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WORLDRADIO

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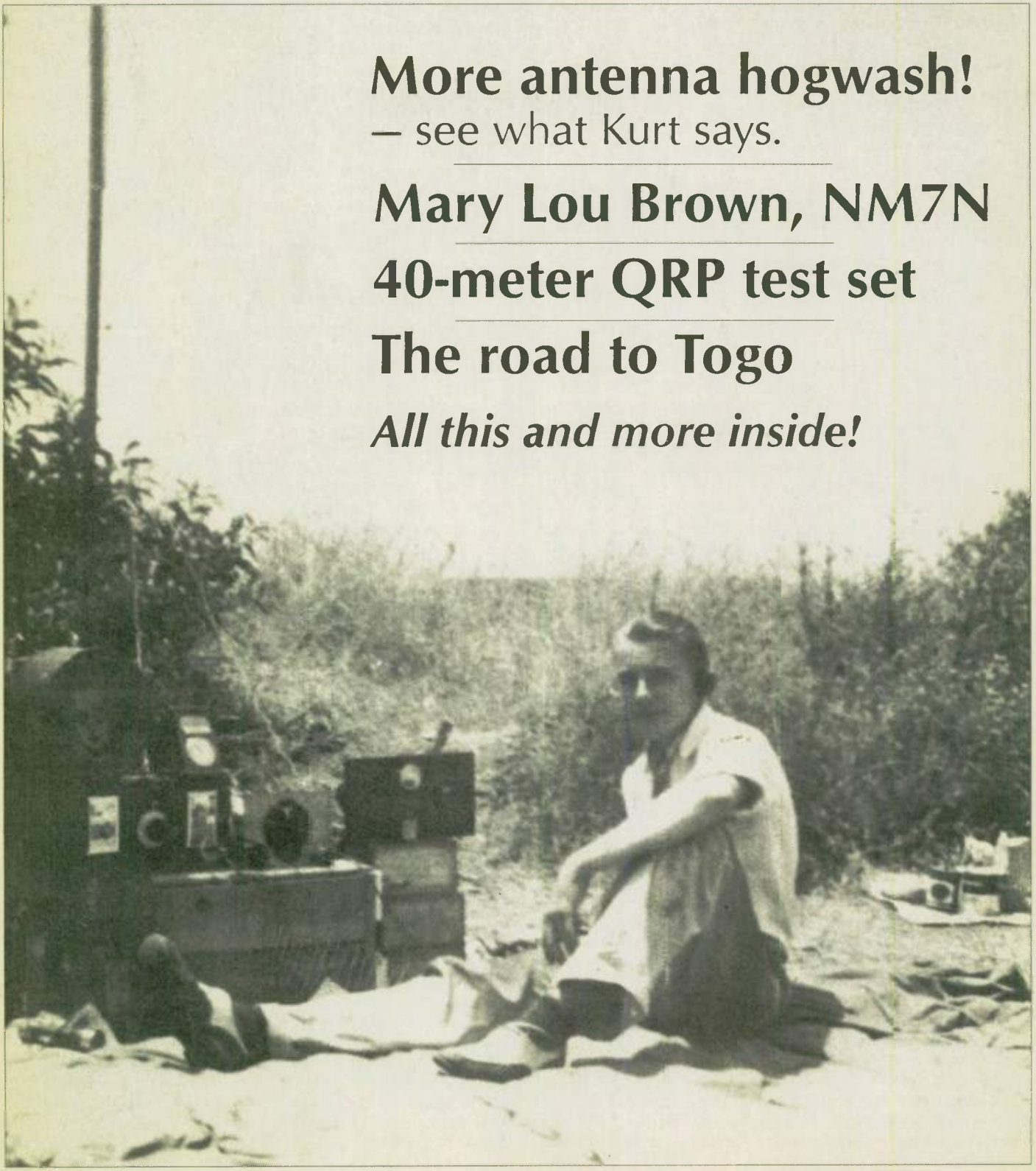


More antenna hogwash!
— see what Kurt says.

Mary Lou Brown, NM7N

40-meter QRP test set

The road to Togo

All this and more inside!

Amateurs respond to tornadoes

Amateurs in Tennessee and Arkansas responded as unusual tornadoes threatened, then struck. The death toll from the freak storms stood at 16 as of 22 January and losses were expected to top $1 billion. A call went out 22 January for additional Amateur Radio volunteers to assist emergency operations in Tennessee in the storms' wakes.

Tornadoes in the Jackson, Tennessee, area 17 January killed eight people. Another eight died when tornadoes struck in the vicinity of Little Rock and White County, Arkansas, 21 January.

ARRL Arkansas Section Manager Roger Gray, N5QS, in Searcy, said he was up all night and observed four or five funnel clouds, but he estimated that at least 30 tornadoes swept through the area. Gray has been actively managing the ARES operation. He estimated that up to 60 amateurs were active on VHF and HF nets.

One problem, he said, was that access to the badly-damaged town of Beebe was extremely restricted "and contacting people in that area is extremely difficult right now." In addition to health-and-welfare and damage assessment traffic, he said Amateur Radio was filling the gap as long-distance telephone circuits have become overloaded. "That's why we're handling as much traffic as we are."

Gray said five weather-spotting net control stations were active. The EC in charge, James Wiles, KK5WM, in Beebe, suffered damage to his house and had to move operations to a Red Cross shelter. Hams were expected to become involved in damage assessment.

The NWS confirmed that "between two and three dozen" tornadoes damaged or destroyed homes and businesses in Little Rock, Beebe, Searcy, and in other locations to the north and east. Large hail also was reported, including "baseball-to-grapefruit-size hail near Hot Springs and around the Little Rock and Conway areas."

Mark Harrison, KC5YNE, said most of the town of Beebe was damaged or destroyed, and eight tornadoes hit White County alone. He reports the family spent an anxious night. "It was a relief when the storms finally quit.

ARRL Delta Division Vice Director Henry Leggette, WD4Q, reported considerable Amateur Radio activity in the Jackson area, as well as in Clarksville, where twisters struck early on the morning of 21 January. "The VolNet has played an important part here," he said. The VolNet is a 2-meter net interfaced via a 440-MHz link and providing coverage from Oxford, Mississippi, to the Memphis area and beyond.

Tennessee SEC Jim Jarvis, WD4JJ, in Bristol, relayed a request for amateurs with mobile units to assist at the Clarksville/Montgomery County Emergency Operations Center. He estimated that up to three dozen amateurs were active in providing emergency communication in the Clarksville/Montgomery County area. — *ARRL Letter*

FCC official meets Hams on their own turf

The FCC's Amateur Radio enforcer, Riley Hollingsworth, K4ZDH, turned up in an unexpected place 13 January — 75 Meters! In what could be an unprecedented move, Hollingsworth, legal advisor for amateur enforcement within the FCC's Compliance and Information Bureau, showed up on 3894.5 kHz to discuss enforcement and encourage compliance.

"A couple of them were pretty shocked," he said. "This has never been tried before," Hollingsworth said the next morning. He said he broke in on an argument that was growing increasingly nasty in an effort to settle things down, then stayed to discuss enforcement with the amateurs on frequency.

Hollingsworth says he thinks one key to compliance is just getting people to listen to what he has to say. "Most people, if you can just get to them on a one-to-one basis, will listen," he said, reflecting his overall enforcement approach to attempt to reason violators into voluntary compliance rather than writing them up. During his time on the air, Hollingsworth confronted one individual he'd already been in touch with about alleged on-air misbehavior.

Among other things, he told those on hand that noncompliance and inappropriate on-air behavior could even threaten the hobby's HF allocations. Hollingsworth advised Hams to be more tolerant and patient and to avoid confrontation or retaliation.

"We all have to realize we're on a mission here — to save Amateur Radio," he said the day after his 75-meter appearance.

Hollingsworth says he understood from the others on frequency that someone was attempting to jam his signal. "I hope the monitoring folks were on the frequency, too," he said.

Hollingsworth advised the Hams on 75 to contact him with enforcement problems, and he gave out his e-mail address and telephone number (rholling@fcc.gov; 717/338-2502). "I don't know what effect it will have," he said of his on-air foray. Hollingsworth says he'll "do what it takes" to improve amateur compliance, and that could include future on-air visits with amateurs. — *ARRL Letter*

Swiss yes and no to no-code

Switzerland's national Amateur Radio Society has done an about face on the issue of abolishing Morse code testing. Last November the societies journal published a statement regarding the code. It that said Morse code testing in the Amateur Service no longer serves any useful purpose.

But the commentary by the Swiss angered the neighboring Germans. Their Deutscher Amateur Radio Society, the DARC, was more than a little uneasy by the Swiss society's position and made its displeasure widely known.

After some discussions, the Swiss have backed away and issued a new statement. This one says that the Board of Directors of the national society have not yet reached any definitive decision on the future of Morse testing.

But even here there seems to be a bit of controversy. This is because last November's magazine article was the result of a vote at the annual meeting of the organization's regional presidents. At that gathering, all of them voted to urge the abolishment of code exams. — *W5YI, Newsline*

Texas tower bills

Two pro-amateur tower and antenna bills are on their way to the Texas state legislature. According to Karl Silverman, NØWWK, one bill is the generic bill that amateurs have the right to put up towers while the other is the specific population density versus antenna height bill. The two measures will be presented by State Representative Patricia Gray. — *VHF Reflector, Newsline*

WORLDRADIO
March 1999 Year 28, Issue 9

On the cover

Our latest winner of our photography contest. Vick Stancliff, W6LQZ, atop the Hollywood hills with a Haigis transceiver for 5 Meters and a homebrew receiver and transmitter for 75 Meters on Field Day. 1935 Vick wins a three-year subscription to ***Worldradio***.

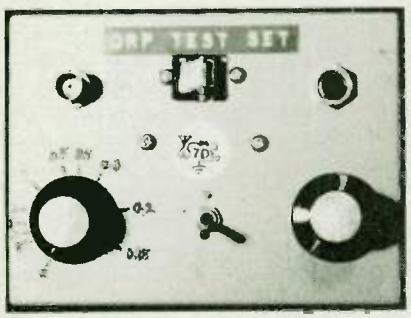
Features

Departments

Next month: 10-10 International News, Computers & Basic Stuff, Positively CW, Wires & Pliers, With the Handi-Hams, YLs on the Air and Youth Forum.

Mary Lou Brown, NM7N

Not only involved with ARRL, Mary Lou was also an influence on YL operators throughout the U.S.
— **page 6**.



Build a 40-meter QRP test set!

You don't need to invest thousands of dollars in test equipment. Just build this!
— **page 16**.

K6LSR — Lodi School Radio

Getting young people in volved with Amateur Radio is the goal of the Lodi School Radio club.
— **page 21**.

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Publisher's Microphone

They stand a little taller, their backs are straighter and there is more spring to their step. That's what happens when one becomes a ***Worldradio*** Superbooster (Lifetime Subscriber), the latest of whom are:

- **Richard Grimshaw, N9OUW**
  Peru, IL
- **Fred Drake, KIØET**
  Springfield, MO
- **Billy Payne, WA5GVC**
  Terrell, TX
- **Conrad Diric, K5CSK**
  San Antonio, TX
- **Scott Trumpeter, NØLNE**
  Littleton, CO
- **Bill Beach, KØUT**
  Fort Collins, CO
  (a gift from Margee Beach)

•

The logic patterns used by the anti-CW element are interesting indeed. Here is an exact quote sent to the FCC: "The sending and receiving of dots and dashes is an amusing antique method of communicating last used with the *Titanic*."

Was that the writing of some callow preadolescent youth whose only brush with history was seeing an inaccurate movie? No, the petitioner said he has been a ham since the early 50s and has a physics degree from Clemson.

Obviously the thousands of ships saved since the *Titanic*, the brave men who died on B-17s over Europe and ships in the South Pacific while their hand was on a key, or those underground radio (CW) operators shot on the spot by the German army had not made an impression on said petitioner.

Another based his argument on the experiences of his wife: "when she realized how difficult 13 wpm would be, she gave up."

Possibly we should also extend our sympathies to those who have dropped out of medical school and reduce the training to 16 weeks and shorten law school to eight weekends.

Much of the reasoning for wanting to lower the requirements (and there also those who want the theory reduced to the level of "How long did the 100-Year War last and was that longer than the 30-Year War?) was that the number of Amateur Radio operators is going down.

The number of private pilots is also declining. I hope they don't drop compass reading from the necessary study material.

•

Why is the number of Amateur Radio operators declining? (First, the loss is a small fraction of one percent.)

A big reason may be that over most of our recent history there was mandatory military duty. Many were exposed to radio/electronics while in the service, found it interesting, and continued with it for hobby, career or both. (For example, I was in the army for two years, six months of which was spent in radio school learning theory. Our DX columnist John Minke, went to CW operator school in the Signal Corps. ***Worldradio***'s editor Rick McCusker was a radio operator in the Coast Guard.)

But now, with a professional (no-draft) military there are just not as many people learning about radio.

•

Also, there was a day that many of the radio equipment stores would run licensing classes in the evening. Have you heard about such a thing recently?

A great many amateurs will utter the phrase "We've got to get the young people into Ham radio!" Stating problems is easy.

If we really wanted to get young people interested in this great avocation here is what would happen.

Every city in the U. S. has an orphanage, sometimes called children's home. Some are funded by the Optimists Club or the Masons. The youngsters may be there for many years. They would certainly appreciate someone showing interest in them. The institution would make available a meeting room for the weekly classes.

We can continue to say "We need to get the young people into Amateur Radio" or we could actually make an effort to do something about it. The youngsters lacking guidance or examples of fathers may well find this a springboard into a productive career.

It doesn't take much effort to merely state a problem. It does take commitment and dedication to solve a problem.

In every city there should be some amateurs who remember when an extra hand went out to them in their youth. It's time to pay something back.

And there is certainly a lot of older (never used and most likely never to be used again) equipment that could be donated to a worthy cause.

—Armond, N6WR

Next month this space will feature the opinions and ravings of the **Worldradio** *editor, Rick McCusker, KO6DJ.*

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Mary Lou Brown, NM7N

Kay Eyman, WAØWOF

Amateur Radio operators around the world were saddened by the untimely death of Mary Lou Brown, NM7N, 03 December 1998, as she returned from the Lord Howe DXpedition, off the eastern coast of Australia. She collapsed and died in the Los Angeles International Airport after arriving from Sydney.

Mary Lou retired from the University of California, Berkeley in 1982, after a distinguished teaching career as professor of physical education. She served as Chairman of the Department of Physical Education for nine years, where her specialty was kinesiology. Her undergraduate studies were at Berkeley, and she earned her doctorate in psychology at Columbia University in New York. Her husband, physicist Bob Brown, NM7M, also retired from the University at the same time and they moved to Guemes Island, in Washington.

Mary Lou was an active "birder" and a longtime member of the National Audubon Society. She also enjoyed photography and camping. In 1981, she was licensed and after retirement, she became an enthusiastic Amateur Radio operator. Mary Lou was especially interested in management of emergency communications and DX.

She joined YLRL in 1981, and served as Receiving Treasurer for the 5th, 6th, and 7th call areas in 1984; as Vice-President in 1986-1987, and as President in 1988-1989, serving with distinction in all positions. In February, 1988, she organized the first all-YL DXpedition to Niue Island, with Jan Scheuerman, then WB2JCE and now KJ4N. Mary Lou's call was ZK2MB and Jan's was ZK2JS. After getting off to a great start, they were plagued by the worst geomagnetic storm in over two years and an HF rig with a faulty keying circuit, which restricted them to SSB only. But Mary Lou's enthusiasm never waned.

Jan writes, "When I think of Mary Lou, I remember her unlimited energy, which was so contagious! She never seemed to tire and she inspired those around her to achieve, through her zest for living. She certainly made me feel as though I was capable of doing so much more than I had ever dreamed. Our DXpedition to Niue Island was an example of that. She set the pace and we proved that two YLs COULD journey to a faraway island, set up a station, operate for a week, and return home with an immense sense of self-satisfaction. Only another DXpeditioner, knows how much is packed into the previous sentence!

"I'll never know how Mary Lou managed to accomplish so much and still have time to enjoy life, and friends, and Amateur Radio, and birding, and her many other activities. Because she never saw herself as anything but plain Mary Lou Brown, NM7N, she endeared herself to all who knew her. She'll be greatly missed. She certainly impacted my life, and I'm extremely thankful to have such wonderful memories and photos of the time we spent together."

Mary Lou was President of YLRL during YLRL's 50th anniversary, and a convention was held on Kauai to celebrate. In conjunction with the celebration, she organized a second all-YL DXpedition, this time to Wallis and Fiji. Four YLs, including Mary Lou; Alice King, then N4DDK, now AI4K; Audrey White, N7HAT, and Mary Ketzler, then KAØOMX, now WO9R, operated from Wallis Island from 06-13 July 1989, and made 3,437 contacts. They traveled on to Fiji, and although Audrey had to return home, the other three YLs were on the air by 8:00 a.m. on 14 July and made a total of 3,538 QSOs, including 1,230 on CW.

In November 1991, Mary Lou; Alice; Nellie de Lazard, XE1CI; Elizabeth Anderson, VE7YL, and Flo Reitzel, KU7F, traveled to the British Virgin Islands and Grenada. They hand-carried three rigs, power supplies, coax, and tools and checked two antennas packed in ski bags, and the rest of the equipment. On Tortola they operated SSB, CW, and RTTY, using the callsign VP2V/plus their own calls. On 18 November they moved over to Grenada where they set up two stations. During the *CQ* WW CW Contest they operated as J37YL, with each YL working two hours on and then four hours off, and made over 1,000,000 points.

In 1993, these five YLs teamed up again and operated from St. Pierre et Miquelon, off the coast of Newfoundland. Again they set up two stations, working SSB, CW, RTTY, and the RS-12 satellite. Propagation was very poor, but they managed about 5,000 QSOs in six days.

There were two DXpeditions to Anguilla, and in November 1996, Mary Lou and Alice traveled to New Zealand to visit friends and took along equipment to operate KH8/ from American Samoa. Thinking of the fun-filled DXpeditions they shared, Alice writes, "Mary Lou was an accomplished problem solver but willing to take suggestions from the others. Anyone could disagree with Mary Lou without worrying about starting an argument. She was willing to try conversing in a language in which she was not really accom-

plished and thus got us through many a tight spot. Being with her was as comfortable as wearing an old shoe. She considered her academic achievements, and they were many, unimportant in her personal relations.

"She was the kind of friend who planned our ventures with my physical capabilities and desires always in mind. When my accident last summer interfered with the RV trip we had planned, she did not say, tough luck, hope you get better, and go on about her fun. She cheerfully came to my daughter's home and provided the assistance I needed for day-to-day living activities. This even included being on call at night before I was able to start walking again."

gation for *YL Harmonics*, the YLRL bimonthly magazine. She enjoyed working QRP and was active in QRP contests and was a member of the QRP-ARCI. She was an active member of MINOW, a YL club with members in Montana, Idaho, Nevada, Oregon, and Washington, and has hosted their annual picnic at the Brown's home on Guemes Island.

She served as SEC for Western Washington and was appointed Vice-Director for the ARRL Northwest Division in early 1990. Mary Lou was later elected Director and after only one year, was elected to serve on the ARRL Executive Committee, where she exerted a very strong influence. She was re-elected to the board twice, and at the time of her death had just been re-elected Director of the Northwest Division, without opposition.

amazing to see a life-sized photo of the famous QSL bureau known as P. O. Box 88, Moscow, on my living room wall!

She contributed very generously to various scholarships and charities, usually anonymously. She was 71 when she became a Silent Key and is survived by her husband, Dr. Robert Brown, NM7M, who always gave her unwavering support.

Dr. Mary Louise Norrie Brown, NM7N, truly embodied the spirit of Amateur Radio and there are very few who have participated as fully in this great hobby. YLRL will honor her with a memorial scholarship, and her many contributions to Amateur Radio will long be fondly remembered.

Left to right: Mary Lou, NM7N, Phyllis Shanks, W2GLB and Alice King, N4DDK (now AI4K) at Albany, NY 1996.

Charlie Hansen, NØTT, was a member of the Lord Howe Dxpedition, and he notes that Mary Lou seemed to have more energy than most people of her age. He enjoyed hearing about her experiences from past DXpeditions that she shared and writes, "When there was work to be done, such as setting up antennas, Mary Lou was there, willing to help. And there was plenty to do! We set up two HF beams, one very tall low-band vertical with radials, a 6-meter beam and a stealth beverage antenna. Mary Lou spent many hours on the radio and contributed to the many multipliers we logged, some of which were the rare ones that really help the final score!"

Mary Lou made many other contributions to Amateur Radio. She wrote several articles on antennas and propa-

While serving as Vice-Director and Director, Mary Lou traveled to hamfests, club meetings, and other functions around the division. She was often accompanied by her dog Fred, known to all as K9DOG. They also traveled around the country and Mary Lou spoke of her DXpeditions and varied activities.

My own personal favorite memory of Mary Lou is the time that she and Fred stopped by to visit and she was kind enough to do the slide show on a trip to the USSR that she had taken with the Washington DX Club. She was giving the talk at several locations along her route between home in Washington and her parents' home in Florida. It was

David Splitt, KE3VV

That other net

More and more amateurs are relying on the Internet for all types of "off-the-air" communication and information gathering. I have even had a few brief QSOs with Hams on *Qchat*, the audio mode attached to ICQ that is like Microsoft's *NetMeeting*, only better. With the cost of international and cross-country communication via the web as low as the monthly fee charged by your ISP (internet service provider), which averages about $15 a month for prepaid unlimited access, and the message units charged by your local telephone company (which vary greatly depending on your calling plan), this is a cheap way to make QSO skeds, read the latest pontifications from the ARRL, check a DXepedition log for your call, track down QSL managers, and update your logging software.

One of the recent rumors heard both on the air and in several internet forums (as well as several email inquiries to this column) is that the FCC and local phone companies are planning to redefine the service provided by ISPs to allow your local telco to charge the same per minute access fees that they charge for hooking you up to long distance telephone carriers. Even at a few cents per minute, these charges add up when you make a lot of long distance calls. Imagine what that would mean for hours and hours of on-line use of the Internet! The Chicken Littles were out in force, predicting that the conspiracy between the Feds and Big Business would have us shelling out for web connections by the end of last year. In case you haven't scrutinized your phone bill lately, it hasn't happened.

And it isn't likely to happen either. If you have lost any sleep over this non-crisis, you might be interested in the background facts.

Way back in 1996, the FCC requested public comment on issues relating to the charges that ISPs and similar outfits pay local telephone companies. On 07 May 1997, the FCC decided to leave the existing rate structure in place. In other words, the FCC decided not to allow local telephone companies to impose per-minute access charged on ISPs. The FCC web page, in responding to this rumor, published the following notice:

"Please Note: There is no open comment period in this proceeding. If you have recently seen a message on the Internet stating that in response to a request from local telephone companies, the FCC is requesting comments to <isp@fcc.gov> by February 1998, be aware that this information is inaccurate."

A brief explanation of the issue is in order. The charges for each long distance telephone call include per-minute fees that the long distance carrier pays to the originating and terminating local telephone companies that connected the call on each end. Those fees, designed to cover the costs to local telephone companies for use of their facilities, are referred to as "access charges."

In a nutshell, the FCC does regulate interstate telephone charges, but does not regulate the rates that enhanced service providers (such as ISPs) charge to their customers. ISPs purchase a large number of local phone lines or "trunks" (which all may have the same telephone number) so that customers can dial up to gain Internet access. Under FCC rules, ISPs are considered "end users" when they purchase phone lines from the local telco. For this rea-

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 January 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	ABØIG	KIØPC	++	KCØEUA
1	AA1UG	KE1KU	++	KB1DPH
2	AB2FZ	KG2PN	++	KC2ENL
3	AA3SA	KF3CH	++	KB3DHR
4	AF4MY	KU4XN	++	KG4BLK
5	AC5SB	KM5TV	++	KD5FZS
6	AD6HP	KQ6ZE	++	KF6UIZ
7	AC7AC	KK7RL	++	KD7DSQ
8	AB8DN	KI8HI	++	KC8LNZ
9	AA9WU	KG9PC	++	KB9TYM
N. Mariana Island	NHØH	AHØBB	KHØHM	WHØABJ
Guam	++	AH2DJ	KH2UC	WH2ANX
Hawaii	NH7T	AH6PQ	KH7QN	WH6DFB
American Samoa	AH8R	AH8AH	KH8DM	WH8ABF
Alaska	ALØN	AL7RI	KLØRD	WL7CUY
Virgin Islands	++	KP2CP	NP2KG	WP2AIJ
Puerto Rico	NP3Z	KP3BM	WP3ZZ	WP4NOH

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

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weekdays, 8 a.m. to 5 p.m. Pacific time.

Thank you!

son, ISPs pay the same rates for phone lines as any other business, and these rates are set separately in each state (usually by the Public Service Commission, or similarly named state government regulatory agency). By contrast, long-distance companies are considered "common carriers," (oddly enough, so are interstate bus companies and airlines) and they pay interstate access charges regulated by the FCC.

The business phone lines used by ISPs usually include a flat monthly charge and a per-minute charge for making outgoing calls. Because ISPs receive calls from their subscribers rather than making outgoing calls, ISPs generally do not pay any per-minute charges for their lines which is the main reason many ISPs do not charge per-minute rates for Internet access. On the other hand, the interstate access charges paid by long distance phone providers include per-minute fees for both outgoing and incoming calls. The rate levels of interstate access charges are also in many cases higher than the flat business line rates ISPs pay today.

So where do the rumors come from and why do they persist? Hey! Big Brother is everywhere, Right? In fact, the debate is over whether enhanced service providers should be required to pay access charges because they use local telco networks just like long-distance carriers. In June 1996, four "local" telephone companies (Pacific Bell, Bell Atlantic, US West, and NYNEX) submitted studies to the FCC concerning the effects of Internet usage on their networks. They argued that the existing rate structure did not reflect the costs imposed on local telephone companies to support Internet access, and that Internet usage was causing congestion in part of the local network. Several local phone companies have asked the FCC for authority to charge interstate access charges to ISPs, although none have filed a formal petition for rulemaking.

The FCC did look at the issue when it requested public comment in December 1996, on whether ISPs should pay interstate access charges and whether ISPs should be treated as end users or common carriers..." As part of its Access Reform proceeding (Common Carrier Docket 96-262), the FCC (waaaay back in December 1996) requested comments on the treatment of ISPs and other "enhanced service providers" that also use local telephone companies' facilities. Since the access charge system was established in 1983, enhanced service providers have been classified as "end users" rather than "carriers" for purposes of the access charge rules, and therefore they do not pay the per-minute access charges that long-distance companies pay to local telephone companies.

In the Access Reform Order, FCC 97-158, adopted 7 May 1997, the FCC concluded that the existing rate structure for ISPs should remain in place. In other words, the Commission decided affirmatively that ISPs are not required to pay interstate access charges.

When it began the Access Reform proceeding, the Commission also issued a Notice of Inquiry (CC Docket 96-263), which asked for comments on a broad range of issues related to use of the public switched telephone network by ISPs and other interstate information service providers. A Notice of Inquiry is a request for information that does not involve any specific proposed action or rulemaking proceeding. The FCC's Access Reform order stated that the purpose of the Notice of Inquiry was to develop a record on which a Notice of Proposed Rulemaking could be drafted to facilitate more efficient structuring of data networks. The FCC has stated that the NPRM will consider actions other than imposing per-minute access charges on ISPs.

The FCC did issue a completely unrelated public notice (DA 98-2) in January 1998, in connection with a report to Congress on universal service. As part of the FY 1998 Congressional appropriation legislation, the FCC was required to submit a report to Capitol Hill on a number of issues, including the legal status of Internet services under the Telecommunications Act of 1996. But that report did not raise the spectre of long distance access fees for the Internet.

By the way, if you really want to keep up on what is being whispered and shouted into the ears of the FCC (on issues like ISP rates and other items, such as Amateur Radio license restructuring), all formal comments are available for review in the FCC Reference Center in Washington DC, and copies may be purchased through International Transcription Services (202-857-3800). Copies of comments submitted electronically are available for review at http://www.fcc.gov/ccb/comments.html.

While we are burying rumors, we might as well throw the last shovel of dirt on the "FCC modem tax" that has been floating around the Internet in various forms for several years. The "modem tax" referred to is a 1987 proposal that would have required ISPs to pay interstate access charges (which were much higher then). That proposal was abandoned in 1988. The current Access Reform proceeding is entirely separate. If this doesn't give you all the reassurance you need, hop on the web and check out the Access Reform page on the on the FCC website at http://www.fcc.gov/isp.html.

It seems that there is a bit of a lull lately in FCC action affecting Amateur Radio, most likely because they want to make us sweat out the restructuring rules. Several readers have asked for an "across the back fence" explanation of the RF exposure rules, and we can surely tackle that one (If your ears get warm and your tie clip glows, you may be working yourself rather than the Spratlys). Send your recommendations for future musings and thoughts on the column via email or snail mail. Better yet, look for me on the County Hunters' net on 14.336 (and we'll move off frequency for a chat) or set up a sked via the still cheap internet, and we'll talk like Hams are supposed to — even CW if you are brave, nostalgic, or just happen to like pounding brass. — *David Splitt, KE3VV, can be reached at: 611 Utah Avenue, N.W., Washington, DC 20015; or via e-mail: davidsplitt@erols.com.*

One-man DXpedition — Lord Howe Island, VK9LZ

Paul Veal, NØAH

Because of adverse solar conditions, my DXpedition to Lord Howe Island from 24-30 April 1998, was one of mixed results and some real surprises. Conditions were extremes from absolute pileup madness to hours of total boredom.

Why Lord Howe Island?

Within recent times, only a handful of DXpeditions by non-island residents resulted in any efforts to activate the island. Because of its DXCC status, Lord Howe Island is a wanted QSO by many amateurs, especially on the WARC bands.

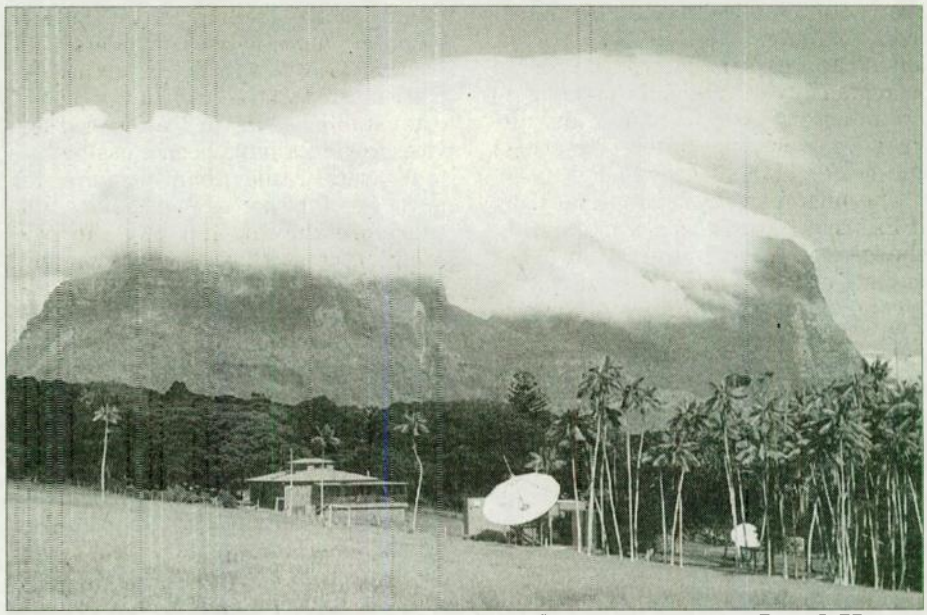
Getting there

Lord Howe Island is located 485 miles north east of Sydney, off the coast of Australia. According to my GPS reading near my transmitting antennas, my exact location was 31.31.159 South and 159.04.217 East. It took 30 hours to get from Denver to the front porch of the Ebbtide Flats, where other VK9L operations have taken place. United Airlines flew me from Denver to Sydney where I connected with a small Eastern Australia commuter plane for a two-hour flight to the island.

A description of the area

Lord Howe is located in the Tasman Sea with around 300 full-time residents. While overwhelming in its tropical flora, it also can be at the mercy of the elements facing harsh winter westerlies spawning occasional water spouts. It is only a few kilometers wide and long yet supports one of the most spectacular self-contained ecosystems in the world.

Being located at the point of the most southern tropical reef in the world, it supports hundreds of fish species and is a bird watcher's paradise. The island scenery is dominated by its two volcanic peaks, Mount Gower and Lidgebird, towering some 875 meters above the ocean. Commonly shrouded in clouds, these mountains look like the Hollywood home of King Kong. Geologist estimate that only 2% of the original volcanic land mass remains after 7 million years of erosion. Geologically speaking, it is a very young piece of real estate and is quickly disappearing.



Operating from paradise — spectacular scenery on Lord Howe island.

