK2QPR
UP5P UN5PR
UR4YET Club Station, P.O. Box 3363, Dnepropetrovsk-5, 320005, Ukraine
UT7ND Gene Chumakov, P.O.Box 5235, Vinnytsya, 286018, Ukraine
V21CW K2ACW
V29TT N2AU
V31DX N2AU
V31GI PA3GIO
V63YT JE1SCJ
V85QQ DF5UG
VA3DX VE3DX
VE7ISL VE7TLL
VF3EJ VE3EJ
VF6JY VE6JY
VK4CAY G3ZAY
VK5IO/M DK5IO
VK6COMPeel Amateur Radio Group, P.O.Box 1010, Mandurah, WA, 6210, Australia
VK6EW VK6NE
VK8AV/3 VK4AAR
VK8NSB/P VK9NS
VK9LW VK4LW
VO1AA VO1HE
VP5/IK2SFZ IK2SAI
VP5/IK2SGC IK2SAI
VP5/RA9CO UA9DD
VP5E K6HNZ
VP5GA N2GA
VP9HK K1EFI
VQ9CV ND1V
VQ9DX AA4DX
VU3TOM KR4ZY
VU3VLH OK1MM
VYØXYL VE7YL
W6XR N2AU
XE1L WA3HUP
XE1RGL N2AU
XF4BEF XE1BEF
XF4MX XE1MX
XJ1HA VE1HA
XL3D VE3ODX
XO7X VE7AHA
XT2DM F5RLE
XU7AAC HL2AQN
XV3ØØS JH1EVE
XV6JP JA1IED
XX9TRR N6XJ
YBØARA/9 N2AU
YBØJWA N2AU
YBØAZ W7TSQ
YCØLOW N2AU
YC5XIP I1WFF
YN6HM N5TGZ
YO3APJ N2AU
YP4A YO4KCA
YU7ALAleksandar Hajosevic, S.Radosavljevica 27, YU-25000 Sombor,Yugoslavia
YZ7EM YU7AL
Z3ØM NN6C
Z32AF NN6C
ZC4ARF 5B4YX
ZD2YG K5YG
ZD8PC K2CL
ZD8Z VE3HO
ZD9BV W4FRU
ZF2MO OM2SA
ZF2NT N2AU
ZF2YG K5YG
ZF8/ZF2JC NC8V
ZK1HCU DL9HCU
ZK2GEO DL1EMH
ZP4ØZ W3HNK
ZP5XF N2AU
ZP6CW ZP6CU
ZP6T ZP5MAL
ZS1FJBarry P.M.Fletcher, 18 Valley Road, Kenilworth 7700, Cape Town, South Africa
ZS23I ZS1FJ
ZS6EZ Chris R.Burger, P.O.Box 4485, Pretoria 0001, South Africa
ZS8D ZS6EZ
ZVØSB PT2GTI
ZVØSW PT2GTI
ZVØSY PT2GTI
ZW7BZ PT7BZ
ZXØF PY5EG
ZXØZ PY1LVF
ZX1Z PY1LVF
ZY2DX PY2QE
ZY6XC PY7XC
ZY8A PP8KB

CW gets through when satellite gear fails

Nancy Kott, WZ8C

We've all read accounts in newspapers and magazines about Morse code saving the day during emergency situations, particularly with seagoing vessels. It's one of those things that you hear about happening to other Amateur Radio operators, but never to anyone you know. That was the case with me, until I heard from fellow FISTS member, Kerry Freeman, N6WU.

Kerry was having an enjoyable Morse code chat with another amateur on 3.553 MHz at about 0540 UTC. When the QSO finished, they signed off. Kerry was getting ready to close down his station for the night when he heard his call sign coming over the air. Another station was calling him, identifying as KD4NGI/MM.

Kerry told me, "I responded to the call and we exchanged names and signal reports. The name of the operator was Tom, and he gave his location as 16N-119W. He asked me if I could relay a message for him on behalf of his Captain. I was a little nervous as I don't usually pass messages. He said the message was urgent, so I told him to tell me what he wanted me to do. Tom sent me the following message:

'U.S.C.G. Alameda that our vessel has diverted to position requested and our ETA is 1736Z. Will advise findings and situation of fishing vessel adrift. Regards Master Hayes on the MVTITUS. The tel number is 510/437 3701.'

"I asked Tom to confirm the name of his ship MVTITUS and to confirm the telephone number as 510/437 3701. Tom confirmed as requested and told me to speak with the Watch Officer when I made the call. I told Tom to standby and I would confirm that his message had been relayed to the U.S. Coast Guard. Telephoning the Alameda Station, I spoke with a Lieutenant, giving him my name and Amateur Radio Call. I explained that I had an urgent message from a vessel and relayed the exact message from Tom. The Lieutenant asked for a repeat and then confirmed. I was able to rejoin Tom on the air, using Morse code again, and told him that his message had been relayed and confirmed by the U.S.C.G. Alameda per his request.

"Tom asked me to standby as he needed to tell his Captain that the message had been passed and confirmed. A few minutes passed before Tom came back on the air. Tom said that their satellite communication gear was down and they had no means of communication. He went on to say that they were now heading to the adrift fishing vessel called QUYNH VEE.

"Tom thanked me on behalf of the Captain and crew for getting the message through. I told Tom that his Captain was very lucky to have such a fine CW operator aboard his vessel, and how important it was to maintain HF CW operations at sea. Tom agreed, we chuckled because he told me about his old Kenwood rig that had been around for many years. I told Tom that he should go hit his Captain up for a new rig!

"Our QSO ended, I let out a heavy sigh just realizing that I had passed urgent traffic. It felt real good knowing that once again Amateur Radio and CW came to the rescue! I was fortunate to be at the right place at the right time. It is with great pride I can say that I was able to pass that emergency traffic!" Fine business, Kerry! You did a terrific job in a stressful situation.

Field Day

How would you react if you were in a situation where someone depended on you to relay an urgent traffic message? This is a timely question, since the harbinger of summertime is upon us: Field Day. Field Day is always the last full weekend in June. Many Hams view Field Day as a chance to get together out-of-doors with their Ham buddies, eat chili, tell war stories and camp out for a weekend. But the real purpose of Field Day is to test our emergency preparedness.

We set up portable stations using non-commercial power such as batteries, generators or solar panels. Antennas are usually wires thrown up in trees, or perhaps your local club has a vertical or beam they can transport to a location and set up. The goal is to see how many stations you can contact using this station setup.

Field Day is particularly significant this year, because it gives us a chance to test how self-sufficient we can be in the face of the Y2K situation. If the commercial power goes out, amateurs could be called upon to pass messages. Field Day allows you to show the public that Amateur Radio can provide a valuable service to the community.

Along with showing your community what Amateur Radio can do, you can also show your fellow club members what CW can do! Contacts made using Morse code are worth twice as many points as voice contacts, so you will be a popular person if you come to Field Day armed with a key. This is the perfect time to introduce the non-code enthusiasts to the fun of operating with code. The contact exchanges are simple and routine, so they can get on the air without worrying about making conversation or using CW abbreviations that they might not be familiar with.

Another benefit of using CW during Field Day weekend is that your code speed will improve. There is nothing that substitutes for on the air operating. I don't care how many pretend QSO's you have copied on the computer or practice tapes, it does not compare to the experience of actually exchanging information with another person. If your code is the least bit shaky, I guarantee that if you spend the weekend operating, your speed will increase dramatically. You will be amazed!

Apart from the camaraderie, Field Day is a valuable experience. Although it is fun when done in a group, you don't need a local club to participate in Field Day. Test your personal emergency preparedness by setting up your station using emergency power right in your own backyard or shack.

I'll be operating all weekend with the FISTS of Michigan again this year, using club callsign K8EY. Hope to have you in the log!

Thank you for all the letters and email, I'm glad to hear you enjoy Positively CW! Contact me at: Nancy Kott, WZ8C, P.O. Box 47, Hadley, MI 48440 or via email at nancy@tir.com.

BASIC antenna matching

When Walter Maxwell teaches us a lesson, as he did on page 7 of the April issue, it's best to pay attention. In that particular example he showed that for 100 watts fed to an antenna with a 20:1 VSWR mismatch, and assuming the transmission line was lossless, all 100 watts would be absorbed by the antenna.

Some would point out that a 20:1 mismatch represents a7.41 dB loss in power — that only 18.1 watts could be absorbed by the load, and they would be right, but only at the instant the wave front first reaches the load.

Maxwell points out the power that is reflected from the antenna will also be re-reflected from the matching system. When the transmission line is lossless, the next round of power going to the load will include the 81.9 watts reflected the first time, along with the 100 watts continuing to be introduced by the transmitter. Maxwell refers to this re-reflected power as "reflection gain."

The input and re-reflection power continue to build until, in this case, more than 550 volt-amperes (equivalent watts) are circulating between the matching network and the antenna. Since the antenna absorbs 18.1 watts for every 100 presented, it now absorbs a full 100! The system is at equilibrium — for every 100 watts introduced by the transmitter, 100 watts are absorbed by the antenna.

```
10  CLS: PRINT: REM: L_MATCH.BAS, BY KD5DL, 6/99
20  PRINT "   THIS PROGRAM CALCULATES INDUCTANCE AND
    CAPACITANCE TO MATCH"
30  PRINT " TWO RESISTIVE REACTANCES, AS IN MATCHING A
    TRANSMITTER'S OUTPUT"
40  PRINT " TO A RESONANT ANTENNA.": PRINT
50  INPUT " SOURCE RESISTANCE (OHMS) ";A: INPUT "LOAD
    RESISTANCE ";B
60  IF A>B THEN 70 ELSE C=A: A=B: B=C
70  C=SQR(A/B-1): D=B*C: E=A/C
80  INPUT " FREQUENCY (MHz) "; F: PRINT
90  PRINT "   THE SERIES ARM REACTANCE IS ";D;" HMS, WHICH IS
    "
100 PRINT "   ";.159155*D/F;" uH OR ";159155/(F*D);"pF"
110 PRINT: PRINT "   THE PARALLEL ARM REACTANCE IS ";E;"
    OHMS, WHICH IS"
120 PRINT "   ";159155/(F*E);" pF OR ";.159155*E/F;"uH.": PRINT
130 INPUT "  DO ANOTHER ";A$: IF A$="Y" OR A$="y" THEN PRINT:
    GOTO 50
140 END
```

In real life there are no lossless lines, so some of the power circulating in the line is lost as heat. The characteristics of the line at its operating frequency and its length determine how much power is actually lost.

Furthermore, the fact that an antenna can absorb 100 percent of the power it's fed says nothing of its gain characteristics or efficiency. It's possible that a real antenna can have a 20:1 SWR mismatch and radiate nearly all the power it's fed with almost 100 percent efficiency. But it's also possible to have an antenna so inefficient that it, too, loses most of the power it absorbs as heat.

Knowing this, it's easy to see that SWR has little to do with power transfer in an antenna, but good quality transmission line and efficient antennas do make a difference at how well transmitter power is converted to radiated electromagnetic energy.

For more lessons from Maxwell read his book "Reflections: Transmission Lines and Antennas" (ARRL, 1990). He also covers the subject, using wave mechanics, in an article in the March/April 1998 issue of *QEX*.

Matching reactances—

In the February issue we published a listing for a mobile antenna program and also discussed Don Johnson's Big DK3 screwdriver antenna. The program, MOBILE.BAS, assists in designing a resonant loaded vertical antenna for any frequency based, on the length and diameter of its top and base sections. If the loading coil were designed for, say 80 Meters, then tapping into the coil at various places could allow reso-

nance on other frequencies as well.

The W6AAQ screwdriver antenna HAS a continuously variable coil that allows for resonance at all frequencies, 80-meters through 10!

The fact that an antenna is resonant, though, doesn't mean the SWR is going to be perfectly matched. The feed impedance of a resonant mobile antenna with a high Q loading coil may be as low as 12 ohms or so, for a VSWR of about 4:1. With a short coax run there is very little power loss due to such a light mismatch, even with poor quality transmission line. In fact, the only reason to be concerned about the SWR is if the transmitter isn't designed to handle it which, unfortunately, is true of many transistor rigs.

However, it's very easy to match different resistive impedances to each other, and the methods have been around almost since the beginning of radio.

The simplest and most efficient matching circuit is called the L network, simply because one element is in series with the load impedance and the other element is parallel to the source impedance. The elements making up the L network are simply a capacitor and an inductor.

Interestingly enough, the L network uses circulating currents in much the same way as Maxwell's transmission line in the example above. For a 12-ohm mobile antenna to accept 100 watts from a 100 watt transmitter designed to feed a 50-ohm load, the transmitter must "see" 50 ohms at its output and the antenna must "see" 12 ohms at its input. To be able to do this, the matching device must circulate about 204 volt-amperes (again, equivalent watts) internally.

This month's BASIC listing helps in the design of L networks to match resistive impedances, whether they be for matching transistor (or tube) circuits inside your communications equipment, or for matching a rig's output to its load. If the load includes a little reactance (capacitance or inductance), then the series element can be adjusted to cancel it.

Line 50 takes your source and load inputs (treated as resistance), line 60 makes sure the largest value is assigned the variable A, and line 70 establishes a Q value (variable C) with which to compute the series reactance D and the parallel reactance E.

Line 80 is necessary to get the program to provide actual inductance and capacitor values. Lines 90 through 120 print the values, and lines 130 and 140 give the option of rerunning the program or ending it.

If you decide to use an inductance in the series arm, then a capacitor is necessary for the parallel leg. Using our example of a 50-ohm source feeding a 12-ohm load, you should see a series reactance of 21.35416 ohms, which equates to .906299 uH or 987.498 pF, and a parallel reactance of 28.09758 ohms, which requires 1510.498 pF or 1.1925 uH. Of course, you would want to use the nearest commercial values if you are hard wiring the section into a circuit, or variable components if designing an antenna matching network.

Obviously, if you use a coil in the series leg you must use a capacitor in the parallel one, and vice versa. Either way, performance will be the same.

Network efficiency will be better if you use the coil in the leg having the least reactance, since coil losses would be lower for the smaller value of reactance. On the other hand, harmonic suppression would be better if the coil is placed in the leg in series with the load, since the unwanted harmonics would be choked by the coil and shunted to ground through the capacitor.

In our example, the load leg is also the leg with least reactance, and the coil there would benefit on both counts.

There are other ways to match impedances as well, and they're all based on our simple L network, as I'll show you in the next column. Until then, stay radio-active.

International Marconi day

Hams around the world spent 24 April helping to commemorate International Marconi Day. The annual event, held on the Saturday nearest to Marconi's 25 April birthday, included operation from the Cape Cod, Massachusetts, Marconi transmitting station site in Wellfleet by the Marconi Radio Club. It's call sign is W1AA. In all, some sixty-five stations in the world sponsored special event operations to mark International Marconi Day. — *ARRL, RSGB, AMSAT-BBS, Newsline*

Jerry Wellman, W7SAR

Y2K..nothing but bad news?

It's just one of those things. If you try to explain it, you just get more confused. Let me give you an example. I was digging through some old papers and I found an explanation of how an inertial navigation system works. It goes like this: "The inertial system knows where it is at all times. It knows this because it knows where it isn't. By subtracting where it is from where it isn't, or where it isn't from where it is, it obtains a difference or deviation. It now subtracts where it should be from where it wasn't, and by differentiating this from the above, it gets its variation thus determining where it is going."

I have always wondered how inertial navigation works. Now it's all clear. This makes me wonder how all those ancient navigators and explorers knew where they were and how they created maps without today's technology. Do I trust my map? Do I trust my Global Positioning System readout? Where am I?

I have no idea where I got the description of inertial navigation or who authored it. I use it to make a point that with any organization, there are people who just seem to have an understanding of where they are and what's going on. They can make decisions, motivate others to action, and keep calm and focused even in the most difficult of situations. And if we try to explain why these people "have their act together" we get more confused.

At the opposite end of the scale, are what I lovingly call the "high maintenance" people. They're the ones that never read a manual, don't read "help" files, can look at an error message and not read it, will hear a "funny noise" and ignore it (while the tire rattles loose from the car), can see a low oil warning light and ignore it until the engine seizes — well, you get the picture. And you know what? We're often in both categories.

For example, a fellow I work with understands computer networks. He understands routers, network addresses, virtual local area networks, computer protocols, and just about everything there is to know about hooking networks together in a most efficient manner. Ask him to connect a telephone and he can't. He can work wonders with a complex network but in other areas, he needs step-by-step help.

On the other hand, I can handle telephone and radio challenges, but configuring the router? I get lost real quick. Now let's apply this, to an emergency event. There are people who are expert at getting an operations center set up and functional. They can solve a myriad of technical challenges without skipping a beat. You need packet? You need another antenna? You need a portable repeater? They can do it.

Then there are the operators. These folks can simultaneously monitor several active channels, keep the traffic straight, send replies as necessary, and function in this role for many hours without relief. Sometimes you find people with expertise in several areas, but let's face it, we can't do it all, nor should we try. It gets too confusing.

Now we're entering the realm of leadership, or how we bring it all together in a coherent, functional, happy group. I firmly believe there are some who have an innate ability to lead, to look around, see what needs to happen, who needs to function in a particular capacity, and then make appropriate assignments. These are people who are teachers, cheerleaders, organizers, and sometimes disciplinarians — but people with the ability to see a big picture.

And here's my point. We're often quite adept at certain skills and have certain abilities. These talents are ours and we do well. Sometimes we're able to develop new talents and skills, but there are still several areas that we do so well, it's almost uncanny. And there are areas that we struggle with, no matter how much time and energy we spend. (Kind of like me learning Morse code at 20 words-per-minute.)

Consider what would happen if the company president assigned me to manage our networks. The network would be OK as long as I didn't touch it. And what would happen if the network guy were given the telecommunications responsibility. It would be fine until he had to fix an antenna or install something new. We would both be out of our areas of expertise and would become a detriment to the company.

Now contrast the leader with the manager. A good manager ensures all the bases are covered and all the details are taken care of. A manager worries if a slot is vacant. The leader can look at a big picture and not worry that a non-essential function is not staffed as long as the important issues are being resolved. Have you ever worked for a manager that only worries that you're looking busy and has no idea what you're doing and how it contributes to the company purpose?

What about the leader who sees you're having a stressful shift at the communications console and says, "Take a break, we'll cover while you get some fresh air." The leader understands the individual need might be greater than the need for having every chair filled and every phone answered.

Here's your assignment for the month. Consider what happens when you elect, promote, or move someone from an area of expertise into an unfamiliar area, perhaps even an area of leadership. Some people will rise to the challenge and some won't. Yet, we continue to set people up for failure by moving them into unfamiliar territory and linking their current success to past performance. Does comparing apples and rocks come to mind?

Take a reflective moment and ponder where, in public service, you find the most satisfaction. I'll bet it's where you find your own expertise. You might not be an expert yet, but satisfaction is found by doing your best, progressing toward doing better, and knowing what you did contributed to the success of the event. As you participate and perhaps lead an organization, look carefully at where you find the best performance. Before we criticize, consider what we would do if nudged outside of our area of expertise.

Year 2000

Among all the attention the Y2K "problem" is grabbing, I can see some benefit. People are actually thinking preparedness. I am solidly of the opinion that on 01 January 2000, civilization as we know it will NOT end. Planes are not going to suddenly fall from the sky. Money will not mysteriously vanish. Electrical power will not simply go away. We'll be fine. And those areas that might experience difficulty will be quickly fixed — we are a smart, intelligent people and capable of dealing with problems. We'll live through it.

I can hardly wait for year end to get here, if only to get beyond it and focus on something else. But from a preparedness perspective, I love it! What are we preparing for? To borrow a comment from Boy Scouting, "for any old thing." In my dusty archives I found a local newspaper article from 1981. The article concerns preparedness and doesn't mention Y2K.

As I read through this article, I found an official from the

state's emergency management agency listing areas that citizens in general might consider as they prepare for any emergency. He encouraged having 72-hour kits, food storage and water for weeks, if not months. He suggested we have clothing, bedding, and other necessities on hand.

The American Red Cross has been promoting preparedness. Amateur Radio groups have encouraged grab-and-go gear and published suggestions. Churches, civic organizations, rescue groups, government agencies have sung the "be prepared" song for decades. It's nothing new. But to hear my neighbors talk and to read today's headlines, preparedness is the new fad. It's suddenly "with it" to have a year's supply of food.

