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WORLDRADIO

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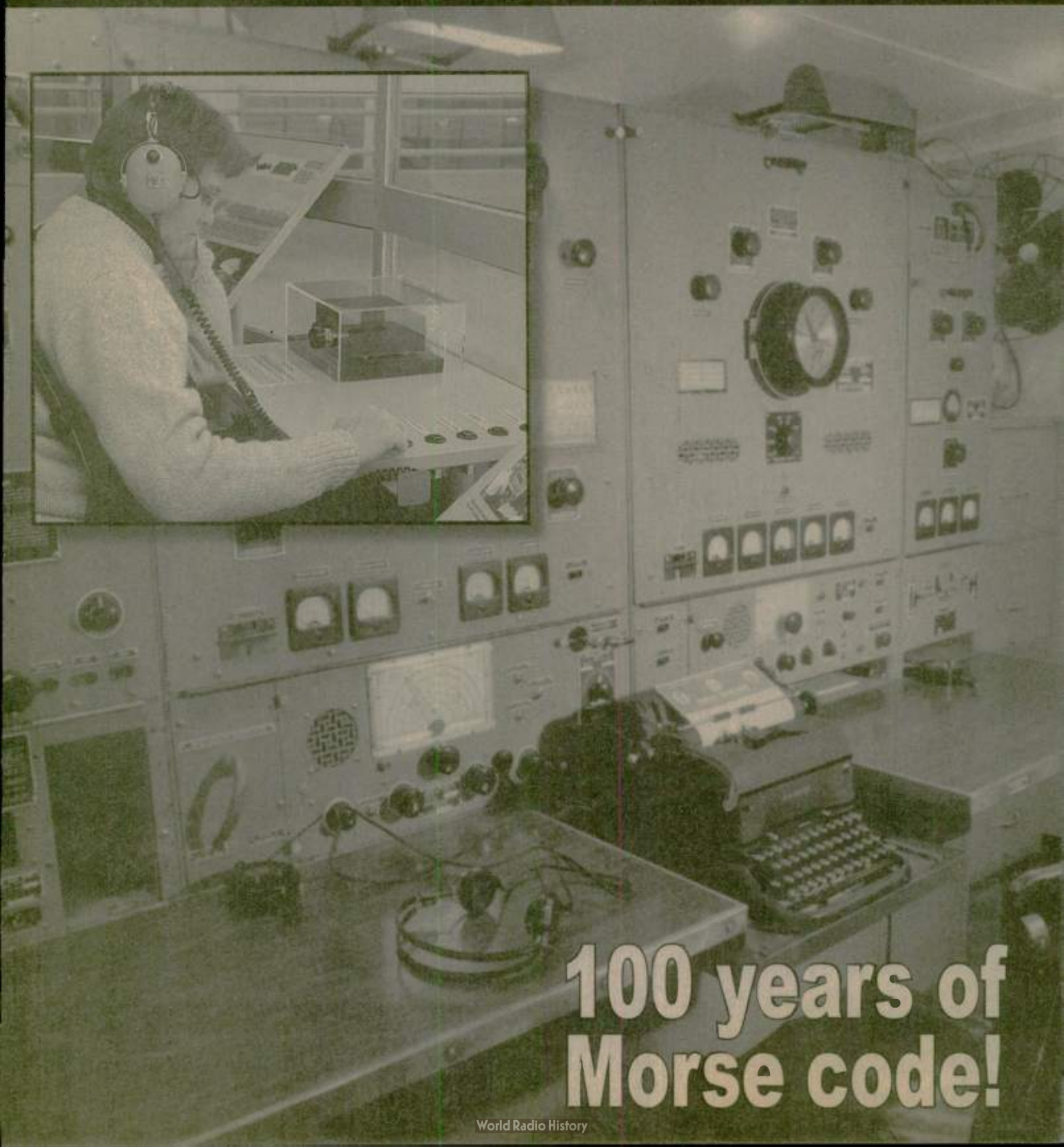

100 years of Morse code!

ARRL seeks partial reconsideration

The ARRL will seek partial reconsideration on two points in the Amateur Radio license restructuring plan announced by the FCC 30 December. Both points involve the way the plan deals with Technician-class licensees. The new FCC rules go into effect 15 April.

The League will ask the FCC to continue to maintain records that indicate whether a Technician licensee has passed a Morse code exam to earn Novice/Tech Plus HF privileges. Under the current system, the license class of Technicians is designated by a "T" in the FCC's amateur database, and of Tech Plus licensees by a "P." Under the FCC's restructuring plan, Technician and Tech Plus licensees will all be known simply as "Technician." The ARRL asserts the change will eliminate any easy way to tell which licensees have passed the Morse code exam and which have not.

"We're going to try to persuade the FCC that it made a drastic error in deciding to change all those Ps back to Ts in the database," said ARRL Executive Vice President David Sumner, K1ZZ.

The FCC has said that it would be up to Technician licensees, if asked, to prove that they have successfully passed the code test. The ARRL plans to ask the FCC to stipulate that any amateur who provides proof of having passed an FCC-recognized Morse code exam prior to 15 April would be entitled to receive credit for the Morse code exam element when applying for future upgrades. The FCC has indicated to the ARRL that after 15 April, code credit for Technician applicants passing the code test would not survive beyond the 365-day term of a Certificate of Successful Completion of Examination.

Under both the present and new rules, anyone who held a Technician license before 14 February 1991, has permanent credit for the Morse code element, but others do not. —*ARRL Letter*

Amateur Radio satellite launched

An Air Force Minotaur rocket lifted off right on schedule 26 January from the new California Commercial Spaceport at Vandenberg Air Force Base. Three Amateur Radio satellite packages were aboard.

The primary payload is the U.S. Air Force Academy's Falconsat. JAWSAT, the Joint Air Force-Weber State University Satellite, served as a bus for several deployable payloads and the Plasma Experiment Satellite Test experiment —PEST. The telemetry stream from JAWSAT, including data from PEST, will be transmitted on Amateur Radio frequencies. Amateur Radio operators have been invited to contribute to the program by recording the downlinked data. Data from PEST will require using either a G3RUH modem or a GMSK modem. Data rates should be as high as 38.4 kb/s. Data will be transmitted on 437.175 MHz or 2403.2 MHz. NASA says it will publish instructions for sending in data so the PEST team can use it.

"It was a spectacular sight, since the sky was clear and the visibility almost unlimited," said Eric Lemmon, WB6FLY. "I was able to view the first two burns without binoculars, and it was an impressive sight!"

Hank Heidt, N4AFL, of the StenSat team said both JAWSAT and ASUSat appear to be working perfectly, with telemetry indicating that all systems are reporting nominal performance. The tiny StenSat satellite was due to be launched during the last weekend in January.

ARRL staffer Steve Ford, WB8IMY, says he was able to watch the Webcast of the launch at home. Unlike the seemingly languid shuttle launches, Ford says, the rocket "went screaming skyward immediately and was lost to sight within less than a minute."

ASUSat and JAWSAT have Amateur Radio capability, but the tiny, eight-ounce StenSat is strictly a ham satellite — designed by Hams, for Hams. It was developed by a group of amateur enthusiasts in the Washington, DC, area as part of Stanford University's OPAL project.

StenSat will operate as a single-channel Mode J FM voice repeater. The uplink frequency will be 145.84 MHz; the downlink will be 436.625 MHz. StenSat will periodically transmit 1200 baud AX.25 for telemetry. Additionally, Amateur Radio operators will be able to "ping" the satellite by transmitting a six-digit DTMF command to the receiver uplink. More information on StenSat is available at http://users.erols.com/hheidt/.

ASUSat will contain amateur packet hardware and a 2-meter/70-cm FM voice repeater. ASUSat1 is an ASU NASA Space Grant project and Arizona State University's first student-designed satellite. Information on ASUSat is available at http://nasa.asu.edu/asusat/. —*ARRL Letter*

The FCC will get a lot tougher

FCC Special Counsel for Amateur Radio Enforcement Riley Hollingsworth hinted he might have to break bad on hard-core offenders this year. He explained that poor or lax FCC enforcement in the past led him to be more forgiving of rule-breakers during his first full calendar year in the enforcement chair. Now, those who persist in operating outside of the stated basis and purpose of Amateur Radio "are beginning to try our patience," he said. "I can't say we're going to be as compassionate this year."

Hollingsworth said he expected to continue his focus on incursions into the 10-meter band by unlicensed operators, especially as propagation gets better, and on equipment certification issues. "We're very concerned about the illegal equipment we see for sale at hamfests," he explained.

Overall, however, malicious interference remains "the basic problem," as he put it. "We're going to use the High-Frequency Direction Finding Center at Laurel, Maryland more this year" to track down rule-breakers, he said. In addition, Hollingsworth now has enhanced monitoring tools at his Gettysburg office, allowing him access to the HFDF Center's 14 antenna fields plus VHF-UHF "pods" that can be moved around as necessary. "We have dial-in capabilities to all of our antenna fields and to the pods, so we can cover

HF, UHF, and VHF anywhere in the country, right here from the Gettysburg office," he explained.

"It's a force multiplier, so to speak," Hollingsworth said of the new capabilities. — *Newsline*

Fire destroys HRO's Anaheim store

Ham Radio Outlet's Anaheim, California, store was destroyed by fire early Sunday, 23 January. The fire, said to be of suspicious origin, apparently first broke out in a dental office at the south end of the strip mall that housed the HRO store on North Euclid Avenue. After spreading into an attic area, the flames raged through the rest of the business center, engulfing the HRO store, the dental office, and two other businesses.

The store's manager, Janet Margelli, KL7MF, said she was alerted to the fire by the store's alarm company. She arrived just in time to see flames engulf her store. "Talk about feeling helpless and hopeless — you just watch it burn," she told the ARRL. Margelli said the store and its contents were a total loss.

The cause of the fire has not been determined, but arson investigators were said to be focusing on the burned-out remains of the dental office where the fire is thought to have originated. Damage was estimated at $1.5 million.

A new Anaheim location in the same shopping center should open soon. — *ARRL Letter*

Elmer for VHF Hams

A major DX organization says it will help Hams get onto the high frequency bands once the restructured licensing structure is in place. According to Dave Bell, W6AQ, the Southern California DX Club is jumping on the bandwagon in the hope of educating the expected masses of newcomers to the ways of high frequency operations.

The SCDXC is starting an outreach campaign to all Ham clubs in the greater Los Angeles area. It's aimed at introducing the fun of low-band DX and DXing to the members of these groups.

Bell says that the project was actually started before the restructuring docket was made public three weeks ago. He also suggests that all special interest High Frequency clubs anywhere in the nation do the same. W6AQ says that this is one way to help to spread the joys of lowband operation while helping to educate the current FM only folks into the fun of non-repeater operation. — *Newsline*

WORLDRADIO

March 2000 Year 29, Issue 9

Features

Departments

Next month: 10-10 International News, Computers & Basic Stuff, Positively CW and Wires & Pliers.

Cover photo courtesy of Richard Everett, San Fransisco Maritime National Historical Park.

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Editor's Log

Some people are very, very astute at recognizing value when they see it. After all, Worldradio is one of the truly great values of modern times. Consider this — Let's say you are new to the hobby of Amateur Radio, and you are between the ages of 0-40. You are reading this because you like what you see in *Worldradio*, and you filled out the subscription form. You sent us in the neighborhood of $15 for a one year subscription. Actuaries will say your life expectancy will be 75-80 years of age. If you are 30 and send us $15 a year until you reach age 75, you are going to send us $675. But, if you become a lifetime subscriber and send a check for $186.95, you will receive *Worldradio* every month, won't be bothered by pesky renewal notices, and you will save $488.05! Do you see the value? These new lifetime subscribers did!

- **Tad Burik, WA8PXL**
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- **Timothy Gene Wagner, N8QCR**
  Columbia City, IN
- **Roger Cameron, WB8EBJ**
  Northport, MI
- **Charles Frost, K5LBU**
  Missouri City, TX
- **Philip Sikes, N7UX**
  Oak Harbor, WA

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Way back in 1998, the FCC called for comments about the possible restructuring of the license system. They called for comments from Amateur Radio operators asking us for some guidance in which direction to go with the process. When the FCC says they are going to do something, you can believe it. It will happen. Maybe not right now, but it will happen. Out of over 600,000 Amateur Radio operators in the U.S., they received comments from 2,200. Less (actually a lot less) than 1% of amateurs bothered to write to the FCC and let them know what WE wanted. Two of the 2,200 submitters are on the Worldradio staff.

So now we have a new licensing system, going into effect in about 30 days (by the time you read this) and almost EVERY amateur has an opinion one way or the other. Where were you when the FCC was pleading with you to send in your comments? This was our chance to help shape the future of our hobby, and we blew it! When the commissioners sat down at that big conference table and saw the comments from less than 1% of licensed amateurs, they probably said, "Well, it doesn't look like they much care what we do, so anybody have any bright ideas?" Now I don't have any inside information as to what actually happened, but you can bet that any organization that asks for comments from the group on improving the operation receiving LESS than 1% of those in the organization will do what it pleases!

So, yes, there are people that are very, very unhappy — but I would bet a large sum of money that almost all of those expressing displeasure with this decision didn't bother to comment. Nobody to blame but ourselves!

I want you to take a good long look at what David Splitt, KE3VV, our Rules & Regs columnist has to say about the FCC's restructuring of the Amateur Radio license system. And then read it again. And then read it a third time before you sit down at the keyboard to send either one of us "hate" mail. He makes some very valid points this month, and it is something every amateur should read. Most of you will have already vented your rage, or your hurrahs — but I'll tell you, David's column is well worth the five minutes to read it.

Latest word has it that there is a BIG run on study materials for the General and above written elements. That certainly is good news. Not only for us, but for all of Amateur Radio. Just think. After 15 April there will be a whole bunch of Amateur Radio operators new to HF to QSO with. It should make WAS much easier to obtain.

•

What would happen if you suddenly had to leave the airwaves? Have you thought of a contingency plan should your shack not be useable? How about a club shack? Or a really good friend that lives close by?

I bring this up because I came under the effects of a family crisis and had to leave the HF airwaves for two months. Both daughters decided to move back home — so there went my comfortable shack. All of my gear had to be put in boxes and moved out to the garage. But, I'm back! After a three week project of gutting the garage, several trips to the land fill and a lot of money spent at the local building supply store, my garage now has cabinets, a new improved workbench, lots of storage and a new Amateur Radio setup. They will NOT force me out of the garage! — WF6O

FT-1000MP
The radio of choice for world-class contest operators, the FT-1000MP provides 100 Watts of power, Enhanced DSP,™ Dual In-band Receive, Cascaded IF filters, General Coverage RX, and 160-10 M TX. (DC-only version also available.)

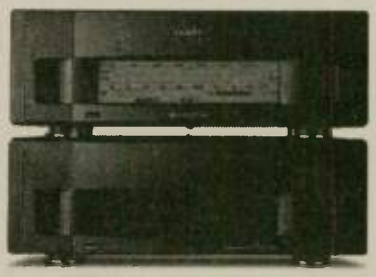
FT-920
The FT-920 HF/6M Transceiver is designed for today's active Ham. It features high-speed DSP in all modes, 127 memory channels, AFSK or FSK Digital operation, new-technology MOSFET PA finals, high-speed Automatic Antenna Tuner, and high-resolution LCD display.

FT-1000D
Truly an elite-class HF masterpiece, the 200 Watt FT-1000D provides Dual Receive (in-band or cross-band), Cascaded IF Filters, extraordinary Dynamic Range, DDS, high-speed Automatic Antenna Tuner, and 100 memory channels.

FT-100
This ultra-compact HF/VHF/UHF 100 Watt Transceiver provides SSB, CW, AM, FM and AFSK coverage of the HF, 6M, 2M and 70 CM bands. Features include 300 memory channels, built-in Electronic Memory Keyer, DSP, IF Shift, IF Noise Blanker, and CTCSS/DCS.

FT-840
Affordable yet feature filled, the FT-840 is an ideal traveling companion. It offers 160-10M TX with general coverage RX, 100 memory channels, DDS, CTCSS, Twin Band Stacking VFOs, and excellent receiver dynamic range.

FT-600
This compact 100 Watt HF Transceiver offers the utmost in operating simplicity. The MIL-STD rated FT-600 covers the 160-10M Amateur bands with General Coverage Receive, 100 memory channels, Direct Keypad Frequency Entry, and a front-mounted speaker.



VL-1000/VP-1000
The VL-1000 Quadra System is a Solid-State Linear Amplifier featuring four twin-MOSFET PA modules to produce 1000 Watts of clean power output on 160-15 Meters (500 Watts on 6M, modifiable for 12/10 meters). Included are an Automatic Antenna tuner, 2 Input and 4 Output Antenna Jacks, and extensive status displays on the multi-function LCD.

FT-847
The introduction of the FT-847 completely redefines base station operation by offering three radios in one—HF, VHF/UHF and Satellite. A full power multi-mode transceiver, the appropriately named Earth Station covers the HF, 50 MHz, 144 MHz and 430 MHz bands, and it includes crossband Full Duplex operating capability for satellite work. Its exceptional receiver performance is ready for all aspects of DX work thanks to the DSP filtering. And for local FM work both CTCSS and DCS encode/decode are built in. The FT-847 is an engineering breakthrough offering you the earth, the sky, and the moon in one compact package.

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YAESU **Choice of the world's top DX'ers.**

The magic band gets interesting - F2 returns!

Ken Neubeck WB2AMU

During the Fall of 1999, with the rising sunspot numbers, there was a high level of anticipation for the higher HF bands such as 10 and 6 Six Meters. A mix of different types of propagation modes observed on the 6-meter band ranging from Transequatorial Propagation (TEP), Aurora, Sporadic-E and most important of all, F2 layer propagation.

After years of waiting, the sunspot numbers and solar flux finally reached values over 200 each on certain days during the months of October and November of 1999. This is important to 6-meter operators as the probability of the MUF of the F2 reaching 50 MHz is greatly increased. Suddenly, activity has become steady on the 6-meter liaison frequency of 28.885 where listening frequencies are set up along with daily reports of 6-meter activity. Also discussed are reports of TV video carriers that are in the 48 MHz range from the different countries.

Stations down in the south caught some of the F2 and TEP earlier than others. K4SUS out of Florida (Grid EL95) worked Argentine stations LU9HUP, LW6EUQ, LU1VK and LU1DVT on 01 October via TEP. Tom continued to work into Argentina on the 5th, 6th and 8th of October via TEP.

My F2 contact on 6-meters in 1999, took place at 1900 on 10/23 when I was able to work HC5K on 50.109 from my location on Long Island (FN30). He was running a major pileup up into the Northeast for about a half hour before the band faded out. Several Long Island stations such as Jay, K2QVS and Frank, AA2DR caught some short openings into South America during the month. A station in New Jersey, Mario, K2ZD was able to work FOØKOJ from the Austrial islands (Grid BG56) on 16 October at 7:20 p.m. local time. Others who worked the DX station were K2MUB, W4JO and W3BO.

Associated with the return of F2 propagation during the fall of 1999, was also stronger than normal TEP and Aurora activity on 6 Meters. There was an exceptionally good aurora opening in the northeast on 22 September. The opening was so strong, that it was possible for QRP stations to work several stations, something not normally easy to do during an aurora where typically high power is needed. With 10 watts, I was able to work W8ZD in grid EM 79 in Ohio, KB1DSJ in FN65 in Maine and VE3KZ in FN03 in Canada. After the aurora ended a few New England stations worked into Argentina via a combination Sporadic-E/TEP mode.

A friend of mine who lives east of me on Long Island, Frank, AA2DR, worked about two dozen stations in the 7th call area during the one hour opening on 20 November. Another friend of mine who lives even further east, John, K2JRR (grid FN31) made his first F2 contact with WI6Z (CN84) during the big opening on 20 November.

Other interesting openings that I have heard about on Six Meters during the latter part of 1999 included Mario, K2ZD, in New Jersey working FOØKOJ from the Austrial islands (Grid BG56) on 16 October at 7:20 p.m. local time. Others who worked this DX station included K2MUB, W4JO and W3BO. W4YJU from Florida worked KH6IAA in Hilo, Hawaii on 09 November at 2040Z during a combination Es/F2 opening between the two locations. A few days later on the 13th, Howard, WB4WXE and his XYL, WL7AZB, from Alabama worked Hawaii stations, WH6O and KH7R at 1830Z. KB4TEQ, also from Alabama caught KH7R on the same date.

F2 Activity died on the Magic Band from the last two weeks of November into the first two weeks of December. This was because the daily sunspot number and solar flux values dipped well below 200. There were also limited amounts of Sporadic-E activity observed during this period from the Northeast although some of the west stations saw some activity up the coast. F2 would return somewhat in December with occasional one hour openings between the coasts, typically at 1800Z or so.

Sporadic-E activity made its normal occasional appearance in December and coupled with these openings, some F2 activity also appeared at the same time. A case in point happened on 18 December when Sporadic-E openings were occurring between Eastern Canada and the Northeast around 1700Z. Shortly after that, Eastern Canada was hearing the Pacific Northwest come in and then the F2 opening extended down into the Northeast U.S. into states like Washington and Oregon. I was fortunate to work not only a Canadian station, VE1MR from Nova Scotia but then work three stations via F2 on CW, AA7CQ, K7KV and WX7R.

Overall, the F2 activity was not what a lot of veteran 6-meter operators had hoped for, after years of waiting for the next sunspot peak. It has been an improvement over 1998 where at my location, I only observed one day in the fall of 1998 of F2 activity versus about nine days this year. There is hope that some F2 activity would appear in January but this remains to be seen. Perhaps things will pick up in the Spring of 2000 and the Fall of 2000 to higher levels of F2 and Aurora activity. There will no doubt be some major solar flares that are coming that will cause major aurora openings on both 6 and 2 Meters.

Restructuring and political fallout

The FCC

Was it the phantom of Incentive Licensing that was haunting the FCC as it prepared its Report and Order on restructuring Amateur Radio? We will probably never know for sure, but as CQ Magazine Editor Rich Moseson says, there is a better than even chance that the mistakes of the past were on the minds of some as the regulatory agency prepared to face the future:

"The FCC clearly had the ghost of restructuring past in plain view while preparing this decision. That was clear in the comments of one staffer who must have told me three times in five minutes that "no one loses any privileges." This reflects back to the incentive licensing debacle a generation ago, when thousands of Hams lost operating privileges as new subbands were carved out for Advanced and Extra Class amateurs. Many of those old-timers are still griping about it today.

"On the other hand, the Commission was sensitive to those who argued that no one should get something for nothing, and it refused to automatically upgrade Novice and Tech-Plus Hams into the new General Class, or to make instant Extras out of hams with Advanced Class licenses. It also seems that the FCC is trying to weed out some of the dead wood among current licensees, by requiring that those amateurs who qualify for new privileges must take the initiative of going to a VE session, plunking down six-sixty-five, and filling out an application. Again, nobody gets something for nothing."

Among the 2,000+ commenters, it seems that the one group that got the most of what it asked for was the National Council of Volunteer Examiner Coordinators; while the ARRL came out on the short end of most of its proposals.

The ARRL

The wants, needs, desires and requests of its members appear to have been largely ignored by the FCC. For example, ARRL members wanted four classes of licenses, but the FCC gave only three. League members also wanted at least two Morse testing speeds but the FCC said that Amateur Radio will have to be content with only 5 words per minute for all license classes.

One need only tune across any Ham band or tune to a favorite repeater to realize that League members are angry at the FCC. In QSO after QSO the word betrayed is often used to describe feelings that publicly professed ARRL members have toward the federal agency that oversees the U.S. Amateur Radio Service.

League members are growing more vocal in their demand that the ARRL act to stop implementation of restructuring, but that is not likely to happen. This is because there appears to be no legal ground to try to stop the FCC from proceeding with this latest round of Amateur Radio deregulation. Doing so is well within the pervue of the authority granted to the FCC by Congress.

While it is probable that the Board will vote to request the FCC reconsider some points in the Report and Order, that will probably be the extent of it. This is because ARRL's leaders are astute enough to know that if appeals goes any further than the FCC's own administrative process, the chances are that they would be quickly dismissed by a federal court. —*Newsline*

Amateur Radio help needed

The American Lung Association is seeking volunteer Amateur Radio operators for this year's "Big Ride Across America." This is a 3,500 mile fund-raising bicycle ride that starts on 19 June in Seattle, and is scheduled to end on 05 August in Washington, D.C. You can volunteer for the entire trip or choose from one or more parts of the country.

Detailed information about the ride can be found on the web at: www.bigride.com. For more information about volunteering contact Dick Anderson, KE7A, by e-mail at ke7a@arrl.net or call toll-free 877/752-3868.

David Splitt, KE3VV

Restructuring - the bottom line

The Y2K rollover engendered a number of musical and artistic endeavors, but one of my favorites is a rock ditty by REM which has a chorus that concludes, "It's the End of the World as we know it, and I feel fine." This pretty much sums up my reaction to the FCC's issuance of its Report and Order in WT Docket No. 98-143 (the Restructuring Order) on 30 December 1999. The uncertainty of the past year is over and changes have been made, effective 15 April 2000, will have a lasting impact on the Amateur Radio Service.

Of course there are those who don't 'feel fine,' but then there always are. The ARRL in its 07 January Letter called the FCC's action "dropping the other shoe," and whined that the FCC action had "polarized the Amateur Radio community." Maybe the Old Guard in Connecticut sees their power to run the show slipping from their hands with the influx of new amateurs who don't give a DahDiDit DiDah DahDah DahDit about the ARRL and its faltering leadership role. Several thousand amateurs did not let the ARRL speak for them in the FCC's proceeding. There were over 2,250 comments filed on the FCC's proposed changes. On the other hand, the FCC's restructuring order may just be the tonic the ARRL needs to survive into the 21st Century (which begins next year!) as more than a publications outlet, souvenir peddler, and petty bureaucracy. As a dues paying member, I really hope so.

On the air and in Internet forums, I have seen the occasional comment by a Ham who is gonna unplug his linear and take up golf. In his "Open Letter to the FCC," forwarded to Worldradio, Vince Fiscus (KB7ADL) believes that the FCC has "just pushed the Amateur Radio Service one or two steps closer to all you find negative in the Citizens Band Service." Vince predicts that, "within the next 18 months the number of amateur to amateur complaints received by the FCC is going to skyrocket. And if the FCC can't control the idiots hanging around 3.950 or 14.313 now then they certainly won't be able to control all the new problems this farce of a restructuring plan will create in the future! The FCC plan will drive decent radio amateurs from the service because those amateurs will not put up with the circus atmosphere the restructuring plan will create on the bands." I think Vince is wrong, but I know that even those of you who agree with Vince hope that it won't happen that way. Or do you?

Some of what I have been hearing about restructuring for the past year (and even louder since the Order was issued) sounds like sophomore fraternity brothers who have just learned that they won't be allowed to put the new pledges through the same hazing they had to endure. This is especially true of the outcry against lowering the code speed requirements. Sour grapes making bad whine. I have already written about my feelings about CW operating ("Using the code is like visiting the place where explorers look for the trickle of headwaters. There is a feeling of being close to the source. So the rules and regs don't really matter. The Morse code will be used by Hams because it is a good language for communicating and for a host of other practical reasons. But it will also survive because it is entwined in the spirit of Amateur Radio." Rules & Regs, September, 1999), but it is hard to argue with the reasoning put forward by the FCC in support of reducing the code

Amateur Radio Call Signs

The following shows the last call sign in each group to be assigned for each VE Region under the sequential call system as of 28 January 2000.
For more information about the sequential call sign system, 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 888/225-5322

District	Group D Novice	Group C Tech/Gen	Group Advanced	Group A Am Extra
Ø	KCØHCY	++	KIØRK	ABØJT
1	KB1ETV	++	KE1LW	AA1UV
2	KC2FWV	++	KG2RB	AB2GW
3	KB3EOO	++	KF3DL	AA3TG
4	KG4GCP	++	KV4DS	AF4QS
5	KD5JBX	++	KM5WQ	AC5TQ
6	KG6AAK	++	KR6DU	AD6HL
7	KD7HSW	++	KK7VL	AC7BV
8	KC8NRX	++	KI8JM	AB8ES
9	KB9VRL	++	KG9TC	AB9KF
N. Marianas	WHØABM	AHØBC	KHØIK	NHØP
Guam	WH2AOB	AH2DN	KH2UT	++
Hawaii	WH6DGE	KH7YZ	AH6QA	WH7G
American Samoa	WH8ABI	KH8DO	AH8AI	AH8R
Alaska	WL7CVD	KL7MT	KLØUZ	ALØS
Virgin Island	WP2AIM	NP2DB	KP2CP	++
Puerto Rico	WP4NOT	WP3FZ	KP3BM	WP3E

++ All calls in this group have been assigned

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requirements for amateur licensing.

The FCC's restructuring Report and Order notes that the amateur service was "one of the first non-government communication services. Regulation of the amateur service in the United States dates from the early 1900s as a result of the U.S. Navy's concern about interference to its stations and its desire to be able to order Amateur Radio stations off the air in the event of war. As part of this regulation, proficiency in Morse code was mandated to ensure that Amateur Radio operators could recognize and avoid interference with government and commercial stations as well as maritime distress messages, and to ensure that the U.S. Navy could communicate government orders to Amateur Radio operators. This mandated telegraphy proficiency was continued by the Federal Radio Commission and then by the Federal Communications Commission. Telegraphy proficiency remains one of the examination elements that, by international treaty, an examinee must pass to obtain an Amateur Radio Service operator license that authorizes operating privileges in the portion of the radio spectrum below 30 MHz." While maintaining the code requirement as required under international treaty, the FCC also recognized that "an individual's ability to demonstrate increased Morse code proficiency is not necessarily indicative of that individual's ability to contribute to the advancement of the radio art. As a result, we find that such a license qualification rule is not in furtherance of the purpose of the amateur service and we do not believe that it continues to serve a regulatory purpose."