Modern island life

The families of the original European settlers, many of whom still inhabit the island, have fought hard to protect the island's remote nature and character over the past 120 years. In 1953, impacted by flying boat tourism, the Lord Howe Island Act established perpetual land leases for the island's lineal descendants by its governing body, the wing of the colony of New South Wales. In other words, island residents don't own their land, but lease it for next to nothing. In 1974, a 1,000-meter airstrip was completed end-to-end across the island, which put the island on the modern day tour map. It all but eliminated the flying boat industry's hold on the island. In 1982, Lord Howe was the first of only four island groups on the World Heritage List due to its unique ecosystem.

Radio setup

I wanted to plan lightly, yet bring effective equipment to operate my planned one-man DXpedition. I chose CT9 as my software. For the rig, I finally chose my Yeasu FT-900 due to weight/size transportation limits. For antennas, I was just planning to take my Cushcraft AP8A ground mounted vertical, but I obtained a DXpedition WARC band beam at the last minute from Tom at Force 12 Antennas. I also had a 30-meter dipole to carry, just in

Antenna height doesn't matter when you're rare DX.

case my antenna box got lost in transit. I packed only a few clothes to conserve weight but took two light weight power supplies and plenty of guide ropes and extra coax.

The Ebbtide Flats, where I operated from, consisted of a few small houses used as rental units on a lot appearing like the Garden of Eden. Palm trees and other flora covered the area and the bird life was everywhere. Passion fruit and wild bananas were abundant and there were few, if any, biting insects. The property was ideal, located a few hundred feet above sea level and only a few hundred yards from the ocean. It had a large center courtyard clear of trees and perfect for antennas. Ebbtide Flats is on the northeast side of the island and had the ocean opening out to both stateside and EU. My hosts were Max and Julie Bretnall, two of the nicest people you could ever hope to meet and extremely accommodating.

A rocky start

After an easy flight from Los Angeles to Sydney, I checked the WWV numbers after signing onto an airport internet access machine. They looked bleak as the solar flux was dropping sharply and the A/K forecast was rising. The report also made mention of a strong flare and lingering proton event.

Soon after I arrived on the island, the flux dropped down to the mid 80s after being in the 130-140 range earlier in the month. The A and K indexes were affected by storms with the A index hovering around 25, and the K index in ranging from 4 to 5. Worried about the low numbers, I tried getting on the air as soon as possible.

I got the ground mount vertical antenna up and ready to go. I was bleary-eyed and jet-lagged and my lap top computer crashed while setting it up in line with the rig. Unable to reboot the computer, I realized I was going to have to log QSOs on paper, but this was a minor glitch. It was approaching sunset and 20 Meters was active with DX signals coming out of Europe and the U.S. The radio worked and the antenna transmitted. What else could I ask for, being out in the middle of the Tasman Sea? It was time to DX!

Overall radio conditions

For the next five days and nights, in between the JA pile-ups, I worked stateside on whatever band I could find open. I lived off a loaf of freshly made island bread and a jar of Australian honey. I also had a box of cereal, cold milk and diet cola, so I was set!

Overall, I had most of my luck on 30 Meters in accomplishing my goal to utilize the WARC bands. I had two good openings to the U.S. on 17 Meters with the best occurring on my last full day on the island. On my last day I worked several stateside stations on 12 Meters and a few midwest stations on 10 Meters, including Randy Martin, KØEU and Stan Huntting, KW7KW. I also ran into Charles Summers, Jr., WØYG, who, at the time, was the only station I heard on the entire band. Charlie provided an update on the poor conditions. The daytime bands were awful, but the big guns were getting through.

Fortunately, there was only one really bad night on the low bands as a result of the solar storms. The nighttime openings, weak as they were, allowed for a lot of exciting contacts. It was fantastic to see the gray line phenomena work via my computer Geochron software as I listened to the DX window move from east to west. I had noticed grayline propagation living in the U.S. but hearing the progression of W1s through W6s while watching the grayline move was mesmorizing. The signal peaks were right on the edges of the gray line — and they were significant.

Charles Cullian, KØRF and WØYG had huge signals on 75-meter phone. But my most memorable low band contact was on a night of average conditions. After calling "CQ" for an hour or so on 75 Meters, I heard a few American stations rag chewing and gave them a call. One of them turned out to be Bob, FOØIR, working some friends in the U.S. Was this the first ever VK9L to work FOØ as a new DXCC country?

I had nothing that worked as an antenna on 160 Meters. But I am convinced that if I had, I could have worked the band a few nights as I heard stations from VK, ZL, JA and EU on the ground mounted vertical.

JAs salvaged QSO rates

During my mornings, I became frustrated waiting for the USA to come in on the daytime bands, but the JA operators were great! I'd start working them about an hour or so past dawn on 30 Meters then move to 17 Meters a couple of hours after sunrise. I'd then go up to 12 Meters and give my Force 12 beam a workout. I was very thank-

ful to have the JAs there. If not for their involvement, my DXpedition would have been much less of the experience I imagined it to be.

Dealing with the doldrums

I always had a few strong VK and ZL stations to work during midday after the JA pileups quieted down. Without having to worry about managing pileups in poor daytime band conditions, I met plenty of local Pacific island operators during the day. I enjoyed long QSOs with Paul Kidd, A35RK; Perry Christensen, 5W1PC; Don Barclay, KH8/N5OLS and Larry Gandy, AH8LG. The unsettled conditions made our QSOs oblivious to the higher latitudes and I learned a lot about these gentleman and their island life.

During this time, I also met Louis Goldber, XE1L, who helped get my computer up and running. He had the same brand and knew exactly how to fix mine. It was a real blessing to run into Louis as it made the second half of my trip easier knowing my computer was not a total write-off.

Memorable openings

The first night and the last day on the island brought the biggest pileups. I had a fantastic opening the first couple of nights on the island on 20 Meters into Europe and Africa. After these pileups faded away, I went to work stateside on 40-meter phone split and had a blast. Every morning, the CW pileups were really big into JA on 17 and 12 Meters. 30 Meters was always opened somewhere and I enjoyed this band the most as it offered a bit more of controlled environment. While I never had big pileups on 30 Meters, I never seemed to go with a "CQ" unanswered.

20 Meters presented the overall strongest signals for propagation while I was on Lord Howe. Some nights, the signals were mostly 5 over 9 signals from EU and the U.S. One night I had one of the first and best QSOs during my stay. Just prior to the pile-up, Rob Linck, 5Z4RL and I chatted for about 10 minutes. We both wondered how long it had been since a VK9L and a 5Z had worked one another.

The last full day brought what I had come for, a big opening into stateside on 17 Meters and conditions for some 12 Meters QSOs. I worked a lot of Colorado stations. If only I had one more day on the island.....unfortunately, it was time to depart.

Advice if you plan to go

Keep in mind, that if you plan to visit Lord Howe, you are limited to 15 kg of baggage weight as a result of commuter plane refueling restrictions while on the island. On the entire island, there are approximately 350 beds available for tourists with the number capped at 400 for all time. Without a room reservation, you are not allowed to sleep overnight on the island as access is limited to enhance environmental controls, so plan early!

According to my hosts, the best time of the year to go if you are concerned about weather conditions, is March/April with June/July being the least desirable. The island is very remote to get to by boat unless you own a yacht, so I suggest taking the commuter flight. 220 Volt electrical service with Australian plug styles are used for outlets. The island electricity was very reliable and never failed during my visit.

Walking and bicycles are the main form of transportation. There are only six or so cars available for rental, but you really don't need one, considering how close everything is on a small island. Australian dollars are used for currency and you should take them with you as currency exchange on the island is expensive — sort of like buying film while at the amusement park...

Food is a bit pricey but the island offers a variety of meals including seafood, beef and chicken. Food commodities are easy to come by at the island's groceries but once again, are expensive. Sleeping arrangements on the island can range from $70-250 a night depending on your taste. This is not an island for the faint-of-heart with the pocketbook. It can be very affordable but long term planning, along with timing your visit for the tourist off-season, can help your dollar go a long way.

Licensing was easy. The Australian Radio Authority went out of their way to get my VK9LZ call sign to me in under a week. Peter Koorey at their Sydney office was very kind and it was a pleasure to meet him once I arrived in Sydney for a week-long stay after leaving Lord Howe. My few words of advice: pack light, be prepared to walk, ship whatever equipment you can, and take some time to visit the beaches. And above all, plan your stay at Ebbtide Flats. The location is perfect. Thanks to all those who helped me get to Lord Howe Island and to those who worked VK9LZ while I was there. It was truly a life experience like no other.

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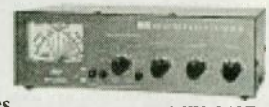

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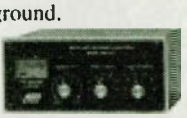

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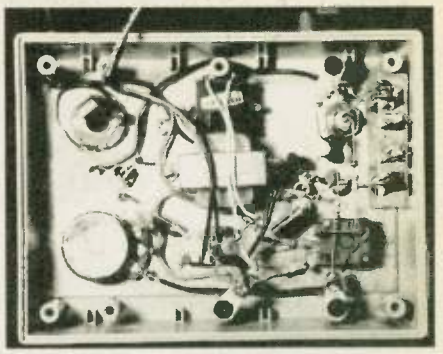
40-meter QRP test set

Dave Evison, W7DE



My finished product — front view and with the cover removed showing component layout.

QRP articles and kit offerings provide low power enthusiasts with an array of excellent, VFO-based CW transceivers. These terrific little rigs generally are fun to build and operate. However, testing and troubleshooting them requires a significant amount of equipment — at minimum a wattmeter, dummy load, and a good receiver. I recently built one of the new TenTec 1340 rigs. After assembly and preliminary operational checks, I put the little unit on my test bench to do some serious tests prior to putting it on the air. Of special interest were the power output, tone, keying characteristics, vfo stability and accuracy. After connecting the test equipment, I just couldn't help but chuckle. There on the bench was this cute little transceiver (which sells for under $100) connected to an array of test equipment costing many thousands of dollars. It was not only the cost of the equipment, but it was the sheer mass of it, and the half-dozen coax cables interconnecting everything. I sat right down, designed and built a small, battery operated, test set.

I was delighted with the test set performance, and I dropped a note to Richard Fisher, KI6SN, QRP Columnist for ***Worldradio***. When I described the little tester. Richard said he would be willing to beta test the unit. I shipped one of the prototypes for him to checkout. Richard not only checked out the prototype, but built his own version to ensure that the circuit was truly reproducible. And what began as beta testing developed into a redesign collaboration. Richard noted that while the tester worked great, the circuit specified a couple of low value linear composition pots and these components were not readily available, and excessively expensive. He suggested that the circuit be redesigned to accommodate higher value pots available at RadioShack.

Several long sessions of redesign and bench testing were held, and it was descovered that a RadioShack 5k audio taper pot worked wonderfully in the downconverter, but the power meter circuit definitely required a low resistance pot of 250 Ohms. Richard also incorporated a couple of additional design mods: panel-mounted socket for the local oscillator crystal, and a copper-clad PC board with hacksaw-generated isolated pads. Richard's version is depicted in photos 1 and 2. All in all, this was a fun collaboration with Richard, and the combined effort resulted in an improved design.

Description

The QRP Test Set employs a downconverter (a two-transistor direct conversion receiver) and a power meter relying on calibrated settings of a potentiometer. It is designed to measure RF power output, evaluate keying characteristics, assess VFO drift, and provide a 7.040 MHz receiver calibration frequency. It is battery operated and can be built small enough to fit into your pocket to take along on backpacking adventures. The tester can be built for less than $25.00 (if all the parts are purchased) and practically nothing at all by relying on junk box resources. In fact the prototype units were built entirely from junk box offerings, and they work terrifically. Although the circuit is a very simple one, the tester provides impressive capabilities and surprising accuracy.

Note: The unit described in this article was designed exclusively for testing 40-meter QRP rigs incorporating a VFO. The local oscillator crystal can be changed to allow testing of QRP transmitters operating in the novice portion of the 40-meter band. While other bands may also be accommodated by changing the crystal in the local oscillator, bands above 40 Meters will require special calibration of the power meter. The frequency response of the power meter circuit begins to fall off rapidly above 7.3 MHz due to distributed capacitance and other factors.

QRP Test Set features:

- Measures RF power from 0.15 to 8 Watts
- Provides a high quality detected signal for checking tone and keying characteristics
- Measures short and long term vfo drift
- Determines receiver frequency calibration (via crystal oscillator)
- Provides a built-in 8-watt dummy load
- Battery operated

The downconverter circuit

Referring to Figure 1, Q1 is a bipolar transistor mixer with the RF to be downconverted applied to the base and with local oscillator injection at the emitter. Q2 is a Colpitts-type crystal local oscillator. R1 is 50 Ohms and made from a combination of several carbon-clay resistors. The unit uses eight 100-ohm 1W resistors configured in series parallel, and four 200-ohm 2W resistors connected in parallel. The power rating of the combined resistors is 8 Watts. This resistor array functions as a dummy load for the QRP rig under test. A sample of the RF input is divided down by R4 and VR1. VR1 sets the level to accommodate varying inputs within the range of the tester. T1 couples the audio component from the mixing process and matches 8-ohm headphones. This setup is adequate to drive 8-ohm headphones without additional amplification. The output tone is a high quality detected signal for checking tone and keying characteristics of the CW RF. Chirps and clicks will be easily detected, if present. Since the local oscillator is crystal controlled, any perceptible drift will be attributed to the VFO in the unit being tested.

The power meter circuit

Instead of relying upon a meter movement with power calibrations already applied to the meter scale (which probably rules out a junk box offering), the design philosophy for this power meter utilizes an inexpensive potentiometer that is hand-calibrated to measure RF power. The function of the associated meter is simply to provide a single reference point. R2, VR2, and R3 divide the RF output to establish the reference on M1. R3 is used to improve the linearity of the VR1's calibration. The four diodes are configured to provide full wave rectification to operate the meter. C5 is an RF bypass.

About the meter

A moving coil meter (D'Arsonval- type) should be used. The meter scale is not important. In fact the meters used in my test set prototypes had only a single tick mid-scale separating a red and green band on the scale. So whatever meter you use, merely select a tick on the meter scale that is half scale or slightly above. The meter's basic sensitivity should be 500 uA or better. The values specified in the power meter circuit were designed for a 500 uA meter. If a meter of greater sensitivity (e.g., 100 uA) is used, then a suitable multiplier resistor should be used between the wiper of the VR2 and the meter-rectifier circuit, or increase the value of R2.

Construction

After comparing the performance of four prototypes using various construction methods, the layout illustrated in Fig. 2 yielded the best frequency response for the power meter circuit. The layout for the rest of the circuit is not critical apart from keeping the wiring as short and direct as possible. The original units used double-sided PC board for the front panel, and all components were wired directly to the inside of the panel using Wes Hayward's Ugly Construction methods.

Voltage (60 Hz rms)	(Watts)
20.0	8
15.8	5
12.25	3
10.0	2
7.07	1
5.0	0.5
4.47	0.4
3.87	0.3
3.16	0.2
2.74	0.15

Note: Specified voltages not applicable beyond 8 MHz as distributed capacitance and other factors result in significant rolloff in frequency response.

Table 1. Power meter calibration chart.

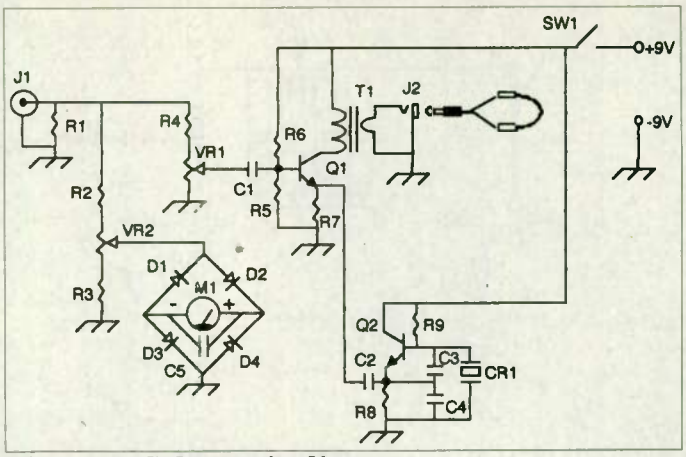


Figure 1. Schematic diagram

C1, C3, C5: .001 µF
C2: 560 pF
C4: 100 pF
CR1: Crystal 7.040 MHz
D1, D2, D3, D4: 1N914 (RadioShack 276-1122)
J1: BNC female panel mount
J2: Two circuit phone jack
M1: 500 µA (refer to text)
Q1, Q2: 2N2222A
R1: 50 Ohms fashioned from eight 100Ω 1 watt composition resistors connected in series parallel, or four 200Ω 2 watt composition resistors connected in parallel.
R2: 510Ω
R3: 33Ω
R4: 10k
R5, R7, R8: 1k
R6: 4.7k
R9: 33k
SW1: SPST
T1: Audio output transformer: Primary 1,000Ω, secondary 8Ω (RadioShack 273-1380)
VR1: 5k, audio taper (composition) RadioShack 271-1720
VR2: 250Ω composition
Note: All resistors 1/2 Watt, 5%, composition unless otherwise specified.

If you're not familiar with this technique, check the *ARRL Handbook* under Ugly. A universal PC project board also can be used, and they are available from RadioShack. The KI6SN unit illustrates yet another construction method. A hacksaw is used to cut through the copper of a pc board to form isolated pads upon which circuit components are soldered.

Testing the downconverter

With a QRP transmitter connected to the test set (and if it is a QRP transceiver, turn its volume control all the way down). Turn the test set power potentiometer fully counterclockwise, set the volume control full clockwise, put on the headphones, and turn the test set power switch on. Key the transmitter and adjust the VFO until the CW note is heard in the headphones. This will occur near 7.040 MHz as determined by the crystal in the local oscillator If the tone is too loud, turn the volume control counterclockwise. Fine tune the VFO for the tone most pleasing to you. Now send a series of dits and dahs listening carefully for clicks or chirps. Proceed to the next step.

Testing the power meter

Key the transmitter and slowly turn the power meter potentiometer clockwise until the meter indicates the calibrated reference level you have selected (somewhere near mid scale at a major scale tick). At this time there are no calibra-

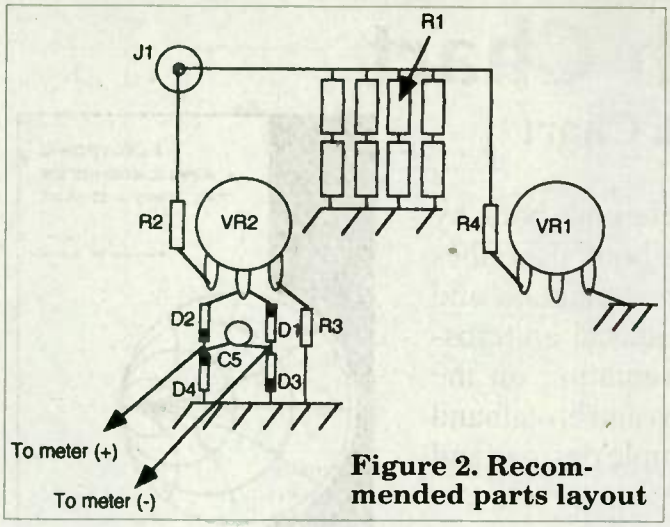


Figure 2. Recommended parts layout

tion ticks for the potentiometer. These will be added during the following calibration tests. Return the power meter potentiometer to its full counterclockwise position.

Power meter calibration

Power meter calibration is performed using a 60 Hz source and relying on the frequency response of the power meter circuit. By keeping the wiring as direct as possible, and utilizing a low resistance pot at VR2, the frequency response will be flat from 60 Hz to 7.3 MHz. The voltage levels for the various calibration points are specified in Table 1. Calibration will be performed with R1 temporarily out of the circuit. This will allow the use of a small transformer and potentiometer as a voltage source for calibration (Refer to Figure 3). The AC calibration voltages should be measured using a digital voltmeter having an accuracy of 2.0% or better. If you have problems achieving the level of resolution specified in Table 1 because of fluctuations in the AC power mains, you may have to perform your calibration early Sunday morning when most heavy industry is inactive. In addition, try to inscribe each calibration tick as carefully and accurately as you can.

Temporarily unsolder one end of the resistor array (R1) thereby removing the array from the circuit. Turn the power meter potentiometer fully counterclockwise. Connect equipment as depicted in Figure 4. Adjust the calibration voltage source to supply 20.0 volts. Slowly turn the power meter potentiometer clockwise until the meter reads the reference mark you have selected (a mark at half scale or one slightly above). Place the first calibration mark (tick) at the setting of the potentiometer. This will be the 8-watt calibration. Repeat this process for each voltage level specified in Table 1.

Before disconnecting the test setup, perform the following verification tests: set the power meter potentiometer fully counterclockwise and the calibration voltage all the way down. Now set the power meter potentiometer

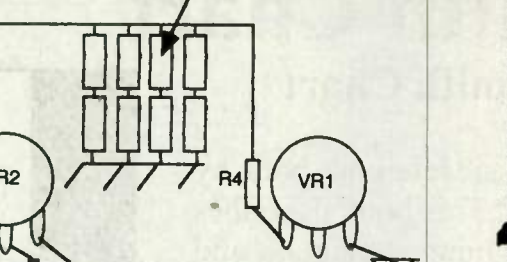


Figure 3. Power meter calibration source

T1: 120V primary 25V secondary. RadioShack 273-1366
VR1: 5k pot., linear. RadioShack 271-1714

to the 8-watt tick and slowly increase the calibration voltage until the reference level on the meter is achieved. Read the value of the of the digital voltmeter. It should read very close to the value specified in Table 1 for 8-watts. Repeat this procedure for each of the calibration ticks you have made. Note: Be sure to turn the calibration voltage down in between each of these verification checks.

Resolder the resistor array, R1. This completes the calibration of the power meter.

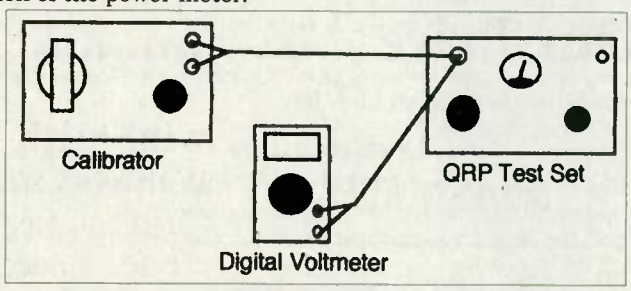


Figure 4. Power meter calibration setup

Some operational notes

Measuring VFO drift relies upon the inherent stability of the crystal local oscillator in the downconverter — which is excellent. There are two approaches for testing VFO stability: Tune the transmitter VFO for a pleasing tone, or tune the VFO for a zero beat. In either case, periodically key the transmitter (every minute or so, just long enough to check the status of the tone). In both cases, monitor the signal with the headphones, and check for either a change in tone over time, or presence of tone (in the case of zero beating). This test is, of course, accomplished without readjusting the VFO frequency during the test.

Careful calibration of the power meter can result in surprising accuracy. In fact it can exceed that of many commercial wattmeters, especially below 1 Watt. Most commercial wattmeters specify their accuracy in terms of a percentage of the full scale reading, whereas the test set wattmeter is individually calibrated at each tick, therefore its accuracy is a percentage of the individual reading.

Receiver calibration (at one point) is accomplished by the test set's local oscillator supplying a precise frequency. When testing a QRP transceiver, you will notice once you have tuned the VFO to produce a tone in the test set headphones, the receiver will be tuned to the frequency of the test set local oscillator. This will provide a precise one-point check of the transceiver's frequency dial, as well as an overall operational check of the receiver.

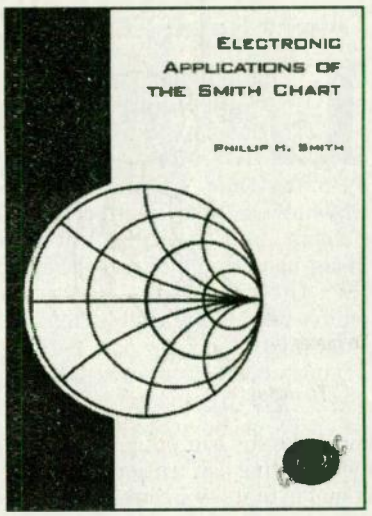
One final caution, when you are through performing a power measurement, always return the power meter potentiometer to its full counterclockwise position to protect the meter.

The 40-meter QRP Test Set, although a very simple device, will prove to be an excellent design and verification tool around the shack.

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).*

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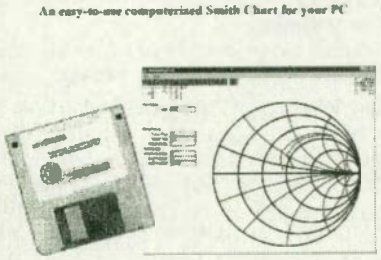

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Considerate QSLing

Jerry Boyd, K6BZ

Long before I earned my Amateur Radio license in the 1950s, and for many years thereafter, it has been stated by many that the final courtesy of a QSO is a QSL card. While I support that concept, and realizing that some will disagree with my perspective, I submit that there are some circumstances which might alter, or at least modify, this time-honored practice.

The subject of when and how to QSL has been addressed in print before, and, recently has been the subject of considerable discussion on a variety of Amateur Radio-related reflectors on the "World Wide Web". Most articles have focused on how to obtain a card from valued, and often elusive, DX stations. Certainly, if you want a QSL from a station you work you should send one. And, if you receive a card from a station wanting a confirmation from you, a return QSL is in order. Having said that, here are some thoughts regarding "considerate" QSL practices that you may wish to consider.

When soliciting a QSL from a DX station there are basically three ways to obtain one. You can QSL direct to the station, via the station's QSL manager (if he/she has a manager) or via the outgoing QSL Bureau if the country of the station worked has a functional incoming Bureau. When sending direct or via a manager, a self-addressed stamped envelope (SASE) or a self addressed envelope (SAE) with sufficient funds for return postage are the only approaches a considerate QSLer will consider. Pretty simple proposition thus far isn't it? If you seek a DX station's QSL card through any route other than the Bureau, you pay the postage costs — just as any DX station who wants your card should do for you.

Where things become a bit more complicated, and the source of some disagreement, is when the QSO is between stateside stations. At present, there is no "Bureau" to provide an inexpensive means for stateside stations to exchange cards. So, for all stateside QSLs there is in addition to the cost of the card itself (and envelopes) the postage cost to consider. At this time, that equals twenty cents per card if sent as a postcard, and thirty-two cents if mailed in an envelope. That doesn't seem like a big or expensive deal and for the "average" Ham it may not be. Where it becomes an issue is when the volume of stateside cards received by a stateside station is such as to become burdensome.

How can responding to stateside QSLs become a burden, and an expensive one at that? There are two ways. One is financial, and the other is in terms of time. How and why is the situation any different today than it was forty or fifty years ago is a question some might ask. I submit the answer rests in the increasing number of stateside stations active in radio contests which focus on stateside contacts.

While radio contesting began in the 1920s, its widespread popularity did not begin until much more recently. The amateur of the 1940s and 1950s (who contributed greatly to the notion that a QSL is the final courtesy for every QSO) spent money in the QSL effort. However, many active contest stations today make more QSOs on one weekend than an active station of the 40s and 50s did in two or three years of on-the-air activity. And, that contest station of today may participate in a dozen or so stateside contests per year with total QSOs easily exceeding ten thousand; more like twenty thousand in some cases. If ten percent of those stations QSL the contester without an SASE the cost to the contester for postage alone exceeds six hundred dollars per year. For some, that amount will not break the bank. For many, however, it can be prohibitive. I submit that this problem is preventable, as I will soon discuss.

Aside from the direct financial costs there are the indirect costs associated with time. Time is, after all, money for many people. It is without question easier, more efficient, and much more cost-effective for a high volume station to respond to QSL cards accompanied by an SASE (or at least an SAE) than those without. There are many operators I know who, like me, do not collect stateside cards. Frankly, while I will reply to all cards received, I have all of the certificates, awards, etc. that I desire which are dependent on stateside QSOs. Many are in that position, yet if you need/want our QSL for a state, county, or grid-square-based award we will be pleased to provide it to you. If that "you" is, however, multiplied by five hundred, a thousand, or two thousand a year it can become both a financial and time problem unless an SASE is included.

There are a couple of other considerations worth discussing. If you want a QSL card from a stateside station you increase your chances considerably if you send your card in an envelope with a SASE. There is another advantage to this approach given the U.S. Postal Service practice in recent years of mutilating postcards. Not that it's done intentionally, but the processing equipment used by the postal service is just not postcard friendly. In addition, the "bar code" strips the postal service affixes to postcards (often on both front and back of the card) are applied without regard for what information they cover. I have received dozens of QSLs sent as postcards which had the call sign, QSO information, or both covered by such stickers. Attempting to remove them tears the paper, rendering whatever was beneath them unusable for any purpose.

So, in summary, if you want a stateside QSL card the courteous way to solicit it is by enclosing your card in an envelope with an SASE. If you simply want to send your card and don't care if you receive one in return, make that point clear. I believe if you follow the SASE suggestion your QSL return rate will increase dramatically and it will make it possible for even very high volume contest stations to continue the honorable practice of responding to every QSL card received.

(Ed: Many domestic Amateur Radio nets that require the exchange of QSL cards have their own "QSL Bureaus" to keep the cost of QSLing down.)

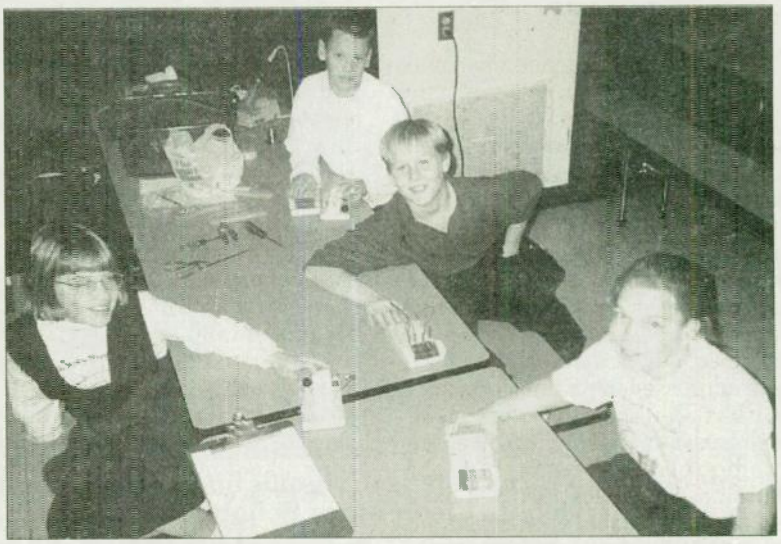
K6LSR — Lodi School Radio

Mike Zane, N6ZW

I retired from the Lodi Police Department in November 1989. Even with the home chores, gym several times a week and running five miles every other day, I still had some time on my hands. I had been reading Wayne Green's columns about all of the old-timers on the air and why don't we try to get more young people interested in Ham Radio.

Joe Fairclough, WB2JKJ, and Carole Perry, WB2MGP, in New York have Ham club/classes, why not in Lodi? I spent 1991 gathering materials that I thought would be necessary to start a school club.

Oh, boy! What a rude awakening I got! I first went to the two high schools and talked to the principals. They gave me more reasons than I wanted to hear why a Ham club would not work at the high school. Mostly it was the attitude, "if we didn't think of it, it must not be any good"; no teachers to sponsor the club; too many other clubs on campus; no room (that was the only valid reason I heard — more on that later). Then I went to the jr. highs. That's 7th and 8th grades and we call them middle schools in Lodi. Same reasons as above, although I will say one principal was interested but the "no room" was the main reason. Well, on to the elementary schools. I'm not real comfortable around children that young so I figured this was going to be a big bust, too. I remembered that my wife used to teach for a principal at Nichols Elementary, so I started there. Wow, what a different attitude! In 1991, Joe Lobb was principal and Dave Mende was VP. Both said, "when can you start and what do you need?" So, in January of 1992 the Nichols Ham club was started. We only meet one day a week for one hour after school, and for 5th and 6th grades only. Starting out we met in the library, which was in a portable classroom. I drove my truck near the front door and ran a length of coax into the library and used the mobile antenna. Not very efficient, but we did make some contacts around the U.S. Then Nichols underwent "reconstruction". The VP came up with the idea to put a station up on the stage in the auditorium/cafeteria. A large storage cabinet on wheels was obtained by the VP and placed on the stage in one corner. We secured it to the wall by a chain and also put a very large padlock on the front doors. We are still using this same station today and have added ATV.



Future amateurs proudly display their crystal radio kits in various stages of construction.

The Lodi School District is on year-round schedule at the elementary and middle school level. The kids are on three tracks; on four months and off two months. So, our Ham club actually has two groups of kids coming to the club at one time. Some of the off-track kids come sometimes, too. The focus of the club is to aquaint the kids with Ham Radio and to start an interest in electronics. We try to let them make contacts on the HF bands, 2-meter packet and sometimes ATV when the ATV repeater on Mt. Diablo is up and running.