As you participate in preparedness events and help encourage others, please focus on the simple common sense approach — it's good to be prepared for anything. It might be a power outage, a hazardous materials spill, a severe storm, a sudden illness, a job layoff, or just about anything. If you're prepared, you'll deal with it fine.

"If you're prepared, you'll deal with it fine."

My chief concern is that when Y2K passes silently and without catastrophe, we'll breathe a sigh of relief and lose sight of the principle of preparedness. Earthquakes, terrorists, weather, economic woes, illness, and all those other emergencies have nothing to do with Y2K. Being prepared remains a good thing. Maybe I should be the "be prepared for Y3K" cheerleader so we can continue to focus on being prepared. After all, if Y2K is bad, Y3K will be worse.

The system is us

Let me pick on the Civil Air Patrol for a minute. (And this applies to every volunteer group as well.) I received an e-mail from a CAP communicator with concerns over the future of CAP's communications system. By way of background, CAP is moving to a new system with some stringent technical requirements. The days of a "modified" Amateur Radio are limited with regard to CAP radio operation.

The message was an "encouragement" that CAP communicators need to get more stations on the air, to improve communications plans, to train more operators, and, in general, build up the system again. And I commend his efforts and offer limited agreement.

In the early 1970s I could hardly wait until I could get on the CAP's HF-SSB network. I strung a 4.6 MHz dipole from the highest point in a large tree. To my parent's chagrin, wire draped over the house and through the basement window, and static was heard much of the time. Yet, here I would be, every evening, and sometimes all day, listening to and relaying radio traffic, faithfully checking in to radio nets, and making friends with stations such as "Pikes Peak 6," "King 100," and "Uncle Willie 42." It was what I lived for. Many of you do the same with Amateur Radio (as do I).

But wait, let's carefully examine the previous paragraph. Did you catch the critical element? It's called purpose and activity. There was radio traffic to copy, send, and relay. It was more than the static, it was the command and control link. I was the squadron's link to daily messages and information.

In preparing for this month's column, I tuned my HF radio around the CAP frequencies this past week. Did I hear beehives of activity? Were there messages from headquarters to squadrons? Were there training nets or search and rescue nets? The only net I heard in several days was a short "no traffic" net.

Here's the key. If you have a purpose, members will rally to meet the need. If your leaders use the radio net for command and control traffic, members will build, train, and respond. If ignored, it will be the "old timers" who maintain social contact and there will be little, if any, influx of new blood or activity.

Consider your ARES weekly net. If everything important happens via telephone, FAX, Internet, Postal Service, Federal Express, etc., and not by radio, you have no purpose to gather. Some years ago I unplugged my packet station because there wasn't any traffic. The gear is still there for special events, but I no longer watch the computer screen, hoping for traffic. Now I check my e-mail!

Even 10 years ago the CAP radio system was alive with coordination traffic from the national headquarters to the state headquarters and from state commanders to local commanders. When there was a search mission or other event or emergency, we turned on our radios. If the search involved several states, we used HF-SSB to coordinate. When we set up a forward SAR base, communications was a chief concern and we had many mobile HF-SSB stations.

Today, not even the local FM repeater networks in many states carry enough traffic to encourage CAP operator involvement. I've traveled through many areas, have keyed the CAP repeater, tried to make contact, and was met with silence. Years ago it would be strange to not have several stations reply to a call. Radio nets would last for an hour with messages, staff inquiries, information exchange, and excitement at being "in the loop." No so today, and it's not the "operator" level fault.

It is difficult to encourage, command, order, compel, or motivate someone to action for which command support lacks. Leaders can preach from the pulpit, spend money, and call for action, but unless they (in the case of a communications system) make it important enough to use, it will not happen. Do you want an active radio net? Use it. Commanders, make it a first priority in your communications effort with members. Use your radio system (with no air time charges) before you pay to use the phone, cell phone, FAX, pager, Internet, etc. Do you want members to get involved and support a radio system? Make it important enough that they'll want to spend time and energy.

As with members or any system – ignore it and it will go away. Ignore members, and they'll go away.

Until next month, be prepared for any old thing. Best wishes from Salt Lake City. — *Jerry Wellman, W7SAR, P.O. Box 11445, Salt Lake City, UT 84147 or jw@desnews.com*

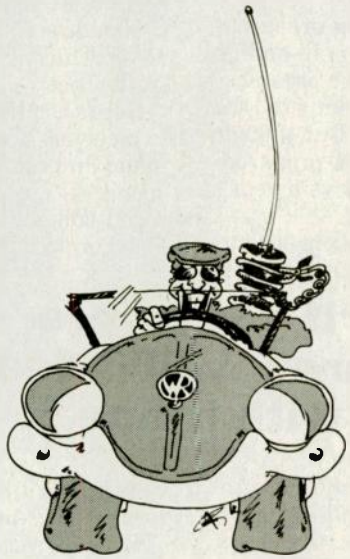
More on Mobile Subjects

There was a lot of interest in the question from Tom Barker, W7MTB, on improving the output of his Hustler whips on the roof rack of his 23' fiberglass Tioga RV, while parked. On my February trip to Quartzsite, Arizona, I visited with two different groups of Ham RVers. I was surprised at how many, like Tom, were only interested in operating HF while parked, and had designed their installations accordingly. My articles on Quartzsite may be elsewhere in this issue, with more comments on the antennas used. The best installations that I saw bonded the adjacent metal ribs crossing the fiberglass ceiling to the ground return of the antenna mount on the roof. They had verified that the metal structure was all welded to the frame. All fiberglass RVs may not have metal framework. But I know some that I camped with did, because we could see the ribs outlined in the morning dew!

Brian M. Moyse, W5/G4IJR, very nicely summed up his answers for Tom: "Obviously his problem is that he only has one half of the antenna (no return path for HF). Fortunately the solution is a counterpoise. Basically he needs to attach some radials (4-6) to the bottom coax screen side of the antenna (much better than car or RV body). This is well described in "*Practical Antenna Handbook*" 2nd edition by Joe Carr (1994 TAB Books /McGraw Hill) page 425-428. In addition you can make the radials shorter than the physical length by a factor equal to the velocity factor of the coax you use to make the radials (counterpoise), described by R. Artigo, KN6J, on page 57 of the June 1992 edition of *CQ* magazine."

William Sayer, WA6BAN, sent me a letter on the subject: "3M makes a sticky copper foil up to 3/8" wide. This can be purchased at most hobby shops that cater to the stained glass people. We used 3 strips on KK6BC's motorhome and he was one of the top performers at the Good Sam antenna measuring at the Midland campout..... P.S. His tape has been on for 3 years."

Bob Blohm, KE6ZWO, had a different approach in his email: "I, too, have had a hard time using my HF rig in my 5th wheel trailer. As with Tom Barker, W7MTB, my search for a good ground plane was exhausting. My solution was the dual adapter model DAK from HRO winter catalog page 90. I hooked a 1 to 1 balun to the two connection points,



installed two 20 meter Ham sticks and operate as a dipole. By using an MFJ tuner, I have been able to successfully load this on 20, 40 and 80 Meters. Last week I was at Lake San Antonio in Monterey County, CA, and worked WA, OR, ID, HI, WIS., OK, NM, FL, NJ, And both of the Carolinas. By changing to 80-meter Ham sticks, I found that I had a better radiation pattern on 80. I mount this on 2 eight foot sections of PVC off the back bumper of the trailer. It takes about 10 to 15 minutes to set up and I'm on the air."

If you want to play with this idea, I would suggest using antennas tuned for the band in use.

After the February 1999 column on RV mobile was sent in, I established e-mail contact with Marten du Preez, ZS6ZY, in Pretoria, South Africa. Marten is an active member of their Radio Amateur's Caravan Club, which I discovered via their web page at http://www.sarl.org.za/local/caravan.htm. A "Caravan" is called an RV or Travel Trailer in the U.S. My only excuse for not contacting him on the air is that e-mail is easier to edit into a column!

Marten's opening message told something of their activities: "What a pleasant surprise to receive the message from you and all the information about your caravaning. There are a few informal Amateur Radio caravan clubs in South Africa after a number of us in Pretoria got together to establish the caravan club. We have been out on a number of occasions and three weeks ago to a Ham who has a nature reserve for caravans, tents and back packers. It is now our summer and although quite hot, we still enjoy the outing. We have just planned a trip to the Kruger National Park for ten days and a week in the sub-tropical area of eastern Transvaal with beautiful scenery and vegetation. I have a pop-up caravan with solid sides pulling it with a 3 litre Nissan car. The roof pops up with canvas sides of about 14 inches. It has an island bed, microwave oven, etc. While camping in parks we also promote Amateur Radio to the other campers and in that way promote interest in Amateur Radio to the public. I use a Kenwood TS-130s and Hustler antenna on 80, 40 and 20 Meters and obtain good results. Yes, our wives go since most of us are retired, we don't have small children. My wife is very keen on camping and that makes life much easier."

Bob Morgan, KIØCH, in Colorado sent the following e-query: "In a recent (I think) HF Mobile column in ***Worldradio***, you said either you or someone used a trailer hitch mounted bicycle rack for an antenna mount. I did not save the article and I don't remember the details. I am considering the same option for a mobile HF mount on a Suburban. No hole, seemingly plenty of strength, and the coil will be well above the roof."

No, I don't believe I mentioned a bike rack, but I am familiar with the idea of using a hitch or a hitch receiver to mount an antenna. I would think that the biggest problem with either the hitch ball mount or a bike rack would be keeping a good ground path. Anything plugging into a hitch receiver is grounded to the receiver only by ran-

dom scrapes of the paint and by the loose fitting hitch pin. Use some braid for a ground connection. With a bike rack, any metal joints between the antenna mount and the vehicle frame should be likewise bonded with braid or other.

The main problem with mounting an antenna on an SUV on or above a hitch in the center of the vehicle, is opening a tailgate, or lift gate. I saw a clever variation on a 1998 Blazer at a Hamswap the other day. A short hitch receiver tube had been welded at a 45 degree angle to the left corner of the regular hitch receiver frame. The screwdriver antenna used sat at the left corner of the rear bumper on a 2" tube inserted into the added receiver.

Nigel, G4VJM/M, let me know about his HF mobile web page at http://members.aol.com/g4vjm where he tells a lot about his mobile activity.

Bill Hensel, AAØRQ, who signed himself as a Trout Bum, left the following comments in my web page guestbook: "I operate only mobile CW on HF (I lied, now and then SSB, to talk with a close friend NFØZ, an RVer in Quartzite, AZ) I operate while mobile with a bug and a key, but not both at a time. I hang out on 10.116 a lot. I spend most of my time making bamboo fly rods and fly fishing so perhaps you or someone will catch me sending cw on some dirt roads here in the state of Colorado."

Larry Doyle, WB6CTQ, also commented in my guestbook: "I use a TS-50 with a HS-1000 antenna and have had very good results with that set up. I enjoy HF mobileering but don't get to do it very often."

None of us have the opportunity to operate HF mobile as much as we would like, but I hope point out the ways, times, and places HF mobile is possible and useful.

Let me hear from you! — *Les Cobb, W6TEE, can be reached at: 5000 North Avenue, Carmichael, CA 95608 or by email at: lcobb@ compuserve.com*

Lenore Jensen, W6NAZ, SK Inside Amateur Radio

The following story has been excerpted from Inside Amateur Radio, *by the late Lenore Jensen, W6NAZ. The book can be purchased from Worldradio Books, P.O. Box 189490, Sacramento, CA 95818. Price is $9.00 plus $2.00 shipping and handling. CA residents please add 70¢ sales tax.*

Harry blushed

Harry Simpson, W4MI, still shakes his head when he remembers the day his beautiful new blue-and-white 1954 Chevrolet 4-door was delivered.

"I decided to drive to Chattanooga, so I loaded up my equipment, packed a bag and headed out of town, even though it had started to rain.

"A thought occured — perhaps if I stopped by the Barksdale Police Station and showed off my new car to the Hams who worked there, the rain would stop. So I drove into the parking lot and accepted all the 'ohs' and 'ahs' with good grace."

Milton McCoy, W4FCF, who was very hospitable, said, "Oh, bring it into one of the bays and we'll drill a hole in the roof for your 2-meter antenna."

Harry goes on, "I told him that I wasn't going to have any holes drilled in that pretty white top — that I planned to have a different antenna installed on the back bumper when I returned from my trip. McCoy agreed that it would be a shame to put a hole in that roof, so we adjourned to a dry spot in the shop and started the customary gabfest.

"Someone brought in a small AC-DC radio and left it on the bench. During our conversation, I could hear the whine of a drill in the radio, but didn't really pay much attention.

"A short time later, a technician came in and requested, 'OK, come on out and see if we drilled this hole properly.' 'What hole?' I screamed! He answered, 'The hole for your roof-mount antenna.' I rushed out to the car and could see a stepladder leaning against it. On the roof was a drop cloth, an electric drill, steel cuttings and a most horrible black hole.

"It was with a great deal of agitation that I approached the damage. It was raining, I was en route to Chattanooga and there was a hole in the roof of my new car! I wouldn't have time to remove the headliner and install a new antenna, even if I had one. It was one big mess! I was so sick that I probably turned green.

"McCoy showed sympathy, saying 'well, we probably shouldn't have done it, but there's no use crying over spilt milk. Why don't you check the hole and see if we got it in the center."

Harry remembers, "I climbed the ladder and slowly turned from green to a blushing red. The entire event had been staged. The 'hole' in my new car's roof was a round piece of black electrician's tape.

"After all these years, they still won't let me forget it."

Lorraine S. Matthew, N4ZCF

MARS support for large event

Army MARS has been known for its community involvement in many different roles within the communications venues.

One of the more unusual operations was carried out by Missouri Army MARS during the Pope's recent visit to St. Louis. With the expectation of approximately 2,000,000 visitors came the expectation that communications facilities of all types would be quickly saturated and that MARS communications assets should be ready. Instead of waiting for the call to come, MO Army MARS set up a most effective exercise the conduct of which showed the complete readiness of that organization to act and to meet all of the anticipated requirements that the situation might generate.

Exercise Pope Support was designed with limited objectives to provide real-time support to the American Red Cross. The Red Cross was deployed in St. Louis during the visit by the Pope to provide actual mass care canteening service and to be prepared in case of any critical event. The City of St. Louis expected up to 2 million visitors — the sheer numbers of which would present serious logistical problems and obvious high-risk security problems. Normal communications were expected to be saturated. The Army MARS club stations tested limited operations and were prepared to be activated in the event of any emergency situation.

Specifically, the following operations were conducted to accomplish designed objectives:

(1) Radio contact was established between AAR7CRC in St. Louis and AAT7CRC in Kansas City. The two stations were and are in good contact.

(2) Written record real-time traffic was passed between the two stations often using relays from several other stations, including some from other states. Therein were the Army MARS net procedures and disciplines proved to be effective.

(3) Third party operations were conducted by having the Red Cross Directors of Emergency Services in St. Louis and in Kansas City talk to each other on the MARS radios to exchange actual real-time operational information.

(4) Phone patch operations were conducted by having the Red Cross Director of Emergency Services in St. Louis by MARS radio from AAR7CRC to the phone patch station AAT7UO in Independence, MO, who, in turn, connected to the Red Cross Emergency Services Director in Kansas City by land-line in his personal office. The assumption was made for this phase of the exercise that all telephone outlets in St. Louis were saturated and, therefore, inoperable. Another phone patch was also conducted by MARS radio from AAT7CRC in Kansas City with a Red Cross official on the microphone through AAT7UO who connected by land-line to the Western Area MARS Director in her office at Fort Huachuca, Arizona. The Red Cross officials were dramatically impressed.

The exercise proved to the Red Cross officials that MARS is available and that the MARS system does work in support of agencies for whom a need for reliable communications exists.

The Red Cross officials involved have expressed their appreciation and thanks and continued support of MARS.

The exercise was designed with limited objectives to test and exercise real-time requirements in support of an actual situation with a customer agency. Its nature included a real responsibility for all members involved.

By using regular state and regional nets, although the traffic was between only two stations, the exercise involved a large number of state and regional and, even, national members who were present and able to relay and to provide signal reports.

My thanks to Mac McClure/AAA7MO, MO State Army MARS Director, and to Chief Robert L. Sutton/AAA9A, Chief Army MARS, for sharing this information and the After Action report with me.

Cross training

Another example of Army MARS involvement with community and county agencies is taking place with Oregon Army MARS under the leadership of Oletta Spears/AAAØOR, Oregon Army MARS State Director. Ms. Spears has taken a proactive lead by informing members in Oregon of potential cross training opportunities with the Amateur Radio community and local community and county leaders.

Emergency planners in both Hillsboro and Washington counties in Oregon are seeking members of the amateur community, MARS, and the Civil Air Patrol to participate in cross training to include messages transfer in/out of the amateur and military systems, to/from response centers, and local damage assessment skills for local event first-hand reporting to various agencies. This is a direct skill needed for the effective filing of the MARS EEI Reports to DOMS at the Pentagon for the use of federal relief agencies as well.

An additional member support idea presented by Ms. Spears is her promotion of an Army MARS Elmer system in which experienced Army MARS members work with and encourage new Army MARS members. More will be written about this valuable approach in later columns.

Many of the skills, particularly the cross-band skills as described in the Oregon approach, are used extensively during the Armed Forces Day nationwide operations during the 3rd weekend in May (coincidentally with Dayton Hamfest). Thousands of amateur and MARS stations participate in this exercise or challenge or fun experience, (however you want to define it) every year. The results of this 50th annual Armed Forces Day are not yet available; but I am sure that this, being a special anniversary of the event, will have generated record numbers of participants. The underlying serious operational skills development is evident to those of us who may be called upon to use them in real-time events. Even for us, the challenges of the day are fun.

Army MARS continues to serve...

