Emergency Communications • Public Service • International Friendship

Worldradio

Year 26, Issue 9 March 1997 • $1.50

Dennis Merritt, WB6UBH, Roy Rudebaugh, KE6LLE, and Bob Chan, WB6JAH, work at the RACES Operations center at Sacramento's Firehouse #70. ***—photo by KB6HP***

Hams help in massive floods

The beginning of 1997 saw Amateur Radio called upon to assist in a number of locations in the northwest United States when flooding devastated much of the region. Large portions of these states had seen record-breaking snowfall in earlier weeks. When warm, heavy rainfall from the Pacific called the "Pineapple Express" then struck the region, widespread flooding resulted.

Amateur Radio Newsline reported the following: "Ham radio continues assisting in flood recovery efforts in the Northwest, including Oregon, Washington and Nevada . . . . When long distance phone service failed to the Ashland-Grants Pass vicinity, Amateur Radio took over, linking the county via HF with the state emergency operations center in Salem. Oregon Section Emergency Coordinator Lew Williams, WD7NML, said Jackson and Josephine counties were the hardest hit. In Jackson County, amateurs helped provide communication at shelters and also pitched in during sandbagging operations . . . .

"In Nevada, Dick Creley, KJ7UK, of Gardnerville says that hams were activated on New Year's Day. They provided secondary communication for the Douglas County Sheriff's Department, the Emergency Management Office and two shelters that housed some 50 residents. Approximately 30 amateurs in Douglas County and Carson City put in a total of 350 work hours. Creley says that damage was extensive, and the cities of Minden and Gardnerville were isolated.

"Bruce Pfeiffer, N7CPP, of Carson City said telephone service remained in operation, limiting the need for ham radio communication support. His wife, Sue, N7PRF, and Reed Ross, W7HOP, manned a station at the Carson City EOC, while he and Jo Ann Paul, N7MBM, manned a station at a local Carson City shelter . . . in Yerington, Nevada, 17-year-old Carrick Dunn, KB7OBE, provided the only communication link between his town and the outside world."

Yuba-Sutter floods

Ron Murdock, W6KJ, sent ***Worldradio*** the following report.

"Just a few days before Christmas, I sent our club newsletter editor the President's message for January's newsletter. In it I said something about keeping batteries charged and emergency equipment in readiness, because the next disaster is 'just around the corner.' How ironic.

"'The Pineapple Express,' as unseasonably warm rainstorms that arrive in Northern California are called, began dumping too much rain and snow melt runoff in our major rivers. Forty miles north of Sacramento, California as the water level in the Feather River approached the mandatory evacuation level (77' at the 5th St. Bridge) we Marysville and Yuba City amateurs were already putting our training and other preparations to use. On New Year's Day, we began around-the-clock manning of the Emergency Operations Center at the Sutter County building in Yuba City. A position was established to use a dual-band 2m/70cm portable station, and we began taking check-ins from hams who might be able to help.

"As usual, we had people who offered assistance and check in from out of our area who were never heard from again. The rapidity of developing situations like this dictates that once you take care of your own safety and that of your family, you barely have time to volunteer left-over hours. We knew we were going to need help, but didn't really know where to send people volunteering from the outside. Balancing the ones we didn't hear from again, were those from whom we first heard as they were on their way to help. Fantastic! Before we

(please turn to page 10)

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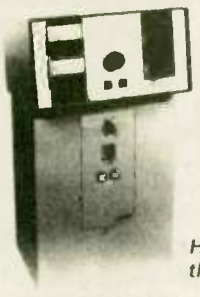

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NEWSFRONT

Worldradio

Some information has been supplied to *Worldradio* Newsfront courtesy of *Newsline*.

All say "yes" to Morse code

The American Radio Relay League says that the Morse code must stay. A special committee created by the ARRL to study issues relating to the 1999 World Radiocommunication Conference has recommended that the ARRL Board of Directors not support changing the treaty requirement for Morse code testing to operate below 30 MHz.

The Committee's findings could wind up playing an important role in whether the US recommends keeping Morse code as a requirement for Amateur Radio license privileges below 30 MHz. The US will make its recommendation during the World Radio Conference '99. At the same time, other countries are already on record as wanting the Morse code requirement removed.

According to surveys conducted by a special ARRL Committee, US radio amateurs want to keep the code. The Committee counted responses from about 10,000 League members answering the survey in *QST* magazine. A second survey, this one targeted at about 2,000 amateurs, was also conducted. The results of both surveys matched closely. Among League members, 62% say keep the code, while 30% say drop it. The surveys covered hams in all license classes, including VHF-only users. *—tnx ARRL*

ARRL supports reciprocal operating

The ARRL says that it is time to make it simpler for hams to operate worldwide and is asking the FCC to act. In comments filed in response to a Commission proposal to ease restrictions for visiting foreign hams to operate in the United States, the ARRL said it "heartily supports" the plan.

Earlier this year, the FCC proposed amending its rules to make it easier for hams holding a European Conference of Postal and Telecommunications Administrations, or CEPT radio amateur license, or an International Amateur Radio Permit from certain countries in the Americas, to operate during short visits to the US. If approved, amateurs would be able to operate for short periods in participating countries without first obtaining another license or permit from the host country. This arrangement would make it easier for United States licensed radio amateurs to operate stations temporarily in several countries in Europe, Central and South America.

The ARRL has also suggested some changes to the FCC proposal. The principal one recommended involves the length of time foreign holders would be allowed to operate in the US. The FCC had proposed extending operating authority for up to 180 days within the preceding five years. The League says that this limitation is unnecessarily restrictive. It suggests that such reciprocal licenses be valid for use by the holder for a period up to one year, from the date of arrival in the US but not beyond the expiration date of the amateur license issued by the visitor's home country. *—tnx ARRL*

Readers needed by HANDI-HAMS

The Courage HANDI-HAM Center needs volunteer readers to record Amateur Radio books and publications on audio tape. Volunteer readers provide a valuable service to persons with severe physical disabilities and sensory impairments who cannot use regular printed books.

Volunteers should hold an Amateur Radio license and be familiar with hobby terms and expressions. A clear-speaking voice and the ability to read the written text of Amateur Radio books and describe the diagrams and pictures are essential.

This volunteer work can be done at home and at your own pace as long as there is a quiet place to read. For more information please contact:

Courage HANDI-HAM System
3915 Golden Valley Rd.
Golden Valley, MN 55422

or call 612/520-0515. They also have e-mail: handiham@mtn.org
—via HANDI-HAMS

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Worldradio (USPS 947000) is an international conversation. You're invited to participate.

Our goal is to be a valuable resource of ideas and experiences beneficial to the Amateur Radio community. We publicize and support the efforts of those who bring the flame of vitality to this avocation. You readers are participants — an alliance of active radio amateurs concerned with reality, using radio as a communications tool to develop the skill, quality and full potential of Amateur Radio.

We emphasiae the positive aspects of this great activity, and desire your contributions dealing with dramatic, personal and humanitarian uses of Amateur Radio. Articles for consideration may be submitted through the U.S. Postal Service or e-mail to kb6hp@ns.net

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Publisher's Microphone

NBC-TV just spent three hours on the Golden Globe awards. Receiving honors were those actors who make a living pretending to be people other than who they really are.

On the other hand, we honor those who are quite content to be themselves and with good reason. For they are the ***Worldradio*** Super-Boosters (lifetime Subscribers):

•Francisco Lopez, WP4JAR, San Juan, PR

•William Free, N3TG, Fairfax, VA

•Henry Kobler, K2ZEG, Deland, FL

•Darrell Borders, AA9OM, Portland, IN

•James Spivey, W5GBE, Converse, TX

•Donald Jefferson, KC6OCA, Santa Ana, CA

•Russell MacKenzie, KN6JZ, Santa Cruz, CA

•

BUCKMASTER has a CD-ROM with over a million call sign listings. There are great many features such as longitude and latitude, grid square, and on and on. The one that I find very interesting is the ability to select by the post office ZIP Code.

First, a quick explanation of ZIP codes. The first three numbers are the Sectional Center Facility. There are about 850 of those. So you could say the PO has divided the country into 850 areas. The last two numbers identify your very own neighborhood post office. There are about 35,000 of those. So you could say the PO has sliced the whole country into 35,000 tiny bits.

When I plugged my ZIP code, 95818, into the system I found 38 amateurs. I've lived in the same house for over 25 years and have never met, heard of or seen most of them. And that's a little sad.

I would imagine that your situation is the same. It would be truly great if some amateur in each ZIP would take it upon himself to send a card to every ham in that ZIP and invite them to a Saturday lunch or coffee get-together. Every neighborhood has a restaurant with a meeting area or private dining room.

A postcard based on the local idea might pull a few hermits out of the house. It could bring back those who have neglected Amateur Radio. You could meet good people that you never knew before. It could turn into a monthly get-together of hams who have something in common. They are all practically neighbors!

BUCKMASTER is at Route 4, Box 1630, Mineral, VA 23117, 540/894-5777.

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Earlier this month the *Los Angeles Times*, on the front page of the Sunday paper ran a major story on math education in the US.

They pointed out that while the eighth-graders in Belgium, Japan and Singapore were on the honor roll, American children were getting a C minus.

The article's writer said "our math instruction oscillates between the same poles that shape and reshape our culture, politics and even our morality. We're torn between discipline and liberation, between demanding performance and promoting self esteem." He went on to say, "The mood of the moment places greater value on getting kids to feel good about math than on improving their test scores."

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The topic of whether amateurs going to a rare spot for a DXpedition should be given DXCC credit themselves for that location is coming up again. The idea has always been voted down before. So, unless it is arranged that another amateur goes to the home station of an operator that is at the rare location and makes the contact, the intrepid DXer has to wait maybe 10 years until some other group goes there.

During the last Sweepstakes, just by happenstance, I came across (in the very late hours of the contest) a good friend of mine giving a Delaware contact thanks for the Clean Sweep as Delaware was the last section he needed. The Delaware station responded rather plaintively in telling that he himself did not have Delaware in his log.

In another Sweepstakes year, a US team went to VE8. They were the only VE8 station active. As there was no other VE8 station for them to work, it would have been impossible for them to have a Clean Sweep. They made the section available. Without them there would be no Clean Sweeps for anyone and they are themselves deprived of the honor, and that seems a little unfair.

Allowing DXCC (or other) credit in exchange for the effort to put rare places on the air seems a decent reward. *—Armond, N6WR*

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Specifications subject to change without notice. Specifications guaranteed only within amateur bands. Some accessories and/or options are standard in certain areas. Check with your local Yaesu dealer for specific details. *Cellular blocked

Two-Meter DFing with an IC-706

Joseph Sabutis, NWØA

I was under the impression that pinpointing the source of a radio transmission involved years of practice and some sophisticated radio and antenna equipment. I have also heard this story about an amateur who really enjoys radio direction finding: After driving his brand-new minivan off a car dealer's lot, he immediately drilled a series of 4" holes through the roof for positioning his array of direction finding (DFing) antennas when he got the vehicle home! Maybe exaggerated, but DFers are a very dedicated group of people indeed.

I have nothing against DFers. It is just I am not as "into" their hobby as they are. I would be embarrassed to drive around town with a 10-foot quad antenna sticking out of my truck's roof. But in tribute to their skills, you often hear stories of how amateur DFers quickly found a jammer operating on a local amateur, police, fire or aircraft frequency. There are times when one wishes that they had a knowledgeable DFer around together with their equipment. Last October was such a time for our Crescenta Valley Radio Club.

Jammers upon us

It started Thursday, 10 October 1996. An unmodulated carrier was being transmitted on the output frequency of our club's 2-meter repeater. No voices, no PL, no sounds at all but a dead carrier. It seemed that the carrier was sent randomly. The offending transmitter was keyed the same amount at times when club members were using the repeater as during times of inactivity. The signal was heard as early as 4:30 a.m., the time when I get up, and throughout the day. I was told by some insomniacs who monitored the repeater that the carrier was heard all night. We had an equal opportunity jammer.

The main advice from Repeater School 101 is: "Ignore the jammers and they'll go away." Well after more than a week of ignoring the problem, it didn't. Things started to happen when some members of the club became irritated with the situation. I was able to recognize a pattern in the transmissions, 8 minutes on and 8 minutes off. Another club member, Dave KE6KOZ, with a 2-meter beam and rotor on his roof, tracked the signal strength at his location and reported an S9+ signal to the northeast and southeast, and an S7 signal to the southwest. With the mountains surrounding the Crescenta Valley, we were experiencing a radio "hall of mirrors."

I plugged a tape recorder into the output of my scanner and recorded two days worth of jamming transmissions on the frequency. Reviewing the audio tapes, voices appeared randomly and very faintly: An operator asking for a radio check, ambulance and helicopter traffic, people ordering lunch, amateurs crossbanded from the 440 band, people discussing prices of something I could not make out and someone asking if a trash can was empty.

Icom-706 to the rescue

Communications on the repeater were nonexistent. Whenever a conversation began, it was only a matter of time before the jamming would start. There were really no clues who was broadcasting the signal or where it was coming from. What we needed was someone skilled in DFing techniques to come out and help us. The problem was no one in the club knew of anybody that had the proper equipment, you know, the minivans with holes drilled in the roof for the antennas needed for real DFing.

Some club members decided that we should try to locate the jamming signal, but we concluded that because the signal was S9+ at many places in our city we would need a signal attenuator in the antenna line. The trouble was that no one had one, and the local swap meet where we could pick up an attenuator was not until the end of the month, still weeks away.

I was working at home on Friday, 18 October, and it suddenly occurred to me that the ICOM 706 I owned had a feature not found on most 2-meter FM radios. Since the 706 combines an HF and VHF receivers, it can switch in a 10 dB amplifier or a 20 dB attenuator *even in 2-meter FM mode*! I decided that I could extend the capabilities of the amplifier/attenuator button by adding an antenna A-B switch and connecting the A-output to my truck's outside antenna and the B-output to a rubber HT antenna placed on the dashboard.

Getting the signals

Starting with the outside antenna and preamp "on" combination, the strength of the received signal could be lowered 5 times by turning the preamp off, then turning on the attenuator, and repeating the preamp-on/off, attenuator-on settings with the HT antenna.

I started out with the IC-706 and the two antennas and noted the signal at my location; S9+ with the outside antenna and preamp on, S5 with preamp off, and no signal with the 20 dB attenuator on or with the HT antenna in line. I headed north with the outside antenna and preamp on. About a mile north and 2 miles west of where I started the signal dropped to S4 with the outside antenna and preamp-on, so I figured I was going in the wrong direction. I headed south to the downtown business district, having to stop and park every 8 minutes because the jamming signal would disappear. I used the down-time to enlist help from people on the repeater to give signal reports from their location. After 8 minutes the jamming renewed and I was again on my way.

In going through the downtown area, the signal was S7 with the outside antenna and 20 dB attenuator-on combination. At one point it reached S9+ and I knew it was time to switch to the HT antenna. With the rubber duck and preamp on, the S9+ signal fell to S5. I lost the signal going west, so I turned south. At one point the signal rose to S9, at which I turned the preamp off. Without the preamp the signal fell to S5, but was rising as I continued south. As I passed a certain intersection, the signal rose to S9+ and stopped. I managed to park in a nearby supermarket parking lot and patiently waited the 8 minutes before the signal came back. I think more than one shopper wondered what I was doing parked in the lot with all the antennas, radios and

wires in and on my truck.

The signal finally came back on and I narrowed the search to a particular block where the HT antenna and 20 dB attenuator "on" combination produced an S9+ signal as I drove around the perimeter. I parked the truck and started to walk around with a HT without its antenna. Two places had S9+ signals on the antenna-less HT, near the local Red Cross Chapter and near an adjacent city hospital.

Asking for help

I first checked the Red Cross because I knew where the radio room was located and it seemed easier. All the radios and power supplies were turned off. I then went over to the hospital and walked up to the information desk. I explained to the very pleasant volunteer at the desk that I was an Amateur Radio operator and had traced an errant radio signal to a location near the hospital and was hoping that there might be someone around who could check their radio room. I suggested she call security or engineering, because either one might have knowledge of where an Amateur Radio may be. The volunteer called security and was told to have me contact engineering. I was given the number of the engineering office and pointed to a phone I could use.

I called the number, again identified myself as a local Amateur Radio operator and had traced a radio signal that was interfering with our repeater to a location near here. The lady told me that she could not help me. I then explained that the illegal signal could cause problems if the FCC got involved and imposed a fine. Again, I was told she could not help me. After I asked if any of the engineers knew of a place where an Amateur Radio transmitter would be kept in the hospital, I was informed that I was "asking inappropriate questions" and security would have to be called.

After a little wait I was met by a gentleman from security who was a lot more helpful than the lady in engineering. He said yes, they did have an Amateur Radio and it was located in a locked closet in a conference room. He assured me that only security personnel had keys to this closet, so he did not believe that the signal was coming from the hospital. I asked him if we could check so I could be certain that I needed to go somewhere else and look. He agreed.

We went to a conference room on the far west side of the building where, of course, a lunch conference was being held. The security gentleman was reluctant to interrupt what was going on in the room and assured me that he would check immediately after the meeting was over. Just then the jamming signal again started and I showed him my antenna-less HT with an S9+60 signal and reminded him of recent FCC fines for radio interference. He asked me to wait outside the conference room while he went in. After excusing himself to the people in the conference room, he went over the closet and the signal immediately stopped.

His first words as he came out of the room were "That radio was sure hot!" He did not say how the transmitter got turned on or what kept it keyed, but said he would look into it. I suspect that the microphone's PTT switch got wedged in the "on" position, and the radio automatically stopped transmitting when it got too hot — and started again when it cooled down. When the radio was on, it transmitted what was going on in the conference room, which may have been many different activities.

The point of this story goes further than using a IC-706 for DFing. Nobody in our club knew if the suspect hospital even *had* a radio room. It would have been useful to know where amateur radios were kept as emergency communications options in the various hospitals in our city, along with the name of a person to contact if trouble ever arose.

In Southern California, Amateur Radio is often used for backup emergency communications and almost every hospital, fire station, Red Cross building, YMCA and some police locations have Amateur Radio installations. It would save time in the long run for your club to survey these types of places in your city and ask about possible Amateur Radio installations.

If there is a radio room, note who is the trustee, what the station's call sign is and who may be contacted if trouble, such as an unintentional signal, ever appears. While doing this, you could promote the services of your club to help operate the radio room in times of emergency.

But if you ever need to VHF DF on a moment's notice, an ICOM 706 and a rubber duck may prove useful. Happy DFing! WR

E-mail:
w4zc@macconnect.com

FCC delays new RF exposure rules

Worldradio printed the FCC's announcement concerning the postponement of enforcement of the RF exposure regulations on the back page of last month's issue. The ARRL Bulletin number 102 had the following to say about that decision. "Just in time for Christmas, the FCC has postponed the date for hams to comply with the new RF-exposure regulations from January 1, 1997, to January 1, 1998. The ARRL was among those requesting the delay. The League said that the additional time was needed for the FCC to draft implementation guidelines and for amateurs to use them to comply with the regulations (released on August 1, 1996 as ET Docket 93-62).

"FCC Report No. DC 96-112 announced the amendment of the rules to extend the transition period for licensees to determine compliance with the new bioeffects requirements for RF transmitters....

"The time extension to January 1, 1998, will allow changes to Amateur Radio operator examinations to be made along with routine revisions between now and July 1, 1998, rather than requiring hurried special revisions. Among the reasons for requesting the extension was the desire to permit licensees to make a more orderly entrance into this new area, to allow time for information to be promulgated to hams to ensure that they have the information at their disposal to comply with the new rules, and to allow time for appropriate questions to be inserted into the question pools for the various amateur license exams.

"In Report No. DC 96-112, the FCC said it disagreed with those petitioners who suggested that the time extension 'will have significant adverse effects on public health.' The entire text of Report DC 96-112 may be found on the ARRL Web at http://www.arrl.org/fcc/dc96-112.html (or click on What's New or RF Safety News)."

Support of HF CW requirement

The ARRL reported the following results from inquiries submitted to its members in late December. "The special committee created by the ARRL to study issues relating to the 1999 World Radiocommunication Conference (WRC-99) has recommended that the ARRL Board of Directors not support changing the treaty requirement for Morse code testing to operate below 30 MHz. The committee submitted its final report to the ARRL Board this week.

"The committee report contains recommended ARRL positions regarding possible changes in Article S25 of the international radio regulations. Consistent with the results of a survey of ARRL members, the committee recommended no change in the existing treaty obligation that administrations test prospective amateur licensees on their Morse code ability before authorizing them to operate below 30 MHz. The committee did support changes to Article S25 that would:

Eliminate the so-called "banned countries" list

Establish that providing communications in the event of natural disasters is a normal and desirable part of the international service provided by radio amateurs.

Reduce restrictions on international communications on behalf of

Amateur Radio Call Signs

The following shows the last call sign in each group to be assigned for each VEC Region under the sequential call system as of 3 January 1997.
For more information about the sequential call sign sytem, see Fact Sheet PR5000 #206-S dated August, 1996, or contact the Federal Communications Commission, Consumer Assistance Branch, 1270 Fairfield Road, Gettysburg, PA 17325-7245, toll-free 1-800/322-1117.

Radio District	Group A Am Extra	Group B Advanced	Group C Tech./Gen.	Group D Novice
Ø	ABØDT	KIØFZ	KBØZHO	
1	AA1RJ	KE1GR	N1YJC	KB1CAD
2	AB2CX	KG2JT	KC2AON	
3	AA3PF	KE3YN	N3YNM	KB3BRK
4	AE4ZS	KU4AA	KF4OET	
5	AC5KZ	KM5FW	KC5YLE	
6	AC6ZG	KQ6MB	KF6IER	
7	AB7TP	KK7EC	KC7UAL	
8	AA8YX	KI8AJ	KC8FSM	
9	AA9TR	KG9IJ	KBPHE	
N. Mariana Is.	NHØA	AHØAW	KHØFS	WHØABF
Guam	*	AH2DC	KH2RI	WH2ANR
Hawaii	AH7H	AH6OX	KH7CI	WH6DCW
Amer. Samoa	AH8O	AH8AH	KH8DC	WH8ABF
Alaska	**	AL7QT	KLØCR	WL7CTY
Virgin Is.	WP2X	KP2CJ	NP2JO	WP2AIH
Puerto Rico	KP3V	KP3AO	NP3JD	WP4NMT

*All of the Group A call signs for Guam have been assigned. Any request for a Group A call sign will now be assigned a Group B format. **2x1 call signs are available for this group.

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third parties.

Aid in the establishment of an "International Amateur Permit."

"The committee report also responded to the Board's request that it study possible changes to the amateur licensing structure in the United States. The committee offered some proposals for change, but recommended that the Board take no action on this part of its report until the committee's proposals are shared with the membership and there is an opportunity for member comment."

Antennas vs. local ordinances

A friend of ours, Jim Harding, K3DRJ, La Plata, Maryland, contributes the following: "Some friends and I were sitting around discussing this subject and one told the story of a man who had a TV antenna located in his attic. The neighborhood association got wind of this and was able to force him to remove it. Something about a blanket statement stating no antennas to be installed, (not stating outside the house).

"I personally find this hard to believe but, on the other hand, there are some strange writings in some covenants/restrictions. When I shopped for a new home, I only looked in older developments that didn't have restricting covenants." Thanks, Jim **WR**

floods

(continued from page 1)

were done, we had EOCs in two counties, a Red Cross control point, and fourteen shelters manned.

"From among our stalwart local ops, several names stand out in those early hours. Clarence Bush, W6GCM, had just that day had a cast removed from one foot he had seriously injured in December. He operated from the back seat of his car in Sutter, California while evacuated from his home in Yuba City. Clarence is 84.

"As with the 1986 flood disaster in this same area, Jerry Manford, N6DDP, was there to take shifts as Net Control at Sutter OES. When the mandatory evacuation order was given, he picked up our station and reopened an hour later at Sutter County firehouse #6, the alternate EOC.

"Dave Gartner, WD6AXM, famous for the Sutter Butte's repeater operated by the Yuba Sutter ARC, was volunteering as a fireman, and helped get the antenna up at the new location. Barry Barnes, KE6LW, until recently the longtime EC of Yuba and Sutter Counties, was again at the mike, relieving N6DDP and Ron Murdock, W6KJ, as NCS.

Len Morgan, K6LUQ, smiles for the camera at the animal rescue site. ***—photo by KD6SPF***

"Carl McGregor, KE6VUC, was one of the pleasant surprises in this operation. He took on the vital task of Red Cross control center liaison at Sutter High School and did a superb job without prior experience. The Red Cross does wonders but completely overwhelmed the meager telephone support they had there in the first few days. There was just too much to do. Shelters in the town of Sutter, California could hold a planned population of 1,000. 17,000 people arrived before the town was closed and the overflow evacuees were sent west to Meridian and Colusa. Ken Taylor, KN6WZ, and Lee Sheffield, KC6MCI, took turns relieving Carl.

Two other amateurs do merit special mention. Paul Johnson, N6XVL, and Robby Robinson, N6PGK, were under unusual stress manning the position outside the Yuba County EOC. Conditions in Yuba County were almost overwhelming, yet both of these troops did an outstanding job under almost panic conditions as the levee failed south of Marysville, and an emergency evacuation was conducted.

"I mentioned amateurs coming in from outside the area. Ron Boothe, KE6PUG, drove from Sacramento to the Colusa Indian Bingo shelter site to provide our communications link. Richard Ryan, WB6HNC, of Roseville, CA, drove even further to give us relief at Meridian, before the levee south of there failed, leading to the evacuation of that town, too.

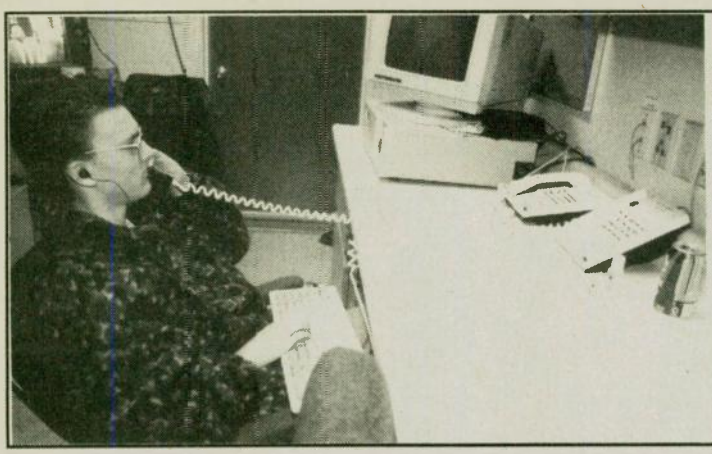
"I know that simply listing all these wonderful people is insufficient thanks. When next you meet someone who helped our communities when we needed it most, please, shake a hand, give them a hug, and say, 'Thanks, we in Yuba and Sutter Counties appreciate all you did for us.'" Ron enclosed a list of 67 Amateur Radio operators who participated.

Here at home

Worldradio's home is Sacramento, California, a city that is surrounded by rivers and an extensive levee system, so a story about the New Year's flooding can be told on a more personal basis — we were in the middle of a story that happened all around us, and so we can give our readers a close-up view of how the local Amateur Radio community responded.

Tim Tribble, KC6MDV, Sacramento City Fire Reserve RACES event coordinator was notified by the Fire Department Coordinator Jonathan Williams at noon on 27 December to "go operational." At 12:10 p.m., the station was on the air. From that point until released from duty on 5 January, no fewer than ten hams were "ready to go" at all times.

In addition to the operations center, the group staffed posts which included: A fire department mobile command center which had Ama-



Norman Harebottle, III, KE6NUB, 16, operates the computer and handle the phones for the RACES station. —*photo by KB6HP*

teur Radio equipment on board; the Sacramento Urban Search and Rescue group, who had two amateurs standing by for their use at all times; and, additional Sacramento and Los Angeles search and rescue teams billeted at McClellan AFB. The Los Angeles group arrived in the capitol city as part of a mutual aid agreement.

The RACES operational center also served as a clearing house at times, fielding requests for information about other frequencies such as: "Where is the Red Cross operating now?"

After a few days of operations, primarily on the N6ICW two-meter repeater which is a wide coverage machine, traffic would come in "bunches." Norman Harebottle III, KE6NUB, 16, worked with his parents (Julie, KF6CXN, and Norman, KE6TCM) on one overnight shift, and he described the experience as "periods of silence followed by chaos."

At the Red Cross

Meanwhile, the Red Cross and their hams had been preparing for just such an emergency. Jeff Snively, the local chapter director is a non-ham who recognized the value of Amateur Radio. As a result, the equipment was made available, and Jim, KD6SWW, spent his Christmas vacation time setting up the equipment just before the disaster hit. The station consists of three VHF stations, an HF station, a station on the Red Cross 47 MHz frequencies, a television monitor and a VHF/UHF scanner. Combined with a trailer that holds a 75' tower, they were indeed prepared.

When the National Red Cross came to town and coalesced their operations, they operated from a Grange Hall in the nearby town of Orangevale. The telephone company wired up a drop giving them 10 outside lines. They needed those lines inside, however, so who did they call upon? The hams, of course! Bob Balthrope, KD6WTY, assisted by Ben Guera, KE6HYZ, installed the internal telephone system. Ron Holden, KG6XX, secured the mountain top sites for the 800 MHz Red Cross repeaters. Jack Feley, KE6BOT, a representative of the National Red Cross, found a well-functioning team in place when he arrived on the scene.

The local hams also set up a dispatch system for the Red Cross which allowed truck drivers arriving with supplies to save time and resources by always knowing where they should go, and to whom supplies were to be delivered; a service for which the tired drivers were very grateful.

What about the animals?

When people have to leave their homes in a hurry, the family's pets or livestock can't always make it out with them. Stranded and lost dogs, cats, cattle, horses, goats, sheep, and just about every other creature imaginable can find themselves in big trouble, too. Who can help? The Emergency Animal Rescue Service helps. The group secured the Placer County fairgrounds, a facility with large barns for small animals, and corrals for the horses and cattle and other large animals, which became the center for rescued animals. Communications for the animal rescue headquarters was provided by Amateur Radio, of course. Len Morgan, K6LUQ, was the primary operator, and he was on duty day after day.

Hundreds of animals were located by their missing families; those whose owners had not claimed them have since been given foster homes.

Is it over?

As this is written, the last of the levee breaks has been closed. In California, eight people died, and thousands of homes and businesses were lost, and 44 counties have been named as Federal Disaster areas.

As the survivors return to try to rebuild their homes and lives, it would be nice if they knew just how much help had been given to them by a large group of unsung heroes: Amateur Radio operators. WR

Amateurs who provided support during the floods

Yuba/Sutter Counties

K6EPH	KE6BLL	KO6GS
K6HDE	KE6EIY	N6DDP
KA6FFM	KE6HLU	N6PGK
KA6KAJ	KE6JNT	N6XVL
KB6WID	KE6KMD	N6YLO
KC6JPP	KE6LW	N6ZCG
KC6MCI	KE6VUC	NG7X
KC6OMX	KF6CXJ	W6GCM
KD6DFY	KF6CXL	W6HBU
KD6DHR	KF6EIN	W6KJ
KD6HNR	KF6FBW	WA6ZZK
KE6AX	KN6WX	WB6GCL
KE6BEK	KN6WZ	WD6AXM

Sacramento, Butte, Colusa and Nevada Counties

K6LGH	KD6RXX	KM6RH
K6MGI	KE6DJE	KO6JQ
K6QIF	KE6EOB	N6CVF
KA6LNC	KE6KKT	N6SML
KB6SX	KE6LGG	N6YYK
KC5LUB	KE6LRI	W6GFK
KC6NXG	KE6PUG	W6LTI
KC6RUO	KE6TWR	W6SIG
KD6EVS	KF6IDO	WB6HNC
KD6PSV		

Operators at State OES

KA6VHF	KE6MFF	N6XYI
KA6WQE	KQ6AW	WA6EQQ
KB6RIH	KQ6LW	WA6GUT
KC6ZKZ	N6MPH	W6WWW
KC5ZWR	N6WCV	WS6K
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Lighted Cross-Needle Meter reads SWR/forward /reflected/*peak*/average power in 2 ranges. Current balun reduces feedline radiation and forces equal currents into unbalanced antennas.