The kids also are involved in working on several different projects. When they start in 5th grade, they build a Morse code key. These are made out of wood and plastic and use a 9V battery and a Radio Shack buzzer. Then they practice soldering techniques on old PC boards using old resistors and capacitors. When they have learned how to solder, they build a two-transistor code oscillator to go with the Morse code key and give back the buzzers which are recycled to another group later.

By the end of 5th grade, most of the students have completed the Morse code key and the two-transistor oscillator. Students who have finished the above projects build a simple crystal radio. The crystal radio is built on a

Fifth-grader Jovany Eiras listens to signals on her just-completed crystal recever at Nichols Elementary School.

wooden base using either a wooden block or a piece of PVC pipe for a coil form. A local electrical motor/generator shop has donated small gauge wire for the coil. I purchase 220 PF variables from Mouser Electronics for the tuning capacitor. After the students get the crystal radios working and play with them for a while, they use the wood base, coil and tuning capacitor to build a two-transistor AM radio. We are hoping to include a regen-type of short wave receiver very soon.

Before and after making HF radio contacts, the students look up the contacts on world and U.S. maps. The teachers at Nichols believe the radio contacts have helped the students with map reading and country locating skills and general geography skills. The on-the-air contacts have helped the students improve their verbal communication skills. I believe following directions while building the various projects has helped the students concentrate in class a little better, especially to verbal instructions from their teachers. At least this is the feedback I have received from some of the teachers. The club members have participated in the annual School Club Round-up and have contacted approximately 30 states and 5 countries in the past several years. The most recent DX contact was with the NOTG/VP5 DXpedition to the Turks & Caicos Isl. QSLs were sent to our club station and individual members who participated in the QSO.

The club was started to just show students how much fun Ham Radio could be, but now it has developed into a "sort-of" electricity-electronics supplement to the 5th and 6th grade science programs. We generally have a waiting list from 4th grade to get into the club. The applicants fill out an application form that lists the criteria for membership. These are good school attendance; consistent club attendance (for those previously in the club); excellent effort shown in class, and most important, appropriate behavior at all times, including class, playground and lunch period. The members must also provide a way home after school. This is necessary for those students who are bussed from out of the Nichols attendance area. The prospective members are also required to turn in an essay stating why they want to join the club. During my classroom recruitment, I emphasize that I do not want to receive the following, "I want to be in the club because it will be fun." I want to see if any of the applicants try to find out about Ham Radio before and tell me what they have found out and WHY it will be fun. Then I take all the applications and check with the teachers to see what their recommendations are, i.e. behavior problems, attendance problems, etc. The teachers, students and parents are advised that schoolwork comes first and neglecting that will cause the student to be dismissed from Ham club. The teacher, parent or myself can dismiss a student from the club. The teacher and parent for neglected schoolwork, and I for inappropriate behavior during Ham club. In the estimated 150-200 students to go through two years in Ham club, I have had to dismiss no more than 10 or so. One of the students parents owns a "silk-screening" business and contacted me last year stating their child was having so much fun that they wanted to give all the club members a free tee-shirt with the club logo on it. That would have cost mega-bucks if we would have had them done commercially.

I have really appreciated all the help Principal Dave Mende, former Principal, Joe Lobb, and current Vice-Principal Mike Bloomquist and all the teachers at Nichols for helping start the club and keeping it going for so long. This group of administrators and teachers were the only ones who were interested and enthusiastic about Ham Radio in the school. Last year I started another radio club at another elementary school, where my wife teaches 6th grade. We were able to talk the new Principal into letting us put a 2-meter station in my wife's classroom. We were able to put a Ringo antenna up on the roof (not very high) and run small coax into the two classrooms my wife uses. By the way, she can use the rig also as she is licensed technician — KE6IQL. (phonetics of "I'm Quite Lovely" — she is that!)

Our school clubs have been helped by Hams from all over the U.S. Several have sent us equipment and several widows of Hams have donated the former spouse's equipment. The Lodi ARC has purchased two sets of the "Walker Tompkins" and "Cynthia Wall" books for our school clubs.

I am very grateful to the aforementioned people and to Joe Fairclough, WB2JKJ, and "The Crew at 22," and Carole Perry, WB2MGP, for their advice and help when starting the Nichols Club. Ruben Porter, K9RP; Russ Sievert, W8OZA; Bob Colyar, WB6ZBF, Will Dennis, W1WA; Dale Kretzer, K6PJV and Frank Forrester, KI6YG. I am sure that I have forgotten a few and appologize for that. Look for K6LSR on the air with a new group of youngsters in the very near future.

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The road to Togo

Mike Fulcher, KC7V

You think about it 52 weeks a year. You plan vigorously for it. E-mails fly continuously about it. You pack, then repack trying to determine what to take and what to leave home. Why? To make sure you are ready for the contest of all contests, *CQ* WW CW Contest!

1998 was no different than any of the past years. The Voodoo Contest Group — Mike Fulcher, KC7V; Vince Thompson, K5VT; Lee Finkel, KY7M; Roger Western, G3SXW; Steve Wilson, G3VMW; Rob Ferguson, GM3YTS; Bob Henderson, G3ZEM; Fred Handscombe, G4BWP, Cris Henderson, G4FAM and Andy Chadwick, G4ZVJ, planned and re-planned until we were ready to leave for our 1998 5V7A Multi-Multi Contest Expedition. Most of the group are members of the Central Arizona DX Association. Our group is very experienced and these ten amateurs have operated from over 100 DXCC countries.

Preparing for the operation

This year provided us with a major challenge. In 1996 and 1997 we operated from the Sarakawa Hotel in Lome, Togo. Six months before our departure we learned the Sarakawa had closed for renovations but would be open in time for our visit. Two months before departure we were informed it may not be open to the public, but we would be able to use the site for the contest and have air conditioning. One week before departure we were informed the hotel would not be ready and there was no possibility of using the site.

What do we do now? A flurry of quick phone calls to our contact, Jeni Sayer (the British Consulate in Lome), secured hotel reservations at two different spots. We couldn't determine which hotel to use until we arrived in Lome and investigated each site. We were confident of operating, but not sure what kind of setup we'd be able to manage for a big multi-multi operation.

Our plans called for us to arrive in Accra, Ghana on 20 November 1998 for a couple of days of rest before taking the four-hour and two border-crossing road trip to Lome. After learning about the hotel situation we were able to change our hired bus reservations to the day after our arrival in Ghana. We wanted to arrive in Lome a day earlier to determine our operating site and begin preparations for the contest. After looking at both hotels and speaking with the Director General of each, we made the decision to operate at the Hotel de la Paix. The roof of the hotel is about 80 feet high, but did not have nearly the space of the Sarakawa. We'd have to manage with fewer antennas this year.

Part of the international operating crew at 5V7A.

We left most of our equipment in storage in Lome after the 1997 contest. Three more antennas found their way to Lome this year. We took a Force 12 80-meter rotatable dipole, a Force 12 3-element 15-meter monobander and a Force 12 3-element 20-meter monobander. Unfortunately, it cost us $470 in excess baggage charges to ship the seven-foot 110-pound box. Our equipment in Africa includes 180 feet of tower, about 5,000 feet of coax, 5,000 feet of rotator cable, nine rotators and control boxes, eight Kenwood TS930s, five Alpha amplifiers, 18 antennas (not counting wire antennas), 3,000 feet of rope, and assorted other miscellaneous stuff. We brought 10 laptop computers with us this year including 330 feet of computer cabling for the network and the loop box for CT made by Mike, KA2AEV.

Setting up

We had Sunday free to plan our antenna setup on the roof because we would not be able to retrieve the stored equipment until Monday morning. We split the group into teams. G3ZEM and G3SXW had responsibility for setting up all the operating stations. G3SXW took breaks from that effort to coordinate everything with the hotel staff. This included making friends with the master electrician to get 60 amps of current for the shack. We did have to purchase electrical cable in Lome to make it happen. G4ZVJ was responsible for all the negotiations, shopping, the internet connection, changing money, and helping G3SXW with the hotel staff. The rest of the group had the job of putting the towers and antennas together and running cables. Last year we enjoyed the friendship of a young man named Francis. He helped us hire local help to put towers up and do other labor. This year Francis was awaiting our arrival. With his help, we hired five other locals to help do the work of getting all the equipment to the rooftop, as well as help put the towers in the air. These guys worked hard and earned every penny we paid them.

Our shack was on the top floor of the hotel. There were only two rooms that had adjoining doors. This allowed us to install the HF stations in one room and the LF stations in the other. We had the hotel remove all the furniture and bring us tables to use for the radios. It's just amazing what one can accomplish in West Africa by just asking.

Work proceeded smoothly. Our goal was to have all the antennas in the air by Thursday and use Friday morning for testing. We put up one 20-foot tower holding the 40-meter beam and two 30-foot towers on the roof holding up the 20-meter and 80-meter antennas. The 10-meter and 15-meter antennas went up on different 20-foot poles. The C3 tribander was installed on tripod about 15 feet above the rooftop. The 160-meter balloon wire vertical was put at the front edge of the hotel roof. We put a 15-meter vertical on the roof and installed a 40-meter dipole across the open space between the edges of the roof. The A4 tribander was put on a pole down on the grounds about 25 feet in the air. We also hung a 160-meter inverted vee, an 80-meter quarter-wave sloper, and an 80-meter sloping dipole off the edges of the roof. There was room for only one beverage this year. The layout was to the southwest. It worked enough to help us make some topband contacts.

The antenna installation was much easier with the help of the locals.

Testing on the antennas began on Thursday. The tower holding the 80-meter rotatable dipole had to come down several times in order to tune the antenna. Hotels in West Africa have lots of metal in the roof. We've had problems with detuning if we did not get the antennas about 30 feet above the roof. We finally got the 80-meter antenna working but 40 Meters would not tune properly. We finally made the decision to drop the tower and antenna, add another 10-foot section and put it all back up. Once that was done, everything worked properly. Once everything was installed the ops had the chance to sit down and make some QSOs with their 5V callsigns. By using ICE bandpass filters and coaxial stub filters, we eliminated interference between the bands.

The contest

Lome is in the GMT time zone. The contest began at midnight local time. Every band was open at the beginning of the contest. Our goal this year was 40 million points. We wanted to set a new African record (which we currently hold from CN5N in 1990) and a new world record. We set our goals high. We used CT version 9.27 and the loop command. One of the laptops had more than 32 Megs of ram memory. We did not know the older version of CT could not handle a computer with more the 32 Megs of ram. It caused CT to crash numerous times during the first hour of the contest. We did replace it, but that caused the network to go down for a while. It turned out that one cable got plugged into the wrong COM port. Once we corrected it, the network played flawlessly the rest of the contest. The loop box by KA2AEV really made things easy. Mike makes the box that takes care of all the different pin selections internally, so all we had to do was put cables with 9-pin connectors from each laptop to the box.

Operating shifts ran 4-6 hours each, with most breaks being 4 hours in length. Each operator had about 30 hours of on-air time. This included manning the multiplier station. The toughest part of the contest is hunting for multipliers on the same band as the rate station. The in-band interference is fierce. Of course, you must have the run station either QRX or QSY to work the multiplier. One of our biggest advantages is the ability to pass new multipliers from band to band. Passing multipliers is a key part of our strategy and it really helps the multiplier total and score. For the first time on one of these trips we had access to an Internet DXcluster through the use of the DX-Telnet program. We managed to stay connected about 24 hours over the weekend and our multiplier totals increased as a result.

One of the biggest surprises of the contest was a 10-meter long path opening to JA on the second night of the contest. We moved the beam to the southwest about 2330Z and proceeded to work JAs until 0530Z! We had two big disappointments this year. The first was on 160 Meters. Last year we made 336 QSOs on topband. This year we made only 215.

The second disappointment was on 20 Meters. Last year 5V7A set an all-time QSO total on 20 Meters with over 4,600 QSOs. This year we had 1,000 fewer QSOs due to the band closing down at midday both days for nearly four hours each. We could hear signals, but the absorption must have skyrocketed because we could not sustain any runs. We had difficulty even making QSOs. Perhaps the equator is not the best place to be during sunspot maximums.

The only other problem during the contest occurred just as 40 Meters started to open the second night. 40 Meters started causing severe hash on

the 80-meter station. It sounded like arcing. Upon inspection, we discovered one of the capacitance tips on the Cushcraft 402-CD had come loose and was arcing. We had to shut down three stations for twenty minutes while we lowered the tower and fixed the antenna in the dark. It took six of us to do the job.

We did not make our goal of 40 million, but we did set a new African record. The big lull on 20 Meters really hurt our score. We knew going in that our totals on 80 Meters and 160 Meters would be low. It is always a struggle on the low frequencies due to high QRN and absorption at the equator. Another 500 QSOs on 20 Meters would have put us at the 40 million score.

The most fun part of the contest is running rate. It is a thrill to have hundreds of stations calling all the time. It is frustrating though when stations continually call on top of the station you are trying to work. Some people never learn, but the JAs seem to be the exception.

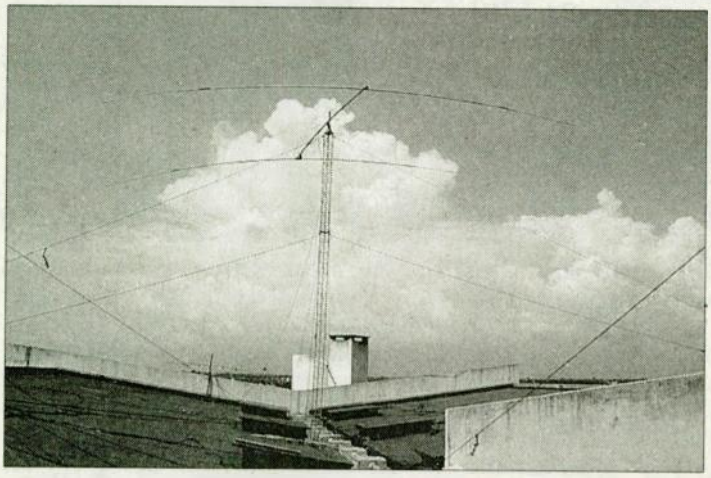
Our compliments go to the JA operators. They are always very courteous in the pileups and stand by for any operator requests. Our team thanks you and hopes you will continue to call us from whatever QTH we may on from in the future.

Post contest

Wow! Forty-eight hours goes by in a hurry. The weekend was a mix of little sleep, emotional ups and downs and finally a sigh of relief when it all ended. It is always a good sigh, though, especially if things went well. Despite having to find a new site at the last minute, and having less room, we were more than satisfied with our efforts and score.

There must be a universal rule that says it takes five times longer to put things up than to take them down. We had everything down and ready to store by 3 p.m. on the day after the contest. Our next hurdle was finding a place to keep everything. We need a closed room with air conditioning for the rigs and amplifiers. Once again Jeni Sayer came through for us by finding warehouse space at the pier in Lome that could store our outside stuff at no charge until next November. She also found us unused office space at a friend's business that had air conditioning. On Tuesday morning we moved everything to the storage sites and boarded the bus for the trip back to Accra, Ghana. We planned on spending three more days in Accra to see old 9G friends and spend some time operating from the Ghana Amateur Radio Club station.

The A3 tribander at the club station had the coaxial balun broken off. KC7V had to climb the fifty-foot tower to repair the balun. The tower was supposed to be guyed four ways. However, one guy was completely down and another was not tight. It was an interesting time at the top of the tower fixing the balun! Fortunately everything went perfectly and we were on the air.



This two-element beam on top of the hotel helped us achieve our high score in the contest.

West African life

Lome is a bustling town during the day, but becomes very quiet after dark. There are still military checkpoints to deal with at night. Lome sits right on the Togo/Ghanaian border. There has been civil unrest in the past. Recent elections this past summer caused a few problems but nothing very significant. We traveled as a group after dark to be on the safe side. The biggest scare we encountered occurred at a military checkpoint. After being stopped, it was obvious the guard had been drinking. While chatting with us he dropped his rifle. It gave our hearts a jump start! We don't know if the gun was loaded, but at least it landed with the barrel pointed the other way. A German diplomat was shot and killed in 1998 during a checkpoint dispute. It pays to be careful and polite.

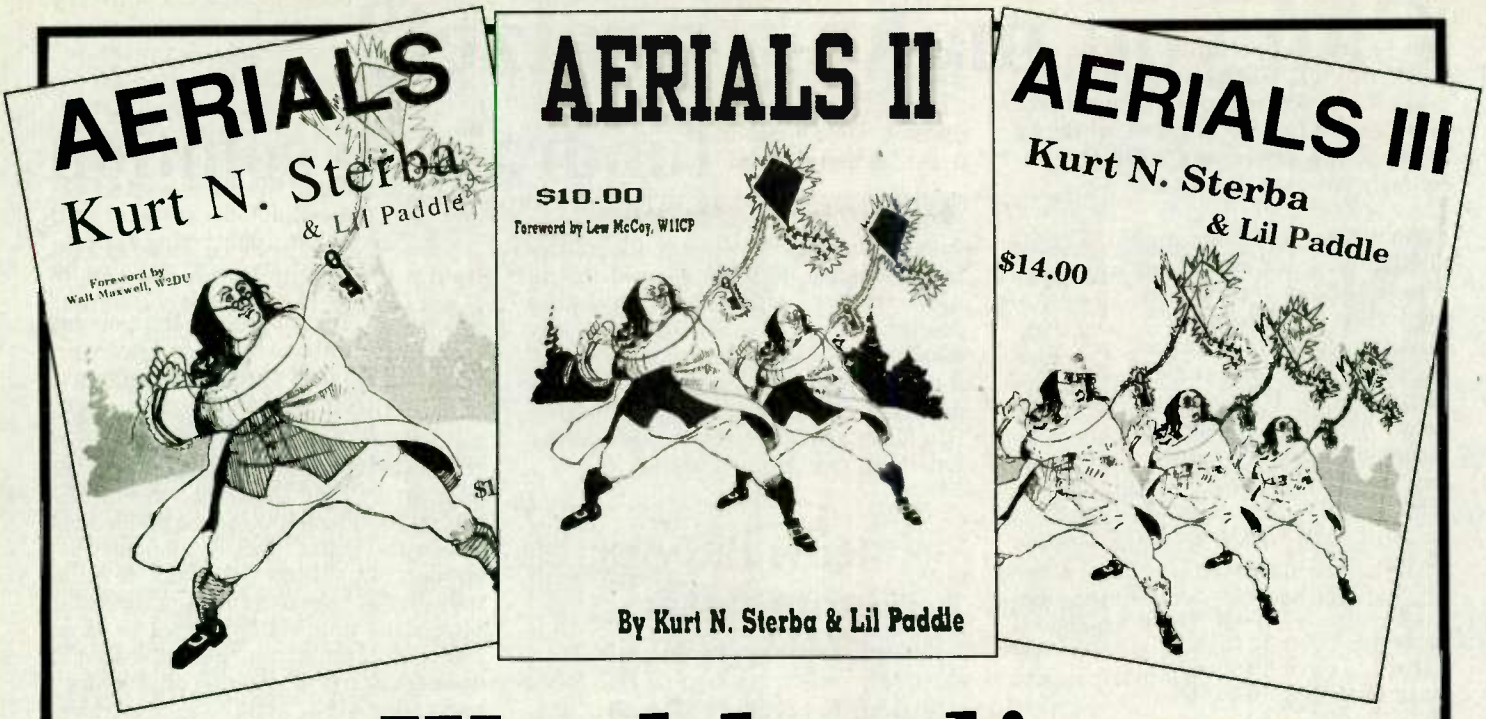
Togo is one of the poorest countries in Africa. However, we find the people to be extremely friendly and open. Everyone seems to have a ready smile. Our 5V7A operations have been hugely successful due to the cooperation of the Togolese. My French speaking ability even improves every year. You do find shortages though. The hotel restaurant was out of something every day. One day it would be cheese, the next it would be bread. It made ordering off the menu a daily adventure. We made sure they had enough beer for our consumption.

1999?

We have not made any decision on an operating site for 1999. Our gear is stored in Togo, so if we decide on another African country, everything will need to be moved. It will be a huge undertaking. Even so, we are contemplating moving towards the north of Africa to take better advantage of the low bands, and escape the problems with equatorial absorption. We'll let everyone know our next location late next summer.

Over the past three years we have made over 50,000 CW QSOs from 5V. Thanks must be given to those who give of their time unselfishly to help 5V7A be a success. We owe Jeni Sayer, the British Consulate in Togo, a big thank you for all her help the past three years. Thank you to Rob, GM3YTS , and his company for providing the QSL cards so quickly each year. Thank you to Tom, GM4FDM, for his tireless effort as our QSL Manager. Tom is able to begin answering QSL requests less than three weeks after the contest has ended. Thanks to Warren, K7WX, and Steve, G3VMW, for the outstanding web site they built. It is one of the best. The address is http://www.voodudes.com. You can even request a QSL be returned through the bureau through our web site. And finally, thanks to all of you, especially the 2,163 JA QSOs that helped make our effort a success.

See all of you next year from someplace in Africa.



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Can you make a pretzel? — A fundraising solution

Bill Cornelius, KC7CHX

Now what kind of a question is that? Of course not. I'm an advanced class Amateur Radio operator, our pretzel baking trainee said, and nothing in Federal Communication Commission rules says anything about baking pretzels in order to hold my license. But yet "Can you make pretzels?" was one of the questions posed to a group of Las Vegas area Hams by a distinguished looking gentleman who then was dressed in a blue apron and hat bearing the logo of a national sporting event concessionaire and he appeared to be "the boss." How did our Hams get in a position that would make pretzels an important part of their weekend?

Our repeater is sick

February 1998 was an interesting month for Amateur Radio in the Las Vegas Valley. At the monthly meeting of the Las Vegas Radio Amateur Club (LVRAC), the repeater trustee reported that the UHF repeater atop the Tropicana Hotel had become ill and the problem was terminal. The recommended solution was installation of a new system which would cost about $1,200.00. At the February meeting of the Nellis Radio Amateur Club the news was equally grim. An autopatch scheduled for installation on the club's mountaintop repeater would be delayed due to the telephone company having to run a new line up the mountain. The cost: about $1,000.00. Neither club had anticipated these expenses and the expenditures would place a significant strain on their budgets. But maybe there was a solution.

The last week of February was to be "Speedweek" at the Las Vegas Motor Speedway as the city hosted the first major NASCAR Winston Cup event to be held in Nevada. The event had been a sellout since September and some 120,000 fans were expected to attend. Bill and Carolyn Cornelius (KC7GHX and KC7GHW), avid NASCAR fans, were following developments at the track when a notice appeared in the sports section of the local newspaper. It said, in part, a major national concessionaire would be serving the public during "Speedweek" and non-profit organizations interested in participating in a fundraising project should call the listed number. Bill made the call.

"How did our Hams get in a position that would make pretzels an important part of their weekend?"

The offer

The details of the offer were very straightforward and would be formalized in a contract between the non-profit organizations and the concessionaire. The concessionaire would provide the facility, a modern racetrack concession stand. He would provide all merchandise and a change fund and he would pay all taxes. One concessionaire representative would be assigned to each four stands to provide oversight and, most importantly, training in the many aspects of selling to the public at a very busy and fast paced event. The non-profit groups would accept financial responsibility for the stand inventory and agree to provide a minimum number of volunteers, the number being dependent upon the size of the stand. The volunteers would operate the stands in accordance with some very basic health and safety rules established by the concessionaire, the racetrack, and the legal entities that control the sale of food and alcohol in Clark County, Nevada. Yes, we were to sell the usual snacks and beer!

Getting the clubs together

Armed with a draft of the concession contract, Bill approached the executive boards of both clubs with a proposal to operate a single concession stand, the profits from which would be divided between the clubs. There was some discussion concerning the ethics of Amateur Radio operators selling alcoholic beverages under the banner of Ham radio, the impact on the clubs should we lose control of the cash or inventory and suffer a loss, and the legal requirements of selling food and beer in Clark County, Nevada, the home of the Las Vegas Strip. In that jurisdiction, all food handlers must be trained and have a food handler's card issued by the Health Department for a $10.00 fee. Those persons handling alcohol in any form must be certified following the completion of a formal four-hour training program and test at a cost of $18.00. Few, if any, of the Hams that we anticipated would volunteer had such certifications and the event was only two weeks away. Was it reasonable to ask our members to obtain the training and volunteer on such short notice?

In summary, the boards supported the concept of a fundraising event at the speedway with some qualifications. We would solicit volunteers with the promise that whatever expenses they incurred in obtaining the training would be reimbursed when they reported to the speedway. Also, it was agreed that time sheets would be maintained and the proceeds would be divided among the clubs based on the hours worked by the respective club members. Hams who held membership in both clubs could elect to share their portions equally between the two organizations. And, should we incur a loss, the clubs would share the financial burden evenly.

The ethical issues were quickly overcome with the rationale that the public good provided by the equipment we hoped to procure outweighed the stigma that might be attached to Hams selling beer. One board member noted that this was an outstanding opportunity to get the Las Vegas Ham logos before the public in such a manner that they

would learn that we are an organization in need of financial support and that we were willing to work to obtain it. In the past, both organizations existed only on the dues paid by their members. Bill was asked to go forward with the project.

Volunteers come through

What happened in the next two weeks reflects upon the grand history of Amateur Radio volunteers and their ability to respond to any situation. Calls were placed, meetings were attended, weekly net announcements were made and soon we had twenty-eight Hams and persons who support Amateur Radio in Las Vegas as volunteers. All were provided information on how to obtain the health and alcohol handling training and certification, much of which was only available during the normal business day. By Wednesday, 25 February all volunteers reported the successful completion of the training and our volunteer cadre was in place.

As the volunteer training was occurring there were other developments between the concessionaire and Bill, our Event Coordinator. (KC7GHX now had a title.) The concessionaire was unsuccessful in obtaining volunteer groups to staff many of the 56 stands that were available for the weekend and about 10 of the lesser number of stands that would be available Wednesday through Friday. The Ham community was asked to provide whatever staff we could muster to operate additional stands and in exchange for extra effort, the concessionaire would increase the percentage of the proceeds that we would receive for the total event.

Again, the telephone and radio calls went out and the Amateur Radio community responded. Those Hams, and their spouses, who were retired, unemployed, self-employed, had vacation days or were in similar situations that allowed them to volunteer on a weekday agreed to assist by any means possible. Our contract with the concessionaire was modified and, in the final count, we staffed two stands during the week and four on the weekend of "Speedweek."

For the first two days of the event, "staffing" may be an inappropriate word. We more appropriately "stumbled" through the days. We had often been on the other side of the counter demanding a product in a hurry so that we could get back to viewing the event but seldom had we experienced the impatience of demanding customers. Also, having simply dumped cases of beer and soda into a large container of ice, how do you find a Diet Pepsi when the last case in was Budweiser? How do you display peanuts, popcorn and candy in order to make them attractive to a customer in a hurry? These topics were not covered in our "Ham class" but here the trainer was of great assistance and we learned how to place and control the inventory. Fortunately, the first two days of "Speedweek" were greeted with chilly weather, which had an adverse impact on sales, but allowed us time to train our volunteers in preparation for the Saturday crowd of about 60,000 fans and the sellout on Sunday. It was time well spent.

The weekend brought forth wonderful weather and crowds that were both hungry and thirsty. On Saturday, our volunteers worked the first of two long days and then came what we might call a Las Vegas Sunday. Anticipating a crowd of well over 110,000 fans, the track opened to the public at 5:00 a.m. with live entertainment on three stages beginning at 6:30 a.m. (Three live stages at 6:30 a.m. on a Sunday morning. Think about that.) The day would close after the Winston Cup race with a live concert held in the track infield and the concessions were expected to be open the entire period. Can you sell a lot of beer and candy to a Sunday crowd at six o'clock in the morning? No, not even in Las Vegas but you can sell them hot coffee, bagels and HOT PRETZELS. So we learned from the guy in the blue apron how to bake pretzels and adjusted our sales accordingly. We closed the day with sales exceeding $23,000.

Goal accomplished

Did we accomplish our goal? You be the judge. Twenty-eight amateurs worked the event in shifts for a long weekend. From that effort the clubs will receive a gross income of about $2,700.00. There were some expenses, such as the reimbursement for the health cards but that expense will not recur should we elect this type of fundraiser in the future. We got a huge amount of publicity owing to the signs at the stands that identified the volunteers as members of the Amateur Radio community. Also, Hams are, by their very nature, outgoing and generally get along well with the public. This was demonstrated by the fact that the volunteers received over $235.00 in tips which they donated to the club treasury. Would I learn to bake pretzels in order to fund a repeater or autopatch for Amateur Radio in Las Vegas? We did just that.

Amateur Radio organizations interested in staffing concession stands as a means of fundraising should contact the concessionaire at their local racetrack, golf course, sports stadium, rodeo, or similar location. Many are eager to further the cause of non-profit organizations and they may welcome your participation.

Awards

100 Nations Award

In an effort to encourage personal communications among peoples around the world via Amateur Radio, ***Worldradio*** offers the *Worked 100 Nations Award* to those confirming two-way amateur communications with permanent stations in 100 distinct countries having a permanent, native population.

The purpose of the ***Worldradio*** *Worked 100 Nations Award* is to demonstrate the unique opportunity Amateur Radio offers for communications between international borders to further worldwide understanding.

The *W-100-N* is not a radio sport award as such, but a token of achievement in communication. At the same time, it offers all Amateur Radio enthusiasts several features not found in other awards.

1. W-100-N virtually eliminates the need to work geographic areas heard only during DXpeditions. Almost all national entities have amateur stations consistently on the air.

2. W-100-N, then, will be of perennial interest. The advantage to those stations having worked a national entity long absent from the air will be minimal.

3. W-100-N is difficult to achieve, yet is within reach of all moderately well-equipped stations whose operators utilize good communication skills.

Rules

1. The *Worked 100 Nations Award* is available to any licensed Amateur Radio operator who can prove confirmation of two-way communications with government-authorized Amateur Radio stations in at least 100 different nations of the world.

2. No contacts with stations using reciprocal calls will count toward this award, such as N6JM/UL7.

3. All contacts must be with land-based stations. Contacts with ships, at anchor or otherwise, and aircraft cannot be considered.

4. All contacts shall be made from the same country.

5. Only contacts made on or after 01 January 1978 will count.

6. The application shall include the following:

a. Letter requesting W-100-N.

b. List of contacts in alphabetical order by prefix showing nation, station call, date, band and mode.

c. A signed statement by two other licensed radio amateurs, General class or above that they have inspected the required QSL cards.

d. A fee of $5 to cover the cost of the award.

7. All applications and requests shall be addressed to:

W-100-N Award Manager
Worldradio
2120 28th Street
Sacramento, CA 95818

8. There are no special endorsements to this award; however, endorsements may be made if the achievement bears such recognition. All modes and bands may be used.

Upon approval of an application for W-100-N, a certificate will be issued and the issuance of the award will be noted in a future issue of ***Worldradio.***

Special Events

CHERRY BLOSSOM FESTIVAL

The Macon ARC will operate W4BKM 1500 - 2300 UTC on Saturday, March 27, 1999 at the 17th annual Cherry Blossom Festival in Macon, GA. Phone 7.235, 14.240 and 21.335; CW 7.135, 14.035, and 21.135. For certificate send QSL and a 9 x 12 SASE to Macon ARC, P.O. Box 4862, Macon, GA 31208.

SARL on the air

Amateur Radio operators the world over are invited to tune in the South African Amateur Radio program Amateur Radio Mirror International. The show airs every Sunday at 10 hundred hours South African Standard Time on 7.205 MHz and is repeated on Mondays at 20 hundred hours South Africa Standard Time on 3.215 MHz.

Also, on Tuesdays and Wednesday at 10 hundred hours and on Thursdays and Fridays at 11 hundred hours on 7.205 MHz the Southern Africa Radio League broadcasts a special program for schools Talking Science with Amateur Radio. These transmissions are sponsored by Sentech, the common carrier for broadcasting signals in South Africa and Telkom who provides the transmission lines. — *SARL, Newsline*

Letters to the Editor

Amateur with vision

I received a sample copy of ***Worldradio*** about three years ago, and I was impressed with the layout and the well-written articles. My check for an annual subscription went out in the next mail.

The information and support that I received from your magazine regarding "Vanity Licensing" in the next few issues was a tremendous help in recovering my original callsign. It's payback time.

I will retire at the end of February and I must choose the few magazines that I wish to continue to receive. Enclosed you will find my check for $187.00 to pay for a lifetime subscription.

Bill Payne, WA5GVC
TERRELL, TX

(Ed. Who says you can't find a bargain these days? Bill did! How many other readers can follow his lead? Tell your friends about **Worldradio***!)*

January cover photo

Concerning the January cover photo of ***Worldradio***. I can't help but feel sorry for the little boy who, according to the cover story, had just experienced an injury before the picture was taken. The look in his eyes clearly says, "It hurts, I don't want to do this." Surely you must have received some pictures that would show happiness instead of pain and discomfort of a child.