Proud, Professional and Ready — *Lorraine S. Matthew, N4ZCF, MARS Call AAA9PR, can be reached by email at: Lorimatt@aol.com.*

Visit Your Local RADIO CLUB

For information on how to get your club listed in *"Visit Your Local Radio Club,"* plus receive many other benefits, write to: Club Liaison, *Worldradio* 2120 28th St. • Sacramento, CA 95818

ARIZONA

Arizona Repeater Association. P.O. Box 35758, Phoenix, AZ 85069-5758. Operates 20 VHF & UHF rptrs. in AZ. Meets 4th Thurs./monthly, 7:30 p.m., APS Shure Building, 2124 W. Cheryl, Phoenix, AZ. Info:www.goodnet.com/indirect/www/ara 12/99

Cochise Amateur Radio Assn., (CARA). Meets 1st Mon./monthly, 7:30 p.m. at club facility on Moson Rd., Sierra Vista, AZ. K7RDG/R 146.76(-) rptr. PL162.2. 5/00

Old Pueblo Radio Club, (OPRC). P.O. Box 42601, Tucson, AZ 85733. Meets 2nd Wed./monthly, 7:15 p.m., Tucson Med. Cntr., Grant & Beverly St. in the AZ Rm. of the Volunteer's Bldg. (1st bldg. on the left going north off Grant). 2/00

CALIFORNIA

Amador County Amateur Radio Club. P.O. Box 1094, Pine Grove, CA 95665. Meets 1st Thurs./monthly, 7:30 p.m., Jackson Sr. Cntr., 229 New York Ranch Rd., Jackson, CA. Info: call 146.835(-). 5/00

Amateur Radio Club of Anderson, (ARCA). Meets 2nd Thurs./monthly, 7:30 p.m. Amer. Legion Post #746, 1709 Bruce Dr., Anderson, CA. Net every Tue., 7:30 p.m. on 146.64. http://www.snowcrest. net/bgorski/index.html 10/99

Beach Cities Wireless Society. P.O. Box 4016, San Clemente, CA 92674. Meets 2nd Thurs./monthly, 7:30 p.m., Ole Hansen Beach Club, 105 W. Avenida Pico, San Clemente. Rptr. 146.025(+) PL 110.9. 8/99

Coachella Valley ARC. Box 11092, Palm Desert, CA 92255-1092. Meets 2nd Wed./monthly, 6:30 p.m., Portola Com. Cntr., 45480 Portola, Palm Desert. Info: Bill Dews, (760) 346-8611. Net Thurs. 7 p.m. 146.025(+) PL 107.2. 5/00

Contra Costa Communications Club, Inc., WD6EZC/R. P.O. Box 20661, El Sobrante, CA 94820-0661. Meets 2nd Sun./monthly (except May & Dec.), 07:30, Baker's Square Rest. in Richmond, CA. Info: Stan Clark, KB6SEI, (510) 724-0158. 2/00

Downey Amateur Radio Club Inc., W6TOI. Meets 1st Thurs./monthly, 7:30 p.m., So. Middle School cafetorium, 12500 S. Birchdale, Downey, CA. VHF net W6GNS rptr. 146.175(+) Thurs., 7:30 p.m. 5/00

East Bay Amateur Radio Club, Inc. Meets 2nd Fri./monthly, 7:30 p.m., Albany Sr. Cntr., 846 Masonic Ave., Albany, CA. Info: S. Primbsch, (510) 741-8227. 145.11(-) MHz. 3/00

Fresno Amateur Radio Club. Meets 2nd Fri./monthly, 7:30 p.m., Ernie Pyle School, 4140 N. Augusta, Fresno, CA. 146.94(-) 223.94(-). 11/99

Golden Empire Amateur Radio Society, (VEC). P.O. Box 508, Chico, CA 95927. Club call W6RHC, rptr. 146.85(-). Meets: 3rd Fri./monthly, 7:30 p.m. at 345 Cherry St. (Library Rm.), Chico. 5/01

Golden Triangle Amateur Radio Club. P.O. Box 1335, Wildomar, CA 92595. Meets 4th Mon./monthly, 7 p.m., Sharp Health Care, 25500 Med. Cntr. Dr., Murrieta, CA 92562. Rptr: KE6UES 146.805(-) PL 100. Info: Norb Dean, AD6F, (909) 767-0449. E-mail: norbjudy@pe.net 7/99

Livermore Amateur Radio Klub, (LARK). Meets 3rd Sat./monthly, 9:30 a.m., City Council Chamber, 3575 Pacific Ave., Livermore, CA. Net Mon. 1900 on 147.12(+). For info: LARK Secretary, P.O. Box 3190, Livermore, CA 94551-3190. (925) 373-1386. 2/00

Marin Amateur Radio Club (MARC). W6SG. Box 9456, San Rafael, CA 94912-9456. Meets 1st Fri./7:30 p.m., Kaiser Hosp., Bldg. 2, Terra Linda, CA. (except Dec.; Sun. a.m. Club at Alto Building, 27 Shell Road, Mill Valley. 9/99

Motorcycling Amateur Radio Club. Meets 2nd Sat./monthly, 8 a.m., Lake View Cafe, 2099 E. Orangethorpe, Placentia, CA, at 91 Fwy/Lakeview. Info: Ray Davis, KD6FHN, (949) 551-1036 or (949) 551-2010. 5/00

Sacramento Amateur Radio Club. Meets 2nd Wed./monthly, 7 p.m. Sac. Blood Ctr., 32nd St. & Stockton Blvd., Sacramento, CA. Info net at noon on rptr. W6AK/R 146.91(-). Steve Cates, KC6TEV, (916) 391-7341 or Les Ballinger, WA6EQQ, (916) 393-4775. 2/00

Sacramento "Old Timers" Amateur Radio Society and Sacramento Valley Chapter #169 QCWA (Quarter Century Wireless Assn.). Meets 2nd Wed./monthly, 8 a.m., Lyon's Restaurant, El Camino Ave. & Watt Ave. For info contact Paul Wolf, W6RLP (916)489-8112. 12/99

South Bay ARC. 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 WB6MYD rpt. 244.38(-). Info: (310) 328-0817. 8/99

Southern Sierra ARS. Meets 2nd Thurs./monthly, 7 p.m., Veteran's Hall, 125 East F St., Tehachapi, CA. Contact: Caroline, KD6KMN, (805) 822-5995. 147.06(+), 224.42(-), 145.090(S) Packet. 1/00

Tri-County Amateur Radio Assoc. P.O. Box 75, Claremont, CA 91711-0075. Meets: 2nd Mon./monthly, 7:30 p.m., Covenant United Methodist Church, corner of Towne Ave. & San Bernardino Rd. in Pomona, CA. Info: Chuck, KQ6NX at kq6nx@juno.com or (909) 949-8145 3/00

This month ... Dupage Amateur Radio Club, from Clarendon, IL, are winners of an MFJ Antenna Analyzer to share with its members. The club's name was selected at random from our *"Visit Your Local Radio Club"* listing.

Mount Diablo Amateur Radio Club. P.O. Box 23222, Pleasant Hill, CA 94523. Meets 3rd Fri./monthly, 8 p.m., Our Savior's Lutheran Church, 1035 Carol Lane, Lafayette, CA. Net Thurs. 7:30 p.m. on 147.06(+) PL 100Hz. Info: (510) 932-6125. 8/99

Nevada County ARC. Meets 2nd Mon./monthly, 7 p.m., Salvation Army Bldg., 10725 Alta St., Grass Valley, CA. Net Tues. 7 p.m. 147.015. Contact Linda Johnson, KE6HWE, lindasue@mail.telis.org (530) 273-2008. 8/99

North Hills Radio Club. Meets 3rd Tue./monthly, 7:30 p.m., Carmichael Elks Lodge, 5631 Cypress, Carmichael, CA. Nets 8 p.m. Tue., (except 3rd Tue.) & Thur., 145.190(-) (PL 162.2 Hz) & 224.400(-) MHz. For info contact: Earl Mead, K6ESM, (916) 331-1115. E-mail: nhrc@K6IS.org or http://www.k6is.org 4/00

Orange County Amateur Radio Club. Meets 3rd Fri./monthly, 7:30 p.m., Orange County Red Cross, 601 N. Golden Circle, Santa Ana, CA. Talk-in 146.550 (S). Contact Bud Barkhurst, WA6VPP, (714) 744-6361. WWW.W6ZE.ORG 2/00

Poinsettia ARC. Meets 1st Thurs./monthly, 7:30 p.m., First Christian Church, Telegraph Road. & Teloma Dr., Ventura, CA. For info: Jim Casper, N6PIQ, (805) 649-1445. 4/00

River City A.R.C.S. Meets 1st Tues./monthly, 7 p.m., SMUD Bldg., Don Julio at Elkhorn, Sacramento, CA. License classes offered. For info!: (916) 483-3293. 9/99

Trinity County ARC. P.O. Box 2283, Weaverville, CA 96093. Meets 2nd Wed./monthly, County School Adm. Bldg. in Weaverville, 7:30 p.m. Rptrs: WA6BXN 146.73(-) PL 85.4, W6HOR 146.925(-) PL 85.4. 11/99

United Radio Amateur Club, K6AA. L.A. Maritime Museum, Berth 84, Foot of 6th, San Pedro, CA 90731. Meets 3rd Fri./monthly (except Dec.), 7:00 p.m. Monitors 145.52 Simplex 10 a.m.—5 p.m. 8/99

Vaca Valley Radio Club. Meets 2nd Wed./monthly, 7:30 p.m. (Board mtg., 7 p.m.) Vaca Fire Dist. Stn., Vine St. in Vacaville, CA. Rptr. WD6BUS 145.47(-) PL 127.3. Gerald Grossardt, (707) 447-0869 5/00

Victor Valley Amateur Radio Club. P.O. Box 869, Victorville, CA 92392. Meets 2nd Tue./monthly, 7 p.m., Presidio Rec. Cntr., 11100 Apple Valley Rd., Apple Valley, CA Talk-in 146.94(-), PL 91.5. Net Sun. 7 p.m. 146.94(-) 2/00

West Coast Amateur Radio Club, (WCARC). P.O. Box 2617, Costa Mesa, CA 92628. Meets 3rd Thurs./monthly, 7 p.m., Fountain Valley Sch. Dist. Office, 17210 Oak St., Fountain Valley, CA. 145.440(-) PL 136.5. For info: Jane, KD6ODV, (714) 531-6707 12/99

Westside Amateur Radio Club. P.O. Box 11092, Marina del Rey, CA 90295. Meets 4th Tues./monthly, 7:30 p.m., W. Dist. R. C. Bldg., 11355 Ohio Ave., W. L.A., CA (VA Cntr. grounds). Net Tues., 8 p.m. 146.67(-) except mtg. night. Website: http://www.qsl.net/wa6rc Voice Mail: (310) 478-7555 7/99

Willits Amateur Radio Society, (WARS). P.O. Box 73, Willits, CA 95490. Meets 4th Mon./monthly, 7 p.m., Brooktrails Fire Dept. 2 NW Willits http://www.saber.net/wars. Talk-in: 145.13(-), PL 103.5. 9/99

Yolo Amateur Radio Society. Meets 1st Tues./monthly, 7:30 p.m., Denny's Restaurant, 4120 Chiles Rd., Davis, CA. Contact Dave Nishikawa, KC6YFG, (916) 756-6375/Talk-in 144.430. 12/99

Yuba-Sutter Amateur Radio Club, (YSARC). P.O. Box 1169, Yuba City, CA 95992. Meets 2nd Thurs./monthly, 7 p.m. Location announced at Mon. net, 7 p.m. on 146.085. 3/00

COLORADO

Bolder Amateur Radio Club (BARC). Meets 3rd Tues./monthly, 7:30 p.m., NIST Bldg., 325 So. Broadway, Rm 1107, Boulder, CO. Talk-in: 146.70(-) & 100Hz CTCSS. Info: (303) 380-6540, e-mail:BARC@pobox.com or www.thisistrue.com/barc.html 8/99

CONNECTICUT

Tri-City Amateur Radio Club. P.O. Box 686, Groton, CT 06340-0686. Meets 2nd Tue./monthly, 7 p.m., St. Lukes Lutheran Church of Gales Ferry on Rt. 12. Info: Bob Dargel, KA1BB, (860) 739-8016. 8/00

Western CT. DX Club. Meets 1st Tues/monthly, 8 p.m., Brookfield Com. Cntr. (on Pocono Rd. across from Brookfield P.O.) Info: contact Victor at: victoras@EROLS.com 8/99

FLORIDA

Gulf Coast ARC. P.O. Box 595, New Port Richey, FL 34656. Meets 4th Mon./monthly, 7:30 p.m., Marchman Tech. Ed. Cntr., 7825 Campus Dr., Bldg. C, Rm C122, New Port Richey. WA4GDN rptrs. 146.67(-) & 145.33(-), serving all of Pasco County. 11/99

South Brevard Amateur Radio Club. P.O. Box 2205, Melbourne, FL 32902. Meets 1st Tue./monthly, 7 p.m., Public Library, 540 Fee Ave., Melbourne, FL. 12/99

Vero Beach ARC, W4OT. P.O. Box 2082, Vero Beach, FL 32961. Meets 2nd Thurs./monthly, 7:30 p.m., Emerg. Mgmt., Indian River County Adm. Bldg., 1840 25th St. Net Mon., 7:30 p.m. 146.64. 3/00

GEORGIA

Cherokee Capital ARS. Meets 2nd Tue.monthly, 7 p.m., Ashworth Middle School, Calhoun, GA. 146.805(+). Info: Felton Floyd, AF4DN, (706) 629-0369. 12/99

Dalton Amateur Radio Club, Inc., (DARC). P.O. Box 143, Dalton, GA 30722-0143. Meets 4th Mon./monthly, 7:30 p.m., Magistrate Court Bldg., corner of Waugh St. & Thornton Ave., Dalton, GA. Info: Harold Jones, N4BD, 706/673-2291. 4/00

Gwinnett Amateur Radio Society, (GARS). P.O. Box 88, Lilburn, GA 30048. Meets 3rd Thurs./monthly, 7:30 p.m., Gwinnett Central Baptist Church on Gwinnett Dr., Lawrenceville, GA. 147.075+ PL 82.5. Contact: Mike Swiderski, K4HBI, (770) 449-0369. 12/99

HAWAII

Big Island Amateur Radio Club. P.O. Box 1938, Hilo, HI 96721-1938. Meets 2nd Sat./monthly, 2 p.m., Keaau Community Ctr., behind Fire Station on Old Volcano Rd., Keaau. Talk-in on 146.88(-). Lunch, 11 a.m. Fridays, Pizza Hut, Puainako Twn. Ctr. 7/99

Emergency Amateur Radio Club, (EARC). P.O. Box 30315, Honolulu, HI 96820-0315. Meets 4th Thurs./monthly, 7 p.m., Lincoln Elementary. School, 615 Auwaiolimu, Honolulu. Nets: nightly 7:30 p.m., 146.88 & 146.80. Rptrs: 146.76(-), 146.80(-), 146.88,146.98(-), 146.94(-). Info: (808) 256-6001, WH6CZB. 12/99

Koolau Amateur Radio Club, (KARC). 45-145 Mikihilina St., Kaneohe, HI 96744. Meets 2nd Sat./monthly, 9:30 a.m., Hoomaluhia Botanical Garden., Kaneohe, HI. Info: (808) 235-3042. http://www.chem.hawaii.edu/karc/ 8/99

ILLINOIS

Chicago FM Club Inc., (CFMC). P.O. Box 1532, Evanston, IL 60204. 146.76(-) PL 107.2/224.10/224.18/443.75 PL 114.8. Ham help line: (773) 262-6773. Info net Tues., 9 p.m. on 146.76(-). Meets 3rd Wed./monthly, 8 p.m. 8/99

Dupage Amateur Radio Club. (DARC). P.O. Box 71, Clarendon Hills, IL 60514. Meets 4th Mon./monthly, 7:30 p.m., 6015 S. Cass Ave., Westmont, IL. Net Sun., 9 p.m. on 145.25. W9DUP repeaters 145.25(-) 107.2PL, 442.55(+) PL 114.8, 224.68(-). Info: (630) 985-9256 6/99

Fox River Radio League. P.O. Box 673, Batavia, IL 60510-0673. Meets 2nd Tue./monthly, 7:30 p.m., Old Bank Bldg., 900 No. Lake St., lower level, Northgate Shopping Ctr. & Rt. 31, Aurora, IL. 8/99

Hamfesters Radio Club, W9AA. P.O. Box 42792, Evergreen Park, IL 60805. Meets 1st Fri./monthly, 7:30 p.m., Crestwood Civ. Ctr., 139th & Kostner, Crestwood, IL. Nets: Sun. (local) 0100 UTC, 28.410 MHz; Mon. 9 p.m. 146.43 S., Packet Mailbox 145.65 MHz. Info: (312) 974-3291. 2/00

Peoria Area Amateur Radio Club, (PAARC). P.O. Box 3508, Peoria, IL 61612-3508. Meets 2nd Fri./monthly, Red Cross Chapter House, 311 W. John Gwynn Jr. Ave., Peoria, IL. Voice mail: (309) 692-3378. Rptrs: 147.075(+) & 146.85(-). 6/99

The Starved Rock Radio Club, W9MKS. P.O. Box 198, Tabor St., Leonore, IL 61332. Meets 1st Mon./monthly, 7:30 p.m. Rptr. net 7 p.m. Wed./wkly., 147.12(+). 4/00

Wheaton Community Radio Amateurs, (WCRA). P.O. Box QSL, Wheaton, IL 60189. Meets 7:30 p.m., 1st Fri./monthly, College of DuPage, Wheaton, IL. Rptrs: 145.39(-) (107.2), 224.14(-), 444.475(+) (114.8). Info: Ron Hensel, K9ZZE, (630) 365-0213, k9zze@aol.com 8/99

INDIANA

Land of Lakes ARC. Meets 4th Tues./monthly, 7 p.m., Steuben Co. Annex Bldg., Angola, IN. For info: Theresa J. Limestahl, KB9NNR, (219) 495-5403. Call-in 147.180 PL 131.8. E-mail: llarc-k9hd@yahoo.com 7/99

MARYLAND

Maryland Mobileers Amateur Radio Club (MMARC). P.O. Box 935, Severn, MD 21144. Meets 1st Fri./monthly, 7:30 p.m., Baldwin Hall, Generals HWY, Millersville. Info net each Mon. 8:30 p.m. on 146.805(-), tone 107.2 Hz 4/00

MASSACHUSETTS

Quannapowitt Radio Assoc., Inc. 6 Savin St., Burlington, MA 01803. Meets 3rd Thur./monthly, 7:00 p.m. at Wakefield Public Library, 345 Main St., Wakefield, MA, Sept. to May. Info: Jim Chamberlain, N1AKG, (781) 944-5098. 5/00

MICHIGAN

Genesee County Radio Club, Inc. Meets 3rd Tues./monthly, 7:30 p.m., Genesee Area Skill Center, Torrey Rd., Flint, MI. (810) 733-2082. 3/00

Hiawatha Amateur Radio Assoc. of Marquette Co. P.O. Box 1183, Marquette, MI 49855. Meets 1st Thurs./monthly, 7:30 p.m., 108 Stratofort, K.I. Sawyer AFB, MI. For info contact: Richard Schwenke, N8GBA, (906) 249-3837. 10/99

MINNESOTA

St. Cloud Amateur Radio Club. Meets 3rd Thurs./monthly, 7 p.m., Radio Club Bldg., 401 4th St. N., Waite Park, MN 56387. Info: (320) 255-1410, 146.94 or 147.015 or www.wØsv.org/ 3/00

MISSISSIPPI

Jackson Amateur Radio Club, Inc. Meets 3rd Thurs./monthly, 7 p.m., Am. Red Cross Bldg., Riverside Dr., Jackson, MS 39202. 11/99

MISSOURI

Macon County ARC. P.O. Box 13, Macon, MO 63552. Meets last Thur./monthly, 8 p.m., Macon R-I High Sch., rm.167. Net every Thurs. at 8:30 p.m. 146.805. E-mail: nøpr@onelist.com 12/99

NEVADA

Frontier Amateur Radio Society, (FARS). Meets: 2nd Sat./monthly, bkfst. mtg. 8 a.m., Country Inn, SE cor. W. Sunset, Valle Verde, Henderson NV. Club info: Jim Frye, NW7O, (702) 456-5396 or Bill Scarborough, WA6ASI, (702) 269-9551. 8/99

Sierra Intermountain Emergency Radio Assoc., (SIERA). Meets 2nd Tues./monthly, 7:30 p.m., Carson Valley United Methodist Church, 1375 Centerville Ln., Gardnerville, NV. Contact: George Uebele, WW7E, (702) 265-4278, 147.330 MHz. 1/00

Wide Area Data Group, Inc. P.O. Box 3132, Sparks, NV 89432. Meets 1st Sat./monthly, 8:30 a.m., JM Restaurant & Grille, 1885 S. Virginia, Reno. Info: (702) 356-8200. Call on 147.30(+) MHz. 5/00

NEW HAMPSHIRE

Port City Amateur Radio Club, (PCARC), W1WQM. P.O. Box 1587, Portsmouth, NH 03802. Meets 1st Wed./monthly (Sept.-June), The Edgewood Ctr., 928 So. St., Portsmouth. Rptr. 146.805(-) PL 127.3, 110.9, 88.5. 10/99

NEW JERSEY

Bergen Amateur Radio Association, (BARA). P.O. Box 304, Hackensack, NJ 07601. Meets 1st Sun./monthly, New Milford Elks Lodge, Patrolman Ray Woods Dr., New Milford, NJ 07646. Nets: 28.350 Mon. 9 p.m., 146.79(-) 9 p.m. Wed. 6/99

South Jersey Radio Assoc., (SJRA), K2AA. Meets Jan.-Oct., 4th Wed./monthly, 7:30 p.m. (Nov.-Dec. 3rd Wed), Bloomfield Fire Hall in Pennsauken, NJ. Talk-in: 145.29(-) rptr. 8/99

NEW YORK

Amateur Radio Association of the Tonawandas, (ARATS). P.O. Box 430, No. Tonawanda, NY 14120. Meets 3rd Tues./monthly (except July & Aug.), 7:30 p.m., Sweeney Hose Co., 499 Zimmerman St., No. Tonawanda, NY. Talk-in: 146.955(-) rptr. W2SEX. 12/99

Genesee Radio Amateurs, (GRAM). Red Cross Office, 220 East Main St., Batavia, NY 14020. Meets 3rd Fri./monthly, 7:30 p.m.,147.285(+) W2RCX. 4/00