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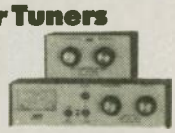
New MFJ-945E now includes 6-Meter operation and has tuner bypass switch. Small 8x2x6 inches uses little room. Lighted Cross-Needle SWR/Wattmeter with lamp switch. 1.8-60 MHz. 300 watts PEP SSB. **Mobile mount,** MFJ-20, $4.95.

MFJ's 6 Meter Tuners

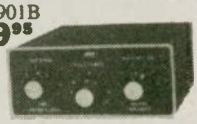


The MFJ-906 has lighted cross-needle SWR/Wattmeter, bypass switch. Handles 100W FM, 200W SSB. For coax fed antennas. MFJ- 903, same as MFJ-906, less SWR/Wattmeter, bypass switch.

MFJ-903 **$49.95**

MFJ-906 **$79.95**

MFJ's smallest Versa Tuner



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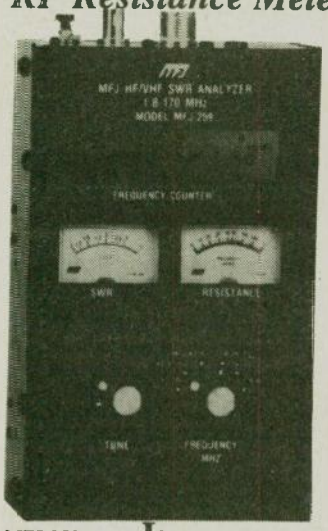

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Just plug in your coax to find the SWR of any HF antenna on any ham band 10-160 Meters. Has jack for external frequency counter. 7½x2½x2¼ inches.

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2 Meter *SWR Analyzer*™

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How to work the MIR 440 repeater

Jim Naczek, KB9LTW

Have you heard of the MIR 440 repeater? If not, you're about to learn about an exciting mode of operation. Using a low power FM UHF transceiver, 10 to 25 watts, and a simple beam antenna on a TV-type rotator, you can work stations all across North America. It's fun, easy, and exciting.

History

Let's start our adventure with a little history. The MIR Space Station was launched in 1986 by the then Soviet Union. It is the largest manned spacecraft in orbit. The space station has carried a 2-meter packet station for a number of years. Earlier this year it was fitted with a 70cm station. This new equipment can be configured to operate in several modes. Currently it is configured as a FM repeater with a "footprint" that can cover half of North America!

Hardware and software

Now for the hardware. You will need a 70cm FM transceiver that can transmit on 435.750 MHz and receive on 437.950. You will also need a PL tone encoder set to 141.3 hertz.

As for your antenna, I built a 5-element quagi from plans in the *ARRL Antenna Handbook*. If you own a 70cm yagi beam, you're all set. My antenna is driven by an old TV antenna rotator. I do not have the ability to change the elevation or tilt of the antenna, but as you will see later, by selecting the proper pass, you can overcome this handicap. I also have a quarter-wave ground plane for the "not so low" passes.

To predict where the MIR space station will be at a given time, you will need a satellite tracking program. There are several programs available, and most will run on an IBM compatible 386 or better computer. Some of these programs are shareware that you can use for up to 30 days for evaluation. This will allow you to try it out and work a few MIR passes before you decide if you would like to purchase it. That's it! Of course, you will want your log book handy for when you start collecting those distant grid squares!

Let's set up our transceiver for LEO (Low Earth Orbit) operation. Because the MIR Space Station is traveling at over 17,000 miles per hour, we will have to deal with Doppler shift. Doppler shift is the apparent change in a signal's frequency when the receiver and transmitter are moving at high speed either toward or away from each other.

As the space station approaches us, the apparent receive frequency is higher. Conversely, as the space station travels away from us, the receive frequency is lower. This is similar to the sound of an approaching railroad train, the sound of the train has a higher pitch as the train moves toward us; as it passes, the pitch drops. This is Doppler shift. The apparent frequency shift from the MIR repeater can be as much as +/- 10 kHz. To compensate for this, we will use a bank of 9 memory channels to program the Doppler compensation. This will allow us to compensate for both receive and transmit Doppler. Then as the space station approaches us, we will start at the low end of our Doppler memory bank and move up though the preprogrammed channels to compensate for Doppler shift.

This allows for trouble-free tuning during the excitement of the 10-minute pass. The following chart is your guide to the proper "Doppler Memory" programming.

	Downlink	Uplink	Offset
CH1	437.958	435.742	+2.216
CH2	435.956	435.744	+2.120
CH3	437.954	435.746	+2.298
CH4	437.952	435.748	+2.204
CH5	437.950	435.750	+2.200
CH6	437.948	435.752	+2.196
CH7	437.946	435.754	+2.192
CH8	437.944	435.756	+2.188
CH9	435.942	435.758	+2.184

*Note: Be sure to program the 141.3 Hz PL tone on each memory channel.

The MIR repeater has a input frequency of 435.750 MHz and the output is 437.950 MHz. Remember, the downlink frequency is your receive frequency and the uplink frequency is your transmit frequency. Because Doppler compensation must be applied to both the receive and transmit frequency, the transmit frequency offset changes on each channel in the chart. The PL is 141.3 Hz and remains constant.

Locating MIR

Okay, we're all set, but where is the space station? As mentioned previously, you will need to locate a satellite tracking program. I use a program called "PC Track" written by Thomas C. Johnson. Another popular program is "STS Plus" from David H. Ransom. If you prefer a Windows tracking program, look into "WinOrbit" by C. D. Gregory.

All of these programs are available on the Internet or in the shareware software racks at your local ham swapfest. You will need to update the orbital elements or "keps" to allow the software to locate the space station. These keps are calculated by NORAD twice a week and distributed as a text file available on the Internet or on your local full service packet BBS. You should try to update your keps at least every week or so. The MIR Space Station is big and orbits relativity low, so the effects of atmospheric drag will slightly change the orbit of the big bird. This change in the orbit will cause

your antenna pointing to be off slightly as the keps "age."

Every once in a while the cosmonauts fire the ship's engines to boost it to a higher orbit. These changes in the orbit will cause the space station to "show up" late as predicted by your program. But don't worry, the next set of keps will put your program back on track.

Maintaining a signal

Here is how I typically work a MIR pass. First, I run a summary of the day's passes on my tracking program. I then review the passes. There are usually 5 or 6 passes in a given 24-hour period. I look for the passes that have the Space Station stay below say, 20 degrees. This keeps the signal level up from my fixed elevation antenna. I have tried to work the higher elevation passes with my quarter-wave ground plane antenna, but the signal is noisy and full of dropouts.

Once I have selected a pass, I will aim my antenna toward the point of AOS (Acquisition of Signal) and select the first Doppler memory channel. Then, as the spacecraft rises above the horizon, you may hear a QSO in progress from some West Coast stations! If so, wait your turn, and transmit your call sign. You will probably get a reply soon after! QSOs tend to be short, since this is a shared resource for the entire country and a maximum-duration pass is only ten minutes long! If you don't hear any stations as the satellite approaches, key up and give your call sign. You should hear a squelch tail afterwards, from over 1,200 miles!

As the pass continues you will have to start moving up your Doppler memory channels to compensate for Doppler shift. Use your center frequency meter or listen for the best signal if you don't have a center meter on your rig. One more thing, watch your antenna position; you will want to rotate it to keep it pointed at the spacecraft during the pass. Use the real-time azimuth information from your tracking program.

That's it. Keep your log book handy! The action is fast and exciting! The late night passes are less densely populated. At times you might only hear your squelch tail! Prime time evening and weekend passes are more crowded, but there is always a moment or two to get in and make a contact. Good luck and enjoy the MIR repeater.

Please send your questions or comments to:

KB9LTW@N9PBY.EN63BI.WI.USA.NA

I'll be listening for you! **WR**

SimSat educational project unveiled

The Simulated Satellite (SimSat) project is a new educational venture that allows students to fly experiments to altitudes of 60,000 feet and beyond. A SimSat "spacecraft" uses a small high-altitude weather balloon accompanied by one or more experiments.

The experiments are designed and built by participating students and their mentors. The payload is tracked by groups of students and radio amateur enthusiasts as the balloon is carried by upper-level winds.

The project simulates many of the practices and remote observing challenges inherent in working with satellites, and offers a unique hands-on experience for students in the K-12 earth science, physical science, physics and aerospace programs. The experiences gained are valuable stepping stones into amateur satellites and future career choices.

SimSat is being developed as an education and community outreach program. The growing SimSat volunteer group in the Washington, D.C. area is comprised of AMSAT members, teachers, NASA Goddard Space Flight Center workers, community business persons, sponsors, parents, radio amateurs and others.

Web page

Those wishing additional information may visit the new SimSat web site at URL:http://garc.gsfc.nasa.gov/~simsat/simsat.html

All amateurs are also invited to participate in SimSat activities through the "AMSAT-DC" communications channel, amsat-dc@amsat.org. It works like the other AMSAT mail lists. To subscribe to the DC mail list, send an e-mail message with the subscribe request to Paul Williamson, KB5MU, at listserv@amsat.org. As with all AMSAT lists, such requests should go to listserv@amsat.org, NOT to the name of the specific list. In addition, those subscribing are encouraged to include their call sign (if any), and correct e-mail address, and the proper name of the mailing list being requested, in this case, AMSAT-DC. As requests to AMSAT lists are currently being processed manually, the format of the request is not important. The volume of traffic on this list is usually fairly low. However, please allow a few days to a week or so for processing.

To unsubscribe from this, or any other AMSAT list, another message with the unsubscribe request should be sent to listserv@ amsat.org. The same procedure applies to changes in E-Mail addresses.

Others are welcomed to use the example of this Washington, D.C. group to spark a similar activity in your own area. Thanks to AMSAT Area Coordinator Pat Kilroy, WD8LAQ, who provided information for this article. —*Courtesy of Amsat News Service*

Digital Journal closes

The Digital Journal ceased publication with its January issue. Formerly known as the *RTTY Journal,* the move to shut down the 45-year-old publication came shortly after the magazine's publisher, the International Digital Radio Association, announced that the publication would move from monthly to bi-monthly publication.

The failure was said to have been the result of a combination of dwindling advertising revenues, and a decline in the number of members of the magazine's parent group who were willing to pay for what they felt should be available free to them on the Internet. *—via ARRL*

Whose call is it?

Imagine using your newly issued Amateur Radio call sign on the air, only to find out that someone else also has the same call sign. Of course that's not supposed to happen, but it did to a handful of newly-licensed amatuers in the southeast US. The FCC blames the call sign mix-up on computer problems.

The foul-ups started happening in mid-October, when the FCC issued the same call sign to several people who had just passed their license exams. Louise Williams, KF4MTE, of Newberry, South Carolina, is a case in point. She was originally assigned KF4MTO on 23 October, but that same call sign was issued seven days later to another woman in North Carolina. On 02 November, KF4MTO was again assigned, this time to a woman in Tennessee. At least two other South Carolina amateurs had similar experiences.

An FCC spokesman says the Commission was having computer problems for about a week, just before Gate 2 vanity call signs were issued. The spokesman says he has no idea how many licenses may have been issued to more than one person. He says it is possible that there might be more amateurs who are unaware that they are operating with a license holding the wrong call. But he says the Commission's database has been corrected so that there are no call signs with more than one holder. In the case of more than one person getting the same call sign, the last person to be assigned the call sign got to keep it.

Efforts are underway to find out what caused the problem and to keep it from happening again. An FCC spokesman says it appears that the problem of multiple people issued the same call sign is apparently limited to first-time licensees. *—tnx ARRL*

FCC refuses petitions from early filers

The FCC has turned down yet another round of petitions for reconsideration from three hams asking the agency to reinstate their vanity call sign applications. The applications had been dismissed because they arrived prior to the opening of Gate 2 on 23 September.

According to the Commission, these applicants' paperwork arrived at the FCC's fiscal agent, the Mellon Bank in Pittsburgh, on 20 September. That was three days early and made them ineligible for processing.

The FCC has previously dismissed nine other similar petitions for reconsideration based on the same claim. *—via FCC, ARRL*

Tower falls, taking repeater, too

A 2-meter repeater serving a large part of southern Wisconsin is off the air after the collapse of a 660-foot broadcast tower on 31 December.

New Year's Eve is frequently celebrated with plenty of racket, but the noise near a southern Wisconsin ski resort the last evening of 1996 was anything but welcome. Radio station WOLX's tower came crashing to the ground after it became overloaded with ice. The tower was located near the Devil's Head Ski Resort, north of Madison. The collapse also knocked the 146.88 MHz Baraboo repeater off the air.

The system is operated by the Central Wisconsin Repeater Association. The loss is a blow to radio amateurs active in emergency communications. Ray Meyer, N9PBY, says the repeater was used for the South Central Wisconsin Skywarn Net, and as a hub for forwarding emergency information to the National Weather Service.

There's no word yet on when the Baraboo repeater will be operational. Meantime the repeater is looking for a new home. *—via Newsline, N9PBY, K9ZZ*

73's Hope Currier

Hope Currier, the fifteen-year veteran Managing Editor at *73 Magazine,* died on Christmas Eve at her home in New Hampshire. The news of Hope Currier's death comes from former Associate Editor, David Cassaday, N1GPH, who says that, through her excellent work over so many years at *73,* Hope Currier, who was not an amateur, had an influence on an entire generation of Amateur Radio operators. *—via N1GPH*

Maxim Memorial Award nominations

The nominating period is now open for the League's annual Hiram Percy Maxim Memorial Award. Each year, this award is presented to a licensed radio amateur under age 21 whose accomplishments and contributions are of the most exemplary nature within the framework of Amateur Radio activities.

In keeping with the tradition of the award, first established in 1936, formal nominations are made by section managers. Supporting information, including the endorsement of ARRL-affiliated clubs and elected or appointed League leadership officials, should be submitted with the nomination. An award panel will review the nominations received and select the winner.

The prize is a cash award of $1,000, a suitably engraved plaque, and travel and accommodation expenses to enable the winner to attend an ARRL convention for a formal award presentation.

Nominations must be sent to your section manager who is listed in the front of *QST* Magazine. *—via ARRL*

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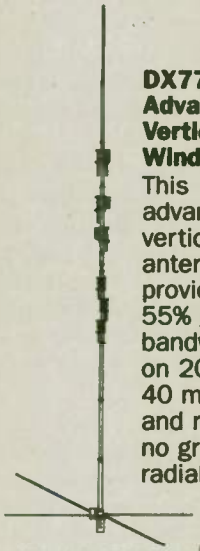
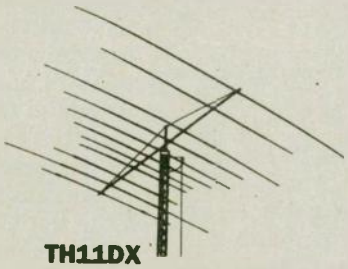


DX77 Advanced Vertical Windom
This advanced vertical antenna provides 55% greater bandwidth on 20 and 40 meters, and requires no ground radials.

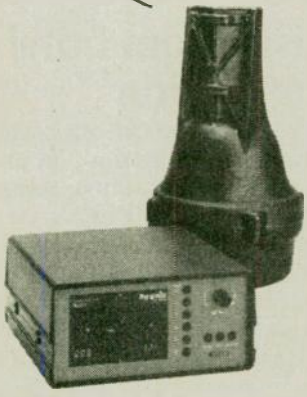


TH11DX
This uniquely designed antenna provides the frequency coverage of a log periodic, **plus** the performance of a monobander.

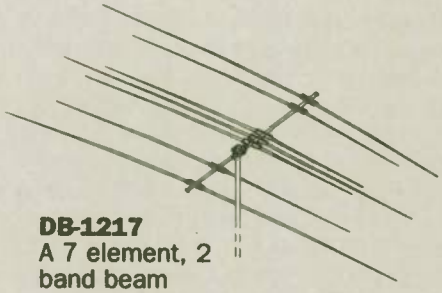
DX88
If you want 80 meters in a vertical, this is your antenna. Better bandwidth than found in add-on kits.

V2R
A rugged antenna for 2 meters, the V2R delivers 3 dBd gain with a wide coverage pattern.

TH3 Mk4
A classic tribander, the TH3 Mk4 is an ideal choice for home stations and DXpeditions.

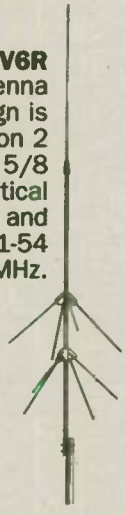


Ham V with DCU-1 Digital Control System
The Ham V is designed for medium communications antenna arrays of up to 15 sq. ft. (1.4 m2) wind load area. The **DCU-1** features digital and analog displays with six presets, automatic brake delay, motor slow down, automatic calibration and programmable center of rotation.

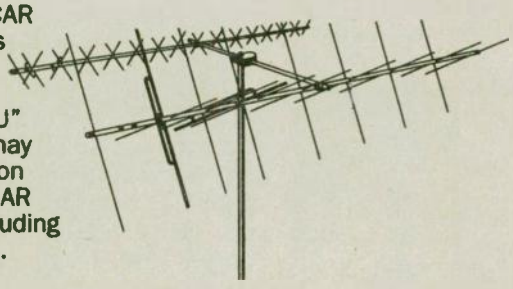


DB-1217
A 7 element, 2 band beam antenna designed for operation on the 12 and 17 meter amateur bands, and packaged for DXpeditions.

V6R
This antenna design is based on 2 collinear 5/8 wave vertical radiators and covers 51-54 MHz.



OSCAR LINK
Hy-Gain's OSCAR LINK antennas are ready for Phase 3D on the "V" and "U" bands. They may also be used on the other OSCAR satellites, including the new JAS-2.



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SETI-AMSAT Affiliation

AMSAT North America has approved a request from the SETI League, Inc., for the two organizations to affiliate. The SETI League was formed several years ago to coordinate a privately funded scientific search for extraterrestrial intelligence.

Dr. H. Paul Schuch, N6TX, is the Executive Director of the SETI League. He says that his group can make technical contributions to AMSAT in the area of microwave communication.

AMSAT North America's Executive Vice President, Keith Baker, KB1SF, is also pleased. Baker says that AMSAT and the SETI League share a common objective that involves many radio amateurs in scientific exploration, research and development.

Both AMSAT North America and the SETI League are not-for-profit educational and scientific organizations. AMSAT has some 7,000 members while the SETI League has 400. *—via AMSAT, SETI League, ARRL Letter)*

Hams track iceberg

A group of Australian hams will be assisting in tracking an iceberg the size of the state of Rhode Island that sheared off the coast of Antarctica last year. The iceberg is so massive that scientists say it could drift for 10 years before it melts.

According to news reports monitored on shortwave radio, the mammoth iceberg was first observed by a research ship scouting for large ice drifts. Australia's Antarctic Division is tracking the vast fragments through US weather satellites and European research satellites. The ice island is not expected to interfere with maritime commerce since ships typically avoid Antarctic waters. However, with the massive floe expected to last close to a decade before melting, amateurs have been pressed into service to aid in relaying long-term observations. The iceberg covered more than 1,400 square miles when it split from the coast of east Antarctica, one scientist said. Amateurs were asked to take part because of the years of monitoring that will be involved. *—via Radio Australia*

AEA is *not* AES

Some confusion has become apparent involving the initials of two companies, one of which is leaving the Amateur Radio marketplace. As previously reported, that company is Advanced Electronic Applications of Lynwood, Washington. For years the company has been better known as AEA.

Confusion has been noted on some Packet bulletin board services. As a result, AEA has been erroneously identified as AES. Messages were appearing that implied Amateur Electronic Supply, a company that uses the initials AES was going under. Needless to say that did not go down well with the folks at Amateur Electronic Supply, which plans to remain in business as long as there is Amateur Radio equipment to sell.

To clear things up once and for all, it is Advanced Electronic Applications Inc., "AEA" which is being sold. Amateur Electronic Supply, AES, plans to be around to serve the Amateur Radio community for a long, long time.

RAIN Needs help

A blind amateur who has spent over a decade providing Amateur Radio programming needs your help to continue. On New Year's Eve, the equipment used by Hap Holly, KC9RP, to produce the Radio Amateur Information Network (RAIN) bulletins was severely damaged in a fall. As a result, all RAIN Amatuer Radio programming is at a halt until further notice.

The unit damaged was Holly's Tascam model 244 Porta Studio. This is a self-contained professional quality multi-channel audio mixing console with a built-in four channel cassette recorder. Holly says that the Porta Studio serves as the cornerstone of producing both the *RAIN Journal* and the *RAIN Report*. He cannot do his work without it.

"I use this primarily for RAIN. I use it to record scripts, to edit the excerpts from the Dayton Hamvention Forum, and I also use it to equalize the audio on the phone line for the RAIN Dial-up. So when the people call the RAIN Dial-up the audio is as good as it is because of this unit," said Hap.

The local service center says that it could cost RAIN up to a thousand dollars to rebuild the unit. Neither RAIN nor Holly personally have the needed funds to perform the repair at this time.

A special emergency fund has been set up by RAIN supporters in the hope of garnering enough donations so that the equipment can be fixed. Donations should be made out to the Radio Amateur Information Network and sent to:

RAIN
P.O. Box 2565
Des Plaines, IL 60017

RAIN also maintains a home page on the world wide web at:
http://www.rrsta.com/rain

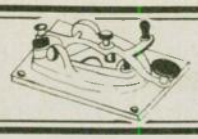
No buses from hotels to Hamvention

If you plan on attending this year's Dayton Hamvention, be prepared to drive to the Hara Arena from wherever you will be staying. The Hamvention will no longer be providing bus service from area hotels to the convention site. The reason? The same as it was the last time the Hamvention was forced to cancel the buses — cost. The cost of running the service has become so high as to make it impractical to continue. *—via DARA*

Stolen rig listings

If someone steals your radio, e-mail the details of the theft to Mark Saunders, KJ7BS. Mark offers a free service to help amateurs whose gear has been lost or stolen. Check out lost or stolen ham gear listing on his Internet home page at http://www.dancris.com/~tracker/tracker.html.

Silent Keys



Thomas W. Maughan, KG7CT

Thomas W. Maughan passed away 4 December 1996, at his home in Ilwaco, Washington.

Tom was born 24 February 1916, in Bonners Ferry, Idaho, the son of Thomas and Hazel Maughan. When he was 12, the family moved to Puget Island, Washington. He attended Wahkiakum High School, in Cathlamet.

In September of 1937 he was married to the former Audrey Ellison, and for the past 16 years of their 59-year marriage, they have resided in Ilwaco, Washington.

Tom became a ham in 1963 as WA7EGM, and was active on the air from Washington state and also from the island of Guam, where as KG6APH, he gave many contacts back to the mainland United States.

An active Mason, KG6CT was a life member of Occident Lodge #99 F&AM of Ilwaco, and a member of the Scottish Rite Temple of Bremerton, and Aloha Shrine Temple of Honolulu, Hawaii.

In addition to his wife, Tom is survived by his brother Ralph, KF7SL, of Bonney Lake, Washington, five grandchildren and four great-grandchildren. *—submitted by Bud Davenport, KA7GCT*

Carl L. Smith, WØBWJ

Former ARRL President Capt. Carl L. Smith, WØBWJ has died. A career pilot for Western Airlines, Smith drew front page newspaper headlines and worldwide acclaim in the 1970s when he safely landed a fully-loaded Boeing 707 passenger jet with a jammed nose gear on a foamed runway at Honolulu International Airport. Nobody was hurt, and, as Capt. Smith often commented, he barely scratched the paint off the nose of the big jet. Ironically, WØBWJ flew the very same aircraft on his last scheduled trip for Western before he retired.

He volunteered his spare time to serve as Colorado Section Communications Manager, and did so from 1955 to 1956. He then served as Rocky Mountain Division Vice Director from 1957 to 1958, as the Director from 1961 to 1970, and was elected an ARRL Vice President in 1970.

Smith became an Honorary Vice President in 1972, and in 1974 he was again elected Vice President. During his tenure in this office he served on the League's WRC '79 Committee and participated in the effort which led to hams gaining three new bands at 10, 18 and 24 MHz.

In 1980, Smith moved up to First Vice President of the ARRL and was First Vice President in November, 1983, when then-President Victor C. Clark, W4KFC, unexpectedly died in office. He succeeded Clark as President and served in that office until March of 1984.

Capt. Smith was 78, and had been in poor health for several years. He passed away in Colorado on 9 January. A memorial service was held in Denver on Sunday, 12 January. *—submitted by WA6ITF with thanks to K1ZZ, KØPGM, and KH6QX.*

Special Events

The Snow Train

The Algoma ARC and Algoma Central Railway Inc., will operate VA4ACR on 16 March from 0800-1600 UTC from the rugged wilderness of Algoma Country, including Amateur Radio operation to and from the Agawa Canyon. Operation will be on CW — 3.545, 7.045, 14.050, 21.050 and SSB — 3.800, 7.260, 14.260, 21.260. All stations worked will receive a special QSL card with the call VA3ACR to commemorate the event.

Thomas Alva Edison

The Under Ground Discharge ARC will operate WB2AZE on 15 March from 0900-1600 UTC to celebrate the birthday of Thomas Alva Edison. Approximate frequencies: SSB — 7.225 and 14.295. For a QSL card, send your QSL and a small SASE with contact number on it to: UDARC-WB2AZE, Dave Kanitra, 376 Finch Lane, Bedminister, NJ 07921.

Cherry Blossom Festival

The Macon ARC will operate W4BKM on 15 March, 1500-2300 UTC, at the 15th annual Cherry Blossom Festival in Macon, Georgia. Phone — 7.235, 14.250 and 21.335; CW — 7.135, 14.035 and 21.135. For certificate, send QSL and 9 x 12 SASE to Macon ARC, P.O. Box 4862, Macon, GA 31208.

Want to e-mail your story?

Please send your contributions to:

kb6hp@ns.net

Hams for nuclear energy

The Southern Patuxent ARC and the Calvert ARA will operate N3IFL from the Clavert Cliffs Nuclear Power Plant Visitor's Center on 15 March, to commemorate the birthday of Albert Einstein and promote the peaceful use of nuclear energy. Many other nuclear power plants across the country will simultaneously operate their own special event stations with the same themes. Operation will be in the lower end of the 10, 15, 20, and 40M phone bands and CW as conditions permit, from 1400 UTC to 2200 UTC. For QSL, send SASE to N3IFL, 12480 Catalina Dr., Lusby, MD 20657. WR

Station Appearance

Thomas E. Jurgens
KY8U

*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.

Shown are two photos of seven stations in my shack. As you can see I am mainly interested in the restoration and operation of classic Amateur Radio equipment. Over the years, I have also homebrewed various transmitters and receivers form the '20s, through the '50s.

The photo on the left shows one of the stations with a National NC-300 receiver and matching speaker, Heath SWR/wattmeter, Viking Ranger transmitter, Electro-Voice 633 mic and Brass Straight Key. The lamp is homebrew with an old 866 Jr. Both rigs are from the 1950s.

The second photo shows another station with a Barker and Williamson 5100 transmitter with Heath SWR/wattmeter, D-104 mic, homebrew lamp with a 201A tube and homebrew speaker, and a Collins 75A-2 receiver. The bug in the center is a Vibroplex Lighting Bug. Both rigs again are from the 1950s.

Other equipment in the shack include a Heath DX-100, RME-4300, Heath DX-60, Heath HG-10 VFO, HR-10B receiver, Heath HR-1680, National NC-98, Yaesu FT-757 GXII, Heath HW-9, Yaesu 747, and a variety of homebrew QRP transmitters and receivers. WR

Amateur "Hi"

*Ever had a funny or strange experience with Amateur Radio, either 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**!*

One "high-mileage antenna!"

David L. Byrd, AE4QQ

I am the owner of a 1985 Mazda RX-7, who has recently had my Amateur Radio operator license reinstated. Shortly after receiving my ham license, I installed an R7 antenna in my yard.

At the restaurant where the local hams gather for the weekly Saturday morning breakfast, I was the second to arrive and began a friendly discussion with the first arrival, Ken, W4TKI. Ken was interested in my R7 installation and began questioning me about its performance.

I proceeded to inform him that it ran beautifully and that in 250,000, it was in the shop only once and used absolutely no oil. I noticed Ken's look of complete incomprehension when it finally occurred to me he was asking about my R7 antenna, not my RX-7 vehicle.

As a result, other hams frequently kid me about my R7 antenna with 250,000 miles on it. WR

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DAYTON hamvention® 97

May 16, 17, 18, 1997 ■ Hara Arena, Dayton Ohio

SPONSORED BY THE DAYTON AMATEUR RADIO ASSOCIATION, INC.

TICKET DEADLINES

- Advanced registration orders must be postmarked no later than May 2 (USA) or April 25 (Canada). Tickets will be mailed after January 15,1997.
- Ticket requests that are received **AFTER** the deadline will be processed and **HELD** for pick-up at the Hamvention Office at the Conference Center entrance beginning Thursday, May 15 at 8:00 a.m.

EXHIBIT SPACE

See our Web site for more information.

- **Inside Exhibit Booths**
  For an application, please Fax (937) 376-4648 or E-mail to exhibits@hamvention.org
- **Outdoor Flea Market Space**
  For an application, please Fax (937) 253-1289 or E-mail to fleamkt@hamvention.org
  Flea market spaces are sold IN ADVANCE ONLY. No spaces sold at gate!

UNOFFICIAL ACTIVITIES

To be listed in our Program and on our Web site, please Fax (937) 274-8369 or E-mail to info@hamvention.org

SPECIAL SERVICES

- A limited number of Handicap parking permits are available.
- License Exam are by appointment only.

Details are available via FAXMail or the Web.

BUS SERVICE

Bus service will be provided between Hamvention, Air Force Museum, Salem Mall and Forest Park Mall parking areas. Check our Web site for additional parking areas.

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PHONE: (937) 276-6930. Chairman Voice Mail box numbers are available via FAXMail or the Web.

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General Chairman: Dick Miller, N8CBU
Asst. General Chairman: Jim Graver, KB8PSO

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Awards

100 Nations Award

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

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

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

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

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

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

Rules

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

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

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

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

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

6. The application shall include the following:

a. Letter requesting W-100-N.

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

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

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

7. All applications and requests shall be addressed to:

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

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

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

W-100-N nations list criteria

1. In all cases each "nation" will be both a political and geographical entity at the same time.

2. In all cases each "nation" will be a geographical and political entity independent enough to issue distinctive postage stamps acceptable in international mail.

3. In all cases each "nation" will be a geographical and political entity whose amateur stations are

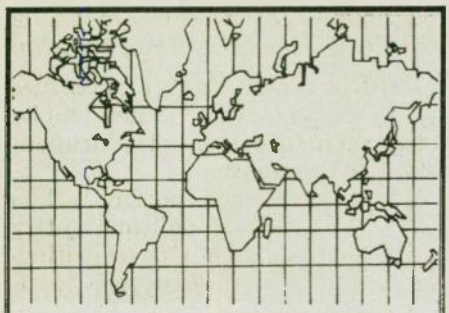
a. identifiable by a specific call sign prefix series allocation assigned to that entity by the International Telecommunications Union, or

b. identifiable by a specific call sign prefix or suffix series normally used in the issuance of amateur licenses to new amateur licensees under ITU prefix allocations by the sovereign government of the entity.

4. No geographical or political entity lacking a permanent, native population will be considered for status as a nation.

5. Geographical and political entities which do not issue distinctive postage stamps but have permanent, native populations will be considered to be part of the same entity that issues postage stamps for use in that area.

6. Geographical and political entities which issue postage stamps but do not have permanent, native populations will not be considered "nations" for the purposes of this award. **WR**



DX WORLD

John F.W. Minke III, N6JM
P.O. Box 310, Carmichael, CA 95609-0310

W-100-N

No applications for ***Worldradio's*** *Worked 100 Nations Award* were received this period.

And, don't forget Armond's famous CATZ Award.

Spratly Islands (1S)

According to *DX News Sheet*, JA9AG, and possibly other Japanese DXers, are expected to operate from the Spratly Islands in April.