That is the bottom line, my friends. The FCC is in business to regulate the use of the airwaves, not to preserve any particular aspect of Amateur Radio as a hobby or tradition. The FCC does not see Hams as a fraternity or exclusive club, but as part of the 'Amateur Radio Service." The only reason Amateur Radio has the broad frequency allocations we enjoy is the public service role that we can play, especially in emergencies. One of the questions in the current Extra Class exam pool (E2C03) specifically asks, "What is one of the main purposes for holding on-the-air operating contests?" The answer reflects the overriding concern of the FCC in licensing amateurs: "B. To enhance the communicating and operating skills of amateurs in readiness for an emergency." So all of the country club moaning and groaning about "letting in the riff-raff" is of no real concern to the FCC. If the Morse code is not integral to communicating in an emergency, it is not a necessary prerequisite for participation in the amateur service. Like it or not, the rest of the federal government, including the Coast Guard and other military services, has determined that Morse code proficiency is no longer needed. The FCC is just going with the flow.

The same brouhaha arose when the FCC created the no-code Technician license in 1990. For some reason the ability to jump through the Morse code hoop was seen as a mark of good breeding by many existing Hams. The FCC said it so well then that they simply repeated their comments verbatim in the newest restructuring Order:

"We do not concur with the comments alleging that the passing of a telegraphy examination is an indication of the examinee's good character, high intelligence, cooperative demeanor, or willingness to comply with our rules. These traits are also found in individuals who have not passed a telegraphy examination rather than being exclusive to those who have passed such a test. With respect to comments that make claims for the superiority of telegraphy over other types of communications, we do not consider these arguments as germaine to this proceeding. The Notice did not propose to discontinue the authorization of telegraphy CW emission types on any amateur service frequency. The amateur service in the future, as it has in the past, can provide to those who personally desire to do so the opportunity to communicate by telegraphy."

Even the seemingly persuasive argument that I can get through with Morse code even when the conditions are so bad that phone is useless" no longer holds even a droplet of water. The FCC took note of that argument and responded that "no communication system has been designed in many years that depends on hand-keyed telegraphy or the ability to receive messages in Morse code by ear. In contrast, modern communication systems are designed to be automated systems." In other words. Even if CW telegraphy is demonstrably useful, it is no longer necessary because it can be automated. Listen to any CW contest on the bands today. What kind of "fist" does it take to bang out a message on the keyboard of a computer terminal? But the FCC had an even better bottom line about the Morse code. They see it as an unnecessary barrier to bolstering the dwindling ranks of Amateur

Radio operators. The Report and Order concludes, "Given the changes that have occurred in communications in the last fifty years, we believe that reducing the emphasis on telegraphy proficiency as a licensing requirement will allow the amateur service to, as it has in the past, attract technically inclined persons, particularly the youth of our country, and encourage them to learn and to prepare themselves in the areas where the United States needs expertise." Isn't that what it is really all about?

As for the restructuring of licenses into three simplified classes, Technician (no code, operating privileges above 30 MHz), General (5 wpm Morse code and HF operating privileges), and Amateur Extra (a 50 question test combining the Advanced and Extra theory, earning the operator the right to 450 kHz of additional bandwidth), this meets the goal previously announced by the FCC for real streamlining of the amateur service. The feature of the FCC Order that I particularly like is that nobody loses (Novice and Advanced class operators can keep and renew their licenses and current privileges) and nobody gets something for nothing. No freebies.

Now I can already hear some of the Extra Class frat boys yammering about not having to pass the 20 wpm code test as if the written exam was a snap. Having taken and passed both the Advanced and Extra class written exams, I must agree that the current Extra exam is a breeze compared to the Advanced test. However, the combined Advanced/Extra test of 50 questions will certainly screen out any dummies, especially if the VECs toughen up the question pool. As for the ease of making it to General (with the 13 wpm code test gone), I hope it IS relatively easy. I want to see a lot more Hams get their HF licenses — the more the merrier. I just want to see more Hams. More kids, more yuppies, more rednecks, more college students, more old retired farts, more housewives, more teenagers, more hammerhead crane operators, more divorced mothers of twins, more of every type of American you can think of — and then some.

If you are really concerned about the quality of operating skills exhibited by our new brethren of the ether, then stop whining and DO something about it. I have heard a number of Hams suggest that we need to revive the almost lost practice of Elmering new Hams and would-be Hams. Actually Elmering isn't lost at all, it is just been having a tough time finding Elmerees. So, to every amateur who is upset by the restructuring and has been muttering about turning in their VE certification or selling all their Ham gear and going on the road selling surplus Y2K rations, I have this challenge. Listen to the bands for the new operators. Find out the names of new licensees and their call signs. Invite them over to see your Ham shack and watch you operate. Take them out mobile to observe your experienced operating skills in action. Get them involved with the best that amateur service has to offer and they will want to be a part of it.

A musician of my own generation, Bob Dylan, wrote that, "he who is not busy being born is busy dying." Those are good words to ponder as we contemplate the "End of the World as we know it." It is truly the end of an era in Amateur Radio, but whether it is the apocalypse or the resurrection really depends on how we handle the changes it brings.

— David Splitt, KE3VV, 6111 Utah Ave. NW, Washington, DC 20015-2461. davidsplitt@erols.com

Another crew to MIR?

Hams who are involved in space communications will be happy to know that Russia's Mir space station may get at least one more crew this year. Or, maybe not.

MIR has been empty and partially shut down since last August. It is due to be de-orbited unless Russian officials can find funds to keep it aloft.

Sergei Gromov, a spokesman for Russia's Energiya says that a U.S. firm had promised to invest twenty million dollars in MIR. The company called Golden Apple will put up the money to continue MIR's scientific program and keep the ageing station in orbit.

The return to MIR still needs the approval of Russia space agency and Russian government. If they both give the go-ahead a crew of Cosmonauts could be launched in March for a forty-five day tour of duty. Whether or not the Amateur Radio station on MIR would be reactivated during such a mission was not discussed in any of the published news releases. *— K6DUE, Newsline*

Firehouse home for Hams

Marilyn Bagshaw, N6VAW
Rich Carbine, W6UDS

The Marin Amateur Radio Club (MARC), located just north of San Francisco, may not be the only radio club with its own clubhouse, but it just may be the only one which owns and operates out of a firehouse. So, let's back up and read MARC's story and how the membership acquired a firestation.

Bill Provines, W6JBZ, licensed in June of 1933, radioman in the Army in W.W.II and President of MARC in 1962, recalls the history of MARC:

"Byron Goodman, W6CAL, later, W1DX (at the time Section Communications Manager, San Francisco Section, later assigned to ARRL Headquarters) sent out a postcard announcing the first meeting of a group of Marin County Amateur Radio enthusiasts. It was held on August 13, 1933 in a garage in Mill Valley, CA, belonging to Alan Whitaker, W6SG, first MARC President (Army Officer in World War I) whose call sign is now used as the official club call. Alan and I would meet the train from San Francisco, taking Byron and S.G. Culver (Pacific ARRL Director) from the station to the meeting in Alan's garage. (Byron and S.G. were coming from San Francisco via ferry boat and train as the Golden Gate Bridge wasn't completed until 1937.) The second meeting was held at Dave Snyder's, W6ZS, house in San Anselmo. The remaining original thirteen members were: Ken Bowman, W6IBQ; Joe Horvath, W6GPB; Charlie Walsh, W6HVX; Ludlum Smith, Frank Simpson; Louis Batch, W6JSN, Dorsey Berringer; Bryant Drake; Paul Crapuchettes; Ernest Brown, W6KNZ and me, Bill Provines, W6JBZ. Roland Zehr, W6BFZ, was the first editor of the club newspaper, QRM, now called QSA-5. We met at various locations, including the science lecture room at Marin Junior College, acquired by Carlton Cherry, second MARC President, who taught there. QSA-5 was financed by a raffle at each meeting; tickets went for 10 cents each or 3 for a quarter; all prizes were homebrew in those days. Ernest Brown, W6KNZ, replaced me as treasurer and I turned over a treasury of $40! Woody Wilson, WA6KVW, and Vic Brown, WA6LBL, attended the early meetings also, but weren't Hams yet and were young kids."

No longer housing fire-fighting apparatus this is now the home of the Marin ARC. Future plans call for this to be a place for community meetings and a possible shelter in time of need.

The group grew into a mid-size club during the 30s. The Marin Amateur Radio Club was founded in order to develop individual proficiency and stimulate interest in radio while providing public service. Then, World War II came along, there was no amateur radio. Several years passed, the group eventually began meeting again with no permanent home until the 50s when space was allotted to the club by the American Red Cross in its building in San Rafael, CA. The ARRL sanctioned MARC's testing emergency communications; many amateurs were drawn to that site early on Sunday mornings. Because of that scheduled time on the air, our group became known as "The Bible Class" which still exists today in our new meeting place.

In the early 80s, the club was given permission by the Air Force to use building 549 at Hamilton Air Force Base in Novato, CA, after MARC members began operating a MARS station from that location in the 60s. For a time,

another radio club, the Tamalpais Radio Club, held meetings but were the same people as MARC. MARC is a club of amateurs encompassing all interests in radio: DX, VHF, Field Day, Emergency Services (RACES) and monthly programs as well as VE exams. Lloyd, W6KG and Iris, W6KL, Colvin were frequent guests and speakers as they began their journeys as record-holding DXpeditioners.

In 1997 MARC acquired a firehouse which was owned by a group of volunteer firemen in the community, thanks to the efforts of one of our MARC members, Hi Roberts, KO6LS. Hi was one of the remaining volunteer firemen in the Alto area of Mill Valley, CA. His story follows.

"The MARC clubhouse was donated by the remaining 5 members of the Alto Volunteer Firemen, Inc. in 1997. The building was originally a grocery store. When the highway was widened, the volunteer firemen moved it to its present location.

Volunteer firemen had been formed in the early 40s by residents of the unincorporated area outside the town of Mill Valley. The land was donated by its owners; Volunteers rebuilt old engines and acquired used equipment. A fire district was formed with tax money to pay for a chief and hire more firemen.

Improvements and more equipment were financed by bingo games which drew people from far and wide for 24 years. Gradually the district became an all-paid operation supported by property taxes. The Alto Firemen owned and maintained the building until there were only 5 members left. In 1996, when Chief Heynen passed away, it was decided to donate the building. By criteria set forth in the by-laws, the building could only be transferred to another non-profit group. Many groups came forth with impressive presentations hoping to acquire the valued site; it was unanimously decided that MARC would be the likely recipient due to its value to the community through public service. It will become a working center in the event of a major catastrophe, serves as a voting site during elections, as well as our meeting place monthly, on first Fridays, and weekly, on Sunday mornings."

...the fire alarm will no longer sound from the Alto Fire building, the truck will no longer roll...

One of the most memorable fires fought by the volunteers in the county was the 1963 blaze of the American Distilling Co. in Sausalito. Over 160,000 gallons of bourbon and tequila fuelling the flames! Says Harry Cordall, Captain, with a smile, "Barrels were burning and exploding all over; the bourbon was burning as we tried to chase it down moving it from one room to another. Something you don't often get an opportunity to fight! It was one of the largest fires we've ever had."

When the day came when the Volunteers had to close down, a $50,000 endowment was established at the Fire Academy in Santa Rosa, CA, to ensure the continued training of fire-fighters; there was a $5,000 donation to the Alto-Richardson Fire District; the building and $8,000 was donated to the Marin Amateur Radio Club to maintain emergency communications during disasters. The old fire truck went to the Novato American Legion Post. States Hi Roberts, "There were about 15 coats of paint on it; we were always rubbing it down to get it as smooth as we could. If there was a scratch on it, we were in trouble! About twice a week, we'd come over for drills, clean out the firehouse and wipe the truck down."

So the fire alarm will no longer sound from the Alto Fire building, the truck will no longer roll; the organization as it once was has been extinguished. Occasionally, you'll be able to see the old truck in parades and public displays.

Through volunteer efforts and donations from members of the Marin Amateur Radio Club to substantially improve and repair the building, we are enjoying the benefits of the facility. The building will be used for monthly meetings, teaching classes, VE exams, as well as a facility for a RACES group in emergencies, and possibly a shelter during disasters.

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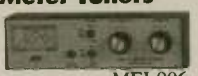

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The big South Pacific cruise

Jack Goforth, K4IBP

Some Hams have a hard time understanding XYLs. Just last week, the marriage counselor (the one Rose and I have been seeing since last month), suggested that I try and understand Rose. He says she just thinks I care more about Ham radio than I do her. Now this really seems silly to me. How could Rose for one minute think I love Ham radio more than her? Anyway, following the advice of the counselor, I put all my Ham gear in a big box and shipped it away. I then decided to take Rose on a vacation trip... a little cruise in the Pacific.

Rose has always wanted me to take her to Hawaii, so I know she will be thrilled when she finds out we are going to the South Pacific. Heck, anybody can go to Hawaii, but not everybody goes where we are going — the Borborygmus Archipelago!

Because thses islands are a little off the trade routes, it was necessary to charter a boat to take us to the island. But heck, nothing is too good for my Rose. I can see us now, sitting on the beach next to our little tent, watching the sun set. Swimming, fishing, sleeping in a hammock — Rose will have a great time.

I haven't mentioned it to Rose, but I have written the authorities to get a guest Amateur Radio license. Just in case, you know. This is not the main thing, you understand. It's just, if we have time... that sort of thing... no big deal. I mean, if she is sleeping or something. I just wouldn't want anyone to think that I would want to go to this island just because it hasn't got an IOTA number assigned yet or may qualify under section "B" (separation by water) as a new DXCC country. The trip just happens to be the same week as the CQ WW contest.

A few weeks later

"Rose, guess what, sweetheart. I've got a surprise for you. Because you mean so much to me and I love you so much, I have arranged to take you to a Pacific island for a little vacation. I know you have always wanted to go to KH6, oops, I mean Hawaii. So just to let you know how much I care for you, I am taking you on an ocean cruise... from KH8, ah, I mean American Samoa, to the Borborygmus Archipelago! It's all arranged, I've bought the airline tickets. I've chartered the boat, I mean cruise ship, and I've arranged for a full 10 day stay at this little tropical paradise with our own private beach, on our own private island. How does that sound?" I asked.

"Well, no.. the island doesn't have shopping malls. No, no big hotels and restaurants. But, honey, that's what you will like about it. It's kind of remote... private... unique... not a lot of people to get in our way. We can just enjoy the beach together. Just you and me! Now pack your bags, for tomorrow we leave the airport at 7:30 a.m., arriving at Pago Pago about 9:30 a.m. the next day. From there we take our boat... ah, cruise ship, to the island. Oh, the name of the ship? It's called the 'Kangaroo's Birthmark.' It's an Australian vessel under Captain Ron Dundee. I just know you will fall in love with it. Rose, this will be a vacation you will never forget." I explained.

Two days later

We arrived in Pago Pago, but poor Rose was so tired after the flight, she just wigged out. We spent the night at the Royal Pagoda Hotel. The next morning, I found the boat, I mean cruise ship, the "Kangaroos's Birthmark," at the dock. I will say that the boat, ah, cruise ship, was a little older than expected, but the sails looked OK. I explained to Rose that this cruise was like those "windjammer" cruises where everyone helps with the sailing of the ship. "It will be fun, Rose. We've never done anything like this before." We met Captain Ron and Rose was fascinated by his Australian accent. There was an awkward moment when Captain Ron mentioned in front of Rose that he had received the box of equipment and antennas I had sent. I explained to Rose that I was concerned for her safety and just wanted to make sure the ship had up to date ship-to-shore equipment."

Captain Ron said it would take a couple of days to sail to our private island, so we went aboard and helped raise the sails and weighed the anchor (the anchor weighed about 600 lbs). Hey, we're on our way! I must admit, it took my best salesmanship to convince Rose that on windjammer-type cruises, the passengers help with the sailing of the ship. Captain Ron told Rose we would be eating at the captain's table that night. To make a long story short, I explained if she stayed in the Pacific, she would acquire a taste for biltong, sea greens and warm ber.

We soon arrived at our destination in the Borborygmus Archipelago. Captain Ron said our little island destination was called Flatulence Island by the

natives. I decided to tell Rose it was called Exotic Breeze. Rose was more than ready to leave the ship because it didn't have a shower. But, that's the fun of a windjammer cruise. You become just like the crew — smell and all!

We had to take a smaller boat to the island. Rose kept asking where the hotel was but I reminded her that I had chosen this island so we could be alone, together, just she, me and the sea. I soon had the tent set up and Captain Ron moved the box containing the generator and other "equipment" onto the island. Rose was so overwhelmed at the place that she just sat down and stared at the surf. "Isn't this just great, honey? Let's go for a walk on the beach," I said. "What else is there to do," Rose sighed. "I'm hungry. Where do we eat?" (Unknown to Rose, I had procured, at a reduced price, some army surplus "meals, ready to eat" or MREs.) I was determined to see Rose ate well. "Here Rose, this looks good, chopped lamb liver in cocktail sauce. And just for you, honey, I brought along this bottle of Chateaux LeFrog."

Eating MREs, drinking LeFrog and watching the sun go down over the ocean was just breathtaking. Everything was going so well and Rose was having such a good time, I decided it was time to pop the question. As I held her in my arms, looking deeply into her eyes, I mustered all my charm, personality, good looks, talent and abilities and asked her THE question. "Rose, will you help me put up an antenna so I can work the CQ WW contest this weekend?" I asked.

Rose just sat there, her eyes closed. Hmm, maybe she didn't hear me. "Rose, honey, did you hear..." I stammered. "Oh yes, I heard you Jack, I was just surprised it took you this long to ask. Yes, I will help you put up the antenna, and I'll help you log. And when we get home, I'll even help you with the QSLs," she replied.

"What? You mean it, Rose? You really don't mind if I work the contest during our vacation?" I exclaimed.

"Oh no, not at all, Jack. But there is something you should know. You received a special delivery letter from the radio authorities just before we left Knoxville. It said your request for a license had been denied. The license they mailed you earlier was a mistake and they said it was canceled. I'm sorry, Jack, I guess I was just so excited about the trip, I forgot to tell you."

"Jack, honey, you look pale, would you like an MRE? How about some more Chateaux LeFrog?"

... at a crossroads

Tim Tribble, KD6MDV

We live in an era of change. Sometimes these changes are so fast and so frequent it is difficult to keep up. Other times change is slow in coming, but it still creates waves when it becomes a reality.

Humans just do not like to change things, unless there is a perception of benefit to us. The amateur community is no different. We are a microcosm of society as a whole. In our ranks are the best and worst examples of behavior and everything in between.

Once again change is on the horizon for Amateur Radio. The licensing requirements are changing as of 15 April 2000. This has thrown the ranks of Amateur Radio into another great argument. Comments ranging from profit making by manufacturers to the idea that the FCC did this to placate us when we lose assigned frequencies abound.

Amateur Radio has undergone many changes in it's history. Yet throughout all those changes we are still here. I was reading an article about the fight the early amateurs had to get back on the air after World War I. Seems the Navy thought that it would be a good idea to keep us off the air. Yet, here we are today, throwing spurious RF through out the world.

The reason is that Amateur Radio is more than a hobby. It is more than one person, Amateur Radio is the sum of it's many parts. We are about as diverse of a group as one can get. In that diversity lies our greatest strength. From the experimenters who are leading the way in new technology to the amateur who volunteers their time, equipment, and talent to various government and relief organizations.

What keeps Amateur Radio going is it's involvement in the community around it. From passing Health and Welfare traffic in an emergency to opening the minds of school children to the world around them. Amateur Radio cements itself more and more in it's need to exist.

The changes that we will go through in April and those unforeseen and yet to come will not in and of themselves lead to the demise of Amateur Radio. The way to "survive" this change is to keep an open mind and to Elmer those who take advantage of what it has to offer. By being an open community we have nothing to lose and everything to gain.

When an Amateur offers to help another, in a non-judgmental manner, it will foster a better amateur and make the community a better place.

Yes, there will be those who will do whatever they want and we have systems in place to deal with them. Let's not worry about what frequencies we may lose or how many lids there may be.

Let's exercise the control that we can by being good models to new amateurs and by helping them develop good operating practices and clean station setups.

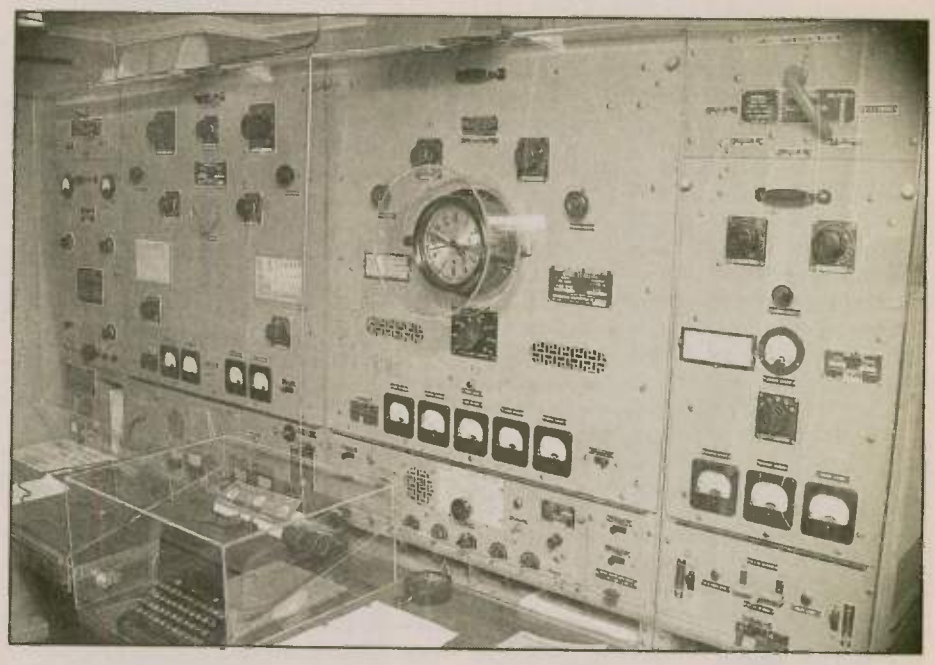
Sparks, waves and wizards!

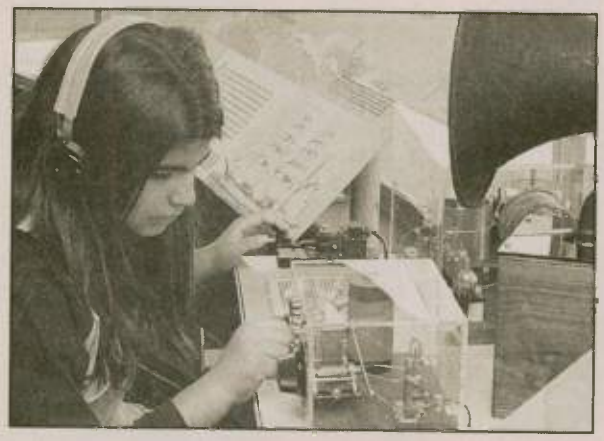
Rick McCusker, WF6O

Looking for something unusual and exciting in the San Francisco Bay area? Then the new exhibit, "Sparks, waves and wizards!" is just for you. It's a hands on exhibition of radio equipment that's fun and educational.

This exhibit is being presented at the San Francisco Maritime Museum, on Beach Street at Polk Street, at Aquatic Park in historic San Francisco.

In 1998, the curators of the museum were given permission to remove a complete shipboard installation from the *SS Rider Victory*, one of the few remaining Victory ships currently being stored in the mothball fleet at Suisun Bay, California. Once removed, the equipment was restored to almost new condition. All of the equipment in the display works, and is demonstrated almost every Sunday. Amateur Radio operators put on a demonstration of Morse code for visitors to the second floor room. A continuous tape of Morse code fills the room with conversations between ships at sea and shore radio stations like KPH and KFS, both now silent on code. There is even a tape of distress traffic and auto alarms sounding throughout the tiny room. The only thing missing is the sound and vibration of the engines and the pitching and rolling. Yes, it's a tight fit, but I have yet to see a 'roomy' radio room aboard a ship.





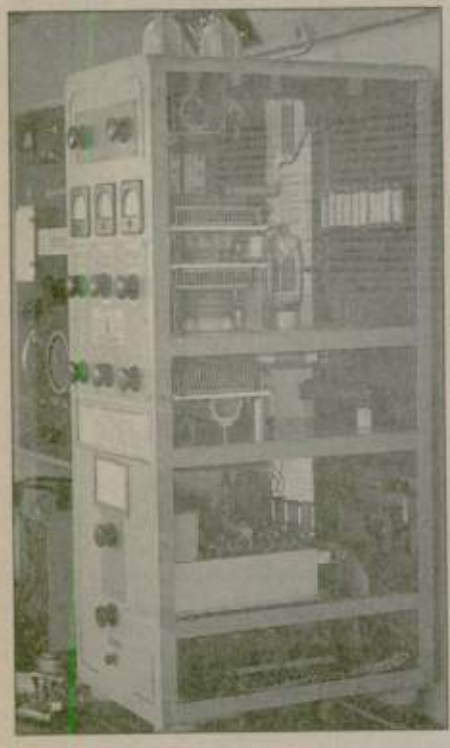
Above: The ship's station removed from the SS Rider Victory has been restored to full operation. On most Sundays the protective covers are removed and the station is on the air.

Left: Chrissy, 10, visiting with her family from Redondo Beach, CA, tries her hand at Morse code. She is using a working spark gap transmitter and crystal reciever — one of many hands on exhibits.

On the third floor, there are hands-on exhibits where visitors can send Morse code on a spark-gap transmitter and hear themselves on a crystal receiver. Shortwave radios, equipped with headphones are in abundance around the exhibit. Visitors can listen to 'live' radio and tune around the bands, or they can listen to pre-recorded Morse code messages at the push of a button.

Also on the third deck is a replica of a ships navigation bridge, complete with radar, radio-telephone, engine telegraphs and captain's chairs. A spectacular view

Above: This display celebrating the use of Morse Code features a photograph and QSL cards contributed by *Worldradio*. Below left: A radio transmitter removed from one of the warships in the mothball fleet. Below right: Hands on display of a spark gap transmitter and crystal reciever that kids just love to play with.



of Alcatraz Island is dead ahead! Just in front of the bridge are two PC terminals allowing visitors to get a live weather forecast from the National Weather Service for just about any location in the United States, and a terminal with a live radar display from the U.S. Coast Guard Vessel Traffic Service. That's the office that controls all movement of ships approaching, departing and in the San Francisco Bay. The actual station is located on Yerba Buena Island, halfway across the Bay Bridge.

A visit to this exhibit is fun and educational for the entire family. The kids will love it! The best part? It's free. For further information call 415/556-3002.

And for those of you interested in maritime history, there's lots to do within walking distance of the museum. Ever been on a World War II submarine? The *USS Pampanito* is 1/2 mile away at Pier 45. The *SS Jeremiah O'Brien*, originator of the last Morse code message received by a shore station in North America, is a short walk away at Pier 3. All of these exhibits are part of the San Francisco Maritime National Historical Park and is part of the National Park Service.

Contesting: a primer for beginners

Lee Zalaznik, KI6OY

Contesting can be an adventure-packed weekend of making as many contacts as you could in a whole year! Contesting has many rewards! For most of us winning is not everything but making that better score than last year or trying out a new mode is the thrill.

Most contests are faster paced than others and also have different rules or requirements. If you are getting into contesting, give some of the smaller SSB and CW contest put on by 10-10 International a try. With the propagation improving, these sets of contests will be a good way to start contesting. They take place four times a year. There are two SSB contests in the winter and summer and two CW contests in the spring and fall. These contests will give the Amateur Radio operator an ample number of contacts — a good score and a lot of fun. Check this out at www.ten-ten.org.

The next sets of contests are for the more seasoned operator. The IARU contest is a "work anyone for points" contest with a nice multiplier structure. Most of the rest of the major HF phone contests are fast-paced such as the ARRL DX SSB and the ARRL SS SSB contests. The CW contests are a notch up in speed but can be conquered with some practice such as the CQWW DX contests.

The state QSO parties can be fun! There is always room for another station on the air from your state.

The latest equipment and very large antennas are not a requirement to participate in contests, but a well maintained station with a working transceiver or separate receiver and transmitter are required. I have had equipment failures more than once during a contest. Check out the transmitter and receiver before the contests. Also antennas and feedlines can get lossy with age. Upgrade or replace before the contests. Make contacts before the contests to get back in the groove of operating! Computers have become a fact of life for the Amateur Radio operator. If you have a computer, use it! It can make life easier! Load, setup and learn to use your favorite logging software. They all do a good job. Station layout is important. Think about how the computer keyboard and the rig are set up and within easy reach.

Techniques and operating skills are all part of the learning process during a contest. There are two techniques, search and pounce and calling CQ.

Search and pounce is going up and down the band and answering stations calling CQ and making contacts. This is a good technique to get the multiplier numbers up and work the rare DX. This may be the only way for low power or QRP stations to make contacts.

Calling CQ is staying on a single frequency asking stations for contacts. High power stations can benefit from this technique. I have found that for a low power station sometimes calling CQ can be a blessing or a curse! Stations will not hear me and move on to my frequency and start calling CQ — I know that it is time to change techniques, bands or modes. To be productive use a combination of both of these techniques.