Hall of Science Amateur Radio Club. P.O. Box 150131, Kew Gardens, NY 11415. Meets 2nd Tue./monthly, Hall of Science Bldg., 47-01 111 St., Flushing Meadow Park, 7:30 p.m. Info: Voice mail (718) 760-2022. 2/00

PROS, Pioneer Radio Operators Society. Meets 1st Wed./monthly, 7 p.m., Sardinia Town Hall, Savage Rd., Sardinia, NY. Net 9:15 a.m. Thurs. 3853 MHz. 5/00

Suffolk County Radio Club, (SCRC). Meets 3rd Tues./monthly, 8 p.m., Bohemia Rec. Ctr., Ruzicka Way, Bohemia, NY. Talk-in: 145.21(-) rpt. Info: W.S. Black, KB2YAP, (516) 289-5587. 5/00

Yonkers Amateur Radio Club, (YARC). Meets 2nd Sun./monthly, 10 a.m., 1st Pct., Yonkers Police Station, E. Grassy Sprain Rd., Yonkers, NY. Info: P.O. Box 378, Centuck Sta., Yonkers, NY 10710. (914) 963-1021. 146.865(-), 440.150(+). 2/00

NORTH CAROLINA

Mecklenburg Amateur Radio Society. Meets last Tues./monthly (except Dec.), 7:30 p.m., East Baptist Church, 6850 Monroe Rd., Charlotte, NC. Talk-in 146.94(-). Net 9 p.m. nightly. Contact: John Coving- ton, W4CC, (704) 334-3900, e-mail: w4cc@w4bfb.org, website: http://www.w4bfb.org 12/99

Stanly County Amateur Radio Club. Stanfield, NC. Meets 4th Thurs./monthly, 7 p.m. Talk-in 146.985(-) for location. Wed. net 9 p.m. 146.985(-). Fri. tech net 9 p.m. 147.390(+). Ph: (704) 888-4815. Web page: www.qsl.net/SCARC/ 5/00

OHIO

Ashtabula County ARC. Ken Stenback, W8KS (964-7316). County Vo-Ed School, Jefferson, OH. Meets 3rd Tue./monthly, 7:30 p.m., County rptr., 146.715(-). 12/99

Toledo Mobile Radio Association. P.O. Box 273, Toledo, OH 43697; (419) 243-3836. Meets 2nd Wed./monthly, 7:30 p.m., Luke's Barn, Lucas County Rec. Ctr., 2901 Key St., Maumee, OH. 147.270(+) Net every Sun. 8:30 p.m. Website: www.tmrahamradio.org 3/00

Van Wert Amateur Radio Club, Inc. P.O. Box 602, 1220 Lincoln Hwy., Van Wert, OH 45891. Meets 1st & 3rd Sat./monthly, 8 p.m. Call-in: 146.85(-). 3/00

Western Reserve Radio Assoc. P.O. Box 81252, Cleveland, OH 44181-0252. Meets 2nd Wed./monthly, 7:30 p.m., Jenkins Communications Cntr., Main St., Olmsted Falls, OH. Info: B. Beckman, N8LXY, Pres., 146.73(-), 444.900(+) MHz. 8/99

OREGON

Central Oregon Coast ARC. P.O. Box 254, Florence, OR 97439. Meets 2nd Sat./monthly, at Bliss' Route 66 Restaurant at Hwy 101 & 12th St. Net Wed. 7 p.m., 146.80(-). Info: 997-2323 or 997-4074. 1/00

Central Oregon Radio Amateurs, (CORA). P.O. Box 723, Bend, OR 97709. Meets last Thur./monthly, 7 p.m., Bend Sr. Ctr., 1036 NE 5th, Bend, OR. 147.06(+) MHz. Info: (541) 389-7194. 9/99

Hoodview Amateur Radio Club. P.O. Box 20624, Portland, OR 97220. Meets 3rd Thurs./monthly, 7:30 p.m., Mt. Hood Community College/Gresham, Rm 1001. Rptrs: 147.28(+), 448.475(-5) (tone 167.9) 5/00

Keno Amateur Radio Club. P.O. Box 653, Keno, OR 97627. Meets 3rd Thurs./monthly, 7 p.m., Keno Fire Stn. Rptr. 147.32(+) K7ENO. Info: Tom Hamilton, WD6EAW, Telephone/FAX: (541) 883-2736. wd6eaw@cdsnet.net 12/99

Umpqua Valley Amateur Radio Club, Inc. P.O. Box 925, Roseburg, OR 97470. Meets 3rd Thurs./monthly, 7:30 p.m., Douglas County Court House, Rm. 310, Roseburg, OR. Info: W6VDF/R 146.90(+) or (541) 673-2747. 6/99

PENNSYLVANIA

Butler County Amateur Radio Assn. P.O. Box 1787, Butler, PA 16003-1787. Meets 1st Tues./monthly, 7:30 p.m., Boy Scout Cntr., 830 Morton Rd., Butler, PA. Call-in W3UDX/R 147.36(+). Net 10:10 p.m. nightly. 12/99

VIRGINIA

Mt. Vernon Amateur Radio Club, (MVARC). Meets 2nd Thur./monthly (except Dec.), 7:30 p.m., Mt. Vernon Governmental Cntr, 2511 Parkers Ln., Alexandria, VA. Contact: Bob, KT4KS, (703) 765-2313 or 146.655. 10/99

Portsmouth ARC. Meets 4th Thur./monthly, 7:30 p.m., Am. Red Cross Chapter house, 700 London Blvd., Portsmouth, VA. Talk-in 146.850. Info: Carl Clements, Pres. (757) 484-0569. http://www.series2000.com/users/wa4nvi/parc/htm 4/00

Southern Peninsula Amateur Radio Klub, W4QR (SPARK). Meets 1st Tue./monthly Sal. Army Com. Bldg., Hampton, VA. Repeaters 146.73(-), 449.55(-). VE Exam Info: (757) 898-8031, W4RTZ. 2/00

Virginia Beach ARC. Meets 1st Thurs./monthly, 7:30 p.m., Virginia Wesleyan College, Wesleyan Dr. off N. Hampton, Village 2 Commons, Graybeale Bldg., Virginia Bch, VA. 2/00

WASHINGTON

The Mike & Key Amateur Radio Club. Meets 3rd Sat./monthly, 10 a.m., Salvation Army Renton HQ., 720 Tobin St., Renton, WA. Talk-in on 146.82(-) (103.5 CTCSS) rptr. Doors open 9:30 a.m. 5/00

WEST VIRGINIA

Jackson County Amateur Radio Club. Meets 1st Thurs./monthly, 7:30 p.m., Saint John Episcopal Church of Ripley. Net Mon. 9 p.m. on 146.67(-) WD8JNU/R. Info: D. Tennant, N8ZYB, Rt. 1, Box 188, Mt. Alto, WV 25264. 7/99

Tri-State Amateur Radio Assn. Meets 3rd Tues./monthly, 7 p.m.,The American Red Cross, 111 Veteran's Memorial Blvd., Huntington, WV. 5/00

NATIONAL

Bicycle Mobile Hams of America. 46 states/6 nations membership. Annual Forum at Hamvention. Net: 14.253, 1st & 3rd Sun., 2000 UTC. Info, sample newsletter: SASE to BMHA, Box 4009-W, Boulder, CO 80306. 2/00

*For information on how to get your club listed in "Visit Your Local Radio Club," plus receive many other benefits, write to: Club Liaison, **Worldradio,** 2120 28th St. • Sacramento, CA 95818*

Deer rams Ham...

Seems that Duncan Campbell, KF6ILA, recently assumed the presidency of the **Amateur Radio Club of El Cajon** (CA) with a well-stated agenda. He's established three priorities to help strengthen Amateur Radio in the San Diego area.

Campbell wants to bring more YLs and XYLs into the Amateur Radio mainstream by forming a Monday night YL net on the club's repeater. He also wants to see more young people involved in the hobby, recommending a double approach on how the club can appeal to youths in the 10–18-year-old group.

One approach he offers is to enlist volunteers for the radio coaches program who will help each young person earn a license and get a station on the air. The youth group would also have an opportunity to run its own net on the repeater.

Duncan's final priority is to have interesting, informative presentations for the membership on meeting nights. Following that statement, he announced the next club program would be presented by an FBI special agent on the subject of computer security and what the bureau is currently doing. John apologized to those who would have preferred a talk about the *X-Files*.

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Hoodview ARC President John Barmore, W7SIR, kick-started the year 1999 with his announcement of upcoming club events, meetings, and programs in *Hoodview News*. John suggested members of the Portland, OR, club enjoy these neat things Amateur Radio has to offer. John mentioned taking part in the Vancouver Hamfest/Swap Meet, SeaPac, Field Day, and the Metro picnic. The newsletter listed programs for the coming six months, including overseas trips by Hams, contesting with Japanese amateurs, the Fire Watch program, Antennas, and Field Day Planning.With the start of the new year, the Hoodview club now begins its general membership meetings with self introductions. Attendees state their name and call sign along with a mention of the club activities or functions they enjoy.

•

Members of the **Tompkins County Amateur Radio Club** in Ithaca, NY, recently took the opportunity to tell their officers where to go! Club members completed the club's survey in order to suggest changes and improvements in the club. Areas receiving primary emphasis included meetings, repeater, newsletter, hamfest, and public service. Steve Hanzlik, KA2CDJ, reported that the club received several thousand items and hundreds of comments from the surveys. He characterized the feedback as being a very strong voice of members.

Steve nicely summarizes the public service topic by stating it is the best opportunity for TCARC to get out into the community. In many cases, it involves no monetary expenditure by TCARC and minimal planning. He adds that public service provides a great opportunity for members to get together, socialize, and have lots of fun. It also helps strengthen relationships with other organizations.

Two comments concerning meetings deserve every club's attention. One is that meetings should start and end on time. The other is that, during the meeting, members should stay the course and participate in *solution-based discussion*.

•

Been looking for something to do with or for your club? Someone at the **Ogden (UT) Amateur Radio Club** put together a great list of possible activities. The club's *Watts News* devoted an entire page to suggestions for ways members can become involved with the club and Amateur Radio. Here are several ideas for you and your club.

- Design a logo that will proudly take the OARC into the 21st century.
- Update the club's membership manual to include changes that happened during the past year.
- Apply for a club call sign.
- Have informational breakfast meetings to attract members who can't make it to the regular meetings.
- Sponsor a Saturday workshop on one of the many amateur-related subjects.
- Do a special event station for an Ogden or Utah-related event.
- Operate a contest as a club, a great way to have fun with great friends.

The article closes by asking *Watts News* readers to let the club know which activities caught their interest and in which they would like to become involved.

You can use OARC's brainstorming list as a start for your own list of suggestions. Then pass them on to your club leaders.

•

The **Phil-Mont Mobile Radio Club** of Philadelphia, PA, reported in *The Blurb* about a most unusual happening during a public service event. Last December a number of group members supported the Brian's Run.

The "rest" of the story... "We had two downed runners on this event. In a most unusual case, a very nice lady was running along at a fast pace (most are pro runners on this event) on the rural side of the 10k run where the woods and the weeds come right up to the side of the small country road.

" When, out of the blue, a deer came over a small fence and over an embankment, and slammed right into her." Bambi got up and ran off, while the runner went to the hospital for treatment of a broken rib and punctured lung.

You never know what you might run into while working a public service event. Had the deer hit an amateur, would the headline have read "Deer Rams Ham"? — *Mike Flaherty, WA6UBW, P.O. Box 189490, Sacramento, CA 95818-9490*

Convention News

Chuck Imsande, W6YLJ
10-10 19636

10-10 Convention

The 7th Biennial 10-10 Convention is about to happen in Oak Ridge, TN. The date is 11-13 June and the place is the Garden Plaza Hotel. The Convention Chairman, Jim Whittlesey, KC4RHW, #57051, and his able crew of volunteers have planned a full convention schedule, including a number of activities for the YLs. The Board of Directors will hold their annual meeting on Friday, 11 June, while the rest of the attendees socialize, talk Amateur Radio and 10-10. There will be Chapter Tables for Chapters to display their information and discuss their chapter programs. Saturday forums begin at 8:00 a.m. concluding with a Board of Directors question and answer session at 4:00 p.m. The Saturday evening banquet will have the usual speeches, awards and a fun program to fill out a busy day.

What is a 10-10 VP?

Many have heard the exchange of "VP" numbers between 10-10 members and have questioned, "What is a 10-10 VP number?" The use of "VP" numbers first started early in May 1971, and the official name was "International 500 of the World." The first member to make contacts with 500 other 10-10 members and collect their 10-10 number was Grace Dunlap, K5MRU, #218, and Frank Olcott, W4JO, #386 was number two. In talking with Grace one day, Frank suggested we start a "500 Club" and that all 10-10 members when attaining the 500 BAR (making 500 contacts) would automatically become a member. He told Grace that she could be President and he would be editor and do all of the work. Grace said, "You can't ask for a better deal than that!"

The objective from the first was to relieve the crowded 10-10 net frequency of 28.000 by moving up to 29.500 since we had already worked our 500 and this must be the "end" according to Grace. This was not originally a 10-10 net award or program. Frank sent out a monthly report to all that had joined the elite group of those making the 500 level. Donations of stamps were a requirement for receiving the monthly newsletter. The monthly newsletters covered subjects like propagation, AMSAT Oscar-7, new members, solar activity, etc. When Frank became a Silent Key (SK), Grace suggested that the Net take over the 500 CLUB program, which it did, in 1974. Certificates and VP numbers were issued. 10-10 members with a VP number could work other VP members for additional credit by applying to the 500 CLUB certificate manager.

Of the thousands of 10-10 members that have been ACTIVE over the years since the 500 CLUB was established, only a few over 3,000 have sent in for their 500 BAR and become VP members and received their own unique VP number.

And Grace says, "Oh, about us calling ourselves VPs, yes, we are all Vice Presidents of the 500 CLUB."

New WPX (Prefix) Award Manager

Until further notice, Tom Henderson, K4CIH, #33233, 10-10 President is temporarily assuming the duties of WPX Award Manager. Any applications for the WPX Award should be sent to Tom at: 4901 15th Place East, Tuscaloosa, AL 35404. Rules and an application for the WPX Award can be downloaded from the 10-10 web site at ten-ten-net or from Tom at the above address for a #10 SASE.

New DX Members

10-10 continues to grow in the DX world. The following became 10-10 DX members during the month of March 1999: Max Wild, DL4MDQ, #70323; Lars Oesten, DF1LON, #70324; Stephen Atkinson, GØIDM, #70600; D. Sharples, G4ZMB, #70301; R.P. Gurbiel, VK3MRG, #70602; Thierry Bodin, F5MOO, #70603; Jean Van Lierde,LN4OCY, # 70604; Victor

10-10 International News

Melnikov, UAØEX, #70605; M.W. Stevenson, GI4XSF, #70606; Peter Soerensen, OZ1LNL, #70607; VE5RMO #70608; In case you do not recognize all of the prefixes in the above list of 11 new DX members, there are nine countries in the list. They are Australia, Belgium, Canada, Denmark, England, Eura Russia, France, Germany and No. Ireland.

We welcome these 11 new DX members into 10-10. As conditions warrant, watch for these new DX members and welcome them into 10-10. Remember that 10-10 has an attractive certificate that is part of the 10-10 Countries Award. For information about the Countries Award, go to the 10-10 web site at ten-ten.org and click on the Operating Awards page.

Our Data Manager, Gerry Gross, WA6POZ, #21274, reports that with these 11 new DX members, our DX membership now has 502 ACTIVE 10-10 members. This means there are 502 DX contacts out there just waiting for you!

We Continue to Grow

The latest highest number issued, at this writing, is 70672! At the end of March 1999, the total ACTIVE membership (those with paid-up dues) stands at 7,070, approximately 10% of the total numbers issued. We not only keep growing, but many, many of our earlier members are renewing their dues and again becoming an ACTIVE member. If you are a 10-10 member that has let their dues expire and are an INACTIVE member, you can always renew your dues and become ACTIVE again. There is no penalty for renewing your dues after you let them expire. So, if you are INACTIVE, why not renew today and enjoy some of the 10-10 benefits offered by being ACTIVE again. See the last paragraph for details on renewing your membership.

10-10 Web Site

If you have not visited the 10-10 web site, please do. Just about everything you want to know about 10-10 is available from the 10-10 web site. Any of the following are available on the web: rules and applications for 10-10 awards, membership rénewal form, contest information and dates, officers and directors and committee assignments, operating aids and much more. The address is: ten-ten.org.

10-10 Nets

Our Net Manager, Bill Marple, AA6ZW, #62075, reports that 10-10 net check ins are running at a record high with a recent one day high of 101 check-ins on one of the net frequencies. For the last quarter of 1998, the net on 28.380 had a total of 2,171 check-ins. The 28.800 net was the high of the two daily nets with a total of 2,482 check ins for the quarter. That's a lot of 10-10 members taking advantage of the daily nets. If you would like to log some new numbers, or just listen in, give 28.380 or 28.800 a try any day (except Sunday) at 1800Z. The nets are run from various locations, both within and outside of the U.S. The Tuesday 28.800 net has Dirk, VP2VF, #63440, from the British Virgin Islands as Net Control, and Alan, VE4ALN, #69217, is Net Control from Manitoba, Canada, Fridays on 28.800. Check in and let the Net Control Stations know that you are around! 1800Z daily (except Sunday) on 28.380 and 28.800.

Information about 10-10?

If you would like information about 10-10, and how you can become a member and receive your very own unique 10-10 number, send $2.00 and an address label for the return of your information package to: Jeff Ritter, N5VAV, #59692, 10-10 Information Manager, 6959 Hovenkamp, Richland Hills, TX 76118. No SASE please as the information package requires a 9 x 12 envelope. You will receive a copy of the 14 page Prospective New Member Brochure which contains everything you want to know about the 10-10 organization, a listing of all 10-10 Chapters, their day, time, and frequency of net operation and an application form. Also enclosed will be a copy of the 8 page QSO Party Information Brochure and a copy of the latest issue of the *10-10 International News*, the 32 page 10-10 quarterly magazine.

If you have lost, or forgotten, your 10-10 number, send the same as above to Jeff and you will get the information package along with your original 10-10 number.

If your membership in 10-10 has expired and you would like to renew your dues, send your dues ($10.00/year or $25.00 for 3-years) to: 10-10 International Net, Inc., Attention: Dues Renewal, 643 N. 98th Street #142, Omaha, NE 68114-2342. You will become an "ACTIVE" member again and receive all of the benefits of 10-10 including the quarterly *10-10 International News*. Remember 10-10 numbers are issued for life and your originally issued number is always yours.

Richard Fisher, KI6SN

The NJ Fireball 40

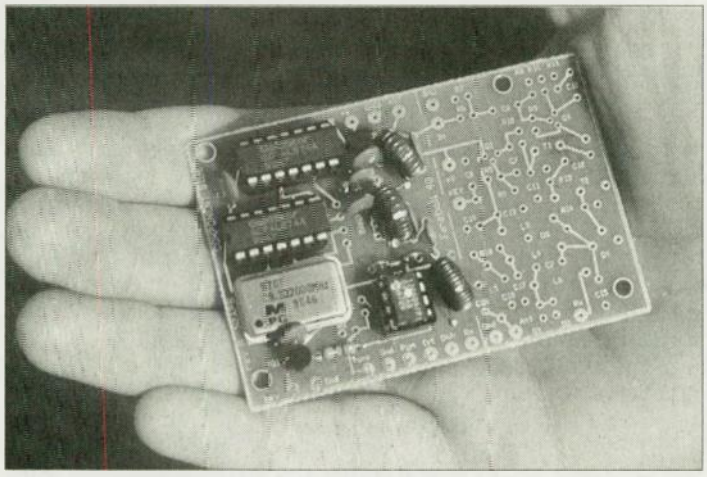
The New Jersey QRP Club's Fireball 40 QRPp transmitter kit has all the earmarks of a project born of inspiration, opportunity and a very clever little design.

Headed by George Heron, N2APB, NJ-QRP is one of North America's most active and focused QRP organizations. Although its roster lists members from around the country and the world, NJ-QRP's activity has often been fired by a core membership right in the Garden State.

Following the lead of the Northern California QRP Club, NJ-QRP's first major undertaking was the now-classic Rainbow Tuner (reviewed in July 1997 ***Worldradio***). Wildly popular among low power operators and designed by Joe Everhart, N2CX, it established the club as a bonafide kit producer, stamped with the virtues of quality, excellent service and follow-through.