Roland Holder, WBØSFZ
HINTON, IA

Silent Keys

ANDY CLARK, W4IYT

Andy Clark, W4IYT, of Miami Springs, FL. died 31 December 1998. He was first licensed as W9KCS, in 1940. Andy was always admired for his community service. A veteran of WWII, during which he served as a radio operator in the U.S. Navy, Andy was a life member of the Disabled American Veterans, ARRL and QCWA. He had a lifetime passion for public service and dedicated his time in Amateur Radio communications with the Red Cross and Civil Defense. In his spare time, he was the founder and editor of the *Florida Skip* Amateur Radio newsletter for 36 years. In 1985, Andy and his son founded Miami Springs TV Productions and he was the program director for Channel 18 Miami Springs public access channel. — *W4VZ*

WILLIAM WILSON, K4OH

One of the few remaining veterans of World War I, William "Sid" Wilson Jr., K4OH, died 16 December 1998 in Dothan, Alabama, at the age of 101. Sid served as a pilot in the U.S. Army Air Corps from 1918-19 and was an active member of the Army Reserves from 1919 to 1924. He was one of five pilots who made the first night formation flight from Langley Field to New York and back, with no guidance beam or radar to assist them. The mission was a prelude to the night bombing victory in World War II.

Sid became an Amateur Radio operator in 1923. He completed Law School in 1925 and began his practice, but aviation remained his keen interest. Sid was inducted into the Alabama Aviation Hall of Fame in 1997. He leaves behind a vast collection of Collins radio equipment. — *N4AN*

Please send the following friends a free sample copy of *Worldradio*.

Name _____
Address _____
City _____
State _____ Zip _____

Name _____
Address _____
City _____
State _____ Zip _____

Name _____
Address _____
City _____
State _____ Zip _____

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Name _____
Address _____
City _____
State _____ Zip _____

Mail to:
***Worldradio* Send-a-Friend**
P.O. Box 189490
Sacramento, CA 95818

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.*

I was "coerced" into becoming a "Ham" in 1983 after a group of "old-timers" said I could not work in their department unless I obtained an Amateur Radio license. After attending one of the monthly meetings, which included a lecture with multi-screen slide projection, I was "hooked." The club's president, John Montepaone, W2DJS, became my "Elmer" and I received my Novice ticket in April, 1983. I then upgraded to Technician in June 1984 and to General in May 1985.

This is my bare-bones station located in the "FROG" (Finished Room Over Garage). Originally, it was a drab, plain storage space which I renovated after my XYL "moved" my station out of the bedroom because it was too "messy" and caused sleepless nights whenever I was chasing DX or running contests.

The table, (left to right), holds a Bencher Iambic paddle connected to an Autek Memory Keyer. The rig is a Kenwood 530SP with a Kenwood Antenna Tuner feeding a home-made G5RV at 40 feet over the house. The Kenwood MC-60 microphone is occasionally used for SSB.

The table to the far right holds a Hayes Smart Modem, the IBM PS/2 runs "Personal Log" and below is a HP 520 printer. The keyer and the rig are topped by mini-clocks with local and UT.

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**!*

Stealth Jamming

Teddy Neeman, 4Z5JQ

Hams know how to appreciate old equipment. When a new piece of test equipment is purchased, last year's model is treated as if it doesn't exist.

I went with my colleague and a few other engineers to perfom measurements at an antenna range. My colleague and I sat together at the console table, and the others in a second row behind us. Trying to make room for my legs, I moved an old heavy cabinet with wheels that was under the table. As some dust was rubbed off, I realized that this was no cabinet, but one of those old Hewlett-Packard signal generators, which were so heavy they were mounted on wheels.

Within seconds I quietly plugged the thing into an outlet, and stuck a few inches of solder into the center pin of the N connector. to act as an antenna. After some fiddling with the dials, sure enough, a signal appeared at the edge of our panoramic spectrum monitor.

The next step was to move the signal to the center of the screen, until it coincided with our test signal. The measurement, of course, was knocked out. My colleague was undeterred. Thinking that he had accidently stumbled onto some interference, he quickly changed frequency, and continued as if nothing had happened.

However, the interference signal started to crawl slowly back towards the center, and within a few minutes he was jammed again. Again he shifted frequency and went on with the job.

My signal slowly crept up on him again. I had one hand on the dial of the generator, and the other hand holding my belly to avoid bursting into laughter. Now he started some hi-tech avoidance maneuvers. He tried shifting slowly, jumping quickly, tried "sudden" moves, and made all sorts of experiments. All to no avail.

Then he turned to me and said, "Look, I have a strange phenomenon here. This interference keeps on coming at me, nulling out my receiver." I tightened up my stomach muscles even more, and told him, "Nonsense, that's impossible. How can anybody know at what frequency your receiver is centered?" he said, "Look and see!" I said, "By golly, you're right!"

At that point he noticed the smiling faces in the second row, and we all broke into uproarious laughter.

Rodriguez Island (3B9)

According to *The Daily DX* the upcoming Midway-Kure DX Foundation DXpedition to Rodriguez Island (AF-017) is now planned for April 1999. It will be a multi-national DXpedition with operators from five countries.

Samoa (5W)

According to the *Ohio/Penn DX Bulletin* Sakuma, JI3WLT, will be active from Apia in Samoa (OC-097) signing with 5W1SA until March 2000. He is currently active on 6 Meters with a six-element Yagi.

China (BY)

DX News Sheet mentions YL operator Jiang, BA9GA, who is active from rare *CQ* Zone 23. Look for her between 0100 and 0200 UTC on 20 Meters near 14.023 MHz.

Eritrea (E3)

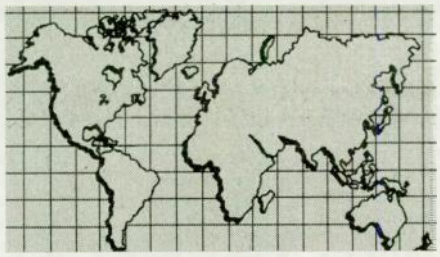
Bruce Richards, WD4NGB, says the QSL design for the recent E3ØGA operation has been submitted to the printer. The cards are to be two-color fold-out and probably will be in your hands by the time you read this. However, cards sent via the bureau will be of the standard design, as they are easier to handle.

Cards for the E3ØHA operation by Zoli have been sent and were in the hands of the deserving DXer prior to Christmas!

San Andres Island (HKØ)

Woodbridge Wireless (WWI) from Virginia will sponsor a DXpedition to San Andres Island (NA-033) this coming March. No call has been issued, but they may be using the appended call of HKØ/W4DC. Look for the team between 02-09 March 1999, including the ARRL DX Contest. The team members include: Denis Catalano, W4DC, Charles Pitts, K5OF, Jack Ference, AA3KX, Carl Henson, WB4ZNH, Martha Henson, WN4FVU, Victor Walz, N2PP, and Everett Jackson Jr., WZ8P. How many alert DXers recognize two of those famous calls?

Two stations will be on the air, with emphasis on RTTY, CW and the WARC bands before and after the contest. All contacts made during the contest will be confirmed with a photo QSL card and sent automatically via the bureau. For a faster response, or for contacts made outside of the contest, you may send your request to Denis Catalano, W4DC. Please include the usual SASE.



Amsterdam Island (FT5Z)

The Lyon DX Gang DXpedition to Amsterdam Island (AF-002) managed to collect some 36,000 contacts and the entry of FT5ZH was a new one for many of the deserving DXers. The remarkable fact of this DXpedition was the operation was entirely that of two operators, Mehdi Escoffier, F5PFP, and Eric Boglaenko, F5SIH. Their operation on the island terminated around 1800 UTC on 21 December, much earlier than planned, due to a serious storm approaching the island. They had to take down the antennas as it would have been impossible to do so in the expected high winds.

Those of you who worked this one are requested to not send envelopes with your request. Please include only your card, an address label (with your address on it), and funds for return postage. Return envelopes are being provided by the Council of Europe.

Temotu Islands (H44)

Also, in the *Ohio/Penn DX Bulletin*, Bernhard Stefan, DL2GAC, will be active from Pigeon Island (OC-065) in the Temotu Islands starting 05-10 February. (This is the same location that Jim Smith, VK9NS, had signed with H4ØAB last year.) He will also operate from the Solomons as H44MS, but it is not known if he will sign as H4ØMS or another call from Temotu. Bernhard leaves the island in April.

Saudi Arabia (HZ)

The *Ohio/Penn DX Bulletin* notes that Karl Renz, K4YT, had visited Riyadh in Saudi Arabia last September and reports on the situation of 7Z1AB. The operator of this station, which is located in the American Embassy, had lost interest in Amateur Radio, and just didn't care to operate any more. He did say visiting amateurs could operate the station, but must be escorted while in the compound. Visitors may contact the operator, Johnny O'Dell, KA5BQM, at Unit 61307, APO AE 09803-1307.

Bosnia-Herzegovina (T9)

According to *The Daily DX* only stations with the T9 prefix will count for DXCC and in *CQ* contests. Calls, such as those with the 4N4, 4O4, YT4, YU4, and YZ4, are located in areas that are controlled by Serbia, and will not be accepted. Also, calls with the prefix 9A11, stations in areas controlled by Croatia, will not be accepted.

Myanmar (XZ)

The Central Arizona DX Association out of Phoenix pleased the deserving DX crowd with their DXpedition to Myanmar last November and December. In just over three weeks of operating, there were in excess of 38,400 contacts in the XZ1N logs.

The first contact with XZ1N was Jeff Steinman, N5TJ on 20 November on 40 Meters, with the final contact made with Gordon Howlett, W9XX on 13 December, also on 40 Meters. The largest percentage of contacts went to Europe, whose DXers rallied 45 percent of the total. There were a total of 14 operators on the team, with 4 of them of being YLs.

IOTA

The following IOTA operations have provided acceptable validation material:

AS-045	6M5DX	Tokdo Island	Jul-Aug 98
AS-045	D98TOK	Tokdo Island	Jul-Aug 98
AS-140	S21K	Bhola Island	Resident
EU-169	ZAØIS	Sazan Island	Sep 1998
NA-184	N6VV/P	St George Reef	Oct 1998
NA-211	W5BOS/7	Tillamook Rock	Sep 1998
OC-084	T32NCC	Fanning Island	Resident
OC-106	YC5XIP	Sedanau Island	Resident
OC-152	FOØSUC	Tubai Island	Oct 1998
OC-196	VK3AJJ/P	Gabo Island	Aug-Sep 98

DX World

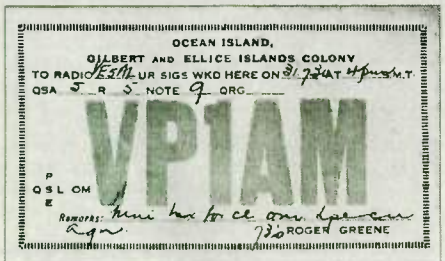
And, the IOTA committee is still waiting for validation material for the following IOTA operations:

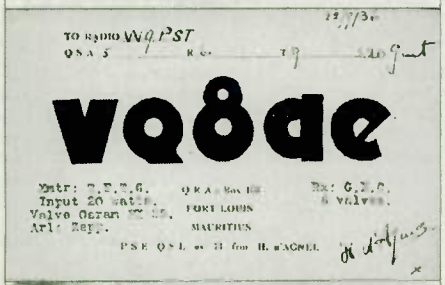
AF-070	V5/DK6AO	Seal Island	Aug 98
AS-044	UAØIAS/Ø	Shantarskive Is.	Oct 98
AS-059	UAØIAS/Ø	Spafarfiyeva Is.	Aug 1998
AS-069	UAØIAS/Ø	Iony Island	Sep 1998
AS-137	BI5X	Xiaoyangshan Is.	Oct 1998
EU-110	9A1CZZ/P	Brioni Island	Nov 1998
EU-169	ZAØB	Sazan Island	Sep 1998
OC-051	FO5QF	Rapa Island	Oct 1998
OC-084	V85QQ	Muara Besar Is.	Nov 1998
OC-109	YC5XIP	Serasan Is.	1998 operations

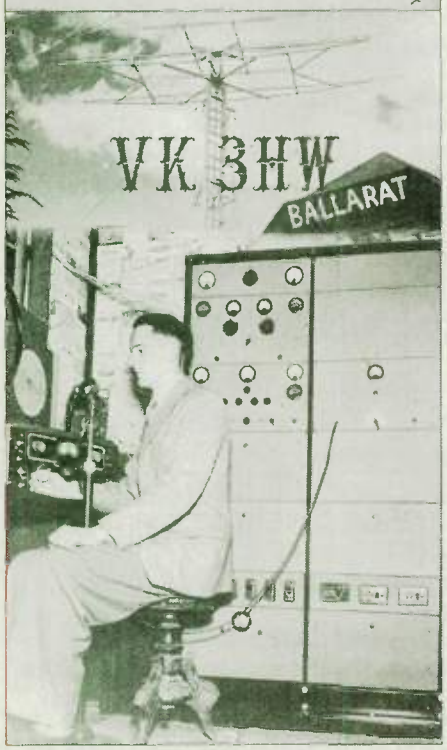
And, here is another selection of the usual IOTA activity:

AN-006	EM1LV	Galindez Island	01-30 Dec
AS-015	9M2TO	Pinang Island	06-29 Dec
AS-017	JR6VSP	Okinawa Island	30 Dec
AS-023	JP6CLU	Okino Erabu Island	19 Dec
AS-024	JS6LIH	Yaeyama Islands	15 Dec
AS-028	UAØQMU	Kotelney Island	08-28 Dec
AS-032	JO6PRM	Yakushima Island	19 Dec
AS-036	JE1DXC/6	Tsushima Island	25-29 Dec
AS-043	JE2WQU/1	Hachijo Island	26 Dec
AS-045	HL5FUA	Ullang Island	04-15 Dec
AS-053	HSØ/IK4MRH	Phuket Island	08-27 Dec
AS-079	JA5CKD/6	Miyako Island	01-19 Dec
AS-117	JH6RTO/1	Jyogashima Island	27 Dec
EU-008	GMØUCB	Isle of Mull	18 Dec
EU-009	MMØBCR	Orkney Islands	18 Dec
EU-009	GMØHTT	Orkney Islands	09-25 Dec
EU-009	GM3POI	Orkney Islands	04-31 Dec
EU-009	GMØMHS	Orkney Islands	30 Dec
EU-010	GM3PPG/P	South Uist Island	18-19 Dec
EU-010	MMØBJG	South Uist Island	26 Dec
EU-010	GMØKCY	Isle of Lewis	28 Dec
EU-016	9A2GF	Brac Island	21-30 Dec
EU-016	9A1CAG	Vis Island	12-13 Dec
EU-029	OZ1SDB	Als Island	20 Dec
EU-029	OZ1ENH	Falster Island	15-29 Dec
EU-029	OZ1CQX	Falster Island	24 Dec
EU-031	IC8SDL	Isle of Capri	06 Dec
EU-031	IC8WIC	Isle of Capri	13 Dec
EU-032	F5NBQ/P	Oleron Island	29-30 Dec
EU-032	F5RRW/P	Oleron Island	28-29 Dec
EU-032	F5LOW/P	Oleron Island	28-31 Dec
EU-032	F5OCP/P	Oleron Island	29-31 Dec
EU-033	LA8RU	Vesteraln Islands	17 Dec
EU-036	LA4XGA	Frei Island	03-19 Dec
EU-037	SM7CRW	Oland Island	25 Dec
EU-037	SM7DLZ	Oland Island	15-29 Dec
EU-046	LA5QFA	Vanna Island	19-31 Dec
EU-047	DJ9IN	Niedersachsen State	27 Dec
EU-049	SV8CRI	Lesvos Island	26 Dec
EU-055	LA4C	Karmoy Island	26 Dec
EU-055	LA2PI	Stord Island	28-31 Dec
EU-062	LA6WEA	Alsten Island	19 Dec
EU-064	F6IRQ	Yew Island	23 Dec
EU-075	SV8/DJØC/P	Corfu Island	18 Dec
EU-075	SV1TP/P	Peloponnisos East	18-19 Dec
EU-082	U1ZA/A	Kildin Island	19-30 Dec
EU-096	OH1LU/P	Reposaari Island	29-30 Dec
EU-124	GWØSLM	Anglesey Island	08 Dec
EU-124	GWØGEI	Anglesey Island	24 Dec
EU-124	GWØMOI	Anglesey Island	09 Dec
EU-129	DL7VOX/P	Usedom Island	23-29 Dec
EU-129	DM5JBN/P	Usedom Island	28-30 Dec
EU-131	IK3PQH	Lido Island	17 Dec
EU-133	R1ASP	Kotlin Island	26-30 Dec
EU-136	9A6DCR	Krk Island	08-30 Dec
EU-141	LA5SJA	Vardo Island	26 Dec
EU-146	PA3HEP/P	N. Sea Cst South	27-30 Dec
EU-146	PA3FDO/P	N. Sea Cst South	27-30 Dec
NA-010	VA1S	Cape Breton Island	16 Dec
NA-034	AH6JN/4	Anna Maria Is.	30-31 Dec
NA-036	VE7DXQ	Vancouver Island	19 Dec
NA-036	VE7IM	Vancouver Island	13 Dec
NA-036	VE7BKL	Vancouver Island	17 Dec
NA-041	KL7IFP	Revillagegedo Island	02 Dec
NA-051	VE7QCR	Queen Charlotte Is.	20-24 Dec
NA-055	AK1L	Vinylhaven Island	01-31 Dec
NA-057	N7QXQ/HR6	Roatan Island	25-31 Dec
NA-057	W7TSQ/HR6	Roatan Island	10-16 Dec
NA-058	KG8SL	St Simons Island	19 Dec
NA-058	KB4HBN	Jekyll Island	24 Dec
NA-059	NO7F/KL7	Unalaska Island	07 Dec
NA-061	VE7GKH	Kaien Island	20 Dec
NA-065	W7VR	Whidbey Island	28 Dec
NA-065	AD7U	Whidbey Island	08-16 Dec
NA-065	K7JY/7	Lopez Island	12-13 Dec
NA-072	3E1DX	Contadora Island	01-20 Dec
NA-080	C6DX	Abaco Island	12-13 Dec
NA-080	C6AJR	Abaco Island	11-14 Dec
NA-080	C6AIE	Abaco Island	14-16 Dec
NA-080	C6AFV	Abaco Island	10-26 Dec
NA-110	WB4WTY	Folly Island	27-29 Dec
NA-110	W4YO/P	Harbor Island	27 Dec
NA-111	W2W	Long Beach Island	30-31 Dec
OC-011	V63PD	Truk Islands	31 Dec
OC-011	V63HO	Truk Islands	08-09 Dec
OC-011	V63KU	Moen Island	06-30 Dec
OC-011	V63YP	Truk Island	12 Dec
OC-022	YC9BU	Bali Island	17-24 Dec
OC-027	FO5QG	Nuka Hiva Island	12-27 Dec
OC-046	FO5JV	Tahiti Island	16-31 Dec
OC-046	FO5EM	Tahiti Island	20 Dec
OC-059	V63AO	Kosrae Island	01-30 Dec
OC-070	YC8VFO	Ambon Island	29 Dec
OC-070	YC8VIP	Ambon Island	06-30 Dec
OC-084	T32NCC	Fanning Island	08-19 Dec
OC-106	YC5XIP	Natuna Besar Islands	26 Dec
OC-119	DU8ARK	Jolo group	01 Dec
OC-129	K9AW/DU6	Visayan Islands	24-29 Dec
OC-137	VK4YI	MacLeay Island	10-28 Dec
OC-137	VK4LV	Bribie Island	14-31 Dec
OC-137	VK4EMS/P	Moreton Island	07-22 Dec
OC-139	VK5ASK	Kangaroo Island	02-04 Dec
OC-143	YB5QZ	Sumatra Island	04-30 Dec
OC-146	YC8BHC	Sulawesi Island	30 Dec
OC-148	YC8MKF	Timor Island	02-29 Dec
OC-149	H44NC	New Georgia Islands	17 Dec
OC-151	YC9LQA	Flores Island	03-30 Dec
OC-152	FOØEEN	Tubai Island	16-31 Dec
OC-169	A35RK	Ha'apai Island	17 Dec
OC-169	A35VR	Ha'apai Island	14-31 Dec
OC-170	VK6APK/P	Woody Island	29 Dec
OC-195	VK7JR	King Island	17 Dec
OC-210	YC8TXW	Sangihe Island	19 Dec
OC-210	YC8TXF	Sangihe Island	11 Dec
OC-210	YC8RRK	Sangihe Island	10-27 Dec
SA-008	LU6XQI	Terra del Fuego	07 Dec
SA-008	CE8ABF	Terra del Fuego	09-25 Dec
SA-008	LU1XT	Terra del Fuego	27-31 Dec
SA-021	LU5DV/D	Bermejo Island	19-20 Dec
SA-021	LU7DP/D	Bermejo Island	19-20 Dec
SA-021	LU4DA/D	Bermejo Island	19-20 Dec
SA-021	LU1DK/D	Bermejo Island	19-21 Dec
SA-026	PP5BRV	Santa Catarina Is.	26 Dec
SA-026	PP5OW	Santa Catarina Is.	02-27 Dec
SA-027	PW5W	Ihla da Paz	11-13 Dec
SA-027	PV5V	Ilha da Paz	11-14 Dec
SA-047	PY7ZZ/7	Itamaraca Island	12-13 Dec
SA-047	PY7ZY/7	Itamaraca Island	12 Dec
SA-047	PY7XC	Itamaraca Island	12-13 Dec

The IOTA committee is presently reviewing their master database of islands. Under review will be operations where a call in the database may appear only two or three times. If you happen to have credit for such a group you may be requested to resubmit the card during your next annual update.







Antique QSL Department

Our QSL selection this month comes from three different sources. The first card for VP1AM of Ocean Island comes from Al Miller, VE7KC. The call VE5AL on the card was a friend of Al's when they were both residing in Vancouver in 1934. The operator of VP1AM is shown as a Roger Greene. The VP1 prefix was later used by British Honduras (now Belize) with Ocean Island becoming VR1. Upon independence this group of islands became the Kiribati, with the separate DXCC entity for Ocean Island being Banaba Island (T33).

The second card comes from the estate of Roy Weisbach, W9UX, and was submitted by Bob Truhlar, W9LNQ. Roy was operating as W9PST out of Chicago back in 1936. VQ8DE was the call used by H. d'Agnel, of Port Louis, on the island of Mauritius. The 22 September 1936 contact did not indicate a band. Mauritius now uses the 3B8 prefix.

The third card was from the collection of Leo Haijsman, W4KA, and is a typical photo type QSL card of the day back in 1949. The equipment is typical of the day and obviously homebrew. A hamshack was that — a room full of equipment, wall-to-wall, and floor-to-ceiling. At the end of World War II a lot of military surplus hit the market and ingenious amateurs easily converted them for the Ham bands. VK3HW, was operated by John Lewis of Ballarat, Victoria. The callbook shows that he still holds that call.

IRCs

Bob Heim, K8HLH, suggested I devote a little space on the discussion of IRCs, officially known as International Reply Coupons. Reference has often been made in this column when requesting a direct QSL response to include IRCs or green stamps. Green stamps are American dollar bills. An IRC is redeemable at the Dxer's local post office for one airmail return of the QSL card. There will be those who will

DX Prediction — March 1999

Maximum usable frequency 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 = 137. 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	*(15)*	***13**	***25**	12	***21**
10	*(18)*	***12**	***22**	12	***21**
12	30	12	***20**	***22**	***25**
14	34	***13**	***26**	***26**	***36**
16	***36**	*(12)*	22	***26**	***40**
18	***36**	*(12)*	*(19)*	***24**	***42**
20	***34**	22	32	19	***43**
22	***28**	***27**	***39**	14	***42**
24	***23**	***27**	***43**	***13**	***41**
2	***19**	23	***40**	***12**	***34**
4	***17**	15	***36**	***12**	***28**
6	16	14	***30**	***13**	***24**

WEST COAST

UTC	AFRI	ASIA	OCEA	EURO	SO AM
10	*(14)*	***14**	***25**	*(12)*	***22**
12	*(21)*	***13**	***22**	*(12)*	*(16)*
14	30	***12**	***18**	22	***32**
16	33	***16**	***23**	26	***40**
18	***35**	15	*(19)*	24	***42**
20	***34**	***27**	31	20	***43**
22	***28**	***30**	***38**	14	***43**
24	24	***29**	***43**	*(13)*	***41**
2	***21**	***28**	***44**	***12**	***34**
4	***17**	***23**	***39**	12	***28**
6	*(16)*	***17**	***35**	***14**	***24**
8	*(15)*	***15**	***29**	13	***21**

EAST COAST

UTC	AFRI	ASIA	OCEA	EURO	SO AM
7	19	*(12)*	***25**	***12**	***23**
9	20	***12**	***22**	17	***19**
11	***37**	***14**	***20**	***25**	***25**
13	***42**	*(13)*	***27**	***28**	***33**
15	***43**	*(12)*	24	***28**	***38**
17	***45**	*(12)*	21	***26**	***41**
19	***37**	*(17)*	27	***23**	***42**
21	***31**	25	37	15	***43**
23	***26**	25	***42**	***14**	***42**
1	***23**	19	40	***13**	***37**
3	***20**	14	***35**	***12**	***31**
5	***21**	13	29	***12**	***26**

argue that more than one IRC is required for airmail return, but this is not true.

IRCs may be purchased at your local post office. The present rate at a U.S. post office is $1.05. Be sure that they are hand stamped on the left side when you purchase them. There are other sources, such as QSL managers, who will sell them in blocks at a much lower rate. Of course, they will be from many other countries, but they will still be good.

QSL Information

Over and over again it has been said to please provide an SASE when requesting a direct response from a QSL manager. One incident is noted by Steve Wheatley, KU9C. Steve is the QSL Manager for the recent BQ9P DXpedition to Pratas Island. His favorite was from a DXer thanking him for a new one to put him on the Honor Roll. However, no SASE, no stamp, no nothing, was included with his card. He had the gall to request a direct response. His card will be sent via the bureau system, and Steve hopes he can accept cards via his incoming bureau. Now, it is pretty obvious that this DXer was aware of the courtesy SASE, especially upon reaching Honor Roll status.

As of the end of the year, Steve says that he still has not received the BQ9P QSL cards from the printer. The cards will be a full color folding type, with a large photo of the team and text inside. If all goes well the cards should be in the mail by the end of February. Meanwhile, Steve has been very busy processing the labels.

HFØPOL has been quite active from King George Island (AN-010), located in the South Shetlands. Two different QSL routes have been given, one being Stanislaw Miranski, SP3BGD and the other Piotr Miranski, SP3SUN, which has confused many DXers. Bob McCourt, KI4RU, informs the DX community that these managers are father and son, both at the same address.

Often QSL managers return QSL requests with a note stating "not in the log." Some DXers get quite indignant over the note and send off a nasty note to the manager. Let me assure you that these managers make every effort to make sure of this before returning such a card. They will search up and down the reported time by minutes, and some cases hours and days. Your call could have been logged incorrectly. In these cases the manager will have to wait to see if he just happens to receive a card for the incorrect call.

Ken Scheper, WA8JOC, handles the QSL chores for such calls as J52US. Ken said he once had a DXer send him 16 QSL cards in one envelope, and not one of them was in the log! He even held the cards for Dave when he returned home to make sure he wasn't wrong. He still wasn't in the log.

So, if you are not in his log I would suggest that you recheck your log to see if you made an error. I would also suggest that you include some additional details that might help in the log search. Unfortunately, it does happen that the DX operator failed to log the contact. That happened to me once when I worked an IOTA DXpedition. I know I worked him because I heard him say my call. I have also done so myself when I failed to transfer some contacts during a contest written on scraps of paper into a log. Much to my embarrassment, I once rejected a card and the fellow later returned it to me stating that he was acknowledging my QSL request!

Miscellaneous

Some time ago (March 1987) I ran in the Antique QSL Department a NN1NIC QSL card that was for a Nicaraguan contact showing a pair of aircraft flying by a volcano, circa 1928. It was from that card that an airmail stamp for the country was designed. I have heard from a stamp collector, who is not an amatuer, interested in obtaining copies of such a card. He is also interested if anyone has an information on the "Lt Boyton," who designed the QSL cards. He will copy the cards and return them. Anyone who is interested contact Dr. John W. Allen at allenj@ncat.edu.