If the contest rules permit, which most do, change bands and rework the stations on another band or mode! This will not apply to single band contests such as the 10-10 contest, the ARRL 10-meter or 160-meter contests. Try to work the highest band possible! Follow the sun — early mornings use 20 or 15 Meters. Late mornings and early afternoons use 15 and 10 Meters. Early evenings use 15 and 10 Meters. Late evenings use 15 and 20 Meters and then go down to 40 or 80 Meters.

Some bands may not open up, but keep checking. I have used a logging program to check which bands I have not worked many stations, and near the end of the contest I concentrate on those bands.

For the contests I work I send in a score. I clear my schedule for that weekend and work as many hours as possible. This may not be the case for others but in several hours you can still have fun. To maximize your rate, I would recommend Friday evenings, Saturday mornings or Saturday evenings picking the bands that seem open given the propagation.

Contesting can seem like a solo endeavor. Most contests have a club entry. Check it out! With some publicity you can get your local club members interested. Members can operate the contest and send in their logs along with the name of their club for a club score. Check out the rules for club scores. Some contests require a list of elibible members. I did this with the California QSO Party and the Livermore Amateur Radio Klub. About six members joined me in operating and sending in their scores.

Sending in your score is a personal choice. All contest sponsors want to have all the people who operate send in their score. Well, go ahead and send in your score. At least you'll find your call sign in print.

Check out your favorite contest column for the latest up-coming contests and take the plunge!

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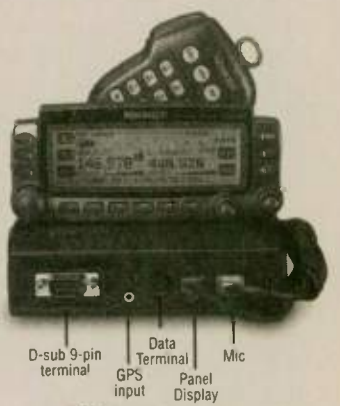

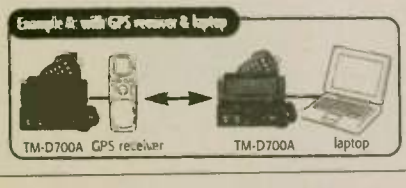

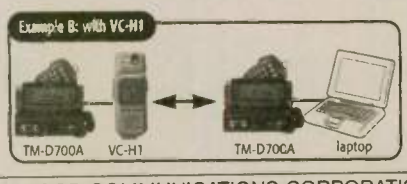

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Special Events

CHERRY BLOSSOM FESTIVAL

The Macon ARC will be operating W4BKM 18 Mar. 1500 - 2200 UTC at the 18th annual Cherry Blossom Festival in Macon GA. Suggested frequencies are 7.235, 14.240 and 21.335 MHz. For certificate send QSL and a 9 X 12 SASE to Macon ARC, P.O. Box 4862, Macon, GA 31208.

NATIONAL WEATHER SERVICE

A SKYWARN special event station, WX2PHI, will operate from the Mt. Holly, NJ, office of the National Weather Service 19 Mar. Frequencies: 7.273, 14.273 and 28.373 MHz. Certificates are available by sending a QSL and SASE to John Holmes, WX3TAZ, 126A Worman Rd, Bath, PA 18014-9099.

FCC audit takes an ugly turn

The FCC audit into a VE examination session held 14 July 1999 in Clemson, South Carolina, has become an investigation with far-reaching consequences. In a letter dated 13 January, Riley Hollingsworth, Special Council for Amatuer Radio Enforcement asked William Browning, , of Pendleton for an explanation on several issues about the VE session that Mr. Browning was listed as "manager."

" On the Manifest of Applicants submitted by you, the signatures of the following persons appear:

Eugene D. Matring
Maurice D. Martin

"Both Mr. Matring and Mr. Martin have filed statments with the Commission, in response to our inquiries, certifying that they were not present at the session and did not sign the manifest.

"Seven Form 610's that you submitted with the examination documents also bear the signatures of Matring and Martin, but both have stated that they did not sign the forms.

The most glaring accusation was the last paragraph of Mr. Hollingsworth's letter. "We have also received allegations that you have physically threatened one or more of the Volunteer Examineers whom your documents indicate participated in the 14 July 1999 session at Clemson. You are cautioned that, if such allegations are tru, this information will be turned over to law enforcement authorities, including the United States Attorney, in your jurisdiction." — *FCC*

Silent Keys

LEMUEL H. ALLEN, JR, W7JMH

Former ARRL Idaho Section Manager Lem Allen, W7JMH, of Boise died 08 January. Allen had served two terms as Idaho Section Communications Manager (as the position was then called) from October 1978 until April 1982, and as Section Manager from May 1984 until September 1986. — *ARRL Letter*

DR. ARCHIE GUINEA, ZK1CT

Archie Guinea, ZK1CT, the only active Amateur Radio operator residing on Mauke Island for many years, died 06 January, in Manukau Heights, Auckland, New Zealand. During his stay on Mauke Island, Archie was the resident doctor and hospital administrator. — *KF6ZB*

SPREAD SPECTRUM INVENTOR, ACTRESS HEDY LAMARR

Hedy Lamarr, the sultry, sexy screen star of the 1930s and 1940s who also conceived the frequency-hopping technique now known as spread spectrum, has died. She was believed to be 86.

Born Hedwig Kiesler in Austria, Lamarr came to the U.S. in 1937 after being signed by MGM. Among her most successful films was the 1949 Samson and Delilah, directed by Cecil B. DeMille.

In her 1992 book Feminine Ingenuity, Lamarr describes how she came up with the idea of a radio signaling device for radio-controlled torpedoes that would minimize the danger of detection or jamming by randomly shifting the frequency. She and composer George Antheil developed the concept and received a patent for it in 1942.

The concept never saw fruition during World War II, but when the patent expired, Sylvania developed the idea for use in satellites. Spread spectrum also has found applications in wireless telephones, military radios, wireless computer links, and Amateur Radio experimentation.

"I read the patent," Franklin Antonio, chief technical officer of the cellular phone maker Qualcomm Inc, said in 1997. "You don't usually think of movie stars having brains, but she sure did."

A more-detailed version of Lamarr's role in spread spectrum is described in the IEEE book Spread Spectrum Communications, published in 1983. — *N4ICK, N1VUX, ARRL Letter*

RICHARD & ELFIEDE GRIFFITH

Richard Griffith, AA6WX died 24 September 1999. He was followed in death by his wife, Elfiede, N6DOC, 08 December 1999. They were married for 52 years. Both were active amateurs with Elfiede being very active in the Sunday morning Sauerkraut Net. Richard was born in San Leandro and was a resident of Castro Valley for 51 years. He was a WWII Navy submarine veteran and a survivor of the Japanese attack on Pearl Harbor. He was also chief radio operator of the Santa Mercedes passenger liner. — *KH6COY*

MEYER WOLFE, KC8VC

Mike Wolfe, KC8VC, died 06 January at the age of 45. He was a resident of Quinnesec, MI and held an Advanced class license. A commerical airline pilot, his death was the result of an accident while on approach to his home field at Kingsford, Michigan. Mike was well known in the Amateur Radio hobby for his teaching and helping newcomers to the hobby. He always took a special interest in his students and guiding them in the purchase and installation of their first stations. — *Copper County Amateur Radio Association newsletter "The Landline"*

Letters to the Editor

Restructuring...

Up until now I have been very quiet about my feelings and concerns relating to this hobby. I am still a young Ham at 44 yrs old, but have been licensed for 31 years. During this 31 years there have been several changes, some that I thought were not good and others that were. One of the changes that I did not agree with was the no-code tech class, as I thought this was just opening the door to every one who wanted a Ham ticket without the work. Now, 10 or so years later, look where we are. I listened to the local repeaters load up with lids and I have watched as some fellow senior amateurs fade from the hobby. This might be a good reason why some of the new Hams are complaining that no one will answer them when they try new repeaters. I speak only from what I have heard on HF, as I have lost total interest with VHF. When I listen to 20 Meters and the spoon-feeding DX nets and the last two for a complete call sign, I just shudder.

But this latest sell out to the whiners who complain that the code requirements are too hard and that we are being discriminatory is just ridiculous. Just how smart are they if they can't pass the code? We all did and it is not supposed to be easy; this is a technical hobby. We are required to know certain elements of electronics even though they may be outdated, and I am sure that will also change. Now with only three classes, what new privileges did the FCC give to the existing Extras and Advanced? NONE!

Again in my opinion the CW whiners are just lazy. I know that this offends many, but right now I don't care! It offends me that the FCC, ARRL, W5YI and many others who have made this change happen, do so only to line their pockets with all of the money that the new amateurs will spend buying their magazines and study books. I feel after spending 30+ years in this hobby with the work and studying that was required, I have been slapped in the face. I have nothing against the new Ham or even with the no-code Ham, but I do have a problem with a new Ham who wants the same privileges that I have earned, just given to them. This may not be the end of this hobby — not yet! The CB band also took several years for its demise – it might take a little longer with Amateur Radio.

I really feel that we can now call this hobby "amateur" radio.

I feel that, in time, you will only have to send in and get your Extra class no-code no-theory Amateur Radio license for free. This may sound drastic to some, but the forces who made this happen are not finished yet. I know I will get some flack for this letter, and I am sure it will be from someone who finds it too hard to study and wants something for nothing.

Mike Weber, WA2RZJ
Newfane, NY

•

Well they did it, and in spite of their newly botched-up license restructuring program that we all knew was coming, I am still proud to be a NATIVE EXTRA. Yep, that's right. We are a select few of the elite, if you will: the chosen few by our own decision to adapt, improvise and overcome through hard work. Yes, there will never again be a class of us Native Extras. Oh, there will be them, the common everyday 5 wpm type. You know the ones who will take the handout from the government so they don't have to work at becoming an Extra. But there will never be another real Extra class of us. Another piece of America is gone. So if you are fortunate enough to know one us Native Extras, count your blessings, buy us lunch and be kind. Do not forget those of us who are at the modern technological forefront of Amateur Radio paving the way as the pioneers did so long ago for the followers. And for you Native Extras, let's remember to welcome the new kids into the fold as they make Extra and make them feel like one of us. An Amateur Radio operator.

Dan Baker, KM6CQ
Antelope, CA

Private repeaters

I find a very valid point is made about (Private) repeaters. I also feel that the FCC should address this issue. The 70 cm band along with the rest of the Amateur Radio frequency allotment was set aside for all FCC licensed Amateur Radio operators. The practice of setting up closed repeaters seems to go against the "intent" of the rules governing these frequencies. The spectrum set aside for the business band would seem a more fitting place for such operation. With the proliferation of repeaters and their demand for more spectrum there will be little open frequencies for simplex operators. Yet if you listen to the repeater frequencies in my area (Metro Cleveland, OH) you will find very little use of these repeaters except perhaps during rush hour traffic to and from work. Various nets are on in the evening but these are quite scattered.

Some repeater owners allow other users to access their systems for our local Swap & Shop and other legitimate uses. To these owners I would like to say thank you, this is in the spirit of Amateur Radio at its best.

David L. Semanik, K8WRS
Parma, OH

Ashamed?

I am provoked into writing a response to the January 2000 issue of ***Worldradio*** in which the editor headlined a point-of-view, anonymous letter with the conclusion, "We should be ashamed of ourselves."

The letter from "Jimmy K" illustrated someone with a chip on his shoulder, who probably has a difficult time forming

friendships in the first place. But he did manage to highlight some shortcomings in the hobby that should produce not shame, but special attention among us to avoid.

The 2M practice of using the term "monitoring" or listening when initially encountering a repeater is becoming known as an anti-social, clique-inducing way of announcing only to certain people that you are around and available to chat. It does nothing to invite those beyond the known group to strike up a conversation.

Calling "CQ," by comparison, is an unquestionable way of inviting a contact with anyone who might be listening. It also avoids the possible FCC violation (Part 97) linked with non-directed transmissions which could be construed as illegal broadcasting. "Listening" and its equivalents are firmly in this prohibited context.

I would also extend my comments beyond the methodology of initiating a QSO by questioning whether VE programs do enough mentoring of newcomers, including someone like "Jimmy K." Such mentoring would have demonstrated that initial, unscheduled contacts on simplex are difficult and unlikely with the rise in popularity of low-powered shirt pocket handhelds. Such knowledge would have minimized the kind of frustration the letter writer experienced.

Finally, operator attitudes can make or break the prospects for acceptance of a newcomer. There is little the amateur community can do to repair the kind of pre-existing attitude the bitter "Jimmy K" has portrayed. Happily, most of the welcoming, friendly exchanges I have witnessed are more typical of the hobby, and are far from something to be ashamed of.

Paul Courson, WA3VJB
West Friendship, MD

Reputable publications don't print unverifiable "true stories." You are the ones who should be ashamed of yourselves for printing this article without determining the validity of the material. Doesn't it put up a red flag when someone sends you information from an unknown source? This letter is the kind of crap that is picked up off of an e-mail reflector. It is a blatant attempt to start another Ham vs. CB flame war.

Doesn't it strike you odd that Jimmy K. paints himself as so all deserving and worthy and Ham radio as so undeserving of him. If anyone gets snubbed that completely by Hams, he probably earned it with some kind of boorish behavior. There are all types of malcontents in the world. Some are malicious interferers on the repeaters and bands and some write anonymous letters to the editor. The best way to discourage them is to ignore them until they go away.

After telling us (your subscribers) we should be ashamed of ourselves, you OWE it to us to make Mr. Pasternak divulge his source, find out who Jimmy K. is and verify the truth and facts of this story, or apologize for printing this unfounded, unverifiable, witch-baiting story and using it to accuse all Hams of being snobs and shaming Amateur Radio.

Personally, I'm not ashamed of anything I have done in Amateur Radio and I don't intend to be ashamed because you say so until you get your facts straight and print the whole truth. You took a whole page of the magazine to print this "true story" and slam the whole of Amateur Radio. I hope you will be just as bold when you print the facts to back it up or apologize.

Bill Stietenroth, K5ZTY
Houston, TX

(Ed. The reason I decided to print the e-mail from Jimmy K. is that he brings up a problem in Amateur Radio as a WHOLE. The article was not intended to take aim at each and every Amateur Radio operator, but merely to point out a practice that even I have witnessed. Unless we take new amateurs by the hand and guide them along they won't be interested in continuing in the hobby. And, they will share their experiences in Amateur Radio with their friends and neighbors.

How many "Jimmy K.'s" are out there? There may be only one, and true, he may have exhibited "boorish" behavior. Because of his behavior he was snubbed and rejected by Amateur Radio. But isn't one "Jimmy K." one too many? The whole purpose of printing this e-mail was to get you, the Amateur Radio operator, to think about the way he was treated, examine your own practices, and talk about it. From the number of letters I've received on this article, I have succeeded in getting the point across. If you, Mr. Stietenroth, were offended by the article, I apologize to you. But your one point doesn't really make sense to me. How am I promoting a 'flame war' between Ham and CB operators?

— Your comments are welcome. Send your letters to" Worldradio, 2120 28th Street, Sacramento, CA 95818; or via email at: comments@wr6wr.com. We will print as many comments as space allows. — WF6O)

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.*

Robert W. Strong, W8MGX

Here is a photograph of the present station at W8MGX.

I was first licensed in 1939 and received the call W8TLT. During WWII, I joined the AACS and spent three years as a CW operator, among other assignments, mostly in North Africa.

After returning home, I had a number of "home brew" rigs including one on RTTY using surplus aircraft rigs and TTY machines.

My job transferred me to Connecticut and I had the call W1EPD for 10 years until I returned to Ohio and received my present call.

My current equipment in the photograph is: top, left to right — MFJ Versa Tuner, Kenwood 7930 2-meter with KAM 5.0, JPS NRF-7 digital processor. Bottom: Heathkit SB200, Kenwood SM-230 Station Monitor, Kenwood TS-850S and a Bencher Key, a TV (to confirm there is no TVI and a 486SX computer for the digital modes.

Antennas are G5RV, Gap Eagle and Ringo Ranger II.

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**!*

Dad's hidden talent

John O. Satterlee, WA9SAB

Back in 1967 I had just received my General and invited my 80-year-old father to visit in my Ham shack. As we sat there talking, I turned on my Collins 75-A1 and there, chatting away in CW, was a friend of mine. Dad suddenly asked me where Annandale, Va was. I answered, knowing he was thinking of Annandale, MN near where he had spent his boyhood. "It's a suburb of Washington, DC, why?" He said that he was just wondering as the operator was giving his address to another Ham. I was stunned! I asked him where he had learned the code and he replied that I should have remembered that my uncle Elbert had been a railroad telegrapher before he went in the ministry and he learned it then. I said my God, that had to be over 60 years ago! He just shrugged. And I had to wear headphones, sweat blood and everybody leave me alone!! Some people are blessed...others...oh well!

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***.

W-100-N

Only one application was received for *Worldradio's* Worked 100 Nations Award during the month of December 1999. Unfortunately, the applicant provided me with his list of DXCC countries worked, which included unconfirmed contacts.

CATZ

The following DXer was awarded our Contact All Time Zones award during the month of December:

14. Bodo Hinz DJ6VM
17 December 1999

S.M.O.A. (1A)

Bernie McClenny, W3UR, of The Daily DX fame, notes Francesco Valsecchi, IKØFVC, says the next planned operation from the Sovereign Military Order of Malta will probably be during this coming summer.

Ghana (9G)

425 DX News reports Zdeno Sterbacek, OK2ZW, is presently active from Ghana signing with 9G5ZW. He will be there for the next three years.

Derek Menzies, F5VCR, and others will be active from Abokwa Island (no reference number) for six days in early April.

Agalega & St Brandon (3B6)

The Daily DX notes the members of the 1998 3B7RF DXpedition to St. Brandon Island (AF-015) are making plans for another one in October, this time to Agalega Island (AF-001). The team will include 18 operators from eight different countries, with the team leader being Hans-Peter Blaettler, HB9BXE, a member of the last team. Look for this one beginning 01 October 2000 for almost a month of continuous operation. The budget for this one will be $160,000 and the group is looking for financial support.

Tunisia (3V)

A second Amateur Radio station has been set up in Tunisia according to the Ohio/Penn DX Bulletin. The station is located in the capital at the headquarters of Tunisian Scouts using the call 3V8ST.

U.A.E. (A6)

Bernie McClenny, W3UR, of The Daily DX, reports on the activity at A61AJ during the most recent operation, including the CQ Worldwide DX Contest at the end of November. All logs have been combined into a single log. The final numbers by band and mode: 160 Meters, 1,667; 80 Meters, 2,874; 40 Meters, 3,676; 30 Meters, 3,269; 20 Meters, 5,846; 17 Meters, 1,226; 15 Meters, 4,736; 12 Meters, 2,087; and 10 Meters, 4,925; for a total of 30,306 contacts. Of these contacts 23,818 were made on CW with an additional 6,201 on SSB and 287 on RTTY.

The operators in the operation included: Ali, A61AJ; Jeff, K1ZM; Rol, K3RA; Rich, KE3Q; Phil, N6ZZ; Sam, PA4AO/T94S; Danny, T93M; Boris, T93Y; Edin, T97M; John, WØUN; and Bernie, W3UR.

The main part of the operation took place between 22 November and 30 November. Edin, T97M, stayed until 07 December and was active. A log search is available at http://www.dailydx.com/a61aj_search.html or you can visit the A61AJ home page at http://www.a61aj.com. All direct QSL requests are presently being answered and bureau cards will mailed out in the summer of 2000. If you have not sent your QSL request, please do so. Bureau requests via e-mail bureau cannot be accepted.

Macquarie Island (VKØ)

Presently we have a resident amateur signing from Macquarie Island (AN-005). Alan Cheshire, VKØLD, located at the ANARE Base has been active on CW, which according to Jim Smith, VK9NS, is a rare event from this island.

Alan is not new to the DX field as he has held previous calls such as GM4EEL, VP8PJ, A4XFY, VS6AC, VR5AC and P29AC. He presently holds the calls VK6CQ and VK8AC. At the base he is employed as a Senior Communications Engineer for the Australian Antarctic Research Expedition. He expects to be active through the end of the year. There were later reports that Alan could not cope with the complaints and the undisciplined operators trying to work him, and was to quit at the end of 1999. To me this is not the spirit of DXing to punish others for the actions of malcontents.

If Alan changed his mind regarding operating, keep in mind that this is not a DXpedition operation. He will operate when time permits. It is also requested that no form of communication whatsoever shall be sent via ANARE proper. All QSL requests will be handled at the end of his tour of duty. So, unless told otherwise, stayed tuned.

Macao (XX9)

Macao was officially turned back to China on 20 December 1999 as was its neighbor, Hong Kong, in 1997. Whether or not this entity remains on the DXCC countries list depends on the criteria where: (1) it is a member of the United Nations; (2) have its own IARU society; and (3) have its own ITU callsign prefix block. It does not meet any of the above and will be dropped from the list.

Remember, if this happens under the new DXCC rules it does not become a deleted country but disappears as if it never existed. All DXers who have credit for this one will suddenly have a total overall count, which included deletions, reduced by one. In other words, those who stand at DX convention banquets at "DX Countdown" will have to sit down at one less than they normally sat down at.

Campbell Island (ZL9)

Ken Holdom, ZL2HU, of the Kermadec DX Association, says that all QSLing for the January 1999 DXpedition to Campbell Island (ZL9CI) is up to date with both direct and bureau requests. A total of 12,680 envelopes had been received which contained QSL cards for 50,155 individual contacts. Of that total 4,089 contacts were acknowledged via the bureau system.

The task of responding to QSL requests for this major DXpedition took some considerable time to complete and the team did an exceptional job with the cards. A few envelopes went astray within the postal system and resubmissions resolved any problems.

Ken thanks all for making this DXpedition the success it was and the association is looking forward to working you all again from ZK3 in 2002.

Rhodes Island (SV)

The following item comes via The Daily DX with an official bulletin from the PA DX Association and the York County Amateur Radio Club (KY3ORK) and Pete deVolpi, KC3TL.

"After a thorough investigation it has be verified with the father of Alex Oosterloo, PDØSES, that Alex has some continuing problems with fantasies. Alex has been operating from The Netherlands on HF using the calls PA/SVØSS and SVØSS. The DXpedition for the SVØSS operation on Rhodes Island in early December 1998 was actually a PIRATE operation by Mr. Oosterloo from his home in The Netherlands. Alex Oosterloo held a Novice license, PDØSES, and has no HF privileges. He has used the PA DX Association for his QSL management fraudulently. The PA DX Association and the York County ARC officially announce that this operation was a hoax on the part of PDØSES, and these two organizations are nullifying all cards issued by them for contact with PDØSES, PA/SVØSS, and SVØSS. The association between these two organizations and Alex Oosterloo has been dissolved upon this discovery. We apologize for any inconvenience this may have caused. Sincerely, Pete deVolpi, KC3TL and Mary Ann Crider, WA3HUP."

Madagascar (5R)

There is a new resident amateur now active from Madagascar (AF-013) notes the Ohio/Penn DX Bulletin. Look for Michel Bon (formerly F5LET) now

signing with 5R8GL, who is active mainly on CW, but will change to SSB upon request.

As there is no QSL bureau all requests should be sent direct. Do not send requests to his former address in France as that route is now closed. Use B.P. 342, (201) Antsiranana, MADAGASCAR.

IOTA

Look for Art Phillips, NN7A, who will be active from Turneffe Islands (NA-123), 26 - 31 March. Art will use V31JZ and will be on all bands, mostly CW with some SSB. QSL direct to Art's home address or the W7 QSL bureau.

Very active recently is Show Sanada, JA6CTW, who is a new resident on Yakushima, part of the Osumi Archipelago (AS-032).

Roy Blakeburn, VE1XA, resides on Cape Breton Island (NA-010), says that he is on the air almost every day from 1800 UTC. Look for Roy near 14.290 MHz.

The following IOTA operations have provided acceptable validation material and have been approved by the IOTA committee in November 1999:

AS- 032 JL6UBM/6	Osumi Archipelago	Oct/Nov 1999
AS-108 OD5RAL	Ramkin Island	September 1999
AS-128 3W6HM	Phu Quoc Island	August 1999
AS-128 3W6KS	Phu Quoc Island	August 1999
EU-102 RI1P	Zeleniy Island	August 1999
OC-173 VK8ML	Melville Island	November 1999
OC-177 7AØK	Seribu Islands	October 1999
OC-183 VK6EEN/P	Green Island	October 1999
OC-183 VK8PY/6	Green Island	October 1999
OC-199 VK6EEN/P	Malus Island	October 1999
OC-199 VK8PY/6	Malus Island	October 1999
OC-229 VK8CI	Croker Island	November 1999
OC-230 VK9RS	Rowley Shoals	September 1999
SA-020 FY5FU/P	Salut Islands	November 1999

Here is our selection of IOTA activity during the final month of the last century:

AN-011 CE9/R3CA	Ross Island	25-27 Dec
AN-015 8J1RL	Ongul Island	02-26 Dec
AS-012 JM6CIP/6	Amakusa Archipelago	11-12 Dec
AS-015 9M2TO	Pinang Island	11-31 Dec
AS-017 7J6CCU	Okinawa Island	30 Dec
AS-023 JE6EMW	Amani Archipelago	02-31 Dec
AS-024 JS6LIH	Taketomi Island	09 Dec
AS-026 HL4HLD	Cheju Island	03-19 Dec
AS-030 JD1BKR	Iwo Jima	03-31 Dec
AS-032 JA6CTW	Yaku Island	01-31 Dec
AS-040 JH6TYD	Goto Island	01-22 Dec
AS-045 HL5FUA	Ullang Island	04-31 Dec
AS-049 JI3DST/6	Tokara Island	29-31 Dec
AS-053 HSØ/IK4MRH	Phuket Island	19-24 Dec
AS-075 XX9TXX	Taipa Island	18 Dec
AS-083 RA9LI/9	Belyj Island	02-31 Dec
AS-117 JH5ZCP/4	Ikuchi Island	18 Dec
AS-136 BD4ED	Chong Ming Island	04-31 Dec
AS-137 BT20OO		25-31 Dec
AS-140 S21K		17 Dec
EU-008 GM3TTC/P	Isle of Raasay	04-05 Dec
EU-009 GM3IBU	Orkney Islands	14 Dec
EU-009 GMØHTT	Orkney Islands	24-27 Dec
EU-009 GM3POI	Orkney Islands	17-31 Dec
EU-010 MMØBJG	South Uist Island	25 Dec
EU-010 GM3JIJ	Isle of Lewis	25 Dec
EU-016 9A5KV/P	Jakljan Island	04-05 Dec
EU-016 9A5ST/P	Vis Island	10 Dec
EU-016 9A2GF	Brac Island	01-31 Dec
EU-016 9A3VM/P	Jakljan Island	03-05 Dec
EU-016 9A2AA/P	Jakljan Island	03-05 Dec
EU-016 9A5V/P	Jakljan Island	04 Dec
EU-033 LA4MQ	Vesteralen Islands	19 Dec
EU-036 LA8LA	Hitra Island	27 Dec
EU-037 SM7CRW	Oland Island	20-25 Dec
EU-037 SM7DLZ	Oland Island	01-27 Dec
EU-038 PA3FDO/P	Ameland Island	10-13 Dec
EU-042 DK8OL	Isle of Sylt	30 Dec
EU-046 LA5QFA	Vanna Island	24-27 Dec
EU-047 DJ9IN	Norderney Island	02-12 Dec
EU-049 SV8DCY	Lesvos Island	17 Dec
EU-049 SV8DTL	Lesvos Island	30 Dec
EU-052 SV8EP	Kefalonia Island	19 Dec
EU-052 SV8CS	Zante Island	26-31 Dec
EU-055 LA2BKA	Reksteren Island	02-26 Dec
EU-057 DL5KUD	Reugen Island	02-26 Dec
EU-057 DL4PM	Ruegen Island	01-19 Dec
EU-067 SV1CU/SV8	Tinos Island	13-27 Dec
EU-082 U1ZA/A	Kildin Island	03-31 Dec
EU-120 G7RAU	Isle of Wight	24 Dec
EU-125 OZ5TOM/P	Romo Island	05 Dec
EU-128 DL8OBL/P	Fehmarn Island	30 Dec
EU-129 DL7VOX/P	Usedom Island	24-30 Dec
EU-131 IK3PQH	Lido Island	03-30 Dec
EU-133 RA1AD	Kotlin Island	02-27 Dec
EU-133 UA1AOQ	Kotlin Island	02-10 Dec
EU-136 9A/DK3ID	Losinj Island	25 Dec
EU-136 9A6DCR	Krk Island	10 Dec
NA-010 VE1XA	Cape Breton Island	11-18 Dec
NA-025 J8OK	The Grenadines	10-12 Dec
NA-031 W1LY	Conanicut Island	13 Dec
NA-036 VE7DXQ	Vancouver Island	24-30 Dec
NA-036 VE7IM	Vancouver Island	08 Dec
NA-046 W1GAY	Martha's Vinyard Island	01 Dec
NA-048 DL1SCQ/C6A	Bimini Islands	31 Dec
NA-048 DL2SCQ/C6A	Bimini Islands	25-31 Dec
NA-051 VE7RHF	Queen Charlotte Is.	07-11 Dec
NA-052 KA2WEU	Marco Island	22 Dec
NA-052 KF9YL/4	Marco Island	18-19 Dec
NA-055 AK1L	Vinylhaven Island	02-24 Dec
NA-056 CO8LY/CO4	Cayo Largo	09 Dec
NA-058 K2OLG/M	Jekyll Island	27-29 Dec
NA-059 NO7F/KL7	Unalaska Island	11 Dec
NA-062 W2SF/P	Florida Keys	06-10 Dec
NA-065 KE7CU	Whidbey Island	25 Dec
NA-065 N7WI	Whidbey Island	19-30 Dec
NA-065 N6FD/7	Fidalgo Island	03-31 Dec
NA-065 AD7U	Whidbey Island	17 Dec
NA-069 KF9YL	Lovers Key	18 Dec
NA-072 3E1DX	Contadora Island	02-12 Dec
NA-072 HP1XVH	Contadora Island	04-29 Dec
NA-076 W9DC	Cedar Key	27 Dec
NA-110 AA4V/P	Isle of Palms	31 Dec
NA-110 W2AKW/4	Edisto Island	09 Dec
NA-110 WB4WTY	Folly Island	05-29 Dec
NA-110 AC4WW/P	Edisto Island	26-28 Dec
NA-110 K9JWV	James Island	15 Dec
NA-138 N5VL	Amelia Island	02-30 Dec
NA-140 W3YN	Kent Island	29 Dec
NA-143 AB5EB	Galveston Island	03-18 Dec
NA-198 VO1BAR/P	Newfoundland Coastal	06 Dec
OC-011 V63PD	Truk Islands	30 Dec
OC-027 FOØEEN	Austral Islands	13-26 Dec
OC-027 FO5QG	Nuka Hiva Island	03-26 Dec
OC-046 FO5JV	Tahiti Island	11-23 Dec
OC-129 K9AW/DU6	Negros Island	31 Dec
OC-067 FO5NL	Raiatea Island	12-23 Dec
OC-130 DU9HKD	Mindanao Island	15-25 Dec
OC-130 DU8DJ	Mindanao Island	14 Dec
OC-137 VK4GP	Bribie Island	10 Dec
OC-137 VK4LV	Bribie Island	23 Dec
OC-148 YC9MKF	Timor Island	29 Dec
OC-149 H44NC	New Georgia Islands	03 Dec
OC-169 A35RK	Lifuka Island	15-26 Dec
OC-210 YC8RRK	Sangihe Island	03-20 Dec
OC-210 YC8TXW	Sangihe Island	02-09 Dec
SA-008 LU1XT	Terra del Fuego	09-16 Dec
SA-025 PS8HF/P	Piaui State Group	18-19 Dec
SA-026 PP5OW	Santa Catarina Island	19 Dec
SA-068 8R1AK/P	Leguan Island	03 Dec
SA-071 PY2JM/P	Sao Paulo State Center	31 Dec

RSGB IOTA Millennium Program - IOTA 2000

Neville Cheadle, G3NUG, provides the latest information on the RSGB IOTA 2000 program with two awards for DXpeditioners for activating activity during the year 2000.