Now, with propagation improving across the bands, and a cheery forecast for even better conditions as we move through this most interesting sunspot cycle, NJ-QRP saw opportunity in offering QRPers a very simple, versatile and upgradeable milliwatt transmitter kit that is as clever as it is inexpensive.

For just $10 and a short stint at the workbench, The Fireball 40 kit comes to life producing 40-milliwatts of CW on one of four bands: 80, 40, 20 or 10 Meters. Dozens of the rigs have been built, producing lots of contacts and raised eyebrows.



The NJ-QRP Fireball 40 milliwatt transmitter, with T/R switch and TiCK keyer add-ons.

Yes, it's entirely possible to make solid contacts with just 40-milliwatts, and with ever-improving propagation the opportunities will be better and better.

Designed by NJ-QRP's Clark Fishman, WA2UNN, of Andover, NJ, the FB-40 is based on a classic Fireball design from the early 1990s published in *73 Amateur Radio Today*. The heart and soul of the NJ-QRP rig is a TTL crystal oscillator, made popular in computer industry clock circuits, with a base frequency of 28.322 MHz in the 10-meter band.

Fishman cleverly integrated division circuitry around the TTL. Multiplying by dividing, he expanded the FB-40's operation to 14.161, 7.080 or 3.540 MHz. And to sweeten the deal even more, the kit's PC board has traces for adding an Embedded Research TiCK keyer, an electronic transmit/receive (TR) switch, and a 1.5-watt amplifier for operators who'd like to go QRO — speaking in relative terms, of course.

The basic kit includes parts for just the 40-meter version of the basic Fireball 40 transmitter. The builder can later choose what add-ons will make the FB-40 experience most interesting.

The 10-page (8.5 X 11-inch) manual says the lone transmitter can be built in about a half hour. Thats a pretty fair estimate. The rank beginner may find it takes a little longer because there are a couple of toroids to wind. But most everyone should be able to get the transmitter up and running easily in one evening.

The basic kit includes a high-quality doublesided and silkscreened printed circuit board measuring 2 by 3-inches, the TTL oscillator, six disc ceramic capacitors, two toriod cores, wire, an LM78L05 voltage regulator and two 74LS74 14-pin chips. That tiny handful of components yields a great little milliwatt transmitter.

The add-on TiCK keyer circuitry calls for the TiCK chip and a few garden variety outboard components. The T/R switch is nothing more than a couple of diodes, a toroid and capacitor.

The 1.5-watt amplifier has a more extensive parts list. But most can be found in the local Radio Shack or a well-heeled junk box.

Like the classic cottage at the lake, with the FB-40 you can add on as you'd like, and at your leisure.

Some builders, myself included, are opting for the moment to keep the FB-40 a milliwatt transmitter. With most kit designs weighing in at one watt or more to start, we QRPers just don't have too many opportunities to 'milliwatt' with radios designed specifically for that purpose. With the FB-40 we got the chance. Besides, the amplifier can be added at any time.

At KI6SN, the electronic T/R switch was seen as a necessity for a couple of reasons. First, manually switching the antenna between transmit and receive can become tiresome. Second, and more importantly, toggle switches or relays can be very lossy. At the milliwatt level you need as much power going to the antenna as possible. Electronic T/R in the FB-40 is very energy efficient.

I also added the TiCK keyer. It's inexpensive and so many of them are in use at KI6SN as either a standalone keyer or integrated in various transceivers, it was a case of: "Oh, why not!"

The bottom line is that the KI6SN version of the FB-40 is about as neat a little milliwatter as I've seen, with the bonuses of T/R and keyer. Coupled with the Ten-Tec 1056 Any Band DC SSB/CW direct conversion receiver (reviewed in July 1996 ***Worldradio***), the Fireball-40 forms a simple QRPp set-up that would make the most evangelical 'less is more' protagonist proud.

For complete details and up-to-the-minute updates on the Fireball 40 project, visit NJ-QRP's web site at: www.njqrp.org.

To order the basic FB-40 kit, make a check or money order for $10 payable to George Heron, and send it to: G. Heron, N2APB, 4802 Berryhill Circle, No. 203, Perry Hall, MD 21128. He can be reached via e-mail at: n2apb @erols.com.

NJ-QRP now is offering parts packages for the the 1.5 watt amplifier ($11) and TiCK keyer ($4). There's a $2 shipping and handling fee for the options packages.

There has also been some interest in producing a companion receiver and a VFO. A great little kit seems to be poised to grow better and better.

NC20 now commercially available

NorCal's NC20 multi-featured 20-meter CW transceiver is now being sold commercially by the radio amateur who designed it: Dave Fifield, AD6A. His company, Red Hot Radio, has enhanced and fine tuned the original kit and has priced it in the $150 range.

And due to popular demand, Red Hot Radio is also offering a 40-meter version called the Red Hot 40. Last month's QRP column carried a comprehensive review of the NC20.

The Internet mail group for low power enthusiasts, QRP-L, is still buzzing about NorCal's initial offering of the kit. Design tweaks, troubleshooting and modifications are hot topics, with Fifield chiming in regularly to lend his expertise to the discussion.

Fifield was a tremendous help to the original NC20 builders, and his technical services, along with remarkably efficient parts replacement and support from NorCal's Doug Hendricks, KI6DS, was impressive, indeed. It bodes well for customers of Red Hot Radio.

To get the latest updates on Red Hot Radio, including details on ordering kits from the company's inaugural line, visit the company's site on the Internet: www.redhotradio.com — *Richard Fisher, KI6SN, can be reached at: 1940 Wetherly Way, Riverside, CA 92506 or via e-mail: KI6SN@aol.com.*

California retest

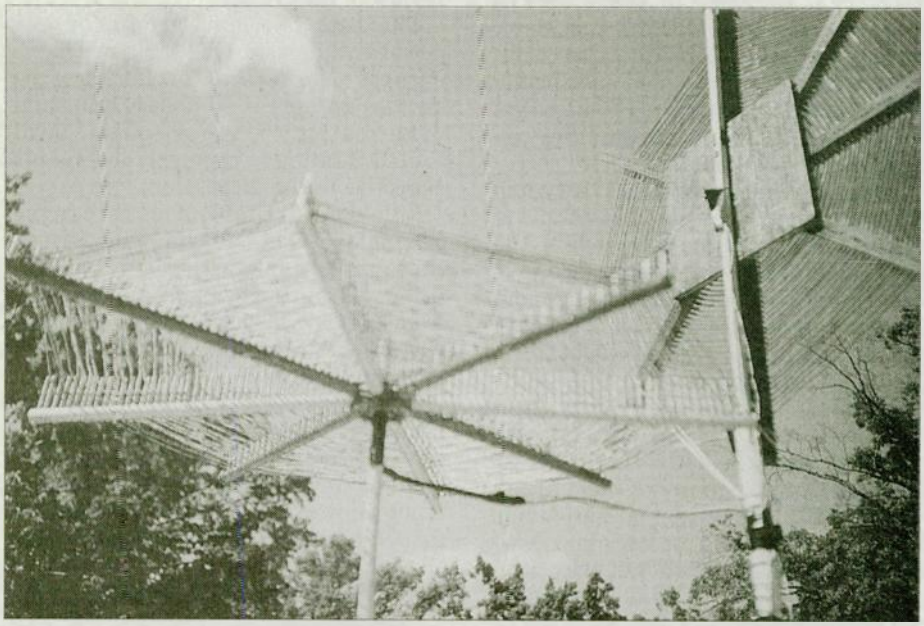
A Southern California amateur is the latest to be ordered to stand for re-examination. In a letter dated 9 April, FCC chief rules enforcer Riley Hollingsworth has ordered Rusty Leewright, KE6UOF, of Northridge to submit for retesting at the FCC office in Cerritos.

Leewright was given until 15 May to stand for re-examination. No reason was given for the retest order, but if he fails to appear, his Technician class ticket will be canceled and he will no longer be permitted on the air. — *FCC, Newsline*

Variations on a "Petlowany"

William Caldwell Sr., WA8ABE

Last March, a friend showed me an article from ***Worldradio***, about a new type of antenna. He asked if this were possible, and could it work. Since it was such a radical difference from antennas as we know them, and since I have been around Amateur Radio since the early thirties, I agreed to experiment with it and to give a report to the local club.



Left and above photos show my variation of the Petlowany antennas mounted vertically and horizontally for testing on various bands.

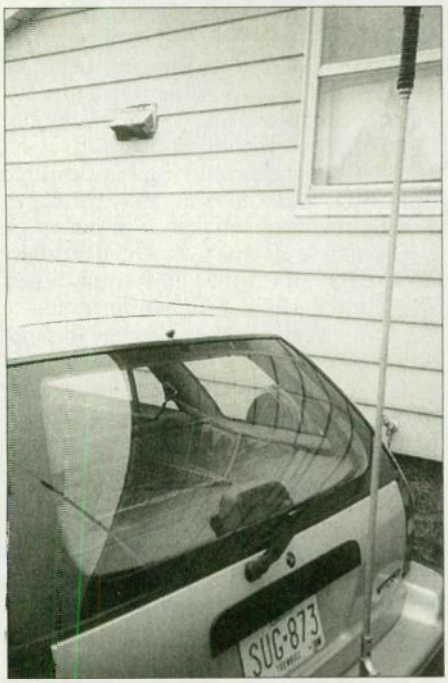
This was my experience with the "Petlowany" antenna. First I found the reason the antenna went into antiquity was the difficulty in winding it. After winding several by hand, I decided to make a form to hold the windings. It doesn't matter whether the antenna is round, square, or octagonal other than some difference in wire length. As long as the windings are symmetrical and spaced evenly, the performance was the same. Size of wire had no effect on the perfomance other than power limitations with smaller sizes.

I have made more than a dozen of these antennas, all the way from 2 Meters to 160 Meters, and every one of them had the same characteristics. If the wire is measured for one quarter-wave plus a little, spaced evenly and symmetrically, the impedance will be near 52 Ohms.

I started by making square forms using 1/2" X 3/4" X 20" wood and forming a cross. I then drilled a 1/8" hole in the center, and drilled a 1/8" hole every 1/4". After drilling all the holes, I cut $^1/_8$" dowel into pieces 1 1/4" long. I placed them in the holes and drove them into place with a hammer. If they were loose, I glued them in. I made a second form

with the cross being 24" in total diameter to accommodate the longer wire for 160 Meters.

Starting at the center hole and proceeding to the end of the wire, stretching the wire as I went, made for a very sturdy antenna. The connections are simple. I soldered the center conductor to the center end of the wire and I either left the shield alone or hooked it up to ground. The ground can come by way of the transmitter end.



Good results were obtained by laying the antenna on the package shelf of the car.

The first antenna was wound with #26 telephone wire and was used on receive only, or with very low power. I used the smaller wire because it was easier to use and keep tight. I tested this antenna with an MFJ-259 antenna analyzer and with six feet of RG58U coax to test in the shack. I compared receiver "S" units with an inverted "Vee" with the apex at 35 feet. On 160 Meters, the inverted "Vee" brought a skimpy S-1, but the spiral antenna, at 20 feet high read a peak S3-4 on SSB.

For the second antenna, I used #14 house wiring with the insulation removed. At lower frequencies this antenna would not tune when in a vertical position, so I had to mount it horizontally. At higher frequencies, the orientation didn't seem to matter, however the impedance did go up while in the horizontal position. After using the #14 wire, and having difficulty maintaining parallel windings, I tried three #26 wires, twisted slightly and in parallel and found it much easier to work with. Three #26 wires in parallel allows the use of 100 watts.

After using these antennas, my mind wandered to mobile use. Since the mobile antennas have only 12 or so Ohms, maybe this "Petlowany" could be used for a counterpoise. I made a square "Petlowany" wound for 4 MHz and attached it to the ground of the mobile antenna base, laid it on the shelf of the rear window, and went mobiling to a hamfest 60 miles away. (The mobile antenna is an old Hustler center loaded which was for 40 Meters originally, but I rewound the coil for 15 Meters.) I turned the radio on, and the reading was flat at 21.360. The band was pretty busy for early morning. Stations were on from Yugoslovia, Germany and many other European countries.

My first contact was with W4ML, a special event station in Virginia and I received a 5-9 report. Next was YU4EBL, another special event station and another 5-9 report with "potent signal" added to it. A contest station in Germany, DK5EZ, was next, and another 5-9 report with "great mobile signal" added.

I've worked mobile for many years, but never got an answer almost every time I put my call in, especially in the middle of a pile-up. Because the "Petlowany" counterpoise brought the mobile antenna impedance to 50 Ohms, all the power was in the antenna. I removed the counterpoise and the answers stopped.

So, good enough for me, the "Petlowany" was a superior type of antenna. When some enterprising person gets it all together, this will be the next century's antenna, considering the widest antenna, for 160 Meters was only 24" wide.

I can't explain the characteristics of the antenna, nor the formulas for using it, but we've had many discussions in the club newsletter about it. I have given demonstrations of it at the meetings, and several of the guys are making their own, with good results.

Thanks to Bill Petlowany's father-in-law for being 100 years ahead of his time, to Bill for writing the article, and to ***Worldradio*** for printing the article. Not many magazines print articles without complicated math to confuse the masses. It was just a good down-to-earth article and with just enough information to make it interesting.

I'm still winding and experimenting, and will keep readers informed of any new developments.

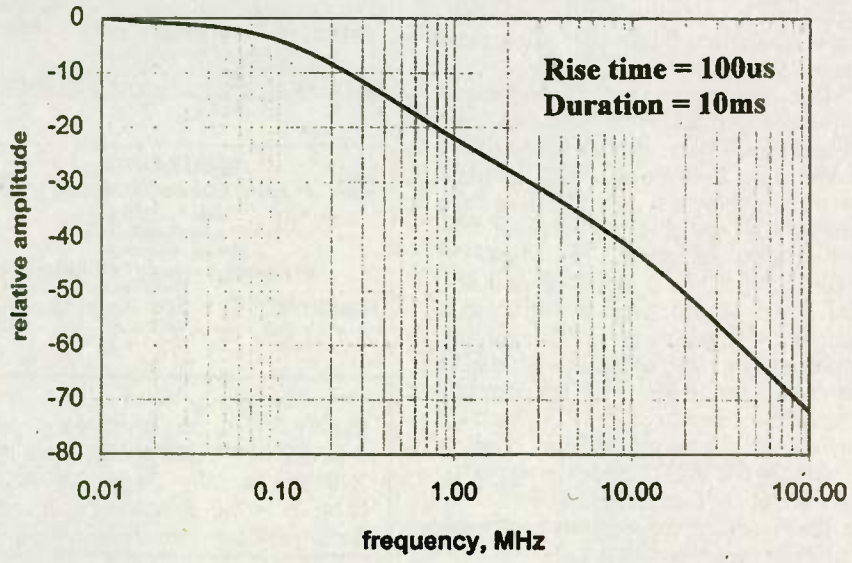


Figure 1. Relative Energy of a Lightning Pulse Versus Frequency

Thunderstorms, Lightning, and QRN

For 160M afficionados, January and February are very special months. It is in these two months that the *CQ* World Wide 160M DX Contests are held. January is for the CW event and February is for the SSB event.

The results for the 1998 running of this contest were reported in the December 1998 issue of *CQ*. What I found interesting was the opening paragraph in the write-up:

"The top stories in 1998 are two new champs and the QRN during the SSB section in the USA.....The bad weather moved to the SSB section this year, and many of us were afraid to even call CQ at times, as the QRN was 40dB over 9 even on our receiving antennas."

Of course the QRN mentioned was due to thunderstorms. Specifically, it's the lightning discharges in and around thunderstorms that really tear up the lower frequencies. My predecessor NM7M, discussed noise in general in his April 1996 column (not an April Fool article!), from man-made noise and atmospheric noise. I'd like to review the important points of his column with respect to atmospheric noise due to lightning, and add some new things.

A lightning discharge is a pulse. A BIG pulse — normally in the neighborhood of 10,000 to 40,000 amps peak. The time it takes a lightning pulse to get to its peak value (rise time) can be on the order of 100 microseconds, and it can last on the order of 10 milliseconds (duration). Lightning is considered "slow" and "long" when compared to other pulse phenomena. For example, an electromagnetic pulse (EMP) from a nuclear detonation has a rise time of about 10 nanoseconds (10,000 times faster than lightning) and lasts for about 1 microsecond (10,000 times less duration than lightning).

I've talked about lightning in terms of its rise time and duration. But that doesn't tell us much about how its energy is distributed versus frequency. To do that, we have to transform the pulse in the time domain (a plot of amplitude

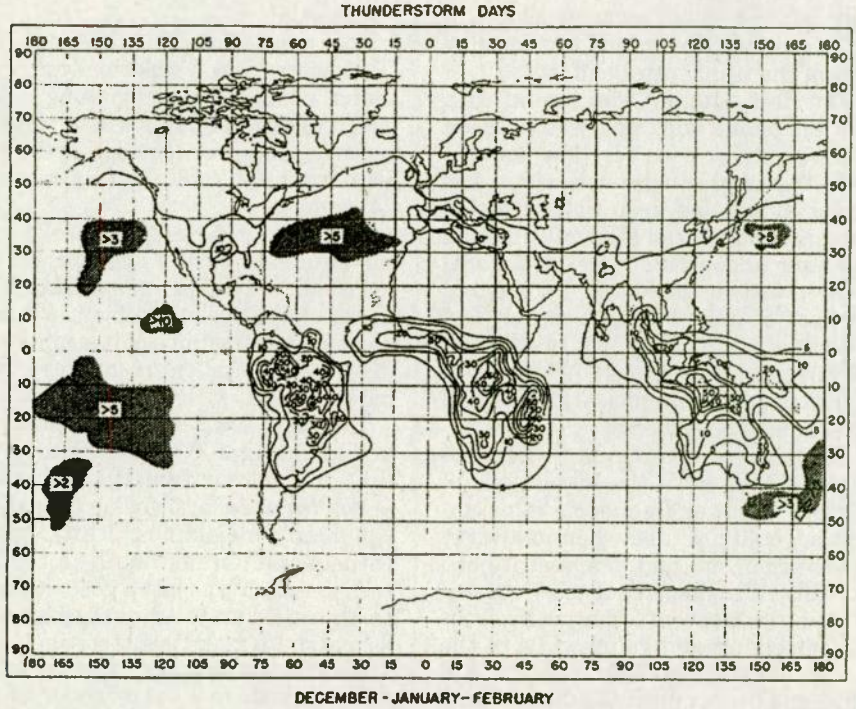


Figure 2. Number of Thunderstorm Days for a Winter Month

versus time) into the frequency domain (a plot of amplitude versus frequency).

Figure 1 is the result of that exercise. The horizontal axis is a logarithmic frequency scale, and starts at 10 kHz (.01 MHz) and goes to 100 MHz. The vertical axis is a linear relative scale, with the lowest frequencies at a reference of 0dB.

As can be seen by the plot, the energy for the lightning pulse with a 100 microsecond rise time and a 10 millisecond duration is at low frequencies, and begins rolling off between 10 kHz (.01 MHZ) and 100 kHz (.1 MHz). By the time we reach 1.8 MHz (160m), the energy is down only about 25dB — that's certainly still enough to cause a big problem. And it propagates just like a radio wave.

At 10 MHz it's down about 40dB, and at 100 MHz it's down about 70dB. The frequency domain plot makes it easy to understand why our higher HF frequencies are relatively immune (except for a very close or direct hit — been there, done that when we lived in Texas — the obvious question would be why was I on the air at that time?).

Going back to the comment in the *CQ* write-up, you'd think that February would be immune to thunderstorms and lightning. For the most part, yes. But it only takes one thunderstorm at the wrong time to make a mess of things.

Figure 2 shows the number of thunderstorm days throughout the world for a winter month (December, January, February). Although it's a little hard to see, note that there's the possibility of one day of thunderstorms throughout most of the continental U.S., with a higher number (5 to 10 days) concentrated along the Gulf states. To reiterate, it only takes one day to make a mess of things, and the SSB portion of the 1998 *CQ* 160M contest had its day. If you'd like these maps for spring (March, April, May), summer (June, July, August), and fall (September, October, November), just send me an e-mail and I'll send you a .TIF file of them.