The call to be used may be 9MØA or 9MØS. For IOTA this counts as AS-051.

Nigeria (5N)

Signing with 5N3/SP5XAR, this station has been heard on several bands: 1.832 MHz, 2130 UTC; 3.501 MHz, 2245 UTC; 7.002 MHz 0530 UTC; 10.101 MHz, 2300 UTC; 18.069 MHz,1445 UTC; 18.145 MHz, 0930 UTC; 21.027 MHz, 1345 UTC.

Marc Vanoverbeke, 5NØMVE, has been reported on at least two bands, between 3.785 and 3.790 MHz after 2100 UTC; and near 10.101 MHz around 2100 UTC.

Other reports during November include the following:

5NØT	3.791 MHz	2130 UTC
5N9KWO	14.240 MHz	2100 UTC
5N9NJM	18.135 MHz	0930 UTC
5NØT	18.159 MHz	1345 UTC
5N9NJM	21.270 MHz	1415 UTC
5N9NJM	24.948 MHz	1430 UTC

DX News Sheet says that several Nigerian stations check in on 14.212 MHz at 2000 UTC daily, representing different call areas.

Madagascar (5R)

Ray Shankweiler, 5R8FK, from Antananarivo. has been giving out contacts to DXers on 40 and 80 Meters. Look for him between 3.512 and 3.516 MHz and between 7.002 and 7.021 MHz after 0100 UTC. If you happen to find 5R8FJ, that will be his wife, Donie. Ray formerly signed with 7P8SR in Lesotho.

Also active from Madagascar is 5R8EE and 5R8EJ, respectively on 21.240 MHz at 1600 UTC, and 3.514 MHz at 0215 UTC.

The main island of Madagascar, also known as Malagasy Republic, counts for IOTA as AF-013. The coastal islands count separately for AF-057.

Burundi (9U)

Burundi was well represented by two calls the latter part of November into December on several bands. The calls, 9U5CW and 9U5DX, amounted to about 99.9 percent of the reports on CW. *DX News Sheet* states that the latter call is that of Jean-Pierre Maidon, F5FHI. The operator at 9U5CW is Alfredo, who has been off the air until recently.

Jean-Pierre has been quite active on 40 Meters. Look for 9U5DX between 7.003 and 7.016 MHz from 0330 UTC. Also, check 30 Meters between 10.101 and 10.108 MHz after 0430 UTC. The non-CW contact was to a California amateur by Jean-Pierre on 15 Meters near 21.290 MHz at 1745 on 20 November.

Alfredo, 9U5CW, was reported on several bands. Look for him near the following: 1.823 MHz,2215 UTC; 7.003 MHz, 2300 UTC; 10.102 MHz, 2130 UTC; 14.001 MHz, 1845 UTC; 18.071 MHz, 1445 UTC. 9U5CW is a CW man and prefers the low end of the band.

Pratas Island (BV9P)

A DXpedition to Pratas Island is planned for March. Heading up the group is Bolon, BV5AAF, President of CTARL and TAMSAT. For IOTA purposes this one counts as AS-110 in addition to recently added to the DXCC Countries List.

Island DX News reports that the team may also activate Equal Island, one of the Spratly Islands, signing with BV9S. The operation may be in about another two years.

Thailand (HS)

A big showing for Thailand during the CW portion of the *CQ* Worldwide DX Contest in November was HSØAC. This was that of Jack Fleming, WAØRJY, and others from the Western Washington DX Club.

Jack, when not playing radio, edits the club newsletter, *Tbtem Tabloid*, and does a fine job. Jack also signed with HSØ/WAØRJY, 16 November through the end of the month.

On 40 Meters a fellow from Norway was active as HSØ/LA7JO, reported near 7.006 MHz after 1600 UTC. This operator was reported to be a member of the HSØAC team during the Worldwide DX Contest.

Another reciprocal call noted was HSØ/G4JMB, reported on 20 Meters at 0100 UTC on 25 November near 14.177 MHz. The operator is Phil Weaver, who formerly operated from Hong Kong as VS6CT.

Two other calls were reported in November: HS2CRU on 14.007 MHz at 1300 UTC, 28 November; and HS6CMT on 7.012 MHz at 1530 UTC on 4 November.

If you worked HS5ØA in December, that would have been a new IOTA island group, Koh Chang. The island is located in the Gulf of Thailand, and is part of the Northeast group.

Lebanon (OD)

Seventy-five Meter DXers should listen for Jamal Mannah, OD5PI, who shows often between 3.794 and 3.799 MHz after 0400 UTC.

Other band activity includes the following:

OD5NJ	7.033 MHz	0045 UTC
OD5OD	7.075 MHz	2315 UTC
OD5NJ	14.085 MHz	1430 UTC
OD5NH	21.240 MHz	1300 UTC
OD5PI	21.289 MHz	1445 UTC

Greenland (OX)

Now purists are going to want to

call this one Kalaallit Nunaat, the native name for the land. Activity from here has been light recently. However, 40 Meters appears to be your best bet, such as the following:

OX3IPA	7.005 MHz	2330 UTC
OX3LK	7.011 MHz	2330 UTC
OX3SA	7.003 MHz	0030 UTC

For 20 Meters there were three calls also, but with a mix of the modes as indicated by the frequency:

OX3LK	14.007 MHz	2300 UTC
OX3RO	14.081 MHz	1530 UTC
OX3SA	14.226 MHz	1415 UTC

OX3IPA has also been reported on 80 and 160 Meters. Try this one near 3.502 MHz around 0045 UTC and 1.830 MHz at 0030 UTC. Please observe the DX window. Also on 80 Meters was OX3XR near 3.510 MHz at 2330 UTC on 5 December. OX3LK was on 160 Meters at 1845 UTC on 7 December around 1.831 MHz.

For IOTA purposes, Greenland consists of three separate referenced island groups. The main island is NA-018, where most of the amateur population is located. The group of islands on the East Coast is designated NA-151, with the West Coast group designated NA-134.

Knud Madsen, OX3KM, operates from Godhavn on Disko Island (NA-134).

According to the *Callbook*™ about a dozen amateurs live on these western islands, but none are listed on the East Coast group.

Mount Athos (SV/A)

DX News Sheet reports that Monk Apollo, SV2ASP/A, has been more active recently. Stateside stations have been working him near 14.030 MHz from 1345 to 1630 UTC, and on 3.795 and 1.845 MHz around 0515 UTC.

San Marino (T7)

A handful of calls have been reported active from the Republic of San Marino, which is completely surrounded by Italy.

Tony Ceccoli, T77C, continues to be very active during this last decade. Operating from his Murata location he has been reported on the lower bands, plus that of the new WARC bands. Look for Tony on 160 Meters between 1.822 and 1.824 MHz after 0430 UTC; 75 Meters near 3.794 MHz after 0500 UTC; 40 Meters on 7.001 MHz around 0545 UTC; 30 Meters on 10.104 MHz at 1545 UTC; 17 Meters near 18.075 MHz at 1745 UTC, and 12 Meters on 24.901 at 1600 UTC. Several DXers have confused Tony's call on CW as TZ7C, which they cannot find in the *Callbook*™. He also operates SSB as I have a QSL card from him for a 10-meter contact on SSB from 1988.

Other calls reported were three others:

T77BL	14.025 MHz	1315 UTC
T77M	14.257 MHz	1245 UTC
T77WI	7.003 MHz	2345 UTC

Although not reported active during this period is Pier Paolo Taddei, T77T. Few DXers are aware that Paolo represented his country at the Los Angeles Summer Olympics in 1984. His specialty was shooting, small-bore rifle.

Heard Island (VKØ)

The ARRL Colvin Award Grants Committee has authorized a grant of $5,000 to the 1997 Heard Island DXpedition. The DXpedition team hoped to activate this rarely visited, remote location in January, 1997.

The Colvin Award is conferred by the American Radio Relay League in the form of grants in support of Amateur Radio projects that promote international goodwill in the field of DX. It is funded by income from an endowment established by the late Lloyd Colvin, W6KG.

The Heard Island grant is the second Colvin Award to be bestowed by the ARRL. The first was made in 1996 to the organizers of the World Radiosport Team Championship.

IOTA

Here is a selection of various IOTA islands reported during the month of December.

AS-018	Sakhalin Island	UAØFDX
NA-036	Vancouver Island	VE7DUG
NA-065	San Juan Island	KI7Z/M
NA-076	Cedar Keys	AC5FL/M
NA-110	Folly Island	WB4WTY
OC-217	Kangean Island	YB3SPS/P
OC-218	Matthew Island	FK5M
SA-017	Gorgona Island	HK3JJH/5

XYØRR status update

In 1991, the DXCC Desk accredited the XYØRR operation that the operators claimed had taken place from Myanmar. That accreditation was based on evidence that the operators had made legal entry into the country, and possessed operating permission from the government of Myanmar.

Recently obtained information has called this evidence into question. An investigation has disclosed no record in Myanmar of the operators having entered the country on the day and at the place shown in the XYØRR documentation. Additional facts have come to light that do not support the claims made in that documentation.

If the accreditation decision regarding XYØRR were to be made today, the operation would not be accredited based on presently available information. However, technical difficulties prevent removal of DXCC credits for this operation. DXCC participants whose credit for Myanmar is based on a contact with XYØRR are encourage to make a replacement contact for their own personal satisfaction.

We all know who this is referring to, that Russian, Romeo. He makes our infamous Don Miller of yesteryears look like a Boy Scout. Your DX editor is one of the many who were credited Myanmar with a XYØRR card. I agree with the League in that we should attempt to work a valid Myanmar station for our own satisfaction. Those fortunate DXers who managed to work the recent XZ1N operation should be in the pink!

New Orleans DX Convention

New Orleans in August? Hot as it may be that time of the year there is an annual DX gathering in an air-conditioned hotel. The 6th Annual New Orleans DX Convention will be held again at the Royal Sonesta Hotel in the French Quarter 22-23 August. More information later.

Towns of Smolenshima

The Towns of Smolenshima Award is sponsored by Vyazima Radio Club for confirming contacts with Amateur Radio stations of Smolensk oblast in Russia. Stations outside of Europe must confirm at least three contacts. All contacts must have been made since 1 January 1990. There are no band or mode limitations. Repeat contacts on additional bands are valid.

To apply for this award please prepare a list of your contacts with

DX Prediction — March 1997

Maximum usable frequency from West Coast, Central US and East Coast *(courtesy of Engineering Systems Incorporated, 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. 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	*(10)*	11	*16	*(8)*	*14
12	*(9)*	10	*14	*(8)*	*(12)*
14	*(17)*	12	12	*(15)*	22
16	*(21)*	*(11)*	*16	17	27
18	23	*(10)*	*(14)*	*(15)*	28
20	22	17	*(17)*	*(10)*	29
22	19	22	24	*(9)*	28
24	*(16)*	24	27	*(8)*	*28
2	14	21	28	8	*23
4	*13	16	25	8	*19
6	*(11)*	14	22	9	*16
8	*(10)*	*11	*19	*(9)*	*14

CENTRAL USA

UTC	AFRI	ASIA	OCEA	EURO	SO AM
8	*(13)*	8	*15	*(8)*	*14
10	*(12)*	8	14	*(8)*	*14
12	*(21)*	11	12	*(15)*	17
14	26	*(11)*	*18	18	24
16	28	*(11)*	*(16)*	17	*26
18	27	*(10)*	*(14)*	*(15)*	*28
20	22	*(18)*	*(18)*	*(10)*	*28
22	19	19	24	*(9)*	*28
24	*16	*(17)*	28	8	*27
2	*14	*(12)*	23	8	*23
4	*14	*(10)*	21	8	*19
6	*(14)*	*(9)*	18	*9	*16

EAST COAST

UTC	AFRI	ASIA	OCEA	EURO	SO AM
7	*(13)*	*(8)*	*(15)*	8	*14
9	*(13)*	8	*14	*(11)*	*14
11	24	10	11	16	17
13	28	*(9)*	*19	*18	*24
15	28	*(9)*	*(17)*	*18	*26
17	*30	*(8)*	*(15)*	17	*28
19	*25	*(10)*	*(13)*	15	*28
21	20	*(16)*	*(22)*	*(10)*	*28
23	*17	*(17)*	27	9	*28
1	*15	*(12)*	*(23)*	8	*23
3	*14	*(10)*	21	8	*19
5	*14	*(9)*	*(17)*	8	*16

complete log information, certified by two licensed radio amateurs, and send to the Award Manager UA3LIU, P.O. Box 15, Vyazma, Smolenskaya obl, 215100, RUSSIA. Although the award is free of charge, please include 4 IRCs for mailing.

Prefixes valid for this award: RA3L, RZ3L, U3L, UA3L and UE3L. Prefixes UV3L and UZ3L prior to December, 1993, also count.

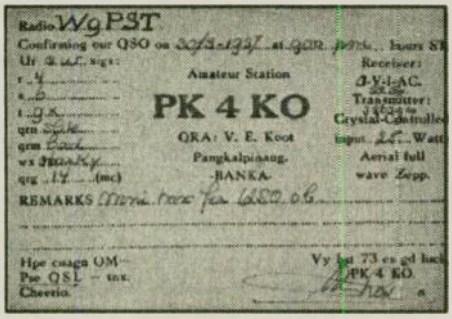
Antique QSL Department

This month a tribute will be made to Indonesia, which was formally Dutch East Indies. A long cruise was recently taken on the m.s. *Statendam*, operated by Holland America Line. The cruise line chose to use room and dining room stewards from Indonesia and the Philippines, who we found to be very pleasant people.

These particular cards were provided by Bob Truhlar, W9LNQ, from the estate of Roy Weisbach, W9UX, formerly W9PST.

Roy worked PK1RI back in 1938. The station was operated by A. te Riet, c/o Factory, Batavia.

PK3AA was operated by F.W. Heijer, of Sourabaya on Java. Roy worked this station in 1937 on 20 Meters CW. Notice he was running only 90 watts to a vertical antenna.



V.E. Koot operated PK4KO in Pangkalpinang, Banka. Roy worked this one on 30 March 1937 on 20 Meters CW. Using a fullwave Zepp PK4KO was running only 25 watts. The time was listed as 9 p.m. which is assumed to be local time there.

Prior to Independence, the Dutch East Indies was divided into several separate DXCC countries. For those purposes PK1RI and PK3AA counted as for Java with PK4KO counting for Sumatra. I believe these calls were all on the "banned" list for several years during the post-war era, and we were not permitted to work them.

It is assumed that these three stations were operated by Dutch nationals who probably returned to Holland. Their whereabouts today is unknown.

However, according to my June 1954 *Callbook*™, there was an F.W. Heijer in Amsterdam assigned the call PAØFWH. Perhaps he was PK3AA?

Domestic QSL Bureau

The ARRL runs an excellent QSL service for members. Unfortunately, only DX cards are processed. If you need to send a QSL card to another stateside station you cannot use that service and must find other means for delivery.

Such a service is the USA QSL Bureau, which will process your outgoing cards at a nickel apiece, regardless of the quantity. Please sort your cards by district and the suffix of the call. Place the call of the station you are sending to in the address section of the card in large letters.

There is no charge for cards being sent to you via this bureau.

Please keep an SASE on file. The bureau will notify you that you have cards waiting but do not have an SASE on file.

Send up to 4 envelopes (3-5/8 x 6-1/2) with one unit of postage each with your call in the upper left-hand corner. You may also send $5 with your call, name, and address and they will provide 10 SASEs for you. This is basically the same process for your regional incoming ARRL DX QSL Bureau.

Send all cards, checks and SASE to: USA QSL Bureau, P.O. Box 814, Brewer, ME 04412-0814; e-mail to usburo@aol.com or aa1mf@aol.com.

During the last year or two there has been an interest in working United States islands for the United States Island Award. This very well could be a solution to solving the cost of exchanging those QSL cards as they cannot be processed by the DX QSL Bureau system.

However, this is just a suggestion and not an endorsement by ***Worldradio***.

The bureau will also handle outgoing DX QSL cards at the same rate.

QSL addresses

4K8YL —P.O. Box 214, 370000 Baku, AZERBAIJAN

5R8FK —P.O. Box 620, Antananarivo 101, MALAGASY REPUBLIC

QSL Routes

These QSL routes come from several sources and cannot be guaranteed. Please report any errors.

3B8CF	—F6HMJ	C91CO	—W4DR
3C1DX	—EA6BH	CE3F	—LU8DPM
3C5A/Z	—N6ZZ	CI2JFM	—VE2JFM
3E1DX	—See Note 1	CN2AA	—CN8CS
4KØCW	—DL6KVA	CO2JD	—HI3JH
4L1UN	—RW6HS	CU2AA	—KA1HFL
4N140T	—YU1SB	CU3/DL3KUD	—DL3KUD
5NØMVE	—ON7LX	CU8/DL3KUD	—DL3KUD
5NØT	—F2YT	CVØZ	—CX3CE
5N36T	—F2YT	D25L	—PA3DMH
5N9N	—N2AU	DU6/K9AW	—WF5T
5R8EE	—FR5EL	ED9EA	—EA7LQ
5V7A	—GM4AGL	EK8ZZ	—DL1VJ
5X1P	—G3MRC	EM1KA	—JA2JPA
5X4DEL	—WB3DNA	ER5AL	—W3HNK
5X4DLI	—KE4EW	FS5PL	—KFØUI
5X4F	—K3SW	FY5YE	—W5SVZ
5Z4RL	—N2AU	G3NYY/C6A	—G3NYY
6W1QV	—F6FNU	G3XAQ/6Y5	—G3XAQ
6YØHW	—I5JHW	G4VXE/C6A	—G3SWH
6Y5HW	—I5JHW	GM6R	—GMØNAI
6Y6A	—JE3MAS	GM6V	—GM4CXM
7Q7EH	—AA9HD	GM6X	—GM4FDM
7Z5OO	—W1AF	GM6Z	—W5ASP
8B3KI	—YB3SPS	GU3HFN	—ZL2TT
8P9HT	—K4BAI	GW6J	—GW4VEQ
8Q7YN	—HB9CYN	H44MS	—DL2GAC
8Q7YV	—HB9CYV	HBØ/HB9LEY	—JH1BSE
8R1ZG	—W4FRU	HC8/N5KO	—AA5BT
8SØFRO	—SMØBYD	HH2B	—N4WW
9G1TM	—G4XTA	HH2SM	—VK2CSM
9G5BQ	—PA3GBQ	HK3JJH/5	—HK3JJH
9G5SX	—G3SXW	HSØZBJ	—W8CIO
9J2SZ	—SP8DIP	HS1AZ	—K6VNX
9J2VK	—ZS6MG	HS5ØA	—Bureau
9K2F	—9K2HN	IC8/IZ8ANA	—IK8VRS
9L1KA	—WØHSC	IL3DX	—IK3VIA
9M2/G3NOM	—GØCMM	IRØA	—IKØQDB
9M8HIM	—JH3GAH	J39A	—KQ1F
9N1CW	—UAØFDX	J52IM	—KB9XN
9U5DX	—F2VX	J68AG	—WD8IXE
9V1ZB	—JL3WSL	J68AH	—ACØS
A35RK	—W7TSQ	J68AR	—K9BQL
A61AF	—AA6DC	J68AS/DX	—N9AG
A61AH	—KA5TQF	J68ER/T	—W9UI
A61AJ	—AA6DC	J68ID	—W8QID
A61AM	—KA5TQF	J6DX	—N9AG
A625ND	—KA5TQF	JI6KVR/6	—EA5KB
AH7A	—AH6NV	JW5NM	—LA5NM
C21BH	—OH2BH	JY5YB	—DL5MBY
C50YL	—DL7AFS	JY8B	—DL5MBY
C53CS/HP	—DL7AFS	JY8SP	—WA2MOE
C56/DL7AFS	—DL7AFS	JY8YB	—DL5MBY
C6A/KM9D	—OM2SA	K9AW/DU6	—WF5T
KHØDQ	—JF1SQC	V26LN	—K3TLX
KH2H/KHØ	—JS6BLS	V26RN	—KC5WBM
KH8/N5OLS	—N5JA	V31MP	—W5ZPA
KR8V/C6A	—KR8V	V31YK	—W5JYK
LX/DFØBK	—DL8SCG	V47CA	—VE3BW
LZØA	—LZ1KDP	V47KP	—K2DQX
OE3S	—OE2GEN	V5/WA1JBB	—W3HCW
OHØLQK	—OH3LQK	V59T	—N2AU
OHØMAM	—OH2MAM	V63CT	—HL1IWD
OIØMEP	—OH3MEP	V85HG	—JH7FQK
OI7T	—OH7AAC	VA3AAN	—VE3SJL
OL5Z	—OK2XTE	VA3NJ	—VE3SJL
OX3IPA	—OZ5AAH	VB9NJ	—K2NJ
OY/OZ9NT	—OZ1MAD	VF7L	—VE7SKB
P4/K2LE	—K2LE	VK9FL	—JE5FLM
P4OJ	—WX4G	VK9PG	—JR5XPG
PJ9JT	—W1AX	VP2EEB	—AA3B
PYØF/PP1CZ	—PP1CZ	VP2EST	—KT8Y
PYØFF	—W9VA	VQ9SS	—N6SS
PZ5HP	—JA1OEM	X5EDL	—YU1FW
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SU1UT	—W3HNK	XX9X	—KA3FPO
T31BB	—DF6FK	XZ1N	—W1XT
T32BB	—DF6FK	YB1AQS	—DK7YY
T32HA	—VE7AHA	YB3SPS/P	—YB3SPS
TI5NW	—KE3NV	Z32XA	—KM6ON
TI9CF	—TI4CF	Z38/OH3MIG	—OH3GZ
TMØZK	—F5OZK	ZA1AJ	—OK2ZV
TM6BZ	—F5SKJ	ZC4EE	—G4SSH
TM6CLO	—F5WA	ZD7LK	—N2AU
TP1OCE	—F6FQK	ZD9BV	—W4FRU
TU4FF	—OH8SR	ZF2AB	—WA3EOP
TZ6VV	—AAØGL	ZF2CY	—AAØCY
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UN5G	—UL8GWW	ZF2NS	—N9NS
UN9PQ	—DL4DBR	ZF2RF	—K4UVT
UR4WWT	—WR3L	ZK1DB/DI	—DK1RV
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9Q5PA —Frank Patris, c/o American Embassy, Kinshasaaa Unit 31550, APO AE 09828

FK8GV —P.O. Box 3818, Noumea, NEW CALEDONIA

HSØ/G4JMB —Philip Weaver, Apt 8A-PP House, 25/1 SOI St Louis 2, South Sathorn Road, Yannawa, Bangkok 10120, THAILAND

TY1RY —P.O. Box 5194, Richmond, CA 94805-5194

YC9COD —Negara KM7, Bali Island, 82261, INDONESIA

YI1AU —Zayd, P.O. Box 55072, Baghdad 12001, IRAQ

Notes:

1. For contacts made during the Worldwide DX Contest (CW) cards should be sent via KU9C. All others go via KFØUI.

Many thanks to the following contributors: K1ZZ, RA3LZ, W3EPR, W7CF, W9LNQ, Western Washington DX Club (WAØRJY), American Radio Relay League (K5FUV), *Island News* (W5IJU), *425 DX News* (I1JQJ), *The Ohio/Penn DX Bulletin* (KB8NW), *The Low Band Monitor* (KØCS), *DX News Sheet* (G4BUE), *QRZ DX* (N4AA), *Inside DX* (N2AU), and *The 59(9) Report* (WB2YQH).

Best of DXing for the new year!

Very 73 de John N6JM. WR

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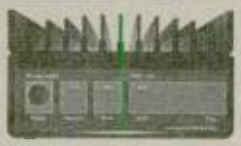

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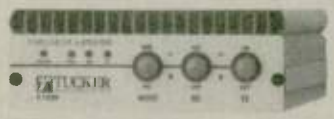

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9L1MA	WØHSC	KL7RA	KL7GNP
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9N1OSN	WAOSN	LU6ETB	(LU6BEG OP.)
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3B8CF —Seewonsankar Mandary, Shastri Road, Candos, Quatres Bornes,Mauricio Isl.

3C5A —N6ZZ from Bioko island (AF-010)

3DAØNX —JM1CAX bureau or ZS6CAX direct: Koji Tahara, Embassy of Japan, P.O.Box 11434 , Hatfield, Pretoria 0083, South Africa.

3V8BB —DL2HBX (the QSOs will be all confirmed via the bureau, or direct: DL2HBX Ulrich Ann, Marienstr.20a, D-38104 Braunschweig, Germany

4K7ØDWZ —Box 116, Ktoprak, 81031 Azerbaijan

4L5O —TA7A Omar, P.O.Box 71, 61000 Trabzon, Turkey

4L7AA —Box 32, Warsaw 00906, Poland

4Z4DX —Dov Gavish, 27 Hamitnahalim; Ramat Hasharon 47203, Israel

5N3/SP5XAR, SP5CPR, 5R8FK —Ray Shankweiler, P.O. Box 620, 101 Antananarivo, Madagascar

5U7M —JA4NMT via JARL-Buro

5Z4FM —Jim, P.O.Box 34168, Nairobi, Kenya

6Y6A —JE3MAS buro or (ex-6Y5XX): Masiii H. Kosu, Box 8202 C.S.O., Kingston, Jamaica. E-mail: masiii@InfoChan.com

9A1A —9A1A Team, P.O. Box 108, Zagreb 10001, Croatia

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9M2HQ —Nicholas Anthony, 4166 3 Jalan Ipoh, Sungei Besi, 51200 Kuala Lumpur, Malasia

9M2JJ —SMØOEK e-mail: smØoek@pc.jaring.my

9M2TO —JAØDMV buro or direct: Terutsugu Izumo, Bukit Dumbar Apt 9-4, 97 Jalan Thomas 11700, Gelugor Penang, Malasia

9V1YC —AA5BT e-mail: 9vlyc@equator.lugs.po.my

9Y4VV —W3EVW dir or bureau E-mail (9Y4VU): intech@carib-link. net

A45ZN —QSL via: Tony Selmes, P.O. Box 981, Muscat 113, Oman

A61AJ —K3LP (Op.) QSL custom, Ali, Box 15003, Dubai, Union Emirat.Arabes

A71CW —Chis Dabrowski, Box 22101, Doha, Qatar

AL7MX —Kenin G Foster, Box 877326, Wasilla, AK 99687, USA

BA4TB —Box 219, Wuxi (Shanghai), China

BV/JJ1TBB—Mark Kawasaki, 4-36-10 Kasuga, Nerima, Tokyo 179, Japan

BY4SZ —ARS of Suzhou RSA, Box 51, Suzhou, China

C21BH —The particular page is: http://home1.swipnet.se/~w-17565/dxis.html

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C31YA —Miguel Bautista Carmona, Carrer l'Alzinaret 9 2-2, Andorra la Vella, Andorra

C31ZK Josep Navarro Yelamos, Carer de l'Aigueta 18 2-2, Andorra la Vella, Andorra

C6A/KM9D OM2SA —Juraj Sipos, 930 13 Trhova Hradska 550, okr. Dunajska Streda, Rupublic of Slovekia

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CO8LY —Eduardo Somoano, P.O. Box 104, Santiago de Cuba, Cuba

CP6AA —OHØXX Olli, Suite 599, 1313 So. Military Trail, Deerfield Beach, FL33442, U.S.A.

D44BC —Julio Vera-Cruz, Box 36, Mindelo, Republic. of Cabo Verde, Via Portugal

DU1KK —Richard C. Kwiatkowski, American Embassy IM, APO, AP 96440, U.S.A.

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ED9EA —EA7KW (OP) e-mail: ea7kw@ arrakis.es

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EM1KA —JA2JPA Taka Ajiro, 2-14-18, Doubayashi, Shimizu, Shizuoka 424, Japan.

EY8MM —Bureau or Nordir M. Tursoon-Zadeh, P.O. Box 303, Dushanbe,734001, Tajikistan. E-Mail: ey8mm@sovam.com

FK8HC —EA5KB bureau or HH2HM/F : Michael Hamoniaux, P.O. Box 104, 226500 Ploubalay, France

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SPOC Formalized

On Friday, 10 January, Owen Wormser, K6LEW, the president of National Frequency Coordinators' Council signed the formal Memorandum of Understanding between the NFCC and the ARRL.

The agreement creates a new National Frequency Coordination Office located at ARRL headquarters that will begin work on phase two of the project, the hoped for establishment of an ongoing dialogue with the FCC on issues of importance to the coordination community.

Work on the creation of this single point of contact to the FCC began in St. Charles Missouri back in October of 1995.

Timothy Hoffman's Christmas present

On 23 December 1996, Timothy Harold Hoffman of Mesa, Arizona received a holiday present from the FCC that he probably did not want. It came in the form of a letter upholding a $6,000 fine it issued against him for playing like a ham without first getting a license. Regular readers of ***Worldradio*** probably remember Tim Hoffman.

He is the admitted repeater jammer who was issued a Notice of Apparent Liability to Monetary Forfeiture after being nailed for "willful violation of the Communications Act of 1934, as amended, and the Commission's rules."

According to the FCC, the violations resulted from Hoffman's operation of a radio transmitter on Amateur Radio service frequencies without a valid license, failure to allow inspection of the radio station by authorized FCC personnel, his committing acts of willful and malicious interference to radio communications of licensed Amateur Radio stations, and operation on CB channel 36, 27.365 MHz, to transmit one-way communications and material to amuse or entertain.

The violations were discovered by agents from the Douglas, Arizona, FCC Field Office working with members of the Arizona Repeater Association Interference Committee on 14 and 15 May, 1995. On 26 June 1995, the Douglas Field Office issued an Official Notice of Violation to Hoffman. A significant number of the problems allegedly caused by Hoffman took place on Phoenix and Mesa area repeaters. Hence the involvement of the Arizona Repeater Association and its hardy band of T-hunters.

Hoffman responded by letter dated 5 July 1995, in which he admitted he was responsible for the violations. The $6,000 Notice of Apparent Liability followed soon after. By a letter dated 1 October 1996, Hoffman requested a reduction or the elimination of the forfeiture. After carefully evaluating the information he provided, the Compliance and Information Bureau concluded that Hoffman had failed to adequately document his claim of inability to pay and ordered him to remit the full $6,000 monetary forfeiture within thirty (30) days.

The call sign bigot

The story of Timothy Hoffman reminds me in some ways of one of the very first repeater jammers I encountered almost three decades ago. In this case the jammer was a ham who took delight in making "frog noises" whenever the then-new "WB" prefixes would appear on a particular repeater. As more people with "WB" prefixes showed up, the jammer spent more and more time jamming.

The jammer also seemed to know when the T-hunters were out to get him, because he was always gone when they were looking for him — even though the T-hunters never talked on the air. To make the story shorter, the "jammer" turned out to be the head of the T-hunt committee. When finally collared by a "WB" prefix ham (who was also a two-way radio tech with access to sophisticated T-hunting equipment) — and friends at the local FCC office, the jammer's explanation was (paraphrased): ". . . these mail-order Techs are not real hams and two-meter FM is not ham radio. Since the FCC won't stop it, I will."

For those not aware, prior to VEC testing, the Technician Class license was available by mailing into the FCC office for a test package, finding two General class or higher hams to administer it (same as the old mail-in Novice) and the Generals then mailing the test back to the FCC for grading. Hence the derogatory term "mail-order Techs."

All this happened some 27 years ago at about 8 p.m. on a Saturday night when the "frog jammer" was particularly busy. I was listening and running a tape recorder at my house when the arrest was made — right on the air — for all to hear.

In those days the FCC cared more about punishing the guilty than fearing a law suit. As a result, the jammer had his license immediately suspended for its term without any hearing or appeal. I have no idea if he ever re-entered ham radio. I can tell you that the very quick punitive action taken against the jammer put the "fear of God" into the mind of every area ham. Nobody was jamming anything at the time I left.

The moral of all this? There are two. First is that bigotry plays a key part in a person becoming a regulatory violator. Back in the era of this incident, the "WB" prefixes were just beginning to get issued and two-meter FM was just becoming the "hot spot" in ham radio. There are always those who hate change for the sake of hating change and hate the people who are involved in the change for the sake of needing a target for their bigotry. As such, they look for something representative of the change that they despise so as to have a whipping boy. In this case, change was represented by the then-new call sign prefix and those with that prefix became the target of the bigot's attacks.