DX World

DXpeditioners Platinum Certificate

This award is available for activating either (1) two new IOTA island groups or (2) one new IOTA island groups and 2 rare existing IOTA island groups.

DXpeditioners Gold Certificate

This will be awarded for activating either (1) one new IOTA island group or (2) two rare IOTA island groups or (3) five IOTA island groups (excluding one's home station).

A rare IOTA island group is defined as one that requires validation by the IOTA Committee according to the 1998/99 or forthcoming 2000 IOTA Directory.

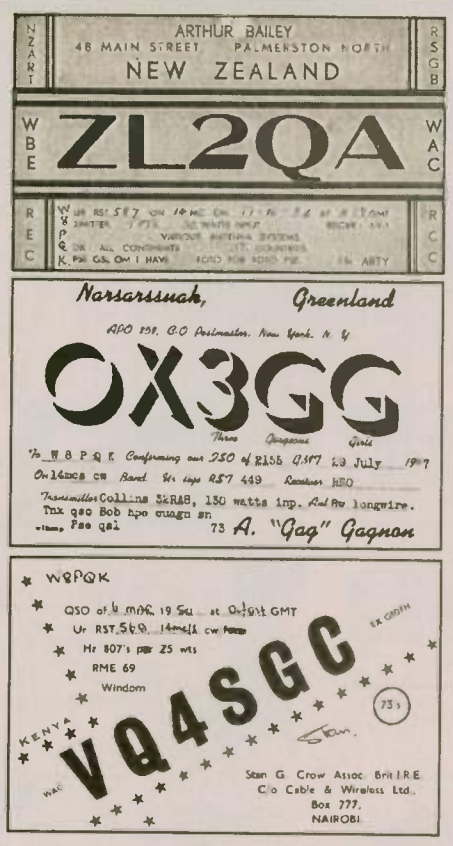
Neville also notes on a rule change in that requests from the IOTA community new IOTA island groups activated in both 1999 and 2000 will count for IOTA 2000 awards. The listing of islands on the CDXC web site will be updated as new IOTAs are activated. Refer to www.cdxc.org.uk for full information about the IOTA 2000 Program.

DX Conventions

It's not too early to begin planning for the Pacific Northwest DX Convention this summer. It will be held this year in Vancouver the weekend of 28-30 July. Details are available from the British Columbia DX Club website at http://www.bcdxc.org.

Antique QSL Department

This month's selection of Antique QSL cards are from the collection of Bob Ekleberry, W4CKD. There is nothing special about these particular cards except they date back prior to before many of our young DXers were born. Such a card is the one of Arthur Bailey, ZL2QA, who Bob worked back on 17 October 1936. Bob began his Amateur Radio career as a youngster in Cincinnati signing with W8PQK. Imagine the thrill he must have had working all the way to New Zealand in March of that year! Do you remember your first DX contact?



If you look closely on the ZL2QA card you'll see the operator has worked 57 countries. Those days are not like today when many DXers will work 100 in a DX contest during a single weekend. So if you think it is no big deal then you really don't know what DXing was all about in the old days. The whereabouts of Arthur Bailey is unknown and he's probably a Silent Key. The call has since been reissued.

About 10 years later Bob worked OX3GG in Narsarssuak, Greenland. The date was 29 July 1947 and the card shows an APO address, a U.S. military facility in Greenland. Notice that the card indicates "Pse qsl." The stateside call for the operator, A. "Gag" Gagnon was not indicated.

The third card is from VQ4SGC in Nairobi, Kenya. This one is more recent, 1950. The operator, Stan Crow, indicates that his transmitter consisted of a pair of 807 tubes running 25 watts. His antenna was a Windom, a design now lost in history. Stan is still listed in the Callbook under the call G3DFH.

DXCC FAQ #7

Bill Moore, NC1L, Century Clubs Manager, provides the latest DXCC status update as of 10 December 1999.

DXCC has finished processing the September work which includes running the 1999 Annual List.

The 1999 Annual list is now being prepared. Results will be shown in the 1999 yearbook, which hits the streets in late March 2000. If you have submitted an application between 01 October 1998 and 30 September 1999 you will receive the free copy as long as you are an ARRL member. Also, if you have not submitted

between these dates, but are CURRENT on the DXCC Honor Roll, you also qualify for the free copy. (The Honor Roll number for this period is 322 current entities). Foreign non-ARRL members do not receive the free copy even if a submission was received within this period. However, copies are available for $5.00 each. If, according to DXCC rule 5, you were not shown in a monthly list for your submission, this will not affect your status for the yearbook.

Palestine (E4) was officially added to the DXCC software on 10 December 10. DXCC also began processing October applications on this date. Each year DXCC experiences added delays in processing due to the 30 September deadline. This causes DXCC processing of September applications to continue into early December. This is normal for us every year. However, due to staffing shortages this affected DXCC turnaround a little more. I'd like to extend our thanks to all for you patience and understanding during this period. We will not hold any application any longer than is absolutely necessary to get it processed through the system.

The current backlog in DXCC is nine weeks. A new employee began in DXCC on 13 December, so we hope that after a brief training and orientation period, the turnaround time will start to go down early next year.

We look forward to working with you in 2000 with the current DXCC program as well as with the new additions announced in December QST. The QST announcement and other information on the program is at: www.arrl.org/awards/dxcc/.

QSL Information

3V8BB in Tunisia has been active several times. Be aware that the QSL route for these operations is not necessarily the same. Eddie Schneider, W6/GØAZT, has received many requests from those who think he is the QSL manager. Eddie does handle his own requests for his RTTY operations from 3V8BB this past October, but nothing else. He wishes to make it known that any cards for 3V8BB, for which he is not the manager, will be destroyed. He does not have the time for misdirected QSL requests.

Thanks go to the following contributors for this month's column: G3NUG, VE1XA, VK9NS, ZL2HU, W4CKD, NN7A, Western Washington DX Club (WAØRJY), Northern Arizona DX Association (W7YS), Web-Cluster (OH2AQ), 425 DX News (I1JQJ,), The OPDX Bulletin (KB8NW), DX-News (NJDXA), The Low Band Monitor (KØCS), The Daily DX (W3UR), and QRZ DX (N4AA).

Now that all the excitement of entering the year 2000 has subsided, (the ceremonies in Paris were impressive), it's time to look at DXCC and IOTA, two special programs for this year. Both could be very interesting. Have fun.

And, don't forget the restructuring of our FCC licenses due on Income Tax Day. Extra Class types may be disgusted with the 5 wpm code speed. However, anyone with an interest in that mode will not be poking along at that speed, unless he or she is talking to themselves. 73 es GL DX de John N6JM.

— 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.

DX Prediction — March 2000

Maximum usable frequecy from West Coast, Central U.S. and East Coast (courtesy of Engineering Systems Inc., Box 939, Vienna, VA 22183). The numbers listed in each section are the average maximum usable frequencies (MUF) in MHz for contacting five major areas of the world centered on Africa—Kenya/Nairobi, Asia—Japan/Tokyo, Oceania—Australia/Melbourne, Europe—Germany/Frankfurt, and South America—Brazil/Rio de Janeiro. Smoothed sunspot number = 143. 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.

WEST COAST

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

CENTRAL U.S.A.

UTC	AFRI	ASIA	OCEA	EURO	SO AM
8	*(15)*	*13	*26	12	*22
10	*(18)*	*12	*22	12	*21
12	30	12	*20	*22	*26
14	34	*13	*26	*27	*36
16	*36	*(12)*	23	*27	*40
18	*36	*(12)*	*(19)*	*24	*42
20	*34	22	32	20	*43
22	*28	*27	*39	14	*43
24	*23	*27	*44	*13	*41
2	*19	23	*41	*12	*34
4	*17	15	*36	*12	*28
6	16	14	*30	*13	*24

EAST COAST

UTC	AFRI	ASIA	OCEA	EURO	SO AM
7	19	*(12)*	*25	*12	*23
9	20	*12	*22	17	*19
11	*37	*15	*20	*25	*25
13	*43	*(13)*	*27	*28	*33
15	*43	*(12)*	24	*28	*38
17	*46	*(12)*	21	*26	*41
19	*37	*(17)*	27	*23	*43
21	*31	25	37	15	*43
23	*26	25	*42	*14	*42
1	*23	19	40	*13	*37
3	*21	14	*35	*12	*31
5	*21	13	29	*12	*26

QSL Managers

B8/I5JHW I5JHW
3D2AG/p 3D2AG
3D2RR W6YQQ
3D2RW/R ZL1AMO
3DAØWPX ZS6WPX
3E2K HP1AC
3F1AC HP1AC
3F1XVH NØJT
3F2CTM HP2CTM
3W5FM UAØFM
3W6DK NØODK
3XY1BØ F5XX
3Z8IMA SP8YCB
3Z8MI SP8MI
4F2DX PA3GKI
4F3CV/1 HB9CXE
4JY2K TA2ZV
4L7AA 4Z5CU
4N1DX K1WY
4N1YL K1WY
4S7YSG JA2BDR
4UØG IK2BHX
4U1WB KK4HD
5A21PA K1WY
5AØ K1WY
5B4/DJ2BC/p DJ2BC
5B4/RA3DJA RU3FM
5H3MG IN3YYQ
5H9IR ZS6EZ
5R8ET K1WY
5R8FH I3TGW
5X1GS WB2YQH
5Z4IC MWØAIE
6K2K HLØHQ
6W1/F6BUM F6BUM
6W6/K3IPK K3IPK
7AØK YBØAI
8P2ØØØ WB8LFO
8P6JQ K9JJR
8P9AR J69EJ
8Q7AM EA5MB
8Q7BX I4ALU
8Q7DV UA9CI
8Q7ET PA5ET
8Q7JL JL6MSN
8Q7WP PA5ET
9A1ØCRO 9A7K
9A7P W3HC
9AY2K 9A1A
9G1MR IK3HHX
9G5ZW OM3LZ
9H1PF K5YG
9H3AAA OE1JIS
9M6AAC N2ØO
9M6PWT G3SWH
9N1AA N4AA
9N7UD K4VUD
9U5D SMØBFJ
A35RK W7TSQ
A35SO DJ4SO
A41KJ N5FTR
A61AS YO3FRI
AX1TX K1WY
BT2ØOO BA4EG
BV4FH K1WY
BX7AA BV7WB
BY1DX OH2BH
C21HC DL9HCU
CEØZ CE6TBN
CE9/R3CA UA9OBA
CG2DX VE2STN
CG7RHF VE7RHF
CG7TLL VE7TLL
CG9HF VE9HF
CIØXN/p VE3XN
CN8KD EA5XX
CN8NK EA5XX
CO2JD AD4Z
CO2OR F6FNU
CO2WL EA3ELM
CO6RQ W3HC
CO8DC VE3NXB
CO8LF EA5XX
CO8ZZ DK1WI
CP6XE IK6SNR
CS2MIL CT1END
CW2ØØØ CX2ABC
D9ØTKY DS5UCP
DL1SCQ/C6A DL6DK
DL2SCQ/C6A DL6DK
EA7ATJ/p EA7GT
EA8/OH2BYSOH2BYS
EA9AU EA9IB
EC5AJP EA5RKX
ED5WPX EA5XX
EG5TID EA5XX
EK17ØØDX F5LGQ
EK17ØØLF KZ5RO
EK17ØØLV IK2DUW
EK17ØØTA DJØMCZ
EM1KGG UT7UA
ER2ØØØA ER1DA
ET3BT K1WY
EU1EU EU1EU
EU93ØEU EU1EU
EV5M EU1EU
EX8QB IK2QPR
EY9/RA3ØØ DJ1SKO
FG/G3TXF G3TXF
FG/JJ2NYT/p JJ2NYT
FG/W8MV W8MV
FH/TU5AX F5OGL
FK/F6DLN/p F6DLN
FK8GJ F6CXJ
FK8VHT F6AJA
FOØERI LA7XK
FOØSAL EA5XX
FOØWII LA6VM
FT5YG F5LBL
FW8ZZ OH2BN
GD3LSF K1WY
GIØPCU K1WY
GI3MUS K1WY
GI6YM K1WY
HB0CZS K1WY
HB2FAX HB9FAX
HB2FBP HB9FBP
HC8A WV7Y
HFØPOL SP3WVL
HF7ØPZK SP3CW
HI8/K8WK K8WK
HLØY/2 HLØY
HL1/JI1EFP JQ1NGT
HR2/KC4CD N4AA
HR5/F2JD F6AJA
HSØZCW K4VUD
HS2ØØØ HS1CKC
HS2ØØØ/1 HS1CKC
HS72A HS1CKC
HU4U EA4URE
HVØA IKØFVC
HZ1AB K8PYD
II5ONU IK5KKW
IJØWTD IØWTD
IJØZKZ IØZKZ
J282ØØØ F6ITD
J28FF F6ITD
J28NH F5IPW
J45P SV5AZP
J79KS DL1DA
JY4NE KB6NAN
KC4AAD K4MZU
KHØAC K7ZA
KHØT JA1SGU
KH2/K4ANA W2PS
KW1JY K1WY
KW1WY K1WY
LY/UC2ABO EU1EU
LZ2ØØØA LZ2HM
M2ØØØA G4DFI
NHØM JA7YCE
NP4R W3HNK
OA4/DL1NL DL1NL
OD5IU LX1NO
OD5LF F5PWT
OG1F OH1NOA
OH7M OH6LNI
ON4CAT K1WY
ON9CAT K1WY
P2ØØØK P29PB
P29CC K1WY
P29VR W7LFA
P4ØAV K4AVQ
P49MR VE3MR
PJ/XE1L WA3HUP
PJ4B K2SB
PJ7/PA3EWP PA5ET
PJ7/PA3GCV PA5ET
PJ7/PA4EA PA5ET
PJ7/PA4WM PA5ET
PJ7/PA7FM PA5ET
PJ8LT W1YJI
PYØFZM DL3XM
R1AND/Mike NT2X
R1AND/Victor DL5EBE
R3RRC/ANT RW3GW
RA3AA W3UA
RA9LI/9 DL6ZFG
RUØAK K1WY
S21AR JA1UT
S21J K1WY
S21YJ SM4AIO
S79LE DL8LE
T2ØHC DL9HCU
T32DA W4ZYV
T88AQ JH6WDG
T88JA JH3FJG
T88JR JH3FJG
T88LJ JH8DEH
T88MM JA3AJ
T9ØK T94YT
T92ØØØ T93Y
T92D T91AVW
T97M K2PF
TA3DD KB2MS
TA4/DF8AN DF8AN
TE8CH TI5KD
TF7GX K1WY
TF7RX K1WY
TF8GX K1WY
TF8RX K1WY
TG9IGI I2MQP
TI2WGO N5BUS
TM2ØØØ F5AUI
TR8CA F6CBC
TU5IJ I2AOX
TZ6YV WA1ECA
UAØACG K1WY
UAØAOZ K1WY
UAØDC K1WY
UAØZBK K1WY
UA1DJ OH5JRT
UC2ABO EU1EU
UE1QNY/3 RN3OA
UE1RDM UA1RJ
UE1SAA UA1RJ
UE4HNT RW4HT
UE4HNY UA4HUR
UK8CK RW6HS
UN7JX IK2QPR
UN7VX IK2XYU
UP2ØØØL UN7LZ
UP5P UN5PR
UT2UZ W4SMG
UT5FB W4SMG
UW5Y US2YW
V26A WB3DNA
V26AK N2TK
V26AU DL6LAU
V26B WT3Q
V26DX KU9C
V26J WXØB
V26OC N3OC
V26OX K3OX
V26R KA2AEV
V26SW K3SW
V26SZ KM5SZ
V26U W2UDT
V26YR W2YR
V31JP KA9WON
V31KQ KØGHK
V31KR K5KR
V31KX W5FKX
V31MP W5ZPA
V31YK W5JYK
V44KJ WB2TSL
V47CV PA5ET
V47EA PA5ET
V47ET PA5ET
V47FM PA5ET
V47WM PA5ET
V47WP PA5ET
V51HK DL6OBS
V63LJ JH8DEH
VE1RDM UA1RJ
VK1TX K1WY
VK2IA DL8YR
VK8CS CT1EEB
VP2/G3TXF G3TXF
VP2ECV PA5ET
VP2EEA PA5ET
VP2EWM PA5ET
VP2EWP PA5ET
VP2MKW K3TEJ
VP5/K4ISV N2AU
VP9/KEØUI KEØUI
VQ9JA N1ZZZ
VR2FD DL2MFN
VU2BMS DL2GAC
W3M W1KSZ
WH7C/DU3 JG1OUT
WY2OOO K4MQG
XE1NVX EA5XX
XE1UN EA5XX
XT2DR F6BZH
XT2PT N5DRV
XU7AAE JA1SWL
XU7AAY IN3ZNR
XU7AAZ IN3ZNR
XV7TH SK7AX
XW1UD K4VUD
XZØA W1XT
YI1AK AD5W
YI1SEA WA3HUP
YJ8UU ZL2HE
YL2ØØØUZ YL2UZ
YN9HAU HR1RMG
YO6AVB K1WY
YR2ØØØ YO4KCA
YS1/HB9KNA HB9KNA
YZ75AJH YU7AJH
ZA/OK1JR OK1JR
ZC4GB 5B4AGC
ZD7VC K1WY
ZK1DLL LA9DL
ZK1HCU DL9HCU
ZK1VMM LA6VM
ZK1XKK LA7XK
ZL3KIM K1WY
ZMY2K ZL2AL
ZS8D ZS6EZ
ZV2ØØØ PR7AA
ZW2OOO PT2BW
ZW2V PY2AE

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9H3SGMMosta Scouts Group, Dar Mons. Edgar Salamone, 55, Tower Road, Mosta M S T 09, Malta
9N7MSBox 1040, Katmandu, Nepal
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I5JHWGiovanni Bini, Via Santini 30, 51031 Agliana - PT, Italy
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LX2RHRay Hoffmann, P. O. Box 85, L-9001 Ettelbruck, Luxembourg
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NP2BTCarl Juvrud, P. O. Box 5262, St. Thomas, VI 00801, USA
NT2XEdward Kritsky, P.O. Box 715, Brooklyn, NY 11230, USA
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OH1RYPekka Kolehmainen, Kisatie 10, 21530 Paimio, Finland
OH2BNJarmo J. Jaakola, Kiilletie 5-C-30, FIN-00710, Helsinki, Finland
OH2PMPertti Simovaara, Pohj.pikatie 957, 04940 Levanto, Finland
OY4TNTrygvi Nysted a Flotum, FO-180 Kaldbak, Faroe Islands
PA5ETRob Snieder, Van Leeuwenstraat 137, 2273 VS Voorburg, The Netherlands
PT2BWAriosto Rodrigues de Souza, P.O. Box 03821, 70084-970 Brasilia - DF, Brazil
PY2AEMarcelo Pera, Rua Ver. Fernando Spadaccia 366, 13273-062 Valinhos-SP, Brazil
PZ1DVR.E. Hoepel, Richard Voulairestr 85, Paramaribo, Surinam
RVOARPavel, Box 12200, 660041 Krasnoyarsk, Russia
SMØBFJLeif Hammarstrom, Birger Jarlsgatan 38, SE-114 29 Stockholm, Sweden
SP3CWArtur Topczewski, Kolbego 48, 64-115 Swieciechowa, Poland
SP8YCBClub Station, P.O. Box 403, 20950 Lublin, Poland
SV5AZPPadelis Vassiliadis, P. O. Box 278, GR-851 00 Rhodos, Greece
T93YBoris Knezovic, P. O. Box 59, Sarajevo, BA-71000, Bosnia-Herzegovina
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TI5KDCarlos William Diez, Box 195, Belen Heredia 4005, Costa Rica
UAØFMNikolay Shelokov, Box 37, Vladimir 600000, Russia
UAØLMOYuri Pechenko, P.O. Box 23, Vladivostok 690041, Russia
UAØQBAAleksandr Sinyakov, Box 51, Vitebsk 210001, Belarus
UA3AGSP.O. Box 196, Pepperell, MA 01463-0196, USA (others)
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V73CWBruce Smith, PO Box 1436, APO, AP 96555, USA
VK9NSP.O. Box 90, Norfolk Island, NI 2899, Australia
VU2ROR. Somasundaram, "Asanth", 604/68th Cross, Kumaraswamy Layout I, Bangalore 569 078, India
W1XTBob Myers, 37875 North 10th Street, Phoenix, AZ 85086, USA
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YBØGJSGjellani Joostman Sutama, P. O. Box 6122 JKPMT, Jakarta 10310, Indonesia
YCØONEEkaputra Angguna, Box 1234, Jakarta 11012, Indonesia
YC1DYYY. Dwiyanto, Perumahan Pondok Duta I, Jl. Duta 2 Blok A6/22, Cimanggis, Bogor 16951, Indonesia
ZS6EZChris R. Burger, Box 4485, Pretoria 0001, South Africa

A great APRS idea from a great mind

We all know that Bob Bruninga, WB4APR, is the father of APRS. Bob proposed a worldwide linking of AMSAT groundstations. How would this be accomplished? In his own words, here are Bob's ideas:

"Many papers at the AMSAT Symposium mentioned the need for linked ground stations to permit worldwide access to satellite downlinks in real time. In fact, we had several such stations linked via APRServe during the last few years of MIR. It's time to formalize these efforts.

"APRServe has this ability to accept dozens if not hundreds of simultaneous users and both accept and re-feed all data to all users live. This is the core of the worldwide distribution of APRS packets via the Internet. The MIR linked stations simply fed their data into APRServe and anyone could see it live.

"But it is time to move this traffic off of APRServe and onto a dedicated experimental channel. We could call this APRSpace.

"Since a recent major outage of APRServe, numerous 'mirror' sites are springing up. This shows how the software can be replicated on any site with permanent Internet access. We only need ONE APRSpace server and it can then feed and accept data from anyone.

"We need someone to 'take charge and move out' with this idea. This will clean up some of the burden on APRServe and also then provide experimenters a needed channel for real-time Amateur Radio experiments (linked around the world live by the Internet).

"The software exists. We just need to duplicate what we have... for this special application. Rather than see a bunch of non-compatible implementations evolve, it might be better to just spin-off from the APRServe model which has been serving millions of packets for over 4 years. To see how it works, simply TELNET to 199.227.86.221 port 23."

If you have any comments, Bob would love to hear them. He can be reached by e-mail to bruninga@nadn.navy.mil

No more background noise

How would you like to virtually do away with background noise? Well, you can according to a note from Morel, 4X1AD, that was sent to us to pass along. 4X1AD says that it was only a few months ago he heard that "Analog Devices" has a new integrated circuit (SSM-2166) that is able to cancel the background noise present in an audio signal coming from a microphone.

We are told that the material to be presented was first posted to a Packet BBS in Israel. Also, that it is a translation from the original document which was written in Hebrew. We have been to the Analog Devices site and the chip does exist. Here's the rest:

After Morel received the 15-pages data specs and application note, he discovered that this tiny 14-pin IC could solve his background problems coming from the amplifier blower, computer fan, TV and radio sound, children crying and a busy street down under my shack window.

After he built the circuit and began the tests, he says that he was astonished by the effectiveness of the IC. Simply all the background noise was attenuated with an average of 35dB down of Morel's voice. The air reports were excellent and all of his partners asked him what he was using to cancel the noises, after a short demonstration with the unit bypass switch on/off. Now, he can use his audio processor at compression levels much greater than the previous 3-4 dB he was forced to use before due to the noise gates installation. That's because the IC removes the background noise while exhibiting extremely low distortion levels (typical 0.1-0.2%). Absolutely no voice alterations or any kind of time delays, echo or signal rise/fall timing related problems (as in other products) were found.

4X1AD says that the unit is quite simple. It's comprised of an IC, 5-6 capacitors, 3-4 resistors and 5 small variable resistors. The supply is 5Vdc@15mA or 12-25V if a simple 7805 regulator is used. The board can be as small as 3x4cm and should be placed in a small shielded box. Some modifications must be made on the original schematic diagram and setting procedure given in the "Analog Devices" application note.

The unit was tested with Yaesu/Kenwood/Icom transceivers and performed very well with no RF feedbacks. The only difference is, of course, the microphone connector wiring. A few of my local friends built this small unit with very good results too. As I've heard, a complete kit and and an assembled kit will be available very soon in the U.S. An article on this issue will appear in QST very soon, as I've heard from some U.S. friends.

The unit is very useful for SSB contest teams when a few operators are crying in their microphones at the same time creating a stressing noisy environment. It is equally at home in VHF/UHF weak signal environments where every DB of clean signal counts.

The "Analog Devices" complete docu-

mentation can be found on their home page (www.analog.com) and can be read with Adobe Acrobat Reader software. If you don't have this program on your computer, you can download for free at the Adobe website (http://www.adobe.com/acrobat). And lest I forget, as this is an audio based device, it works on HF too.

E-mail corner

Rob Roller, N7LV, wrote to me asking about last year's segment by Chris Boone, WB5ITT, explaining the difference between repeaters and remote base stations, and wanted a bit more information than I could personally provide. So I turned his note over to our resident expert, Chris Boone, WB5ITT. Here is NL7V's questions and WB5ITT's responses:

Roller: "Although you explained the differences between the two, I would have liked to see you (or your friend WB5ITT) mention IDing on remotes. Case in point. We have one club here which operates a UHF repeater. Controlled via the input frequency is a 2M transceiver, or a remotely controlled radio. It's controlled by DTMF commands on the UHF input frequency. When the 2M link is up, the 2M receiver frequency is sent back out to me on the UHF output frequency of the pair used for this repeater.

"So, with the 2M radio being a remotely controlled xcvr, I'm controlling it from my auxiliary xcvr (my HT) on UHF. The UHF repeater output has its own IDer, so when someone talks to me on 2M, the UHF output to my control point is covered by the repeater IDer. When I speak on UHF, I'm also going out on the 2M frequency. But there's no ID on the output of the 2M xcvr, so I have to speak my call sign to ID it.

"My Question: When I speak my call sign once, I consider myself to be identifying both my UHF auxiliary link to the remotely controlled xcvr, and the output of the 2M, at the same time. By saying 'This is N7LV,' I'm identifying both links. Do you agree?"

Boone: "Under the old version of Part 97 (pre-89 plain English rewrite), this was specifically spelled out in Part 97 that an auxiliary station COULD use the ID of the primary station it was associated with... so an AUX station connected with W7XYZ could ID as W7XYZ... OR....W7XYZ/AUX or /A as the rules then also permitted.

"Under the current rules, all it states is that the ID of the station making the transmissions must be clearly heard (as the source of those transmission) by those receiving the transmissions (not an exact quote.. see 97.119[a] for exact!)....while the specific ID rules for Rptrs and AUXs are no longer there, the basic idea stays the same."

What Rob asks above is perfectly legal. Under the old and current rules, the ID of the remote base did NOT need to be IDed as long as the CONTROL OP on 440 was operating it under their call sign. A remote base is merely a "home station" or main station under remote control in the FCC Rules. ALL rules apply just as if the operator was sitting in front of the rig. If you have a HF remote base, you cannot allow anyone below a General to operate it (except in the 28.3-28.5 SSB ONLY portion. Then a Tech Plus can — but Novices cannot control remote bases!).