For some almost-real-time pictures of thunderstorm activity, check out ftp://ftp.jcu.edu.au/JCUMetSat/. Once that url is downloaded, pick one of the "sector".gif files. — *Carl Luetzelschwab, K9LA, can be reached at: 1227 Pion Rd., Ft. Wayne, IN 46845 or you can e-mail him at: k9la@gte.net.*

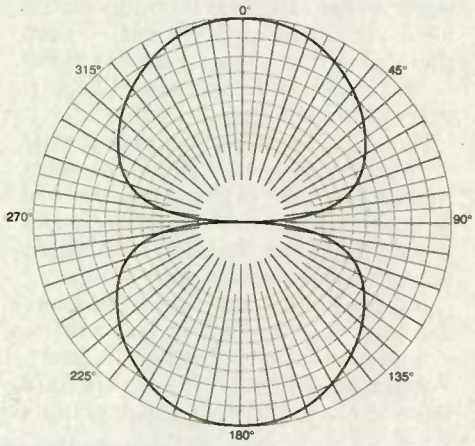
dB, dBi, dBd, — which one is right?

I had a pleasant experience with an antenna company last week. We'll call them the Granite State antenna works. I don't use their real name because the editor doesn't like to give free advertising to firms that don't have the good sense to advertise in this fine publication. I visited their nice web site (www.cushcraft.com) where you can view their antenna line and order one of their catalogs.

I asked for a catalog and it came in just a couple of days. I was pleased to see that the dB gain figures for all the antennas in the catalog stated what kind of dBs they were talking about. In this case they used dBis or gain over isotropic. You may remember that I have complained in the past about firms that list antenna gain just in dBs. Since dB is a ratio, the figures are meaningless without a reference. Score one for Granite State.

Now you may ask, — why did they use dBi?" Kurt can tell you. It's because the numbers are higher when you do that. And they know from experience that there are a lot of amateurs out there who don't read Kurt's column and thus may not know a dBi from a dBd. A dipole in its favored directions (our dBd reference) has a gain of 2.14 dB over the isotropic radiator (our dBi reference). So if they gave the gain in dBd the numbers would be 2.14 dB less.

When you buy a beam you are interested in how much better it's going to be over the dipole you are now using. So you want to know the beam's gain in dBd. To find that from the catalog's dBi you have to subtract 2.14 dB. So that 13 dBi gain turns into a real life 11.86 dBd (assuming that the 13 dBi is correct in the first place).



Hopefully you too will send for the catalog before you buy because the same company in their magazine advertisements drops the little "i" and just specifies the gain in dB which leaves you in doubt as to what the gain really is. You have to be careful in comparing antennas in the various ads because, for example, the "M" company honestly states their antenna's gains in dBd. Kurt says, "Be careful."

Reflected power revisited

Not long ago I, Old Kurt, explained how, if the SWR on the line going to the antenna is more than 1.0, some of the power is reflected and travels back down the line to the transmitter. At this point it turns around and joins the forward power and travels back to the antenna. The amount of reflected power is termed "reflection loss" and some say that it is a real loss of power. I explained that it is not lost at all but returns to the antenna as part of the forward power after it is reflected.

I have been given a letter from a reader claiming that this is not always so. If there is no antenna tuner and the 50-ohm line is directly connected to a 50-ohm transmitter then the transmitter will absorb all the reflected power, he says. His example is a 100-watt transmitter driving a 50 ohm line with 100 watts forward and 50 watts reflected. He states that the 50 watts reflected will be absorbed by the transmitter. This will overheat the finals and destroy them and that is why transistor transmitters need reflected energy-protection circuitry.

So the transmitter is putting out 100 watts, which is the forward power. At the same time it is absorbing the 50 watts reflected from the antenna, which is turned into heat in the transistors. 50 watts goes into the antenna.

Let Kurt assure you that this scenario is not correct. To see why it is not we need to look at some fundamental principles.

Transistor transmitters

Transistors are well suited to driving low impedance loads like 50 ohms either directly or through a simple broad-

band matching transformer. A transmitter like this can be called a "50 ohm transmitter — but this does not mean that you will see 50 ohms if you look back into its output.

The load for a power transistor is determined by the collector voltage and the output power. The circuit is arranged so the transistor sees this load resistance. But when you look back into the circuit you see the transistor's output impedance. This may be a lot different than 50 ohms.

Transmission line impedance

If a 50-ohm transmission line is connected to an antenna, what impedance do you see at the transmitter end of the line? If the SWR is not 1.0 you are not going to see 50 ohms. Why? Because the reflected power makes standing waves on the line. The voltage and current both vary with line length so you'll see different impedances depending on the length of the line.

Conclusion

The 50-ohm transmitter connected to the 50-ohm line is not matched. The 50 ohm line does not look like 50 ohms to the transmitter and the transmitter does not look like 50 ohms to the line. 50 watts does not disappear into the transmitter to heat up the transistors. What does happen? Instead of 50 watts going into the transmitter and at the same time 100 watts coming out, the two waves, transmitter power and reflected power, combine in a manner depending on the impedances involved. This may be complicated but the net result is that the transmitter power output is reduced to 50 watts and the combination provides 100 watts forward power to the line. There is no loss.

That is just an example. Your transmitter may drop to some other power level because transistor amplifiers' outputs are sensitive to load impedance. But the same ratio of forward to reflected power will remain (that's determined by the antenna, remember) and the transmitter will put out whatever power actually is taken by the antenna. There is no loss.

Protection circuitry

If there is no loss and the reflected power does not heat up the transistors then why do transistor transmitters have protective circuits that shut the rig down if the SWR is high?

Well, for one thing, transistors can be zapped by too high voltage. The peak voltage on the transmission line goes up as the square root of the SWR. If the transmitter is at a high voltage point on the line it may be "goodbye transistors."

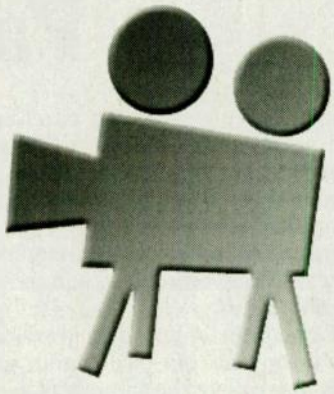
Also, a low impedance load can cause excessive current to flow. The transistor current easily can double under certain load conditions. In addition to all that, some reactive loads can cause the transistors to oscillate. So to protect against these problems the output is automatically reduced when the SWR goes up. This is voltage and current protection, not reflected power protection.

Epilogue

Almost all of us use "antenna tuners." When adjusted properly, they keep the SWR at the transmitter at 1 .0. And the more careful of us use the Palomar Tuner-Tuner to adjust the tuner before we turn on the transmitter. That way the finals never see anything but 1.0 SWR. The reflected power runs up and down the line between the tuner and the antenna but the transmitter never knows it.

Let us hope and pray that this discussion puts an end to the myth of lost reflected power for ever and ever. Sigh! Old Kurt should live that long!

Film at 11



CNN Reporter:
Well, Herr Gutenberg, just why did you invent the printing press?

Mr Gutenberg:
So, that someday there could be a great magazine called **Worldradio.**

CNN Reporter:
You mean the monthly magazine that charges only $15 a year for all the latest news, interesting articles and profound colums?

Mr. Gutenberg:
Ja, even I'm amazed by that. Just a dollar and a quarter per issue. I don't know how they do it. Even with my press.

CNN Reporter:
Sounds like a good deal, Where do I find them, maybe I'll do another interview.

Mr. Gutenberg:
They are in America, sunny California. To be exact, in Sacramento at 2120 28th St. and the zip is 95818.

CNN Reporter:
Thank you, sir, for your goot information.

Mr. Gutenberg:
So, send your check or credit card information along with your name and address to Worldradio (see page 9) and they'll start your subscription immediately.

Dave Goodwin, VE2ZP/VE9CB

Passing multipliers

In most contests, you calculate your final score by multiplying points for making contacts by points for finding "multipliers." These multipliers are usually related to geography somehow, and can include countries, states, zones, grid squares or call sign prefixes.

In most contests, you may work the same station once on each band, and you may also collect the same multiplier once on each band. Whenever you work a new or rare station, you have an opportunity to collect several more multiplier or QSO points.

Let's say you're taking part in the North American QSO Party, an event organized four times per year by the *National Contest Journal*. In this contest, every U.S. state, Canadian Province or Territory and DXCC entity (country) within North America counts as a multiplier. What's more, each of those entities counts separately on each of the six bands of the contest. That means if you work your own state on each of six bands, you earn six multipliers. The same goes for every other state, province, territory and country. There are a lot of potential multipliers out there, and if you do a good job of collecting multipliers, your score will skyrocket.

So, how do you make a high multiplier total? Making a lot of QSOs is one way — many of those needed multipliers will come your way if you call CQ or if you search-and-pounce. However, passively letting the multipliers come to you will only get you so far. Particularly with rarer spots, finding even one station to work can be tough. Once you've found one Delaware station, let's say, you should seize the opportunity to turn that one new multiplier into a few more.

QSYing

The best way to try to secure a few new multipliers is to simply ask the station you're working to change bands and meet you on another frequency. Let's say you were calling CQ, and a new one calls you. You work him or her, then ask if they will move to another band. Be prepared, however. Have a frequency in mind — make it easy for the other station to say yes. Here's an example of how you might do this in a CW contest:

Station 1: CQ TEST KF2MU KF2MU TEST (KF2MU is calling CQ)

Station 2: VY2SS (VY2SS replies to his call)

Station 1: VY2SS OTTO NY (KF2MU acknowledges VY2SS and sends him his name and state, the required exchange in the NAQP)

Station 2: R ROBBY PE (VY2SS confirms that he received KF2MU's info, and sends his name and province — Prince Edward Island, definitely a rare one

Station 1: R PSE PSE QSY 28? (KF2MU is asking VY2SS to move to 10M)

Station 2: R FREQ? (Or QRG?) (VY2SS indicates he is willing to move to 10M, and asks KF2MU to suggest a frequency)

Station 1: PSE QSY 28044 28044 K (KF2MU suggests they go to 28.044 MHz)

Station 2: R QSY 28044 VY2SS (VY2SS agrees)

Station 1: TU KF2MU (and off they go to 10M)

Now, KF2MU hits the bandswitch, dials up 28.044MHz and calls:

Station 1: CQ TEST TEST KF2MU KF2MU TEST (Now, it may seem odd that KF2MU would call CQ when he has a scheduled contact (sked) arranged with VY2SS, but it can be a worthwhile move — VY2SS knows who he's looking for, and someone else he needs might call in while he's waiting for his sked partner to show up.)

Station 2: VY2SS

From this point, complete the exchange, and if you need the multiplier on some other bands, ask to move to that frequency.

Now, suppose that the person you want to move to another band doesn't want to move right away, or you want to work that station on a band where propagation is unlikely — say it's local noon, and you need Alaska on 40M. Make a sked. Call the station you want to work, and suggest you meet later. They just might say yes. Here's one way you might make the suggestion as you complete your side of the QSO:

Station 1: R OTTO NY ES PSE SKED 40M? K

Station 2: R OK SKED WHEN? K

Station 1: SKED 0300Z ON 7023 7023 OK? K

Station 2: R SKED 0300Z 7023 TU

With the better logging software, you can enter this information into the computer, and the program will remind you of this sked one minute before it happens.

Here are a few other things to keep in mind when making skeds:

- Always call CQ on your sked frequency — others may call you, and it may make it easier for your sked partners to find you.
- Many people will miss the sked you set up, so to make that time productive, try to establish several skeds at the same time. If you sked five people and only one makes the sked, your time will still have been well spent.
- Check adjacent frequencies for your sked partner — he or she may have decided to do the calling.

Whether making skeds or passing multipliers, you have to be able to make quick band changes. Auto-tune amplifiers, automatic antenna switches and no-tune transceivers have become very common in many contesters' shacks, but you can come close to the same instantaneous band-changing, even with an old tube-type rig and a bit of planning. My second HF rig is an old tube-finals manual-tune transceiver, and before every contest, I stick a small card behind the tune and load controls with markings for the various bands. On my manually-tuned amplifiers, I place a similar piece of cardboard. I sit down at the rig before a contest, tune up on each band and make pencil markings on the cards showing where the tune and load controls should be set. Band-changing is somewhat fiddly, but still takes no more than a few seconds.

Seizing multipliers

Countless times, I have been search-and-pouncing (S&Ping) across a band, looking for new multipliers or stations

to work when I hear a new and rare multiplier doing exactly the same thing. How do you grab that multiplier when he or she is S&Ping? Surprisingly, most people seem to tune a band from the lowest frequency to the top end. You can exploit that by anticipating your quarry's next move. When you hear something you need S&Ping, move up slightly — 500Hz or so on CW, 3 or 4 kHz on SSB and either call that station directly, or call CQ. If you call the DX, he or she will often be shocked, surprised or even flattered that you were after a QSO with them. Most importantly, you will get the QSO in the log, and the multiplier added to your score.

Contest of the month — ARRL VHF QSO Party

This is certainly out of character with the normal HF orientation of this column, but the ARRL VHF QSO Party is the largest and most important contest of the calendar for VHF operators in North America. I'm a dyed-in-the-wool HF contester, but I have long been interested in VHF contesting. Only in the last year have I found the resources to give VHF contesting a try.

From my brief exposure, I can see that while there are many similarities between HF and VHF contesting, there are some striking differences:

1. Moving stations from band to band is a much larger part of VHF contesting than HF contesting, and your agility in changing bands and modes will be tested if you can operate on more than one VHF band.

2. CW and SSB are used almost interchangeably on VHF. Cross-mode contacts are common and perfectly acceptable. Signals can be extraordinarily weak, and SSB may simply not cut it in those circumstances. SSB is rarely useful in some kinds of unique VHF propagation, such as Aurora, especially on higher frequencies, such as 222 and 432 MHz.

3. Activity tends to center on "calling frequencies," including 50.125, 144.200, 222.100 and 432.100 MHz. While this is an aid when trying to find stations to work, crowding on those calling frequencies can make contacts difficult or impossible.

4. You need a third hand just to turn your antenna rotator. On VHF, even less-equipped stations have antennas with impossibly narrow beamwidths. A ten-element yagi is quite practical at any frequency above 144 MHz, and even considered quite small by most VHF Dxers. Such a large antenna is virtually unknown at HF. Such an antenna may have a –3dB beamwidth of 20 degrees or less, and most well-equipped VHF contesters have antennas with much more narrow beamwidths. At VHF it is extremely important for both parties in a QSO to have their antennas pointed at each other, or they may simply not hear each other.

5. Unless you live in a region of great population density, you may find the bands eerily quiet. Most non-contesters on VHF use FM only, and while you may make simplex FM contacts, the primary FM calling frequencies and all repeaters are completely and strictly out of bounds during the contest. While there is some FM activity in the ARRL VHF QSO Party, to really enjoy this event, you need CW and SSB gear. June is a great time for VHF, as it coincides with several regular times of excellent propagation.

The ionosphere provides some interesting propagation at the lower end of the VHF range — 6M particularly. June is the annual peak for Sporadic-E (Es) propagation in the northern hemisphere. Es usually brings 6M and occasionally 2M to life for QSOs with stations up to 2000km (1200 miles) away, and double-hop Es can double that distance — even across the Atlantic. As we come closer to the peak of the sunspot cycle, F-layer DX on a global scale is possible, and trans-equitorial propagation from the southern U.S. to South America can happen on 6M and even 2M if you're very lucky.

Another ionospheric phenomenon that plays a big role at VHF is aurora. Also known as the "northern lights" the auroras are a product of geomagnetic storms. These storms arise from a sudden increase in solar radiation arriving at the Earth. Auroras are pretty to look at, but they also reflect radio waves well up into the VHF range — some Amateurs have worked aurora at 432 MHz. Signals reflected by the aurora have a distinctive sound. They are quite distorted, and raspy. This distortion can turn a very pure CW signal into a buzz a few kHz wide, and an SSB signal to a mushy, unintelligible garble. This is caused by the rapid movement of the auroral curtain. This rapid movement creates a kind of Doppler effect, with which satellite operators are very familiar. With aurora, however, this Doppler is very fast and unpredictable, and causes reflected signals to spread out across several kHz. Just as with satellite Doppler, the effect is more pronounced on higher frequencies. SSB QSOs are quite possible on 10M and 6M, less likely on 2M and 1.35M (222 MHz) and extremely unlikely on 70cm (432 MHz). Aurora is more likely at higher latitudes than lower, so those in the north enjoy more of these.

Weather systems also play a role in propagating VHF signals. High-pressure weather systems, of which there are many in the summer, can create ducts of air which can reflect VHF sig-

Contest Calendar

Contest	Date & Time	Bands	QSO points	Multipliers	Exchange	Entry Categories	Entries
IARU Region 1 50MHz	1400z 5 Jun 1400z 6 Jun	6m CW & 'phone	1pt/km (to convert degrees to km, mult by 112.2)	None	RST Ser# Grid locator	Single op using own equipment; All others	7 weeks OZ1EYN
Portugal Day Contest	0000z 12 Jun 2400z 12 Jun	80-10m SSB	6pt/CT, CU 3pt/others 0pt/own country	Portuguese districts and DXCC countries worked on each band	RST Ser# CT, CU will send name of District or region	Single Op All Bands only	31 July PO Box 2483 1112 Lisboa PORTUGAL
Australian QRP Day	0700z 12 Jun 1200z 12 Jun	160-10m CW	3pt/P2, VK, ZL 1pt/others	None	RST Ser#	Single Operator Ony	10 July VK4EV
TOEC Field Contest SSB (Sweden)	1200 12 Jun 1200 13 Jun	160-10m SSB	1pt/NA 3pt/DX 3pt/any mobile	Total of Maidenhead "Field" locators. The first two letters of you grid square are your "Field".	RST + Grid square (ie. FN25)	Single Op: All band, Low power, Single band Multi-op: Single or multi-tx Single op entrants may not use use PacketCluster	1mo. Box 2063, S-831 02 Ostersund Sweden
WW South America CW (Brazil)	1200z 12 Jun 1800z 13 Jun	80-10m CW	0pt/VE 2pt/NA 4pt/DX 8pt/South Am.	DXCC + South Am. prefixes on each band Final score is the sum of band-by-band scores	RST Ser#	Single Op: All bands, Single band, QRP Multi-op: Single or multi-tx	30 days Box 282 RioDeJan. 20001-970 Brazil
ARRL VHF QSO Party	1800z 12 Jun 0300z 14 Jun	50MHz to microwaves	1pt/50 or 144MHz 2pt/220 or 432MHz 3pt/903 or 1296MHz 4pt/above 2304MHz NOTE: do not use 146.52 or any Rptr	Grid squares worked on each band	Grid Square	Single Operator: Multi-band, single band, QRP portable (max 10w out) Rover (single or multi-op, operating from at least two grids) Multi-op Limited Multi-op (max four bands)	30 days ARRL or e-mail to contest@arrl.org
West Virginia QSO Party	1800z 13 Jun 2400z 13 Jun	160-10m CW & SSB	1pt/SSB QSO 2pt/CW QSO 25pt for your first QSO with WVARC club station W8WVA	Stns outiside WV: WV counties (55) regardless of band WV stns: WV counties, US States, Canadian Provinces and territories, DXCC ragradless of band.	RST QTH	None indicated	15 July WA8WV or by e-mail to WA8WV@aol.com
All Asia CW (Japan)	0000z 19 Jun 2359z 20 Jun	160-10m CW	1pt/20-10m QSO 2pt/80m QSO 3pt/160m QSO Work Asia only	Asian prefixes worked on each band	RST Age (YLs may send 00)	Single op: All bands, Single band Multi-op: Single or Multi-tx	30 July Box 377 Tokyo
SMIRK (6m) QSO Party	0000z 19 Jun 2359z 20 Jun	50MHz	2pt/SMIRK member 1pt/others x2 if QSO made above 50.2MHz	Grid squares	Grid SMIRK # (if you have one)	Single operator only	1 Aug W5OZI or e-mail to contest@smirk.org
ARRL Field Day	1800z 26 Jun 2100z 27 Jun	160m to microwaves				Scoring is complicated. See QST for details.	
RAC Canada Day	0000z 1 Jul 2359z 1 Jul	160-2m CW & 'phone	10pt/VE 20pt/RAC stns. 2pt/DX	Can. Provinces and Territories (12) worked on each mode on each band.	RST Prov DX and VE0 send Ser#	Single Op: All bands, Low Power, Single band Multi-op	31 July 720 Belfast Rd Suite 217 Ottawa ON K1G 0Z5
Venezuela SSB	0000z 4 Jul 2359z 5 Jul	160-10m SSB	5pt/DX 3pt/NA 1pt/Own country	YV call areas + DXCC worked on each band	RS Ser#	Single Op: All bands, Single band Multi-op: Single or Multi-tx	30 Sep Box 2285 Caracas 1010-A
Fourth of July QRP Sprint (Michigan QRP Club)	2300z 4 Jul 0300z 5 Jul	160-6m CW and SSB	5pt/MI QRP Club Mbr 4pt/DX 2pt/VE or W non-member	US States, Canadian Provinces and Territories, DXCC worked on each band If either your TX or RX were home-made, multiply your score by 1.25. If bothe were home-brew, bmultiply by 1.5	RST QTH and MI QRP Club #	A- 0-250mw output B- 250mw-1w output C- 1w to 5w output D- 5w or more output	30 days N8CQA
IARU HF Championship	1200z 10 Jul 1200z 11 Jul	160-10m CW & SSB	1pt/ur Zone 3pt/oth NA Zones 5pt/DX	ITU Zones (75) worked on each band + HQ stations	RST ITU Zone	Single Op: All bands, both or one mode, Single band, Low power, QRP	1mo. ARRL
CQ WW VHF	1800z 10 Jul 2100z 11 Jul	50MHz to microwaves	1pt/50, 144MHz 2pt/220, 432MHz 4pt/902, 1296MHz 6pt/2304MHz + +1pt/CW QSO	Grid squares worked on each band	Grid square	Single Op: fixed, porttable, QRP (max. 25w) Rover Multi-op: fixed more than 5 transmitters fixed four or fewer transmiters porttable more than 5 transmitters portable four or fewer transmiters	31 Aug Box 73 Oklahoma City OK 73101 USA

Addresses: CQ — 76 N Broadway, Hicksville, NY 11801 USA; ARRL — 225 Main St, Newington, CT 06111 USA; Call sign — Callbook Address; Bands: The 30, 17 and 12M bands are never used in any contest. Official forms and complete rules may be available from me. Please send SASE for details.

nals well beyond line-of-sight, hundreds or even thousands of kilometers.