Second, is that swift punitive action by a federal regulatory agency can do wonders to stop a problem. Too bad that today's FCC has neither the funds nor the will to do what it used to do two and a half decades ago. If it did, this entire topic would not be under discussion.

Wide coverage repeater site lost

A 2-meter repeater famous for serving a large part of central Alabama is about to lose its perch high atop a broadcast television tower. The Montgomery Amateur Radio Club's 147.8 MHz "tall tower" repeater is looking for a new home. The system is popular with radio amateurs in nearly a dozen counties and has been one of Alabama's best known repeaters because of its wide area coverage. The system has operated free of charge from 1,600 feet up on a tower owned by Montgomery television station, WSFA.

Club members were told recently that WSFA is negotiating to lease tower space to another TV station whose antenna would be close to the same level as the repeater. The new station will transmit 3,500,000 watts through a gain antenna. Another broadcast radio station whose antenna is also nearby plans to double its power to 200,000 watts.

With so much RF so close by, the only time club members could do tower work on the repeater would be after midnight, while wearing expensive and cumbersome protective clothing. All of the tower's remaining space is taken by paying customers and federal agencies. So, club trustees voted recently to remove the repeater from the tower and look for a new home. No word yet on where the 147.18 repeater may wind up.

New York City RACES reborn

The Radio Amateur Civil Emergency Service basically died in New York City in the late 1960s as those involved became silent keys with few newcomers interested in taking up the mantle. The Hudson Division Loop reports that since its re-establishment in 1995, the New York City RACES was officially activated for the first time October 19-20, 1996 under the direction of the Mayor's Office of Emergency Management. RACES operators provided vital communications links with Red Cross shelters and essential observations of conditions in flood-prone areas. The observations were of great importance to the OEM, aiding in rapid response and decision-making on the part of the agency.

NYC RACES now also has two officially recognized RACES stations.

They are KB2YNK, at the OEM offices in Manhattan, and the radio station WB2JSM at the Hall of Science Amateur Radio Club, in Queens. WB2JSM is undergoing a major upgrade and will provide everything from packet to phone on HF, 6 meters, 1.2 GHz, 2m/440, and in the spring, satellite communications. Extensive power backup systems are being installed to provide long term emergency communications without commercial power availability.

KB2YNK became a reality in October, 1996, with an unprecedented donation of funds for equipment from the City of New York, and has 2M, 440, and HF capabilities. Plans to add packet and other communication modes are in the works and are expected to be added in the new year.

The best repeater in town

This month, KB2YJL reports on Wilmington, Delaware, where you can take your pick of the three great repeaters. All are open and welcome travelers. They are WA3QLS "aka the BIG 73" on 146.730, the 147.225 machine and the 146.995 machine. All provide good coverage and do not require CTCSS tones to access.

Repeater controller info on the www

Repeater owners listen up. Rich Colwell, WA3QKX, reports that he has established two list servers on the world wide web dedicated to repeater controller hardware and software. One is for the still very popular ACC controller while the other covers Link Communications controllers. Try the following URLs:rrc2@engrng.pitt.edu/~rrc2/acc.html and rrc2@engrng.pitt.edu/~rrc2/link.html

Swiss ATV

I received some e-mail from Francesco Vanoni, HB9OBW, who also holds the call sign KE6FUD. Francesco lives in Switzerland and sends along the following information for all of you, on the state of amateur fast scan television in that country:

"On 19 October 1996, the Swiss ATV club has held his annual meeting in Ecublens (near Lausanne, Switzerland). Many hams from Switzerland and France participated and presented their own experiences on ATV and other microwave projects. Also presented were several technical themes about ATV on 10 GHz and how to get striated on ATV.

The hot topic of the meeting was the report of HB9AFO about the world record on 10 GHz ATV contact. Also announced was a new World Wide Web site where any ham can

visit the Swiss ATV. The site is located at: www.cmo.ch/swissatv."

UK Repeaters

If you are planning a trip to England, here is some news about repeaters in that country. The GB3BC system located near Newport, came back to the air after being QRT for a month for technical updating. It operates on European repeater channel R-6. Also back on is the Kent GB3CK repeater on UHF Channel RB-Ø.

As you see, in Europe repeater channel pairs are not given by frequency. Rather, there is a set designator for every channel pair such as the R-6 channel pair mentioned above. If you are planning a trip you might want to write ahead to the national Amateur Radio society of the nation you plan to visit. Ask them about reciprocal licensing and if they can supply you with an English language repeater frequency guide.

From the mailbag

Jack E. Coster, WF8X
Morgantown, WV

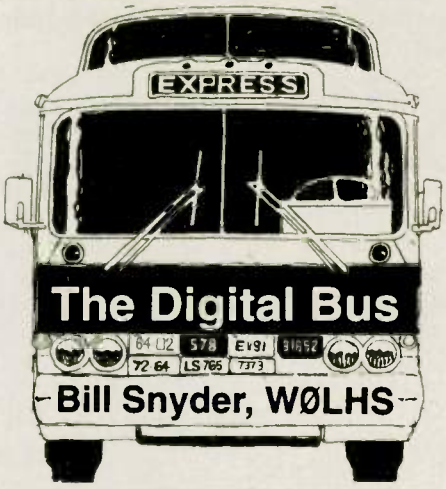
"Re your September, 1996 FM & Repeaters column in ***Worldradio***. I really do not understand the point of the argument that companies who sell gear to be used on the ham bands should only do so to licensed hams. Responsibility for enforcement of licensing and operating rules are not the responsibility of the manufacturer — it is the responsibility of the FCC and of the Amateur Radio community.

"I have bought several automobiles in my life, but I have never been asked to show my driver's license as a condition of the sale. I have bought considerable fishing gear in my life, but the sporting goods stores never asked me to prove that I had a fishing license before they would sell me the gear. I checked with one of the large mail order ham radio suppliers and asked them if I needed to have a ham call before they would sell me a VHF transceiver. The answer was 'No, for all I know you may be buying it as a gift for someone else.' So much for the 'hard questions' asked by the large radio supply houses!

"There are clear advantages to the ham community in having wider marketing of ham gear — the prices will be kept lower. And being able to see ham gear on the shelf, may stimulate some interest for persons to pursue Amateur Radio as a hobby.

"But of course the easier availability of the equipment will result in some illegal use by unlicensed persons. The solution to that problem is not to discourage wider marketing of the gear, however. Transceivers will still be available at hamfests, garage sales, estate sales, auctions, and directly from hams who are trading up. The amateur community can work to educate retailers on licensing requirements and on local opportunities for obtaining the licenses. In some cases, it may be necessary for hams to sharpen their fox hunting and direction finding capabilities in areas where the outlaw tradition has become established.

"The root of the entire problem is not in the larger supply and easier availability of radio gear. The root lies, instead, in the fact that there is a significantly expanded demand for radio gear, especially VHF gear, as a result of no-code licensing. Manufacturers and retailers are simply responding to that demand." WR



I get a lot of fun out of reminiscing about the days of old, especially my days in the service during World War II, my year of photographic adventure in British East Africa, the Belgian Congo, the Rhodesians and South Africa, and my hobby of ham radio there and at home in North Dakota.

The other day I was digging in some of my archives, when I discovered an old address book that I compiled at the end of WWII. It was made during the last couple months I was a member of the 58th Signal Battalion, the communications unit that supported I Corps in New Guinea, the Philippines and after the surrender, Japan. As I flipped through the pages, I was taken with the idea of looking up some of the names in the address book, mainly to see whether or not they were still with us. So I took the six CD-ROMs comprising the latest digital phone book and began to surf for people listed in the old address book. I didn't find very many, to be sure. Fifty-one years has taken its toll.

I had tried something similar a few years ago, but I didn't have my address book to guide me; I used only memory. My final year with the 58th was as the company commander of the Headquarters Company. I had a crackerjack radio technician, Warrant Officer John Dinga, as head of our signal equipment repair section. I remembered him as coming from St. Louis, so when I discovered a phone number for John Dinga in the digital phone book, I called the number, but I got a recorded message, "The number is not in service."

The digital phone books must be compiled by scanning old phone books, because the one I had was out of date. I had the same experience when I looked for an old girl friend of the 1930s — no such number. Guess I was too late.

In the past 50 years I've had contact with only two members of the 58th; the first was Roy Beavers of the Atlanta, Georgia, area. He and his family stopped in Fargo where we had a barbecue and a good old-fashioned reminiscing session. Roy was our company handyman expert who could fix most anything, build most anything and do most anything. When he came to our house he was the electrician in the Atlanta Federal Penitentiary.

The second 58th friend was Dave Lynch of the Ohio area. Dave was the company supply sergeant, and a good one, too! He and his wife stopped in Fargo on a bus tour to the Canadian Rockies, and we had a visit while the bus stopped for lunch. I have since talked to Dave on the telephone.

While surfing the phone CD-ROM phone book, I found a half-dozen people I suspected of being from the 58th. I sent each one a postcard with a message such as this: "If you are the (name) that was in the 58th Signal Battalion in WWII, please drop me a line."

The first weekend after I mailed the cards I got a phone call from Florida. "This is John Hill in Florida," the voice said. "What a thrill to hear from my old battalion commander after 51 years." We really had a good ragchew about what had transpired in the years since we said good bye in Osaka, Japan. John had returned to Westinghouse where he worked before the war. He is now 84 and retired.

The next day I got the second phone call. This time it was my old first sergeant, Ernie Haynes, who called from Arkansas. Another thrill and another good ragchew. Ernie was given a commission toward the end of the war and had left our company.

I wrote to one name that I guessed might be a former technical sergeant who I have written about in this column, but to date I have not heard anything.

In the last year of the war we had a VHF team headed by a Lieutenant Marianthal. I found a name that exactly matched his first and middle initial and sent a card to a Colorado address. I received a letter from the recipient of my card in which he stated he was the son of the man who had been with the 58th, but my friend had passed away in 1977. He was a "junior" to his father.

So, it was a lot of fun looking for the former members of my old outfit in the service. I wish many times we had formed a reunion group right after the war and kept up the friendships we made in those trying days. The 58th Signal Battalion had been recruited from the Bell

System and was a great collection of technicians.

After I finished reading the book *Code Name Down Fall,* which I commented on in an earlier column, I am extremely glad that President Truman authorized the dropping of the atomic bomb. We were scheduled to land on the southern-most island of the Japanese mainland, Kyushu on 01 November 1945, and the battle casualties for both sides would have been something horrible. I suggest everyone read that book, especially you readers who were in the service at the end of the big war in the Pacific.

The passing of W7VFR

When I went to high school in the 1930s, I got to know an upper classman in our radio club. His name was Robert Lawrence, and he lived a block away from the school. I walked that block many times with Bob, and we talked radio, radio, radio. Our radio club had a station license, W9GTB, and the advisor was a great physics teacher, O.S. Anderson, "Andy," as he was known around the 1,200-student high school. He wasn't a ham, but he was a good club advisor.

Bob graduated ahead of me and moved to another part of town, so I didn't get to see him very often, but we did meet at the local ham radio club in those days. He went to work for the FAA as a radio man, moved around, and so I lost track of him. It was long after WWII we came together again, only this time it was on packet radio. Bob had moved to Pasco, Washington, during the war and worked for the Hanford atomic operation there.

It was long after his retirement that I actually got to shake hands with him again. I stopped to visit him in Pasco when I made a couple of auto trips to Seattle to visit my wife's relatives.

Bob had a good sense of humor and he would comment over the packet circuit we developed about my writings in ***Worldradio.*** For a while he and I would exchange packet messages in the neighborhood of two and three a week. We had a circuit of about six relays that worked like a charm. Many times I would get a message from Bob in six hours and, now and then, as short as four. The forwarding BBS stations were running on a time clock that would take the message and forward it on in just a few minutes. For 1,500 miles of travel that time wasn't too bad. Bob had diabetes and he suffered from it for some years. He also had had a heart bypass operation.

Bill Kurti, WCØM, North Dakota Section Manager for the ARRL, got to know W7VFR over the packet system, too. He was in the relay chain to Bob and read our traffic back and forth. Bill, being a great friend and ragchew specialist, also had a lot of fun packeting back and forth to Bob. Whenever Bill, who lives north of me near the Canadian border, comes to Fargo we have a nose-to-nose ragchew and we have speny many enjoyable hours doing just that, although we usually wind up doing a little hanger flying because we both are pilots. And the two Bills of North Dakota are going to miss Bob Lawrence's sly sense of humor.

The eavesdropping section of this column has been getting shorter. Most of the input for this column comes from watching the contacts on RTTY. That is the way it started when I was writing the DX column for the *RTTY Journal*. I kept it up after I started with ***Worldradio***. I get input from all over the country, but with the bottoming out of the sun spot cycle, the ragchewing isn't what it used to be and the eavesdropping isn't as good either.

While I was digging in the archives, which includes all the issues of this magazine, I sampled the eavesdroppings in an issue from 1986. Here are a few of those published:

Eavesdroppings

USING A TOP-FED INVERTED VERTICAL ANTENNA. . . HAVE 55 RTTY COUNTRIES CONFIRMED ON THIS ATTIC ANTENNA. . . I'LL BE LOOKING FOR YOU DOWN THE HOG. . . PASS ME YOUR NAME ON THE FINAL. . . IT MUST BE NICE TO HAVE ALL THOSE GREEN STAMPS TO INVEST IN HAM GEAR. . . I WAS A TECHNICIAN FOR 20 YEARS, BUT I FINALLY WHIPPED 13 WORDS PER MINUTE. . . I WON'T HOLD YOU AS MY FINAL AMP IS SMOKING. . . I WAS NEVER ONE TO FORGET A NAME UNTIL I GOT IN HAM RADIO. . . AFTER THE HAIL STORM THE WEATHER WAS MARVELOUS. . . MY TRI-BANDER IS UP 45 FEET ON A 36 FOOT TOWER. . . I HAVE TROUBLE FINDING HIDDEN FILES WHEREVER THEY ARE. . . HAM RADIO CERTAINLY HAS A PLACE IN MIXED-UP WORLD. . . WE AVERAGE ABOUT THREE OR FOUR THUNDERSTORMS A DAY, SO I KEEP MY ANTENNAS DISCONNECTED. . . THE GEAR HERE RANGES FROM KENWOOD TO OLDE JUNK. . . WITH A COMPUTER I JUST LET THE STUFF RUN OFF THE SCREEN INSTEAD OF PILING UP ON THE FLOOR LIKE WITH THE OLD TTY PRINTER. . . THIS IS A FUN HOBBY COMPLETE WITH TVI AND OTHER GOODIES.

Write me: Bill Snyder, 1514 12th Street S, Fargo, ND 58103-4134. Packet addressed to WØLHS@WØILO.#SEND.ND.USA.NOAM should get to me. 73 and DIT DIT.WR

Traffic

Geri Sweeney, N4GHI

Upcoming traffic

April	Sun and Fun EEA Lakeland, FL

Organizing traffic

Whenever you relay more than two pieces of traffic, you should organize it into an order which will facilitate the following relay stations to send it. But, before you can send traffic, you will have copied it — whether from another station (receive), or, from a third party (origination).

Copying traffic

Some folks type their traffic on a mill (typewriter), some use a computer, and, some write with a pen. Each has a plus and a minus side. Those typing can generally copy faster than fingers can write. Mill users often have to query before they start to see how much traffic you will send them (for paper management), and, I have been interrupted in the middle of sending a message with a "must change paper" notice. Computers avoid that problem. But computers are prone to eliminating all the messages just copied with one surge of electricity or one inappropriate command. On the plus side, you should be able to receive faster, neater, and not have to throw away hundreds of pieces of stored paper at a later date. (I keep all traffic for 3 months.)

My preference is to write with a pen. Pencil lead can break too easily. Having several pens at the ready (black, green, red, blue) is useful. Black is easy to read. The colors can be used to help you sort. A red number (for the routing — Section/Region/Area) on the bottom of each message, catches the eye faster than having to read the city/state line. I use other colors to circle different states in a book. Many write in a notebook. I prefer using used 8½ x 11" paper cut in half. By using the back sides, you help recycle and it's much easier to organize (sort) the messages into piles and not turn pages back and forth. However you copy, you should be able to sort the traffic.

Routing

The National Traffic System for the United States and Canada is divided into three hubs: Pacific (PAN), Central (CAN), and Eastern (EAN). Check the map on the back of the *ARRL Directory* to see which states are where. Using Eastern as an example, we find: Regions 1, 2, 3, 4, 8, 12, and 13 (Region 12 is Eastern Canada, or ECN, and 13 is ARN — international), as well as a representative collecting traffic for the Central and Pacific Areas.

When traffic leaves a Local or Section level net, it should be ordered for routing. Traffic on the Eastern Area Net is listed in an ascending order of Region 1 to PAN. This makes it easier for the Net Control to organize the traffic list. Thus, when I relay traffic leaving my Virginia Section Net to the station taking it to the 4RN, I send it in that order. Rather than sending an Ohio (RN8), followed by a Maine (RN1), and a New York (RN2), etc., I arrange it 1, 2, 3, 8, ECN, ARN, CAN, PAN. What happened to 4RN? I'm in 4RN, so I'll send all 4RN traffic first. And, it should be ordered for the 4RN Net Control. We generally use North to South (VA/NC/SC/GA/FL/PA). Thus, when I send the 4RN traffic to the rep, I send it in that order.

Within a Region — like Region 2, traffic should be ordered so that you send all the New York and all the New Jersey together. This helps the 2RN representative send it on the 2RN Net. Having all traffic going to one place, in order, especially helps those writing in notebooks and using computers. If you have the time, you might even consult telephone area and/or ZIP codes on messages and send the same area codes together. Certainly you need to order traffic going to PAN/CAN/EAN by state and region. Putting your traffic in order for routing is really a great help for relay and net control stations.

What's happening in Michigan?

An historical perspective

Don Devendorf, W8EGI, gives some background.

"In the beginning was CW . . . Tuning was accomplished using a flashlight bulb in a loop of wire held close to the hot end of the coil . . . . Most of us started QRP (2 watts) . . . . During the late twenties and early thirties our radio parts came from Kresge's Dollar Store. In 1929, a Pilot Super Wasp receiver kit was $29.50 at the Dollar Store . . . . These rigs did their best on 80 Meters. Forty was pretty shaky and higher bands were simply out of the question . . . .More power came with an AC power supply and the 245 tube — a big jump to 20 watts at 350 volts.

"A whole new dimension was added when someone asked me to take a real radiogram for local delivery. Traffic was handled on an individual ad hoc basis. Schedules were arranged at random, usually after a chance reply to a CQ. We all mailed our monthly reports to the SCM . . . . Actual routing of messages was left to our own initiative.

"The bulk of our outstate traffic was relayed, that is if we could find someone in the right direction closer to destination. Delivery was always made by the last receiving station, no matter where the addressee, since even then it wasn't considered proper to hold anything over 48 hours. I don't remember anyone ever using a 'cancel & file' service message — maybe it hadn't been invented yet. I suppose we just felt an obligation to get the traffic through.

"The landline wasn't used then, simply because universal telephone service was far in the future . . . so almost all deliveries, even local, were made via that late great American institution, the "penny postcard." In those days there were 14,000 daily passenger trains carrying the mail to every city, town, and village in the United States and Canada, and each train carried a Railway Post Office in which clerks sorted mail en route. Half of all Federal employees were mailmen and they came twice a day.

"For example: we receive an apparently urgent message at 8 a.m. No relay outlet. I glance at the railroad time schedule. I quickly type up the traffic on a penny postcard, jump on the bike, pedal down to the depot and hand it right to the clerk on the train, or just drop it in the mail slot on the side of the car. The card will arrive the same afternoon . . . . It isn't quite the same anymore."

QMN — Michigan Traffic Net Then

"My late 1931 ORS (Official Relay Station) was soon followed by an RM (Route Manager) appointment. I found myself maintaining regular skeds with Detroit and adjacent Section RMs . . . . Then, in late 1932, the Detroit Amateur Radio Association began urging us outstate stations to participate in their ongoing local CW operation — a net of sorts around 3700. From that beginning grew the idea which would become QMN just a few years later.

"In 1935, at a Detroit Hamfest the RM from Monroe suggested considering using a net-type operation at a specific time, daily, for all of Michigan. He had thought the whole out . . . Everyone was impressed with the logical, simplicity of the idea . . . . The Detroit Amateur Radio Association had been organized in 1929 with the main objective of handling CW message traffic. It was uniquely qualified to implement the idea . . . . Thus, was born the one-spot traffic net, in the fall of 1935.

"In September an announcement was made that was to revolutionize ham traffic handling. The Michigan Net frequency was to be 3656 and crystals would be available to anyone for a buck. The net became know as the QMN in the Spring of 1936. All the nets now use a similar designation, but you heard it first right here.

"From the 12 stations that first night in 1935, we grew to over 300 in 1940 . . . . A few are still active on QMN to this day . . . . I suspect 1941 was the high-watermark of amateur CW operation. After the war, other modes came into vogue and operation was more diffuse. There were many more hams on the air, but CW never quite regained the universal appeal it had in the 1930s. It was the end of an era.

"My own regular entry into QMN was delayed until the night of 13 March 1939, when I joined the net suddenly under dramatic circumstances — a sleet storm had brought trees and wires down all over the city . . . . I remember operating alone on QMN all night, but with plenty of well-organized help. At one point I was handling train orders for the Wabash Railroad, and for emergency crews and supplies for Consumers Power Company.

"In 1955, QMN voted to leave the Detroit Amateur Radio Association and go on its own . . . . Five years later we began publishing our own bulletin. In 1939, a QMN committee met and devised the 'Q' signals. They were published exactly as we know them today. (See your Pink Card.)

"The 'QN' list, together with an excellent outline of the QMN operation, was given the widest possible dissemination . . . . Some were always a bit bitter that ARRL refused to even acknowledge the existence of the 'QN' signals until years after they were in common use nationwide . . . . They were finally published in *QST* in 1947 without any credit to either DARA (Detroit Amateur Radio Association), or 'QMN.' 'QMN' was a first, a unique Michigan creation."

QMN now

Jim Wades, WB8SIW, manager of QMN, says that they are still in the vanguard of things. They have developed a tape to send along with written materials to assist beginning traffic handlers with CW net procedures. One side consists of a tutorial of CW traffic net procedures, and the other side, sample nets at different speeds. This tape is sent along with, ARRL Public Service Communications Manual, ARRL Net Directory, Introduction to QMN Booklet, FSD 218 "Pink Card," ARL Numbered Radiogram Sheet, Amateur Disaster Welfare Message Form Sheet, Book of Radiogram forms, and an application to participate in NWS State-wide precipitation reporting system. Since several of those items cost money, a minimum donation of $7 is requested. Jim says that if anyone would like to review the tapes, they can be purchased directly from QMN at cost.

Jim mentions that there is an organization dedicated to the preservation of the American Morse Code called the "Morse Telegraph Club." Many of their members are retired from Western Union, railroads, and similar organizations, but there are also quite a few radio amateurs involved. They publish an excellent newspaper-type publication several times a year, and, once a year, on Samuel Morse's birthday, each chapter meets at the central location and communicates with other chapters throughout the US and Canada. "It's a great experience to see these expert railroad ops communicate on a landline circuit using the Morse code," says Jim.

QMN's future

WB8SIW continues: "QMN predates the NTS by over 13 years. QMN and CW are still alive and well in Michigan. As a matter of fact, we are beginning to see a number of new, younger amateurs becoming active on QMN. In addition, we recently concluded an agreement with the National Weather Service through which QMN will collect precipitation data from throughout the State to assist in the issuing of Flood and Winter Weather Warnings!

"This should provide some additional meaningful NTS message traffic to keep the net busy. It is my intention to begin actively recruiting new members throughout the state at various hamfests and swap-and-shops. The CW operators are out there. We just need to get the word out about the many advantages this mode offers for public service communications."

QMN nets

Training Net 6 p.m. (1 Oct to 31 Apr only)

Early Net	6:30 p.m.
Late Net	10 p.m.

All on 3663.

CW slow speed traffic nets in the central area

ITN	(IL)	7 p.m.	3680	D
TSN	(TN)	8:30 p.m.	3682	M-F
WNN	(WI)	6:00 p.m.	3723	D
WSSN	(WI)	6:30 p.m.	3645	D
FISTS	(MI)	9 p.m.	3682	T/TH

Local times. Let me know of any *slow* speed traffic nets in your area. WR

Search And Rescue Communications

Jerry Wellman, WB7ULH
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Salt Lake City, UT 84147
E-mail: jw@desnews.com

As I write this month's column, there are stories of disaster from all over the United States. From the northern states there are tales of Arctic cold and reports of heavy snowfall. From Nevada we hear of towns isolated because of snow. Floods have inundated parts of California, Oregon, and Washington. The East Coast has been hit with snow and cold. In New Hampshire an extensive search was undertaken for a missing Lear jet with two people aboard. Washington State reports several events for missing hikers.

When you get involved, let the media know!

I have not, however, seen reports of Amateur Radio involved in the relief efforts! Don't ignore the value of public relations work. Sometimes you have to ring your own chimes and let the media know you're involved. It helps when agency leaders know you're involved and helping. Your good works also help other groups who are trying to get involved. When someone in New Jersey can point to what is happening in Minnesota, it helps pave the way. During a recent training exercise, it was rewarding to have one city official not only request Amateur Radio operators, but to actively seek their input to the response effort.

On television

A picture is worth a whole bunch of words. The State of Utah recently conducted an exercise that involved video images provided by Civil Air Patrol, Amateur Radio, and the Air National Guard. The National Guard used helicopters and infrared images, the CAP used a system that captured single frame images, and Amateur Radio used fast scan (real time) shots relayed through an ATV repeater.

Yes, there were bugs, glitches, and miscues. On the whole, however, it was a tremendous success. Each of the three video types proved of worth to the emergency operations officials. The chopper photos displayed heat sources perhaps within a collapsed building, the CAP still shots could be taken at low altitude and then relayed to the operations center from high altitude, and the Amateur TV displayed real time events such as traffic flow, fires, debris flow, or evacuation patterns. Some of the challenges involve coordination so the pictures provided are of use to the emergency planners and coordinators. Once the capabilities are known, however, the operations folk can give better instruction to the air crews so critical video can be obtained. This initial exercise was one of simply flying some general flight paths and seeing what shots could be obtained.

Technical issues included interference to incoming photos when high-powered transmitters desensitized various receivers. We finally figured out that the strange lines crossing some of the photos coincided with radio transmissions from the emergency operations center. The CAP and the Amateur Radio operators experienced some problems in rigging the planes with antennas, radios, video cameras, and then powering the equipment. One of the important lessons learned was that of advance cooperation in solving the technical issues — groups cannot just show up and hope that everything will connect.

I had the opportunity to observe how emergency planners reacted to the videos provided and am happy to report they were very encouraged by the effort. Some of the state planners said they had heard of similar efforts in other jurisdictions and I'm sure the Utah emergency managers will be sharing their thoughts with other states.

I have learned that state, county, and local emergency managers spend quite a lot of time on the road attending seminars and training classes. Often these classes are sponsored by the Federal Emergency Management Agency and attract a wide range of representatives from many states and many agencies. You would be surprised at how often Amateur Radio is mentioned as well as how innovative technology such as packet and ATV can be employed to benefit incident commanders and planners.

If you have local groups with special interests such as television, get them involved with your volunteer efforts. The important issue is to use these types of resources to augment your efforts, so you can work out the bugs. You don't want to come in with blazing offers of perfection and then have your system fail when a connection comes loose or the ATV repeater fails. Take your time, develop the resources, test the resources, and seek ways to provide a dependable system. Just like every other neat gizmo in our Amateur Radio inventory, if we expect to be of use, we must do it well and

be able to provide it at a moment's notice. If, for example, we've borrowed the ATV camera from one party, the transmitter and antenna from another, we should not claim to be immediately available as a resource! Don't make claims you cannot immediately fulfill!

A Capital idea!

Jeanne Rexroad, N4ZGI, made me aware of an Amateur Radio "Super Activity" sponsored by the National Capital ARES Council. This council is comprised of emergency coordinators representing Maryland, Virginia, and Washington, D.C. and on 7 December 1996, they held an ARES Institute for area Amateur Radio operators and funded completely by donations from area sponsors.

Jeanne reported that nearly 60 operators attended the institute which covered the National Traffic System, traffic handling, emergency nets, principles of disaster communication, repeater operation, and coordination with other agencies such as Red Cross and Radio Emergency Affiliated Citizen Teams (REACT). The group also learned about the incident command system and about communications in support of weather incidents.

Each participant received a stack of publications and handouts for information and review along with rosters for later contact in case there were questions. Jeanne sent me copies of all the handouts and I spent several hours reading through an excellent collection of radio-related material! Included in the handouts were instructions for grab-and-go materials, detailed plans for antenna construction, and sample forms an operator would encounter in working with incident commanders and Red Cross officials.

Here are some tips in case you want to conduct a similar day-long training event. First, get many people involved and decide what you're going to focus on. Many hands make it easier to get the work done in a professional manner. From the quality of the handouts and the instruction notes, a great deal of effort went into *preparation*, and preparation is what makes the difference between a good event and a *great* event.

Ensure you have ample supporting material. Jeanne reported that their cost for the event was about $500 and much of it included the handouts. She also said some businesses contributed copy machines so each participant could receive as much material as was available. They also obtained materials from federal agencies such as the National Weather Service and from volunteer groups such as ARRL and the American Red Cross. Incident Command System publications were also purchased from the National Wildfire Coordinating Group. What resulted was an incredible amount of material to take home and share with other ARES members.

It would take pages to list all the people who helped make it happen and that's a real plus. The seminars were not a single person's set of ideas, but a collection of many ideas. This also didn't happen with several weeks' work, but covered many months before the final product was ready. Each participant was also given a survey sheet to seek topic ideas for future seminars and each was asked to get involved for the next seminar. Outstanding! When you get people involved, they learn, they enjoy, and they get others pumped up to get involved.

Jeanne is willing to share ideas with you and offer any insights should you decide to conduct a seminar in your area. (And you should be considering this! It's a great way to train volunteers and get people involved in public service.) You can contact Jeanne Rexroad via e-mail (jrexroad@aol.com) or you can write her at 5723 Overly Drive, Alexandria, VA 22310. I might add that she has no budget to supply each of you sets of materials, but she can tell you how to get your own stuff and prepare it for your own seminar, customized to meet the needs of your area.

Evaluate and improve

Many groups and agencies conduct training exercises designed to test readiness and response capability. Often there is a great effort to get people to show up and make the exercise happen, but just as often, there is no follow-up as to what needs improvement. Too often the exercise is an evaluation by the parent agency and participants look at the test as a "necessary evil," and simply want to look good so the

"parent" will go away for another year.

I have often been frustrated by scheduled evaluations because similar problems seem to occur frequently — as in each time the evaluation is held. The "parent" evaluators seem to be different people each time and never carry with them the past evaluation to see if progress was made in past deficient areas. Exercises, by design, are done to effect improvement in ability. The idea is to discover problems before the real event and formulate solutions. Without the "solution" part, the exercises become an annual futile game.

I would encourage every volunteer group to maintain and review past exercise evaluations and learn how to correct mistakes. There should never be repeat deficiencies! You may discover new areas of concern because of changes in technology, changes in personnel, changes in functional roles, or changes in your mission, but you should not be seeing the same errors on each year's evaluation. If you had air-to-ground communications problems last year, you have had ample time to discover solutions. If you had poorly trained radio operators, you have had time to conduct training.

One key element of emergency management is that of continual improvement. The best response groups, I believe, are those that conduct effective exercises and employ follow-up critiques to improve their capability. Don't let your yearly full-scale exercise become simply a showcase for your sponsoring agency. Show that you have improved over the past years by especially not making the same errors.

Qualifications

I received an e-mail message from a volunteer communicator who wishes to remain anonymous. She pointed out a problem common to many volunteer groups. I'll call it the "king syndrome." It's simple. If you're the boss (i.e. the king), you get to make the rules or break the rules. Let's say your group has a set of criteria for qualification in an emergency services function.