You can legally ID your auxiliary

transmission AND your remote base transmission with ONE call sign. BUT do NOT leave the remote base up in TX mode if you aren't using it YOURSELF or have not relinquished it to another control op. It is merely common sense AND courtesy (boy, that blows it right there for a lot!) NOT to leave it in TX while you are not monitoring; not to mention control ops ARE required to monitor the station while in the xmit mode.

Remote bases are NOT repeaters. They are different animals and are treated as such. The call sign can change on a remote base with different control ops (just like a home station), unlike a repeater that is fixed in frequency and location — its call sign remains the same as the trustee's!

(If the answer to the question above is NO, same thought applies!)

Roller: "Or, do I need to say something like 'This is N7LV, via N7LV' as repeaters were identified before the days of automatic CW IDs?"

Boone: "No, just your call will suffice IF you are the control op at the time unless the station has a club call sign ISSUED to it or it is used as such. Then the station probably should have a CW IDer on it with the club call sign on the IDer. Again, HOW would it work IF you were sitting AT the remote radio? BUT remember an HF remote cannot be used to listen to VOA, etc., via its UHF uplink. It MUST be tuned to the HAM BANDS in question."

By the way, Chris says that all of this is in Part 97 although it takes skipping back and forth through several sections because remotely controlled stations, control op privileges and station ID are scattered across the Part 97 rules.

2000 SVHFS Conference

Bob Lear, K4SZ, asks that we pass along information on the upcoming Southeastern VHF Society's Forth Annual Conference. The dates are 14-15 April 2000 at the Atlanta Marriott Northwest at I-75 and Windy Hill Rd. in Marietta, GA. This is the same location as the first three Conferences.

In addition to the technical program, there will be preamp noise figure testing, antenna gain measurements, a flea market, banquet and door prizes. Further details will be announced on the VHF Reflector and posted to the Internet at http://www.svhfs.org/svhfs/.

Antenna school

Dave Clingerman, W6OAL, is the owner and head designer of the Olde Antenna Lab in Denver, Colorado. Not long ago, another subscriber to the W6YX VHF Reflector posed a question dealing with the evolution of a particular KLM designed antenna. His reply is well worth sharing with everyone. It reads in part:

"The multi element (Log Periodic) feed on the earlier KLM antennas was indeed a product of Oliver Swan of Swan Antennas. Mike and crew at KLM just carried the design for a while after purchasing the Swan Antenna Company, until they introduced their own line.

"I believe I was the proud owner of one of the last, if not 'the' last, 6-meter Swan Antenna shipped from Swan back in the early 70s. The design is sound and the L-P feed is a good way to narrow band an antenna to within reason. That L-P structure works like a bandpass filter. If you've ever looked at the band pass of an L-P on a network analyzer you'll see the steep skirts on each side of the center design frequency.

"As I remember the 70 cm model of the Swan antenna was about 1% or 4 MHz. You just can't do that with a single driven element and expect its operation not to be a bit on the squirrelly side. However, today the [antenna design] trend seems to be narrower and narrower until the slightest weather (rain, snow, sleet, fog) variation detunes it.

"Personally, I am not an advocate of this mindset. If you design and construct a conventional yagi or cubical quad or what-have-you and it is plus and minus 2-3% of the design frequency (without going to something like an L-P feed system), you've done a good job. Less bandwidth (below +/- 2-3%) isn't going to amount to much as far as gain, F/B or side lobes, not to mention the frustration of weather affecting it.

"The Oliver Swan designed antennas were used far and wide with very good results. The only drawback I found was the 'blue plastic' boom to element insulators. They were not U/V protected and after a few years in service would deteriorate and fall apart. KLM continued to use the 'blue plastic' until a few of us (I for one) talked at length with Mike about a different type of plastic for these insulators. After some research on his part the KLM products came out with the new 'black plastic', U/V protected insulators.

As a footnote, in a recent e-mail Dave added, "I did hear from some slick lawyer type that copying a patented design, of anything, for any reason, is a violation of patent laws. I have to wonder, though, where this nation would be if people weren't constantly improving on the designs of others?"

I believe the key word here is "improving" rather than simply "copying." As I recall, most new patents are based on older ones where substantial changes from the original have been made.

Bill Pasternak, WA6ITF, can be reached at: 28197 Robin Ave., Saugus, CA 91350, e-mail: billwa6itf@aol.com.

Clubs and the Y2K non-event

A humorous comment about surviving Y2K appeared in *Sierra News*, published by the Sierra Intermountain Emergency Radio Association in Nevada. The editor penned "for those of you that were here for the last turn of the century, congratulations. For those of you experiencing your first turn of the century, welcome to the new millennium. And for those of you planning for the twenty second century, please make sure to remind everyone of the problems you had with Y2K so that no flashbacks are encountered."

It will probably be some time before anything gains as much attention as did Y2K. Amateur Radio benefited immensely as local, state, and federal officials recognized the role we Hams could play in mitigating the potential damage Y2K could cause. Many December 1999 club newsletters carried stories about club plans to be Y2K ready and available for callout during the critical hours of 31 December and 01 January.

The legacy of Y2K should be that Amateur Radio clubs annually review their readiness plan to provide public service communications, including reaffirmation of the agreements in place with other groups and agencies. Keep up the valuable liaisons developed during the Y2K countdown and participate whenever possible in area drills and training activities. Readiness is a state of mind.

Club newsletter editors were totally Y2K compliant in publishing year end issues. Not one paper advised members that their 1900 dues were soon payable. And I'm sure club treasurers accepted all dues checks regardless of what was written for the date.

The **Tusco Amateur Radio Club** of New Philadelphia, OH kept its membership busy with more than a dozen events during calendar year 1999. These included Field Day and the Tusco hamfest, along with a variety of community service activities like the Great Bolivar Raft Race and the Corporate Cup Challenge.

The club newsletter *QRM* states that "being invited to assist with these events reflects favorably upon our organization and its members." The article reminds members to keep their equipment in top condition and ready to perform at a moments notice.

It's no wonder that attendance at **Wireless Association of South Hills** (PA) has more than doubled. Much credit goes to the Activities Committee which has presented a special topic for nearly every meeting this past year, according to president Ron Notarius, WN3VAW.

Each year the **Nittany Amateur Radio Club** of State College, PA teams with the Civil Air Patrol to operate a concession stand at each Penn State home football game. The revenue generated makes possible many of the NARC activities, particularly improvements to the repeater system and the mountain top facilities.

Although the FCC's Universal Licensing System (ULS) has been available for about two years, most amateurs have yet to register. A good club activity would be for a knowledgeable member to put together a short program explaining the importance of ULS to Amateurs, and demonstrating how to register.

The **Delta Amateur Radio Club** of Memphis, TN was pleased to report in *Sparks* that the membership elected two very competent and dedicated YL amateurs to the jobs of president and vice president. Kathy Troughton, KE4UYU, assumes the gavel-pounding duties and Melinda Thompson, KE4DXN, is her running mate. While secretary for the three previous years, Kathy enjoyed being at the Greeting Table and speaking to everyone arriving for the club meetings. Such enthusiasm should produce a very active year for all.

Tom Preston, KQ6EO, made an interesting observation about activities of the **Sacramento Amateur Radio Club** in *Mike and Key*. "You know, as I look back at the year our greatest successes have been the activities based mainly on the interaction of the group. The kit building was a case in point. It had a focus, building the kits, but was freeform in nature and everyone had a good time."

Preston also noticed "the best Saturday morning breakfasts have been when we decided to go somewhere together afterwards, like the trip to the electronics surplus store where we all just kind of fooled around until noon and then we went and had lunch."

The **Gwinnett Amateur Radio Society** of Lilburn, GA wants to encourage its non-HF members to learn hands-on HF operating techniques in preparation for Field Day 2000. GARS is rounding up several really knowledgeable people who can explain such things as how to work the equipment and log calls quickly and accurately. The informal sessions are scheduled monthly on a Saturday following the club breakfast. Rigs hooked to dummy loads will be available for testing and operating.

The **Central Ohio Amateur Radio Emergency** Service group commended its Volunteer Examiner team for the time and energy its members spent to help some 80 candidates achieve their dream to become Amateur Radio operators. Larry Learn, AA8JY, is the session manager and Trigg Tabor, K8NIO, has been the contact person for the team. CORES proudly provided communications for over 65 public service events and drills during 1999, a record Emergency Coordinator Bill Carpenter, AA8EY, believes is an achievement no other ARES group can top.

Here's a good idea for club newsletter editors to copy. **The Ventura County Amateur Radio Club** publishes a listing of club Elmers in *The Keyer*. It includes 16 members who are talented in a variety of specialties and have indicated a desire to share their knowledge with other members. Topics include antennas, amateur TV, contesting, APRS, packet, QRP, CW, propagation, and general technical.

— Mike Flaherty, WA6UBW, can be reached at: P.O. Box 189490, Sacramento, CA 95818-9490

Jerry Wellman, W7SAR

What a non-event!

The buzz (which by now I'm sure you've heard) is the FCC's announced changes in Amateur Radio licensing. It's fun listening to the comments from both camps — those excited and those less than thrilled. I remember when the FCC last changed the rules and you would have thought the world was ending.

As I pondered the latest announcement I noted with excitement that our local VHF-FM nets are filled with benefactors of the last restructuring. Several local club leaders were first licensed as no-code operators and have progressed to their Extra Class license. A significant number of participants in local public service events are no-code operators. In reality, these no-code operators have become "elmers," leaders, and "old-timers."

Let's face it, people (like me) who remember a 10-hour drive to an FCC field office to take an Amateur Radio exam are in the minority. Would I want to return to those days? No way!

I recall a fellow who lives several blocks from me who was almost livid when his wife "surprised" him by passing a no-code exam and earning her license. He would wax strong about why this was not a good thing. It's ironic that his wife is currently very active in local nets and you never hear him — but then we never did hear him, he wasn't on the air much then or now, despite the Extra Class status he has.

What I see is a tremendous opportunity and a great shot in the arm for HF operation. Yes, the bands will be more populated. Yes, there will be a boost in General and Extra Class ranks. Manufacturers will have significant numbers of new customers. Prices of HF gear will drop.

There will be other benefits. School teachers (such as my wife) will be able to activate currently-dormant school HF stations and perhaps interest kids in the hobby. Public service operations will make better use of HF frequencies and I can see greater participation in hurricane and severe storm networks. Stations at government emergency operation centers and Red Cross chapters will have a greater pool of operators for HF participation in emergency and traffic nets.

All around I see only the benefits of this action. Us "old-timers" need to consider that the days of "glowing tube mentality" are limited. The thrill of grid-dipping an amplifier are all but gone. Consider how we learned to build an HF antenna, a j-pole, or how to send RTTY — we did it by doing, by trial and error. The vast horizons of Amateur Radio just expanded. We might think that those who simply studied the book don't understand the essence of the hobby, but that would be a wrong observation.

We learn by doing and many of these book-taught Extra Class operators will "do." They will build antennas. They will try RTTY and AMTOR. They will become experts as they "do."

Brace yourselves for some great contacts on every HF band. This is going to be fun!

There will be some logical limits. In big cities, many cliff-dwellers will not be able to erect huge antennas. You may see increased mobile activity. Some will be unable to erect antennas so club stations at places such as Red Cross chapters will become popular. I see this as a great way to usher in 2000! Amateur Radio operators are charged with correcting their own interference issues. This should cause efficient installation practices in our densely populated areas. I do lament that we're not limited to 500 watts because I find it tough to compete with a station pushing a legal limit. But that's a personal perception and I've had many, many wonderful contacts using under 200 watts.

As an aside, I've always struggled learning Morse Code. It took me months to get to 13 words-per-minute so I confess that I'm excited that an upgrade is now possible for me. I called the W5YI group to order their Extra Class study guide and was told they were going fast — it was good that I called quickly!

So sit back and enjoy the ride! Better yet, get busy, upgrade, and join the activity! We all stand to benefit, especially as participants and not bystanders.

It was BORING!

I have to comment. It was almost funny. Newscasters around the world eagerly awaiting the end of the world. The clocks rolled over. The lights stayed on. Banks didn't lose your money. Airplanes didn't fall from the skies. As my neighbor kid said, "is this all there is?" I think all the hype did us in. After all the buildup, the anticipated moment (televised live all over the universe) was pretty much a non-event.

Hey! But there is good news. Save your money for the summer yard sales. You'll be able to pick up a generator, some food storage supplies, and all sorts of emergency preparedness goodies for pennies on the dollar. This will be a good year to add to your preparedness array.

As an Amateur Radio operator, you know that an emergency doesn't often give you advance warning. One of our founding purposes is to serve in time of emergency and we were not fooled by the hype for this new year. We knew that preparedness is an ongoing activity. We know that weather events, hazardous material spills, earthquakes, and the like do not operate on a calendar. And we continue to be ready to serve. I applaud you for your attention to being prepared.

Legacy equipment

Some may call it "junk," but I like to consider it as "legacy" equipment. You find it on the Internet and at swap meets. Sometimes you see it in a pawn shop or garage sale. If you're setting up a mobile communications center or need some back-up equipment for a public service event, don't overlook the used stuff on the market.

Recently I've collected several older Icom radios and have added them to the readiness inventory. Of special interest are two marine band radios that were sold as junk. Both had suffered effects of sea life and required some cleaning and parts replacement. One required several switches and an antenna connector, the other required a power output module. Both were repaired for under $80 total. (It was also relaxing and fun to be able to take my soldering iron, the radio schematic, a few parts, and make them functional.)

An Icom diode programmable radio (the veritable 22S) was obtained for a few bucks and a cold solder joint put it back on the air. These radios were limited to 22 or so channels and 10 watts output but they work well. You might need to add a tone encoder for your ARES repeater and for a total cost under $50 this makes a great simplex or auxiliary rig for your command center.

Where do we start?

A communications group asked me last November for some input on setting up a mobile communications center. I laud their intent and goal which is to have a trailer equipped with radio capacity to serve their local city officials. Their shopping list of "stuff" was lengthy and on the expensive side. At first blush the project would be overwhelming and essentially too much for any group to tackle.

My advice to them was to improve the mobile center over time. They can get a center up and functional for a fraction of their final objective.

With patience and some repair, legacy radios will serve them well and allow them to have a ready-to-roll center. In getting their center up and running quickly, they'll get a chance to make their final plan fit the reality of what the city will need.

When I'm given a wish list from some group for their mobile command center, I notice it's usually filled with some expensive, highly specialized items. A group could sink a lot of money buying a whiz-bang goodie that may never get used. By way of example, let's "create" a mobile command center for a make-believe city in Utah.

Basic needs first

We'll operate under the premise that the city emergency manager wants to have Amateur Radio operators ready to roll to support the city communications need for various emergencies including hazardous material spills, severe weather, power outages, telephone outages, earthquakes, and searches for missing people. We are charged with being self-contained and having our own equipment.

First, we must find a suitable "vehicle" to install our stuff in. Our group has a very tight budget. A motorized vehicle will require maintenance, insurance, and expensive care. The better choice would be a trailer that could be towed to the scene by one of our group members. Before we decide on a huge trailer, we again look at our budget and the available members to tow a large trailer. Our best initial choice would be a used trailer in the 16 to 20-foot range.

We might be able to find one in need of repair or perhaps a donation from a local dealer. Remember that the bigger the price, the more difficult to obtain or get donated.

The initial repair and preparation is critical. You're going to take this trailer to public events where it will be seen by the public and the agencies you serve. As you get it ready to roll, step back look at what you're building. How does it look? Ask your neighbor to come over and critique it. What looks funny? What looks junky? You want to be functional but also impressive. A clean, efficient, neatly marked, well cared for trailer gets noticed — and you want positive reaction because your job is to make the city emergency manager look good.

Next we decide what basic equipment our trailer will need just to get us functional. We'll need an operating table and comfortable seats. We might need to have the sink and bathroom functional. A heater would be good for those cold weather events. Often a recreational vehicle center will donate fixable items to such a project and for the asking and the elbow grease, you've got some basics covered.

Install them correctly

From the radio perspective, antennas and power are your first concerns. Look through junk boxes and install some quarter-wave antennas. Use quality coax and use, for example, the NMO mount so you can upgrade and change antennas later. The installation, done right, is most important. You can always screw on a better antenna later but you don't want to be replacing the mount or the cable, so do it right.

Here's where your legacy gear will be of value. To get you on the air and functional, a couple of rigs (UHF and VHF) will do. The city might even donate an old public safety radio and you can find an old CB radio so your neighborhood watch team can talk to you. The idea is to get functional and then ice the cake. If the city is to use your group, you have to be useable. If the city calls and you keep telling them what you're "gonna" do, eventually you'll not get called. The agency wants you to look good, be minimally functional, and respond. Whether or not you have the latest rig is not their concern.

Perpetual improvement

Once you've established that you can support the city requests, then you improve your capabilities. Let's say our city is near the Great Salt Lake. You find an old marine band radio and add that capability (and license) to your trailer. You're now a "value added" resource. Having the ability to communicate with the state parks and recreation folk as well as private boaters was not part of the initial functionality, but this now enhances your proven ability.

Likewise with an air-to-ground capability, cell phone, portable power, portable lighting, HF, and so forth. Remember that the city will be more impressed that you can respond and support them than reciting your "what we plan to build" list. A mobile communications trailer is a work in progress — forever. Every time you respond you should be looking for ways to make it better and more functional.

— Jerry Wellman, W7SAR, can be reached at: P.O. Box 11445, Salt Lake City, UT 84147 or: jw@desnews.com.

Ace Jansen, N3AHA

The average age of a county hunter is...

How many times have you heard the debate about the average age of U.S. amateurs? "We must do something to get the younger generation interested in Amateur Radio." "Our average age is increasing, soon amateurs will be extinct."... "a dying breed!"...etc, etc, etc. And so it goes. The truth is the average age of U.S. amateurs is increasing. Whether or not the latest license restructuring has an effect on this phenomenon remains to be seen.

A common question for county hunters is "how long does it take to contact all counties?" The answer to that question varies from several months to several decades. The next most common question is what defines a rare county. That question is even tougher to answer. But very few wonder what's the average age of county hunters?

"How old are county hunters?" you now ask. The answer to that question varies from very young to very old. How's that for a non-answer? To calculate the average age of county hunters would be very difficult. County hunters come and go, their activity peaks and troughs, some county hunters use the county hunter nets and some stay away. Even polls or surveys wouldn't scratch the surface of all the existing and past counter hunters.

However, what can be calculated is the average age of USA-CA holders (those who have contacted all 3,076 counties and received *CQ* magazine's award). The number of USA-CA awards is defined...990 (as of 1/1/2000). The date *CQ* magazine issued the award is defined also and associated with the USA-CA number. What is not known is how long it took the county hunter to contact all the counties. So, although I can't answer the most common question, I can answer the question, "How old are county hunters when they received USA-CA?"

How old are USA-CA holders?

Well, there's just one piece of information needed to calculate the average age of USA-CA holders — the county hunter's birthdate. Translation: research! This was definitely the most time-consuming article I've worked on in the past nine years. Fortunately, most U.S. amateur birthdates were on-line (on the internet) in a couple of places.

Data collection

I started this effort with a database including USA-CA call sign, USA-CA date, and USA-CA #. I needed the birthdate to calculate the average age of the USA-CA holder when they received the award (then) and their age on 1/1/2000 (now).

I found close to 800 of the 990 birthdates on the Buckmaster http://www.buck.com/cgi-bin/do_hamcall and QRZ-COM http://www.qrz.com/callsign.html?detail= web sites. The rest were gathered from e-mails direct to the USA-CA holder or help from other county hunters. I solicited help using the county hunter forum (internet), a county hunter e-mail reflector, and the county hunter newsletter (the Roadrunner).

I always knew county hunters were helpful and the response to my solicitation for help was no exception. I had several individuals contact me to make sure I had the information I needed. I had a couple USA-CA holders researching old SAMs Callbook CD-ROMs for birthdates, or reviewing old *CQ* magazines. I even received e-mails from Brazil, Sweden and Belgium and a phone call from England.

In the end, I had collected 880 birthdates. Since seven of the USA-CA numbers were issued to clubs, I effectively was searching for 983 individual birthdates. With the help of the county hunters, I had collected 89.5% of the 983 USA-CA holders' birthdates. The remaining birthdates belong to mostly silent keys or DX stations. Researching the last 103 would be very difficult. I did have a birth year for 14 of those 103, but decided to leave that data out of my calculations.

Assumptions

Without having all the birthdates, I can't calculate an absolute age for all USA-CA holders. I can calculate an average age based on the data I have available. Assumption #1 is that 89.5% data collection is enough to give a close estimate of the average age of USA-CA holders. As mentioned earlier, most of the birthdates were collected on-line or on CD-ROMs. Assumption #2 is that this data (though supposedly pulled from the FCC database) is accurate. Given those assumptions, I can do some calculations.

Calculations

A simple spreadsheet was all I needed to calculate the average age, both for the USA-CA date and for 1/1/2000. I subtracted the birthdate from the USA-CA date (or from 1/1/2000) and then divided by 365.25 (average number of days in a year over a four year period). I limited the answer to a single significant digit.

Average age

Now, for the moment you've been waiting for. The average age (mean) of USA-CA holders is — 53.4

53.4 is about the average age of U.S. amateurs. During the data collection, a few county hunters guessed the average age was over 50 and they were right. Given the average age of U.S. amateurs is over 50 and it takes at least a couple years to contact all counties, the average age of the USA-CA holder is probably not a big surprise to anyone.

Decade breakdown

Perhaps what is more interesting is the trend over the last four decades. County hunting began in the 1950s and 1960s as an outgrowth of awards chasing, mainly from the old Certificate Hunters Club. CQ magazine did not offer the USA-CA award until the 1960s. Consequently, the first award wasn't issued until 8/15/1965.

As you might expect, data collection was more difficult for the older issued awards. While I was able to collect 97% and 92.8% of the county hunter birthdates for the awards issued in the 1990s and 1980s, I was only able to collect 75% of the birthdates for awards issued in the 1970s and 1960s.

Table 1 shows the number of USA-CA awards (for which I have birthdates), issued by decade, with a peak of 357 in the 1980s. The average age of the USA-CA recipient climbed from 44.7 in the 1960s to 56.2 in the 1990s. As the average age of the U.S. amateur rises, so too does the average age of the USA-CA recipient.

Another slice of the data from the 1960s through the 1990s includes the following spread of ages by each decade, including the mean average age (used throughout the article) and a median average age:

	Low age	Avg. age	Avg. age	High Age
1960s	29.8	44.7	42.5	61.3
1970s	21.7	50.3	51.6	78.0
1980s	19.1	52.7	52.8	82.8
1990s	15.1	56.2	55.6	85.5

The 1990s produced the highest average age as well as the highest spread between youngest and oldest. Interesting also is the youngest and oldest trend through the decades.

I suspect the USA-CA holders I couldn't research from the 1960s and 1970s were senior in age when they achieved USA-CA and would have probably changed the 1960s and 1970s decade breakdown significantly. The average age as well as the high age for the 1960s and 1970s are probably impacted by the missing data.

Bell curve distribution

Keeping in mind that my data collection was not complete, I can't absolutely tell you who the youngest and oldest USA-CA holders were. But I can give some information based on the data I did collect. Table 2 is a breakdown of the number of USA-CA awards issued to different age groups. As you might expect, the data shows a shifted distribution for 1/1/2000 — proving the phenomenon that once we achieve USA-CA, we get older.

Youngest USA-CA holders

When I started county hunting in 1978 (age 15), I thought it would be nice to be the youngest to achieve USA-CA. I had no idea who was the youngest at that point, but it gave me a reason to aggressively hunt counties. A couple of years later, I looked at some old CQ magazines and saw that W2UP had finished when he was 21, so that was my target. I didn't make it.

As you can see from the below table, brothers Darrell, KK6BB, and Dan Craig, AD6DO (now N6MJ), became the two youngest USA-CA recipients in 1992 and 1996. They both finished before graduating from high school! Here are the 10 youngest USA-CA recipients:

Youngest USA-CA Holders (then)

#	Call	USA-CA #	Age
1	KK6BB	774	15.1
2	N6MJ	911	16.1
3	WDØEPE	318	19.1
4	W2UP	205	21.7
5	WA4PGM	470	24.6
6	AI9Y	516	24.6
7	KB4XK	468	24.8
8	N3AHA	566	25.0
9	NØAKC	492	26.2
10	KW3F	168	26.2

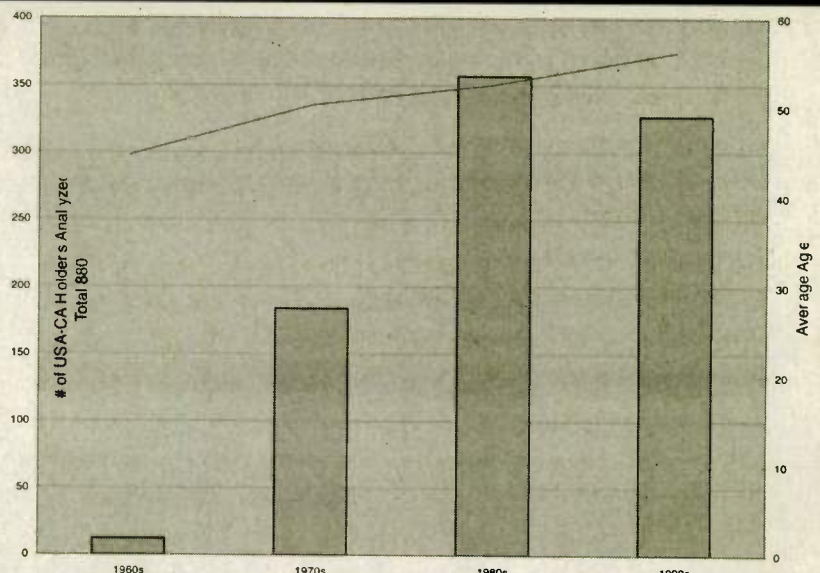
Here are the youngest USA-CA Holders as of 1/1/2000. All those 20-something county hunters are now 30-something!

Youngest USA-CA Holders (1/1/00)

#	Call	USA-CA #	Age
1	N6MJ	911	19.2
2	KK6BB	774	22.5
3	AD4IA	936	33.3
4	KN4XP	879	33.8
5	WV2B	773	35.2
6	KS4Q	864	35.9
7	N3AHA	566	36.7
8	KF9YL	972	36.9
9	WB9QNX	726	37.7
10	WDØEPE	318	37.9

On the other end of the spectrum are the wise county hunters, with the most wise being Al Unruh, WØAWP. Unfortunately, Al is now a silent key.

County Hunter



USA-CA Holders and Average Age by Decade (for data analyzed)

Oldest USA-CA Holders (then)

#	Call	USA-CA #	Age
1	WØAWP	725	85.5
2	W4EHN	297	82.8
3	WØWYX	764	82.5
4	WD4NEG	783	81.6
5	W5RIT	733	80.4
6	W2EMW	678	80.1
7	NØDPF	921	80.0
8	W3EYF	961	79.7
9	KJ4LG	720	78.5
10	K8KIR	709	78.1

Oldest living USA-CA Holders (1/1/2000)

Since it's hard to tell when silent keys become silent keys, I can't be perfectly sure if the following information is correct. Some of these USA-CA holders may be silent keys; however, the FCC database does not list them as silent keys. Of those listed below, only W5QEM and W5VNW have expired licenses, the rest have current licenses.

#	Call	USA-CA #	Age
1	W4EHN	297	102.2
2	KØITP	186	96.5
3	W5QEM	317	94.9
4	K9QGR	130	94.7
5	W5AWT	169	93.1
6	W4KA	43	92.9
7	K9HRC	104	91.3
8	W8DCD	25	90.6
9	W7KOI	16	90.5
10	W5VNW	290	89.9

Regrets

I regret I was unable to collect birthdates for all 983 USA-CA holders. I mentioned I had birthyears for an additional 14 USA-CA holders. I calculated a rough average age for them and it was 65.8. This marginally increased the total average for 894 recipients to 53.5. It's hard to say how the missing birthdates would have affected the average. Combining this rough estimate for the 14 holders with a calculated standard deviation of 11.9 for the age of the 880 holders, I believe the margin of error is +/- 1.2 years for all 983 holders. Therefore, the actual average age of all 983 USA-CA holders may range from 52.2 to 54.6. What's that phrase: "There are lies, damn lies, and statistics!"?

Summary

Researching the age of USA-CA holders has been a very interesting, albeit time-consuming, project. I don't know if anything like this has been done before for county hunting, nor if anyone will be silly enough to do it again. The results do shed a little light on the history of county hunting, establishing a couple of age records to beat, and proving the average age of USA-CA recipients is rising. It also shows a slight decline in USA-CA awards from the 1980s to the 1990s. As a county hunter, I hope this decline does not continue.

This just in...

Gene Olig, KD9ZP, received the very first USA-CA issued in the new millennium. He received USA-CA #991 on 03 January 2000. His age was 63.5. So much for bucking the age trend in the 2000s. Time will tell...Until May, happy hunting! 73, Ace N3 aha!

— Ace Jansen, N3AHA, 42857 Hollywood Park Place, Ashburn, VA 20147; email: jansens@tidalwave.net.

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Lorraine Mathew, N4ZCF

Moving towards inter-service compatibility

For all of the MARS community, as with all sectors of life throughout the world, Y2K has been the watchword throughout the latter part of the year 1999. All of us had made preparations of varying kinds just in case the worst scenarios should happen. Fortunately, nothing of note happened to mar the transition into the Year 2000.