Thanks go to the following contributors for this month's column: VE7KC, W4DC, W4KA, WD4NGB, KI4RU, KI7UN, K8HLH, KU9C, W9LNQ, Western Washington DX Club (WAØRJY), 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). — *John F.W. Minke III, N6JM can be reached at: P.O. Box 310, Carmichael, CA 95609-0310 or via e-mail: n6jm@pacbell.net.*

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A61AP	IK7JTF
A61AQ	N1DG
A61AS	YO3FRI
A71BY	F5PYI
A92GD	K1SE
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AH2CR	JL6GFP
AH2R	JI3ERV
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AT2TMP	VU2TMP
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BA1DU	W3HC
BG7NQ	W2AY
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HR6/W7TSQ	W7TSQ
HSØ/JA6GIO	JA6LCJ
HSØZAA	KM1R
HSØZCX	G4SQA
HSØZCX/8	G4SQA
HS1RU	JG3AVS
HS2CHA	DL2FDK
HS2CRU	DL2FDK
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HZ1AB	K8PYD
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M7D	G3LZQ
N9N	KG9N
NH2C	JI3ERV
NH2L	JA1BRM
NH4/NH6YK	NH6YK
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R3HQ	RA3AUM
RAØFF	N6FF
RA9LI/9	DL6ZFG
RAEM	RK3A
RC4/UC1WWO	IK2QPR
RF6FU	IK2QPR
RI1OA	IK2QPR
RLØO	IK2QPR
RM6A	W3HNK
RP4H	RW4HB
RV9C	UA9CAW
RW9QA	W3HNK
RY9C	RK9CWA
SØ7WW	ON5NT
S21YD	SM6CPY
S21YP	G3REP
S92SS	SVØLM
S92YL	SVØLN
SNØKRT	SP9KRT
SN6U	SP6YFU
SO8ZH	LA9ZH
SPØDIG	DJ0MAQ
SP4Z	SP4EEZ
SX2T	SX2THE
SX2THE	SV2TSL
T2ØFW	DK7YY
T3ØCT	DL2MDZ
T3ØED	3D2SJ
T32NCC	HA1AG
T32O	WC5P
T32WA	JA1OHD
T33VU	DL2MDZ
T77CD	IØMWI
T88AQ	JH6WDG
T88FB	JH6TNH
T88HM	JF1OCQ
T88II	KJ9I
T88SM	JA6EGL
T88TN	JAØQBY
T88VO	JA6VOV
T91ENS	DJØJV
T91S	DL4SEM
T94DO	DL1FDV
T94KU	YO3JW
T95A	K2PF
T97M	K2PF
T99MGC	T94CV
T9DX	T93Y
TA1ZL	RW9WA
TA2IJ	DJ9ZB
TG9IGI	I2MQP
TG9NX	N4FKZ
TI1C	W3HNK
TJ1HP	F6FNU
TJ2RSF	EA4URE
TJ2US	NW8F
TK/DL7HZ	DL7HZ
TLØR	PA1AW
TL5A	PA1AW
TMØT	F5MOO
TM2OO	F5KQN
TM4CQ	F6JSZ
TM6Z	F6JSZ
TM7TLT	F6KWP
TO15Ø	FR5DD
TO8B	EA3BT
TP5ØCE	F6FQK
TT8FC	EA4AHK
TU2OJ	F5IPW
TU4FF	OH8SR
TU5GY	IK1GPG
TU5IJ	I2AOX
TX8FU	NA5U
TY8A	DL7UFR
TZ6DX	K4DX
TZ6JA	JA3EMU
UAØAZ	W3HNK
UAØLEO	IK2QPR
UAØYAY	IK2QPR
UA3UW	IK2QPR
UC1WWO	IK2QPR
UC2WO	IK2QPR
UE3LKG	RK3LWA
UE9TRN	RA9ST
UF6FFL	IK2QPR
UG7GWB	IK2QPR
UI8IZ	IK2QPR
UI8NH	IK2QPR
UI8OAA	IK2QPR
UK7PBH	IK2QPR
UK8CK	RW6HS
UK8ICO	IK2QPR
UK8IZ	IK2QPR
UK8OM	IK2QPR
ULØOB	IK2QPR
UL7JGJ	IK2QPR
UL7NAN	IK2QPR
UL7OAO	IK2QPR
UL7OB	IK2QPR
UL7PJQ	IK2QPR
UM7MA	IK2QPR
UM8DX	IK2QPR
UM8MFO	IK2QPR
UM8MU	IK2QPR
UM8OM	IK2QPR
UM8QB	IK2QPR
UNØN	IK2QPR
UN2O	IK2QPR
UN6P	UN5PR
UN7EG	DL8KAC
UN7FW	IK2QPR
UN7JX	IK2QPR
UN7LG	KU9C
UN7PJQ	IK2QPR
UN7TX	RW6HS
UN9PQ	IK2QPR
UPØF	W3HNK
UP5ØO	IK2QPR
UP5P	UN5PR
UP6F	W3HNK
UR7R	UX1RX
USØHZ	W3HNK
US9D	UT4UZ
UT5JDS/M	W3HNK
UU2JQ	KZ1L
UU2JZ	KG6AR
UU5J	JA6UBK
UU5J	K2PF
UU5J	UU2JZ
V26K	AA3B
V29QQ	G6QQ
V29TU	HB9TU
V31JZ	NN7A
V31RL	NG7S
V31WV	KD6WW
V51CM	WA2JUN
V51E	K8EFS
V51HK	DL6OBS
V63HO	KQ1F
V63PD	VK4AAR
V63YP	KQ1F
V73PU	N6PU
VE2DX	VE2STN
VI5ØG	VK3ATL
VI6EWT	VK6NE
VK6EEN	CT1EEN
VK6SJS	JM1LJS
VK9CL	JM1LJS
VK9CQR	HB9QR
VK9CTL	HB9QR
VK9XM	KU9C
VK9XQR	HB9QR
VK9XTL	HB9QR
VP2EKS	HB9KS
VP2EY	HB9SL
VP2MFH	NW8F
VP2MHJ	DL2MDZ
VP2V/K9IAM	WB9NOV
VP5/W8GEX	W8GEX
VP8CRB	K4QD
VP8CZJ	G4VFU
VP8CZJ/M	G4VFU
VP8TTY	K4QD
VP9/AA1AC	AA1AC
VP9/N1KS	JA1FUI
VQ9QM	W4QM
VQ9ZX	WJ7S
VR2MM	JR3JFZ
VR98LC	VR2LC
VU2BMS	DL2GAC
VU2JPS	VK9NS
VU3MCV	ON7LX
VU3RSB	VK4AAR
W4/OA4HJ	DL6MAC
WH7/K9NW	WW9DX
WP2/WB9Z	WB9Z
WP3R	W3HNK
WP4Q	KP4CKY
XE1/NP2AQ	W3HNK
XE1NVX	EA5XX
XN8DXA	VY2RU
XRØZ	CEØZIS
XR3J	HB9AOF
XR3Z	CE3SMN
XR8Y	CE8ABF
XU5NRY	F5NRY
XU7AAE	JA1SWL
XU7AAK	JA1OEM
XU7AAN	JH8YZB
XV3ØØS	JH1EVE
XV7TH	SK7AX
XZ1N	W1XT
YBØDX	W3HNK
YBØJWA	N2AU
YC5XIP	I1WFF
YC6HDF	IKØZKK
YI1BGD	DF3NZ
YI1HK	KK3S
YJØARY	JA3JA
YJ8PU	KF4VPU
YJ8UU	ZL2HE
YL8OUZ	YL2UZ
YM75DS	WA3HUP
YN1/TI2CF	W3HNK
YN1/TI2WGO	TI2WGO
YN2EJG	K5LBU
YN6HM	K5YU
YO3AC	W3HNK
YT8ØØFG	YUØSRJ
YT8ØØS	YU1OJ
YU0/DF2UU	DF2UU
YZ8ØØR	YUØSRJ
Z2/ZS6PDX	ZS6RVG
Z24S	W3HNK
Z32FD	DJØLZ
Z32XX	NN6C
ZA1MH	Z32KV
ZB2FX	G3RFX
ZD8A	K6NA
ZD8Z	VE3HO
ZF2JL	WB2DGL
ZF2LA	K9LA
ZK1AND	KH8AZ
ZK1RS	ZL1RS
ZK1TNN	OK1TN
ZK1XXP	N4XP
ZK3RW	ZL1AMO
ZL6A	ZL2AGY
ZL9CI	ZL2HU
ZP5EBT	ZP5AH
ZP5Z	W3HNK
ZS6/PA3DZN	PA1AW
ZS6FOC	G3MXJ
ZS7B	ZS1B
ZV8A	PR8AA
ZW2Z	PY2ZI
ZW7CC	PR7RT
ZY7FO	PR7RT
ZY8CW	PR8AA
ZY8CW	PR8AA

3B8GF Patrick Randamy, Allee Brillant, Vacoas, Mauritius Islands

5A1A Abubaker Alzway, P.O.Box 74421, Tripoli, Lybia

5B4/UA9YAB Alex Vedernikov, P. O. Box 83, Biysk-3, Altai 659303, RUSSIA

5H3GU Gunnar Mathisen, P.O.Box 6643, Dar es Salaam, Tanzania

5Z4MR Max Raicha, P.O.Box 1641, Kismumu, Kenya

6W1AE Radio Club du 23e Bataillon d'Infanterie de Marine, B.P.3013, Dakar, Senegal

7O1AA Ahmed Nasser, P.O.Box 7198, Jeddah, 21462, Saudi Arabia

9G1NS Samir Nassar, P.O.Box 13291, Accra, Ghana

9K2SQ Abdullah al-Salem, P. O. Box 38899, Kuwait, KUWAIT

9N1FP Vladimir Zakharov, Kulakova 27/2-116, Stavropol 355044, RUSSIA

BD4DW David Y.J.Zhou, P.O.Box 040-088, Shanghai, China

BD4RE Yee, P.O.Box 10, 38 Guangdong Road, Nanjing 210003, China

BV3FQ Jay Chuang, P. O. Box 19-58, Chungli 320, TAIWAN

C33BO Archie, U.R.A., P.O.Box 1150, Andorra la Vella, Andorra

C56/DK3FW Dieter Romberg, Mittelstr. 1A, D-30982 Pattensen, GERMANY

CE3WDD Alfredo Moya, C. C. 240-3, Santiago, CHILE

CE4RPM Cristian Vicencio Cousino, Casilla 516, Linares, CHILE

CM7HF Hector Fernandez, P. O. Box 20, Moron 67210, CUBA

CM7NV Norma Valdes, P. O. Box 20, Moron 67210, CUBA

CS3MAD A.R.R.M., P.O.Box 4694, 9058 Funchal Codex, Madeira Isl., Portugal

CT3KN Ricardo Martins, Estrada Monument, Edificio Varanda Lido 6, P-9000 Funchal, Madeira, PORTUGAL

CU3DI Pedro Pereira, P.O.Box 140, P-9702 Angra do Heroismo, Terceira Is.,

CX3CE Gus, P.O.Box 244, Montevideo 11000, Uruguay

CX3HU Jose, P.O.Box 1, 65100 Young, Rio Negro, Uruguay

DL4YAH Heiko Halfmann, Kolpingstrasse 14, D-45721 Haltern, Germany

DL9OT Hans Kriegl, Schubertstrasse 38, D-76275, Ettlingen, Germany

DS0EZ Sarang Nanugi Net, P. O. Box 54, Dongjak, Seoul 156-600, KOREA

DS1BHE Seong-Joo Lee, P. O. Box 12, Tobong, Seoul 132-023, KOREA

DS1DAL Sae Hwa Bang, 26/6, Shinsai-dong 266-31, Eunpyung-gu, Seoul 122-081, KOREA

DS1DHP Seung Kuk Lee, P.O.Box 12, Sihung, Kyunggi-Do 429-010, Korea

DS1DVJ Ok Kyung Kim, 26/6, Shinsai-dong 266-31, Eunpyung-gu, Seoul 122-081, KOREA

DS1DVK Jin Ah Bang, 26/6, Shinsai-dong 266-31, Eunpyung-gu, Seoul 122-081, KOREA

DS1DVL Myung Ah Bang, 26/6, Shinsai-dong 266-31, Eunpyung-gu, Seoul 122-081, KOREA

The never-ending VHF/UHF DX season

I'm sitting here on a brand new AirBus 320 heading home. As I look out the window at the clear blue sky above, I cannot help but to think to myself about what's happening "up there" — above us in the ionosphere — as 50 MHz (and frequencies above) signals bounce around the world in a manner that nobody really expected.

Reports on the VHF Reflector speak for themselves about the VHF/UHF DX season that would not end.

From Jon Jones, NØJK, on 09 September 1998: "I worked Sean Fielding, KC8CSD, 144200.0 and Richard Hart, KØMQS, EN31-EN81 and tropo from EM29 to EN34...maybe I'll stick around for the contest."

From Randy Tomer, W6RA: 09 September 1998: "I have just worked the Merlin Hill UHF Society, W7MQY, CN82, Leon Crouch, W6SQN, CN73, and Hugh MacDonald, KD6OSV, CN84 with CW on 144.220. I will be calling "CQ" on that frequency every half hour starting at 12 noon PST."

From Ed Rodriguez, WP4O, on 10 September 1998: "I just worked Doug Wooley, ZP6CW and Fred Carvalho, PY2XB, from 0055U to 0056U on 50.110 CW." Also from Ed on 13 September, "just worked a string of CX stations: Humberto Rojas, CX3AN, at 2207U, Luis Espinosa, CX4AAJ, at 2208U, Julio Maczko, CX6BV at 2209U, Gustavo Acosta, CX2AM at 2210U, and Luis Dazeo, LU1DVT, Fernando Gonzalez, LW7DQE, Antonio Gonzalez, CX1AO, Gustavo Rial, LW4DIR, Anastacio Surraco, CX9DK, Hebert Suarez, CX9AF, Carlos Carrara, CX2AAL, Daniel Ventura, CX3BBX, Juan Chemencedji, CX3ET, all between 2225-2235U. And on 15 September the band was still open. I worked ZP6CW, Antonio Carbonell, CX2IY Manuel Tomaz, LU2DEK, Peter Sprengel, PY5CC, and Jorge Jaroslavky, LW5DX."

From Mark Brown, KBØPYO: 11 September 1998: Ron Bergantzel, KAØRYT/Ø, is currently working many stations to the east from EN02 on 2 Meters. He is on 144.2 and last heard working K8TQK and others. Conditions here from EN24 are more to the south. (Hope they change more southeast!).

From Bill Morton, NM7K, on 13 September 1998: "Pipeline to New Mexico from DMØ9 for last hour or so."

From David Meier, N4MW, on 14 September 1998: "This morning the W3CCX 432 beacon has come up to S9 and retreated to just out of the noise (nothing unusual). No copy today on the W3CCX 903 or 1296 beacons. However, steady copy of "VV DE K3DEL/BCN" FM28 at 903.078."

From Jefferson Mesquita, PY2NL, on 16 September 1998: "Yesterday 15/09 from 11:00Z to 02:30Z (16/09) stations from EH8, KP3, TI4 and TI5 CT3 and HP2 worked with only a TEN-TEC transverter (8W) and 5/8 vertical. Not sure, but I believe they worked LU,CX and ZP also. FYI the number of PY stations on 6 Meters has doubled or more in the last weeks, more to come soon."

From Roger Van Buren, WB2OLP, on 19 September 1998: "6 Meters is open on TE into LU for the past 45 minutes from here in S.W. Fla (EL96de) I worked Jorge Ferraco, LU9AEA, Eduardo Bianchi, LU8DIO, Daniel Seibbel, LU3VAO, Osvaldo Porto, LU3EMK and Nestor Zucchi, LW5EJU on 50.110."

From Wilton Barnum, NØIPL, on 20 September 1998: "Just worked EN25, 19, 37. I heard Lincoln, Nebraska beacon 50.060 from DM76."

If you haven't gotten off the local repeater and joined the move to SSB DXing, what are you waiting for? There is a great big world out there. Lots of stations on 6 Meters, 2 Meters, 70 cm and above all just waiting to talk to you.

An inexpensive station for 6 Meter DXing

Back in the early 1960s, SSB began to replace AM as the VHF DXers mode of choice for voice communications. CW still reigned strong, but in the realm of using vocal talents for a QSO, the SSB signal was in, primarily due to a dark gray radio with a black case called the Swan 250.

By today's standards, the Swan 250 was as basic as a transceiver could get. It featured a single conversion tunable superhetrodyne receiver and 150 watt PEP transmitter, both operated by a common VFO. It was reasonably priced and worked well enough to make SSB the voice operators mode of choice on 6 Meters. As such it was not surprising that more than three decades later the Swan 250 would be re-invented, nor was I surprised that it would be MFJ Enterprises that would do it. It's called the MFJ-9406 and it's truly the right radio for its time.

Let's compare the basics. As noted above, the Swan 250 had a tunable receiver. So does the MFJ-9406. The Swan covered covered 50.0 to 54 MHz in 500 kHz tuning range increments that were selected by a strange, continuously variable tuning range preset selector. While simple and effective it was hard to accurately set the band edge properly and to keep the set properly aligned.

While starting with the same simple concept of a tunable VFO, the MFJ-9406 solves the "preset problem" by eliminating it. The radio comes from the factory set to tune only 50.00 to slightly above 50.300 MHz. That's the active part of the 6-meter band for DXing. The calibration is spread out over 180 degrees of the smooth and adequate vernier tuning. What I found surprising is the accuracy of the dial calibration.

This radio is the modern day Swan 250 — not a synthesized all-mode. But setting the main tuning to the 50.125 MHz calibration mark and turning on the radio from a cold start brought in Dave Booth, KC6WFS, almost on frequency. A "tad" move of the fine tuning knob and he sounded almost as clean as an FM repeater. And Dave's signal stayed there. No ongoing retuning was necessary as it was in the days of the tubed Swan. The solid state MFJ-9406 stays on frequency unless you choose to move it! That says a lot for what is a reasonably priced 6-meter SSB radio.

The transmitter is rated at 10 watts PEP output into a 50-ohm load, adequate for most operation and, at this location appears to be TVI free. Its output circuit is broadband and requires no tuning to meet this specification.

But the most important question is how I sound to others. I'm told the transmit audio is "very natural sounding" and "pleasant to listen to." I also find that the MFJ-9406 has the ability to punch through when the DX is rolling in and when I'm talking to someone running mobile locally.

The MFJ-9406, like the Swan 250 before it, is a radio that's right for its time. The Swan served the needs of the Hams of its day using the tube-type technology of its era. The MFJ-9406 is doing the same today with a lot fewer knobs, a lot better frequency stability and a lot less TVI.

I won't bother you with technical specifications and the like. If you really need to know, it's in the MFJ catalog and in many MFJ ads. What I will say is the MFJ-9406 is to me today what my Swan 250 was in 1963. For $259.95 plus shipping, it's the right radio for the budget-minded Ham who wants to get his or her feet wet on the "Magic Band." I know that I love mine.

For more information on the MFJ-9406, its accessories — including the world's largest "wall-wart" type matching power supply, go to http://www.mfjenterprizes.com on the world-wide-web or call MFJ at 800/647-1800.

Call it a sign of the times

Dayton, Ohio no longer has an "open carrier squelch" repeater operating on the immensely popular 146.34 / 146.94 two-meter repeater pair. Last November, the Dayton Amateur Radio Association, the organization that sponsors the annual Hamvention and also holds the license to the W8BI systems, instituted the use of tone squelch or CTCSS (also called PL by Motorola followers). As a result, users of the longtime "open carrier squelch" machine must now equip their radios with a CTCSS generator set to 100.0 Hz (or turn on and program any internal CTCSS generator if their radio comes factory-equipped with one) to make the 146.94 MHz transmitter emit a signal.

According to Reuben Meeks, K6GUC, who is the DARA Repeater Chairman: "...this action is necessary to prevent the various signals that come in by way of long-haul skips; ie: the Indiana repeaters and others."

The Dayton situation is far from unique. The situation is just as common in Boston and Dubuque. Repeater owners and users alike will have to get used to this phenomenon if the latest VHF/UHF DX season is any indicator. In addition to the numerous "happy" reports of great DX conditions on most of our VHF bands there have probably been ten times that many "complaints." These come from FMers involved in a local QSO only to find their signal wiped out by another signal emanating some 1500 miles away, on the same repeater input frequency, attempting to access his or her own local repeater.

For example, I can remember back about three solar cycles ago. I was driving on the Cross Island Parkway in New York; in QSO on the then-popular 146.13/146.73 MHz WA2SUR repeater. Suddenly, all of us were covered up by a guy in Wisconsin trying to access a local Milwaukee repeater. Boy, was he ever surprised when a bunch of "2-landers" replied and told him that he was wiping out the input to the system we were using.

I do not remember his name or call, but I will never forget the radio he told us he was using. It was an Inoue Communications FDFM-2S. For those unaware, Inoue Communications was the original name for Icom and the FDFM-2S was a three channel 2-watt transceiver that came to U.S. shores in the late 1960s. Radio gear built specifically for 2-meter FM operation was still very rare back then. Most of us used converted General Electric, Motorola or RCA two-way land mobile sets, so hearing a radio specifically designed for use by radio amateurs was a special event.

But getting back to the Dayton situation. Meeks also notes: "...The frequency of 146.34 / 146.94 is being used more and more by other cities for their local traffic and this causes many false keyings of our repeater."

This is not surprising to anyone who closely watches the national FM and repeater scene. Even though overall growth in Amateur Radio has been showing negative numbers for some time, the same cannot be said in the world of repeaters. It seems that almost every day, somewhere in the USA a new machine is showing up on an already heavily-used channel pair, as more and more Hams decide they "must" have a repeating system of their own.

Some new systems are designed to replace a tiny number of older ones that have left the air. However, in many cases these new repeaters are what I long ago dubbed to be "ego-boxes." These are repeaters whose only real purpose is to satisfy the ego of a Ham so that he or she can say: "Look — I own a repeater."

Many 'ego boxes' reside at low-level sites such as an amateur's home. With antennas only a few feet above ground, they provide a service area no greater than the simplex (direct) range of the amateur's home base. The majority serve no real purpose other than to take up valuable spectrum. They rarely host a QSO and some are not even keyed-up or 'ker-chunked' for weeks on end. Yet

they exist so that Joe Ham can say: "I own a repeater." As interest in FM continues to peak, more and more "ego boxes" are heard on the air.

Southern California QSY for APRS

Southern California has finally followed the rest of the nation and moved activities off of 144.390 MHz to make way for a national APRS channel.

The decision to free up 144.390 came at a general membership meeting of Southern California's Two Meter Amateur Spectrum Management Association held at the Long Beach Yacht Club last November with the move effective on 31 December 1998. The TASMA Technical Committee selected a 144.345 MHz the Simplex ATV Coordinating Frequency for the area.

Don't look for Southern California to simply split the 70 centimeter repeater subband from 25 kHz intersystem spacing to the commercial 12.5 kHz standard used nationally. While the commercial services have proven 12.5 kHz successful and desirable, it appears as if the Southern California Repeater and Remote Base Association will opt for a 20 kHz spacing plan sometime in 1999.

The decision to investigate a change from 25 to 20 kHz came at the organization's annual meeting held 17 October 1998. Proponents of changing to 20 kHz spacing say it would add another fifty repeater pairs and one more simplex channel. But it could also put Southern California as an odd man out as the rest of the nation seems poised to go with 12.5 kHz when the time comes to make such a change.

Do you have this problem?

Del Schier, KD1DU, said on the W6YX VHF Reflector, "In my area I have noticed a drastic increase in FM and unlicensed FM activity in the weak signal portion of 2 Meters. Tonight I tuned 144 to 144.3 and heard no less than seven different frequencies with FM signals. They were at .060.

"Some are Hams, some are not. Some use call signs, some don't. The bunch on 144.100 were obviously Hams but not using calls. They were very proud that it was 'their' frequency. I did not speak to any of them, but I have on occasion if I thought it would do any good. Some will QSY if asked and apologize as they are unaware.

"The interesting thing is I never hear them near .200. They seem to have found some quiet channels for their own private use. I frequently cannot check the beacons and perhaps one out of four times there is strong local FM wiping out that portion. I also have had numerous EME skeds spoiled in the CW portion and just above.

"What I would like to see and am going to try and do is after making contact, to QSY off the calling frequency, not 10 or 20 kHz, but 50 or 60 up and 60 or 80 down. I would also like to see general and contest CW activity go back to 144.100 like it was in the old days. I know that 144.100 is EME territory but if we don't spread out our general activity it is, and will continue to be taken over by FM operation.

"It would be nice if illegal voice operation below 100 was enforced along with the unlicensed operation but I guess I am dreaming."

This problem is obviously most predominant in the heavily populated areas like my own but I think the problem will trickle down to all eventually and you should be concerned no matter where you operate.

Please direct you comments to the entire group and let's see if we can fo-

cus on a solution or at least an agreement among the weak signal community to modify our operating habits. Please be constructive and do not waste bandwidth.

Reader feedback: Comments on privacy

From Barry Norrgran, WZ7V, Yuma, AZ on private repeaters.

"I say leave 'em alone. Yes, 2 Meters is crowded in the metropolitan areas, but these operators are enjoying their privileges and occupying space. With the land mobile industry's frequency grabbing it would be better for Hams to use the elbow room in the higher bands. Let 'em be like Daniel Boone — Looking for elbow room."

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The radio industry has been moving up but Amateur Radio has stagnated, with rare exception in the big cities. We don't need compression we need to do some expansion and exploration.

We've seen numerous grab attempts on Ham bands. I am surprised the 902 band has not gone. Nobody ever made any equipment for it. No demand I guess, other than ATV. But I look for grab attempts on the 1296 MHz and 2300 MHz bands to be in the wind. If we don't use 'em we'll lose 'em. And these are good bands I'd like to be on.

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From Bob Thornburg, WB6JPI, from the Repeater Owner's Reflector; "I don't think much of PL, and I am heavy into coordination. It won't solve jamming, won't solve desensitization, won't solve simplex conversations on your input (in fact causes them), It does keep the co-channel squelch rattles out, but tends to encourage co- channel users to run more power than they need, as they don't know they are getting into your machine.

"This idea of simplex on the input is the most annoying. Your repeater receiver is totally limited out and yet there is no output on the repeater and no one can use it and no one knows why (unless you revert to carrier squelch.)

"We at TASMA coordinate a PL frequency for all repeaters, encourage, but do not insist it be used, except in cases where the parties agree or a couple of other rare instances."

On license class bigots

"I just finished reading your article 'License class bigotry & mandatory bandplanning,' and I must tell you that it struck a chord with me.

"I took the first 'no-code' exam in February 1991 and so am one of the first licensed under the new rules. I was so proud of myself when I got that ticket that I almost glowed. It was something I had wanted to do for years, and I thought it quite an accomplishment because I was 63 years old and knew absolutely nothing about radio when I started studying for the exam.

"So, in my pride, I went on the air (a local 2M repeater) and joined the local Amateur Radio club. The result? All I heard on 2 Meters was a lot of longtime Hams bellyaching about the 'no-coders' and all I got when I tried to talk to them was hostility.

"And at the first radio club meeting I attended nobody introduced me and nobody would talk to me. It didn't take long for me to get the message — no-coders weren't welcome. Well, nobody likes to go where he's not wanted, so I gave it all up in disgust.

"And the other day, seven years later, I happened to tune in the local repeater and do you know they were STILL grousing about the no-coders?

"Let's face it, so long as the 'coded' Hams are around, things will never change. Well, that's too bad for everyone interested in Amateur Radio because without the infusion of new Hams, this hobby is going to die. It may already be too late: too many people out there slaving to get their hands on the frequencies now allocated to amateurs and not enough hams to fight back effectively." — Fred Butzi, N3JCJ

The nostalgia corner: The Johnson 6'n'2 Transmitter

John Duffield, KØKHZ, recently posted some interesting information about a very famous dual-band transmitter of the 1950s and 1960s. He says that several folks have referred to the Johnson 6N2 in various ways: ie: As "transverter, converter, transmitter," etc. This it was not.

Actually says John, the E.F. Johnson 6N2 was a complete transmitter RF system. It contained no power supply, no modulator and no VFO. It was crystal controlled (or controlled by an external VFO and had no receive capability at all. Nor did it contain a transmit-receive relay, or receive converter.

Rather, the Johnson 6N2 was designed as a truly "clean" way to generate 6-meter and 2-meter RF output, CW or AM, for its era.

When used as intended with a Johnson high frequency rig (Ranger, Valiant, etc.) as the source of power and modulation it put out a signal that really stood out above the crowd.

The unit used an Amperex type 5894A push-pull dual tetrode as the final amplifier. The tank circuit of this tube was a silver-plated final coil and tuned line system and the entire radio was shielded to the maximum, as were all Johnson rigs of that time.

External accessories included a sensitive dual-band receive converter (also called the Johnson 6N2) and an external transmit VFO to substitute for the 8 MHz crystal. The owner had to provide the receiver, antenna and an external coaxial relay to turn it into a full station. — *Bill Pasternak, WA6ITF, can be reached at: 28197 Robin Ave., Saugus, CA 91350, e-mail: billwa6itf @aol.com.*

Who designed this?

I always enjoy opportunities to tour, visit, or operate from an agency command post or mobile communications facility. One indicator of who designed the project (or controlled the purse strings) is how the communications equipment is installed. For example, if you find lots of space dedicated to forms, pens, pencils, binders, and paperwork, you can surmise that the administrative folks were the driving force. If a majority of the space has been dedicated to comfortable chairs, perhaps a TV and VCR, a refrigerator, and the comforts of home, you might find that "command" did the design.

When you find maps, field supplies, tools, spare tires, repair kits, and the like, you know operations had a heavy hand in the planning. Often with the above designers, you might find communications equipment crammed into a spare closet with remote control heads up near where the driver sits or maybe on a commander's desk. If a communicator is needed, a small uncomfortable chair is often provided for the duration. The chair is usually in the command post traffic pattern which means you're bumped as people crowd past. The speakers are often crowded together and the microphones amplified — meaning you have trouble hearing incoming calls and outgoing calls capture all the ambient command post noise.

If the command post is funded by public money, it's usually equipped with all the latest and greatest radios, usually high power. This is a good thing, unless the coax is RG-58 feeding broad-band mobile antennas and all the antennas are within inches of each other on a small portion of the command post roof (so as not to interfere with the emergency lights, remote TV camera, PA speakers, air conditioner, etc.).

OK, I'm poking a little fun at the "other" components of a search team but I do feel that the communications folk are often left out of the process when a command post is designed and equipped. Let's explore the purpose of a mobile command facility and its function.

How it should be

First, it's the place you find the incident commander, the overall decision maker. You might also find the operations chief, the planning chief, and perhaps the logistics chief who all interact with the IC as the event unfolds. Critical to the incident is the flow of information from which decisions are made and instructions issued. Second, a command post is not an isolated facility, but the central control of an event — this requires communications.

(Some schools of thought have your communications facility separate from the command facility, and that's good for a large-scale event. For my purpose, I'm describing a small-incident facility that might be housed in a trailer or motor home. This facility would be easily and quickly transported on-scene and include command areas as well as communications equipment.)

One of my pet peeves is the radio salesman who has never seen the inside of an installation and has no idea, beyond the price of a radio, what he or she is selling. This may be unfair, but they're often found selling equipment on government contract, do a hasty "design" and then leave a poor technician the problem of installing what was sold. The radios are often not the best fit for the application.

So let's explore some communications issues relative to a field command facility. Some of the basic bells and whistles are great such as many pre-programmed channels with alphabetical displays, the ability to listen to the uplink (repeater reverse) and a "monitor" or squelch open button for those weak mobiles just over the hill and down in the canyon. These are good things and I often don't have problems with the actual radio as long as there are some basic controls, especially high and low power.

The rub is usually in the sale of the "attachments" or the non-sale as the case may be. What happens when you install two 100-watt VHF radios with RG-58 into broad-band mobile antennas and the antennas are mounted within two feet of each other? Interference — causing the operator to turn off one radio when transmitting on the other. (This is especially irritating to me when the channels in use are repeater channels, the station is line-of-sight, and a half watt would be full quieting.)

One overlooked sale is a good quality headset and a "mute" switch for command post speakers. Often speakers are placed in the facility so others can hear what's happening, but the volume control is on the radio. If the commander is talking on a cell phone, the radio audio interferes, so the commander says "turn down the radio." What about a local volume control or a simple mute button that attenuates the level on the remote speaker?

With the headset perspective, consider how many operators you might have. In most cases you have a single operator covering multiple radios — so what about an aviation-style control panel? You would have a three-way switch for each audio source that would put the audio on the left earphone, right earphone, or off. You would have a mute or a volume for each source, independent of the radio so as to not affect other remote speakers in the command post. You would then have the ability to route a foot switch, a VOX, or other method of push-to-talk based on which radio you needed to use. The boom microphone on the headset would be noise-canceling and high quality so your field teams would get the best quality audio realizing they're operating in less-than-ideal situations.

Maybe you've obtained a specialty radio such as an aviation rig. The salesman and tech were probably not avionics people, so they didn't realize that these radios often have a side-tone option which feeds transmit audio into the speaker. Because they're not aware, they cannot explain the feedback every time you key the amplified desk microphone and thus blame it on "the manufacturer." The result is a very expensive radio used to monitor aircraft traffic, but unusable to conduct ground-to-air coordination.

What about antennas?

The antennas almost always seem to be an afterthought: "Put them on the roof and keep them cheap." The dollars are spent on the radios, not the attachments. Yet these radios are often long-term installations so why not go with something better than RG-58 and explore some antenna options such as high-gain, low-gain, directional, or specialty design? In any case, moving the antennas as far apart (especially on top of a motor home where you have lots of real estate) is critical (as is low power!). I realize that many radio operators do not understand the technology, but it would not be too difficult to put a commercial-quality four-element beam on a mast that could be snapped into place and pointed toward a repeater.

Lighting could also be improved with the ability to dim the lights in the communications area and the addition of gooseneck lamps that could be directed where needed — such as the logging program or status map. Too often communicators get eye strain because of poor lighting and the inability to get up and move into other areas to give their eyes a break.

Finally, there's the issue of computers and radio frequency interference (RFI). On my desk at work I've got a dual-band (VHF/UHF) rig and an HF rig with Belden 9913 cable to the roof. There's also a scanner and an odd assortment of handheld radios. These are the toys. I've got a MacIntosh G3, a Pentium NT, a Novell test server, a television to monitor the satellite, and an old legacy system dumb terminal. It's a nice place to work. From time to time I also have a laptop computer, and all of this is networked (by wire) to a fiber-optic hub in the next room.

Computers and RFI

This has nothing to do with command posts, but with a computer/radio RFI environment. Some of the newer computers generate more and sometimes less RFI, and some of the old laptops (even the 386 vintage) were very RFI-quiet (maybe that is because they don't operate at 150 - 300 MHz?). The FM rigs are generally least affected, the HF picks up noise at various spots on the bands and an aviation (AM) portable is of no use, especially around a network router or network switch. If I transmit with 50 watts on VHF, the PC speakers make a bad sound but the G3 is quiet. Yet on HF, the G3 speakers make noise and the PC is quiet. EGAD!

This is one of those areas you'll have to experiment with. Because you can wire a command post for a computer network cheaply and easily, you'll find it happening as commanders need to share information (radio logs, briefings/debriefings, weather, interagency data, etc.). Having several networked laptop computers can add a great deal to an efficient command post — unless the stuff generates RFI rendering the communications gear non-functional. Because of the variety of goodies available for networking and the many brands of computers, there's no sure way to prevent RFI.

Some of the areas you can control involve placing your network cables as far away from your radios as possible, bundling network and radio cables separately, and not running cables (even bundled separately) parallel to each other. Because the information in a command post environment is generally text based and not graphic based, you might find advantage in older network technology such as with coaxial instead of twisted-pair hardware. (Text takes less bandwidth for data exchange. For example, a graphic such as a map might take tens of megabytes while an entire day's radio log might only take 20 kilobytes.) Of course fiber optics might be a good way to go, but the cost and upkeep and field abuse potential may prevent this solution.

One suggestion (if you are buying new equipment) is to specify in the sales agreement that if RFI is a problem, you can return or exchange the computer, printer, or network gear. I hate to say it, but few computer sales folks know what RFI is and they're so eager to make the sale they'll agree to anything!

As an observation, those integrated command/communications facilities that work best came through involvement of technically-adept communications operator input. Often these facilities took more time to design, develop, and build, but involved good radio engineering practices as well as attention to operator needs such as headsets and lighting. A good person to have address your next organization meeting is a veteran radio installer who has a high number of mobile installations under his or her belt. Experience is generally the best teacher in this area of design.

Parting thought

If there's something happening and we're a volunteer with a public service group, we usually want to get involved. Over time your experienced hands learn that unless called, it's a bad thing to just show up unannounced to some other group's emergency. I'm not saying your group would not contribute greatly to the event, it's just not nice to show up uninvited. In a nutshell, it's bad politics.

Let's say there is a tanker rollover. You have a hazardous, airborne cloud of released methyl-ethyl-bad-stuff. Traffic is blocked and rerouted. Some evacuations are underway. The sheriff is handling the event and has asked the Civil Air Patrol for air support to watch traffic patterns and observe any movement of the hazardous cloud. When the sheriff called the CAP, he asked for one aircraft, one aircrew, and one CAP member to assist at the command post as air operations chief.

But here you are, monitoring all the action. You're an ARES member, you're a CAP member, you're a CERT member, you're a Red Cross volunteer, you're on a small city's reserve police force, you're available. What should you do? You begin calling the groups not involved, hoping you can convince someone to get you activated. You try the ARES leader. No luck. You see if the neighborhood CERT team is interested. They are not. You try the Red Cross. No activation planned yet. But hey? You're a CAP member and you have a radio. I'll just head on up to the staging area and see if I can be of use. No one called, but heck, I'm a trained and willing volunteer.