Your group has published these criteria and requires that anyone desiring to be so qualified must complete the criteria and submit appropriate documentation. When the criteria are met and documented, the member receives a card indicating he or she is qualified to perform the emergency function.

Now you're the leader and you choose to ignore (for your close friends and buddies or those who can help you remain in charge) the rules and simply accept an abbreviated application form (minus the qualifying training and documentation) and issue the qualification card. In fact, since you're in charge, you issue yourself a card and designate yourself as qualified to do just about any emergency function. The rub is that it goes one step further, and all those who are not "good buddies" must complete all the documentation and training sessions. No short cuts for these people, and their applications are carefully scrutinized to ensure every "t" is crossed. Qualification cards are a long time in coming, you see, for "we have to ensure you are properly qualified."

The net result is a central group of "close friends" who vouch for each other all the while having little or no training while those who have struggled through the process get tired of waiting and move on to another volunteer group. The "king syndrome" has one interesting flaw. Those who become qualified (albeit without their credentials) soon notice that those in charge don't have a clue. Other emergency groups begin to notice these people as well and begin to question whether or not the group can perform as advertised. Pretty soon, the group is simply a social club with no missions, no respect, and a high turnover of new members.

Does this apply to your group? Professionalism means quality, and quality implies consistency. If you require training and documentation, make sure you do it for everyone or it becomes meaningless. It doesn't take long for a "credential impostor" to display his or her ignorance.

Someone wiser than I simply said: "If you talk the talk, walk the walk."

Think about it. Until next month keep warm and dry and contribute your services where ever possible. I can be reached via e-mail (jw@desnews.com) or by snail mail to the address at the top of the column. WR

Visit Your Local RADIO CLUB

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., 1515 E. Osborne, Phoenix. Info: (602) 631-4879 9/97

Cochise Amateur Radio Assn., (CARA). Meets 1st Mon./monthly, 7:30 p.m. at club facility on Moson Rd., Sierra Vista, AZ. WA7KYT/R 146.76(-) rptr. 5/97

Old Pueblo Radio Club, (OPRC). P.O. Box 42601, Tucson, AZ 85733. Meets 2nd Wed./monthly, 7:15 p.m., YMCA Lighthouse Cntr., 2900 N. Columbus. 2/98

Tucson Repeater Assoc., P.O. Box 40371, Tucson, AZ 85717-0371. Meets 2nd Sat./monthly, 7:15 p.m., Dept. of Emergency Mgmt., 130 W. Congress. Net Thurs. 7:30 p.m. 146.82(-), 146.88(-), 147.08(+), 448.550(-) & 145.15 Packet. 3/98

CALIFORNIA

Amador County Amateur Radio Club. P.O. Box 1094, Pine Grove, CA 95665. Meets 1st Thurs./monthly, 7:30 p.m., Jackson Sr. Cntr., 229 New York Ranch Rd., Jackson, CA. Info: call 146.835(-). 5/97

Amateur Radio Club of Anderson, (ARCA). Meets 2nd Thurs./monthly, 7:30 p.m. Amer. Legion Post #746, 1709 Bruce Dr., Anderson, CA. Net every Tue., 7:30 p.m. on 146.64. 4/97

Clovis Amateur Radio Pioneers, (CARP). P.O. Box 514, Clovis, CA 93613. Meets 1st Fri./monthly, 7:30 p.m., Clovis Sr. Cntr., 840 4th St. Info: (209) 298-7707, KE6TCY 147.675(-) PL 141.3 net Thur. 7 p.m. ARRL SSC 3/97

Contra Costa Communications Club, Inc., WD6EZC/R. P.O. Box 20661, El Sobrante, CA 94820-0661. Meets 2nd Sun./monthly (except May & Dec.), 0630, Baker's Square Restaurant in Richmond, CA. Info: Ed Caine, KA6OFR, (707) 996-0962. 1/98

Downey Amateur Radio Club Inc., W6TOI. Meets 1st Thurs./monthly, 7:30 p.m., So. Middle Sch. cafetorium, 12500 S. Birchdale, Downey, CA. (Summer exception: contact Doug, N6WZI, (310) 929-1441). VHF net W6GNS rptr. 146.175(+) Thurs., 7:30 p.m. 5/97

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. 145.110 MHz. 6/97

Fresno Amateur Radio Club. Meets 2nd Fri./monthly, 7:30 p.m., Ernie Pyle School, 4140 N. Augusta, Fresno, CA. 146.94(-) 223.94(-). 11/97

Fullerton Radio Club, Inc., W6ULI. P.O. Box 545, Fullerton, CA 92632. Meets: 3rd Wed./monthly, 7:30 p.m., Sr. Citizens Ctr., 340 W. Commonwealth, Fullerton. Net ea. Tue., 8 p.m. 147.975(-). Info: Bob Hastings, K6PHE (714) 990-9203. 6/97

Garlic Valley Amateur Radio Club (GVARC). Meets last Sat./monthly, 8:30 a.m., Dimitri's Gilroy Inn, 1st and Wayland St., Gilroy, CA. Info: Hal, AC6LK, (408) 779-7787. Net Tues., 7:30 p.m. Club rptr. K6THR, 147.825(-). 6/97

Golden Empire Amateur Radio Society, (VEC). P.O. Box 508, Chico, CA 95927. Club call W6RHC, rptr. 146.85(-). Meets: 3rd Fri./monthly, 8 p.m. at 1528 Esplanade, Rm. 101, Chico. 9/97

Golden Triangle ARC, (GTARC). Meets 4th Mon./monthly, 7:30 p.m., Sharp Health Care Activities Rm., 25500 Med. Ctr. Dr., Murrieta, CA 92562. 6/97

Livermore Amateur Radio Klub, (LARK). Meets 3rd Sat./monthly, 9:30 a.m., City Council Chamber, 3575 Pacific Ave., Livermore, CA. Net Mon. 1900 on 147.12(+). For info: LARK Secretary, P.O. Box 3190, Livermore, CA 94551-3190. (510) 846-6513. 1/98

Marin Amateur Radio Club (MARC). W6SG. Box 151231, San Rafael, CA 94915-1231. Meets 1st Fri./7:30 p.m., Kaiser Hosp., Bldg. 2, Terra Linda, CA. (Summer exceptions; contact Pete N6IYU, 924-1578). Sun. AM Club at Red Cross, San Rafael. 9/97

Motorcycling Amateur Radio Club. Meets 2nd Sat./monthly, 8 a.m., Lake View Cafe, 2099 E. Orangethorpe, Placentia, CA, at 91 Fwy/Lakeview. Info: Ray Davis, KD6FHN, (714) 551-2010 or (714) 551-1036. 2/98

Mount Diablo Amateur Radio Club. P.O. Box 23222, Pleasant Hill, CA 94523. Meets 3rd Fri./monthly, 8 p.m., Our Savior's Lutheran Church, 1035 Carol Ln., Lafayette, CA. Net Thurs. 7:30 p.m. on 147.06(+) 100Hz PL. Info: (510) 932-6125. 7/97

North Hills Radio Club. Meets 3rd Tue./monthly, 7:30 p.m., Carmichael Elks Lodge, 5631 Cypress, Carmichael, CA. Nets 8 p.m. Tue., Wed., Thur., 145.190(-) (162.2) and 224.400(-). Contact: Bob, WA6ULL (916) 983-2776. http://www.ns.net/~NHRC 3/97

Orange County Amateur Radio Club. Meets 3rd Fri./monthly, 7:30 p.m., Orange County Red Cross, 601 N. Golden Circle, Santa Ana, CA. 146.550. Contact Bob Buss, KD6BWH, (714) 534-2995. 2/98

River City A.R.C.S. Meets 1st Tues./monthly, 7 p.m., SMUD Bldg., Don Julio at Elkhorn, Sacramento, CA. License classes offered. For info contact Lyle, AA6DJ, (916) 483-3293. 9/97

Sacramento Amateur Radio Club. Meets 2nd Wed./monthly, 7 p.m. Sac. Blood Ctr., 32nd St. & Stockton Blvd., Sacramento, CA. Info net at noon on rptr. W6AKR 146.91(-). Steve Cates, KC6TEV, (916) 391-7341 or Les Ballinger, WA6EQQ, (916) 393-4775. 1/98

Sacramento "Old Timers" Amateur Radio Society and Sacramento Valley Chapter #169 QCWA (Quarter Century Wireless Assn.). Meets 2nd Wed./monthly, 8 a.m., Lyon's Restaurant, 1000 Howe Ave. For info contact Paul Wolf, W6RLP (916) 331-1830. 12/97

Santa Clara County Amateur Radio Assoc., (SCCARA) W6UW & W6UU. P.O. Box 6, San Jose, CA 95103-0006. (408) 249-6909. Meets 2nd Mon./monthly, 7:30 p.m., United Way, 1922 The Alameda, San Jose. Net all other Mon., 7:30 p.m. W6UU/R 146.385(+), 442.425(+) PL 107.2. 5/97

Shasta Cascade Amateur Radio Society, (SCARS). 2124 Airstrip Rd., Redding, CA 96003. Meets: 3rd Wed./monthly, 7 p.m. at the C.D.F. Conf. Rm. Grape St., near Parkview Ave., Redding, CA. Net 146.64, Wed., 8 p.m. 9/97

Sierra Foothills ARC. 1222 San Simeon Dr., Roseville, CA 95661-5365. 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), 7 p.m., Fri. 28.415. 3/97

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. 7/97

Southern California Six Meter Club. P.O. Box 10441, Fullerton, CA 92635. USB Net Tue., 8 p.m., 50.150. FM Rpt. Net Thurs., 8 p.m., 52.86/52.36 tx. FM Smplx, call freq. 50.300. Net Sun., 10 a.m. 50.40. 4/97

Southern Humbolt ARC, (SHARC). Meets 4th Tues./monthly, 7 p.m., Best Western Humboldt House Inn, Garberville, CA. Talk-in on 146.79(-). 4/97

Southern Sierra ARS. Meets 2nd Thurs./quarterly (Jan., Apr., Jul., Oct.), 7 p.m., Veteran's Hall, 125 East F St., Tehachapi, CA. Contact: Caroline, KD6KMN, (805) 822-5995. 147.06(-), 224.42(-), 145.090(S) Packet. 1/98

Stanislaus Amateur Radio Assoc., Inc. (SARA). P.O. Box 4601, Modesto, CA 95352. Meets 3rd Tues./monthly, 7:30 p.m., Stanislaus Co. Admin Bldg. 145.39(-) (PL 136.5), 224.14, 440.225 (PL 136.5). 3/97

Tri-County Amateur Radio Assoc. P.O. Box 142, Pomona, CA 91769. Meets: 2nd Mon./monthly, 7:30 p.m., Covenant United Methodist Church, corner of Towne Ave. & San Bernardino Rd. in Pomona, CA. 1/98

Trinity Country ARC. P.O. Box 2283, Weaverville, CA 96093. Meets 2nd Wed./monthly, County School Adm. Bldg. in Weaverville, 7:30 p.m., Rptrs: WA6BXN 146.73(-) PL 85.4, W6HOR 146.925(-) PL 85.4. 10/97

United Radio Amateur Club, K6AA. L.A. Maritime Museum, Berth 84, Foot of 6th St. San Pedro, CA 90731. Meets 3rd Fri./monthly (except Dec.), 7:00 p.m. Monitors 145.52 Simplex 10 a.m.—5 p.m. 7/97

Vaca Valley Radio Club. Meets 2nd Wed./monthly, 7:30 p.m. (Board mtg., 7 p.m.) Vaca Fire Dist. Stn., Vine St. in Vacaville, CA. Rptr. WD6BUS 145.47(-) PL 127.3. Mary Turner, (707) 451-2134. 5/97

Victor Valley Amateur Radio Club. P.O. Box 869, Victorville, CA 92392. Meets 2nd Tues./monthly, 7:00 p.m., Presidio Recreation Cntr., 11100 Apple Valley Rd., Apple Valley, CA. Talk-in 146.94(-), PL 91.5. Net Sun. 7 p.m. 146.94(-). 1/98

West Coast Amateur Radio Club, (WCARC). P.O. Box 2617, Costa Mesa, CA 92628. Meets 3rd Thurs./monthly, 7 p.m., Fountain Valley Sch. Dist. office, 17210 Oak St., Fountain Valley, CA. 145.440(-) PL 136.5. For info: Joe, KA6LPZ, (714) 963-4426. 10/97

Westside Amateur Radio Club. P.O. Box 11092, Marina del Rey, CA 90295. Meets 3rd Thurs./monthly, 7:30 p.m., Red Cross Bldg., 1450 11th St., Santa Monica, CA. Net every Tues., 8 p.m., 146.67(-). Voice mail: (310) 917-1100. 5/97

Willits Amateur Radio Society, (WARS). P.O. Box 73, Willits, CA 95490. Meets 4th Mon./monthly, 7 p.m., Brooktrails Fire Dept. (northwest of Willits). Talk-in: 145.13(-), PL 103.5. 9/97

Yolo Amateur Radio Society. Meets 1st Tues./monthly, 7:30 p.m., Training Rm. of the Davis PD, 226 F St., Davis, CA. Contact Dave Nishikawa, KC6YFG, (916) 756-6375/Talk-in 144.430. 10/97

Yuba-Sutter Amateur Radio Club, (YSARC). P.O. Box 1169, Yuba City, CA 95992. Meets 2nd Tue./monthly, 7:30 p.m., Yuba City Police Bldg., 1545 Poole Blvd., Yuba City. 1/98

CONNECTICUT

Middlesex A.R.S., (W1EDH). Meets Tuesdays, 7 p.m., Adult Day Care Cntr., 32 Miner St., Middletown, CT. VE classes/exams; ARRL Service Club. Ctc: M. Harper, W1FYM (860) 633-6295, P.O. Box 5, S. Glastonbury, CT 06073. 3/97

Tri-City Amateur Radio Club. P.O. Box 686, Groton, CT 06340-0686. Meets 2nd Tue./monthly, 7 p.m., St. Lukes Lutheran Church of Gales Ferry on Rt. 12. Info: Bob Dargel, KA1BB, (860) 739-8016. 10/97

FLORIDA

Gulf Coast ARC. P.O. Box 595, New Port Richey, FL 34656. Meets 4th Mon./monthly, 7:30 p.m., 3852 Prime Place, New Port Richey. WA4GDN rptrs. 146.67(-) & 145.33(-), serving all of Pasco County. 9/97

Indian River ARC, Inc., (IRARC). 597 Capri Rd., Cocoa Beach, FL 32931-3011. Meets 1st Thurs./monthly, 7:30 p.m., Community Church of the Nazarene, 400 Crockett Blvd., Merritt Island, FL. 3/97

Port St. Lucie ARA. Meets 1st Fri./monthly, 7:30 p.m., St. Andrews Church, Prima Vista Blvd., Port St. Lucie, FL. Contact: Roy Cox, KT4PA, (561) 340-4319. Call in 146.955(-). 9/97

Saint Petersburg Amateur Radio Club. Meets 1st Fri./monthly, 7:30 p.m., Red Cross Bldg., 818 Fourth St. North, St. Petersburg, FL. Nightly net 6:30 p.m., 147.06(+). Rptrs. 147.06(+), 224.66(-), 444.475(+). Info: C. Wagner, KE4EYI, (813) 896-4274. 1/98

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. 6/98

Vero Beach ARC, W4OT. P.O. Box 2082, Vero Beach, FL 32961. Meets 2nd Thurs./monthly, 8 p.m., Emerg. Mgmt., Indian River County Adm. Bldg., 1840 25th St. Net Mon., 7:30 p.m. 146.64. 1/98

GEORGIA

Dalton Amateur Radio Club, Inc., (DARC). P.O. Box 143, Dalton, GA 30722-0143. Meets 4th Mon./monthly, 7:30 p.m., Magistrate Court Bldg., corner of Waugh St. & Thornton Ave., Dalton, GA. Info: Harold Jones, N4OTC, 706/673-2291. 3/97

HAWAII

Big Island Amateur Radio Club. P.O. Box 1938, Hilo, HI 96721-1938. Meets 2nd Tue./monthly, 7 p.m., Army Reserve Center, 470 W. Lanikaula St., Hilo. Talk-in on 146.88(-). 6/97

Emergency Amateur Radio Club, (EARC). P.O. Box 30315, Honolulu, HI 96820-0315. Meets 4th Thurs./monthly, 7 p.m., Lincoln Elem. Sch., 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) 833-6944, WH6CZB. 10/97

Koolau Amateur Radio Club, (KARC). 45-145 Mikihilina St., Kaneohe, HI 96744. Meets 2nd Sat./monthly, 9:30 a.m., Hoomaluhia Pk., Kaneohe, HI. 4/97

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: (312) 262-6773. Info net Tues., 9 p.m. on 146.76(-). Meets 3rd Wed./monthly, 8 p.m. 7/97

Dupage Amateur Radio Club. (DARC). P.O. Box 71, Clarendon Hills, IL 60514. Meets 4th Mon./monthly, 7:30 p.m., Holy Trinity Church, SE corner of Cass & Richmond, Westmont, IL. Net Sun., 9 p.m. on 145.25. W9DUP repeaters 145.25(-) (107.2PL), 442.55(+) (114.8PL), 224.68(-). 2/98

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. 7/97

Hamfesters Radio Club, W9AA. P.O. Box 42792, Evergreen Park, IL 60805. Meets 1st Fri./monthly, 8 p.m., Crestwood Civ. Ctr., 139th & Kostner, Crestwood, IL. Nets: Sun. (local) 0100 UTC, 28.410 MHz; Mon. 9 p.m. 146.43 S., Packet Mailbox 145.65 MHz. Info: (312) 974-3291. 1/98

Peoria Area Amateur Radio Club, (PAARC). Meets 2nd Fri./monthly, 7 p.m., 1401 N. Knoxville Ave. Info: (309) 685-6698. Rptrs: 146.85(-) & 147.075(+). 5/97

Schaumburg ARC. Meets 3rd Thurs./every other month, 7 p.m., Rec. Center, corner of Bode and Springinsguth Roads. Nets all other Thurs., 9 p.m., 145.23(-). Info: (708) 612-9446. 8/97

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(+). 11/97

LOUISIANA

Baton Rouge ARC. Meets last Tue./monthly, 7 p.m., Catholic HS cafeteria, 855 Hearthstone Dr., Baton Rouge, LA. Info: Norma Ramey, WD5GFD, (504) 654-6087. Club rptr. 146.79(-). 9/97

MAINE

Androscoggin Amateur Radio Club. Meets 1st Wed./monthly, 7 p.m., Auburn Police Station, 1 Minot Ave., Auburn, ME. Info: (207) 782-8699. 11/97

MASSACHUSETTS

Wellesley Amateur Radio Soc., & Babson Wireless Club. Meets 1st & 3rd Thurs./monthly, 7:30 p.m., Wellesley, MA (Sept.- June) Talk-in 147.03(+). Info: J. Driscoll, NV1T, (617)444-2686. 12/97

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: Brian Sarkisian, KG8CO, (517) 265-1537. 3/97

Eastern Michigan Amateur Radio Club, (EMARC). Meets 1st Tue./monthly, 8:30 p.m., Woodland Developmental Cntr., Kimball Township (Range @ Smiths Creek Rd.). Contact Frank Forsyth, N8XTO, (810) 987-3540. Talk-in: 147.30(+). 9/97

Edison Radio Amateurs Assoc. Meets 2nd Fri./monthly (Sept.-June), 7 p.m., Edison Western Wayne Div. HQ, 8001 Haggerty, Belleville, MI (So. of Ecorse Rd.). Net each Thurs., 8 p.m. on 145.33(-) and 442.80(+) rptrs. 3/97

MINNESOTA

Viking Amateur Radio Society (VARS). Meets last Tues./monthly, 7:30 p.m., basement EOC, Waseca, MN. Call-in 146.94(-). 7/97

MISSISSIPPI

Jackson Amateur Radio Club, Inc. Meets 3rd Thurs./monthly, 7 p.m., Am. Red Cross Bldg., Riverside Dr., Jackson, MS 39202. 10/97

NEVADA

Frontier Amateur Radio Society, (FARS). Meets: 2nd Sat./monthly, bkfst. mtg. 8 a.m., Country Inn, SE cor. W. Sunset, Valle Verde, Henderson NV. Club info: Jim Frye, NW7O, (702) 456-5396 or Bill Scarborough, WA6ASI, (702) 269-9551. 7/97

Wide Area Data Group, Inc. P.O. Box 3132, Sparks, NV 89432. Meets 1st Sat./monthly, 9 a.m., Jack's of Reno, 5485 Equity Ave., Reno. Info: (702) 356-8200. Call in on 147.30(+) MHz. 5/97

Sierra Intermountain Emergency Radio Assoc., (SIERA). Meets 2nd Tues./monthly, 7:30 p.m., Carson Valley Museum & Cultural Cntr., 1477 Hwy 395 North, Gardnerville, NV. Contact: George Uebele, WW7E, (702) 265-4278, 147.330 MHz. 11/97

Sierra Nevada Amateur Radio Society (SNARS). P.O. Box 7727, Reno, NV 89510-7727. Meets 2nd Sat./monthly, 0800, KT's Restaurant, 5485 Equity Ave. (corner Equity & Financial). 146.61(-) PL 123. 443.075(+) PL 123. Contact Swede Ohlson, WD0AXP, (702) 852-2402. 1/98

NEW HAMPSHIRE

Great Bay Radio Assn., WB1CAG. P.O. Box 911, Dover, NH 03820. (603) 749-2970/332-9107. Meets 2nd Sun./monthly, 7 p.m., Rochester Community Ctr. Talk-in: 147.57. 11/97

NEW JERSEY

10-70 Repeater Assn., 235 Van Emburgh Ave., Ridgewood, NJ 07450. Meets 1st Wed./monthly (except July & Aug.), 8 p.m., VFW, Valley Rd., Clifton, NJ. Rptrs. 146.70(-), 224.84(-), 444.15(+). 10/97

Bergen Amateur Radio Assoc., (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., 144.40 9 p.m. Wed. 5/97

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. 8/97

NEW YORK

Amateur Radio Assoc. 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. W2PVL. 10/97

Genesee Radio Amateurs, (GRAM). N.Y.S. Civil Defense Ctr., State St., Batavia, NY 14020. Meets 3rd Fri./monthly, 7:30 p.m. 147.285(+) W2RCX. 1/98

Hall of Science Amateur Radio Club. P.O. Box 131, Jamaica, NY 11415. HOSARC, 2nd Tue./monthly, Hall of Science Bldg., 47-01 111 St., Flushing Meadow Park, 7:30 p.m. Info: Arnie, WB2YXB, (718) 343-0172. 2/98

Orleans County Amateur Radio Club, (WA2DQL). Meets at Emergency Management Office, West County House Rd., Albion, NY 14411, 2nd Mon./monthly, 7:30 p.m. 145.27(-) — WA2DQL. 12/97

PROS, Pioneer Radio Operators Society. Meets 1st Wed./monthly (except July/Aug.), 7 p.m., Sardinia Town Hall, Savage Rd., Sardinia, NY. Net 9 a.m. Thurs. 3853 kHz. 3/97

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. Non-profit org. using Ham Radio to enhance the education of youngsters, nationwide. Join us — "Classroom Net," 7.238 MHz, 7 a.m. E.S.T. PSE QSL! 9/97

Suffolk County Radio Club, (SCRC). Meets 3rd Tues./monthly, 8 p.m., Bohemia Rec. Ctr., Ruzicka Way, Bohemia, NY. Talk-in: 145.21(-) rpt. Morten Eriksen, KA2UIU, (516) 929-6911. 4/97

Westchester Emergency Comm. Assoc., (WECA). Meets 2nd Mon./monthly, 7:30 p.m., Westchester County Ctr., White Plains, NY. Contact WB2VUK (914) 631-7424 or WECA INFO LINE (914) 741-6606 for details. Talk-in WB2ZII/R 147.06(+) PL 114.8/2A. 10/97

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(+). 10/97

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(+). Phone: (704) 888-4815. 5/97

OHIO

Ashtabula County ARC. Ken Stenback, AI8S (964-7316). County Justice Ctr., Jefferson, OH. Meets 3rd Tue./monthly, 7:30 p.m., County rptr., 146.715(-). 10/97

Clyde Amateur Radio Society (CARS). Meets 2nd Tue./monthly, 7 p.m., Municipal Bldg., Clyde, OH 43410. NF8E rptr. 145.35(-) and 442.625(+) MHz. Net Sun. 9 p.m. Info: E. Remaley, KA8CAS. 3/97

Greater Cincinnati Amateur Radio Assn., (GCARA). ARRL SCC, meets 4th Wed./monthly, 7:45 p.m., Brusman's Hall, 4813 Vine St., St. Bernard. Nets: Mon. 9 p.m. EST 147.15(+), Thurs. 9 p.m., 1.936 MHz. Info: WA8STX, (513) 772-7378 or KW8X 961-3250. 11/97

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. 1/98

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(-). 2/98

Western Reserve Radio Assoc. P.O. Box 81252, Cleveland, OH 44181-0252. Meets 2nd Wed./monthly, 7:30 p.m., Jenkins Community Cntr., Main St., Olmsted Falls, OH. Info: B. Beckman, N8LXY, Pres., 146.73(-), 444.900(+) MHz. 6/97

OREGON

Central Oregon Coast ARC. P.O. Box 254, Florence, OR 97439. Meets 3rd Sat./monthly, & every Wed./weekly, 9 a.m. for brkfst. at Woody's Rest. Net Wed. 7 p.m., 146.80(-). Info: 997-2323 or 997-4074. 1/98

Central Oregon Radio Amateurs, (CORA). P.O. Box 723, Bend, OR 97709. Meets last Thurs./monthly, 7 p.m., Bend Sr. Ctr., 1036 NE 5th, Bend, OR. 147.06(+) MHz. Info: (541) 385-9497. 6/97

Keno Amateur Radio Club. P.O. Box 653, Keno, OR 97627. Meets 3rd Thurs./monthly, 7 p.m., Keno Fire Stn. Rptr. 147.32(+) W7UFM. Info: Tom Hamilton, WD6EAW, (503) 883-2736. 11/97

Umpqua Valley Amateur Radio Club, Inc. P.O. Box 925, Roseburg, OR 97470. Meets 3rd Thurs./monthly, 7:30 p.m., Douglas County Courthouse, Rm. 310, Roseburg, OR. Info: W5PII/R 146.90(-) or (503) 673-1310. 6/97

PENNSYLVANIA

Butler County Amateur Radio Assn. P.O. Box 1787, Butler, PA 16003-1787. Meets 1st Tues./monthly, 7:30 p.m., Boy Scout Cntr., 830 Morton Rd., Butler, PA. Call-in W3UDX/R 147.36(+). Net 10:10 p.m. nightly. 10/97

Mercer County Amateur Radio Club, W3LIF. P.O. Box 996, Sharon, PA 16146. Meets 4th Tue./monthly, 7:30 p.m., Shenango Valley Med. Ctr, Farrell, PA. Net, Thurs. 9 p.m. on 145.35(-) W3LIF, Digi. 145.01. 3/97

Warminster Amateur Radio Club, WA3DFU. P.O. Box 113, Warminster, PA 18974. (215) 672-9985. Meets 1st Thurs./monthly, 7:30 p.m., Benjamin Wilson Sr. Cntr., Warminster, PA. Net on 147.69(-), 147.09(+), Wed. 8:30 p.m. and 28.450 Sun. 9 p.m. 5/97

RHODE ISLAND

South Coast Wireless Society. P.O. Box 1516, Westerly, RI 02891. Meets 4th Tue./monthly, 7:00 p.m., Pawcatuck Neighborhood Center. Info: Bill, KA1ZZR, (401) 596-5849. 6/97

TEXAS

Brazos Valley Amateur Radio Club, (B-VARC). P.O. Box 1630, Missouri City, TX 77459. Meets 2nd Thurs./monthly, 7:30 p.m., Sugar Land Community Ctr., 226 Matlage Way., 3 blks SW of Imperial Sugar Co. at HWY US-90A & Brooks St. (HWY 58) in Sugar Land, TX. Talk-in: 145.47(-), 442.5(+) rptrs. http://www.hal-pc.org/~bvarc 7/97

Brownsville ARC (CHARRO). Meets 2nd Tue./monthly, 7:00 p.m., Confederate Air Force Hangar, Brownsville Airport in TX. Coffee mtg. Sat./weekly, 10 a.m., Days Inn, Hwy 83 & Price Rd. Talk-in on 147.040(+). 1/98

VIRGINIA

Southern Peninsula Amateur Radio Klub, W4QR (SPARK). Meets 1st Tue./monthly Salvation Army Community Bldg., Hampton, VA. Repeaters 146.73(-), 449.55(-). VE Exam Info: (804) 898-8031, W4RTZ. 2/98

Virginia Beach ARC. Meets 1st Thurs./monthly (except July), 7:30 p.m., St. Andrews United Methodist Church, Tucson & Princess Anne Rds., Virginia Beach, VA 23462. 2/98

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(-) rptr. Doors open at 9:30 a.m. 5/97

Skyvalley Amateur Radio Club, KC7LOC. Meets 3rd Sat./monthly, 8 a.m., Dutch Cup restaurant off Rt. 2 in Sultan, WA. Info: (360) 793-3433. 4/97

WEST VIRGINIA

Jackson County Amateur Radio Club. Meets 1st Thurs./monthly, 7:30 p.m., United Nat'l Bank of Ripley. Net Mon. 9 p.m. on 146.67(-) WD8JNU/R. For info: D. Tenant, N8ZYB, Rt. 1, Box 188, Mt. Alto, WV 25264. 6/97

Tri-State Amateur Radio Assn. Meets 3rd Tues./monthly, 7 p.m., The American Red Cross, 111 Veteran's Memorial Blvd., Huntington, WV. 5/97

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

Lorraine S. Matthew, N4ZCF
MARS call AAA9PR

If 1997, so far, has been an accurate indicator, this year is destined to be one of the busiest years in Army MARS history. Increased emergency operations, increased morale traffic and phone patch handling, increased interoperability with sister service MARS organizations, and increased operations with Amateur Radio organizations in the civilian sector continue to mark the imprint for the 1997 year that remains.

March opens with an Army MARS Emergency Exercise in support of the quarterly FEMA Emergency Communications Network exercise. Emphasis is placed on the sending of emergency communications throughout all the modes in use by Army MARS and the coordination of the modes and of the messages being transmitted.

Among the emergency communications, of course, are the Essential Elements of Information (EEI) which can also be thought of as Early Emergency Information messages. These have become a primary mission of Army MARS. Every Army MARS member is expected to be able to send such messages describing anything happening that is unusual. Whether or not the individual sees national import in the event is immaterial. This is for the primary recipient (DOMS - Director of Military Support) of the messages to decide. I can remember reporting about an EEI being sent about the closure of a rather insignificant little bridge and how very important that information proved to be.

The FEMA interface with the Army MARS exercise allows FEMA to know with some precision just what geographic areas they can access for communications support. In a widespread emergency, this can be most important.

Army MARS' concurrent support of the FEMA exercise this year, unlike other years, made widespread use of the new Army MARS Region Networks that were instituted for final testing earlier this year. Like any new program, there are still adjustments and coordination being made based on lessons learned from the growing experience of use.

According to Al Uvietta, AAA9ED, Army MARS Emergency Director, in a statement issued on 16 December 1996, "The Region Net system concept attempts to address the association between our normal day-to-day traffic relay and member training and emergency communications requirements. The design attempts to create a system that will transition to emergency support requirements with minimal changes to normal routine."

All of Army MARS is looking to the Region Net concept to provide the easiest access and energizing of all of the emergency assets at Army MARS' disposal.

The system is designed to allow regions to interlock with each other and to take advantage of the most workable frequencies that are available at any given time. The system is planned to further allow support of emergency communications requirements involving multiple events and multiple agency support. This need was demonstrated during the fall of 1996 when the western states were hit with a massive power outage, multiple forest fires, multiple flooding including a dam that was reportedly failing. During this time, Army MARS was also supporting an Army vessel sailing to the Arctic Circle. Multiple events do occur and do need communications support.