Y2K has served a purpose in that MARS members reexamined their equipment and station set-ups yielding improved operations in many cases. In my own case, I set my stations up to operate full time on deep cell marine batteries. I have discovered that the power from those batteries is far steadier than the commercial power ever was. This gives me improved performance and reliability and it is better for the radios.

Y2K preparations and anticipations created opportunities for the MARS programs to be written into the operating plans of the services and the agencies that we support. Army MARS is now officially part of the communications operating plans for the Army, DOMS, FEMA, SHARES, and several other agencies on a national and, often, on state and local bases as well.

Y2K preparations included a joint service exercise that was not only inter-service operational but also the largest such exercise in which Army MARS has ever participated. In its response phase, "MARS WILL EMPLOY ALL AVAILABLE COMMUNICATIONS RESOURCES TO SUPPORT THE SIMULATED EMERGENCY AND DISASTER SITUATIONS BY ESTABLISHING AND MAINTAINING STATE, REGIONAL, AREA, AND NATIONAL LEVEL VOICE AND DIGITAL (ATTENDED AND UNATTENDED) NETWORKS. MAXIMUM USE OF INTER-SERVICE INTEROPERABILITY SHOULD BE EMPLOYED." All elements of equipment which were not Y2K compliant had to be removed from service for this exercise.

The results of the exercise included the fact that this was the most widely supported exercise by MARS members of all services in the history of any of previous MARS exercises. Agencies that were supported included DOMS (Army), Army National Guard, FEMA, National Guard Bureau (NGB), National Weather Service (NWS), GA Electric Utilities, American Red Cross, several county EOCs, RACES, and some state emergency management centers.

On the night of 31 December 1999 throughout the following days, these services were maintained by MARS members of all services and in all parts of the country. The scenario set up by the exercise offered prior experience for whatever might have transpired. As is the case in all emergencies, the civilian services must have exhausted their capabilities before federal means of relief can be called into service.

The readiness of operators was very evident to this station in my monitoring and checking into the AZ state emergency operations center and the participation in my own local and county operations. This night reflected the professionalism of most of the Amateur Radio community of which MARS members comprise a large part.

In Robert Sutton's Chief Army MARS message to the volunteer membership, he stated that "you all can be justly proud of your efforts as, jointly, MARS, as a team effort, conducted a successful transition into the year 2000, Proud, Professional and Y2K Ready."

Y2K may have yielded no problems as most of us hoped, but it gave us all opportunities to serve and to reexamine our ability to serve. Here's to an equally problem free year 2000 for us all.

Most of the agencies with which I had contact expected the problems to come from people — fanatics and other people whose aims were to create chaos. This could still happen since the millennium does not occur for another ten months (assuming late February issuance of this publication and this column). MARS will be prepared.

Looking ahead at the months that are still to come, Army MARS has developed its aims at improvement in services and techniques throughout the entire system. New manuals and training techniques will serve to unify and standardize operations in all states and locations worldwide. Further inter-service interoperability will encourage like operational standards to be followed by all services so that there is no confusion at any critical time. Message formats will be standardized throughout all the services as will net techniques. MARS will become a smoothly running organization made up of three interchangeable parts.

At this point, we are looking at the Dayton Hamvention as part of our interservice unity. Navy-MarineCorps MARS is chairing this year's Dayton effort. Army MARS and Air Force MARS will be present and will be integral parts of the MARS presence at Dayton. We hope to see all of you there. Stop at the MARS booth and sign in, please.

Throughout the year 2000, all MARS will serve...

Proud, Professional, and Ready.

— Lorraine Mathew, N4ZCF, can be reached at: P.O. Box 3325, Kingman, AZ 86402-3325; You can also email her via: lorimatt@aol.com.

Visit Your Local RADIO CLUB

ALASKA

South Central Radio Club. 8023 E. 11th Ct., Anchorage, AK 99504. Meets 2nd Fri./monthly, 7 p.m., UAA Business Ed. Bldg., Rm. 220. KL7CC, (907) 338-0662. Info: club rptr 146.97(-) PL 103.5Hz 10/00

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 12/00

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

Old Pueblo Radio Club, (OPRC). P.O. Box 42601, Tucson, AZ 85733. Meets 2nd Wed./monthly, 7:15 p.m., Tucson Med. Cntr., Grant & Beverly St. in the AZ Rm. of the Volunteer's Bldg. (1st bldg. on the left going north off Grant). 2/01

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: 146.835(-). 5/00

Amateur Radio Club of Anderson, (ARCA). Meets 2nd Thurs./monthly, 7:30 p.m., VFW #9650, 3210 W. Center St., Anderson, CA. Net every Tues., 7:30 p.m. on 146.640 freq. Website: www.snowcrest.net/bgorski/index.html 2/01

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. 9/00

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

Contra Costa Communications Club, Inc., WD6EZC/R. P.O. Box 20661, El Sobrante, CA 94820-0661. Meets 2nd Sun./monthly (except May & Dec.), 08:00, Denny's, El Cerrito, CA. 145.110 PL 82.5 Info: S. Clark, KB6SEI, (510) 724-0158. 2/01

Downey Amateur Radio Club Inc., W6TOI. Meets 1st Thurs./monthly, 7:30 p.m., So. Middle Sch. cafetorium, 12500 S. Birchdale, Downey, CA. VHF net W6GNS rptr. 146.175(+) Thurs.,7:30 p.m. http://www.downeyarc.org. Info L. Vaughn, kd6nzw at kd6nzw@downeyarc.org 5/00

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

Fresno Amateur Radio Club. Meets 2nd Fri./monthly, 7:30 p.m., Ernie Pyle School, 4140 N. Augusta, Fresno, CA. 146.94(-) 223.94(-). 11/00

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

Golden Triangle Amateur Radio Club. P.O. Box 1335, Wildomar, CA 92595. Meets 4th Mon./monthly, 7 p.m., Beverly Health Care, 24100 Monroe Ave., Murrieta, CA 92562. Rptr: W6GTR 146.805(-) PL 100. Info: H. Wijma, AC6VN, (909) 693-2383. E-mail: ac6vn@cs.com 8/00

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(+). Info: LARK Sec., P.O. Box 3190, Livermore, CA 94551-3190. (925) 373-1386. 2/01

Los Banos Amateur Radio Club. Meets 2nd Sat./monthly, 7 p.m., Scout bldg. at Pacheco Pk., 7th St. & Pacheco Blvd. Info: M. Germino, AD6AA, (209) 826-0903, e-mail: AD6AA@arrl.net. Net 147.060(+) PL 107.2 every Thur. 7 p.m. Rpt. KB6NMP 147.06(+) PL 107.2 & 444.00(+) PL 241.8. Web: Home.inreach.com/AB6KF. 6/00

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

Mount Diablo Amateur Radio Club. P.O. Box 23222, Pleasant Hill, CA 94523. Meets 3rd Fri./monthly, 7:30 p.m., Our Savior's Lutheran Ch., 1035 Carol Ln, Lafayette, CA. Net Thurs. 7:30 p.m. on 147.06(+) PL 100Hz. Info: (510) 932-6125. 8/00

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. Info L. Johnson, KE6HWE, lindasue@mail.telis.org.(530) 273-2008. 9/00

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

Orange County Amateur Radio Club. Meets 3rd Fri./monthly, 7:30 p.m., Orange County Red Cross, 601 N. Golden Circle, Santa Ana, CA. Talk-in 146.550 (S). Contact Parry Hoffman, K6LDC, (714) 636-4345 WWW.W6ZE.ORG 2/01

Poinsettia ARC. Meets 1st Thurs./monthly, 7:30 p.m., First Christian Ch., Telegraph Rd. & Teloma Dr., Ventura, CA. Info: J. Casper, N6PIQ, (805) 649-1445. 4/00

Redwood Empire DX Assoc., W6KB. P.O. Box 455, Santa Rosa, CA 95402. (707) 544-4944. DX & contest club. Dinner mtg. 3rd Wed./monthly, 6:30 p.m., Carrows Rest., Hwy 101 & E. Washington, Petaluma. www.redxa.com 12/00

River City A.R.C.S. Meets 1st Tues./monthly, 7 p.m., SMUD Bldg., Don Julio at Elkhorn, Sacramento, CA. License classes offered. Info: (916) 492-6115.10/00

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 Rest., 1000 Howe Ave., Sacto. CA. Info: Paul Wolf, W6RLP (916)489-8112. 12/00

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. 6/00

Sonoma County Radio Amateurs, Inc. **W6LFJ.** P.O. Box 116, Santa Rosa, CA 95402, (707) 579-9608. Meets 1st Wed./monthly, 7:30 p.m., Agilent Tech., 1400 Fountain Grove Pkwy, Santa Rosa. Net ea. Tues., 7 p.m. W6SON. Rptr. 146.73(-) PL 88.5. www.eds1.net/scra 12/00

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. 8/00

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. 12/00

Stanislaus Amateur Radio Assoc., Inc. (SARA). P.O. Box 4601, Modesto, CA 95352. Meets 2nd Tues./monthly, 7:30 p.m., NW Modesto Police Station, 2005 Evergreen, Ste. 600. Net 1.2+4 Tues. 7:30 p.m. 145.390(-) PL 136.5 2/01

Tehachapi-Southern Sierra ARS. Meets 2nd Thurs./monthly, 7 p.m., except July, 125 East F St., Tehachapi, CA (Veteran's Hall). Info: KD6KMN, (661) 822-5995. www.ssars. net, 147.06(+), 224.42(-) PL 156.7. Pkt 145. 090(S) connect to W6PVG-7. ARES nets 7 p.m. 147.51(S) Mon. 1/01

Tri-County Amateur Radio Assoc. P.O. Box 75, Claremont, CA 91711-0075. Meets: 2nd Mon./monthly, 7:30 p.m., Brackett Airport Adm. Bldg., 1615 McKinley Ave., La Verne, CA 91750 (so. side of Bracket Airport). Info: Chuck, KQ6NX at kq6nx@juno.com or (909) 949-8145. 3/00

Trinity County ARC. P.O. Box 2283, Weaverville, CA 96093. Meets 2nd Wed./monthly, County Sch. Adm. Bldg., Weaverville, 7:30 p.m. Rptrs: WA6BXN 146.73(-) PL 85.4, W6HOR 146.925(-) PL 85.4. 2/01

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

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

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. Info: Jane, KD6ODV, (714) 531-6707 2/01

Westside Amateur Radio Club. P.O. Box 11092, Marina del Rey, CA 90295. Meets 4th Tues./monthly, 7:30 p.m., W. Dist. R. C. Bldg., 11355 Ohio Ave., W. L.A., CA (VA Cntr. grounds). Net Tues., 8 p.m. 146.67(-) except mtg. night. Website: http://www.qsl.net/wa6rc Voice Mail: (310) 478-7555 9/00

Willits Amateur Radio Society, (WARS). P.O. Box 73, Willits, CA 95490. Meets 4th Mon./monthly, 7 p.m., Brooktrails Fire Dept. 2 NW Willits http://www.saber.net/wars. Talk-in: 145.13(-), PL 103.5. 9/00

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

COLORADO

Boulder Amateur Radio Club (BARC). Meets 3rd Tues./monthly, 7:30 p.m., NIST rm 1107, 325 So. Broadway, Boulder, CO. Talk-in:146.70(-). Info: (303) 380-6540, e-mail: BARC5Ø@arrl.net or www.thisistrue.com/barc.html 8/00

CONNECTICUT

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

Western CT. DX Club. Meets 1st Tues/monthly, 8 p.m., Brookfield Com. Cntr. (on Pocono Rd. across from Brookfield P.O.) Info: contact Victor at: victoras@EROLS.com 8/00

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. 11/00

Lake Monroe Amateur Radio Society. P.O. Box 151353, Altamonte Springs, FL 32715. Meets 1st Thurs./monthly, 7:30 p.m., Casselberry Sr. Cntr., Lake Triplett Dr., Casselberry, FL. Info: K. Lambert, KB4DCR, (407) 359-7767 10/00

Port St. Lucie ARA. Meets 2nd Fri./monthly, 7:30 p.m., St. Andrews Church, Prima Vista Blvd., Port St. Lucie, FL. Contact: Roy Cox, KT4PA, (561) 340-4319. www.qsl.net/pslara or 146.955-. 11/00

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. 12/00

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

GEORGIA

Cherokee Capital ARS. Meets 2nd Tue.monthly, 7 p.m., New Echota Methodist Church, 488 Red Bud Rd., Calhoun, GA. 146.805(+). Info: Felton Floyd, AF4DN, (706) 629-0369. 1/01

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

Gwinnett Amateur Radio Society, (GARS). P.O. Box 88, Lilburn, GA 30048. Meets 3rd Thurs./monthly, 7:30 p.m., Gwinnett Central Baptist Church on Gwinnett Dr., Lawrenceville, GA. 147.075+ PL 82.5. Contact: Mike Swiderski, K4HBI, (770) 449-0369. 8/00

HAWAII

Big Island Amateur Radio Club. P.O. Box 1938, Hilo, HI 96721. 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, Hilo Hawaiian Hotel - Queen's Court Restaurant. 9/00

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. 12/00

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/ 8/00

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. 8/01

Dupage Amateur Radio Club. (DARC). P.O. Box 71, Clarendon Hills, IL 60514. Meets 4th Mon./monthly, 7:30 p.m., Fire Station #3, between 59th & 63rd, Westmont, IL. Net Sun., 9 p.m. on 145.250. W9DUP rpts. 145.25(-) 107.2PL, 442.550(+) PL 114.8, 224.68(-). Info: (630) 985-9256 10/00

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. 8/00

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(-). 8/00

Schaumburg ARC. P.O. Box 68251, Schaumburg, IL. Meets 3rd Thurs./monthly, 7 p.m., Rec. Center, Bode and Springinsguth Roads. (630) 612-9446. http://members.aol.com/sarcradio 10/00

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

Wheaton Community Radio Amateurs, (WCRA). P.O. Box QSL, Wheaton, IL 60189. Meets 7:30 p.m., 1st Fri./monthly, College of DuPage, Wheaton, IL. Rptrs: 145.39(-) (107.2), 224.14(-), 444.475(+) (114.8). Info: Ron Hensel, K9ZE, (630) 365-0213, k9zze@aol.com 8/00

LOUISIANA

Baton Rouge ARC. Meets last Tue./monthly, 7 p.m., Catholic High School, 855 Hearthstone Dr., Baton Rouge, LA. Net: 146.79MHz, 8:30 p.m. Sun. www.brac.org. E-mail: W5GIX@aol.com. 11/00

MAINE

Androscoggin Amateur Radio Club. Meets 1st Wed./monthly, 7 p.m., Auburn Police Station, 1 Minot Ave., Auburn, ME. Info: (207) 782-8699. 6/00

MARYLAND

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

MASSACHUSETTS

Genesis Amateur Radio Society. P.O. Box 1234 Plymouth, MA 02362. Meets last Mon./monthly, 7:30 p.m. at Plymouth Airport, So. Meadow Rd. Tues. net: 146.685, W1LM, 8 p.m. 7/00

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

MICHIGAN

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: Neil Griffith, KC8DAR, (517) 263-5774. 6/00

Genesee County Radio Club, Inc. Meets 3rd Tues./monthly, 7:30 p.m., Genesee Area Skill Center, Torrey Rd., Flint, MI. (810) 733-2082. 3/01

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. 10/00

MINNESOTA

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

MISSISSIPPI

Jackson Amateur Radio Club, Inc. Meets 3rd Thurs./monthly, 7 p.m., Am. Red Cross Bldg., Riverside Dr., Jackson, MS 39202. 11/00

West Jackson County ARC, Inc. Meets 3rd Tues./monthly, 7 p.m., Ocean Springs Crt. Rm., Ocean Springs, MS 1/01

MISSOURI

Macon County ARC. P.O. Box 13, Macon, MO 63552. Meets last Wed./monthly, 7 p.m., Macon R-I High Sch., rm.167. Net every Thurs., 8:30 p.m. 146.805. E-mail: nøpr@arrl.net 1/01

NEVADA

Frontier Amateur Radio Society, (FARS). Meets: 1st Sat./monthly, bkfst. mtg. 10 a.m., Chicago Hot Dog Drive In, 1078 No. Rancho Dr., Las Vegas, NV. after AES swap meet. Club info: Jim Frye, NW7O, (702) 456-5396 or Bill Scarborough, WA6ASI, (702) 269-9551. 8/00

Sierra Intermountain Emergency Radio Assoc., (SIERA). Meets 2nd Tues./monthly, 7:30 p.m., Minden Med. Cntr, Hwy 395 & Ironwood Dr., Minden, NV. Info: George Uebele, WW7E, (775) 265-4278, ww7e@arrl.net, Rpt. 147.330 MHz.. 1/01

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

NEW HAMSHIRE

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. 11/00

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. 6/00

The Garden State Amateur Radio Assoc., (GSARA). Meets 1st & 3rd Wed./monthly, 8 p.m., MARS Bldg., Fort Monmouth, NJ. Info: Bob Buus, W2OD, (732) 946-8615. 12/00

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. 8/00

NEW YORK

Amateur Radio Association of the Tonawandas, (ARATS). P.O. Box 430, No. Tonawanda, NY 14120. Meets 3rd Tues./monthly (except July & Aug.), 7:30 p.m., Sweeney Hose Co., 499 Zimmerman St., No. Tonawanda, NY. Talk-in: 146.955(-) rptr. W2SEX. 2/01

Genesee Radio Amateurs, (GRAM). P.O. Box 572, Batavia, NY 14021-0572. Meets 3rd Thurs./monthly, 7:30 p.m. (except Jul, Aug, Dec), Am. Red Cross, 220 East Main St., Batavia, NY. URL: http://hamgate1.sunyerie.edu/~gram 4/00

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

The Radio Club of J.H.S. 22, N.Y.C., Inc. WB2JKJ. P.O. Box 1052, New York, NY 10002. 24-hr. hotline: (516) 674-4072. Fax: (516) 674-9600. E-mail: crew@wb2jkj.org. Non-profit org. using Ham Radio to enhance the education of youngsters, nationwide. Join us—"Class-room Net," 7.238 MHz, 7 a.m. E.S.T. PSE QSL! 10/00

South Towns Amateur Radio Soc. (STARS). Meets 1st Thurs./monthly, 7:30 p.m., Hamburg Youth Cntr, Prospect Ave. Hamburg, NY (exc. Jul, Aug @ NIKI Base). Info: N2TEZ, 180 University Ave., Depew, NY 14043. Web: www.cmp-express.com/stars. Rpt: WB2ELW 147.090(+) PL107.2 11/00

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

Westchester Emergency Comm. Assoc., (WECA). Meets 2nd Mon./monthly, 7:30 p.m., Westchester County Ctr., White Plains, NY. Contact WECA INFO LINE (914) 741-6606 for details. Talk-in WB2ZII/R 147.06(+) PL 114.8/2A. 10/00

Yonkers Amateur Radio Club, (YARC). Meets 2nd Sun./monthly, 10 a.m., 1st Pct., Yonkers Police Station, E. Grassy Sprain Rd., Yonkers, NY. Info: P.O. Box 378, Centuck Sta., Yonkers, NY 10710. (914) 963-1021. 146.865(-), 440.150(+). 2/01

NORTH CAROLINA

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

OHIO

Ashtabula County ARC. Ken Stenback, W8KS (964-7316) County Vo-Ed School, Jefferson, OH. Meets 3rd Tue./monthly, 7:30 p.m., County rptr., 146.715(-). 1/01

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. 10/00

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

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

Western Reserve Radio Assoc. P.O. Box 81252, Cleveland, OH 44181-0252. Meets 2nd Wed./monthly, 7:30 p.m., Jenkins Communications Cntr., Main St., Olmsted Falls, OH. Info: C. Bade, W8CJB, Sec., 146.73(-), 444.900(+) MHz. 10/00

OREGON

Central Oregon Radio Amateurs, Ltd. (CORA). P.O. Box 723, Bend, OR 97709. Meets last Thur./monthly, 7 p.m., Bend Sr. Ctr., 1036 NE 5th, Bend, OR. 146.940(-) MHz. Info: (541) 388-3831. 10/00

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

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: WØQOT/R 147.12(+) (PL100) or (541) 863-7692. 7/00

PENNSYLVANIA

Mercer County ARC, 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.Ø5. 6/00

Mid-Atlantic ARC, (MARC), WSNWA. Meets 3rd Thurs./monthly, 8 p.m., Radnor Mem. Library, Wayne, PA. Rtrs 147.06, 145.13. Net, Sun., 8:30 p,m, http://www.marc-radio.org 11/00

TEXAS

Brazos Valley Amateur Radio Club, (B-VARC). P.O. Box 1630, Missouri City, TX 77459. Meets 1st Thurs./monthly, 7 p.m., Sugar Land Community Ctr., 226 Matlage Way., Sugar Land, TX. 12/00

VIRGINIA

Mt. Vernon Amateur Radio Club, (MVARC). Meets 2nd Thur./monthly (except Dec.), 7:30 p.m., Mt. Vernon Gov. Cntr, 2511 Parkers Ln., Alexandria, VA. Contact: Bob, KT4KS, (703) 765-2313. E-mail: mvarc@juno.com, http://www.mvarc.org/, Net: Tues. 8:30 p.m. 146.655-. 10/00

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

Virginia Beach ARC. Meets 1st Thurs./monthly, 7:30 p.m., Virginia Wesleyan College, Wesleyan Dr. off N. Hampton, Village 2 Commons, Graybeale Bldg., Virginia Bch, VA. 2/01

WASHINGTON

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

WEST VIRGINIA

Jackson County Amateur Radio Club. Meets 1st Thurs./monthly, 7:30 p.m., Saint John Episcopal Church of Ripley. Net Mon. 9 p.m. on 146.67(-) WD8JNU/R. Info: D. Tennant, N8ZYB, Rt. 1, Box 188, Mt. Alto, WV 25264. 7/00

Tri-State Amateur Radio Assn. Meets 3rd Tues./monthly, 7p.m., Museum of Radio & Tech., 1640 Florence Ave., Huntington, WV 25701. (304) 525-8890 5/00

WYOMING

University ARC. Meets 1st Tues./monthly, 7:30 p.m., University of Wyoming, Engineering Bldg., rm. 2100, Laramie, WY. 146.01/61 12/00

NATIONAL

Bicycle Mobile Hams of America. 46 states/6 nations membership. Annual Forum at Hamvention. Info, sample newsletter, e-mail address to: hartleyal@aol.com or, SASE to BMHA, Box 4009-W, Boulder, CO 80306-4009. 2/01

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*

A broadcaster returns to hamming

Charles Persons, WØLOJ

Well I didn't exactly return to hamming as I never really left it. Got my first ticket dated 20 February 1925 with call letters 9CGP (still have that license for all to see) which is a long time ago even in hamming. In the years that followed I got different calls , as I moved around a bit, but have had the present call, WØLOJ, for the past 25 or 30 years. But just when I think I am an "Old-timer" I meet or hear about some old geezer who was a "Spark" man around World War One, so who am I? And I still fly my Cessna 172 plane and broadcast from the air over my radio station KVBR. Here again, I cannot qualify as an "Old-timer" because, even in this area, there are stout-hearted men who don a leather jacket, leather helmet with goggles, wrap a white scarf around their neck and fly up into the clouds at the age of 95. Zounds! It sure takes a long time to become an "Old-timer." I haven't made it yet, but I am working on it at the age of 89.

Through the years I have been an "on again, off again" Ham with the last "off again" some 15 years ago. Now, egged on by a friend I am "on again" with the purchase of one of those 2-meter hand held rigs not much larger than a package of cigarettes crammed with electronics. WOW! Ham equipment has changed a lot in the past few years. I stare at this little electronic marvel and wonder what to do with it. Of course, there is that instruction book but who reads that until you have learned to run the machine and then only to confirm what you already found out? But in today's wonderland of electronics you HAVE to go to the instruction book. For me that's just a prelude to disaster.

All I wanted to know was how to turn it on and off and how to set it on a particular frequency. But all those pages talked about was DTSS, CTCSVS, DTMF Memory, paging and a gaggle of other bewildering functions of no importance to me — ever. Obviously it was written by some of the "whiz kids" at the factory but unhappily none of their tribe came with the unit so I was on my own — disaster in the making. However, a few hours of random punching I got it on 147.03, our local repeater. Touche!

Now to try the auto-patch. I knew our local repeater had an excellent auto-patch installed by our local club engineers, clever devils that they are.

How exciting to speak into this tiny electronic box and have my voice come out on my son's phone all the way across town. But no amount of punching those buttons on my machine would ring his number. The repeater would patiently listen to the number I was calling and then the autopatch would turn off and the repeater would scold me by sending out the identifier loud and clear.

Coward that I am, I would do this experimenting in the middle of the night not wanting to sound like a fool in front of my fellow Hams in this area. Never mind what my son would think, getting a call during those hours. After all, he owes me something since I changed his diapers and fed him bottles of milk those many times in the middle of the night when he was a baby. Oh, I DO remember.

Nothing worked with the repeater flinging its identifier at me time and again in the middle of my dialing. Desperate, I resorted to the telephone and called my friend Fritz Bertelt, KØMAH, high up on a hill north of town. He is a professor at the local college and is known as Dr. Bertelt, being a PHD. He can't fix a broken leg, but he does know Ham radio so he got me on the repeater and listened as I punched in his phone number.

I was standing out in the cold, (it does get cold in Minnesota you know) and he came back with the solution to my problem. He said it sounded like my big fat fingers were hitting two of those tiny keys together confusing the auto-patch. He suggested I go inside and get a lead pencil and punch those keys one at a time with the erase end of the pencil. I was glad to go inside anyway. So I punched in his number with the pencil and his phone rang and we were talking to each other on the phone and over the air at the same time.

Since then I've made many successful auto-patches — carrying an old beat-up lead pencil in my pocket. That lead pencil was never known to spell words accurately anyway. And to think those "whiz kids" at the factory who never thought of that, as smart as they are. It occurs to me they should supply a lead pencil with every hand held 2-meter rig.

But there was more. That beastly little rig had a way of "locking up" and no amount of punching keys would get the rig to go higher than 144.00 and all I wanted to do was to settle down on 147.03. So now a couple of hours fumbling around, running the battery down, with me wondering if I should throw the rig away and get a new one — one that would go up to 147.03. Then by accident, I solved the problem. I found if I turned the rig off, put my thumb down firmly on the "M" key everything in the memory would be erased, including some numbers I had carefully stored there. But at least the slate was clean and I could get back to 147.03. Now it works beautifully and I can talk all over town through the repeater.

On reflection, it seems to me those factory people should divide their instruction books into two parts. The first part should have very simple instructions for simple-minded Hams like myself. For example, "Put your finger on the key marked 'power,' push down and wait for the screen to light up. Then put your finger on the key marked 'enter' and notice the screen shows '1.' Then add the remaining numbers one at a time until you get 147.03. Then push down 'enter' again. Gosh, it really works.

The second half of the instruction book should be pretty much as it is for the intelligent Hams, which is just about everybody. I know my 18 year-old grandson could figure it out too, but how about us old timers? We have a right to Ham around too — even us old time broadcasters.

Veteran Wireless Operators of America

Our last three columns have been mini-histories of wireless organizations other than QCWA. I am pleased to say that I have received authorization to write a similar précis on the Veteran Wireless Operators Association.

This abbreviated history of VWOA is based on a "History of The Veteran Wireless Operators Association," prepared in 1997 by Alan M. Ehrlich, VWOA's current President; an earlier history (1945) on activities leading to formation of VWOA by then-Historian George R. Clark; and information furnished by Edward F. Pleuler, Jr., Secretary of VWOA.

Mr. Clark relates that there were wireless societies before VWOA. The Society of Wireless Telegraph Engineers, grand-daddy of them all, had been organized in 1907 by John Stone; the Wireless Institute of Bob Marriott two years later. Both combined in 1912 to form the Institute of Radio Engineers (now the Institute of Electrical and Electronics Engineers — IEEE). The Junior Wireless Club of 1907 became the Radio Club of America in 1909. The American Radio Relay League was organized in 1914. Eleven years later VWOA was born.

There is always a founding father (or fathers) identified with a new organization, and so it was for VWOA's founders. There were two old-timers, Peter Podell and Gilson Willets, who longed for an organization wherein they could swap stories of the good old days of wireless. Several years passed before it was brought to fruition in 1925 through the efforts of a number of individuals in addition to Podell and Willets, including Bill Fitzpatrick, Fred Schmidt, Ben Beckerman, Samuel Schneider, Hugo and Sydney Gernsback, Jim Maresca and Frank Orth.

One detriment they encountered was the tendency of shipping management to view any new organization as another attempt at stronger unionization, whereas the founders-to-be visualized a fraternal and purely recreational organization. On 15 October 1925 a meeting took place in the Hotel Roosevelt, with about 40 old timers present (the original group, plus other "sparks" who were recruited by broadcast publicity of the meeting). VWOA was born!

The second meeting was on 23 November 1925 at the Hotel Astor. At that meeting William S. Gill was elected President, and the name "Veteran Wireless Operators of America" was chosen. Thus the Podell-Fitzpatrick-Willets-Maresca-Schneider-Gill idea became US!

A little more than a year after VWOA was started, J. F. J. Maher became President. Being a radio editor of a metropolitan newspaper at the time, he appreciated the value of publicity. And personally he was then "basking in the limelight" as a broadcaster, as President of the Newspaper Square Club, and as Vice President of the National League of Masonic Clubs.