The earth is constantly being bombarded with fragments of rock and dust from outer space. As these bits of natural debris enter the atmosphere, they burn up, and the heat can generate short-lived trails of ions that can be seen with the naked eye. They're pretty and they can reflect radio signals from the high end of the HF spectrum well into UHF. They're short, intense and it takes a bit of practice to work someone off the "rocks." Meteor scatter can be quite exciting.

These are just some of the odd propagation effects that you may observe during the ARRL VHF contest.

The basic objective is to work as many stations as possible in as many grid squares as possible on as many bands as possible in the contest period. In this contest, the most active bands are 2M, 6M and 70cm, as those are the bands on which most amateurs have VHF/UHF equipment. The other bands are home to a hardier breed of experimenters and home constructors, although manufactured gear is now available for most of the microwave Ham bands.

Your multiplier is the total number of grids you work on each of the bands. If you get on, especially if you are in a less-populated grid, you will be asked frequently if you can operate on any other bands. Making skeds is a big part of VHF contest success, and everyone does it. Grid squares are a form of map reference, where the entire planet is

broken down into "squares" of two degrees of longitude by one degree of latitude, roughly 100km by 100km at 45 degrees north latitude. Grids are described by four characters, two letters followed by two numbers. I live in FN25. "FN" describes the 20x10-degree field (a very large area), and "25" describes the smaller 2x1-degree square where I am located. I live near Ottawa, but Montreal, less than two hours away, is in a different grid (FN35), and in about 15 minutes I could drive to FN15, the next grid to the west. To take advantage of this, there is a special category in VHF contests for "Rovers," stations that move from grid to grid. "Rovers" are permitted to work stations once from each grid in which they operate, so watch for stations signing /R or saying "Rover" after their call signs — they're probably in a rare grid.

Making QSOs in this contest is quite straightforward. A valid QSO involves only an exchange of call signs and grid squares. A typical QSO might sound something like this:

Station 1: "CQ Contest CQ Contest, Victor Echo Three Romeo Mike, Victor Echo Three Romeo Mike, Contest" (VE3RM is calling CQ, much as one might do in an HF contest)

Station 2: "Kilowatt Two Lima Echo Golf" (K2LEG replies)

Station 1: "K2LEG, Fox November Two Five" (VE3RM replies to K2LEG and indicates his grid square - VE3RM is in FN25)

Station 2: "Roger, Fox November Three One" (K2LEG replies with his grid)

Station 1: "Thank you, Victor Echo Three Romeo Mike" (VE3RM thanks K2LEG for the contact, and is now looking for others to call. This would be the moment when VE3RM might ask K2LEG to move to another band.)

Although FM contacts are permitted under the rules, there are some important restrictions. First, you may not use repeaters during the contest, nor may you operate simplex on repeater input or output channels. Second, you must stay clear of the standard FM calling frequencies, like 146.52 MHz on 2M. The other standard simplex frequencies are acceptable, however. This window for FM is the means by which some VHF FM-only operators get their first exposure to contests and DXing on VHF.

Most SSB and CW activity on VHF concentrates around "calling frequencies," agreed spots where one can normally find activity. These frequencies include 50.110, 50.125, 144.200, 222.100, 432.100, 903.100, 1296.100 MHz and others. While this is a great assistance to finding activity, it can be a hindrance to making contacts. If everyone plops on the calling frequency, everyone suffers interference, and no one makes many contacts. If you can work SSB and CW, move up or down from those frequencies in search of QSOs.

The basic scoring rules appear in the calendar, and the most popular logging software handles this contest with ease. Log forms and complete rules are available from ARRL for a self-addressed stamped envelope (SASE), or from the ARRL Contest web site at http://www.arrl.org/contests.

If you can operate on VHF or UHF, give the ARRL VHF contest a try. Some very well-equipped and experienced operators will be active, operating from unusual locations, seeking to make the most of propagation. Even with a very simple VHF station, you may work some very unusual DX.

QSL cards and contesting - February 99 WR

Otto Grube, KF2MU, whose call sign I purloined above, wrote with his own personal method of ensuring he receives replies to his QSL cards. Along with an SASE, Otto sends a pre-filled QSL card, which the other operator need only sign and return to Otto. Otto comments: "The cost is minor and I think I have gotten a few cards that were contacts I wanted to remember. It has been very effective with DX stations in impoverished countries. Unfortunately, this method cannot be used with the bureau system."

Grid Squares

Mike Eilders, K8OOF, wrote in to describe his enthusiasm for chasing grid squares on HF, and draws attention to the "Worked All Square Award" (WASA) sponsored by the Japan Amateur Radio League (JARL). This award requires confirmed contacts with 100 grid squares on bands below 30 MHz, since 1 July 1992. You can obtain more information from the JARL Award Desk, 14-2 Sugamo 1-Chome, Toshima-ku, Tokyo 170, JAPAN. Mike notes that there are 32,400 possible grid squares, and he has confirmed 600 on HF, 489 on 6M. Mike says numbers like these "makes DXCC look like small potatoes."

June contests

June is a month which features one of the great traditions of Amateur Radio — Field Day. On the fourth weekend of June, Amateurs across this continent will set up temporary stations at campgrounds, on hilltops, at shopping malls — just about anywhere. Field Day was featured as "Contest of the Month" in the June 1998 ***Worldradio***, so dig through your back issues for more information.

Other contests in June include the West Virginia QSO Party, the All-Asian DX Contest, the Portugal Day contest, and the World-Wide South America contest.

73 and good luck in the contests. — *Dave Goodwin, VE2ZP/VE9CB, can be reached via e-mail: ve2zp@rac.ca; packet: VE2ZP@VE3XRV.#EON.ON.CAN.NOAM.*

Emergency effort gets national TV coverage

An effort to obtain health-and-welfare information via Amateur Radio from Yugoslavia war zone got some national media attention recently. Thanks to efforts by the ARRL, Diane Ortiz, K2DO, and Stephan Anderman, K2SMA, a TV news crew from Fox News Channel spent about two hours 10 April at the Long Island home of Mid-Island Amateur Radio Club President Mike Christopher KG2M, where this operation is taking place. A three-minute feature aired the following day on FNC.

On 09 April, Christopher, who's also ARRL New York-Long Island Section Bulletin Manager, activated MIARC's International Emergency Assistance Unit for the purpose of passing health-and-welfare traffic from refugees in the Yugoslavia war zone to family and loved ones in the U.S. This is being accomplished with the help of Drago, T94GB, in Bosnia-Herzegovina, the only country in the Balkans with which the U.S. has a third-party traffic agreement.

T94GB will be QRV daily on 80 Meters with the war zone and refugee areas, gathering health and welfare traffic, then passing that to the IEAU on 15 meter SSB for forwarding to the National Traffic System. — *The Hudson Loop, N2OX, ARRL Letter*

Hamfests — January

CONNECTICUT

Newington Amateur Radio League, Inc.'s Amateur Radio/Electronics Flea Market, 06 June, 9 a.m.-1 p.m., at the Newington High School(Newington, CT) Admission: $5 Tables: $15 advanced, $20 at door. Tailgating: $10 Set-up: 8 a.m. Door prizes and VE testing. For info: John Disarro, KA1HQK, 134 Winslow Dr., Newington, CT 06111.

GEORGIA

The ARRL Georgia Section Convention's Annual Albany Hamfest 11-12 June, 5-9 p.m. Fri. & 9 a.m.-4 p.m., at the Hasan Temple(on Palmyre Rd.) Adm. $5 at door. Tables $10. Free parking, flea market(Sat. only), and VE testing. For info: Ricky McCrary, KD4OZR, % AARC, P.O. Box 70601, Albany, GA 31708-0601. Phone: 912/438-9714. email: mccrary@planttel.net.

ILLINOIS

Sangamon Valley Radio Club, Hamfest 05 June, 8 a.m.-1 p.m. (flea market open at 6 a.m.) at Illinois State Fairground, Springfield, IL. VE exams. Adm. $5. Tables $5. Vendor setup after 5 p.m. on Friday. Talk-in: 146.685(-). For info: Ed Gaffney, KA9ETP, 13997 Frazee Rd., Box 14A, Divernon, IL 62530; 217/628-3697; egaffney@fgi.net; www.skylight.com/svrc/. This is an ARRL sanctioned Hamfest.

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Six Meter Club's Ham Radio & Electronic Flea Market, 13 June, 8 a.m., at the DuPage County Fairgrounds(2015 Manchester Rd. Wheaton, IL) Adm. $5 adv., $6 at door (under 12 free). Table: commercial $15, flea market $12. Free parking, food, prizes, and VE testing. Talk-in: K9ONA, 146.52 simplex, 146.37/97 (107.2). For info: Joseph Gutwein, WA9RIJ, 7109 Blackburn Avenue, Downers Grove, IL 60516. 24-hour hotline: 708/442-4961.

IOWA

The ARRL Hamboree 21 & Iowa State Convention 04-05 June, Noon-9 p.m. Fri. & 8 a.m.-4:15 p.m. Sat. at the Marina Inn(South Sioux City, Nebraska). Adm. $6 for both days. Tables $10. Friday Night Dinner/Entertainment $10. Saturday Night Banquet: $15. Free parking and VE testing. Talk-in: 146.31/91. For info: Mike Nickolaus, NFØN, 316 East 32nd St., South Sioux City, NE 68776. Phone: 402/494-6070. Email: nfØn@avalon.net.

KENTUCKY

Northern Kentucky ARC's Ham-O-Rama 13 June, 8 a.m.-3 p.m. at the Summit View Middle School(5002 Madison Pike, Independence, Kentucky). Adm. $4 adv., $5 at door. Inside vendor table: $15. Outside Fleamarket space: $2. Door prizes and Food & Drink. For info: Northern Kentucky ARC, P.O. Box 1062, Covington, KY 41012. of call Rob Blocher, N8JMV at 513/797-7252

MAINE

Pine State ARC's Bangor Hamfest 05 June, 8 a.m.-3 p.m. at Hermon High School. Adm. $4 (under 12 free) Tables: $8. Tailgaters, Food, Prizes, and more.

Talk-in: 146.34/94 or 146.52 simplex. For info: Roger W. Dole, KA1TKS, Chairman, RR #2 Box 730, Bangor, ME 04401. Phone: 207/848-3846.

MASSACHUSETTS

MIT Radio Society/MIT Electronics Research Society Flea Market 20 June, 9 a.m.-2 p.m. Albany and Main St, Cambridge MA. Adm. $4. Tailgating: $10 at door, $9 advanced. Set-up: 7 a.m. Free parking. Talk-in 146.52 and 449.725. For info call: 617/253-3776. For reservations by mail: W1GSL, P.O. Box 397082 MIT BR., Cambridge MA 02139-7082.

MICHIGAN

Midland ARC Hamfest 19 June, 8 a.m.-1 p.m., at Midland County Fairgrounds in Midland, MI. New/used electronics and equipment. VE exams. Adm. $4/advance. Tables $6/reserved. Trunk sale space $5. Food is available. Talk-in: 147.000(+). For info: MARC Hamfest, P.O. Box 1049, Midland, MI 48641-1049. Please SASE, or call Del Lafevor at 517/636-5097(w), 517/689-3477(h), or e-mail: lafevordel@aol.com.

MISSOURI

North Central Missouri Hamfest 12 June at 9 a.m.-2 p.m. at Macon R-I VO-Tech School (Hwy 63 five blocks south of Hwy 36 in Macon, MO. Adm. $2/ea. or $5/3. Tables $10. Tailgating free with admission. VE exams. Talk-in: 146.805(-). For info: North Central MO Hamfest, P.O. Box 13, Macon, MO 63552. For vendor info: Dale Bagley, KØKY, P.O. Box 13, Macon, MO 63552; 660/385-3629; dbagley1@istmacon.net.

NEW JERSEY

Bergen ARA Spring Hamfest 05 June at Fairleigh Dickinson University (take rte. 4 east/west to the River Road exit and follow signs to hamfest). Buyer admission $5 (XYL and kids free). Seller admission $10. VE testing. Plenty of parking, food and restrooms. Talk-in: 146.790(-). For info: Jim Joyce, K2ZO, at 201/664-6725. (please, no calls after 10 p.m.)

NEW YORK

Hall of Science ARC Hamfest 06 June, 9 a.m., at New York's Hall of Science's parking lot (47-01 111th Street, Queens NY) Adm. $5. Tables: $10 Set-up 7:30 a.m. Free parking, food, and refreshments. Talk-in: 444.200 PL 136.5 and 146.52 simplex. For info: Stephen Greenbaum, WB2KDG. Phone: 718/898-5599 (evenings only)

NORTH CAROLINA

Franklin Amateur Radio Repeater Association Picnic & Tailgate 05 June, 9 a.m.-4 p.m. at the Bronoco Club. Adm. $5. Talk-in: 147.30/90. For info: Ralph Atkinson, WB4ZNB 30137 Country Club Road, Courtland, VA 23837. Phone: 757/562-5710.

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Forsyth ARC Winston-Salem Classic Hamfest 12 June, 7 a.m.-1 p.m., at the Dixie Classic Fairgrounds in Winston-Salem (exit Hwy 52 at Akron Dr. and follow signs to fairgrounds and enter Gate 5 from Deacon Blvd.) Adm. $5. Tailgating $3 with unlimited space. Sheltered booths $20. Tables $10/ea. Overnight RV parking is $15/night w/ full hook-ups. Talk-in: 146.64(-) or 145.47(-). No exams. For info: FARC Hamfest, P.O. Box 11361, Winston-Salem, NC 27116-1361; 336/723-7388; http://members.xoom.com/w4nc/Hamfest.htm.

OHIO

Goodyear ARC Hamfest and Family Picnic, 13 June, 8 a.m.-4 p.m. at Wingfoot Lake Park (near Suffield Ohio, 10 miles east of Akron, enter from Rt. 43, one mile south of Rt. 224). $5 admits Ham, spouse and children. Flea market space $10 ($8/advance). Vendors (Pavillion) $10 ($8 advance). Prize drawings throughout the day. Testing. Talk-in: 146.985(-) or 146.520. For info: call Dave White at 330/928-7625 or email rjtaylor@akron.infi.net.

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Medina County Hamfest 06 June, 8 a.m.-3 p.m., at Medina County Fairgrounds, Community Center(735 Lafayette Rd.) Adm. $4 adv., $5 at door. Tables(Inside): $9 advanced $10 at door. Fleamarket space: $7 advanced, $8 at door. Set-up: 6:30 a.m. Prizes, VE testing, and refreshments available. Talk-in: 147.630/030. For info: Mike, Phone: 330/273-1519 Email: m2mgroup@aol.com. Website: http://members.aol.com/M2MGroup/index.

OREGON

Northwest Division Ham Convention 05-06 June, at Seaside Convention Center(Seaside, Oregon). ARRL Seminar on Fri. 04 June. VE testing, Flea market and YLRL luncheon. For info: Randy Stimson, KZ7T, 503/297-1175. Email: rastimson@att.net

PENNSYLVANIA

45th Breezeshooters' Hamfest 06 June, 8 a.m.-4 p..m. at Butler Farm Show Grounds(north of Butler, PA). Adm. $5. (under 12 Free) Tailgating(outside): $5 Table(indoors): $15. For info check our website at: www.breezeshooters.com or Rey Whanger, W3BIS, 5430 Cove Run Rd., Cheswick PA 15024. Phone: 412/828-9383. Email: w3bis@freewwweb.com

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Columbia-Montour ARC Bloomsburg Hamfest/Section Conference/Computer show 12 June 8 a.m.-3 p.m. at Bloomsburg Fairgrounds (from east or west — Rte 80 to exit 34, Rte 42 south to Rte 11 north; from north or south — Rte 81 or NE extension to Rte 80 west to exit 34, Rt3 42 south to Rte 11 north). Talk-in 147.255(+) or 146.52. Adm $5 (under 12 free) Free tailgating, indoor 8' table (w/power) $10. Indoor setup Fri. 6-10 p.m., Sat. 6-8 a.m. VE testing at 10 a.m. (walk-ins welcome). Food and several guest speakers. For info: Dave, WC3A, 570/752-6851 (lv msg if not there) email: kev17815@epix.net

TENNESSEE

Radio Amateur Club of Knoxville Hamfest and Electronics Flea Market 13 June, 9 a.m.-4 p.m., at the National Guard Armory (3330 Sutherland Ave., Knoxville Tennessee). Adm. $5. Talk-in: 147.30(+), 224.50(-) and 444.575(+). VE exams at 2 p.m. For info: David Bower, K4PZT, call: 423/974-5064(w) or 423/670-1503(h); P.O. Box 50514, Knoxville, TN 37950-0514; rack@korrnet.org.

VIRGINIA

Ole Virginia Hams ARC, Inc. Amateur Radio, Electronics & Computer Show 06 June, 8 a.m., at Prince William County Fairgrounds. Adm. $5. Tailgating: $5. Set-up: 7 a.m. Free parking and door prizes. Talk-in: 146.97 (-) & 224.660 (-). For info: Mary Lu, KB4EFP 703/369-2877. email: mblasd1638@aol.com. or www.qsl.net/olevahams

WEST VIRGINIA

East River ARC Bluefield Hamfest/Computer Show 19 June at Bluefield Recreation Center, Statium Dr. Adm. $5, tables $5. Doorprizes. For info: Bob Frazier, WB8NRK, 505 Eads Mill Rd. Princeton, WB 24740. Call: 304/425-8464. Email: wb8nrk@arrl.org. Web: www.inetone.net/erarc/hamfest/

New Products

Information in "New Products" is supplied by the manufacturers to acquaint ***Worldradio*** *readers with new products on the market.*

Amateur Radio website

Commerce production of Redmond, WA, announces the opening of HamMall.com. HamMall.com is the latest of the exciting new Internet Marketing Companies to have their roots in the Pacific Northwest.