The regions in the design are based upon the FEMA regions and on the current Army MARS licensing regions. Each region will have a core network that will remain operational 24 hours per day seven days per week. The region traffic relay and training operations will be conducted at scheduled net times.

These net times will be augmented by free net operations during the balance of the 24-hour period. This open net structure will allow individual members to access the frequency for traffic exchange, brief informal exchanges, and the conduct of authorized MARS coordination, testing, or MARS business during these free net periods. Any Army MARS member may join any region net operation for the purposes of providing traffic relay, relay support, training, emergency operation, or any other authorized activity.

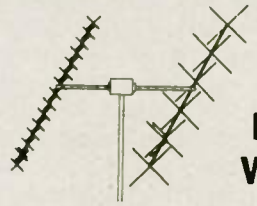
In many states, members have not been able to talk to each other for these purposes for weeks at a time because of the current state of propagation. The region nets will largely solve these problems, using a much greater geographic area. This capability will greatly facilitate point-to-point communications during emergency operations. Many activations require coordination between widely scattered locations. An NDMS operation might require simultaneous communication links to West Virginia, Virginia, Illinois, and Texas as demonstrated in a recent exercise. In my own experience in hurricane emergencies, I have used MARS stations in North Carolina and Georgia to maintain communications with stations in Florida. Inevitably, during hurricanes propagation goes long — too long for any one state to be self-sufficient in meeting its communication needs.

Chief Army MARS, Robert Sutton, presented some of the history of the region net concept in his net comments for 6 December 1996. He stated that Grecian Firebolt '96, a major exercise for Army MARS, "provided the initial test bed that evaluated the possible benefits of a regional network concept. . . . The lessons learned have resulted in the final development of the forthcoming Army MARS Regional Network Plan and the Army MARS Emergency Oplan 3-96."

Army MARS continues to focus on its primary mission — emergency communications support whenever and wherever it is needed.

Army MARS continues to be proud, professional and ready. WR

Amateur Satellites



Terry Douds, WB8CKI

344 E. Fifth Ave., Lancaster, OH 43130
e-mail: wb8cki@amsat.org

Hello everyone! This month I want to tell you about more exciting news concerning the satellites. To begin, Phase 3D is in the news again. A report released on Tuesday, 17 December, by the European Space Agency (ESA) has shed new light on the planned launch date for the International satellite aboard the next flight of the Ariane 5 booster, Ariane 502.

AMSAT published a news release in mid-December that outlined the situation surrounding the launch. It seems that ESA and its subcontractors on the Ariane 5 project have established a timetable for all the steps necessary to make sure that 502 will go up without a problem. They now plan to begin the launch campaign on Wednesday, 09 April 1997, with the launch itself now planned for early July.

Executive Vice-President Keith Baker, KB1SF, stated on *Newsline* that "There are two reasons I think it's good for the program. Number 1, is that it tells us that our friends at the European Space Agency are doing everything they can to ensure that the rocket is ready to go. And number 2, is that gives us a little more time to check out and make sure things are working properly. Do the final, final checks and so forth. So, I think on balance, from the overall program stand point, I think it is good for the reasons that we mentioned. On the other hand, obviously there are a lot of people that would very much like to have another high altitude satellite in orbit."

AMSAT-NA President Bill Tynan, W3XO, welcomed the news saying that "It gives us a definite goal to shoot for in our preparations of the Phase 3-D spacecraft, however every month the launch is pushed back means more funds are needed." Bill noted that a letter is currently going out to all AMSAT-NA members asking for additional contributions to the Project. He emphasized that "it is particularly important, to the successful completion and launch of Phase 3-D, that recipients of this letter respond as generously as they can."

There are new pieces of information available daily via the Internet and the web, and I've been trying to let you know about them as they are introduced. There is an interesting one this month — Ashley's Space World. This page has been created by Ashley Cagle, KB5OTD. If any of you have been active on AO-27, or FO-20, or had the opportunity to work AO-21, you've at least heard Ashley, if not worked him! He was active on almost every pass I ever heard on AO-21, and has given many people contacts with Mississippi. This web page is outstanding, with many links to pages all over the world. If you are in search of any type of information concerning NASA, the Shuttle, MIR, or any of the amateur satellites, stop by this page. It's worth the effort! Point your browser to http://www.sirinet.net/~acagle/ and enjoy the sights.

Another place for information are the other worldwide AMSAT organizations. AMSAT-NA is only one of a large group of AMSAT organizations, such as AMSAT-UK, AMSAT-F, AMSAT-DL, and a host of others. Even Bermuda has AMSAT-BDA! Most all of these have web sites available now. You can find the various links by visiting the AMSAT-NA Home Page, at http://www.amsat.org.

MIR 2 Meter frequency changes

John Blaha, KC5TZQ, announced a change to the MIR operating frequencies on 2 Meters! As of 1 January 1997, the 2-meter voice and packet frequencies were changed to the following:

FM voice ops:
uplink- 145.200 MHz transmit
downlink- 145.800 MHz receive
Packet ops:
uplink- 145.200 MHz transmit
downlink- 145.800 MHz receive

This should cure the problems many of us have experienced in reception of MIR due to the close proximity of repeaters on 145.19 and 145.21.

AMSAT-UK

I would like to talk a bit about AMSAT-UK, since I am also a member of that organization. It is an organization somewhat like AMSAT-NA, with many members, an annual colloquium, and a wonderful bi-monthly journal. *Oscar News* is a "*Reader's Digest*"-sized publication that contains much information on all the birds, including a beginners column for Mode A and K birds, as well as extremely technical and "build-it" articles. Yearly membership in the US runs 23.50£, which is around US$40.

You can get membership info from the AMSAT-UK web page, or via a note to the Honorary Secretary, Ron Broadbent, G3AAJ. He is on CompuServe at 100024,614, or for you Internet folks, send e-mail to r.bradbent@ee.surrey.ac.uk. I find the information in *Oscar News* to be very valuable, as only a few of the articles seem to be re-published in *The AMSAT Journal*. For me, it's also another way to support my interest in satellites in a more "international" fashion.

The engineers in AMSAT-UK were instrumental in the development of the Microsat style satellite, which has provided us with the design for our various Pacsats. Their

work even spawned the development of a commercial satellite laboratory, SSTL, which does a great deal of work for customers all over the world. It's another source of "brain power" that has enabled those of us known as satellite operators to have the enjoyment and excitement that working the birds brings.

Paper chasing

For those of you out there who may fancy yourselves as "paper chasers," there are many operating awards available to the satellite operator. The following awards are available from the ARRL:

Worked All Continents Award (WAC)

Make one satellite contact with any station on each of the six continents.

DXCC Award with Satellite Endorsement

Make one satellite contact with any station in 100 different DXCC countries.

Worked All States Award

Make one satellite contact with any station in each of the 50 states.

VHF/UHF Century Club Award (VUCC)

Make one satellite contact with any station in 100 different grid squares. Endorsements for each additional 25 grid squares.

AMSAT also offers many different awards:

W4AMI Satellite Operator Achievement Award

Make 1,000 two-way contacts with any stations on any satellite. Must be OSCAR-6 or later satellite only. Cost is $3.50 for AMSAT members and $5 for non-members. Both add two units of postage. Endorsements are issued for 2,000, 3,000, and 4,000 contacts, and a special certificate is issued for 5,000 or more contacts.

Send a copy of logbook only to:
Mark Rosenberg, AD4KS
331 S. Yates
Memphis, TN 38120

Satellite Communicators' Club

Make one satellite contact. Send the report of your contact, plus $1 for AMSAT members or $2 for non-members, and two units of postage, to:

AMSAT SCC Manager
P.O. Box 27
Washington, DC 20044

For the following awards, please send a photocopy of the front and back of the QSL cards, plus $3.50 for AMSAT members or $5 for non-members, and two units of postage, to:

AMSAT-NA Awards Manager
Mike Scarcella, WA5TWT
310 Lombardy
Sugar Land, TX 77478

You can also send e-mail to Mike if you have any questions at wa5twt@amsat.org.

OSCAR Satellite Communications Achievement Award

Make one satellite contact with 20 different US or Canadian call areas or DXCC countries.

OSCAR Sexagesimal Award

Make one satellite contact with 60 different US or Canadian call areas or DXCC countries. The 20 contacts required for the OSCAR Satellite Communications Achievement Award may be included.

OSCAR Century Award

Make one satellite contact with 100 different US or Canadian call areas or DXCC countries. The 60 contacts required for the OSCAR Sexagesimal Award may be included.

South Africa AMSAT Communications Achievement Award

Make 25 satellite contacts on any Phase II satellite (low earth orbit, i.e., FO-20, AO-21, AO-27, RS-10, RS-12, RS-15).

There are plenty of opportunities there to give anyone at all a shot at getting a satellite operating award.

There is one additional award, the K2ZRO Memorial Station Engineering Award, which was popular when Oscar 13 was alive. It was a test of one's receiving station capabilities, where the station giving the test (WA5ZIB) would transmit a series of five digits in CW at the level of the beacon. He would then do it at 1/2 power; then 1/2 of that power; then 1/2 of that, etc., until he had gone down ten levels power reduction. You received a sticker for each level that you could copy. I made it to Level 7; there was one station who used specialized software to actually copy Level 10! I do not know if it will be reinstated once P3D goes into orbit — that remains to be seen.

I'm running out of room for this month, so drop me a line with any questions you may have, and see you on the birds! WR

Quarter Century Wireless Association, Inc.

John G. Troster, W6ISQ

One day in the mid-1930s, Byron, "By" Goodman, W1JPE, a new ARRL employee and a DXer; Clark Rodimon, W1SZ, also a DXer; and Clinton B. DeSoto, W1CBD, who had just written the now famous, *200 Meters and Down*, were sitting around the office at ARRL Headquarters in East Hartford, CT. They observed that sometimes the same information about DX was being repeated in two or more different columns every month in *QST*. They decided that if all DX information could be consolidated into one column, it would make for a better magazine.

By said he would write the column if they got approval of the Department heads, which they did. However, F. E. Handy, W1BDI, insisted that such a DX column be run in his Communications Department space. So, By wrote "How's DX" for the Communications Department even though he was a Junior Assistant in the Office of the Secretary of the League. When he started, By got some cogent advice from Clinton DeSoto which he followed then and still does: "To write a good column, write it for people who are not interested in the subject."

By was from San Francisco and the usual greeting there between DXers was, "How's DX?" By published his first How's DX column in December, 1936. That column has been featured in *QST* for more than 60 years, albeit the authors change from time to time. Later when ARRL was looking for an appropriate award to be an extension of the popular *WAC Award*, the same three fellows mentioned above, Rodimon, DeSoto and By, plus a few others, brainstormed again and the result this time was DXCC. That's an involved story worthy of further perusing — someday.

By started another tradition with his How's DX column. He, Rodimon and DeSoto decided there should be a cartoon of some sort with a character uttering sideline wise cracks about the content of the column. He called "Gil" Guildersleeve who had been doing some cartoon work for *QST*. Gil submitted three and By and Rodimon immediately chose the wise-cracking butler named "Jeeves" who appeared monthly from then through the How's DX columns until Gil passed away.

By was a native of San Francisco, went through the usual schooling, ending up at UC Berkeley, Class of '34 with a BS degree in Communications. His interest in radio began at 13 when he saw his first *QST* magazine in a store near Golden Gate Park, joined the radio club at his high school, liked it, learned the lingo, but didn't get a license — too many other activities. However, at Junior College he visited the ham station one day and heard the operator talking across the country on 20 Meters, real shortwave, and a lot different from the 160-80-40 Meters which were the usual operating bands of the early '30s. So By gave up his aeronautics hobby and got a ham ticket. He had learned Morse code in Boy Scouts waving a stick to one side for dits and the other side for dahs.

By comments that this is the worst possible way to learn CW for use in amateur exams, but he passed the exam anyhow. That was a Saturday in April, 1930, and when he had finished, he was told to come back after lunch. When he returned, the examiner gave him a stack of cards with calls on them and was told to take his pick. He picked W6CAL. His first QSO was with a local ham. When they later met, he told the loquacious By, "I didn't know how to get rid of you."

By was using a 210 Hartley rig from a description in *QST*, and a sloping 66 foot wire strung from his chimney to a three story house in the back. But that didn't get out very well, maybe across the city, or around the Bay, that was all. In desperation, By asked a friend to come over and take a look at the rig. "Oh," said the friend, "you have the antenna pick-up coil on the wrong end."

It seems By had the antenna coupling coil looped over the grid end of the Hartley instead of the plate end! After that, it got out as a 210 Hartley should! Within a year, By was using crystal control and multistages and was becoming a top DXer. He also handled traffic and sent in his monthly report to Section Communications Manager Bud Bane, W6WB, a recent Cal graduate. They became great friends and remain so today. When By saw Bud's immaculate shack he told himself, "I want one a' them"!

By became a Route Manager and substituted for Bud at times as SCM. Bud was By's "Elmer" before they invented Elmers. His communications degree from Cal at that time was radio, telephony and related arts, and there weren't a lot of jobs out there during that Depression period, so By played a lot of tennis and golf, including "blood" matches with W6WB. Four days before 4 July, he got a call from an

From left to right: By Goodman, W1DX; By's wife, Barbara, and John Huntoon, W1RW. ***—photo courtesy W1RW***

old Junior College friend who remembered his having interest in show biz. "Would you like to be the Social Director of a summer camp in the Sierras" the friend asked? Why not? By took over and began creating entertainment, dances, shows, and fun with whatever talents the current guests came up with. Returning to real life, By landed a job with the Offenbach radio store in San Francisco, selling radios and parts, and from there to Remler Radio where he designed small BC radios.

During this period he organized several Amateur Radio conventions and met some of the top folks at ARRL. He impressed the League's A. L. Budlong, W1BUD, who wrote later asking if he would like to join the ARRL as Assistant Secretary. By replied he would like to join ARRL, but would rather work for the Technical Department. Budlong, first impressions not withstanding, wrote back, "take it or leave it." By took it. He moved to East Hartford as the most Junior Secretary on the ARRL staff and rented a room in a house on top of a hill where ARRL's Ross Hull also lived. Ross Hull, although not licensed, was one of the legendary early experimenters in Amateur Radio and encouraged By to get on the air from that hilltop location.

Thus encouraged, By pieced together a home brew receiver and a transmitter using Eimac tubes feeding a 20-meter vertical center-fed dipole. At that time the ARRL didn't know much about Eimac tubes. They knew about Heintz and Kaufman, but not about the former H&K employees Bill Eitel and Jack McCullough who had started Eimac way out in the west, and were building excellent tubes. Incidentally, RCA salesmen didn't know much about Eimac either and questioned why they were allowed to advertise in *QST*! As the new man in the office, By was sent forth to talk and answer questions about the League and technical matters at conventions and meetings, a routine assignment for the new guys, it seems. Lew McCoy and John Huntoon, (both profiled in earlier issues) traveled the same circuit when they first arrived at ARRL.

On a trip to San Francisco, By was confronted by some of his old DX friends who congratulated him on his booming signal on 20-meter phone. This was a major surprise to By, who hated phone. The mystery was solved when By did some checking in his home station. Seems Ross Hull, the non-licensed ham as aforementioned, had his own high power modulator which he used on five meters. Running two wires from his modulator up to the ceiling, across the hall and down to the big CW transmitter in By's room, he fed By's transmitter into his rhombic and used By's W1JPE call to talk on AM to his brother in Australia! By's reputation as a serious CW operator was restored. Note about that rhombic: Ross Hull and Clark Rodimon had authored a *QST* article "Plain Talk about Rhombic Antennas" in November, 1936.

By had been writing construction articles while he was still part of the Secretarial Department, and after Ross Hull had died tragically when accidentally electrocuted, By was formally transferred to the Technical Department. By's articles were closely followed — I myself built his ". . . Simple Two-Band Tri Tet Transmitter" after reading how-to in his November, 1936 article. (I substituted a bread board for By's neat wooden cabinet!). He continuously kept up with the latest developments on the air and by then, had a superior station, a classic at the time: HRO receiver, pair of 250TH finals feeding an east-west rhombic and a north-south W8JK on 20 and 10.

When WWII arrived, By took a leave of absence from ARRL and went to work as a Field Engineer for Raytheon working on radar systems. After the war, now W1DX, he returned to the ARRL Technical Department. One of the most interesting *QST*s By recalls, was published in January, '48. In that issue, there were three articles about SSB:

"What is Single-Sideband Telephony" by W1DX; "Single Sideband Operating Tests" by W6QYT, and "A Single-Sideband Transmitter for Amateur Stations" by WØTQK. Even the editorial by K. B. Warner, W1EH, was about SSB. This new mode was just beginning to be developed and George Grammar, Chief of the Technical Department, was a close friend of Mike Villard, W6QYT, at Stanford University, who had developed a SSB operating system for the ham bands. Previous attempts at SSB had not produced the results everyone was hoping for. One day in September, 1947, Mike called George Grammar and asked him to listen in. By, George Grammer and K. B. Warner all listened to Mike's new development. That was one of the first successful transmissions of SSB on the amateur bands.

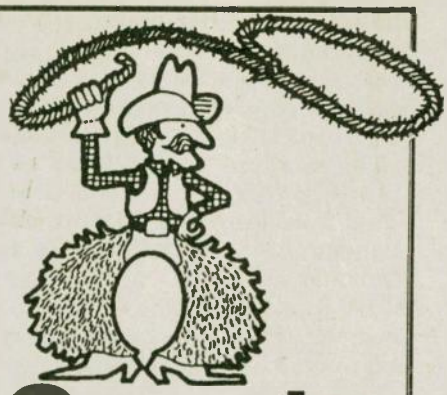
By was right there at the beginning of SSB, but he remained a staunch CW man! Radio was his chief focus, but By's interests ranged in several directions. He never lost his fascination with aviation. He and Lew McCoy, W1ICP, became Sports Car Rally partners, and won quite a few races around New England. They also attended conventions on magic to learn new tricks.

By retired in '66 and went back to golf and the tennis courts. He remains close to many of the ex-ARRL folks including John Huntoon, a frequent visitor. A few years ago, By had his house covered with aluminum shingles to withstand the challenging New England winters. Not the best choice. Seems his development of indoor antennas was brought to an abrupt halt. His QRP rigs didn't get out of the attic. For that matter, nothing else got out either. Right now he is using a Ten-Tech rig with a short outside antenna. He's fairly active as I can attest from a 30-meter QSO with him a few months ago. He also has a new and avid interest in Antique Wireless equipment. Wouldn't be surprised to find an antique rig appearing in his shack quite soon.

You'd likely take for granted that By would have joined QCWA many sunspot cycles ago. But no, incredibly he's not a member. He wasn't even a member of ARRL! However, I have enjoined Pres. Emeritus McCoy, W1ICP, to induce By to join. Lew is sending the application blank and I'm sending an SASE for HQ in Eugene, OR. By asked if there would be any discount for him and I told him, "Of course! Join for three years and you'll get $10 off."

For a savvy guy like By, that ought to do it, right? Should all this fail, we'll enlist ex-QCWA director, John Huntoon, to deliver the final push. Then at last, By too, will be One of Us, the Proud, the Many, the Elite, the Achieving, the QCWA.

Until the next one, 73 + 25. Jack, W6ISQ WR



County Hunter

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Amplifier Contest Wrap-up

In the September and November columns, I described a prize drawing for an MFJ ALS-500M mobile amplifier and in January, I announced the winner, Warren Locklin, N4RUC, of Mobile, Alabama. All the reader needed to do was send me a QSL card; not a tough chore. I received 279 QSL cards, a small number considering the number of ***Worldradio*** subscribers. That is the largest batch of correspondence that I've received in the last six years though. So if a prize is what it takes to get your feedback, I'm happy ***Worldradio*** gave me the opportunity to hear from you. I certainly appreciated all the nice feedback . . . I think if I ever feel like quitting, I'll read some of those great comments and feel better.

For what it's worth, here's some feedback from the contest. . . by the way, I know this is a county hunter column, not a contest column, so trust me; I'll work counties back into it. Several of you wrote on your card that you didn't hunt counties. WHAT? The shame of it! Okay, you're forgiven and I'm glad you still read the column. What does it take to convince you to hunt counties. . . a bribe? Okay then, if you start hunting counties, I will drive to a county you need in Virginia. Of course, that is a county of my choice. The beauty of this bribe is if you're just starting, chances are I won't have to drive too far to give you a needed county.

How about if I told you famous people have hunted counties? For example, Barry Goldwater, King Hussein of Jordan, and yours truly have all contacted at least 500 counties. What more do you need? I've already given you a chance to win a BIG prize. Even if you don't try to contact all 3,076 counties, at least contact 500 and qualify for the beautiful USA-CA award. You'll thank me later.

QSL Gossip

Now, on to some gossip from the cards you sent me.

John Sulak, W8UMR, received USA-CA #14 back in 1969.

Dave Manescu, W6CCM, received USA-CA #141 back in 1976.

David Klimaj, W4JVN, received USA-CA #159 back in 1976 also. Turns out, David lives only 30 minutes from me.

Bob Egles, KA1BBU, operates from Vermont counties Essex and Caledonia from 1 June through 1 Oct. If you need them, e-mail Bob at u@pcix.com

George Lee, K5HT, responding to a previous column question for QRP county hunters, told me that Larry, KA9ZRW, is hunting counties using low power. George may try it himself, someday.

Tom Ross, K9GTQ, wrote on his card that he is the only ham to work all counties on two bands (20 and 75 Meters) all SSB. Then he followed up a few weeks later with a request for me to sign 5 MRCs for contacts I made on 40 Meters with him from about 50 counties. What band are you working on now Tom?

Todd Lemense, KGØEJ, just reached the 500 county level and hopes to get the basic USA-CA certificate soon. Go Todd go!

Gene Kowalewski, W1TEE, sent his card that accurately stated that Gene was the first to transmit from all 3076 USA counties in CW mode.

Bob Lee, W5OBT, a CW mobile operator, would like me to write a column on RV aficionados who hunt counties. Bob being one of them. CALLING ALL RVs! CALLING ALL RVs! If you are an RVer county hunter, please identify yourself and I'll tell your story.

Jerry Rossano, N4JR, sent a great county hunter QSL card. It was a picture of the county sign; "Culpepper County (VA), Area 384 Square Miles. Formed in 1748 from Orange and named for Lord Culpepper, Governor of Virginia 1680-1683. The battle of Cedar Mountain, 1862, was fought in this county."

Oliver Johnson, KB4HBH, says he's into QRP and has 2,500+ counties on HF.

Larry Boellhoff, W4TMN, also sent a good historical card with some information about James City county. "The first permanent English settlement in America was founded at Jamestown in May 1607, and on 30 July 1619, the first representative assembly in America met in Jamestown. In 1634, eight shires (counties) were formed, one of which was James City county. Six of these counties still exist today." Okay, county historians, what are the other five?

K4KNZ, John Fordham, wonders if Ashburn is home of Randolph Macon College. In 1943, the Army sent him there for a brief visit in the ASTP. Er, I dunno! What's ASTP? Anyone know?

David Benedict, W7DBH, is hooking up his ICOM IC706 and H. Stewart Designs screwdriver antenna and will start county hunter mobiling. He said it sounds like fun!

Dick Scott, KA2PHQ, uses an FT890-AT and a 600 watt Ten Tec Hercules II amplifier and a BIG bugcatcher antenna. He claims 18,000 mobile contacts.

Again, thanks to the many of you who gave positive feedback on the columns. I'd like to hear from the rest of you silent readers, too!

Now for the numbers: I wanted to see how many counties I contacted (?) during the contest. As I mentioned, I received 279 QSL cards. Unfortunately, 59 of you (21%, ouch!) did not tell me what county you live in. More SHAME! This is a county hunter column; y'all need to get with the program! Sorry, my other personality was rearing its ugly head again. Well, anyway, of the 279 cards, I identified 167 different counties (60%). I didn't

bother to try and determine what Waldo's county was for the other 59.

I received cards from 46 states (what happened to Alaska, Hawaii, South Dakota, and Wyoming?) and 3 DX countries (Switzerland, Australia, and Thailand). The state with the most responses was California with 48 (although you also had a whopping 31% who did not include your county on the card). Of the 33 Californians who did include their county on their card, there were 21 different counties (36% of CA's 58 counties).

Next in line were Virginia (19), Illinois (18), North Carolina (15), and Florida (15). The most common county was Fairfax, VA (6), followed by Santa Clara, CA, Sacramento, CA, Cook, IL, Cuyahoga, OH, and Marion, FL, all with four responses.

One reader's opinion

My September, 1996, column included an e-mail from Ken, KB4BCC, about his low QSL response rate and I offered some suggestions for improving his luck. I received a letter from Bud, WØUBT, and I offer his opinion to all of you.

"Just recently, I received a sample copy of ***Worldradio,*** nice magazine, I may subscribe.

"In reference to your column, 'County Hunter,' KB4BCC wrote and complained that he had been having trouble having his counties confirmed by QSL, even though he sends an SASE. I am not at all surprised. I'm sure you recognize my call sign as I have "put out" a lot of counties over the years. Allow me to express my thoughts on confirmations, telling it like it is. "I am 73 years old, a senior citizen who lives not far above the poverty line. . . I am not wealthy. Whenever I go on a trip by auto I know in advance that it is going to cost me, on average, $50 a day, not counting the wear and tear on my vehicle.

Almost without exception, any trip I take is almost exclusively for running counties to benefit the CH fraternity. I usually average 15 counties per day making about 15 contacts (in each county) on CW only. That is the enjoyable part. After arriving home a great many requests are received for confirmations, in many forms. This is the way a typical CH mobile station handles them.

1. A station sends only their QSL card. I disregard it completely. My personal QSL cards cost me 25 cents each. When giving out a contact in a county 'the first courtesy of a QSO (contact) is NOT to return an expensive QSL card.' I make no apology.

2. A station sends me a QSL card and an SASE. I set it aside. At my convenience, perhaps a month later. I fill out one of my own blank MRCs confirming but one county. I put it in the SASE provided along with the QTH info where MRCs can be purchased. I make no apology.

3. A station sends me their QSL card, a properly filled out MRC and an SASE. I immediately sign off the MRC, put it in the envelope provided, and it is back into the mail stream in about an hour. They were considerate of me and I was considerate of them.

"Some CH types may disapprove of the way I handle my confirmation duties. I couldn't care less. I went to the expense and trouble to give them the county(s), the least they can do is pick up all the expense in having it confirmed. That is the way I feel about it. I enjoyed your column Ace. . . take care and 73. Sincerely, Bud, WØUBT/m."

KI4W QRP accomplishments

Back in August, 1996, I received a nice e-mail from Margaret, KI4W. She told me of her many QRP accomplishments including DXCC Milliwatt #4 with over 217 confirmed countries (lowest ERP was 250 milliwatts to England on 20 Meters and highest ERP was 850 milliwatts to Mongolia on 80 Meter CW). She also holds 5BWAS #695. Although the ARRL does not issue WAS for QRP, QRPp, QRPpp or QRPmw, she never used more than 850 milliwatts. All this with a "tuna can" transmitter she built from plans in an old *QST*.

She had to have an electronics firm come and watch her operate and use test instruments to verify her power before the awards were issued and she had 5 hams in the shack at different times to monitor the operations also. Her antennas are bazookas on 40, 75, and 80 Meters and a Mosley TA-33 tribander at 60 feet.

She says all of this was a very interesting experience, but doesn't see herself ready to tackle it all again for USA-CA as a milliwatter. Oh, come on Margaret, you could be the first on your block!!!

Ciao!

That's enough rambling for this month. Check out the county hunters on 14.336 MHz and 14.0565 MHz. Also listen for VK/ZL county hunters looking for USA on 14.255 MHz at 0330Z. Until May, happy trails and happy hunting! 73, Ace, N3 aha! WR

The Youth Forum

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Amateur Radio youth groups and clubs

There are countless numbers of Amateur Radio clubs and groups in the United States. Almost every city or town has a club or some kind of group, whether they are just socially or technically oriented, or both.

However, if you have ever been to a club meeting, Field Day, or any other Amateur activity, you have probably noticed that most of the hams present are, well. . . older than us. Please don't get me wrong. There is absolutely nothing wrong with older people in these clubs, but it is always nice to be involved with some other people our age. This month I am going to introduce to you some groups and clubs that are oriented towards young Amateur Radio operators, like you and me.

If you live in the Boulder, Colorado area you have probably heard of the Boulder Amateur Radio Club (BARC). The BARC sponsors a club especially for young people who are both licensed, or are interested in ham radio, named the BARC Jr.'s. This club was founded by Rip, NVØM, and Ellie, NØQCX, Van Winkle in 1991 and has been a success ever since then. The BARC Jr.'s currently have 35 members, who plan and run the club by themselves, and only 6 of them aren't licensed! Seven of the members hold Extra Class licenses, too. Some of the activities the BARC Jr.'s partake in include field trips, Christmas parties, public relations events, fundraising and more. The BARC Jr.'s even set up their own Field Day — they plan and do everything from start to finish, participate in the annual Dayton Hamvention, build kits and help each other become licensed and upgrade. There are 14 adult Elmers in the club who are more than happy to help the members during activities. The BARC Jr.'s even have their own officers, directors and treasurer, have meetings every Saturday, and run their own weekly net on the 146.70 BARC repeater! One of the goals for the BARC Jr.'s is to create a mini-Dayton for themselves and their families. The members of BARC Jr.'s "graduate" into the regular BARC club once they turn 18.

How about Amateur Radio with a twist of adventure? Many Explorer Posts around the country are involved in Amateur Radio and search and rescue, and are sponsored by regular ham radio clubs. The Albuquerque (New Mexico) Amateur Radio Club sponsors Explorer Post 296. This Post has been active for about 8 months now, has meetings twice a month and operates a 220 MHz repeater. Post 296 is planning on becoming involved in search and rescue, and public service events such as bike races, by helping with communications. There are 11 active amateurs in the Post. Other activities this Post participates in include camping, Amateur Radio contests and more! Ask your local Amateur Radio club if there is such a group in your area. If not, suggest that they start one. If you are between the ages of 14 and 21, you are eligible to join such an Explorer Post.

Perhaps the largest youth-oriented Amateur Radio "group" is K2BSA based out of Irving, Texas. Does the call look familiar to anyone? If you are not aware of it, K2BSA is the official ham radio call sign of the Boy Scouts of America. But this is a different kind of group. This group does not have monthly meetings, or dues, and it happens to welcome both those who have their Amateur Radio licenses, and those who do not. K2BSA is one of the most coveted stations that participates in Jamboree On The Air (JOTA). It is an annual event that gives all scouts (Cubs, Webelos,

Brownies and Girl Scouts) from all over the world a chance to meet by using Amateur Radio.

The most popular event K2BSA participates in, however, is the Boy Scouts of America's National Jamboree, which happens once every four years. As many as 35,000 scouts and scouters from all over the United States as well as many countries in the world are planning to participate in this year's Jamboree, which will take place from 28 July, through 6 August of this summer, at Fort A. P. Hill, near Fredericksburg, Virginia. At this time, the majority of "members" of K2BSA will range from 12-18 years of age. Scouts who have their Amateur Radio license, or are interested in getting one, will have a chance to meet, share stories and talk about one of their favorite hobbies because of K2BSA. K2BSA will give those scouts who are not licensed a chance to experience the world of Amateur Radio. They will be able to learn about this great hobby, experience what we do on the air, talk third-party, and even take Amateur Radio license classes and exams. For those scouts who are licensed, they will be able to operate on all of the HF bands, VHF and UHF on their spare time and join a nightly Jamboree net on a 2-meter repeater located in camp.

Even though this is not an actual club, K2BSA attracts many young people, whether they are Amateur Radio operators, or not. If you are a participant of the National Jamboree this summer, stop by K2BSA's huge Amateur Radio station. There you will meet many young scouts who share, or hope to share some day, this great hobby we know as Amateur Radio. By the way, I am participating in the Jamboree, too! So please look for me as I am interested in meeting those who are reading my column. I'll see you there!

Of course these are just three of the many youth Amateur Radio clubs located around the United States today. If you are interested in becoming a member of such a club or group, ask any experienced Amateur Radio operator, your local ham radio equipment dealer, or the American Radio Relay League (ARRL) where the closest one is. They will be more than happy to steer you in the right direction.