One of Maher's accomplishments was to institute an annual reunion on a larger scale than the occasional meetings in the past: the reunion was called the Annual Cruise. The first of these was held on 16 June 1926 in New York City. At the second cruise in May 1927, Maher introduced a new feature, the printed program. Originally called a "Souvenir Journal," it grew from 20 pages in 1927 to 96 in 1932, when the name was changed to the Yearbook.

These "cruises" began VWOA's traditional annual gathering of the present, which increased in attendance and camaraderie with every succeeding year. Beginning as more or less boisterous gatherings, in later years a serious pattern emerged, and men of note told of earlier happenings, especially in the line of saving life at sea.

VWOA started out as "just another club," but late in 1928 it was incorporated under the laws of Delaware, with these formally declared Aims and Purposes.

1. "To foster and extend an esprit de corps among wireless operators" (i.e., to band together wireless operators of past, present and future, into a definite organization, so that they will feel and act as a unit rather than as individuals).

2. "To afford opportunity for social intercourse, and to promote a fraternal and comradely sentiment between and among its members" (i.e., The Annual Cruises and the occasional gatherings during the intervening months, are intended to keep the members acquainted with each other, and to form an outer designation for inner friendliness).

3. "To recognize meritorious service rendered by wireless operators on land, at sea or in the air, by the erection of memorials and by the bestowal of testimonials, medals, scholarships, or other suitable awards." (In earlier years VWOA cooperated with the Wireless Operators Monument Association as to placing bronze nameplates upon the Operators Monument in Battery Park, NY, in commemoration of operators who had lost their lives in the pursuit of duty. Since 1944, when the two organizations were closely joined, this sacred duty has been taken over in toto by VWOA. VWOA's awards extended to the living as well as to the dead; VWOA has, since its inception, presented medals and other tokens of appreciation of

valor and of work well done, to wireless operators from all walks of life, and many scholarships have been awarded in the name of VWOA, based on merit and need.)

4. "To acquaint the public with the work, traditions and ideals of wireless operators and to perform and encourage any other purely fraternal activity or activities adjudged helpful to the wireless profession." (This has been carried out by means of appropriate publicity on the anniversary of some noted wireless event where saving of life by wireless was the major theme, as well as at other times when the Association could rightly speak for the wireless art).

"The present state of the Association is summarized in a more recent (1997) document by Alan M. Ehrlich, President of VWOA, who said, "All members both currently active or retired come together because of their prevailing interest in wireless communications. Many of the men and women who are members are scientists, engineers, teachers, technicians, researchers, and radio officers aboard ships at sea in both military and civilian capacities."

What makes VWOA special to its people is 'to be actively involved in perpetuating the use, growth, safety and advancement of new and practical innovations in the domain of communications.' Equally important is the need for VWOA to remember and keep alive the continuing record of contributions and milestones that enabled each succeeding era of communications to advance. This is accomplished in part through VWOA's annual awards dinner, an important feature of which is to pay tribute to a number of outstanding men and women who have made significant contributions in various aspects of communications research, training and applications. These dinners are held in areas where the surroundings are rich in history and tradition.

Morse code is rapidly being replaced by automated digital electronic equipment in the world's communications, and the human element is being eliminated. We are reaching the point that nearly all messages will be transmitted and received without human involvement. But such machines cannot think and make decisions. Perhaps this missing element will be restored when and if former operating personnel will become communications managers because of their familiarity with situations which cannot be completely anticipated by automated means.

Those who have been Honorary Presidents of the Veteran Wireless Operators Association can attest to the stature and esteem of the Organization, viz:

1929 - 1937 Herbert Hoover, 31st President of the United States

1937 - 1938 Senatore Guglielmo Marconi

1939 - 1961 Dr. Lee DeForest

1961 - 1971 Brigadier General David Sarnoff, U.S. Army

1972 - 1998 U.S. Senator Barry M. Goldwater

1999 -Gerald R. Ford, 38th President of the United States

I am a proud member of VWOA since 1971.

Note 1: Biographies of several of the wireless pioneers identified in the VWOA history appear in "Radio's 100 Men of Science — Biographical Narratives of Pathfinders in Electronics and Television" by Orrin E. Dunlap Jr., © 1944 by Harper & Brothers; reprinted 1970 by arrangement with Harper & Row, Publishers, Inc.

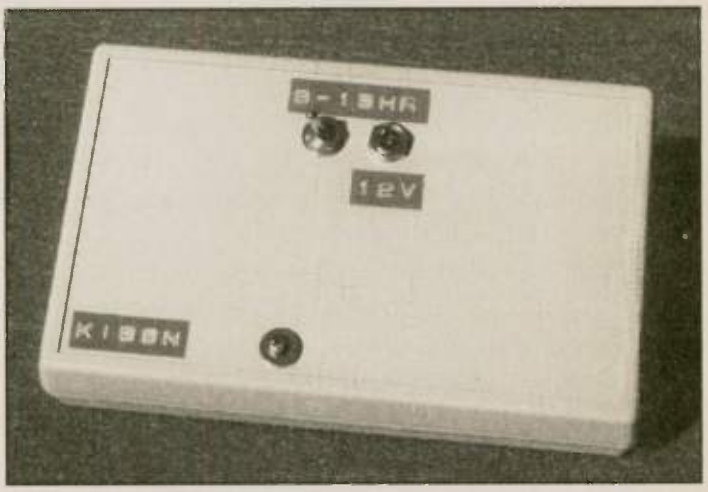
Note 2: If you are interested in becoming a member of the Veteran Wireless Operators of America, please contact the Secretary, Edward F. Pleuler, Jr., 46 Murdock Street, Fords, NJ 08863-1224, tel: (732) 225-2539.

Pint-sized QRP power to spare

With most of North America still in the clutches of Old Man Winter, it's a good time to generate a little heat at the workbench, and start getting things in order for warm-weather operations.

A year ago in its monthly web magazine, *The ARS Sojourner*, the Adventure Radio Society featured a simple, compact and inexpensive DC power pack that looked just perfect for QRP outings when shirt sleeve weather rolls around.

Designed by Rob Dey, of Point Pleasant Beach, NJ, the "KA2BEO Battery Pack with Built-In Charger" is a 12-volt supply with an in-house charger using common parts. Most of them can be obtained at Radio Shack.



A toggle switch on the cover of the battery pack allows the operator to choose between two different charging rates. The power jack on the case is used for both input charging and power output in the circuit designed by Rob Dey, KA2BEO.

The unit uses two 6-volt, 600 mAh Ni-Cd battery packs connected in series to deliver about 12.6 volts DC (Radio Shack part number 23-283). In commercial use, they are replacement batteries for cordless phones.

The charging circuit is a simple LM317T three-terminal voltage regulator used in conjunction with a capacitor, a diode and two resistors — providing either a slow or fast charging rate.

The whole thing fits into a bone-colored Radio Shack case (RS 270-213) which will need to be modified slightly — there's a built-in 9-volt battery compartment which, using a sharp knife, I had to cut from the case to make room for the batteries and charging circuit.

Dey's original circuit uses small board-mounted jumpers to change the charging rate. In the KI6SN version, I opted for a single pole, double throw toggle switch to make selecting the option even easier. By throwing the switch, you're merely toggling between two resistors.

In the KI6SN version, the slow rate requires 15 hours for the circuit to fully charge the two 6-volt battery packs. In quick-charge mode, it takes 8 hours.

Dey's original circuit gives component values for 15- and 6-hour charging rates, but there's nothing to prevent the builder, as I did, from altering those time frames by changing the values of the two resistors. In his documentation he even provides the formula for making changes to the circuit.

Charging input comes via a 16-volt DC wall wart power cube rated at 700 mA or better. That's available through many parts houses, and is about the only item you won't find at Radio Shack.

Power input (charging) is done through a case-mounted power jack. When the pack is fully charged and ready to go, the operator uses the same jack for power output — simply plug in your transceiver's power cord and get on the air.

"I kept the battery capacity down to the minimum required for a 12-volt DC, 5 watt transceiver (about 600 mAh)," Dey wrote in his article for The ARS Sojourner, "which can deliver up to 1.2 amperes for a half hour (key down)."

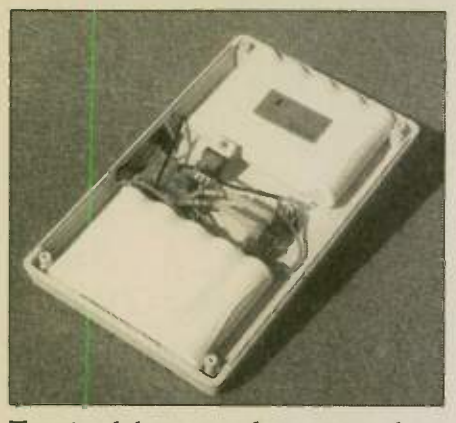
"Using about 4-watts RF output on CW, my battery pack lasts more than four hours," Dey said. "Additionally, I plan to use my off-the-shelf solar panel (14.5 volts DC at 110 mA) to charge the battery pack."

Accompanying photographs of the KI6SN version of the "KA2BEO Battery Pack with Built-In Charger" shows just how simple a circuit this is. And I can attest from in-the-field experience that this lightweight pack can, indeed, provide several hours of 5-watt QRP operation before a recharge is due.

For full details of the circuit, along with a schematic and all the Radio Shack part numbers, visit the Adventure Radio Society's web site. To get there, go to: www.natworld.com/ars.

Once at the ARS site, click on The ARS Sojourner. Then click ARS Archives. From there click on Cumulative Index to The ARS Sojourner. Then click on Equipment Techniques. Then look for "Build A Portable 12-volt Battery Pack with Built-In Battery Charger."

If you don't have access to the Internet, drop me a self addressed, stamped envelope and I'll be happy to send you



Two 6-volt battery packs in series, along with a simple voltage regulator make up the KA2BEO power pack, shown here in the KI6SN configuration.

information on building the battery pack and charger.

If you're in the hunt for an inexpensive power pack that's easy to homebrew, consider the KA2BEO circuit. For its weight, cost and simplicity, you'll be hard pressed to find power in a more efficient package.

QRP ARCI net gain

Some months ago the Worldradio QRP column carried sad news about the demise of QRP Amateur Radio Club International's CW net system. What once had been a sprawling group of nets across the United States on 80, 40 and 20 Meters had dwindled in recent years to one: the WSN-40, the Western States Net on 40 Meters every Saturday morning. Now comes news from Bob Hartley, K2QJ, of Kendall Park, NJ, that the NorthEastern Net, NEN, has found new life and is back in operation.

He's hoping that as word spreads, "it will spark some new QNIs (check-ins) to the net who thought it was dead. Before February 1999 it did not have an NCS (net control station) since Danny Gingell, K3TKS, has been too busy and has problems with his rig, etc."

Call-up is on 40 Meters at 7.040 MHz (+/- 1 kHz) each Saturday morning at 8 a.m. Eastern time. Hartley welcomes all QRPers to check in.

Atlanticon QRP forum

If it's March, it must be time for Atlanticon 2000 QRP Forum, sponsored by the New Jersey QRP Club. This year's meeting is 24-25 March on the outskirts of Philadelphia, at the Ramada Inn in Glen Mills, PA.

According to George Heron, N2APB, speakers include noted QRPers Chuck Adams, K7QO; Dave Benson, NN1G, of Small Wonder Labs; Joe Everhart, N2CX, of NJ-QRP; and Gary Diana, N2JGU, of Embedded Research, makers of the popular TiCK series of electronic keyers.

For up-to-the minute details, room availability, a map to the convention site and prices, visit NJ-QRP's web site: www.njqrp.org/atlanticon.— *Richard Fisher, KI6SN: 1940 Wetherly Way, Riverside, CA 92506; KI6SN@aol.com.*

10M Long Path from the West Coast

Although my March 1999 column on 10M long path was biased toward long path from the East Coast because I used log data from Gus, K2ARO, in the analysis, I did make some general statements about 10M long path from the West Coast. At the time, I didn't have any West Coast data to present. I was hoping that column would result in some 10M long path log data from a West Coast station, and sure enough someone stepped up to the table.

That someone was Gary Pesselt, WB6PSY, near Los Angeles. He went back through his logs and dug out his 10M long path contacts. The data he sent spans from March 1979 to December 1998, including some pertinent comments. His rig is an FT101E with an FL2100B amp, and his present antenna is a 5 element home-brew monobander on a 24 foot boom at 60 feet.

This is not a BIG GUN station — and it really shows what you can do with a modest set up, the proper knowledge, and lots of desire and enthusiasm.

About 90 total 10M long path QSOs were made over this 20 year period to Europe, Africa and to the Mideast (including a very rare OE6XG/A in Abu Ail — it's now a deleted country for DXCC), and to the Indian Ocean area.

The bulk of them (about 90%) were made during the spring months of March, April, and May. The remainder of the QSOs were made in two of the summer months (June and August), in the fall month of October, and in two of the winter months (December and February). There's a good reason for the spring months being the best — it's tied to sunrise/sunset times and absorption.

Figure 1 shows a typical 10m long path QSO from WB6PSY to Europe during a spring month. Specifically, it's for his QSO with IØJX on 05 April 1981 at

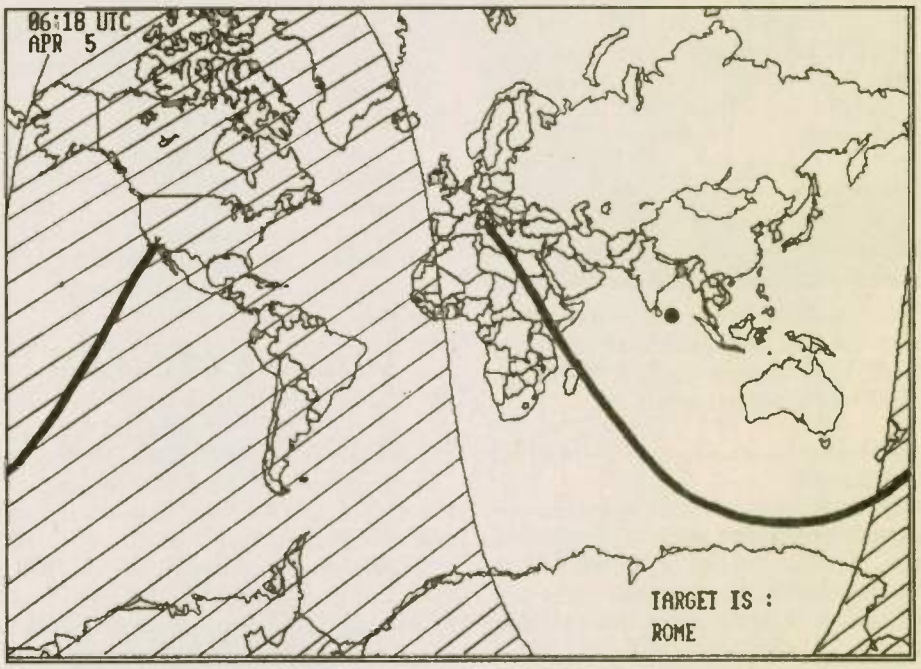


Fig 1. WB6PSY to I0JX via 10m long path on April 5, 1981

0618 UTC (he worked several others on that date, too). The cross-hatched area is that part of the Earth in darkness. The black dot just off the southeast coast of India is the position of the overhead sun. The long path from WB6PSY to Italy goes to the southwest, and is over water until it reaches the African continent.

One key factor that makes this path go is sunrise on the Italy end. Since Italy has been in darkness all night, the electrons and ions have had plenty of time to recombine. Thus sunrise is needed on this end of the path to get the MUF (maximum usable frequency) up enough to support 28 MHz propagation.

A second key factor is the amount of time after sunset on the W6 end. Since the recombination of high altitude F2 electrons is slower than the ionization process at sunrise, 28 MHz propagation can be supported somewhat after sunset (an issue that comes into play here is the smoothed sunspot number — the higher the SSN, the longer after sunset 10M can be propagated). In the spring months, sunrise in Italy is about 2 and

a half hours after W6 sunset. But in the fall months, sunrise in Italy is about four and a half hours after W6 sunset. Thus in the fall months electrons and ions at the W6 end have an extra two hours to recombine before sunrise in Italy — that's not good.

What about the other two seasons? The problem with the summer months is that the sun is in the Northern hemisphere — thus the MUFs on the extreme southern portion of the path may not get high enough for 28 MHz. In the winter months, sunrise/sunset issues per the preceding paragraph are even worse than the fall. In addition, in the Winter the sun is in the southern hemisphere — the MUFs on the extreme southern portion will get high enough, but absorption can be prohibitive. To summarize, all things are considered, the spring months work out to be the best for this path.

A third key factor is quiet magnetic field activity. Most of these paths get near or go through the southern auroral zone. A quick look at the planetary magnetic index Ap for each QSO showed that 49% were with the Ap index less than or equal to 7 (this corresponds to a k index of less than or equal to 2). Going farther, 98% of the QSOs were with Ap less than or equal to 27 (k less than or equal to 4). Only two QSOs were made when Ap was greater than 27 — both were to Africa, with paths that stayed at relatively low latitudes.

Earlier I mentioned that the higher the SSN, the longer after sunset 10M can be propagated. What were the SSN levels when WB6PSY worked all these 10M long path QSOs? And is Cycle 23 high enough right now for 10M long path? Although most of the QSOs were near the peak of Cycle 21 (December 1979) and near the peak of Cycle 22 (July 1989), it looks like they started when the SSN was above about 100.

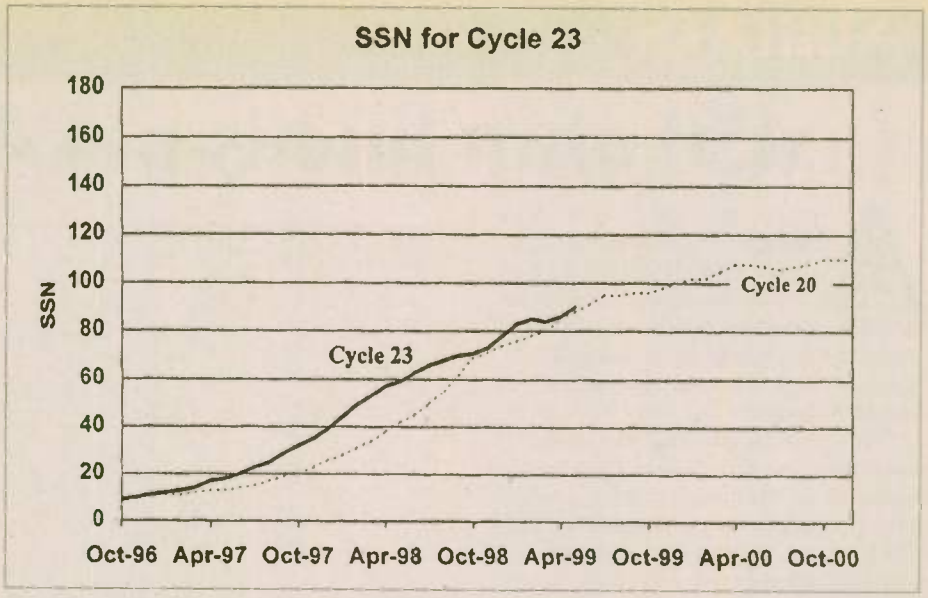


Fig 2 Smoothed Sunspot Numbers(SSN) for Cycle 23

Figure 2 is a plot of Cycle 23 to-date. For a very detailed discussion of Cycle 23, check out the web site: http://science.nasa.gov/newhome/headlines/ast16dec99_1.htm. Also included on the plot is Cycle 20, which peaked at an SSN of 110. Cycle 23 appears to be paralleling Cycle 20 now, so that makes it easier to make some estimates about Cycle 23's future. At the time of this writing, the latest Cycle 23 SSN data is for May of 1999, and it is 90. Extrapolating the data by using Cycle 20 as a guide says March 2000 should have an SSN of around 120. This says 10M long path from the West Coast should be a possibility.

You're probably reading this around the end of February. Thus the good months of 10M long path (March, April, and May) are just around the corner. So you West Coasters (and those of you even a little farther east in Arizona, New Mexico, Texas, etc), fire up the rig on 10M later in the evening after the kids are in bed. Point the antenna in a general southwest direction. Check the Boulder k index for a rough indication of the magnetic field activity or check the NOAA report for the forecasted quiet days. Then have fun working into Europe, Africa, the Mideast, and the Indian Ocean area. As WB6PSY said in one of his e-mails, "It seems some of my rarest contacts were via long path!"

A final note for East Coasters and fellow Midwesterners — don't forget our 10M long path opportunities in the morning to JA and other Asian countries.

450 ohm line is not 450 ohms

A reader asks for help with his 80-meter dipole antenna. It's about 35' high and fed with 28' of 450 ohm line. This goes to a 9:1 Palomar balun (450 ohm to 50 ohm), then 50 ohm coax to the transmitter. No antenna tuner. He uses it on 80, 40, 20 and 10 Meters.

The transmission line part looks all right. But is it? No, it's not. The problem is that the 450-ohm line does not look like 450 ohms to the balun. Why is that?

If you look into one end of a 450 ohm line and the other end is connected to a 450 ohm antenna you will see 450 ohms. But if the antenna is some other impedance you will see something different. And you'll likely not see the antenna impedance either.

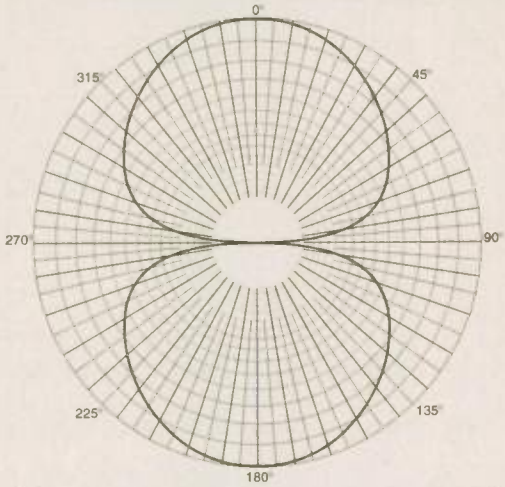
Let's look at this antenna on 80 Meters. It's fairly low off the ground for this wavelength so, on its resonant frequency, it will look like about 30 ohms. But what will you see on the other end of the 450 ohm line?

To illustrate the problem in a simple manner let's make the line a halfwave long. A halfwave line repeats at its input whatever load is on its output. So with this antenna we'd see 30 ohms. Our SWR would be 450/30 = 15.

Another simple case is if the line were a quarterwave long. A simple equation gives us the input impedance:

Input Z = (Line Z)^2 ÷ Load Z

Our 450 ohm line transforms the 30 ohm load impedance up to 6,750 ohms! The SWR would be 6,750/450 = 15. So you can see that the input impedance



we see depends strongly on the line length.

With this antenna setup we don't have a quarterwave or a halfwave line. The actual length is about 1/10 wave on 80 Meters.

Kurt just showed you the two line lengths that are easy to calculate. This one is not so easy! You could use the Transmission Line Equation shown in the Antenna Book. It's ghastly; don't even think of using it unless you enjoy mathematics.

There is the Smith chart that's a lot easier. Still, if you haven't used it before it takes some study before you understand it. Better yet, use a computer program and let the computer do the math. One program comes with the latest edition of the Antenna Book. Kurt used it to find what this antenna looks like to the balun on 80 Meters: R = 56 ohms and X = +j380 ohms. The SWR is 14.

So, even though the antenna is resonant and looks like a pure 30 ohms resistance, at the other end of the cable it looks non-resonant and of a different resistance. The balun sure doesn't see 450 ohms and at the other side of the balun we aren't going to see 50 ohms. No wonder the transmitter powers down on this band!

On 40 Meters the antenna is a full wavelength long. The impedance will be something like 4,000 ohms at resonance. The chances of our seeing 450 ohms at the end of the 28-ft 450-ohm line are so small that Old Kurt hated to compute it. But he did. It's R = 55 ohms X = -j102 ohms.

The SWR is 9.

The conclusion: It's a hopeless case. This antenna system won't work with a modern transceiver that requires a 2:1 SWR. The advice: Buy an antenna tuner and start over. And always remember that you're not likely to see 450 ohms at the transmitter end of a 450 ohm line.

Radiation resistance

A manufacturer of vertical antennas claims an improvement in efficiency by moving the feed point up above ground to get a higher radiation resistance. Kurt explained that this does not increase efficiency. The manufacturer disagrees and, in fact, is quite upset with Krusty Old Kurt. Who's right? Why Kurt of course. Here's why:

Let's start at the beginning: What is radiation resistance?

Radiation Resistance = $\frac{\text{Radiated Power}}{I^2}$

Where I = The RF current at the connection point.

The current is different at different points along the antenna. So the radiation resistance depends on where the connection is made.

There is a special case that is important. That is when the connection is made at a point of maximum current. This is at the base of a grounded short vertical or at the center of a dipole. This is where the radiation resistance of a quarterwave vertical is 36 ohms and where the radiation resistance of a halfwave dipole is 72 ohms. This is the connection point they always talk about in the Handbook and the Antenna Book. It is often called the "loop radiation resistance." Why loop? Because in engineering texts a current maximum is called a "current loop."

Raise the radiation resistance

If you drive a short vertical antenna at its base the power you put in gets divided between the radiation resistance and the loss resistance. The radiation resistance part gets radiated and the loss resistance part keeps the earthworms warm. If you increase the radiation resistance by making the antenna longer or by top loading it you get more radiated signal. So increasing the radiation resistance increases the efficiency of the antenna.

But increasing the radiation resistance by moving the feedpoint up does not.

On a short vertical the current is highest at the base and tapers off to almost nothing at the top. The voltage is least at the base and gets higher as you go up.

Remember that R = E/I (Ohm's law). So as E (voltage) goes up and I (current) goes down R goes up. So the higher your feedpoint the higher the radiation resistance. It's just as though you were driving the antenna through a transformer. Radiation resistance is transformed upwards but so is the loss resistance. The antenna losses do not change. The efficiency does not change.

Proof

There are those will not believe Kurt's explanation. So he has devised a simple experiment that is easy to duplicate and that proves the point. You need an instrument that measures RF resistance. The neat little Autek antenna analyzer, for example.

Put up a 15 foot vertical wire. At its base put a ground screen. Kurt used a 3 ft x 10 ft wire screen. You'll recognize this as a 20-meter 1/4 wave vertical antenna system.

Connect the meter between the ground screen and the vertical wire. Find the resonant frequency and measure the resistance. We know that the radiation resistance is 36 ohms. So the loss resistance is 12 ohms (36 + 12 = 48). Your reading may be different but do the same calculation using your results.

Connect the vertical to the ground screen. Go four feet up the vertical. At this point cut the wire and insert the meter. Measure the resistance. Kurt got 74 ohms. Figure the ratio. In Kurt's case it was 74/48 = 1.54. The new radiation resistance is 36 x 1.54 = 55.5 ohms and the new loss resistance is 12 x 1.54 = 18.5 ohms. (55.5 + 18.5 = 74).

Proof positive

Now for the test. Add a resistor between the vertical and the ground screen. Kurt used 22 ohms. What will the meter read now? At the base it will read 48 + 22 = 70 ohms.

But four feet above the base what will it read? Will it read 74 + 22 = 96 ohms? Or is the added resistance value transformed up to give 74 + (22 x 1.54) = 107 ohms?

107 it is. The loss resistance goes up in the same ratio as the radiation resistance. There is no gain in efficiency by raising the feedpoint, just an increase in feedpoint resistance. The manufacturer's yellow catalog has it wrong.

Typo

In a recent Kurt column a "W" replaced "I^2" in an equation of Ohm's law. The correct equation is I^2 = P/R. (P = Power, R = Resistance, and I = current).

Contests

Your first CW contest

Armond Noble, N6WR

CW contests have many delightful aspects over an SSB contest — no shouting, no speech processors taking up 20 kHz, no amplifier fans buzzing away. Next, more modestly equipped stations will make more contacts as a CW station than as a phone station. Theoretically, the CW station, watt for watt, is about three times as effective as the same power phone station.

But in reality, it's much better than that. With filters on the receive end and an operator who can copy at the noise level, CW contacts are made at signal strengths that aren't even a gurgle on SSB.

Another aspect is that there are no hard-to-understand accents on CW. Clicks, chirps, poorly filtered DC aside, everyone sounds the same.

An interesting observation is that the best CW contest ops will also be on the top rungs of the SSB results ladder.

And no, it just isn't big power and antennas doing it. The proof of that statement was once seeing Chip Margelli, K7JA, at a Ham convention working at the "Doctor DX" simulator, a computer program that in every way was as lifelike as actually being on the air.

Now there may be some of you who have never entered a CW contest and the very idea fills you with fear and trepidation. Ease your mind. While there are stations zipping by so fast you may wonder how anyone can even think that fast, consider this: the call signs, and reports are repeated over and over so the slower operator can bit and piece it together with some effort.

Incidentally, those high speed ops are not "thinking" either. That level of CW has become (after a great deal of practice) another language to them. Just as we don't struggle with listening to the spoken language coming at us at 150 wpm, the high speed CW ops just take it in stride.

Now a little secret for those of you whose speed is a bit rusty but you still want to get into the fray (from which your speed will be from 3 to 5 wpm faster at the end). You may wish to get a little helper, a tape recorder that has two speeds, one speed being one-half the rate (in inches per second) of the higher speed.

Tape record the station coming into your receiver then rewind and play it back at half-speed. When you can copy it at the slower speed, you'll be able to copy the higher speed because you know what to expect.

Tape recording of CW is being done more than you think. As time goes on, you'll need the crutch of the tape recorder less and less.