What's wrong with this picture? Hopefully wise leaders know that during the emergency is not the best time to forge callout alliances and mutual support agreements. Experienced agencies such as the Red Cross know they can play a critical need and respond when asked. CERT teams are valuable to a neighborhood as is a reserve police force, the strength of such being in the word "neighborhood."

But now consider the poor CAP coordinator who responded with an aircraft, crew, and one on-scene coordinator. What does he or she say when the sheriff calls and demands: "Who are all these other people? They're in the way. We only wanted one person on-scene, get these others out of here!" Oops. The problems of the volunteer mindset: I'm trained, I'm willing, I'm equipped so hi-ho, hi-ho it's off to the emergency I go. (I picked on CAP just because. Every volunteer group will experience the problem, I'm not trying to pick on anyone, but I needed a group for this fictional example.)

Responder control

The best solution is found in your training and certification. You spell it out: If you're not called, don't respond. If you do, then you're not certified as a responder in our group any more. You strictly enforce it. It's that simple. You tell them thanks for being available. We'll put you at the top of the next callout when we need your specialty. You thank them for being aware and having their equipment ready. But you play hardball when it comes to an unauthorized response.

These folks often get in the way because they have no assignment, they are a safety risk because they have not been briefed as to what equipment is needed. They pose a safety risk for the on-scene people who may not be expecting additional bodies in the working area or command post. Don't tolerate it! Train and educate to avoid it! Make it part of your curriculum and ensure it gets reinforced regularly. — *Jerry Wellman, W7SAR, can be reached at: P.O. Box 11445, Salt Lake City, UT 84147 or via e-mail: jw@desnews.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. 5/99

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

Tucson Repeater Assoc., P.O. Box 40371, Tucson, AZ 85717-0371. Meets 2nd Sat./monthly, 7:15 p.m., Dept. of Emergency Mgmt., 130 W. Congress. Net Thurs. 7:30 p.m. 146.82(-), 146.88(-), 147.08(+), 448.550(-) & 145.15 Packet. 3/99

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(-). 3/99

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. 5/99

Contra Costa Communications Club, Inc., WD6EZC/R. P.O. Box 20661, El Sobrante, CA 94820-0661. Meets 2nd Sun./monthly (except May & Dec.), 0630, Baker's Square Rest. in Richmond, CA. Info: E. Caine, KA6OFR, (707) 996-0962. 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. 5/99

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 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, (714) 551-1036 or (714)551-2010. 3/99

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., Wed.,Thur., 145.190(-) PL 162.2 and 224.400(-). For info contact: Bob, AC6HF, (916) 966-3654. E-mail: ac6hf@juno.com or http://www.ns.net/~NHRC 3/99

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 Drive, Ventura, CA. For info: George Myers, KA6WZR, (805) 644-1131. 4/99

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 infol: (916) 483-3293. 9/99

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

Santa Clara County Amateur Radio Assoc., (SCCARA) W6UW & W6UU. P.O. Box 6, San Jose, CA 95103-0006. (408) 249-6909. Meets 2nd Mon./monthly, 7:30 p.m., Hewlett-Packard, Bldg., #48, 19483 Pruneridge Ave., Cupertino. Net all other Mon., 7:30 p.m. W6UU/R 146.385(+), 442.425(+) PL 107.2. 5/99

Sierra Foothills ARC. P.O. Box 1005, Newcastle, CA 95658. Meets 2nd Fri./monthly, 7:30 p.m., Auburn Library (Beecher Rm.), 350 Nevada St. Thurs. nets 7:30 p.m. 145.430(-) PL 94.8, Sun. net 7:30 p.m. 28.415. 3/99

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

This month ... Stanly County Amateur Radio Club, from Stanfield, NC, 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.

Southern California Six Meter Club. P.O. Box 10441, Fullerton, CA 92635. USB Net Tue., 8:00p.m., 50.150. FM Rpt. Net Thurs., 7:30 p.m., 52.86/52.36 tx. FM Smplx, call freq. 50.300. Net Sun., 10 a.m. 50.40. 4/99

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

Stanislaus Amateur Radio Assoc., Inc. (SARA). P.O. Box 4601, Modesto, CA 95352. Meets 3rd Tues./monthly, 7:30 p.m., Stanislaus Co. Admin Bldg. 145.39(-) PL 136.5, 224.14, 440.225 PL 136.5. 3/99

Trinity Country 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 St. 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. 5/99

Victor Valley Amateur Radio Club. P.O. Box 869, Victorville, CA 92392. Meets 2nd Tues./monthly, 7:00 p.m., Presidio Recreation 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., West Dist. Red Cross Bldg., 11355 Ohio Ave., W. Los Angeles, CA (VA Cntr. grounds). Net every Tues., 8 p.m. 146.67(-) except mtg. night. Website: http://www.qsl.net/warc Voice mail: (310) 917-1100. 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.zapcom.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

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

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

Indian River ARC, Inc., (IRARC). P.O. Box 579, Cocoa, FL 32926-0579. Meets 1st Thurs./monthly, 7:30 p.m., Community Church of the Nazarene, 400 Crockett Blvd., Merritt Island, FL. 3/99

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

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, N4OTC, 706/673-2291. 4/99

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., Holy Trinity Church, SE corner of Cass & Richmond, 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

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

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. 3/99

MICHIGAN

Adrian Amateur Radio Club, W8TQE. Box 26, Adrian, MI 49221. Meets 1st Fri./monthly, 7:30 p.m., Civil Air Patrol Bldg., Lenawee Co. Airport, Cadmus Rd., Adrian. ARES net Sun., 9 p.m. 145.37(-). Info: Mark Hinkleman, NU8Z, (517) 423-5906. 4/99

Genesee County Radio Club, Inc. Meets 3rd Tues./monthly, 7:30 p.m., Genesee Area Skill Center, Torrey Rd., Flint, MI. (810) 733-2082. 3/99

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

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., Bonanza Casino/Restaurant, 4720 N. Virginia, Reno. Info: (702) 356-8200. Call on 147.30(+) MHz. 5/99

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 Company, 499 Zimmerman St., No. Tonawanda, NY. Talk-in: 146.955(-) rptr. W2SEX. 12/99

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. 3/99

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. 4/99

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

Cape Fear Amateur Radio Society. Meets 3rd Mon./monthly, 7:30 p.m., Methodist College, Fayetteville, NC. Talk-in 146.91/31. Info: Kelly Kanode, N4EWG, (910) 867-4300. 4/99

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. 5/99

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

Clyde Amateur Radio Society (CARS). Meets 2nd Tue./monthly, 7:30 p.m., Municipal Bldg., Clyde, OH 43410. NF8E rptr. 145.35(-) and 442.625(+) MHz. Net Sun. 9 p.m. Info: E. Remaley, KA8CAS. 3/99

Lake Erie Amateur Radio Assoc., (LEARA). Meets at Dimitri's Rest., (Mid-Town Shopping Ctr.), Snow & Broadview Rd., Solon, OH, last Tues./monthly. Dinner at 6:30, mtg. at 7:30 p.m. (R.S.V.P. to Marv Grossman 440/349-8398 for dinner by 11 a.m. day of mtg.) 4/99

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

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

Mercer County Amateur Radio Club, W3LIF. P.O. Box 996, Sharon, PA 16146. Meets 4th Tue./monthly, 7:30 p.m., Shenango Valley Med. Ctr, Farrell, PA. Net, Thurs. 9 p.m. on 145.35(-) W3LIF, Digi. 145.01. 3/99

TEXAS

Brownsville ARC (CHARRO). Meets 2nd Tue./monthly, 7 p.m., Confed. Air Force Hangar, Brownsville Airport in TX. Coffee mtg. Sat./wkly, 10 a.m., Days Inn, Hwy 83/Price Rd. Talk-in on 147.040(+). 4/99

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

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., St. Andrews United Methodist Church, Tucson & Princess Anne Rds., Virginia Bch, VA 23462. 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. 5/99

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. 5/99

WISCONSIN

Cntrl Wisconsin Radio Amateurs, Ltd. Meets 2nd Wed./monthly, 7:30 p.m., UWSP Science Bldg., A107. Info: Al Malkek, N9WBS, 246 Georgia St. North, Stevens Point, WI 54481. Call in on 146.985 or 146.670 5/99

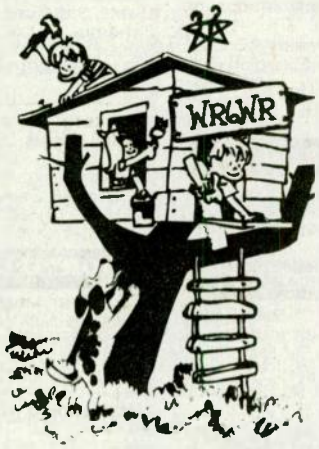
NATIONAL

Bicycle Mobile Hams of Am. 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

Club member recognition

Ever notice which members of your club always seem involved in making things happen? Ever say thank you to those members? A most effective way to keep your club running smoothly is for the members to collectively recognize their efforts and say thanks.

A volunteer recognition night spotlights the couple who brings refreshments to every meeting; the newsletter staff, including the helpers who fold, address, stamp and mutilate the newsletter; the unsung heroes who clean up the meeting room, those who worked at community service events, and the list goes on. Your volunteer recognition is an excellent time for organizations like American Red Cross and Salvation Army to present its awards to your members who supported its operations.



The **Mount Airy VHF Radio Club** held a volunteer recognition during Ladies Night, a well-attended annual activity. The Pack Rats awarded 1998 Pack Rat of The Year recognition to Harry Brown, W3IIT, for his tireless effort publishing the club newsletter *Cheese Bits*. The award recognizes the person who made an especially significant contribution to the operation of the club during the prior year.

From time to time the club also awards the Mario Fontana Technical Achievement Award to a person who displays extra effort in a technical area that is beneficial to the club. The award committee honored Jack Kauker, N3DQZ, for his work designing, constructing, and installing club beacons.

A great enticement for members to attend meetings is to give away money. One club which conducts an attendance drawing is the **South Bay Amateur Radio Club**. Club secretary Joe Lanphen, WB6MYD, reported that 13-year-old James Diaz, KF6LRN, won a $65 prize at a recent meeting. James hadn't wanted to attend the meeting that evening, but finally did. The irony: his mother drew the winning ticket.

A list of 80 call signs accompanied a **Central Ohio Amateur Radio Emergency Service** *Bulletin* story about the TOSRV98 annual bike trek. Those amateurs staffed the 110-mile ride 4,100 riders made from Columbus to Portsmouth. The *Bulletin* quoted TOSRV Director Cindy Sankey saying "I would like to extend my sincere appreciation to you and the Hams. TOSRV could not run without the efficiency and enthusiasm of your group! TOSRV98 was a huge success!"

San Diego Repeater Society president Bob Boehme, W6RHV, says his members are taking an interest in board meetings? In his *Squelch Tales* President's Podium column, he leads with "we've been seeing more visitors attending and we're glad that you are interested."

Can you picture a Ham building an Amateur Radio product during a club meeting? The **Antelope Valley Amateur Radio Club** welcomed Jim Pike, KB6WHT, to a recent meeting. Pike described his copper J-pole antenna while putting one together for a door prize.

As a once avid builder of Heathkit, Eico, and Knight kits, I wish I could have attended the **Lincoln Amateur Radio Club** meeting when Joe Eisenberg, WAØWRI, spoke about the latest in kits and how to best enjoy the experience of building one. Joe, who moderated a forum on kit-building at the Dayton Hamvention, provided the latest information from kit manufacturers.

Amateur Radio operators have a long history of providing emergency communications for the American Red Cross. Several members of the **Clark County Amateur Radio Club** joined with the Red Cross in a simulated disaster training exercise. However, this time Hams played the role of victim.

The scenario was that many persons had been displaced in a large apartment complex fire. The victims reported to an emergency shelter where they became clients of the Red Cross. During the exercise the amateurs began to realize the problems experienced by the victims. Jack Ellis, K7SUQ, said the simulated disaster was an eye opener for him. He now carries a small card in his wallet with important names, addresses, and phone numbers in case he ever becomes a real victim.

Fresno Amateur Radio Club president Jim Bianchi, KF6GKC, held last June's meeting in a bus! Jim suggested it would be an opportunity to get a look at the club bus to see what all the money made from papers and cans donations provided.

Here is a great idea from the **Santa Barbara Amateur Radio Club**. *Key-Klix* carries the following note. "Do you need a ride to the meeting? Would you be willing to take someone to the meeting?" Below that is the name and phone number of the coordinator.

The **Buena Park Amateur Radio Club** *Communicator* published a front page lead article introducing Tom Rothwell, K6ZT, before his club presentation on Phased Verticals. The story briefly covered his experience as an Amateur.

The editor reached out to hook the members by suggesting that they might want to do a little homework beforehand to better understand the topic. He piqued interest by reporting the presentation will cover such details as how to get proper phase shifts, what kind of radiation angle do you get, how noisy is it, and many other items. The article closed with "it sounds like a great program and we hope you'll all be there along with a friend or two?"

The **Mountain Amateur Radio Club** hosted the communications specialist from the City of Colorado Springs water department. Bob Bower, WAØMQE, presented maps and diagrams to supplement his discussion of how the City uses radio and telemetry to manage water resources.

Consider organizing a field trip to a local radio station, the city or county communications center, an airport control tower, or similar facility. Amateurs often can successfully arrange tours (a professional courtesy?) while individuals get turned down.

What was the most popular program offered at Amateur clubs during 1998? Way ahead of anything else was Field Day preparations. — *Mike Flaherty, WA6UBW, can be reached at: P.O. Box 189490, Sacramento, CA 95818-9490*

Need a county? Try a contest!

I've mentioned in previous columns that state QSO parties are good times to hunt counties. In a recent PA QSO party, *CQ* magazine's USA-CA Custodian, Ted Melinosky, K1BV, almost finished up all counties for Pennsylvania that weekend. The Northern California Contest Club (NCCC) makes a concerted effort each year to get all counties on the air for their contest the first weekend in October. Well, now it's my state's turn.

Virginia QSO Party

The Virginia QSO Party, sponsored by my local club, the Sterling Park Amateur Radio Club, will be held 20-22 March 1999. Contest times are from 1800 UTC on 20 March through 0200 UTC on 22 March. I'm doing a little advertising for them as well as myself here. You see, I want them to have a successful contest and I'm currently planning to operate mobile in the contest. So, I hope you'll get on the air and look for me in lots of counties. Here are more details.

Plaques are awarded to the top scoring contestants in the following categories: VA All Mode, VA Mobile, VA Combined Club, Single Operator VHF, VA QRP, Outside VA QRP, Single Operator Out-of VA, Single Operator Novice/Tech and Single Operator CW. Certificates are also awarded to top scoring entrants in each Virginia county, U.S. State, Canadian province and DX country in the following categories: CW, Phone, All Mode, QRP and VHF. Certificates will also be awarded to top Multiple Operator/Single Transmitter and Multiple Operator/Multiple Transmitter entries.

You're allowed to contact fixed stations once per band/mode. Out of-stations contact Virginia stations only. No cross-mode or repeater QSOs are allowed. You may contact VA mobiles in each county they operate. Mobiles or fixed stations on county lines count as one QSO and as many county multipliers as they offer. Multipliers are only counted once. Contacting the same County, State, Province, or Country using a different band or mode counts only as a new QSO, not as a new multiplier. VA mobiles receive a bonus of 100 additional points for each VA county in which they log a valid QSO (so you see it's to my benefit to get to operate from as many counties as possible).

Exchange: The contact exchange is QSO number and QTH (County for VA stations; state, province or DX county for others). VA mobile stations log QSOs by county of operation. Identify all QSOs with band/mode, sequential QSO number sent/received and date/time of contact in UTC.

Frequencies: Suggested frequencies are 1805 kHz and 50 kHz up from the band edge on other bands for CW. On phone, check for activity on 1845, 3860, 7260, 14260, 21360 and 28360 kHz. Novice and Tech Pluses can look 10 kHz from the edge of the Novice/Tech CW band and 28360 kHz on phone. VHF frequencies are 50.125, 147.48 and 223.50 MHz. All frequencies are plus or minus based on QRM and nets; however, no repeater or cross-mode QSOs are permitted.

Scoring: Count 1 point per phone, 2 points per CW, and 3 points per contact made with a VA mobile (phone or CW) per QSO (so there's a benefit for you to look for me mobile to get more points). Virginia fixed stations multiply QSO points by the total number of VA counties, U.S. States, Canadian Provinces and DX countries; however, there is no extra DX multiplier for U.S. (including Alaska and Hawaii) and Canada. Mobiles add 100 bonus points for each Virginia county from which they logged a valid QSO. Outside of VA stations multiply QSO points by the number of VA counties worked (Maximum of 95) to obtain final score.

Well, that's about it except sending in your log. Logs must be paper logs and include a summary sheet and dupe sheet (by band and mode) if over 200 QSOs. You may use computer logging; however, you must verify that scoring and duping is per the contest rules.

If you would like additional information, e-mail KS4II@aol.com or check out results from previous years at http://www.monumental.com/lorentz/. I don't have my plans mapped out, so if you need a county in Virginia, send me an e-mail at jansens@tidalwave.net and if I can, I'll operate from that county to help you out. Good Luck!!!

Worked All Texas Counties

Another good thing about state QSO parties is they help you to achieve that state's county award. For example; WDEL for Worked All Delaware, NJAC for New Jersey All Counties, and now the WATC for Worked All Texas Counties award. The Temple Amateur Radio Club is initiating an award to encourage Texas county hunting. To get information on the Worked All Texas Award write to TARC P.O. Box 616, Temple, TX 76503. You can also get information from the TARC web page at http://www.tarc.org. The award will have five levels so you don't have to contact all 254 counties before receiving a certificate. For further info you may contact Jim Shepherd, W5RYV by e-mail at hbar@vvm.com. Complete information is on the web page and will includes a picture of the certificate.

USA-CA

Hip, hip, hooray for the latest recipients of *CQ* magazine's USA-CA award for contacting all 3,076 counties. Congratulations y'all! 961 W3EYF 11/16/98

962 KD9OD	11/20/98
963 WM9U	12/1/98
964 W3DR	12/7/98
965 WA3GNW	12/15/98
966 W1BQL	12/19/98
967 KC6AWX	12/24/98
968 NKØN	1/9/99

County Hunter 101

Are you new to county hunting? If you are, lots of information is for the taking from a great web site by Dennis Hall, KK7X, at www.countyhunter.com. You can learn all about county hunting

there. His web page has basic information, including a list of counties, USA-CA rules, frequently asked questions, and MARAC information. The mobile Amateur Radio awards club (MARAC), a club for county hunters, offers a newsletter and a separate county hunting awards program. From Dennis' web site, you can download the MARAC information packet as well as an application for joining MARAC for $16/year for 3rd class mail, $19/year for 1st class mail, and $30/year for air mail to non-North American DX locations.

But that's not all, the web page also offers county hunter pictures, a spot for CW county hunters, an awards section (which gives you the rules and tells you who has accomplished which awards), a forum for exchanging information, and a special events area describing upcoming conventions.

If you don't have internet access, it also lists how to get information via snail mail. For information on MARAC, send a self-addressed envelope (SASE) with two first-class stamps to Mike Leahy, NØDIA, 180 S. Lafayette, Florissant, MO 63031-6803. For information on the MARAC awards, send an SASE to the Awards Chairman, Roger Purdy, W2NWL, PO Box 270, Whiting, NJ 08709-0270.

Also, after you start county hunting, you'll probably want to start using mobile reply cards (MRC) which allow you to write multiple contacts on a single card. You can order MRCs from the B&B Shop Inc, 13212 North 37th Ave, Phoenix, AZ 85029. For information on MRC processing companies (QSL Bureaus), send an SASE to the Amateur Confirmation Exchange Service (ACES), 15020 North 7th Dr., Phoenix, AZ 85023-5214 or to CHARS, c/o Art Mager, Sr., 2901-B Mexican Gravel Rd, Columbus, MO 65202-2684; or email CHARS at n5dkw@primenet.com.

Mark your calendar and fill in your logbook during the 20-22 March Virginia QSO Party. I hope I'll be able to give you some new counties in our state. Until May, happy hunting! — *Ace Jansen, N3AHA, 42857 Hollywood Park Place, Ashburn, VA 20147; email: jansens@tidalwave.net.*

Old-time Radio

Innocent Radio

Thomas Ask, AC9L

The tower was my welcome mat but I had no idea that the black coax winding down the tower led to someone who witnessed the infant days of radio in Europe. I had recently moved to a small town and while exploring my new community, I saw one of my neighbors had a proud Yagi on a 60-foot tower. Happy to find a fellow Amateur Radio operator in my neighborhood, I went up to the house near the tower and knocked on the door. I was greeted by an elderly lady who, when queried, said, "No, we are not radio operators, Mr. Hoppe is over there." After retracting her pointing hand she confided in a conspiratorial tone, "and he knows Morse code!" The seriousness of her voice made me smile and I wondered if she thought he was a spy and learned about his Morse code via TVI. I walked over to the correct house where I met Herman Hoppe, WA2HJH. When I told him I was an amateur, he beamed, and excitedly invited me in saying, "I have a story for you." Herman has told me several stories over the last few years and has been able to bring back vivid images of the Detroit Mafia in the '30s, the Ford assembly line in the '20s, and life in his homeland Germany in the '10s — including the first radio he built in 1917.

Herman said, "A man who was helping me said to first find a black rock with a shine to it and use this for a detector." Next Herman made a coil and capacitor from which he fabricated a simple cat-whisker receiver. As soon as he connected it to headphones and an antenna, he was filled with joy and excitement as he heard the signal from Berlin. Herman knew of only three stations in Europe at that time and this high technology had piqued Herman's youthful imagination.

Herman was a miller in Germany and recalled the peaceful days of his youth far removed from the concerns of the next village. So removed in fact, that he learned about the onset of World War I after asking a minister why all the church bells in his village were ringing. The minister told him that Germany was now fighting the French. The innocent days of shiny rocks and unknown wars quickly passed from Herman's eventful life, but his love for radio led him into a career as a radio and TV technician. Most importantly, Herman still reaches out from his home to share friendship and an unspoken fraternal bond with radio enthusiasts of all ages.

QCWA Scholarships

The QCWA Silent Key Memorial Scholarship

QCWA's Scholarship Program dates back to 1977, when our Board of Directors voted to establish a scholarship, and subsequently sought the assistance of the Washington D.C. Foundation for Amateur Radio (FAR). FAR is a council of many Amateur Radio clubs in the Maryland, D.C. and Northern Virginia area, each of which is represented by two trustees in FAR. It is devoted exclusively to promoting the interest of Amateur Radio and to the scientific, literary and education pursuits that advance the purposes of the Amateur Radio service. FAR is incorporated in the District of Columbia and meets the requirements of Section 501(c)(3) of the IRS Code as a non-profit organization. Incidentally, FAR administered four scholarships in 1977 and at that time agreed to administer an additional one for QCWA: in 1998 FAR administered a total of 67 scholarships, 17 of which were for QCWA.

The scholarships

The QCWA Board of Directors decided to establish scholarships in memory of its Silent Keys. Scholarships are available to any licensed Amateur Radio Operator who is enrolled in, or has been accepted for enrollment in, an accredited university or college for a full-time schedule in pursuit of at least an Associate degree. Those seeking post-graduate degrees are also eligible. There is no residence preference and no restriction on the course of study or license class. Applicants must be recommended by a member of the Quarter Century Wireless Association. As a general policy, QCWA Scholarships shall not be awarded to more than one member of the same family in the same year or to a previous QCWA Scholarship winner. While it has been the Board's policy to keep individual scholarship awards under $1,000, the Board is considering raising this amount to $1,000 per scholarship due to inflation and other factors.

QCWA Memorial Scholarships are funded from a Trust Fund established for that purpose. All monies earmarked for the Scholarship Fund are deposited in interest-bearing accounts, separate from the general funds. Only interest earned from the Scholarship Fund is used to pay the awards. The principal amount remains as a perpetual trust fund.

Name-identified scholarships, which are funded separately, typically by an individual or a family, are offered when accumulated earnings and any supplemental contributions are sufficient to finance a scholarship. The number and amount of all QCWA scholarships are determined by the Board of Directors, taking into consideration specific wishes of name-identified scholarship donors. Each name-identified scholarship account is recorded separately and shown as a separate line item in the financial statements. The income from all non-name-identified Memorial Scholarship investments is pooled and scholarships are given in equal amounts. Name-identified scholarships are awarded in amounts established by the Board in accordance with the earnings received from the accounts.

The FAR Scholarship Activity schedule is virtually unchanged from that decided on at the outset of the program. It begins in December of each year with the preparation of the Award Regulations and a draft press release for the following year. After review and approval by the various sponsors, the release is sent to the major Amateur Radio magazines for publication in late April or early May. 01 June is the deadline for requesting applications, which must be returned on or before 01 July. In mid-July the Committee evaluates the applications and verifies the information submitted by the successful candidates. The Committee reports its results to the Foundation at its August meeting. Upon acceptance of the report, the candidates are notified by telephone. Confirming letters and checks are sent to the winners with copies of the letters to the sponsors. Those who also ran are notified by mail and thanked for their participation. A certificate is prepared for award to each winner at an appropriate amateur function at a later date in the area where the recipient lives. A press release announcing the winners is provided to the major Amateur Radio publications.

Restructuring

Among the 2,000-plus comments filed on the FCC's Notice of Proposed Rule Making is a comment by QCWA. Its contents, summarized below, may surprise you.

Here is a summary of the QCWA filing which appeared in the winter issue of the *QCWA Journal*. The QCWA recommendations to the FCC include:

A. A reduction of the present six classes of amateur licenses to three.

1. Technician	no code required
2. General	5 wpm
3. Extra	12 wpm

(What to call the "new" classes is the subject of much comment & controversy. Although we identified Technician, General and Extra, we will go along with whatever evolves.)

The Novice class be phased out and the present Novice and Technician class operators licensed prior to 1987 be grandfathered to the General class.

Technician Plus class licensees be grandfathered to the General class.

Advanced class licensees be grandfathered to the Extra Class.

B. General class licensees be authorized to serve as VEs for Technician class applicants.

C. RACES station licenses be deleted.

D. The Amateur Auxiliary continue policing improper radio transmissions.

E. As three levels of 5, 13 and 20 wpm code proficiency are not relevant to

QCWA

today's communication practices, only two code speeds be required for amateur licensing, 5 and 12 wpm.

Applicants for code proficiency be required to copy perfectly one full minute of the test.

Require handicapped applicants to substantiate claims for disability waivers.

Written examinations include advanced techniques and require a minimum passing grade of 75%.

Underlying these comments is the fact that QCWA recognizes that the world of Amateur Radio has undergone drastic changes in the past decade or two and that we, along with the rest of radio amateurs, must "keep up with the times."

In August the President of ARRL issued an open letter on restructuring. which says among other things "I am certain that some Hams will find change itself to be very discouraging. It is our nature to take things the way they are and the way they were. We're generally comfortable with that and not comfortable with change. In many instances, we would like to return to 'the good old days' of Ham radio. However, there are some very real reasons why Amateur Radio has to make some changes if it is to be around in the 21st century."

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.*

Battleship X

While turning the pages of the *Saturday Evening Post* during World War II, Harry Gartsman, W6ATC, came across an article about a mighty battle in the Pacific.

"It described the dramatic turn in the Pacific war when 'Battleship X' blew four big enemy battleships out of the water. What especially caught my eye was the statement that the success was greatly due to a new type of radar.

"As I was stationed at the Western Electric Company near Chicago as Assistant Inspector of Naval Materiel, and as our work was heavily involved with radar, I avidly read the article.

"At the time, everything about radar was extremely hush-hush. In our office, we took most of our shipping orders on the phone in guarded language. Mail was too slow and dangerous. Also, there was a frantic effort to keep on schedule. The discipline of those days shaped my future and is responsible for any success I have subsequently enjoyed.

"I investigated and learned that indeed, the battleship had used the MK8 Firecontrol Radar we manufactured. I also learned that a great many Amateur Radio operators played important roles in its development and use.

"For instance, at our company, as chief of the MK8 testing program was John Zwaska, W4WKQ, along with inspectors Rollie Long, W9NLP, Ed Dervishian, W9VSU, and Bill O'Brien, K6ZQ.

"My boss was the late Robert E. Trapeur who held a W7 call.

"And in the Pacific at Pearl Harbor, there were Cmdr. Ray Meyers, W6MLZ, and Leo Shepherd, W6LS.

"Of course there's the Navy Department at Washington D.C. and we had Hams there, too, such as Capt. Raymond W. Andrews, now K4FEI. He was in charge of allocation and distribution of Firecontrol Radar.

"We all felt the urgency and importance of the MK8. As Hams we could appreciate this remarkable device. It's antenna was made to sit atop the 16-inch guns. It consisted of an array of approximately 60 transparent polyglass rods the size of baseball bats, which radiated out to the tip.

"At times, we would hear about a major problem when a ship was in for battle damage. The workmen would paint the rods with metallic paint and of course that would ruin the antennas!

"Back in my office, I would get calls to rush new rods out to the airport for immediate shipments. I'd take them in my '37 Chevy convertible, hoping no one would know what precious cargo I was carrying.

"Yes, a lot of Amateur Radio operators were involved with this super-secret radar instrument which played a vital role in turning the tide of the war.

"And if you're wondering, Battleship X turned out to be the USS *South Dakota*."

Richard Fisher, KI6SN

Working 'weak ones' — '821K

As a longtime QRPer who believes "the best CW filter is the one between your ears," there was a sense of betrayal here at KI6SN when opening the box containing Vectronics' Super CW Filter Kit with 1-Watt Audio Amplifier.

After all, what could this little unit do that could possibly eclipse years of copying CW on crowded bands with just barebones transceivers, a pair of good headphones and a lot of mind-numbing concentration? In fact, a lot.

Designated the VEC-821K, the circuit features a switchable solid state filter using a pair of UA747 operational amplifiers creating four low-Q cascaded stages with insertion loss amounting to zilch (to use a technical term). Factored-out, that's eight poles of active IC filtering. "This results in a very narrow bandwidth and extremely high skirt rejection with minimal audible ringing," the 22-page manual touts, "making good signal copying possible."

The bandwidth of the '821K is adjustable from 180 Hz, to 110 Hz, to 80 Hz using a four-position board-and-panel mounted wafer switch. The fourth position bypasses the filter altogether so removing the '821K from the line is just a turn of the switch away.

The filter's center frequency is between 750 and 800 Hz, making it right on target for enjoyable copying on today's CW transceivers. Vectronics says skirt rejection is "at least 60 dB down 1 octave from center frequency for 80 Hz bandwidth." That translates to some serious single-signal reception even in the most crowded of band conditions or lousy propagation.

Behind the cascaded filter system is a 1-watt audio amplifier built around an LM380 chip. When the filter is switched out of line, the audio amplifier is switched out as well.

This was my first encounter with a Vectronics product, and I was quite impressed with the quality of the kit's components and the thoroughness of its construction manual.

The '821K is built on a single-sided printed circuit board approximately 3 inches square. The kit includes all board-mounted parts. While Vectronics offers cabinets for its kit line, I chose to get the board-only version and decide on an enclosure later. In addition to some form of housing, I needed only to add input, output and power jacks and a knob for the panel switch.

The filter/audio amplifier requires anywhere from 9 to 18 volts at 300 milliamperes. That's a little high on the current side, but you get an awful lot for your investment, believe me.

An inventory of the parts confirmed that everything arrived in good shape. Browsing the construction manual put me in mind of the late, great Heathkit's painstaking step-by-step building scheme. The manual's 22 pages carefully taking the builder through every parts' placement and installation.

Given the kit's comfortably spacious PC board and thorough manual, the '821K is just right for first-time builders. Here at KI6SN, it took a little over an hour to solder the parts on the PC board. The UA747s and LM380 are mounted in sockets, so there's no need to worry about damaging the chips during construction.

PC board traces are fairly widespread, reducing the chance for solder bridges. The wafer switch is mounted directly to the PC board, eliminating a maze of off-board wiring. It is rugged and serves in a second role to provide sturdy mounting for the front side of the board (through the chassis panel of your housing). The backside of the board can be mounted on standoffs with nuts and bolts.

The '821K gets high marks for quality, putting Vectronics among the other top drawer kit manufacturers in the market today.

After stuffing the PC board I took a few minutes to check my work, skim the construction manual one more time and examine the underside of the board for any soldering mistakes.

It all looked good, and it was time to apply voltage, a signal input and a small speaker to see what the Super CW Filter Kit the 1 Watt Audio Amplifier could do. Unfortunately, on power-up the answer was a bit unsettling: almost nothing.

There was a slight hiss coming from the speaker. But that was the result of ambient noise created within the circuit itself. Obviously for some reason my input was getting shunted before it could reach the output. A recheck of the board and the manual didn't provide an answer, or even a clue, to what was wrong.

I learned long ago that a good troubleshooting step is to hold your PC board up to a strong light source. Here at KI6SN it's a 200-watt incandescent bulb over the workbench. Look for "light leaks" through unfilled PC board holes indicating missing parts or wiring, or just plain poor soldering.