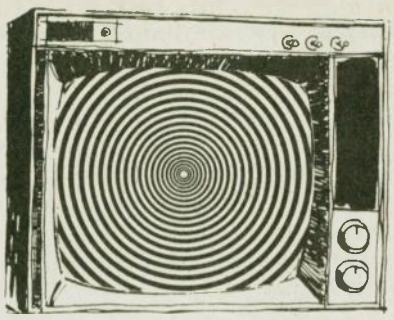
When you do join, become involved! Offer to set up, or run a weekly club/group net, or see if your club can become involved with an ARES group.

At any rate, become involved with the club or group and with the Amateur Radio community, and do something to make a difference for others. Remember, we as youth, are the future of this awesome hobby!

Speaking of nets, I have been notified that there is a 75 Meter Youth Net that meets on 3.970 MHz in the 75 Meter band at 2030 UTC Sundays. If you hold a General Class license or higher, please check in! Should you have any questions or comments about this net, please direct them to: Jack Hamm, N1REU. His address is: 806 Bay Rd., Stoughton, MA 02072, e-mail: n1reu@amsat.org

One final note; I would like to remind one and all that I can be reached through my e-mail address or regular postal address located at the top of this column. Please send any comments to me, or just say hello! If you have any story ideas, feel free to send them to me, and I will be more than happy to write about them.

Best of 73, Brian, N5ZGT. WR



RFI & you

Jack Althouse, K6NY

Q. RF from my Amateur Radio triggers fire-smoke alarms in the 150 rooms of my retirement home. The radio frequency is 14 MHz. It is impractical to attempt installation of filters in all 150 rooms of the retirement home. Do you have a suggestion to help solve my problem?

A. Yes. It is not likely that the RF from your transmitter is affecting the alarm sensors in all 150 rooms. A test for this would be to reduce power to a very low level, then gradually increase it until an alarm goes off. My guess is that they will all go off at once when you hit the trigger level of power. This will tell you that the RF is affecting something common to all of them. Otherwise the closer sensors would go off first — then the ones in rooms further away. Of course you should coordinate this test with the management so when the alarm goes off someone is ready to punch the reset button and turn it off.

Actually it is better to analyze the problem before doing anything. The most probable solution then becomes apparent. Step one is to find out what kind of an alarm installation you have. There are a couple of possibilities:

1) Traditional hard wired, and

2) RF coupled through the power line.

Let's first look at the hard wired type. In this system each room has a smoke detector which is connected to a central electronics box by a two wire cable. This "rats nest" of cabling is spread out all over the retirement home and ends in a large bundle of wires that enters the "electronics box" or "master control."

The individual room sensors don't use RF in their detect scheme and thus are not RFI prone. But the "electronics box" uses transistors and ICs that are susceptible to RFI. In our RFI terminology it is the *receptor*. The long wires spread all over the building serve as an antenna for receiving your transmitted signal and thus provide part of the *path*. The other part of the *path* is the through-the-air distance between your antenna and the alarm wiring. Your transmitting antenna is the *source,* assuming that you have no other leakage from your transmitter or coaxial cable.

Separation distance

To find the *solution*, first look at the physical locations of the alarm wiring and your antenna. Remember that your signal's field strength drops off as the square of the distance if the receptor is far away but drops off even more rapidly with distance in the "near field" close to the antenna. Look at the situation and see if you can move your antenna away from the alarm wiring. Can you get it twice as far away? This will the same effect as dropping your power from 100 watts to 25 watts or less.

Maybe you can do even better. If your antenna is a dipole on the ceiling of your room and you find that the alarm wiring in the attic above is only 4 feet away, you could move your dipole to the floor under the rug and thus increase the separation to 12 feet. You've increased the distance by 3:1. Now your 100 watts will look like 11 watts or less to the alarm system. That might be your *solution*.

Antenna Orientation

There are other ways to solve the problem. One is to change your antenna's orientation. Find out if your antenna is positioned in the same direction as the closest alarm wiring. If so turn it 90°, so it is at right angles to the alarm wiring. This will greatly reduce the coupling between the two.

Another approach to the orientation *solution* is, if both the alarm wiring and your antenna are horizontal, change the antenna to a vertical or a sloper.

Use a balun

When you are working with antenna orientation to solve the problem it is wise to use a balun between the antenna and feedline. You can make an effective balun by putting ferrite beads over the coax or your twinline. This will ensure that all the radiation is from the antenna and none from the feed-

line. Get some ferrite beads of 77 material for HF, or 43 material for VHF. For RG-58 cable, Palomar FB-56-77 works fine at HF. Use three of them for 40 Meters and above; six if you work 80 Meters or 160. For VHF use one FB-56-43. For RG-8 or other .40 inch diameter cable, use FB-124-77 at HF; FB-102-43 at VHF.

RF coupled alarms

RF remote controls recently have become popular. This system uses the power wiring in the building to carry low frequency RF signals from the sensors to the "electronics box" receiver. This used to be called "carrier current" signalling and has been used for many years by the power companies to carry command signals along their power lines.

The recent popularity of this mode is due to the advent of digital coding. This permits the transmission of a large number of distinct codes on the same wires. So each room in a retirement complex, for example, can have a smoke detector sending its own code, usually by FM, along the building's 115 volt power lines. This eliminates all the extra alarm wiring.

Of course power lines can act like receiving antennas for your transmitter's signal so the same *solutions* outlined above can be used.

In one respect the RF signalling system may be a bigger problem than the hard-wired type. The sensors now have ICs to generate and transmit the code; they are susceptible to RFI. Sensors in nearby rooms may give trouble but the most susceptible part of the system, and the place to start, still is the "electronics box" that receives and decodes the alarm signals. As before, treat this box with ferrite beads.

The "people problem"

The first thing that may happen when the 150 smoke alarms go off at once is that you may panic and if you don't, the management will. So the first thing you should do is calm down. Then do your best to calm the management down. Remember: RFI is first and foremost a people problem. Attack this part of the problem first then go on to the technical *solution*. Talk with the management, talk with the smoke sensor installation company, talk with your local ARRL RFI committee.

Next, with their help, analyze the situation using the guidelines above. Decide on the most likely solution then carry it out carefully and diplomatically.

Soon you may be working DX again without RFI. **WR**

K1ART promoted

Art Hambleton, K1ART, is Cushcraft's first amateur product manager. Art will be responsible for product management, marketing, sales and tech support for Cushcraft's Amateur Radio product line.

The 22-year Amateur Radio veteran previously served as design engineer for Amateur Radio antennas at the Manchester, New Hampshire, firm. *—via ARRL Letter*

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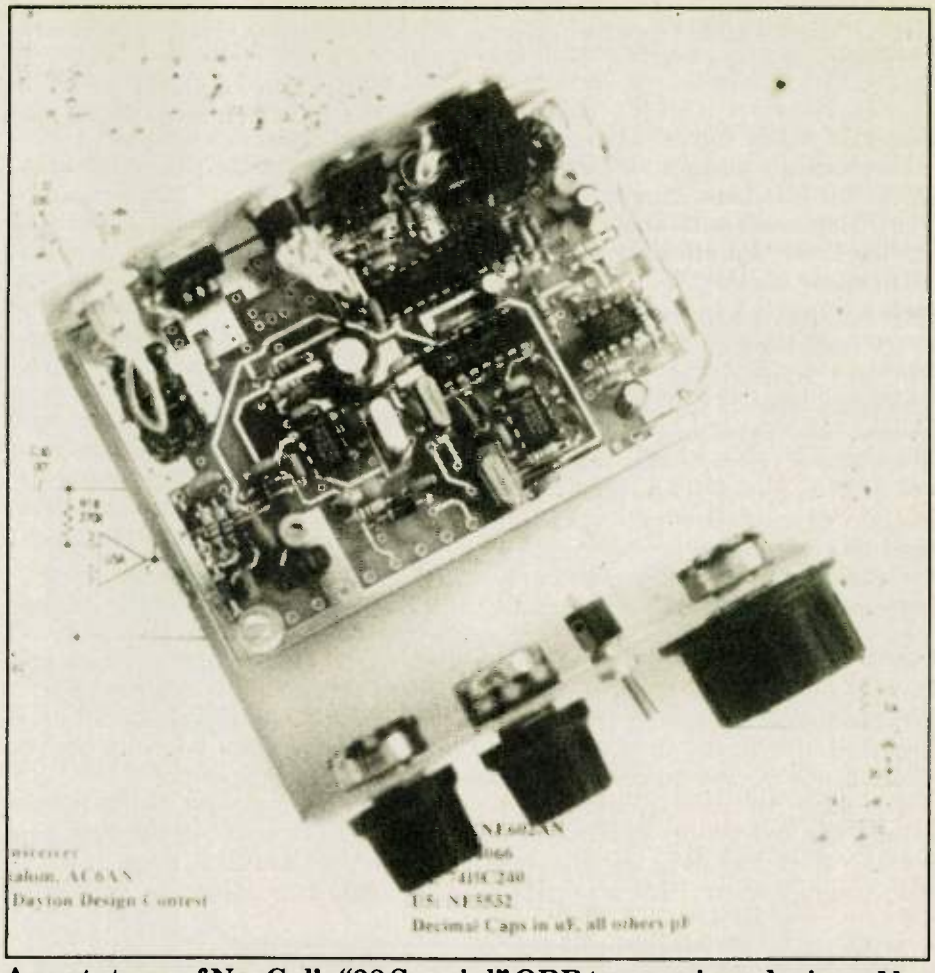


A prototype of NorCal's "38 Special" QRP transceiver designed by Ori Mizrahi-Shalom, AC6AN.

Record-setting QRP

Distance records achieved using very, very low power are not etched in stone. And for good reason.

Just when you've seen a seemingly untouchable mark set, to your amazement someone comes along and surpasses it.

That was the case at 1345 UTC on 28 December, 1996, when Fran Slavinski, KA3WTF, copied the 96 microwatt CW signal of Paul Stroud, AA4XX, 422 miles away, setting a 40-meter QRP record of 4,395,833 miles-per-watt (MPW). It more than doubled the previous record.

Stroud was running .000096 watts. Much less than 1 milliwatt. Mind boggling.

"It's almost surrealistic," Slavinski said in the immediate afterglow of the achievement. Using a homebrew Sierra QRP superhet transceiver to receive Stroud, Slavinski successfully copied AA4XX's 96 microwatt RST report and the code word LAMP at his Larksville, Pennsylvania station (5 miles west of Wilkes-Barre).

The contact was made on 7.044 MHz. It took the duo about 45 minutes to successfully make the exchange of reports.

Stroud, located in Fuquay-Varina, North Carolina (16 miles south of Raleigh), was also using a homebrew Sierra transceiver, powered down to 70 milliwatts, feeding a 30-35 dB attenuation pad to achieve the 96 microwatt output.

A Techtronics 2236 100 MHz scope was used at AA4XX to verify Stroud's power output.

Conditions were "much less then optimum," Stroud said. "I was quite surprised to hear him (Slavinski) echo back the code word."

To receive Stroud's signal, Slavinski was using a Carolina Windom II antenna along with the Sierra, giving AA4XX a 219 RST.

Stroud pumped his microwatt signal into two 40-meter dipoles fed out of phase at 60 feet, through about 150 feet of feedline. He said that when feedline loss is eventually factored in, it makes the achievement even more remarkable.

With the December, 1996, contact, Stroud and Slavinski broke their own 40-meter MPW record set 26 December 1994, when KA3WTF successfully copied AA4XX's 221 microwatt signal, for approximately 1.9 million MPW.

Since their 96-microwatt feat, Stroud and Slavinski have attempted contact at 54 microwatts. Stroud said they traditionally cut his power output approximately in half before attempting the next QRP threshold.

For their purposes, AA4XX and KA3WTF have established a window between 1200 and 1530 UTC for weak signal work between them. "We've gotten a feel for how 40 Meters behaves," Stroud said, after several years of record chasing. Experience has shown them that the band goes "long" for their 422-mile path on either side of the window.

Equipment and operators, however, have played the major role. "I can't say enough for the Sierra," Stroud said, praising its receiver and Slavinski's ability to copy weak signals. Microwatt record chasing

can be "pretty addictive when you have some success with it," Stroud said.

Packin' a "38 Special"

The NorCal (Northern California) QRP Club has been stirring up the QRP community with another of its extraordinary kit offerings.

This time it's the "38 Special" 30-meter superhet transceiver that has everyone buzzing — or beeping, as the case may be.

Designed by Ori Mizrahi-Shalom, AC6AN, of San Jose, California, the "38 Special" is a much-improved version of the club's renowned "Forty-9er" direct conversion 40-meter transceiver, but for about the same price as the "Forty-9er": $25 plus shipping

The circuit, incidentally, was an award winner in a NorCal design contest geared to provide kits for the club's Dayton (Hamvention) '97 Building Contest.

Doug Hendricks, KI6DS, a NorCal founder and the man behind development of some of the most pace-setting QRP gear of the '90s, brought a "38 Special" prototype to a Thanksgiving weekend QRP gathering in Southern California last November. Gawkers generally agreed that NorCal couldn't produce such a quality product for such a low price. But believe it, because they're doing just that.

What's in a name? Hendricks said the "38 Special" is a combination of the rig's band, 30 Meters, and the 8-volt limitation for some of its components. Thus the 30-8, or more precisely, "38" Special.

In some correspondence about the radio, it has been shortened to "38-S." By any name, it has certainly captured the ear of the QRP community.

The stock version of the kit yields a superhet transceiver putting out about 400 milliwatts. The design ingeniously includes circuit board patterns to accommodate a 5-watt amplifier — calling for an IRF510 final — and a TiCK Keyer circuit developed by Embedded Research. All of the parts for the amplifier can be found at Radio Shack stores. The keyer chip must be ordered from Embedded. There are also provisions for receiver RIT and an extra IF filter crystal.

The add-on circuitry, though, gives the builder the option of adding a couple of nice features to the stock version for just a few dollars more than the basic kit.

There are only two NE602 double balanced mixer chips in AC6AN's design.

Audio amplification and filtering is provided by an NE5532A dual operational amplifier, giving higher gain and bandpass filtering not found in the garden variety LM380 or LM386 designs.

Tuning range is typically about 25 kHz. The rig runs at a 12 MHz IF.

Well-known builder and QRPer Paul Harden, NA5N, ran laboratory tests on a prototype version of the kit and was favorably impressed, as announced in a posting he made to the QRP Internet Mail Group, QRP-L.

The "38 Special" kit includes the PC board, all board-mounted parts and the instruction manual. The kit does not include a case, connectors or off-board controls. Two potentiometers — a 1K for the RF gain, and a 100K for tuning — must also be provided by the builder.

For more information about the "38 Special," visit NorCal QRP Club's Internet web page, (http://www.fix.net/norcal.html) or write: Jim Cates, WA6GER, 3241 Eastwood Rd., Sacramento, CA 95821.

A full review for the "38 Special" kit from the bench here at KI6SN will be forthcoming. From early reports, though, this is a QRP bargain not to be missed.

QRP To The Field

It's not too early to start planning for "QRP To the Field," the annual rite of spring for lots of QRPers around the country.

The NorCal-sponsored contest goes from 1300 UTC Saturday, 26 April, to 0100 UTC Sunday, 27 April. Operators are allowed a single transmitter on the air at one time. Multiple operators are welcome, as long as the single transmitter rule is honored. Contestants may declare the best continuous 8-hour period of operation for their score.

The contest is open to all radio amateurs on all modes and all bands (except WARC). Exchange: RST, state/province/country.

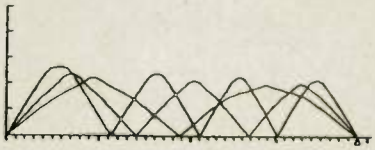
QSO points: 1 watt output or less, 10 points; 5 watts or less, 5 points; more than 5 watts, 2 points.

Multipliers: Field Location (battery power and temporary antennae), x4; home location (commercial power and permanent antennae), x2; homebrew equipment, x3; commercial equipment, x2.

Certificates will be awarded to the top 10 scoring stations and to participant entries with 20 or more contacts (include a 9x12-inch envelope and three units of postage for participant certificates).

Send logs with station and location descriptions to: QRP To the Field, 6822 131 Ave. SE, Bellevue, WA, 98006-4038 by 15 May. Include a No. 10 SASE for results. WR

Propagation



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I received my Novice license (WN9AVT) in the fall of 1961 right after 8th grade. That was about four years after the peak of Cycle 19, which was the highest peak in recorded history. The smoothed sunspot number (SSN) was about 50 when I got on the air, and it was heading down. But that didn't matter to me — I was not aware of sunspot cycles yet. Ignorance was bliss.

But it didn't take long to find out about sunspot cycles. Although I spent most of my early Novice days on 40M, I did try 15M several months later due to a construction article in the old *Popular Electronics* magazine. It described a 2-element 15M Yagi made from aluminum tubing. I built it, but I didn't make too many 15M contacts. I thought most of the problem was my NC-60 receiver not having an RF stage, but I soon became aware of sunspot cycles and their effect on HF propagation from further reading.

One of my Novice buddies, Pete, WN9BAB, wanted to come over one evening and operate on 15M. I told him the band was closed, and he asked why the FCC closed it. From my new knowledge, I explained that in this instance closed meant not being able to support 21MHz energy due to decreased ionization as the sunspot cycle neared its minimum. Those were big words for a freshman in high school.

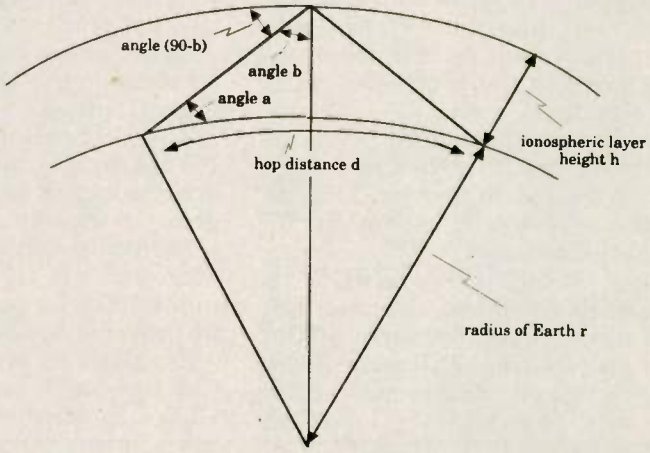
With further reading I subsequently found out that there was an E region down around 110 km (70 miles) that gave maximum hop distances of around 2000 km (1250 miles), and an F region up around 300 km (185 miles) that gave maximum hop distances of around 4000 km (2500 miles). I remember wishing that there would be another region up higher, as it would surely give even longer hop distances. I figured the higher the better.

Several years later, I bought the November, 1969 issue of *CQ*. It was devoted to propagation, and it introduced me to some basic mathematics of propagation. But it was for the simplifying assumption of flat-earth and flat-ionosphere geometry. I thought it would be neat to work this out for the real world condition of spherical geometry. I jumped in, and learned along the way that my "a higher region is better" wish is offset by another factor.

So that's what I'd like to do for this month's column — review these calculations and show how hop distance and MEJF vary with region height (the height of the maximum electron density). Out of this will come the reason why an even higher region may not be too desirable, insight into how propagation is affected by region height, and the Rule of 3 and Rule of 5 that my predecessor NM7M spoke of several times.

To start this off, see Figure 1. It shows a portion of the earth and an ionospheric region above (not to scale) with the proper variables defined. To solve for the hop distance d, two equalities are used: the length of an arc along a circle (which is the hop distance d) is equal to the radius of the circle times the included angle in radians, and the law of sines relating the sides of a triangle to its angles.

Figure 1.



To calculate the factor (referred to as the M-factor) by which the critical frequency fo is multiplied to get the MUF, we'll borrow the secant law concept from optics and assume reflection (this introduces a minor error as refraction is what actually happens — the results will be pretty darn close, though). Remember that the critical frequency is the frequency at vertical incidence (straight up) that just penetrates the ionospheric region — any lower frequency is returned to earth.

>From the above, the following equations result:

hop distance d = 2r{90 - a - sin-1{rsin(a+90)/(r+h)}}/57.3

M-factor = MUF/fo = 1/{sin(90-b)}

Note that the angle (90-b) is the angle of incidence of the energy upon the ionospheric region.

The results of the calculations for various heights h and elevation

Table I

Layer height	Elevation angle a	Hop distance	90-b	M-factor
100km	0deg	2243 km	10.1deg	5.7
	5	1389	11.3	5.1
	10	927	14.2	4.1
	25	408	26.8	2.2
	50	164	50.7	1.3
200km	0deg	3152 km	14.2deg	4.1
	5	2226	15.0	3.9
	10	1620	17.3	3.4
	25	781	28.5	2.1
	50	322	51.5	1.3
300km	0deg	3836 km	17.3deg	3.4
	5	2877	17.9	3.3
	10	2193	19.9	2.9
	25	1124	30.1	2.0
	50	474	52.1	1.3
400km	0deg	4401 km	19.8deg	3.0
	5	3422	20.4	2.9
	10	2687	22.1	2.7
	25	1412	31.4	1.9
	50	605	52.7	1.3
500km	0deg	4891 km	22.0deg	2.7
	5	3897	22.5	2.6
	10	3126	24.1	2.5
	25	1739	32.8	1.9
	50	759	53.4	1.3

angles a are given in Table I.

Using this data, let's first address my wish for a higher region. At any given elevation angle, the hop distance indeed increases as the height increases. But note what happens to the M-factor. It is decreasing. Thus the MUF (the critical frequency fo times the M-factor) will also be decreasing as the height increases. So my wish is offset by a lower MUF. That may not be a good trade-off.

Why does the M-factor decrease with height? Mathematically it's because the angle (90-b) is increasing, which means the sine function is also increasing. Then taking the reciprocal gives a decreasing result. What does all that mean in words? It means that at the higher heights, the energy is encountering the region at angles further and further from grazing angles.

The data also shows where the generally accepted maximum hop distances come from. Knowing that the E region peaks around 110 km, the data suggests a maximum hop distance of about 2000 km at low elevation angles. Likewise for an F region around 300-400 km, the data suggests a maximum hop distance of about 4000 km. Most of the time achieving these maximum hop distances is tough due to the difficulty of producing radiation at extremely low elevation angles. And sometimes, distances exceeding these maximums can be achieved with one hop, especially from the F region. For instance, transequatorial propagation (a future column) can give hops well in excess of 4000 km. I also have not taken into account the fact that the E region can bend the wave sufficiently so as to encounter the F region farther along and at a slightly lower angle of incidence.

Finally, the data shows where the Rule of 3 and Rule of 5 come from. These rules relate the MUF to the critical frequency. In the case of the E region at 110 km, the M-factor is indeed around 5. This means the E region MUF is approximately 5 times the E region critical frequency foe. Similarly, the F2 region MUF is approximately 3 times the F2 region critical frequency foF2. Thus if you know the region critical frequency, you can estimate the MUF. These are good approximations that I will use in future columns. WR

Wires & Pliers

The World's oldest and simplest transistor tester

Dave Evison, W7DE

This bipolar transistor tester goes back to the days of Dr. Shockley and Bell Labs, and a lot of years have passed since 1948, so it has probably been forgotten. Although it has only two basic parts, a normally open pushbutton switch and a 100k resistor, this simple tester will give an indication of both leakage and beta gain. Figure 1 shows the circuit and how it connects to an analog-type multimeter. Note that the multimeter is set to the RX100 range.

How it works

With the pushbutton switch open, the ohmmeter will measure the leakage between emitter and collector, and it should indicate infinity. If there is a meter indication with the pushbutton switch open, then the transistor has a leakage problem and should be discarded. When the pushbutton is depressed the 100k resistor will supply some forward bias to the transistor and the ohmmeter will measure a significantly lower resistance (the lower the resistance the higher the gain). The amount of meter deflection is indicative of gain in the beta configuration. By logging meter readings it is possible to match transistors in terms of beta. After reviewing the operation of this little tester, it's easy to understand why Dr. Shockley named his little 3-terminal device the "Transfer Resistor."

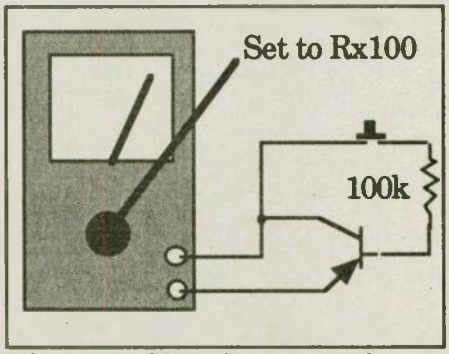
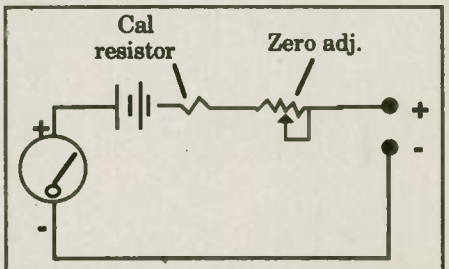


Figure 1. Circuit connection to analog-type multimeter.

A couple of comments about analog multimeters . . . Not all multimeters are alike in terms of their ohmmeter circuits. As a general rule, the positive input jack on most analog multimeters — when set to the lower resistance ranges — will be of a negative polarity.

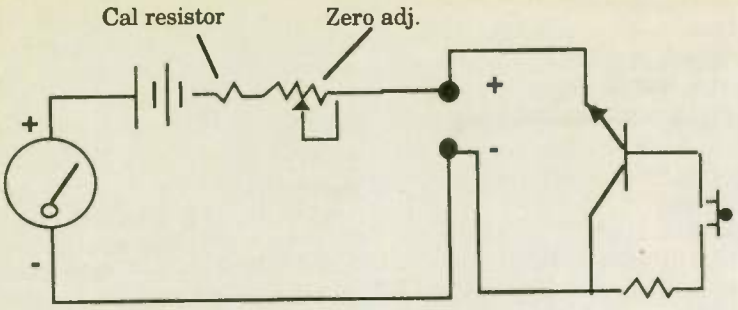


Basic series ohmmeter circuit of the type generally used in the low ohms circuit of analog multimeters. Note that the polarity indicated on the drawing is for the multimeter input jacks. Note further that the actual DC polarity is reversed.

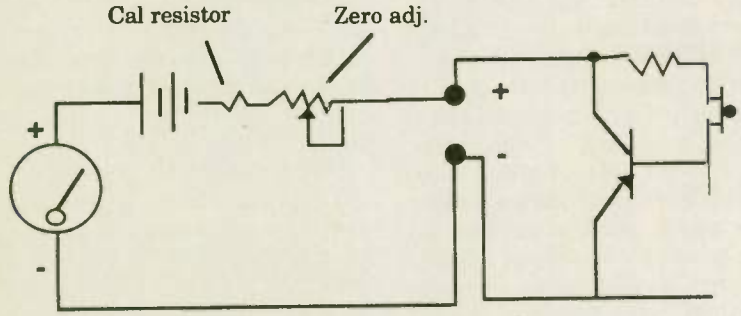
Figure 2. Customary circuit for the RX100 range.

Figure 2 shows the customary circuit for the RX100 range of most analog multimeters. However, you should check the ohmmeter polarity of your particular multimeter by measuring the voltage appearing at the input jacks when the multimeter is set to measure resistance. Once the polarity situation is determined, you will know which way to swap the ohmmeter leads to supply the proper polarity for the particular transistor being tested (NPN or PNP).

Figure 3 shows the relationship between a transistor, the tester, and a customary multimeter ohms



Test configuration for NPN transistor



Test configuration for PNP transistor

Tester and transistor shown connected to a basic series ohmmeter circuit. However, not all analog multimeters use the polarity shown in this drawing, and the tester leads may require reversing at the multimeter input jacks.

Figure 3. Relationship between a transistor, the tester, and a customary multimeter ohms circuit.

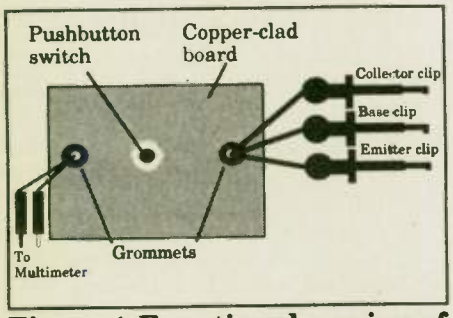


Figure 4. Functional version of the tester.

circuit.

Figure 4 shows an ultra-simple, ultra-ugly, but functional version of the tester. A DPDT switch for reversing the ohmmeter leads is also a handy addition.

I'm sure you will find this to be a very handy little tester, and it will breathe some new life into that old multimeter you may have retired when you purchased a digital multimeter. **WR**

AERIALS
Lil Paddle

Ghastly. Utterly ghastly! The ARRL book *Low Profile Amateur Radio* is a humiliation to the ARRL and detrimental to Amateur Radio itself.

Let us start on this repugnant journey. We are told, "On 6, the halo is about ½-wavelength in diameter." Allow me to point out that ½-WL on 50 MHz is about 9 feet. A two-foot overhang on each side of your motor car will draw the attention of a police officer. On another page the halo antenna somehow shrinks to 67 inches circumference.

On page 2-20 is a chart with vertical (Gain dB) and horizontal axis (Frequency: 50, 144, 222, 430, 1296) and a diagonal line from the lower left corner to the upper right corner. The purpose is to exhibit the gain of a "6-foot Boom Yagi." Coming up from the "50" to the diagonal line and then to the left we see a gain of about 1 dB. In actuality a 6-ft. boom on 50 MHz represents just about .3 wavelength, which with three elements would provide about 6 dBd. (For easy reference, this .3 WL boom is the equivalent of a 21-foot boom for a 20M Yagi.)

Going up from the 144 mark to the diagonal line and then to the left, we hit the numeral 5. Now, easy enough, if you take 2 Metres and multiply it by 3 (approx. feet in a meter) the answer is 6. So, the boom is a full wavelength long. Now, (for an analogy) you and I both know that a Yagi with a 70-foot boom on 20M will give you more than 5 dB gain.

What is particularly disheartening about this is that this review is based on the SECOND printing of this book. Are we to presume that no one at the ARRL lab read this book after the first printing so as to yell out "Whoa!"

Then there is this: "The average solid-state 100-watt station running from a 117-volt line needs about 5 or 6 amps while transmitting. Add a 10-amp load from the microwave oven and your 15-amp line is overloaded. Vacuum-type rigs require even more power. They definitely should be run off their own 15-or 20-amp circuits."

What a mish-mash! I checked the cover of the book and it was written by an Extra Class amateur. Unbelievable. This is the type of matter that was on the Novice test of the 1950s when I was aiding people in obtaining their license.

To explain, and obviously for some I had best simplify it: 100V times 1A equals 100W and 10V times 10A also equals 100W. Going through transformers the voltage and current change in an inverse manner. When one goes up, the other goes down.

Now, from the book's examples: 117V AC times 6 amperes=702W. No, you certainly do not need 700W in order to operate a solid-state 100W transceiver. What if the 6 amps is coming out of the power supply at 13V? That's 78W. Not enough. Now, let's look at that tube rig. Assuming the same 100W output, say at 10A (less than the 15 or 20-amp circuit mentioned). Do you require 1,170W for a tube rig? No.

Kurt opined, after reading the above, that any apprentice electrician considering becoming an amateur (after reading this book) would forego the association figuring that we don't know our amperes from our ground rod. It makes us look like we are a bunch of mindless twits.

We are told "The longest practical mobile antenna is about 9 feet high." Well, there are amateurs with 13.5 foot mobile antennas.

I disagree with this, "Most 1,500 watt signals are 20 to 30 dB stronger than S9." "Most?" On which band? On what path to where?

Or, regarding Six Metres, "When solar activity is high, worldwide QSOs are common." Common?

The author related that with an antenna tuner he loaded up the fire escape and then said, "Any antenna expert will tell you this antenna was all wrong for close-in work on 80 Meters." So, I asked an antenna expert and Kurt said close-in work on 80M was about what could be expected.