To get your feet wet, just put a toe in the water and try it for a few hours.

The most productive time for a part-time contest dabbler may be the last few hours when all the big guns have already worked all the rare stuff. The pile-ups are much smaller (if they exist at all).

One great virtue of going in a CW contest for the first time is to attempt to master (or at least semi-master) a new mode. The challenge is certainly there!

Contests Calendar

Contest	Date & Time	Bands	QSO points	Multipliers	Exchange	Entry Categories	Entries
ARRL DX SSB	0000z 4 Mar 2359z 5 Mar	160-10m SSB	3pt/QSO Work stns outside Canada, USA 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 or e-mail to DXPhone@arrl.org
CLARA and Family HF Contest	1700z 7 Mar 1700z 8 Mar 1700z 14 Mar 1700z 15 Mar	80-10m CW 80-10m SSB	5pt/CLARA mem 3pt/YL 2pt/CLARA fam mem 1pt/OM	Canadian Provs, Terrs, Labrador + DXCC	Name QTH CLARA mbr?	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 draw	11 April VA3WX
World Wide Locator Contest	0000z 11 Mar 2359z 12 Mar	160-10m CW and SSB	+1pt for each 500km measured from grid centre to grid centre 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 two 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	1200z 11 Mar 1200z 12 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 11 Mar 1900z 12 Mar	160m- UHF+	1pt/SSB QSO 2pt/CW QSO	QCWA Chapter, Canadian Provinces&Terrs, US States, 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 3 multiplier pts	1. RST 2. Year first licensed 3. QCWA Chapter# or Prov/Terr. State or country	QCWA members, QCWA non-members Novices	30 days W4BK
Nova Scotia QSO Party	1200z 12 Mar 2200z 12 Mar (1600-1800 off time for all)	80m CW, SSB	1pt/QSO	Nova Scotai counties (18)	RST QTH	unknown	30 days VE1BYO
Wisconsin QSO Party	1800z 12 Mar 0100z 13 Mar	All Amateur bands (exc. 10, 18, 24) CW, SSB and FM	1pt/SSB 2pt/CW Stations outside Wisconsin work Wisconsin only. WI work everyone	Stations outide Wisconsin: Wisconsin counties (72) Station in Wisconsin: WI counties, US states, Canadian provinces and territories	RST and WI county or State/Province/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
CQ-VHF Spring FM Activity Weekend	17-19 Mar Nine 6-hour periods starting at 1800 local time	FM on all Amateur bands above 50MHz (146.52MHz may not be used, not may you use repeaters)	1pt/50, 144MHz QSO 2pt/222, 432MHz QSO 3pt/902, 1296MHz QSO 4pt/2304MHZ and higher QSO Work each station once per band in each 6-hour period.	Grid squares worked on each band	Grid square	Single Op Fixed Station: - QRP (max. 10w) - QRO (more than 10w out) Multi-op Fixed station - QRP (max. 10w) - QRO (more than 10w out) Rover	30 days CQ-VHF Magazine or e-mail to weekend@cq-vhf.com
Bermuda Contest	0000z 18 Mar 2359z 19 Mar	80-10m CW & SSB	5pt/QSO	VP9 stations multiplied by DXCC/ WAE countries worked on each 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	0000z 18 Mar 2359z 19 Mar	160-10m + Satellites CW & SSB	1pt/SSB QSO 2pt/CW QSO x2 on 160m,80m and satellites. Alaskans work everyone, others work Alaska only	For stations outiside Alaska: Alaska 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 18 Mar 2359x 19 Mar	160-10m SSB	1pt/non-Member 3pt/Member in your continent 6pt/member on another continent	US stets, Canadian Provinces and territories, 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	0200z 18 Mar 0200z 20 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 18 Mar 1200z 19 Mar	160-10m CW and SSB	2pt/own country 3pt/other NA country 5pt/DX 10pt/Russian stations	Russian Oblasts and DXCC countries on each band Russian stations will send a two-letter Oblast identifier.	RST Ser#	Single op: All bands, single band Multi-op, single Tx SWL	30 days SRR Box 59 105122 Moscow Russia or e-mail: ra3auu@contesting.com
Virginia QSO Party	1800z 18 Mar 0200z 20 Mar 0500-1100z off time for all entrants	All Amateur bands (exc. 10, 18, 24) CW, SSB and FM	1pt/SSB 2pt/CW 3pt/VA mobiles Stations outside Virginia work Virginia only. VA work everyone	Stations outideVirginia: Virginia counties Station in Virginia: VA counties, US states, Canadian provinces and territories, DXCC countries	RST and VA county or State/Province/Territory/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 25 Mar 2359z 26 Mar	160-10m SSB	0pt/VE 2pt/NA 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 Good Friday CW Sprint	2200z 1 Apr 0200z 2 Apr	160-6m CW	5pt/ QSO with member 4pt/DX 2pt/USA and Canada	US States, Canadian Provinces and Territories, 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 N8CQA
SP DX Contest	1500z 1 Apr 2359z 2 Apr	160-10m	3pt/QSO Work SP only	Polish provinces (49) SPs will send 2-letter province abbreviation	RST Ser#	Single Op: All bands, single band Multi-op SWL	1mo Box 320 00-950 Warsaw
Spanish RTTY	1600z 1 Apr 1600z 2 Apr	80-10m RTTY	2pt/DX 1pt/NA x2 on 40, 80m	CQ Zones and Spanish Provinces (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 7 Apr 2300z 9 Apr	20-10m CW only	2pt/JA Work JA only	JA Prefectures (50) JAs will send 2-digit prefecture number	RST Ser#	Single Op: Both bands, single band Multi-op	30 Apr Box 59 Kamata Tokyo 144
QRP ARCI Spring QSO Party CW	1200z 8 Apr 2400z 9 Apr	160-6m CW	5pt/QSO with QRPARCI mbr., 4pt/DX non-mbr 2pt/North Am. Non-mbr.	US States, Canadian Provinces and Territories, DXCC countries Multiply your score by 1 of 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 QTHplus 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 8 Apr 1800z 9 Apr	80-10m CW and SSB	1pt/QSO	Spanish Provinces (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 Rd., Hicksville NY, 11801 USA. ARRL - 225 Main St, Newington CT, 06111 USA. Callsign - Callbook Address. Bands: The 30, 17 and 12m bands are never used in any contest.
You can confirm the dates of these contests on the internet at http://www.sk3bg.se/contest and http://home.sol.no/~janalme/hammain.html

Hamfests — March

ARIZONA

The **Scottsdale ARC** Hamfest will be held on 11 Mar., starting at 6 a.m., at the Scottsdale Community College(9000 E. Chaparral Rd.) Admission: $2. Tables: $5 VE exams, Talk-in: 147.18. For more info: Roger Cahoon, KB7ZWI 8501 E. Edward, Scottsdale, AZ 85250. 480/948-1824, Mobile 602/725-7256, Fax 602/943-7651. Email: wmgraceco@msn.com

CALIFORNIA

The **Yuba Sutter ARC** Spring Swap Meet will be on 11 Mar., starting at 8 a.m., at the American Legion Post 807(5477 Feather River Blvd., Linda, CA) Admission: FREE. Tables: $10. Breakfast will be served at 7 a.m. For more info: Ron Murdock, W6KJ 530/647-8533, rdmw6kj@succeed.net or Clara, KC6JPP 530/742-2674. YSARC, P.O. Box 1169, Yuba City, CA 95992.

FLORIDA

The **Englewood ARS** HamCom 2000 will be held 11 Mar., at the Tringali Community Center(Englewood, FL) Admission: $3 advanced, $4 at door. Swap Tables: $10. Tailgating: $5. There will be door prizes and VE exams. Talk-in: 146.700(-). For more info: George Shreve, KA4JKY 941/697-3445. Website: www.flnet.com/~crosby/ears/index.html.

INDIANA

The **Columbus ARC** Hamfest will be held 25 Mar., from 8 a.m. - 2p.m., at the Bartholomew County 4H Fair Grounds, Community Building. Admission: $4.50 advanced, $5 at door. Tables: $8. Talk-in: 146.790/146.190. More info: Marion Winterberg, WD9HTN 11941 W. Sawmill Rd., Columbus, IN 47201-8000. Phone: 812/342-4670. Email: carc_in@yahoo.com.

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The **Michigan City** Hamfest and Computer Flea Market will be held Sat. 25 Mar., from 8 a.m. - 1 p.m., at the Michigan City High School(8466 W. Pahs Rd., Michigan City, IN). Admission: $5 (under 12 FREE w/ adult). Early setup available for vendors. Table and general info is available from Ron Stahoviak, N9TPC, 5802 N. 400 W., Michigan City, IN 46360. Phone: 219/325-9089.

Send us your Hamfest

Send it to us at least two months in advance so we can print in the magazine, and we'll also send you copies of Worldradio to pass out. That's guaranteed to draw them in. And the best part? It's FREE! Send us your information, today.

ILLINOIS

The **Sterling-Rock Fall ARS** Hamfest will be held on 19 Mar., at the Sterling High School Fieldhouse(1608 4th. Ave.). Admission: $3 advanced, $4 at door. Tables: $5 without electricity, $6 with(bring your own cords). Set-up: 6 - 9 p.m. Sat., Sun beginning at 6 a.m. Large Flea Market(radio, electronic, computer and hobby items), a large dining area, Free parking. Talk-in: 146.25/146.85. For more info: Lloyd Sherman, KB9APW, Sterling-Rock Falls ARS, P.O. Box 521 Sterling, IL 61081-0521. Phone: 815/336-2434. Email: lsherman@essexl.com.

MASSACHUSETTS

The **Mount Tom Amateur Repeater Association's** Ham Radio & Electronics Flea Market will be held 12 Mar., starting at 9 a.m., at the Blessed Sacrament Parish Center(127 Holyoke Rd., Westfield, MA). Admission: $4 (under 12 FREE). Table: $15. Set-up: 7 a.m. Tailgating: $5. Talk-in: 146.94(-). For info: Cindy Loiero, K1ISS 27 Deepwoods Dr., Westfield, MA 01085. Phone: 413/568-1175. Email: kissn1fi@javanet.com

MICHIGAN

The Michigan Crossroads Hamfest will be held on 18 Mar., from 8 a.m. - 3 p.m., at the Marshall High School. Admission: $4 advanced, $5 at door. Tables: $1 per foot(min 4ft.). Talk-in: 146.66 or 146.52. For info: Wes Chaney, N8BDM 616/979-3433.

NEW HAMPSHIRE

The **Interstate Repeater Society's** Annual Spring Flea Market will be held on 11, Mar. at the Londonderry, NH Loins Club. Admission: $2. Tables: $10. Talk-in: 146.850. For more info email: Harold@neainc.com or phone Paul at 603/883-3308.

NORTH DAKOTA

The **Red River Amateurs** Hamfest and Computer Fair will be on 11 Mar., from 8 a.m. - 3 p.m., at the Red River Valley Fairgrounds(West Fargo, ND). Admission: $5 advanced, $6 at door. Tables: $8 ea., $25 for commercial vendors(includes AC power). VE exams. Talk-in: 146.76(-). For more info: Mark Kerkvliet, KGØFR 701/282-4716. Website: http://www.rrra.org.

OHIO

The **Lake County Amateur Radio Association** Hamfest & Computerfest will be on 26 Mar., from 8 a.m. - 2 p.m. at the Madison High School(North Ridge Rd., Madison, OH) Admission: $5. Tables: $8(6 ft.) $10 (8 ft.). There will be door prizes, VE exams, demostrations. For more info: Roxanne 440/257-0024.

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The **Toledo Mobile Radio Association** Hamfest/Computer Fair will be on 19 Mar., from 8 a.m. - 2 p.m., at the Lucas County Recreation Center(2901 Key St., Maumee, OH). Admission: $6. Table: $20(reg.) $25(wall). Door prizes, Free parking. Talk-in: 147.27(+) or 442.85(+) For more info call Paul Hanslik, N8XDB at 419/243-3836. Website: http://www.tmrahamradio.org.

TENNESSEE

The **Middle Tennessee ARS** Hamfest 2000 will be held 25 Mar., from 8 a.m. - 3 p.m., at the First Methodist Church(corner N. Jackson & W. Lauderdale, Tullahoma, TN). Admission: $5 (under 12 FREE). Table: $10. Set-up: by arrangement Fri.,

Hamfests

7:30 n. Sat. VE testing will be available. Talk 146.70 (-). For more info: Larry Mars l, WB4NCW 931/455-0070. Email: lmars edge.net. or Ian Haynes, AB4SW 931/ -5187. Email: ithaynes@edge.net. Webs http"//www.qsl.net/mtars.

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Th **uriners of Kerbela Amateur Radio** Servic lamfest will be held on 4 Mar., from 8 a.m. p.m., at the Kerbela Temple(315 Mimo ave., Knoxville, TN 37901). Admission: $ ables: $8 (plus admission). Setup: 4 -8 p.m i., 5 - 8 a.m. Sat. (overnight security will be vided). Talk-in: 144.83/135.43 or 146.52 plex. For more info: Paul Baird, K3PB /986-9562.

TEXAS

The **dland ARC's** St. Patrick's Day Hamfe will be held on 18 - 19 Mar., from 8 n. - 5 p.m. Sat. & 8 a.m. - 2 p.m. St at the Midland County Exhibit Buildin Admission: $7 advanced, $8 at door. T es: $12 (1st 4 $17 after that). There be a huge fleamarket that will also have vendors/dealers. Tailgating is also available. VE exams 1 p.m. Sat. For more info: Midland ARC, P.O. Box 4401, Midland, TX 79704. or contact Larry Nix, N5TQU @ oilman@lx.net. Website: http://www.w5qgg.org.

WISCONSIN

The **SEWFARS ARC** Hamfest & Computer Show will be held on 12 Mar., from 8 a.m. - 2 p.m. at the Waukesha County Expo Center(N.1 W.24848 North View Rd.). Admission: $5. Tables(4ft): $6. Electrical Outlet: $7.50. Talk-in: 146.820 PL 127.3. VE exams will be given. For more info: 414/835-7035.

WEST VIRGINIA

Charleston WV Hamfest/Computer Show 9 a.m. - 3 p.m. 18 Mar. at Coonskin Armory, 1707 Coonskin Dr., Charleston, WV. Adm. $5, tables $5. Free power and parking. VE exam at 12:30 p.m. TI 145.35 repeater. For info: Jim Damron, N8TMW, phone: 304/965-5349; e-mail n8tmw@arrl.net.

In ide Amateur Radio

The f oing story has been excerpted from Inside Amateur Radio, *by the late Lenore Jensen, NAZ. The book can be purchased from Worldradio Books, P.O. Box 189490, Sacrame CA 95818. Price is $9.00 plus $2.00 shipping and handling. CA residents please ad 0¢ sales tax.*

T e telephone pole caper

T impossible takes longer, of urse, but Harry Halvorsen, 6MTI, and his wife pulled a small miracle.

You se the earlier days, each Ham wanted h ery own telephone pole in the back in order to get his antenna as high as sible. Harry had learned of a 'retired' available for $2.50.

He says I was willing to put in a little effo get it from a horizontal position ir street to a vertical position in our bac d.

"Even s w do you go about carting home suc package from three miles away? Th oles are heavy! Well, my wife and l, all by ourselves, with a little hel om our old sedan and a rental trail One end of the pole was lashed firn to the trunk of the old sedan and tal trailer. One end of the pole was la firmly into the trunk of the sedan, the other end somehow rolled into trailer. I tied it to the tongue of t ailer.

"So we v six-wheel semi, 65 feet long, and vent home with it just that way, right across Firestone Blvd. Fortunately no cops were around, but after all, what could we have been cited for — imitating an 18-wheeler?

"The neighbors helped maneuver it out of the car trunk and trailer alongside the curb in front of our house. Then we had the problem. The neighbor's fence and our detached garage were just too close to the house for the 50-foot pole to go around the house and into the back yard.

"Just a week earlier, I had tossed a small rock at a stray dog who had been persistently invading our yard. I missed the dog but badly fractured one of the lower window panes at the rear of the house. It just happened to be directly in line with the front door.

"So with a couple of furniture dollies and neighbors, we ran the telephone pole through the front door, out the broken window and into the back yard.

"There were a few passersby who wondered why we had a telephone pole sticking out of the front door.

"It was the best tower I ever had."

WORLDRADIO Friends' Day

Every year, on the last weekend in June, it's the ARRL's great Field Day.

Now, the first Saturday/Sunday in June, it's ***Worldradio***'s Annual Friends' Day.

From your letters, and in-person meeting at conventions, we do believe that ***Worldradio*** subscribers are the very finest Amateur Radio operators. They're very friendly.

You should meet each other! Great people should get together. Run into old friends, make new friends.

This year ***Worldradio*** Friends' Day will operate from 1800Z Sat., 03 June 2000 until 1800Z Sun., 04 June 2000.

Any suggestions for this annual gathering of the Good Guys and Gals who read ***Worldradio*** will recieve careful consideration from the ***WR*** Contest Committee.

Please send your suggestions to:
Worldradio Friends' Day
2120 28th St.
Sacramento, CA 95818.

Email your suggestions to us at:
friendsday@wr6wr.com.

For complete rules see the ***Worldradio*** Website:

www.wr6wr.com

New Products

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

New radio glove

Cutting Edge Enterprises is proud to introduce a new Radio Glove pouch to protect your new VX-5 HT. Besides coddling your VX-5 in protective leather, it also solves a couple of complaints that VX-5 users experience. The story I've heard is that there just isn't a comfortable or secure place for the extra antenna tip with the radio. And then there's that silly belt clip that won't stay on your belt.

The Radio Glove has a sturdy spring steel belt clip that bites your belt like an alligator, with a leather covering that won't leave tooth marks. There is a perfectly sized pocket at the back of the pouch that securely holds either extra tip and keeps them right there with the radio.

And it's beautifully crafted, too. Nothing beats the feel or the smell of fine glove quality leather. The pouch's Velcro style closure provides easy access to the display. The PTT button is still fully accessible while the radio is in the pouch. The speaker holes are well placed for optimal listening. In fact, the leather seems to attenuate some of the high pitched speaker hiss inherent in this radio. This is the latest in Cutting Edge Enterprise's line-up of innovative radio pouches. This new radio glove can be used to hold the VX-500 receiver. Suggest retail price for the PowerPort VX-5 Radio Glove (part # HI-51) is $19.95. It's available from Cutting Edge Enterprises, 1803 Mission St. Suite 546, Santa Cruz, CA 95060. Call 800/206-0115 or e-mail cee@cruzio.com for more information.

VE Exams

As a service to our readers, ***Worldradio*** presents a feature listing of those VE exams, times and locations which are sent to us. Please remember that our deadline for publication is three months in advance. For example, if your VE group is scheduling an exam for December, please have the information to us by mid-September. ***Worldradio***, 2120 28th St., Sacramento, CA 95818. Please mark the envelope "VE Exams." List the location (City), any information examinees should have (advance registration, etc.) and the name and telephone number of a person to contact for further information. Examinees should bring their original license (along with a photo copy), two forms of identification (at least one should be a photo), and required fee.

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

State	City	Contact	Notes
Alabama			
3/07/00	Mobile	David, WA4AVC 334/649-5229	p/r pref
Arizona			
3/11/00	Tucson	Joe, K7OPX 520/886-7217	w/i only
Arkansas			
3/25/00	Gassville	Phil, AB5ZU 870/425-7406	p/r pref.
California			
Hotline	Carmichael	Info Hotline: 916/492-6115	w/i
3/23/00	Colton	Harold, AB6RN 909/825-7136 days 909/685-6073 eves	p/r pref.
3/04/00	Culver City	Clive, AA6TZ 310/827-2538	w/i pref.
3/25/00	Escondido	Harry, WA6YOO 760/743-4212	p/r only
3/13/00	Fremont	Dennis, K6DF 510/791-0914	w/i only
3/12/00	Hanford	Lynn, NW6K 209/582-5232	w/i only
3/05/00	Oakland	David, WB6NER 510/987-2867	p/r pref
3/25/00	Petaluma	Dale, 707/762-9414	w/i ok
3/11/00	San Pedro	Elvin, N6DYZ 310/325-2965	p/r pref.
3/04/00	San Rafael	Steve, AJ6Y 415/898-8123	w/i ok
3/11/00	Santa Barbara	Nancy, WR6V 805/967-4473	p/r pref.
Hotline	Santa Rosa	Hotline - Recording, 707/579-9608	w/i ok
Hotline	Sebastopol	Recording, 707/579-9608	
3/18/00	Stockton	Mark, W6DKI 209/465-7496	w/i
3/11/00	Sunnyvale	John or Gordon 408/255-9000	w/i only
Connecticut			
3/11/00	Newington	Dan, K3UFG 860/206-3379	p/r pref.
Florida			
3/09/00	Ft. Myers	Leonard, KC4GOA 941/694-2505	w/i
call	St. Pete	Mark, NP3R 727/528-0071	w/i pref.
Idaho			
3/11/00	Boise	Lem, W7JMH 208/343-9153	w/i pref.
3/22/00	Grangeville	Larry, AB7GY 208/983-2163	w/i pref.
Illinois			
Anytime!	Burr Ridge	Deni, W9DS 630/986-0061	p/r
3/11/00	Oak Forest	Dave, NF9N 708/226-1570	p/r pref.
3/18/00	Rockford	Rusty, WB9QYV 815/968-0080	w/i pref
Indiana			
3/25/00	Whitley Cnty	Henry, KB9CQO 219/244-7735	w/i only
Massachusetts			
3/18/00	Melrose	Scott, WB1F 617/665-7654	w/i ok
Michigan			
3/04,18/00	M Clemens	Don, WA8IZV 810/294-1567	p/r pref.
Nevada			
3/04/00	Henderson	Tim, WA6TNW 702/872-5268	p/r pref.
3/18/00	Minden	George, WW7E 702/265-4278	w/i pref.
New Jersey			
3/08/00	Ft. Monmouth	Mike, KC2Q 732/774-1095	w/i only
3/18/00	Pennington	Don, AA2F 609/737-1723	p/r pref
New York			
3/05,26/00	Lindenhurst	Tom, KA2D 631/422-9594	w/i
3/14/00	Long Island	Bob, W2ILP 631/499-2214	p/r pref.
3/05/00	Yonkers	Emily, AC2V 914/237-5589	w/i
North Carolina			
tba	Brevard	Harrison 704/877-4757 or 704/883-9096	
Ohio			
3/05/00	Cincinnati	Herb, WA8PBW 513/891-7556	w/i pref
3/05/00	Lagrange	Ola, WB8MOU 440/647-5116	p/r pref.
3/25/00		Robert, KA8IAF 419/795-5763	p/r pref.
3/16/00	Youngstown	James, W8JV 330/534-1394	p/r pref.
Oregon			
Call!!	Astoria	AA7OA, 503/338-3333	p/r
3/07/00	Bend	Joe, K7SQ 541/385-3152	p/r
Tuesdays	Bend	Bill, K7ZM 541/389-6258	p/r only
3/11/00	Dallas	Robert, W7LOU, 503/623-1141	p/r
3/08/00	Florence	Hal, N7HL 541/997-2323	p/r pref.
3/18/00	Gresham	Patsy, W7PAT 503/668-4305	p/r pref.
3/04/00	Lincoln City	Carl, K7EWG 541/994-3113	p/r pref.
3/08/00	McMinnville	Mike, W7MJ 503/864-3291	p/r
3/18/00	Newport	Phil, W7BFX 541/563-3866	p/r
3/16/00	North Bend	Steve, KA7A 541/756-6697	
3/12/00	Tigard	John, KS0F 503/626-7399	p/r pref.
Pennsylvania			
3/04/00	Erie	Norma, W3CG 814/665-9124	w/i only
3/20/00	Telford	Joe, W3PNL 215/723-6697	p/r pref
Rhode Island			
3/09/00	Providence	Judy, KC1RI 401/231-9156	w/i pref.
3/25/00	Slatersville	Bob, WB1P 401/333-4787	p/r pref
South Dakota			
3/11/00	Hot Springs	Lon, WSØV, 605/745-5929	w/i ok
Texas			
3/18/00	Austin	Jim, AB5EK 512/327-6184	w/i pref.
3/25/00	Brownsville	Bob, K5VC 210/542-7449	w/i
3/04/00	Harlingen	Frank, KG5W 956/412-5820	w/i
3/14/00	Houston	Harold, ND5F 713/464-9044	p/r pref.
3/18/00	Mission	Jeff, N5LOO 687-5161	w/i
Virginia			
3/11/00	Alexandria	John, WZ4A 703/971-3905	w/i
3/09/00	Chesapeake	Pat, AF4FR 421-9598	p/r
3/25/00	Virg. Bch	Melissa, KF4FBR 430-3848	p/r
Wisconsin			
3/25/00	Appleton	George, W9MDP 920/730-0967	

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K8CX HAM GALLERY http://paradox2010.com/ham/. Largest Ham site on the Internet! THOMAS ROSCOE, RD #2, Brookfield, OH 44403. 599-500

FOR SALE: CQ/Ham Radio/QST/73 magazines and binders. SASE brings data sheet. W6DDB, 45527 Third Street East, Lancaster, CA 93535-1802. F00

WANTED: HAM EQUIPMENT AND RELATED ITEMS. Donate your excess gear or related items, new-old-in any condition-to the Radio Club of Junior High School 22, the Nation's only full time non-profit organization working since 1980 to get Ham Radio into schools around the country as a teaching tool using our EDUCOM - Education Thru Communication. Send your radio to school. Your donated material will be picked up anywhere or shipping arranged and this means a tax deduction to the full extent of the law for you as we are an IRS 501(c)(3) charity in our 19th year of service. It is always easier to donate and usually more financially rewarding, but most important your gift will mean a whole new world of educational opportunity for children nationwide. Radios you can write off, kids you can't. Make 2000 the year to help a child and yourself. Write, phone or fax the WB2JKJ "22 Crew" today: The RC of JHS 22, P.O. Box 1052, New York, NY 10002. 24 hours, call 516/674-4072; fax 516/674-9600; e mail crew@wb2jkj.org; internet: www.wb2jkj.org. Join us on the WB2JKJ Classroom Net, 7.238 MHz 1100-1230 UTC daily and 21.395 MHz 1400-2000 UTC. 1-400

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Jim Haynie, W5JBP, new ARRL President

Rick McCusker, WF6O

In a telephone conversation with Jim Haynie, W5JBP, the new president of the ARRL, on 31 January, I asked several questions sure to be on the minds of most Hams.

WR: What can ARRL members expect from the new president and the ARRL?

JH: We can provide better service, we can treat people better when they call in for a book or ARRL assistance.. we need to be more people oriented. Not too long ago I referred to our members as 'customers.' I got some dirty looks for that, but in fact, ARRL members are our customers, and we need to treat them much better than they have been.

WR: What are your immediate plans?

JH: "I have a trip scheduled for the first week in March to visit some congressmen I know to explain to them what Amateur Radio is all about. Amateur Radio is a valuable asset, and they need to be reminded of what Amateur Radio can do.

WR: You've been a Ham for several years. What do you find so interesting with this hobby?

JH: "I have stayed with it for 27 years, I've enjoyed it, and the people I've met. I've had several hobbies in my life, but Amateur Radio is the one I have stuck with. To me, it's a great equalizer. You never know who you are going to meet. I've met CEOs and people who are blue collar workers. I sat at a luncheon with the president of TU Electric, the electric utility company in Texas. I've met with doctors, lawyers, truck drivers and construction workers. You just never know who you will meet."

WR: Some amateurs are complaining that the ARRL didn't listen to them when it comes to restructuring and blame the ARRL for the "dumbing down" of Amateur Radio.

JH: "I feel sorry for people who say we are 'dumbing down' Amateur Radio. People are just not used to change. Just because the CW requirements will be reduced to 5 wpm doesn't mean it's being dumbed down. It's an acquired skill. When I got my license they should have tested on RTTY. Everyone was using that mode, but they didn't test on it because it's an acquired skill.

WR: What about the problem in getting young people interested in Amateur Radio?

JH: "I would like to see Amateur Radio in every middle school. We could teach the kids electronics, physics, social communication skills and much more. If they went on to become Hams we could help them get started. When a young person gets involved, they don't need a station setup costing $4,000. Less than $1,000 will get you started with a great station.

"Today, most of the gear is surface mount technology, so you really have to have a good setup to work on a newer radio. But the older stuff like the Kenwood 520s or Yaesu 101s will be around for a long, long time. When people say the internet is pulling away the youngsters, they just haven't taken the time to show what we can do. My 10-year- old grandson can use the internet, but he can't do what I do with Amateur Radio."

WR: What do you see in the near future for Amateur Radio that's going to boost our recognition by the public?

JH: "Since I'm a satellite operator, I am really looking forward to Phase 3D and the International Space Station coming on line. It's really going to get some people interested in working new modes."

WR: I've seen several letters and e-mails about getting volunteers involved in more public events, but the volunteers are not there. Can the ARRL help?

JH: "The league can't solve all of the problems with AR. It's got to be done on a local level. But, you know, I can't find volunteers here in Dallas. It seems to be a problem across the country. There are lots of schools just crying for someone to come in and demonstrate AR, but I just can't find the bodies to do it.

WR: How about the league helping us out in other areas, such as the numerous antenna lawsuits taking place around the country?

JH: "We are going to select some of these lawsuits about antennas, and we are going to win some. We can't take them all, but we will win some this year."

WR: Can ARRL members talk directly to you?

JH: "They sure can. I've listed my phone number for years and have encouraged anyone to call me with a problem.

WR: Can we publish your number?

JH: "It's 214/366-9400, and I'll be glad to talk to anyone."

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