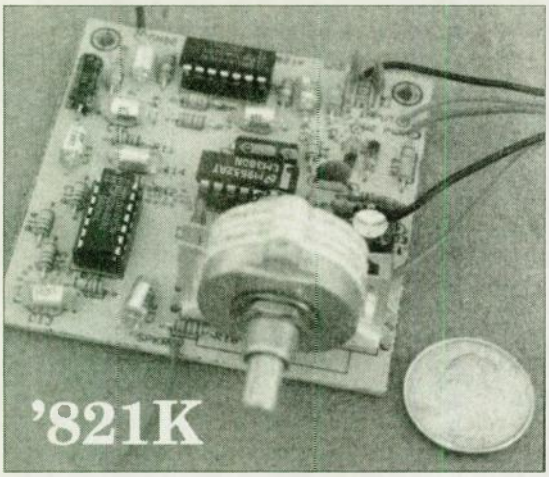
In the case of the '821K I found four "leaks." Three were marked W1, W2 and W3 respectively. Although not identified specifically in the manual, it was fair to assume they were benign test points or ports for additional, but optional, circuitry.

The fourth hole, however, was more curious and perplexing. Near the plus side of electrolytic capacitor C1 was a hole marked "Vcc" (schematic terminology for "voltage"). A quick check of the schematic showed that, indeed, there should be positive voltage at that point. An examination of the PC board traces showed that voltage was not getting to that point. So, putting two-and-two together, it appeared that the manual's final section on off-board wiring had neglected a step calling for a wire to be soldered at that "Vcc" point and connected to the B+ jack.

Adding the wire and re-applying power brought the filter and audio amplifier to life.

A quick call to Vectronics technical assistant Robert Ellis, KB5KTQ, confirmed that, indeed, voltage was needed at the hole marked "Vcc." He said some early versions of the '821K construction manual had gone out missing the step calling for a wire going to B+ from the hole near C1. Subsequent versions of the manual have been updated and all is now well, Ellis said.

I must say, as one who has never been a great fan of CW filters, I'm won over by Vectronics' '821K. Listening on 40 Meters late one afternoon there were lots of rather weak signals coming from



an Oak Hills OHR-100 I had set up on the bench. Band conditions were pretty lousy. Adding the Super CW Filter and 1-Watt Audio Amplifier gave the weak signal reception a new lease on life, however.

In the '821K's "bypass" position, it is fair to say the CW signals were "down in the mud." Switching the '821K to the 180 Hz position popped them to the forefront, after carefully tuning the transceiver to bring the note within the 750 to 800 Hz "window."

Switching to the 110 Hz position added even more life to the weak signals. At 80 Hz, signals that were barely copyable were now sitting alone in the skirt of the filter and solidly readable.

The manual says that the '821K performs with "minimal audible ringing," a pesky problem in many cascaded filter designs. I'm happy to report, however, that there was no ringing detected in my '821K. Very impressive. A pleasure to operate, even for a no-filter kinda operator like me.

The addition of a filter like the '821K to a QRP station's receiving system can mean the difference between successful QSOs and those that fall by the wayside. For many low power enthusiasts, the value of weak signal isolation cannot be more underscored.

In addition to step-by-step construction details, the manual also has easy-to-read schematics and pictorials, and portions devoted to basic building techniques, parts identification, testing and alignment, operating tips, theory of operation and specifications, and troubleshooting tips.

The Vectronics Super CW Filter Kit with 1 Watt Audio Amplifier is $29.95. The company will provide a custom case for the unit for an additional $14.95.

For information on Vectronics' full line of kits for radio amateurs or to order, write: Vectronics, 1007 Highway 25 South, Starkville, MS 39759. Or call toll-free: (800) 363-2922.

If you'd like to steer toward the straight and narrow in CW reception, Vectronincs' VEC-821K is a great way to get there. — *Richard Fisher, KI6SN can be reached at: 1940 Wetherly Way, Riverside, CA 92506 or via e-mail: KI6SN@aol.com.*

Holiday program extended

For the benefit of all readers not already familiar with it, I do circulate a monthly column called *The MARS Corner* via e-mail and through the Amateur Radio VHF Packet networks. If you do not receive *The MARS Corner* through one of those venues, please let me know and I will add your request to the distribution list. In this way, current news as well as the important ideas to be included in this column will be widely available to you all.

1998 was, indeed, the year in which the importance of the human element of Army MARS emerged as both vital and very much in action. The Army MARS volunteers carried the activities of Army MARS to new heights and very enthusiastically embraced the concepts of interoperability whenever possible.

"What better way to get young people interested in radio communications?"

The last operation of the year was the eighth annual Operation: Holidays, which was described in the December issue of this column. You were all invited to participate in the effort to support all of our military personnel who were deployed away from home during the holidays. A new opportunity was opened to us to support "Any Servicemember" who might be stationed in Europe, Africa, or the Middle East. This proved to be very popular among people who had no specific service person with whom he/she was associated but could support a service person anyway.

The "To Any Servicemember" program has now been extended into permanence and will be a part of the MARSgram opportunity for all of us to serve. Army MARS in Germany originated the program and gateway station/AEM1USA will continue to service it.

Closer to home, Army MARS volunteers have been busy all over the country taking Amateur Radio and Army MARS to schools and other public entities. What better way to get young people interested in radio communications? Radio communications isn't just a radio anymore but is a real collection of radio related technologies which can appeal to all kinds of interests. Schools in Arizona, New Mexico, California, and several other states contributed many of the "To Any Servicemember" messages which cheered our service people who were so far from home. Mr. Orlo Brown, AAR9UA, had processed 214 Operation: Holidays MARSgrams as of 18 December 1998 from Southern California. In New Mexico, a total of 130 MARSgrams came out of Bel Air High School and an ROTC group. An auxiliary member/AUX9AB captured 47 Operation: Holidays MARSgrams out of her school in Sierra Vista, AZ.

In another school operation, Bob Jackson/AAT8AA/T, still a MARS trainee (at this writing) took his radio gear to the Hot Springs, Montana. Elementary School in order to allow the students firsthand sound contact with the John Glenn shuttle launch. Mr. Jackson was part of the team of Amateur Radio operators spread across the country serving as emergency communications stations should Mission Control lose contact with the shuttle. (This back-up service by Amateur Radio was originated after the Challenger disaster and has been quietly in place for all of these years.) Thus this Army MARS member and his Amateur Radio cooperators served very similar roles that Army MARS follows at all emergency situations — back-up communications if needed. What is good for MARS is good for Amateur Radio and vice versa. I look to continued cooperation among all radio operators in all the varieties of radio interests being followed. Fortunately, there was no emergency with the shuttle mission and the students did not get a chance to communicate directly with the shuttle. However, they did have the opportunity to hear the event directly from Mission Control whose frequency Mr. Jackson was authorized to monitor in case they needed him.

Mr. Jackson said, "It was a blessing for me to share such an extraordinary moment in history with children who were truly awed by the whole experience. What an event."

Another fine link between Amateur Radio and Army MARS rests with the work of Cindy Rogers, AAA9AX, and her husband, Jim, AAA9AC. These two fine people work with other people with all kinds of disabilities both inside Army MARS with the Helping Hands program and outside Army MARS with equal enthusiasm and genuine practical help. In the MARS community, they have even gone interoperational in assisting a Navy MARS operator who is disabled and needed help.

Recently, Cindy, AAA9AX, was given North Carolina's highest award for her work with the disabled as Systems Operator for North Carolina Partnerships in Assistive Technology.

When Cindy was asked about the award, she said, "I was given an 'Award for Excellence' for helping the disabled to learn how to use the Internet, the computer, be an effective consumer, and enable them to use or get assistive technology and rehabilitative services. It was the state's highest honor in the field. I was amazed. It was given in front of and by all of the agencies private and public, that help the disabled in this state. There were a million more people who do a lot more than I. I was just without words when this happened."

This is the quality of service that Cindy brings to the Army MARS Helping Hands program. She and Jim are the experts and they have been instrumental in spreading that expertise generously throughout the MARS family of operators. There are operators in MI, WI, VA, and several other states who would not be operational without their help and the help that they were able to generate through very supportive members local to the members needing help in those states. Greater details will be given in subsequent articles since the human side of Army MARS is so very important. No MARS organization would be able to function without its volunteer members. Helping Hands is simply indicative of the devotion to service of the Army MARS volunteers.

Here's to the volunteers who keep Army MARS going... Proud, Professional, and Ready. — *Lorraine S. Matthew, N4ZCF, MARS Call AAA9PR, can be reached by e-mail at: LoriMatt @aol.com.*

10 Meters — the long path

After our move back north from Texas, we settled into our house here in Ft. Wayne in mid-October of 1988. One of the first things I did in connection with Amateur Radio before winter hit (you sure get spoiled in Texas) was to put up 30 feet of Rohn 25 tower. I put my 4-element 10m monobander on top of this little tower, and I had a great time working DX on 10m near the peak of Cycle 22.

During the spring and summer of 1989, I got up early in the morning many times to work Japanese and Australian amateurs on 10M via the long path. This path is a southeast heading out of Ft. Wayne, going over South America and Antarctica before going over the western tip of Australia and into JA-land.

This got me interested in trying to better understand 10M long path. As luck would have it, one morning I ran into Gus, K2ARO, on the band, and he said he had been working 10M long path from his New York QTH for many years. Figure 1 shows his long path to JA on a Mercator projection map for April at 1100 UTC (the tick marks are kilometers along the path). He offered his 1979-1993 log book data for any analysis that I might want to do. How could I refuse?

K2ARO's data provided the bulk of the material for my analysis, but I had a couple questions specific to the Midwest. By this time my 72-foot tower was up with the 10M Yagi on top, so this enabled me to answer these questions. What follows is a summary of my analysis. Although the 10M long path analysis is for the East Coast to JA, there are certain generalizations for the other areas of the U.S. The details are in my article in the *ARRL Antenna Compendium* Volume 4 (ARRL, 1995).

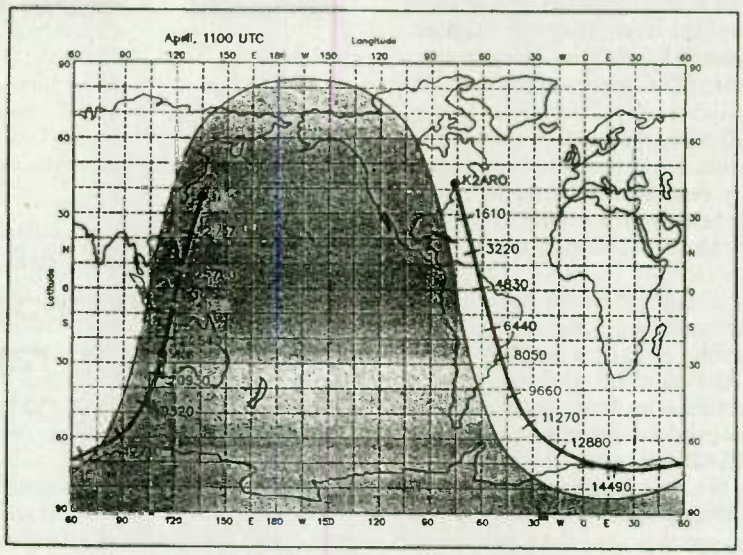


Figure 1 Long path from W2 to JA

Taking a look at the big picture, 10M long path is possible during any portion of the sunspot cycle when the smoothed sunspot number is above about 70. This comes directly from K2ARO's log data, as shown in Figure 2. A smoothed sunspot number of 70 gets the MUF up around 28 MHz all along the path. Looking at the Solar Cycle 23 update accompanying last month's column says 10M long path should be possible now. In fact, I'm already aware of three instances of 10M long path during the new solar cycle — back in November 1997 during the *CQ* World Wide DX Contest weekend, last May during the Dayton Hamvention weekend, and on 19 December of last year when K1RM worked a JA at 1205 UTC. Has anyone else worked any 10M long path recently?

Most of the openings occur from April through October. Don't rule out February/March and November — it's a possibility, although rare. You're probably reading this in late February or early March, so the best is just around the corner as can be seen by looking carefully at the distribution of QSOs in Figure 2.

Look for early morning openings generally from southeast through south just after sunrise for several hours. Look for late evening openings from south through southwest for several hours.

During the spring and fall months, the early morning long path will be available into locations both north and south of the equator on the far end of the path. In the summer, expect the locations south of the equator to disappear, but locations north of the equator can remain, compliments of trans-equatorial propagation.

On a given day, the best bet for an opening occurs when the A-index is 7 or below. This will give the longest duration openings. Since WWV gives the A-index for the previous day, the easiest thing to do is listen to WWV for the current 3-hour K-index. An A-index of 7 corresponds to a K-index of 2. K2ARO's log data suggests if the K-index is 2 or below, the duration will average about 40 minutes. If the K-index is 3, the average duration will be about 25 minutes.

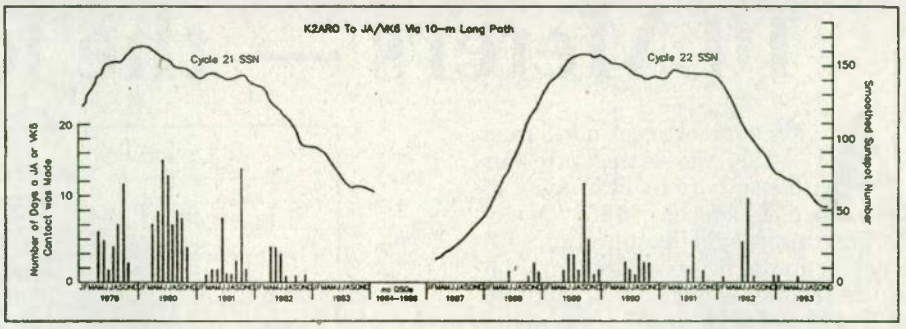


Figure 2. 10M long path availability versus SSN

K2ARO's longest duration opening to JA was a whopping two hours and 42 minutes during the morning of 18 June 1989. I kept skeds with JH3DPB during April 1992, and our longest opening was not far behind at two hours and 15 minutes. The difference is the time it took the sun to rise farther west in Ft. Wayne (as opposed to New York) to get the MUF high enough here in the Midwest.

With respect to your location in the U.S. (and Canada), expect the East Coast and Midwest to have long path 10M openings into VK6, JA, and other Asian countries at sunrise. By shifting K2ARO's path to the West Coast in Figure 1, it can be seen that those on the West Coast have openings to Eastern Europe, Western Asia, and Central Asia at sunrise (but the amateur population is significantly reduced in this area).

The previous openings are at sunrise at the U.S. end of the path. What about openings at sunset at the U.S. end of the path? Some more mental gymnastics with Figure 1 says these paths should exist. What's interesting is the possibility of good 10M long path openings at both sunrise and sunset. Along this line, NT5C in Texas sent me his 10M log data for March 1989 through April 1992. He worked Asians via the long path at sunrise, and European and Mideast stations via the long path after sunset. Kind of makes me want to be back in Texas to take advantage of this twice-a-day opportunity!

So point your 10M Yagi to the southeast, south, or southwest and see if you can work some 10M long path. The signals aren't real strong, but they are there for the taking. And don't forget to utilize the 10M beacons — they can be a big help. — *Carl Luetzelschwab, K9LA, can be reached at: 1227 Pion Rd., Ft. Wayne, IN 46845; or e-mail him at: rcluet@ftw.rsc.raytheon.com.*

Add *one* radial?!?
— more antenna hogwash

It's with profound regret that I must enter into this clarification of what recently appeared in a magazine dedicated to contesting. I say that because some of the Hams who act as my ears and eyes out there say the writer (who because of his other qualities will go unidentified) is a fine fellow and most helpful to many others and enjoys a great reputation.

However, as good a chap as he is, his material should not go uncorrected.

While writing on the subject of SWR as a measure of how closely the antenna impedance matches the coaxial cable impedance it was stated "Mismatch loss is real and reduces the total power delivered to the antenna for radiation." As an example "A 3:1 VSWR results in a 25% reflected energy, or a 1.25 dB mismatch loss."

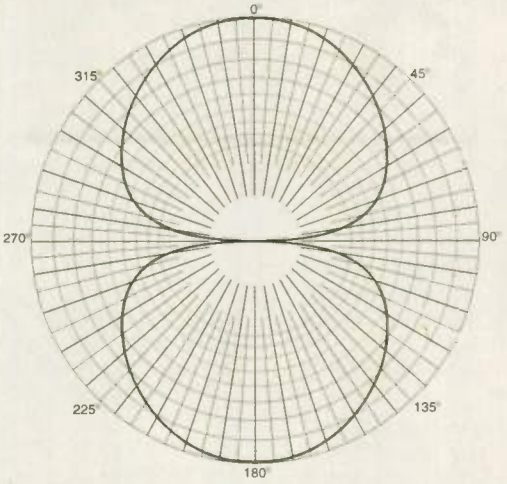
Alas, many, if not most reading that may conclude that the 25% reflected power is lost. Nothing could be further from the truth. The fact is that there is no loss at all. Why is this? Because when the reflected power gets back to the transmitter it combines with the forward transmitter power and goes right back to the antenna.

There are two traveling waves on a mismatched line, a forward wave carrying the transmitter power plus the reflected power, and a reflected wave carrying the reflected power. The power delivered to the antenna is the forward power minus the reflected power. Simple arithmetic shows this is the full transmitter power. There is no loss.

Of course, in this real world, coaxial cable does have loss and there will be a bit more loss if there is a mismatch because some of the power travels both ways on the cable. This depends on the frequency, the type of cable and its length. As an example, if you have a 3:1 SWR on 50' of RG-8 going to your 20M vertical in the yard, this extra loss will be 0.1 dB. Please take my word for it: The Ham on the other end of your QSO won't hear a bit of difference. As a matter of fact he won't see it on his "S" meter even with a magnifying glass.

Also, in the same article, an amateur with less background may draw the wrong conclusion because of the information presented in the article.

It said that if one's Autek or MFJ



antenna analyzer is overpowered by the signal from a nearby broadcast or CB station he should run the cable through a toroid as a RF choke.

Save your money. The signal is being picked up by the antenna and is flowing inside the coax along with the analyzer signal. A toroid on the outside of the coax does not affect signals flowing inside. In this case, it won't help at all.

In the same article, we're told that the reading you get with the antenna analyzer may differ from the reading of the transceiver's meter. True. And the reason? "50-ohm cables are virtually never 50 ohms, and cable length affects SWR readings." Well, yes, cables do vary and if the truth were known, the very popular RG-8/U cable is actually a nominal 52 Ohms, not 50 Ohms. Good old RG-58/U is either a nominal 50 Ohms or 53.5 Ohms.

But, commercial labs use their 50-ohm Bird Wattmeters all the time without worrying about this small variation in cable impedance. More likely the reason you get different readings is that SWR meters vary. The Bird has a rated accuracy of 5% of full scale. Is that meter on your rig more accurate than the Bird? Hardly.

It's easy to check. Tune your antenna for 1:1 SWR. Your SWR meters probably will all agree on this. Now turn one of the tuner knobs clockwise to get 1.5 and then 2:1 SWR. Check your meters each time. Then turn the tuner knob the other way until you get 1.5 and 2:1 SWR. Check your meters again. You may be surprised.

But stay calm. Do you really care if you read 1.5 or 1.6? What you want is an accurate reading when you adjust to 1:1 SWR. All decent meters will do this.

Now we come to one of the all-time real gems. In the November issue of the *Newington News* an amateur wrote in and said that he had a vertical with six radials. He asked if adding more would be worth the effort.

He was told (it's hard to keep a straight face as I tell you the rest of it) to add one radial and measure the results on a field strength meter. I quote: "If adding the temporary radial increases the reading substantially, it's worth the sweat to make it a permanent addition to the radial system."

What's happening here is someone who knows nothing about radials is being answered by someone who knows nothing about radials. First, in this absolute ludicrous travesty, what is "substantial" ? How is this to be interpreted by the questioner?

Now, substantial means "considerable" which means "rather large". How large is rather large in any measurable unit?

The puzzled amateur is also told, "If the needle barely rises.....adding more radials will not significantly improve your antenna's performance."

The column is called "Ask the Doctor" or some such. Well, doctors are told, "First do no harm." Which is not the case here.

The puzzlee is told to take readings with some two-diode-and-an-ammeter lashup. Good luck with that one! Some issues back I showed the stunning difference between a relative FS meter

and the real McCoy. (Allow me to digress for a moment. I've learned that the very fine Palomar Field Strength Meter now will accept the leads from your digital Voltmeter thus allowing you to measure right down to the fine nubbins.)

Anyway, this vertical owner is not going to see "substantial" or large changes at one radial at a time. That was really daffy advice.

So, as has happened a "substantial" number of times, it's (French horns swell to a crescendo) Kaptain Kurt, defender of the faith, to the rescue.

To set the stage for the following explanation we offer the following:

At some given distance, at some given power level, let's say your Field Strength Meter reads 196 milliVolts. If you double the power of the transmitter the meter will now indicate 278 milliVolts.

Here's how you reach that. First divide the 278 mV by the 196 mV.

You'll find that 1.418 is the answer. Next step is to square that 1.418 result.

Now, you have 2.01 as the answer. That is the power ratio. And, as you know, doubling (2.0) the power results in a 3 dB increase.

Here's another example. Say you are running a certain power and measuring at a certain distance and your FSM indicates 115 mV. And say you have obtained that result with but two radials on your vertical. Going to 15 radials will raise the voltage indicated up to 155 mV for a 1.82 power ratio gain.

Again, 155/115=1.348 and squaring that results in a 1.82 power increase. And that's pretty close to doubling which is close to a 3 dB gain which is a goal certainly worthwhile pursuing.

So let's look at radials and the resulting voltage readings.

02 radials is 115 mV.
15 radials is 155 mV.
30 radials is 165 mV.
60 radials is 180 mV.
113 radials is 185 mV.

Radial Increase	Voltage Ratio	Power Gain	dB Gain
02 to 15	1.3478	1.816	2.59
02 to 30	1.4347	2.058	3.13
02 to 60	1.5652	2.449	3.89
02 to 113	1.6086	2.588	4.13
15 to 30	1.0645	1.133	0.54
15 to 60	1.1612	1.348	1.29
15 to 113	1.1935	1.424	1.53
30 to 60	1.0909	1.190	0.75
30 to 113	1.1212	1.257	0.99
60 to 113	1.0277	1.056	0.24

None of this should be a big mystery as, among the sources, these radial and mV figures came from the book *Vertical Antenna Handbook* (CQ Publishing) by Naval Capt. Paul Lee, K6TS, who spent his career in communications. We interpolated the book's charts and then (for this article) calculated the voltage, power ratio and dB numbers . That classic book has been around for 25 years now. The current edition sells for a paltry $10 (800-853-9797). Small potatoes indeed for a book with such a tremendous amount of information. Of course, after buying it, one must read it, and again.

So, following that we find that incrementally the voltage increase going from 6 radials up to 7 radials is 3.0769 mV per increase or, 2.3%. Would you call that "substantial"?

It goes like this:

Radials	Voltage	Radials	Voltage
02	115.0	09	136.5
03	118.0	10	139.6
04	121.1	11	142.6
05	124.2	12	145.7
06	127.3	13	148.8
07	130.3	14	151.9
08	133.4	15	155.0

(Before any of my critics jump in, the above chart is not perfectly correct but is illustrative, actually the change is more geometric rather than linear.)

So you can see if that poor fellow with his six radials, as per the advice, had added that one more radial, he would have seen but an 3 mV change (2.3%). Through absolutely no fault of his own he would have rationally concluded that there was no point in going any farther. It will actually be closer to 2 mV.

I take no great joy in pointing this out. Our official journal should hold a revered place in our hearts and be worthy of respect. It is read by amateurs in practically every country and is the bellwether of Amateur Radio. It is on library shelves worldwide and therefore has a reputation to uphold. Certainly the degreed engineers in the laboratory there understand the theory behind radials. Or, are the staff (writing about the indicative seventh radial) not reading the radial articles in their own magazine and books?

There are other "authorities" who say 1/4-wave radials should float and half-wave radials should be grounded at the far end. Have any of the differing proponents ACTUALLY MEASURED the results from those opposing offerings? Sadly, doubtful. Because if they ACTUALLY MEASURED they might have to stand in the corner with the dunce cap on.

Finally laid to rest was that goof-ball theory that the far ends (away from the vertical antenna) of all the radials should be connected together in a great big circle. It seems that some brave soul made a measurement.

While everybody has the "double power and gain three dB" bit, not all are as facile with voltage changes. So, we'll present the following, which will apply also to any other figures. The percentages hold for from wherever you start to wherever you end up.

Voltage Start	Voltage Ratio	Gain in dB
1V	1.13V	1.0
1V	1.19V	1.5
1V	1.26V	2.0
1V	1.33V	2.5
1V	1.42V	3.0
1V	1.50V	3.5
1V	1.60V	4.0
1V	1.68V	4.5
1V	1.78V	5.0
1V	1.89V	5.5
1V	2.0V	6.0

Even many well-read amateurs may say: "I never saw it presented so clearly before." True, and that's why I get paid the big bucks.

(All of these articles will eventually appear in a book. It should be called the "antidote" book. Next month KNS will set his critics on their ears.)

FCC issues experimental license to ARRL

The FCC has issued an Experimental Radio Service license to the ARRL to permit tests in the vicinity of 5 MHz, the most likely site of the next amateur HF band. The license, bearing the call sign WA2XSY, was issued 08 January. A group of 15 amateurs in various parts of the U.S. and the Caribbean will conduct experimental, two-way RTTY and SSB transmissions within the band 5.100 to 5.450 MHz. To avoid interfering with existing services, the participants will confine their operations to the least-populated 50-kHz segment.

The Experimental license is good for two years. Studies by the National Telecommunications and Information Administration (NTIA) include an allocation at 5 MHz among the future spectrum needs for the Amateur Service. The subject is not likely to show up on the agenda of a World Radiocommunication Conference for several years.

Participating stations are in New Hampshire, Tennessee, Ohio, Florida, Mississippi, Wisconsin, Indiana, California, Utah, New York, Texas, the Virgin Islands, and Maryland. — *ARRL Letter*

Whose frequency is it anyway?

When the bands get crowded, amateurs often find themselves in conflict over clear frequencies, and they aren't always the most polite or restrained in the ways they handle these conflicts. In contests, activity increases dramatically, and the potential for conflict rises accordingly. Compounding the situation, contesters may be tired, overwrought and in an aggressive frame of mind. Frequency conflicts come in two general types: among participants in a contest: and between contesters and non-contesters.

Scuffles between contesters

If you want to "run," that is try to work as many stations as you can by calling CQ, the most precious commodity is a "clear frequency." If you find a clear spot, and start calling CQ, you may find after a few minutes that there is another contester doing the same thing on "your" frequency. How can this happen? The frequency was clear, wasn't it? That makes it yours, right?

Well, in the Amateur Service, no one has any proprietary right to any frequency. In practice, it is considered impolite to usurp a frequency used by someone else. Now, in the example above, it may just be that the other station also thought the frequency was clear, and like you, decided it was a good place to try to "run." It is just possible that until that instant, neither one of you thought the other was on that frequency. In fact, it is even possible that while you can hear the other station quite well, he or she may not hear you at all.

Why does this happen? Here are a few possibilities:

- accidental synchronization: You and the other station just might have asked if the frequency was in use at the same instant, and started calling CQ at the same time. This kind of accident is very common in contesting, where the "messages" we exchange are of a defined length, and we try to operate according to a consistent, predictable pattern.
- propagation changes. The ionosphere is in constant flux, and a particular path can be closed one moment, and wide open the next.
- one-way propagation sometimes happens. The ionosphere is full of strange tricks — that's why HF propagation is so interesting.
- differential radiation pattern: A transmitted signal may have a somewhat different pattern than the response of the same antenna on receive. You may have a null or a lobe somewhere you don't expect, as may the other person "sharing" your frequency.
- one of you may have turned your antenna slightly, thus steering a lobe where a null once was.
- the other station has a more selective receiver — if you are on slightly different frequencies, you may be just outside the other station's passband. He or she may not hear you, and still thinks the frequency is clear.

In none of these possibilities is anyone at fault. Events like these just happen, and are a natural consequence of a busy, crowded band.

There are other occasions, when someone reckons he or she can "steal" a frequency from you. This is somewhat less benign, but not necessarily malicious. We're all in competition, and just like marathon runners, there may be a bit of jostling for a clear spot on the track. People may try to see if they can make a better go of a frequency than you. If it becomes evident that they will fail, most people will give up after a few minutes, in search of a more amenable or productive frequency.

Conversely, if you are the subject of an attempted frequency theft, what should you do? Instantly conceding is not a good option. Becoming enraged is worse. I advise you to stick with your frequency. Wait and see what happens. If it becomes clear that the other station isn't attracting much attention, he or she may leave of their own accord. If it becomes clear that the other station is getting more replies that you are, shrug your shoulders and go looking for another spot, or take advantage of the break to "search and pounce" for new QSOs or multipliers.

Conflicts with non-contesters

There are non-contesters who jealously guard their preferred frequencies. There are nets whose members will claim their frequencies have been used for that purpose since Marconi wore short pants. There are people who have had more regular "skeds" on a particular frequency at a particular time than you've had hot dinners. There are slow-scan television (SSTV) operators who will defend 14230 kHz with everything they've got. The bands can be a minefield of people who reckon that what they're doing is more established, respectable and of greater value to society than your participation in a contest. Some will give up in the face of a barrage of busy contesters, others will stand their ground and make the best

Contests

of it, while a few demented others will resort to deliberate interference to get you off "their" cherished bit spectrum.

What should you do in this case? First, stand firm in the knowledge that no one has a proprietary right to any frequency, no matter how long a net or sked has been in place. 14230 kHz is well-known as the SSTV calling frequency, and it may be correct and right to respect it. You may have to make a calculation. Is it worth the fuss to stick to a frequency where you may alienate others? Is the interference tolerable, and can you run stations despite the objections of the others?

Remember, operating on the HF bands is a fluid situation, and that fluidity is just as, if not more present during a contest as at any other time. There's no general rule about who gets what frequency, so show as much flexibility as you can, while still advancing your quest for a better score.

Contest of the Month – ARRL DX SSB Contest

0000 UTC Sat. 6 March-2359 UTC Sun. 7 March 1999.

(PST: 4 p.m. Fri. 5 March-4 p.m. Sun.)

(EST: 7 p.m. Fri. 5 March-7 p.m. Sun.)

The CW contest took place at the same times on 20 and 21 February 1999 with identical rules.

This is one of the biggest events in contesting, surpassed only by the World-Wide DX Contests and the WPX Contests sponsored by *CQ* Magazine. In this contest, the SSB sections of 160 through 10 Meters (but not the WARC bands) fill with all sorts of DX. DX stations may work only Amateurs in Canada and the continental USA for credit, so not only will the DX be anxious to work you, but you will only be competing with other North Americans to work. DXCC in a weekend is quite commonplace in the ARRL DX Contest. This is a great opportunity for you to increase your DXCC total, or to find those missing zones for WAZ.

In each contact, amateurs in the continental USA send DX stations an RS signal report (usually 5-9) and state. DX stations (including those in Alaska and Hawaii) will send RS and power in watts. DX stations running 1,000w (or more) usually send "Kilowatt" as their power.

A typical QSO might sound like this:

Station 1: "CQ Contest, Kilo Eight Delta Delta, Kilo Eight Delta Delta, Contest" (Very short and to the point)

Station 2: "Lima Uniform Seven Delta Whiskey" (LU7DW replies just by sending his call sign once.)

Station 1: "LU7DW, Five Nine Michigan" (K8DD acknowledges the station to which he's responding, and sends a signal report and his state.)

Station 2: "Roger, Five Nine Kilowatt" (LU7DW confirms he received the information correctly, and sends a signal report and his power.)

Station 1: "Thank you, Kilo Eight Delta Delta" (K8DD thanks LU7DW for the contact, and is standing by for other stations to call him. If he gets no response, he'll call CQ again.)