HamMall specializes in products and services of interest to Amateur Radio operators worldwide. In addition to the new store, you can also find a QSL manager list, a Call Wall to post your name and call, and a section to post your favorite Ham shack photo. HamMall.com can be reached at P.O. Box 3487, Redmond, WA 98073 or online at http://www.hammall.com.

Hamtronics REP-2OOT repeater

The popular Hamtronics line of VHF and UHF repeaters been expanded to include some very interesting new models.

The new REP-200T Repeater has all the features of the standard, microprocessor-controlled, REP-200 Repeater with the addition of a new DVR-3 Voice Digital Recorder Module. This allows messages to be recorded off the air remotely, using the microphone on any transceiver. It's no longer necessary to use a microphone attached to the repeater to record messages. DTMF commands control the record and playback modes. Thus, the control operator can change the message at any time, and repeater users can also request a playback at any time.

These new features allow the REP-200T to be used for club announcements or warning messages in addition to use as a voice ID, thereby playing the announcement periodically. If desired, the repeater can even use a cw ID, and its voice recorder can be used independently just to play messages on request. These new features don't add much to the cost of a repeater, either. The REP-200T is $1,145 in kit form and only $1,395 wired/tested.

With the availability of low-cost digital voice recorders, Hamtronics has developed an economy repeater with a voice ID built-in. The new REP-200C Repeater uses a new COR-6 controller module with voice ID, but no DTMF decoder or autopatch. The REP-200C is only $795 in kit form and $1,095 wired/tested.

Both repeaters are available for 6-meter, 2-meter, 222 MHz and 440 MHz bands, and are FCC type accepted for operation in the commercial hi-band and UHF band. Output power levels are from 10 to 25 watts, depending on frequency. Add-on amplifiers are available for increased power levels up to 100 watts.

For more details, or to get a complete catalog of Hamtronics products, write to: Hamtronics, Inc., 65-W Moul Rd, Hilton, NY, 14468-9535, or call 716/392-9430. Fax number is: 716/392-9420.

New MFJ products

MFJ VOX Speaker/Microphone — MFJ-2981 features an electronic adjustable VOX control. It's perfect for any kind of handheld VHF, commercial, amateur or marine radio. It's great for mobile Hams and emergency operators who need total hands-free operation!

In the VOX position, you just talk and the MFJ-2981 automatically keys your HT! A "TRANSMIT" red LED lights up while your VOX is enabled.

This VOX microphone picks up your voice, not background sound. Two condenser microphones are installed for feedback prevention. Sensitivity is adjustable by rotating the trimmer switch which accommodates loud or soft voices. MFJ- 2981 uses two "AA" batteries for VOX operation.

Transmission is voice activated with the switch in the "on" position. In the "Off" position, you can use your MFJ VOX mic as a regular speaker/microphone and transmission is activated only by pushing the PTT switch. Includes free external earphone. The earphone can be connected to the earphone jack for total hands-free operation, or for monitoring the frequency.

MFJ-2981 features a 360 degree rotating lapel clip -- clips easily to your lapel or pocket. Has 54 inches of stretchable, retractable cord from speaker to plug. Heavy duty molded plastic at the bend points protect your speaker/microphone for years of

dependable use.

MFJ's VOX Speaker/Microphone is compatible with most Icom, Yaesu, Standard, Radio Shack, Alinco and ADI handheld transceivers with two prong plug-ins.

Specifications: Microphone: Omni-directional condenser microphone with frequency response from 20 Hz to 16 kHz. Sensitivity at - 62dB+/-3dB. Impedance is IK Ohm.

Speaker: Frequency response is 500 Hz - 6000 Hz. Output S.P.L.: 105 +/-3dB. Power Input: 1000 mW. Impedance: 8 Ohm.

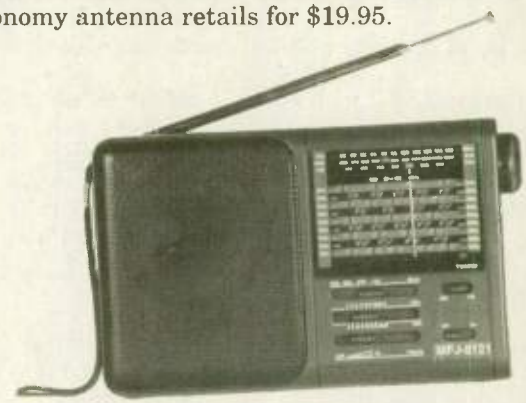
MFJ-2981 VOX Speaker/Microphone retails for $39.95.

The **MFJ-1817** is a new dual band 144/440 MHz HT antenna that successfully blends telescopic and flexible features found in several antennas into a single antenna incorporating both popular traits. This telescopic flexible HT duck antenna extends from nine inches to 14 1/2 inches to improve your range plus it takes all the bending, twisting, flexing and tugging you can dish out and just pops right back up. It is the first HT antenna to feature MFJ s exclusive TeleFlex Technology.

This new antenna is precisely tuned at the factory for low SWR. This antenna will receive great signals on 144/440 and 900 MHz.

On 2 Meters you get an efficient full size antenna for full size performance with superb gain over a plain old rubber duck. On 440 MHz, it's a 1/2 wave that gives you a hearty 2.15 dBi gain. SWR is less than 1.5:1 on all bands. Impedance is 50 Ohms. This new antenna retails for $24.95.

The **MFJ-1816 Econo Dual band TeleFlex HT Duck Antenna is the** same as MFJ-1817 but doesn't have extra gain. It is six inches retracted and 8½ inches extended. This economy antenna retails for $19.95.



The **MFJ-8121 World Band Receiver** lets you travel the world band airwaves — anywhere, any place — any time! You can rely on the programming of international broadcasters for news, inspiration and entertainment. Hundreds of stations are on-the-air (many in English) and offer programming driven by excellence, not ratings.

Catch great programming at various times of the day and year such as BBC news from London, live music from Paris, soccer matches from Germany, Rugby from New Zealand, all-news talk shows from Dublin, all sports talk, concerts and more! You'll always find informative, interesting programming that you can listen to.

It s perfect for families who want to offer their children something more than just television and boring AM/FM radio programming. Your kids will benefit from learning about the culture of other nations and the excitement of electronics and world band radio.

The MFJ-8121 receives FM, Medium Wave, Long Wave and Shortwave bands 1- 18 MHz. A built-in telescopic antenna (6 inches retracted, 26 inches fully extended) and a Sony integrated circuit design from Japan brings in stations loud and clear.

A multicolored tuning dial makes it easy to tune to your favorite station. An LED tuning indicator is brightly lit red when your desired station is tuned in. Detailed World Time Zone and frequency charts are permanently silkscreened on the back panel to keep you informed for quick band changes and let you decide where to explore next.

Large built-in 3 inch speaker gives you plenty of clear, room filling volume. The internal speaker is automatically disconnected when you use your earphones for private listening. MFJ-8121 operates on 6 VDC or four AA batteries (not included). Super compact size (4 1/2" x 7" x 1 1/2") and a handy wrist wrap-around carrying handle lets you take it with you anywhere to use any time! This new receiver retails for $39.95.

The new **MFJ-1117 power strip**, is similar to MFJ's most popular power strip accessory, MFJ-1118, but can power up to four different HF or VHF radios at the same time. Unlike the MFJ-1118, it does not have a built-in voltmeter, power LED or on/off switch. Two pairs of super heavy duty 5-way binding posts connect your transceivers.

MFJ-1117 has one 35 amp single post (35 amps total), and one 35 amp dual post (35 amps together). Binding posts are spaced for standard dual banana plugs. It's just 8" x 2" x 3" inches. It includes six feet of heavy duty, eight gauge, color-coded cable with ring tongue terminals. This new power strip retails for $49.95.

MFJ's new **HamGear Tactical Chest Harness** is perfect for rugged use, emergency radio operators and on-the-go Hams! You can instantly adjust this radio chest harness to hold your handheld radio or cellular phone snugly to your chest for worries-free and hands-free operation.

Use it for portable hamfest use, DXpeditions, field day, biking, hiking, etc. For emergency operators, it's the ideal companion for search and rescue, bike patrol, traffic accidents or any hands-free type of radio operation.

MFJ's chest harness is made of durable heavy duty twill burlap. This interwoven fabric is water resistant and will cushion blows and scrapes from your radio. Adjustable shoulder straps are made of high strength nylon with heavy duty high-impact plastic shoulder strap adjustments. Harness is firmly held in place by stretchable inter-woven elastic belt with snap hook and adjustable sliders supported by nylon straps. The harness holds your radio vertically to improve reception. It has twin elastic antenna holders for short and long HT antennas and a heavy duty nylon cord with a strong metal snap stretches to fit any size radio and firmly locks it in place. Adjustable velcro closures accommodate any radio width.

A 5" x 7" tall cargo pocket can hold another radio, maps, tools, compass, etc. Fully stretched out, Cargo Pocket is 11/4 inches deep. MFJ's HamGear Tactical Chest Harness even gives you a pen pouch. You always need something to write with close at hand! The MFJ-18 vest retails for $24.95.

The new **MFJ-15 HamGear Belt Radio Holder** will protect your radio from harm, theft and misplacement. It holds your radio vertically to improve reception. Strong, durable twill burlap material protects small radios and cellular phones from dam-

age while riding securely on your belt. Your belt will easily slide through this 2 inch by 3 inch heavily stitched loop and remain firmly locked in place. Strong elastic cord with velcro closure easily stretches over any size radio. Fits any size radio with handheld antenna. Completely covers smaller radios from harm. Provides a nice snug fit for larger HTs. Belt not included. This new belt holder retails for $19.95.

All of these fine MFJ products and HamGear merchandise are protected by MFJ's famous No Matter What one year limited warranty. MFJ will repair or replace (at our option) your MFJ product or HamGear merchandise No Matter What for one full year.

For your nearest dealer or to order, call toll-free 800-647-1800; voice: 601-323-5869; fax: 601-323-6551 or check out our web site: http://www.mfjenterprises.com.

New Balun Box

LDG Electronics has announced the introduction of the BA-1 Balun Box. The 4:1 BA-1 provides an easy interface of ladder line and long wire antennas to radio transceivers requiring an output impedance of 50 to 75 Ohms. This device is also the perfect compliment to the AT-11, the Microprocessor Controlled Automatic Antenna Tuner.

The BA-1 is sold in kit and assembled form. The kit assembles in about 20 minutes and requires only minimal soldering skills. The BA-1 ships with an enclosure so there is nothing else required to complete the kit. The finished kit measures 4.7" x 6.1" x 1.2" and weighs 6 ounces. Frequency coverage is 1.8 to 30 MHz and this unit can handle 200 watts.

The BA-1 Balun kit retails for $25, and the assembled BA-1 is $30, plus shipping.

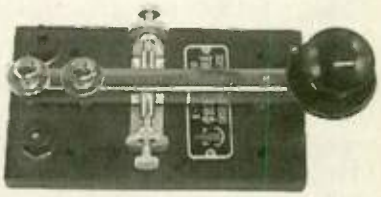
For more information, write to LDG Electronics, 1445 Parran Rd., St. Leonard, MD 20685, or call 410/586-2177, fax 410/586-8475. Additonal information is available on the web at: http://www.ldgelectronics.com, email address: ldg@ldgelectronics.com.

Morse Express Chinese military keys

Morse Express has obtained a supply of surplus Chinese military keys. There are two basic types; a heavy chrome base model and a light training key on a woden base.

The heavy keys, model K4/D117, are in various conditions. They were bought as surplus from the People's Liberation Army, who ordered them from at least two different manufacturers over a period of 40 years. They are 2 1/2 pounds each, very solid and with a nice finish. Because condition is variable, Morse Express is offering these keys at two prices — our choice at $65 per key, or $75 for a special "pick."

The training key, model K7, is surprisingly nicely done. It's on a wooden base, but the mechanical parts are chromed and it has all of the usual adjustments, including machined needle bearing seats on the trunnion. They weigh half a pound and are complete with cord. The K7's are in factory fresh condition, in original packaging, and price at $26.50 each.



Additional photographs and secure ordering information can be found on the web at: http://www.MorseX.com, or call 800/238-8205 to order or call 303/752-3382 for more information.

The future of your hobby

Rosalie White, WA1STO, ARRL Educational Services Manager

If you're like most Hams, and feel we should encourage more youths to get interested in our great hobby, here's an easy way to put your money where your mouth is. Invite a young person, or three, to talk on the radio with other youths from around the U.S., or even from around the world. Ask your own kid or a neighbor kid, your niece, nephew or grandkid. Spend 15 minutes or more letting the youths talk on your radio, and have a great time. Complete rules will be in the June *QST*, but here are some highlights:

Purpose: Kid's Day is intended to encourage young people (licensed or not) to enjoy Amateur Radio. The goal is to give young people some hands-on experience on-the-air, so they might develop an interest in pursuing a license in the future. It is also intended to give Hams a chance to share their station with their children.

Date: 19 June 1999, 1800-2400U. No limit on operating time.

Suggested exchange: Name, age, location and favorite color. You are encouraged to work the same station again if either operator has changed. Call "CQ Kid's Day."

Suggested frequencies: 28350-28400 and 14270-14300 kHz. (Be sure to observe third party traffic restrictions when making DX QSOs.

Reports: Logs and comments may be posted via the Internet to kids@contesting.com. You can see other postings at www.contesting.com/kids/.

Awards: All participants are eligible to receive a colorful certificate. Send a 9 x 12 SASE to the Boring Amateur Radio Club, P.O. Box 1357, Boring, OR 97009. More details may be obtained from the Boring Amateur Radio Club at the above address or on the web at: http://www.jzap.com/k7rat/.

Need some more encouragement? Here's some comments from the last Kid's Day.

One of last year's stations belonging to Dennis Vincent, K1DRV, with Matt, age 8, participating in Kid's Day.

"As soon as I read about Kid's Day, I made plans to have my granddaughter Jessica, 8 years old, work the event. We made 10 contacts and had a great time. We contacted W5RRR, the Johnson Space Center, and she couldn't believe she was able to do that. She had 'mike fright' a few times, and then while waiting for a station to finish a QSO it was, 'Can I talk to them?' She was thrilled to get to talk to K5RT with Sarah, age seven, mentioned in the *QST* article. Hope to make many more contacts next time. I started teaching a Novice/Tech class in January, and I sure wish I had all of these kids there." — Jessica and Don Wade, W8DEA.

"Like to hear all those young voices, and hopefully many new Hams will come of it. My nephew Jordan really enjoyed himself and is looking forward to the next Kid's Day. I hope he maintains the interest and becomes a Ham because of this event." — Jordan Wright and Dennis Vavra, AE4MU.

"Thanks for the Kid's Day event. My seven-year-old granddaughter, Sarah, really enjoyed talking to other kids." — Sarah and George Frost, KF9WV.

"This was my daughter Melanie's first Kid's Day. She was so excited to talk to other kids, she didn't know what to say! That is quite a change from this 6-year-old who is never quiet! We talked to Jake, KI7IR, who said he didn't know about Kid's Day, but was going to quickly read the article, and go across the street and get the neighbor kids." — Melanie and Steve Gake, WA6USI.

"I thought Kid's Day was a great idea, and through the various local nets, spread the word. My grandson made some contacts and enjoyed it. He now wants to go for his ticket. I will keep talking it up to get the word out." — Larry Smith, K1ILZ

VE Exams

As a service to our readers, ***Worldradio*** presents a feature listing of those VE exams, times and locations which are sent to us. Please remember that our deadline for publication is three months in advance. For example, if your VE group is scheduling an exam for December, please have the information to us by mid-September. ***Worldradio***, 2120 28th St., Sacramento, CA 95818. Please mark the envelope "VE Exams." List the location (City), any information examinees should have (advance registration, etc.) and the name and telephone number of a person to contact for further information. Examinees should bring their original license (along with a photo copy), two forms of identification (at least one should be a photo), and required fee.

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

State	City	Contact	Notes
Alabama			
6/01/99	Mobile	David, WA4VAC 205/649-5229	p/r pref
Arizona			
6/12/99	Tucson	Joe, K7OPX 520/886-7217	w/i only
Arkansas			
6/19/99	Gassville	Phil, AB5ZU 870/425-7406	p/r pref.
California			
6/12/99	Anderson	Al, 530/357-4834, N6BJ	p/r pref.
6/12/99	Carisbad	Rusty, AA6OM 760/747-5872	p/r pref.
6/06/99	Chico	Gene, WA6ZRT 530/345-3515	p/r pref
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FCC to amateurs: Don't play on freeband

Amateurs that have allegedly used their stations on the so called Free Band between 11 and 10 Meters are the latest enforcement target of the FCC.

Back in February, FCC Engineers from the Houston, TX field office attempted to inspect the station of Leonard Martin, KC5WHN, after monitoring signals on 27.535 MHz and 27.350 MHz they had traced to Martin's home.

But Martin refused entry. Now the FCC has sent Martin an Official Notice of Violation. The letter, dated 02 April, accuses the Technician class amateur of unlicensed operation and refusing a legitimate request by FCC Field Office personnel to inspect his station.

The FCC's Riley Hollingsworth, K4ZDH, reports that he has spoken with Martin on numerous occasions. The FCC had also warned Martin in writing last November about operation on frequencies other than those authorized under his Technician class Amateur Radio license.

Also hit with a Notice of Violation is licensee Greg F. Nolan, W5UDX, of Waller, TX. He is charged with unlicensed operation after FCC Field Office personnel monitored his station on 27 February operating on 27.535 MHz. This is spectrum assigned to the Industrial Radio Service. Nolan was also reportedly heard on 27.555 MHz in the Government and Forest Products Radio Service.

Also hit with a similar set of charges is Technician licensee Daniel R. Furman, KD5BCI, of Houston. Like Martin, Nolan and Furman were ordered to reply in writing within 10 days to the FCC's Houston Field Office. This to explain the specific steps that they will take to correct each violation and to preclude any future recurrence. — *FCC, ARRL, Newsline*

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Almost everyone now uses a computer in the shack for logging contacts. Imagine being able to fill out a QSL card while you are in still in contact with that rare country, sending it electronically, and having a QSL card in return in less than 10 minutes. Sounds impossible, right? Not really. The big sticking point to electronic QSLs has always been the possibility of fraud. Well, it's not a problem anymore.

Here's some details of the fascininating seminar at the Fresno DX convention on how the process would work.

Lew Jenkins, N6VV, recently retired as the CEO and president of a software company that designed programs for the financial industry. He has designed numerous programs that can safely transfer funds all over the world, electronically, at the stroke of a key. Have you ever used an automated teller machine? Have you ever used your credit card at a retail establishment? That's electronic data interchange, or EDI, and with just a couple of modifications to similar software, electronic exchange of QSL cards is possible. It's all done using some form of cryptography to verify the transaction. As someone that has used cryptography in the military, I understand how the system would work.

Let's say there is another big DXpedition to the Maldives Islands, 8Q. The operators would sign up with a provider to enable them to encrypt information using a "private key." They release a "public key" to the Amateur Radio population. By using their private key and a QSL program, they fill out a QSL card and send it you, as an encrypted data stream of information, by computer. By encrypting the information, the data can't be tampered with, or changed. The integrity of the card is guaranteed and the information placed on the card by the sender can't be changed. Using the public key, you open the encrypted data, it's converted to QSL information, and you print the card, all in less than 10 minutes!

The advantages? Where do I start? No postage involved, no "green stamps" required, and you have that rare one in your hands in a matter of minutes. The disadvantage? You have to have a computer and the software to exchange QSL cards. What's the cost? About two cents per card.

The problem is getting amateurs to believe in the system. If you think of all the transactions you do, using a credit or ATM card, why not QSL cards? As a rule, Amateur Radio operators resist change in methods or modes used in Ham radio. One of the big stumbling blocks has been the requirement to send in your QSL cards for verification, or to have you find someone authorized to "field check" your cards. By being able to submit your cards electronically, you not only save money, you save a lot of time.

Would I utilize this system? Yes, I would. Having been in cryptography, and listening to Lew's seminar, I am a believer in the ability of this system to work. It's going to revolutionize the way we exchange our cards.

Has the time for electronic QSL exchange come? Yes, it has. And whn it does arrive, I will take full advantage of using this exciting new aspect of Amateur Radio.

(*More coverage of the Fresno DX convention will be in the next issue of* **Worldradio**) —*Rick McCusker, WF6O*

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