Each QSO you make is worth three points. To calculate your final score,

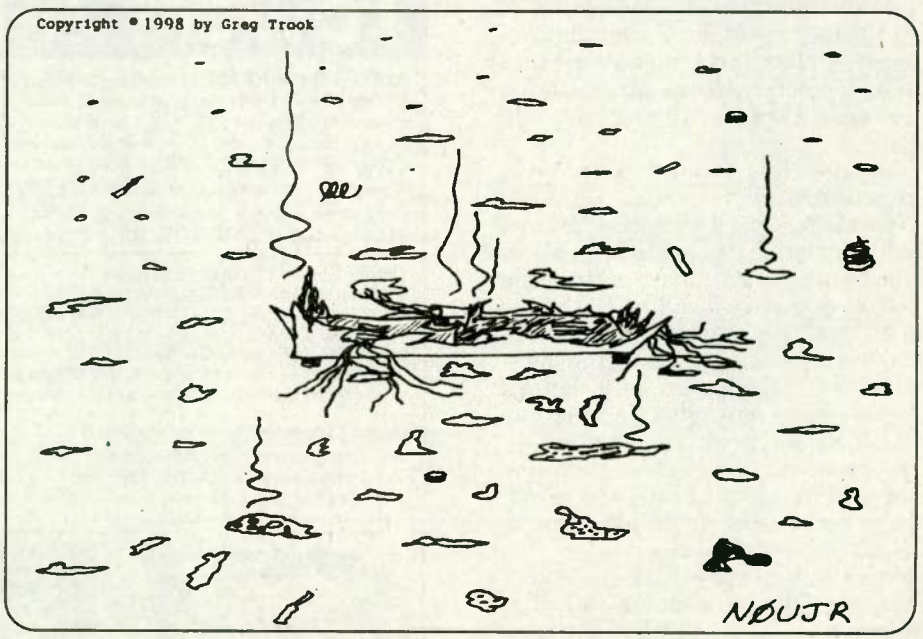


Fig. 3-2: Transceiver exploded view.

Contest Calendar

Contest	Date/Time	Bands	QSO points	Multipliers	Exchange	Entry Categories	Logs
ARRL DX SSB	0000Z 6 Mar 2359Z 7 Mar	160-10M SSB	3pt/QSO	Work stns outside Canada, US only DXCC on each band	RS QTH	Single Op: All bands, Single Band Assisted, Low power, QRP Multi-op: one, two or multi-tx	1mo. ARRL
CLARA and Family HF 1700Z 10 Mar 1700Z 16 Mar	1700Z 9 Mar 80-10M SSB 1700Z 17 Mar	80-10M CW 3pt/YL 2pt/CLARA fam mem 1pt/OM	5pt/CLARA mem DXCC	Canadian Provs, Terrs, Labrador + CLARA mbr?	Name QTH	Single op, all bands Trophy to high-scoring CLARA member, certificates to top family member, DX YL, OM All entrants are eligible for a prize	11 April Contest VA3WX
World Wide Locator Contest (Czech Rep.)	0000Z 13 Mar 2359Z 14 Mar	160-10M CW and SSB from grid centre to grid centre	+1pt for each 500km measured	x2 on 80M x4 on 160M	Grid Field (first two letter of grid square) RS(T) + 4-character Grid Square (ie. FN25)	Single Operator: - Mixed Mode, CW, SSB - High or low power (max 100w out) - All bands, single band, any 2 bands Multi-op: - Mixed Mode, CW, SSB - Single tx, two tx, Multi-tx	15 May OK2FD or e-mail to ok2fd @contesting.com NOTE: Electronic logs only
Commonwealth Contest or BERU (RSGB)	1200Z 13 Mar 1200Z 14 Mar	80-10M CW	5pt/QSO Work only Commonwealth	No mults: 20pt bonus for 1st three QSOs with each Commonwealth call area (DXCC ctys + VE/VK/ZL/ZS call areas - All G/GM etc. count as one call area) and HQ stations.	RST Ser#	Single op All bands: - Open (max 24 hrs of operation) - Restricted (max 12 hrs of operation) HQ stations will send "HQ" after the serial QSO number	7 April G3UFY
QCWA QSO Party 1900Z 14 Mar	1900Z 13 Mar	160Z UHF+ 2pt/CW QSO	1pt/SSB QSO Terrs, US States,	QCWA Chapter, Canadian Provs & DXCC countries count once on each "band". Rules allow for 15 "bands": 160M, 80CW, 80SSB, 40CW, 40SSB, 20CW, 20SSB,15CW, 15SSB, 10CW, 10SSB, 6M, 2M, 135cm, 70cm and beyond. A QSO w/W2MM counts three multiplier points.	RST Year first licensed QCWA Chapter# or Prov/Terr. State/country	QCWA members, QCWA non-members Novices	30 days W4BK
Wisconsin QSO Party (USA)	1800Z 14 Mar 0100Z 15 Mar	All Amateur bands (exc. 10, 18, 24) CW, SSB & FM	1pt/SSB 2pt/CW	Stations outside Wisconsin work Wisconsin only. WI work everyone Stns outide WI: WI counties (72) Station in Wisconsin: WI counties, US states, Canadian provs & terrs.	RST and WI county or State/Prov/ Territory	Single op, Multi-op single Tx, Multi-op Multi-tx. Within each, there are sub-categories for fixed, mobile, Novice- and Technician-class stations.	31 March WARAC Box 1072 Milwaukee WI 53201
Bermuda Contest	0000Z 20 Mar 2359Z 21 Mar	80-10M CW & SSB	5pt/QSO	VP9 stations multiplied by DXCC/ WAE countries worked on ea. band	RST	Single op, all bands (max. 24 hours of operation) The worldwide winner will have their airfare paid to Bermuda so they can collect their trophy in person!	25 May Box 275 Hamilton HM AX Bermuda
Alaska QSO Party 2359Z 21 Mar	0000Z 20 Mar Satellites	160-10M + 2pt/CW QSO CW & SSB	1pt/SSB QSO Alaskans work everyone, others	x2 on 160M,80M and satellites. work Alaska only For stns outiside AK: AK cities For Alaskans: US States, Canadian provinces and DXCC countries.	Alaskans: RST City Others: RST State	Single op, Single op QRP Multi-op, single tx Suggested frequencies: 1835, 3700, 3875, 7035, 7135, 7235, 14035, 14245, 21135, 21335, 28135, 28335kHz	30 June KL7CC
YL ISSB QSO Party	0000Z 20 Mar 2359Z 21 Mar	160-10M SSB	1pt/non-Member 3pt/Member in your continent 6pt/member on another continent	US states, Canadian Provs & terrs, VK znd ZL call areas, yl/om teams, W/DX teams	RST QTH ISSB#	Single operator YL/OM teams W/DX teams	30 Apr N4KNF
BARTG RTTY (UK)	0200Z 20 Mar 0200Z 22 Mar	80-10M RTTY	1pt/QSO	DXCC + Canada/Australia/USA Call Areas	RST Ser#	Single Op: All bands, single band Multi-op SWL	29 May G4SKA
Russian DX Contest 1200Z 21 Mar	1200Z 20 Mar CW and SSB	160-10M 3pt/other NA	2pt/own country on each band. country 5pt/DX 10pt/Russian stns	Russian Oblasts & DXCC countries Russian stations will send a two-letter Oblast identifier.	RST Ser# Multi-op, single Tx	Single op: All bands, single band SWL	30 days SRR, Box 59 105122 Moscow Russia or e-mail: ra3auu@ contesting.com
Virginia QSO Party (USA)	1800Z 20 Mar 0200Z 22 Mar 0500-1100Z off time for everyone	All Amateur bands (exc, 10, 18, 24) CW, SSB & FM	1pt/SSB 2pt/CW 3pt/VA mobiles	Stations outside Virginia work Virginia only. VA work everyone Stations outsideVirginia: Virginia counties Station in Virginia: VA counties, US states, Canadian provs & terrs, DXCC countries.	RST and VA county or State/Prov/ Terr/DXCC country	Single Op: Mixed mode, CW only, Fone only, QRP CW only, VHF only Multi-op: Single or multi-trasnmitter.	30 days SPARC Call Box 599 Sterling VA 20167
CQ WPX SSB	0000Z 27 Mar 2359Z 28 Mar	160-10M SSB	0pt/own country 2pt/other NA countries 3pt/DX	x2 on 160 80 40M Total of prefixes worked, regardless of band	RS Ser#	Single Op: All bands, Single band, Assisted, Low power, QRP Multi-op: Single or Multi-tx	1mo. CQ mag
Michigan QRP Club CW Sprint	2200Z 2 Apr 0200Z 3 Apr	160-6M CW	5pt/ QSO w/mbr 4pt/DX 2pt/USA & Canada	US States, Canadian Provs & Terrs, DXCC countries Total score x1.25 if you used a home-made TX or RX, x1.5 if all home-brew gear	RST QTH MI-QRP membership number	A- 250mW or less B- 250mW to 1W C- 1W to 5W D- Over 5W out	30 days Good Friday N8CQA
SP DX Contest (Poland)	1500Z 3 Apr 2359Z 4 Apr	160-10M	3pt/QSO Work SP only	Polish provinces (49) SPs will send 2-letter prov abbrv.	RST Ser# SWL	Single Op: All bands, single band Multi-op 00-950 Warsaw	1mo. Box 320

Contest Calendar

Contest	Date/Time	Bands	QSO points	Multipliers	Exchange	Entry Categories	Logs
Spanish RTTY	1600Z 3 Apr 1600Z 4 Apr	80-10M RTTY	2pt/DX 1pt/NA	x2 on 40, 80M CQ Zones and Spanish Provs (52) EA stations will send 1- or 2-letter province abbreviations	RST CQ Zone	Single Op: All bands, single band Multi-op SWL	Box 240 09400 Aranda de Duero (BU)
YLRL DX-YL to NA-YL CW	1400Z 8 Apr 0200Z 10 Apr	80-10M CW	1pt/QSO	YLs in North America work YLs on other continents. Alaska counts as outside NA DXCC countries ARRL/RAC sections	RST QTH	Single Operator only	30 days WO6X
Japan Int'l DX High-Band CW	2300Z 9 Apr 2300Z 10 Apr	20-10m CW only	2pt/JA Work JA only	JA Prefectures (50) JAs will send 2-digit prefecture #	RST Ser#	Single Op: Both bands, single band Multi-op	30 Apr Box 59 Kamata Tokyo 144
Int'l HF Grid Location Contest (USA)	1200Z 10 Apr 1200Z 11 Apr	160-10m CW and SSB Work each stn once on each band/mode	1pt/QSO	Grid squares (ie. FN25) on ea. band	Grid Name	Single op: Mixed mode, CW only, SSB only multi-op Two Tx Rover (one or two ops moving from grid to grid)	30 days Box 180703 Austin TX 78718 or e-mail: geoiii@bga.com
QRP ARCI Spring QSO Party CW	1200Z 10 Apr 2400Z 11 Apr	160-6M CW	5pt/QSO with QRPARCI mbr. 4pt/DX non-mbr 2pt/North Am. Non-mbr.	US States, Canadian Provs & Terrs, DXCC countries Multiply your score by 1 you ran over 5W, by 7 if you ran under 5W, by 10 if you ran under 1W, or by 15 if you ran under 250mW.	RST QTH + QRPARCI mbr number; non-mbr send pwr	Single op: All bands, High bands (6-10M), Low bands (40-160M) Also "teams of two to five entrants - register your team with N6GA before the contest.	30 days N6GA
King of Spain	1800Z 10 Apr 1800Z 11 Apr	80-10M CW and SSB	1pt/QSO	Spanish Provs (52) worked on each band. Spanish stations will send a one- or two-letter province identifier after the Ser#	RST Ser#	Single Op Multi-op SWL	16 May Box 220 Madrid Spain

Addresses: CQ — 25 Newbridge Road, 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.

first add up all the points from all the contacts you made. This gives you your "QSO points." Then total the DXCC countries you worked on each band. Sum your country count from all bands and multiply that figure by your "QSO points."

Your log

If you use paper log sheets, you can get official forms for a large self-addressed stamped envelope or $1 from ARRL, 225 Main Street, Newington CT 06111. They also have a web site (www.arrl.org/contests) from which you can send them to your own printer.

As always, there is plenty of good logging software that makes submitting your entry a snap. CT by K1EA, NA by K8CC and TRLog by N6TR all handle this contest exceptionally well. If you do use a computer to log, you can send in your entry by e-mail. Contact ARRL's contest department on contest@arrl.org for more details.

The deadline for entries is one month after the contest. Send your entry to ARRL DX SSB Contest, 225 Main St., Newington CT 06111.

March contests

March is a very busy month for contests. This time of year features some of the best HF propagation worldwide, coincident with the solar equinox. Certainly the biggest events are the ARRL DX SSB contest, featured above, and the *CQ* WPX SSB contest at month-end. The WPX SSB was featured as "Contest of the Month" in the March 1998 issue of ***Worldradio***.

One new contest that may be worth exploring is the first "World Wide Locator Contest," yet another attempt to employ Grid Squares, commonly used by VHF DXers, in an HF contest. This takes place on the second weekend of March.

The Russian DX contest and the Bermuda DX contest, both on the third weekend of March might be very interesting. There are lots of very capable Russian contesters, and their events are usually well-attended and a good place to find rare Russian Oblasts, or provinces. The Bermuda contest offers not just a trophy to the top-scoring entrant, but the airfare to come to the Radio Society of Bermuda's annual dinner to pick it up.

Among the other notable events is my personal favorite, the RSGB Commonwealth Contest. Also known as the "BERU," this contest is only open to stations within the Commonwealth, so U.S. amateurs are excluded. If, on the second weekend of March, you hear people calling "CQ BERU" or "CQ CC," please tune right on by.

March also features a variety of smaller contests, including state QSO parties for Wisconsin, Alaska and Virginia.

73 and good luck in the contests, —

— Dave Goodwin, VE2ZP/VE9CB can be reached via e-mail: ve2zp@rac.ca or VE2ZP@newforce .ca; packet: VE2ZP@ VE3XRV. #EON.ON. CAN.NOAM.

ARIZONA

Scottsdale ARC Hamfest 13 March at 6 a.m. at Scottsdale Community College(101 North, exit Chaparral Rd. 9000 E. Chaparral Rd. Scottsdale, AZ) Admission: $2. Table: $5. Talk-in: 147.18 or 440.00. For info: Roger Cahoon, KB7ZWI, 8501 E. Edward, Scottsdale, AZ 85250. Phone: 602/948-1824. Fax: 602/943-3548

CALIFORNIA

Yuba Sutter ARC Swap meet 13 March at American Legion Post (5477 Feather River Blvd., Linda, CA) Free admission. Breakfast served by the American Legion for $3. Table: $10. For more info contact: Clara, KC6JPP 530/742-2674, or Ron, W6KJ, tel.: 530/674-8533; e-mail: rdmw6kj@succeed.net.

CONNECTICUT

Radio Amateur Society of Norwich Connecticut (Waterford) Ham Radio Auction 27 March at 10 a.m. at Waterford Senior Center on Rt 85(from Hartford, take Rt. 2 South to Rt. 11 to Rt. 85 South; from Shoreline take Rt. 95 to Rt. 85 North.) Free admission/parking. Talk-in 146.730 (–). Bring gear to sell (10% commission to RASON) Setup 9 a.m. For info: Tony, AA1JN at 860/859-0162 or the RASON website at www.ims.uconn.edu/~rason.

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Southington ARA Fleamarket/Hamfest 21 March doors open at 9 a.m. to the public. Location the Southington High School. Admission: $4 Tables $12 advance, $15 at the door. VE testing 10 a.m. SASE to SARA Ham Fest, c/o Chet Bacon, KA1ILH, 138 1/2 Summit St., Plantsville, CT 06479-1125; tel.: 860/628-9346 E-mail: hcbacon@connix.com. Website: http://www.connix.com/~hcbacon/sara.html.

FLORIDA

Lake ARA Hamfest 28 March, 7 a.m.-1 p.m. at Lara Clubhouse off State Rte. 473 on Springdale Ave. (Behind Haines Creek Baptist Church) Leesburg, FL. Free tail gate. Free Admission. Talk-in: 147.225 (+). For info: Paul Branch, K3NON Phone: 352/343-8729. E-mail: w8hfk@aol.com

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Gulf Coast ARC "Hamfest Under the Sun" 6 & 7 March 8 a.m.-5 p.m. Sat and 8 a.m.-3 p.m. Sun. at Fred K. Marchman Technical Education Center. Admission: $4. Table or Tailgating: $4 ea. For info: Rick, KF4GXS 813/842-2127. E-mail: richar@gte.net. or mail: Gulf Coast ARC, P.O.Box 595, New Port Richey, FL 34656-0595.

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Englewood ARS HAMCOM '99 13 March 8 a.m.-2 p.m. at Tringali Community Center.(SR 776 Englewood East) Talk-in: 146.700 Admission: $3 advanced, $4 door. Tables $10 at door. Advanced special, ticket and table $10. Tailgating $5. For more info contact. George, KA4JKY, 13591 Martha Ave., Port Charlotte, FL 33981. Phone: 941/697-3445. E-mail: gshreve@ewol.com.

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Zephyrhills Area ARC Phinney Fest 7 March at Lions Club (5827 Dean Dairy Rd., Zephyrhills, FL 33541). Tailgate section. Free parking. Admission: $4. Table: $4. TI: 147.135. Info: Ernie Vanselow, KD4VRV, 37536 Auric Terrance, Zephyrhills, FL 33541. Tel.: 813/783-8389. E-mail: kd4vrv@ gte.net.

ILLINOIS

Sterling-Rock Falls ARS Hamfest 14 March, 7:30 a.m. at Sterling High School Fieldhouse (1608 4th Ave.) Featuring food, indoor flea market, radio & electronic items, computer and hobby. Free parking, including RV spots. admission: $3/advance, $4/at door: $4. Tables $5. Table w/power $6. Setup 6-9 p.m. Sat. and 6 a.m. Sun. Talk-in: 146.25/146.85. For info Lloyd Sherman, KB9APW Sterling-Rock Falls ARS, P.O. Box 521, Sterling, IL 61081-0521. Phone: 815/336-2434. E-mail: lsherman@essexl.com. For advance tickets send SASE by 1 Mar.

INDIANA

Michigan City Hamfest/Computer Flea Market 27 March, 8 a.m.-1 p.m. at Michigan City High School.(8466 W. Pahs Rd.) Early setup for vendors. Addmission: $4, and children under 12 are free with a paid adult. Reservation and info: Ron Stahoviak, N9TPC, 5802 N. 400 W., Michigan City, IN 46360. Phone: 219/325-9089.

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Morgan County Repeater Association, Inc. Indiana Hamfest & Computer Show 14 March from 8 a.m. (vendor setup on Sat.) at Indiana State Fairgrounds, East Pavilion Building (1202 E. 38th Street in Indianapolis). 500 indoor tables, commercial vendors, forums. Admission: $7. Talk-in on the MCRA repeater 147.060 (+). Info : Dennis Bauerfiend, WB9ZNZ at 317/996-3782. E-mail dbauerfiend@cleveland.dfas.mil.

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The **Columbus ARC** Hamfest 27 March, 8 a.m.-2 p.m. at Bartholomew County 4H Fair Grounds, Community Building (on State Road 11, S.W. of Columbus, IN) Admission $3.50 advance, $4 at the door. Tables: 8 ft. $8; 6 ft. $6. Setup: Fri. 6 p.m.-9 p.m. and Sat. from 6 a.m. Talk-in: 146.790/146.190. For more info contact: Marion Winterberg, WD9HTN, 11941 W. Sawmill Rd., Columbus, IN 47201-8000. Phone: 812/342-4670. E-mail: winterbe@hsnline.net

MASSACHUSETTS

Mount Tom ARA Hamfest & Flea Market 7 March, 9 a.m. at Westfield Middle School. Admission $4, Children under 12 free. Tables: $15. setup time 7 a.m. Tailgating:$5. Featuring Amateur licensing; commercial licensing GROL, GMDS-O/M, Ship

Radar, etc. For info.: Jim Allen, N1RUT Phone: 413/536-5182. E-mail: jim.allen@the-spa.com. Website: www.mtara.org.

MICHIGAN

Southern Michigan ARS Michigan Crossroads Hamfest 29 March from 8 a.m.-3 p.m. at Marshall High School (I-69 to I-94 East to Exit 110 or I-94 to Exit 110 (old 27), then South and East to school.) Radios, Computers and Crafts. Admission: $4 advance, $5 at the door. Table: $1 per foot (min. 4 ft.) Setup at 6 a.m. Talk-in: 146.66 or 146.52, For info.: Wes Chaney, N8BDM 616/979-3433 or send SASE to: SMARE, P.O. Box 934, Battle Creek, MI 49016.

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Tri-County ARC Hamfest 21 March, 8 a.m.-2 p.m. at Jefferson County Fairgrounds Activity Center (Hwy 18 W.) VE testing, food, handicap accessible, Talk-in:145.49. Admission $4. Tables: 6 ft. $5, 8 ft. $6. Setup 7 a.m. Info: SASE to: TCARC, 711 East Street, Ft. Atkinson, WI 53538. Tel.: 920/563-6502. E-mail: tricounty arc@globaldialog.com.

MISSISSIPPI

Jackson County ARC Hamfest 5-6 March, 5-9 p.m. Fri. and 8 a.m.-3 p.m. Sat. at Pascagoula MS Civic Center, on the Jackson County Fairgrounds. Talk-in: 145.110(–) or 146.880(–). Admission: $2.50, children under 12 free. Hourly door prizes. Grand prize at 8:30 p.m. Fri. and 2:30 p.m. Sat. Table: $8. VE testing. For info: Charles F. Kimmerly, 19000 Busby Rd., Vancleave, MS 39565. Phone: 228/826-5811.

MISSOURI

Ararat Amateur Radio Shrine Club Hambash 13 March at Ararat Temple (5100 Ararat Dr., Kansas City). Setup 6 a.m., open 8 a.m.-2 p.m. Admissions $3/advance, 3/$5 at door. Tables $15 (3 admissions included). For VE exam send completed 610 to: Exam registration, P.O. Box 12757, No. Kansas City, MO 64117; Fax 816/842-0800. Table reservations/info: Steve Dowdy, WJØI, 12411 Olive, Kansas City, MO 64146; Tel.: 816/941-3392; e-mail: sdowdy@qni.com. Advance tickets: Roger Bessmer, KBØIIG, 7817 NW Pleasant Ford, Weatherby Lake, MO 64152.

NEW JERSEY

Delaware Valley Radio Association Hamcomp '99 21 March at Tall Cedars of Lebanon picnic grove, Sawmill Rd, Hamilton Twp, NJ (I-95 N. to I-295 S.; exit 60a to I-195 E.; exit 2 to Yardville; South Broad St. to end, approx 3.7 miles; left at Yield onto Old York Rd. exit right Sawmill Rd.; site 1.1 miles on right.) Open 8 a.m. Free parking, refreshments. Admission $6. Spouses and children free. Tailgating $10, Table $15, both include 1 admission. Talk-in 146.67(–). Info: Hamcomp '99, DVRA, P.O. Box 7024, West Trenton, NJ 00620; Tel.: 609/002-2240; Web: www.slac.com/w2zq.

NEW YORK

Westchester Emergency Communications Association WECA-Fest on 21 March at Yonkers Raceway (I-87 from the North exit 4 to South exit 2). Talk-in: 147.66/06 PL 114.8. Doors open 8 a.m.-2 p.m. Admission $7. 150 vendors, new & used, forums, license exams, door prizes, demos and a tech table. For info: Tom Raffaelli, WB2NHC 914/741-6606 or the WECA website at www.weca.org.

OHIO

Toledo Mobile Radio Association Hamfest/Computer Fair on 21 March 8 a.m.-2 p.m. at Lucas County Recreation Center(2901 Key St., Maumee, OH) Indoors, 500 tables and free parking. Talk-in: 147.27(+) or 442.85 (+). Tickets $4.50 advance, $6 at door. For table application, advance tickets or other info: SASE to Paul Hanslik, N8XDB, TMRA, P.O. Box 273, Toledo, OH 43697-0273. Phone: 419/243-3836.

TENNESSEE

Shriners of Kerbela ARS Hamfest 6 March 8 a.m.-4 p.m. at Kerbela Temple (315 Mimosa Ave., Knoxville, TN 37901.) Admission: $5. Table: $8. Setup 4-8 p.m. Sat. 5-8 a.m. Sun. Talk-in: 144.83/145.43 or 146.52 simplex. For info.: Paul Baird, K3PB 1500 Coulter Shoals Circle, Lenoir City, TN 37772. Phone: 423/986-9562.

TEXAS

Midland ARC St. Patrick's Hamfest on 20-21 March, 9 a.m.-5 p.m. Sat. and 8 a.m.-2:30 p.m. Sun. at Midland County Exhibit Building. Flea market, dealers, tailgate area. T-hunts and hot meals. VE exams at 1 p.m. Sat. Pre-Reg.: $7. Reg.: $8. Table: $12. For info.: Midland ARC at P.O. Box 4401; Midland, TX 79704, or Larry Nix by e-mail at oilman@lx.net. Web: www.lx.net/edge.

VIRGINIA

Vienna Wireless Society Winterfest 28 Feb., 6 a.m. at the Northern Virginia Community College Gym. VE exams and Tailgating. Admission $5, XYLs free. $10 fee for tailgaters includes admission. Talk-in: 146.31/91. For info: Jim Parsons, WA4LTO 703/392-0150. E-mail: k3mt@erols.com; Website: www.erols.com/k3mt/vws.

WEST VIRGINIA

Charleston, West Virginia Area Hamfest/Computer Show on 21 Mar. from 8:30 a.m.-3 p.m. at the Charleston Civic Center. Admission: $5. Tables $9 before 1 Mar., $12 at door. For info.: Charleston Area Hamfest, P.O. Box 916, St. Albans, WV 25177, or call Jimmie Hewlett, WD8MKS, at 304/768-1142 or E-mail crwhamfest@juno.com.

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

VTDATA vacuum tube manual

VTDATA is a complete vacuum tube manual on your computer. It has all the information you'd expect in a tube manual, plus several powerful features for using that information. VTDATA's database also includes vacuum tubes of historical interest such as the early "two digit" types (45, 80, etc.) and hi-fi audio types.

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Requires an IBM/PC (or compatible), DOS 4.01 or higher, or a DOS window in Windows 95/98. A 3.5 inch floppy disk drive is required for installation.

To order send check for $29(U.S.) (plus $3 shipping and handling) made payable to "EPS/Solutions" to: EPS/Solutions, VT Software, P.O. Box 862, Broomall, PA. 19008-0862. See the VTDATA website at http://members.aol.com/EPSweh/vtdata/ for more information.

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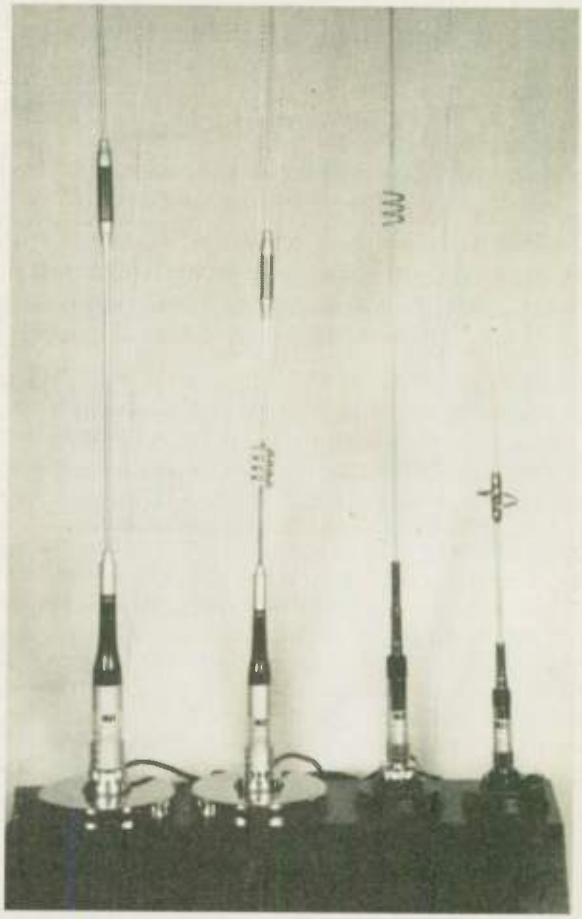
Heavy duty bases are super rigid and reduce SWR flutter due to wind vibration. Double Allen set screws securely



fasten radiator

All RuffRider antennas are dual band 144/440 MHz antennas and are factory tuned for SWR less than 1.5:1 and have 50-ohm impedance. Each comes with a SO-239 base with a free NMO adapter and ten feet of low loss coax with a PL-259 connector. Allen wrenches and protection caps for SO239 base mount and locking screws are included.

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The MFJ-922 VHF/UHF Dual Band Antenna Tuner is only $79.95!This compact dual band VHF/UHF antenna tuner has a single meter that reads SWR and power. It covers VHF 136-175 MHz and UHf 420-460 MHz. You can read power up to 150 Watts in two ranges: 60 Watts or 150 Watts. MFJ-922 is a great antenna tuner for HTs,

mobile rigs or amplifiers up to 150 Watts. Its supercompact size lets you take it anywhere. Measures a tiny 4x2x1¼ inches. SWR tuning tool is included.

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MFJ-29C protects your MFJ-259B or other SWR Analyzer from harm for only $24.95. Customers have asked for a protective carrying case and MFJ has delivered! This soft foam carrying case protects your MFJ-259B from casual bumps, scrapes and scratches and has a large, clear plastic protective LCD and meter window that lets you operate your MFJ-259B without taking it out of its pouch. Convenient component hole cutouts allow coax, antenna, dip coil or frequency counter input without taking your MFJ-259B out of the pouch. A heavy duty nylon shoulder strap has a tough rubber guard and strong hard-plastic clips on each end. Makes it easy to carry up on your tower or to remote locations. Tuning and bandswitch knob holes make tuning precise and easy! The MFJ-29C also has a convenient KangaPoc back pocket for carrying dip coils and other antenna related accessories.

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. Your VE exam information can also be sent to us via the World Wide Web at http://www.wr6wr.com. We have an online form for easy submission. We also have up-to-date listings on our website. 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.

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A fantastic voyage — Amateur Radio on a raft!

Amateur radio is the primary means of communications for a high seas raft ing expedition. Led by John Haslett, KC5KHA, the raft is a meticulous replica of those used by the Mantenos civilization. The Mantenos were a pre-Columbian civilization that dates back to 500 A.D. living in what is now northern Ecuador.

Working with archaeologist Cameron McPherson Smith of San Diego, California, Haslett and associates built their raft according to records preserved by Manteno ancestors living in Ecuador. The four-man crew began its journey in Ecuador, stopped for emergency repairs in Colombia and now plan to cross the Pacific to Hawaii. They hope to reach Acapulco, Mexico, before March and then begin the 3,300 mile Pacific crossing that could take three months.

The raft is equipped with a high frequency Amateur Radio station. It has also been stocked with five months of water and rations. This includes four hundred pounds of rice, three hundred pounds of flour, stores of marmalade, hot chocolate and lots of coffee. The main staple, however, will be fish, which the men plan to catch and cook on gas stoves.

The Amateur Radio station, an inflatable life raft and cooking stoves are the only items not available to the Manteno mariners. The 5,500-mile voyage will cost $75,000, most of which was raised from donations. KC5KHA says he was inspired to make the trip by Norwegian explorer Thor Heyerdahl, who described his 1947 raft crossing of the South Pacific in the book, *Kon Tiki.* — *Newsline*

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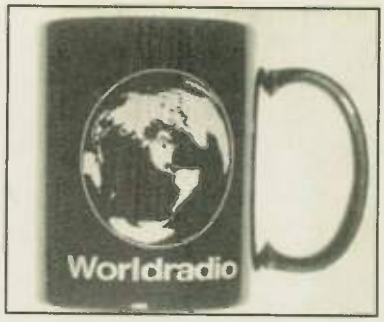

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Amateur Radio hero honored

Lonnie McVaigh, KB9LUN, featured on the cover of the April 1998 issue of ***Worldradio*** has been honored with an International award. Lonnie was presented with the Keene Memorial Service Award in a ceremony 19 November 1998 in Decatur, IL. Bascombe "Jay" Wilson, director of the Disaster Preparedness-Emergency Response Association, International, of Denver, Colorado, made the presentation along with a $1,000 honorarium in the ceremony at the Holiday Inn.

The Keene Memorial Service Award is named after Samuel I. Keene, a U.S. Air Force Reservist and native of Milwaukee, Wisconsin. He was serving as a loadmaster on a C-130 cargo aircraft carrying humanitarian supplies and died when the aircraft crashed while landing in Tegucigalpi, Honduras. The Keene family established a memorial endowment through the Disaster Preparedness and Emergency Response Association, International, to annually recognize individuals who make personal sacrifice beyond the call of duty in the service of others during disaster or time of emergency.

Lonnie was serving as a Skywarn weather spotter when a tornado approached the neighborhood where he was stationed. After warning several people to take shelter, Lonnie sought shelter in the basement of a nearby home, along with the family. The tornado destroyed the home, and Lonnie was severly injured when the chimney and a tree fell into the basement. His wife, Melissa, KB9MDF, was in contact with him as the tornado hit, and called emergency agencies to aid Lonnie and the family.

Steve Keene presents DERA's 1999 Samuel I. Keen Memorial Award for Heroic Disaster Service to Lonnie McVaigh, KB9LUN.

After the story appeared in ***Worldradio***, Lonnie was nominated for this award, along with several other nominees from around the world. "Jay" Wilson, director of DERA, had seen the story about Lonnie in ***Worldradio***, and was responsible for having his story brought to the nominating committee at DERA.

Lonnie's story appeared because a ***Worldradio*** reader sent in a clipping from the Decatur newspaper. He felt that Lonnie needed to have his story told. — *Rick McCusker, KO6DJ*

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