In talking about "Low Profile Operation" the author brought up clandestine operations and said, "almost every spy had a set." Not quite factual. There would be many intelligence gatherers bringing their material to one radio operator for transmission. Actually, very seldom was the radio operator himself, or herself, an operative. One of the best was indeed a woman, code-named Madeline. Sadly, she was captured and executed.

Which leads to a severe flaw in this book. Many pages were devoted to large loop antennas made of silver-soldered (with propane) plumber's pipe or wire loops with four variable capacitors in the legs, but next to nothing about simple and quick antennas. The perennial "Windowsill Semivertical" credited to Lew McCoy, W1ICP, in a 1967 issue *QST*, is sans any dimensions regarding the aluminum or component values for the coil or capacitor. The photograph is so dark one can not perceive which wires go where.

So, harking back in time, here is the preferred OSS antenna. The antenna wire would come out of the transmitter and head up to the ceiling. From there the wire would run from wall to wall in a zigzag, or sawtooth, manner. Another wire (counterpoise) would run from the transmitter down to the floor and in mirror fashion would also run back and forth from wall to wall. What it really was, was a center-fed dipole.

Today, however some government agency would warn against the operator sitting in the antenna field because if it was continued, at the age of 109, the operator's skin would turn green, or some such. During the 40s, however, the "musician" had other worries much higher up the priority ladder.

This book also fails to make any reference to the 468 or 234 formulas to encourage experimentation on antennas. Lest you think such would be unnecessary allow me to remind you that when amateurs were given the allocation on the 10 MHz band some wrote in to *QST* asking for dipole dimensions. And, without shame, they printed the letter.

So allow your Auntie Lil to assist you, should you be restricted to less than congenial living quarters. If you have a room (I just measured one of ours) that has an 8-foot ceiling and that has a wall 16 feet long, you can build a one-element wire loop that will probably drop right into the 15-metre band. Use the 1005/F-MHz formula for the length of the one-wavelength (in feet). If you are off a bit, you really don't care. I will now give you something quicker and cheaper than anything in the *Low Profile* book. It came to me when I was in the living room here at the ranch re-reading Ayn Rand's *Atlas Shrugged*. I got up and measured the room with a yardstick and found that within just a few inches the room was 22 feet long and 14 feet wide. I added them up, 22+22+14+14 =72 feet. Let's again look at the formula 1005/14.2=70.775 feet.

Here we are very close again to the 2:1 rectangular loop. Sort of a squished one-element quad. Lay the wire on the floor around the perimeter of the room and nobody on the outside of your home would know what was transpiring. A 40-metre dipole could be laid out in the same space. A tuner would take care of whatever slight impedance variations from ideal that would exist.

Also, I do not care for, when spending money for what I expect will be a technical book, being charged for this New Age psycho babble. For example, "I don't want Amateur Radio to be the center of my life, or to consume large chunks of my time." Since at the time he was working at the ARRL Headquarters and "in two years, I had worked almost 300 countries, earned Five-Band DXCC and a bunch of awards, all with wire antennas and a trap vertical" it seems that Amateur Radio *was* the center of his life (he is living alone in an apartment). I am quite well aware of how time-consuming getting 5BDXCC can be. Not so much the on-air time but the blasted paperwork!

We also have many diverse and varied interests, but Kurt and I are not ashamed to say that Amateur Radio is the center of our lives . . . whatever metaphysical meaning that may have.

In speaking of a tri-bander on a tower in your backyard we are treated to this: "Lately, even you think it might be an eyesore." Never happen! To me that structure reaching ever skyward will always be thing of beauty.

"You just spent an hour fighting a pileup for a new country. The thrill of working a new country no longer offsets the aggravation." Well, if someone spent an hour on the radio calling the same station he/she wasn't fighting a pileup. The operator had fought many pileups that had come and gone. And, it is the "aggravation" that makes the final conquest worthwhile. If it weren't an ordeal, a fight, it would be meaningless. If the road to the DXCC Honor Roll were some sort of cakewalk it would be devoid of the status that is attached.

This book is filled with gibberish such as, "Wouldn't being on the air during your daily commute be more interesting than listening to depressing stock market reports and egotistical disc jockeys?" Just why, pray tell, is the stock market depressing? I rather like the stock market. There is radio equipment on our desks because of it.

The author is long on precious utterances like, "Unfortunately, we often feel our stations are inferior if they can't work someone 12,500 miles away on a regular basis. These feelings keep the antenna and amplifier factories busy, but they have diminished much of the pleasure of Amateur Radio. Is a ham 250 miles away any less interesting to talk to than one 10,000 miles away? In fact, you probably have more in common with the closer ham . . ." and short on practical advice. (Most likely if the far distant Ham were a contester or DXer we would have more in common.) We get drivel like this, regarding mobile operation, "If you do much operating while parked, a few 1/4-wavelength counterpoise wires connected to the same point can't hurt." Well, if all it will accomplish is, "can't hurt" why ought we bother at all? Actually, in reality, those few radials will make quite a difference.

What is happening to our League? Why are they putting out twaddle? We were getting letters from amateurs writing about the ARRL's lowered technical standards. I didn't know what they were talking about. *The ARRL Handbook* chapter on transmission lines takes a difficult subject and explains it with crystal clarity — truly a marvelous piece of work. The chapter on antennas is excellent — better than anything else around by far. We are fortunate, indeed.

Would you like to read what we consider a brilliant effort? *Antennas and Techniques for Low-Band DXing* by John Devoldere, ON4UN, also published by the ARRL. Possibly soon we'll do a few short excerpts so you can see just how fine it is.

So we have now found out what people are criticizing. It is these silly little booklets. (Refer back a few months to my remarks about that dismal "Your Ham Antenna Companion").

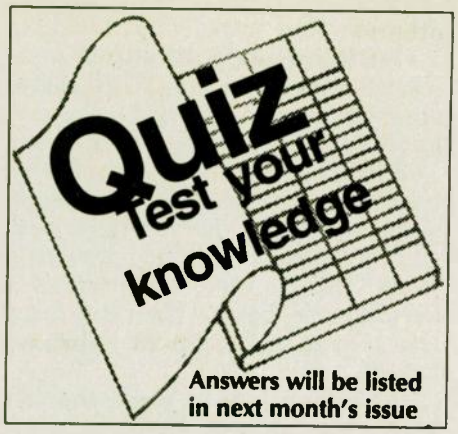
Puzzling indeed. Didn't even any readers who knew better write in about the mistakes so they could be changed for the second printing? Let us hope this book maintains a low profile so we are not all tainted by it.

And I grieve to report that there was a mistake in a book from the (usually flawless) RSGB. In the second edition of (otherwise excellent) *The Antenna Experimenter's Guide* by Peter Dodd, G3LDO, there is this statement, "The Standing Wave Ratio indicates the degree of mismatch between the feed impedance of the antenna and the characteristic impedance of the transmission line."

Not quite correct. The SWR indicates the ratio between forward and reflected power only. There can be impedances of the same value presented by widely different ratios of resistance and reactance which will result in very different forward and reverse power ratios.

A full and complete explanation will appear shortly. And we shall also explain that (contrary to what was recently written in a major magazine) radiation resistance and feedpoint impedance are NOT the same thing.

(Kurt and Lil go by their aliases so they don't get irate phone calls interrupting their afternoon siesta.) WR



The answers to the quiz questions for last month are: 109. B; 110. C; 111. D; 112. B; 113. D; 114. B; 115. A; 116. B; 117. A; 118. D; 119. B; 120. D; 121. C; 122. D; 123. B; 124. B; 125. D

126. How can even-order harmonics be reduced or prevented in transmitter amplifier design?
A. By using a push-push amplifier
B. By using a push-pull amplifier
C. By operating class C
D. By operating class AB

127. What is receiver desensitizing?
A. A burst of noise when the squelch is set too low
B. A burst of noise when the squelch is set too high
C. A reduction in receiver sensitivity because of a strong signal on a nearby frequency
D. A reduction in receiver sensitivity when the AF gain control is turned down

128. What is the term used to refer to the reduction of receiver gain caused by the signals of a nearby station transmitting in the same frequency band?
A. Desensitizing
B. Quieting
C. Cross modulation interference
D. Squelch gain rollback

129. What is the term used to refer to a reduction in receiver sensitivity caused by unwanted high-level adjacent channel signals?
A. Intermodulation distortion
B. Quieting
C. Desensitizing
D. Overloading

130. What causes receiver desensitizing?
A. Audio gain adjusted too low
B. Squelch gain adjusted too high
C. The presence of a strong signal on a nearby frequency
D. Squelch gain adjusted too low

131. How can receiver desensitizing be reduced?
A. Ensure good RF shielding between the transmitter and receiver
B. Increase the transmitter audio gain
C. Decrease the receiver squelch gain
D. Increase the receiver bandwidth

132. What is cross-modulation interference?
A. Interference between two transmitters of different modulation type
B. Interference caused by audio rectification in the receiver preamp
C. Harmonic distortion of the transmitted signal
D. Modulation from an unwanted signal is heard in addition to the desired signal

133. What is the term used to refer to the condition where the signals from a very strong station are superimposed on other signals being received?
A. Intermodulation distortion
B. Cross-modulation interference
C. Receiver quieting
D. Capture effect

134. How can cross-modulation in a receiver be reduced?
A. By installing a filter at the receiver
B. By using a better antenna
C. By increasing the receiver's RF gain while decreasing the AF gain
D. By adjusting the pass-band tuning

135. What is the result of cross-modulation?
A. A decrease in modulation level of transmitted signals
B. Receiver quieting
C. The modulation of an unwanted signal is heard on the desired signal
D. Inverted sidebands in the final stage of the amplifier

136. What is the capture effect?
A. All signals on a frequency are demodulated by an FM receiver
B. All signals on a frequency are demodulated by an AM receiver
C. The loudest signal received is the only demodulated signal
D. The weakest signal received is the only demodulated signal

137. What is the term used to refer to the reception blockage of one FM-phone signal by another FM-phone signal?
A. Desensitization
B. Cross-modulation interference
C. Capture effect
D. Frequency discrimination

138. With which emission type is the capture-effect most pronounced?
A. FM
B. SSB
C. AM
D. CW

139. What is reactive power?
A. Wattless, non-productive power
B. Power consumed in wire resistance in an inductor
C. Power lost because of capacitor leakage
D. Power consumed in circuit Q

140. What is the term for an out-of-phase, non-productive power associated with inductors and capacitors?
A. Effective power
B. True power
C. Peak envelope power
D. Reactive power

141. What is the term for energy that is stored in an electromagnetic or electrostatic field?
A. Potential energy
B. Amperes-joules
C. Joules-coulombs
D. Kinetic energy

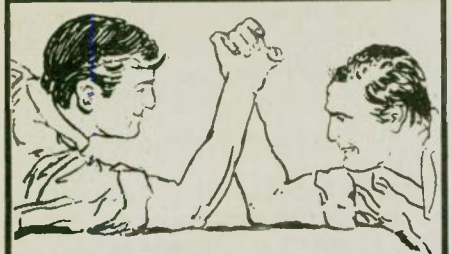
142. What is responsible for the phenomenon when voltages across reactances in series can often be larger than the voltages applied to them?
A. Capacitance
B. Resonance
C. Conductance
D. Resistance

143. What is resonance in an electrical circuit?
A. The highest frequency that will pass current
B. The lowest frequency that will pass current
C. The frequency at which capacitive reactance equals inductive reactance
D. The frequency at which power factor is at a minimum

144. Under what conditions does resonance occur in an electrical circuit?
A. When the power factor is at a minimum
B. When inductive and capacitive reactances are equal
C. When the square root of the sum of the capacitive and inductive reactances is equal to the resonant frequency
D. When the square root of the product of the capacitive and inductive reactances is equal to the resonant frequency

145. What is the term for the phenomena which occurs in an electrical circuit when the inductive reactance equals the capacitive reactance?
A. Reactive quiescence
B. High Q
C. Reactive equilibrium
D. Resonance

146. What is the approximate magnitude of the impedance of a series R-L-C circuit at resonance?
A. High, as compared to the circuit resistance
B. Approximately equal to the circuit resistance
C. Approximately equal to XL
D. Approximately equal to XC



Contest Corner

Don Durk, KA1DWX
76226.1414@compuserve.com

Miscellenia

To err is human, to forgive. . . . It appears that some wrong data appeared about the Hunting Lions on the Air Contest, for which I apologize. Contest details must be in any magazine's hands at least 75 days before the publication is released. This March column is written in early January and is in your mail box by late February which means it is mailed mid-February. Often times we are faced with having no current information from the contest manger leaving us with the decision of not publishing the contest, publishing with last year's info or extracting the data from other sources — web pages etc. I do the latter in the hopes that we can have a full calendar and not miss any contest. The risk is that the web pages are also using the prior year's info and have not received new info.

Check out the WPX rules changes in this column. Three new classes of competition have been added by *CQ*. Now you can compete a bit more equally if you are new to the contest game, if you have a modest station, or if you have a restricted band license. Nice work *CQ* Contest Committee!

At my local radio club last month, Mr. Larry Hardy of Spectrum Investigative Services demonstrated his 'have scope will travel' approach to all those pesky noises in and around New England. Larry chases down those annoying line noises and broadcast interference problems for utilities and broadcasters.

Judging from recent results of the SARTG RTTY 'test, RTTY contesting seems to be growing. I noticed that the past results had fewer US entries and now we have quite a few US participants. That's great!

A nice package of software is available from WF1B for approximately $50. It supports 11 or more RTTY 'tests plus DXpeditions. You can check it out at wf1b@ids.net or call 401/823-7889. It appears that a number of the major contest clubs are not actively supporting the RTTY 'tests. Here's a possible venue for increased membership!

Get logs in within 30 days! Most contests require separate logs per band, check sheets for over 200 Qs, a summary sheet and a signed and dated affidavit attesting to observance of the rules of both the contest and your local regulating authority. A statement wherein you agree to be bound by the decisions of the contest committee is also needed. All times are in UTC. WARC bands excluded.

Late February 'tests

(See *Worldradio* February issue)

•CO QRP SSB/CW Winter 'test
23 February 22:00-24 February (Monday) 03:59 (RS(T)+state/province/DXCC country

•YLRL YL-OM CW 'test
22 February 14:00-24 February (Monday)14:00 (RST +QSO number+ ARRL section /VE province/DXCC country)

•NC SSB/CW QSO Party
22 February 00:00-23 February 24:00 (RS(T)+ County for NC stns; state/prov/DXCC country for others)

•REF French SSB 'test
22 February 06:00-23 February 18:00
(RS+number)

•RSGB 7 MHz CW 'test
22 February 15:00-23 February 09:00
(RST+number; UK send 3-letter county code)

•UBA (Belgium) CW 'test
22 February 13:00-23 February 13: 00
(RST+number or prov for ON stns)

•CQ WW 160 SSB 'test
21 February 22:00-23 February 1600
(RST+48 state/13 prov/ DXCC country)

March 'tests

•ARRL Int'l DX SSB
1 March 00:00-02 March 24:00
(RS+ state/prov;DX-RS+pwr)
W/VE Q DX. DX Q W/VE.
160-10 Meters. NO WARC bands. Q 1x per band.

Score-pts(W/VE 3 pts per DX QSO;DX 3 pts per W/VE QSO) x mults (W/VE-DXCC countries per band exc. US and Canada; DX-states exc. KL7 and KH6 and DC plus provinces per band. Max 62 per band) /mm or /Aerom Qs count only for QSO pts not mults. Single op unassisted or single op assisted — A. All band: 1A QRP; 1B 150 or less; 1C >150 W. 2 Single band. B. Single op assisted. C. Multi op C1 - 1 xmtr; C2 - 2 xmtr; C3 -Unlimited. Ck sheet for 500 or >Qs. Plaques.*QST*. Questions to Steve, N8BJQ@erinet.com

•EU EME 'test

01 March 00:00-02 March 24:00 (144 and 1296 MHz) and 22 March 00:00-23 March 24:00 (432 and 1296 MHz)

(Call+TMO or RST) Categories QRO,QRP and "Professional" stns. QRP is (ERP)<100kW on 2;<400kW on 432 and <600kW on 1296.

No QRO catagories on 2304 or above.Score: pts (100 per random QSO {or sked on 2304 or above},10 pts per sked/QSO below 2304) x mults (states/ provs/ DXCC countries per band — below 2304 only random Qs count as mults). DUBUS Verlag EME Contest, P.O. Box 500368, D-22703, Hamburg, Germany

•Commonwealth CW Contest

08 March 12:00-09 March 12:00 (RST+Number)

Q Commonwealth stns 1x per band 80-10 Meters.Score-5 pts for ea Commonwealth stn. First 3 Qs with a new Commonwealth call area are worth 20 points each. No mults. Classes: single op, single band; single op, multi band. Certs. G3UFY.

•QCWA SSB QSO Party

08 March 00:01-09 March 23:59 (RS + name + QCWA number + DXCC country) Q 1x per band 160-10 Meters. Score- 1 pt per Q x mults (every reached QCWA area) Refer to membership number system for details. W1EES.

•Cadiz Silver Cup SSB 'test

08 March 15:00-09 March 15:00 (RS+DXCC country prefix; EA stns send RS+province)

Q 1x per band 80-10 Meters. Repeat Qs with same station but on different band must be at least 15 minutes apart. Score: pts (1 for EA or non EA stns; 2 for EA stns in Cadiz; 3 for EC non-Cadiz stns and 4 for EC stns in Cadiz. No mults. awards.Seccion Local de URE,POB 2271,E-11080, Cadiz, Spain

•WI SSB/CW QSO Party

10 March 18:00-11 March 01:00 (RS(T)+st/prov/DXCC country or county for WI stns). QDXCC only for QSO credit not points.

Q 1 x per mode. 80-2 Meters. CW-3.550, 3.705, 7.050, 7.125, 14.050, 21.050, 28.050 and 6 and 2 Meters. SSB-3.890, 7.230, 14.290, 21.350, 28.400 and 6/2. Q mobiles in each different county.

Score- pts (1 SSB;2 CW-WI mobiles/portables add 500 bonus pts for each county where they make 15 or more Qs) x mults (WI counties max 72- or for WI stns, WI counties+states+provs).West Allis Radio Club, P.O. Box 1072, Milwaukee, WI 53201

•CLARA CW HF 'test

14 March 17:00-15 March 17:00 (RST)+name, QTH and whether QSO is w/CLARA member or CLARA family member). CLARA is the Canadian Ladies Amateur Radio Assn. Open to all. Call CQ CLARA. Q 1x per mode. 160 to 10 w/most activity on 3.688; 7.033; 14.033 and 21.033. Crossband ok but count as SSB QSO. Score-pts (5w/ CLARA member; 3 w/YL non Clara mbr; 2 w/CLARA family mbr; 1 w/OM including OM to OM) x mult (1 forVE prov or terr (max13) + ARRL DX country). Trophy and certs. VA3WX.

•Russian SSB/CW DX 'test

15 March12:00-16 March 12:00 (RS(T)+number; for Russian stns RS(T)+ oblast abbreviation {88+3 per band} Q 1x per mode per band, but 10-minute lag between CW and SSB Q of same stn. 160-10. Classes: Single op all band CW; single op all band SSB; single op all band mixed mode. Multi op single tx w/10 min rule. Single op single band mixed only. Score-pts (10 for Russian stns; 5 for other continent; 2 for own country; 3 for other country on your continent) x mults(DXCC countries+ oblasts per band). N6TR.dat or K1EA.bin or logs to UA3DPX.

•Bermuda 'test

15 March 00:00-16 March 24:00 (RS(T) Q all stns not just VP9.

Operate 24 hrs only. Off periods must be 2 hours or more. Q 1x per mode, 80-10 Meters.

Score- pts (5 per Q) x mults (DXCC countries and VP9 contacts per band). Certs for top country scorer if log has 100 Qs, including at least 3 VP9 stns. Historically, a trophy is awarded to the top scorer worldwide. In the past the trophy winner has often received a donated free trip to Bermuda with accommodations so that they can pick up the trophy. WOW! Ck for details-Radio Society of Bermuda,Box HM275, Hamilton HM AX, Bermuda.

•BARTG Spring RTTY 'test

15 March 02:00-17 March 02:00 (RST+QSO number+UTC time)

Operate only 30 of 48 hours. Multis ok for 48 hrs. Off periods must be 3 hours minimum. Q 1x per band 80-10 Meters. Score- pts-1 per Q x mults per band (DXCC country including first Q with W,VE,VK and JA in addition each call district in W, VE, VK and JA counts as a per band multiplier. Also ea continent (6) will count once as a mult but not per band). Classes: Single op all band; single op single band; multi op all band; multi op multi band. Awards. G4SKA.

•VA SSB/CW QSO Party

15 March 18:00-16 March 05:00 and 18 March 11:00-02:00 [RS(T) +number+st/prov/ DXCC country for non VA or county for VA stns).

Q 1x band and mode. Q VA mobiles in each county they are in. Mobiles on county lines are one QSO but as many counties as they represent. 160-10 Meters.CW-1.805 and 50 kHz up. SSB-1.845, 3.860, 7.260, 14.260, 21.360, 28.360. VHF-50.125, 147.48 and 223.50. UHF-446.00 No repeater cross mode QSOs.

Score-pts (1 SSB/FM; 2 CW; 3 for VA mobile SSB/FM or CW) x mults (VA counties 95 max) or for VA stns (VA counties+states+provs+DXCC countries,count KL7, KH6 VE as

states or provs not also as country. No extra mult for US. Mobiles add 100 pts for ea VA county in which you log a Q. Classes: Single op; mobile, single or multi op w/1 call sign and only 1 transmitter on the air at a time; club minimum 3 logs ea indicating club affiliation; single op multi trans; multi op multi trans. QRP < 5w. Dupe sheet for 200+ Qs. No disks pls only paper logs. Plaques and certs. VA QSO Party, Call Box 599, Sterling, VA 20167.

•CLARA SSB HF 'test

18 March 17:00-19 March 17:00

(RS)+ name,QTH and whether QSO is w/CLARA member or CLARA family member)

Suggested frequencies: 3.775, 3.900, 7.200, 14.120 and 14.285. See CLARA above 3/14

•ALASKA SSB/CW QSO Party

22 March 00:00-23 March 24:00

(RS(T)+city if KL7 or state/prov/DXCC country for non-Alaska stns. KL7 stns send city) Q 1x per mode. Q KL7 only. KL7s Q KL7 and non KL7.1.8-28MHz. Fqs: 1.835, 3.700, 3.875, 7.035, 7.135, 7.235, 14.035, 14.245, 21.135, 28.135, 28.335. Score-pts (1 SSB; 2 CW, Digital, SSTV; 160, 80 and SAT Qs count double) x mults (KL7 cities Qd or for KL7 stns st/provs/DXCC countries). Certificates. AL7J

•CQ WPX SSB 'test

29 March 00:00-30 March 24:00

(RS+NR) Q1x/band. 1.8-28 MHz (No WARC Bands). Single ops only allowed 36 of 48 hrs. Multis allowed 48 hrs. Off periods at least 60 mins and clearly marked in log. Score points: North America-Qs outside NA, 3 pts on 28, 21, 14MHz; 6 pts on 7, 3.5, 1.8 MHz. Qs w/other NA countries 2 pts on 28, 21, 14MHz; 4 pts on 7, 3.5, 1.8 MHz. Qs w/ own country no pts but ok for prefix multipliers.

EU/ AS/ AF/ OC/ SA -Qs outside own continent 3 pts on 28, 21, 14 MHz; 6 pts on 7, 3.5 and 1.8. Qs w/ other countries on own continent 1pt on 28, 21, 14 MHz; 2 pts on 7, 3.5 and 1.8 MHz. Qs w/own country no pts, but ok for prefix multiplier. Mults: Ok to score same station on each different band for QSO pts but prefix credit may be taken only once no matter how many times you work the same station or other stations with the same prefix. Prefix = the 3 letter or number combination of the first part of the call. YZ1, 3W8, AA1, AA2,etc.

Stations operating from a different call area than their call sign must sign portable indicating the correct geography and country of operation. e.g. KB6HP/1 = KB1; KA1DWX/6=KA6; K2UYC/LX=LX.

New Categories: Rookie — licensed 3 yrs or less (Indicate date of license on log) band restricted (BR) — your license restricts you to less than the six contest bands on both modes. Tribander and single element (TS) — using 1 tribander of any type for 10, 15 and 20 and single element antennas for 40, 80 and 160.

Classes-1. Single op-all band/ singleband. 1a. Single person does all functions including unassisted spotting. 1b-Low power-100W or less of output 1c. QRP-5W or less of output.1d. Assisted — use of spotting nets or other forms of DX alerting (phone calls?) 2. Multi op - all band only. 2a-Single xmtr-1 trans and 1 band during the same 10 minute time frame. 2b- Multi xmtr. No limit to transmitters but only 1 signal and running station per band. Multis use separate numbers for each band. Club competition. QRP<5w, state max pwr output used in log. Include prefix list w/log. Trophies, plaques. *CQ*. Questions? Bob, K3EST@netcom.com

April 'tests

4/5 Weekend
- Italian YLRL Marconi 'test
- EA WW RTTY 'test
- SP CW DX 'test
- MARAC SSB County Hunters 'test

4/9-11
- YLRL CW 'test

4/11-13
- JA Int'l HF CW DX 'test

4/12 Weekend
- ARCI QRP CW QSO Party
- Int'l HF Grid 'test
- King of Spain 'test
- Digital QSO Party
- UBA Belgian CW 'test

4/19 Weekend
- ES Open Championship
- YU DX CW/SSB 'test
- SARTG WW Amtor 'test
- EU SSB Sprint

4/23-25
- YLRL SSB 'test

4/26 Weekend
- Holyland DX 'test
- SP DX RTTY 'test
- Helvetia HB9 CW/SSB 'test
- Nebraska CW/SSB QSO Party

May 'tests

ARRL VHF 432 MHz

5/3 Weekend
- ARI Italian 'test
- OZ Danish SSTV 'test
- MA QSO Party
- CT QSO Party
- MARAC County Hunters CW 'test
- Ten Ten CW 'test
- TX QSO Party

5/10 Weekend
- Volta CW 'test
- NEV QSO Party
- FISTS CW Spring Sprint
- ARRL 902, 1296, 2304 MHz Spring Sprint

5/17 Weekend
- EU CW Sprint

5/24 Weekend
- ARRL 50 MHz Spring Sprint

5/31 Weekend
- CQ WPX CW 'test
- CQ Vikings 'test
- PY Brazil WTU 'test

WR

Hamfests March

Do you have a hamfest coming up? Send your information to our 28th St. office at least 2 months in advance of your event. We'll send prizes!

California

The **Livermore ARK** will hold a swap meet on 02 March from 7 a.m. to noon at Las Positas College, 3033 Collier Canyon Rd., Livermore, CA (Airway Blvd., exit to north of 580 highway). Features include new, used, surplus ham, computer gear, miscellaneous electronics and testing equipment, refreshments available. Admission and parking are free; vendors $10 per space (equals two parking spaces). No VE exams. Contact Noel Anklam at 510/447-3857 (eves.) or 510/783-2803 (days). Talk-in on 145.350(-) PL 100 (receive and send), 147.045(+) PL 94.8, 147.120(+) PL 100.

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The **Yuba Sutter ARC** will hold a swapmeet on 15 March from 8 a.m. to 1 p.m. at the American Legion Post, 5477 Feather River Blvd. in Linda (approximately 3 miles south of Marysville). Tailgate and commercial ham dealers are welcome. An all-you-can-eat breakfast will be served from 8 a.m. to 10 a.m. Details are available from Ron, W6KJ, 916/674-8533 or Clara, KC6JPP, 916/742-2674. Talk-in on 146.085(+).

Florida

The **Englewood Amateur Radio Society** will hold HamCom '97 on 08 March from 8:30 a.m. to 3 p.m. at the Tringali Community Center in East Englewood. Admission is $3 at the door. Tailgate spaces are available for an admission price. All tables are inside (some with electricity) $10 each. To reserve space, contact George Shreve, KA4JY at 13591 Martha Ave., Port Charlotte, FL 33981; 941/697-3445. Make checks payable to EARS. Talk-in on 146.70(-).

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The **Martin County ARA** will hold a free hamfest on 22 March at the Martin County Fairgrounds. We expect a larger attendance than ever and have many attractions that hams want to see. Free admission, free tailgating, VE exams and prizes will be given. For more information, write: MCARA, P.O. Box 1901, Stuart, FL 33495. Talk-in on 147.06(-).

Georgia

The **N.E. Georgia BUBBA NET** will hold their Bubba Hamfest on 01 March from 9 a.m. to 3 p.m. at the Madison County Fairgrounds, 1/2 mile south of Comer, GA, on Highway 22. Comer is N.E. of Athens on Highway 22. Admission is $5, camping is $6 (includes hookups). VE exams will be given. Contact James Daniel, AE4HS, 152 Windfall Dr., Winterville, GA 30683; 706/742-2777. Talk-in on 147.30(+).

Illinois

The **Libertyville and Mundelein Amateur Radio Society,** assisted by the **North Shore Radio Club,** will hold its annual LAMARSFEST on 23 March from 8 a.m. (6 a.m. setup) at the Lake County Fairgrounds, Routes IL-120 and US 45. Large, all indoor electronic, radio and computer swapfest, commercial exhibitors. Rest area, free parking, public cafeteria, VE testing. Admission is $5; swapfest tables, $10; wall tables, $15; commercial tables $25. Advance table reservations (only with tickets) until 15 March. For information, write LAMARSFEST '97, 650 Green Bay Rd., Lake Bluff, IL 60044, or call Frank Avellone, W9GLO, at 847/234-4124 before 10 p.m. Talk-in on 147.345(+) NSRC repeater, or 146.52(S).

The **Sterling-Rock Falls ARS** hamfest will be held on 16 March (setup on the 15th from 6-9 p.m. and the 16th from 6 a.m.) at the Sterling High School Fieldhouse, 1608 4th Ave. Doors open to public 7:30 a.m. Features include a large indoor flea market, radio electronic items, computer and hobby items. Free parking, including areas to accommodate self-contained campers and mobile homes. Dummy load available to test equipment. Admission $3/advance (by 1 March w/SASE), $4 /door. Tables $5 without electricity, $6 with electricity. In groups of tables, only one will be $6, the rest $5 (Bring your own cord). VE testing (walk-in only). Please bring current license plus copy and photo ID. Information, tables or tickets, contact Lloyd Sherman, KB9APW, Sterling-Rock ARS, P.O. Box 521, Sterling IL 61081, or call 815/336-2434. Talk-in on 146.85(-) W9MEP repeater.

Indiana

The **Michigan City ARC** will hold a hamfest and computer flea market on 29 March from 8 a.m. to 2 p.m. (early setup for vendors). Admission is $4 and children under 12 are free with a paid adult. Table reservations and general info is available from Ron Stahoviak, N9TPC, 5802 N. 400 W, La Porte, IN 46350; 219/325-9089.

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The **Morgan County Repeater Association** will host the Indiana Hamfest & Computer Show on 9 March from 8 a.m. (vendor setup on Saturday) at the Indiana State Fairgrounds, East Pavilion Building, 1202 E. 38th St. in Indianapolis. Features include over 500 indoor tables, nationally advertised and commercial vendors, forums and flea market. Admission is $7 at the door. For more information, contact Dennis Bauerfiend, WB9ZNZ at 317/996-3782; e-mail dbauerfiend@cleveland.dfas.mil. Talk-in on 147.06(+) MCRA repeater.

Kentucky

The **Kentucky Mountains ARC** will hold a hamfest on 08 March from 8 a.m. to 2 p.m. (vendors 6:30 a.m.) at Hazard High School cafeteria, Highway 15 South in Hazard. Admission is $2, tables are $3. Features include inside flea market, ARRL forum, VE exams by WCARS (registration 10 a.m., testing 10:30 a.m.; requires 2 IDs, license and copy, CSCEs, etc.), and SKYWARN Training. For more information, contact John Farler, K4AVX at 606/436-5354 or Sid Adams, WI4M at 606/439-3589.

Missouri

The Ararat Amateur Radio Shrine Club will hold its Hambash '97 on 22 March from 8 a.m. (vendors 6 a.m.) to 2 p.m. at the Ararat Temple, 5100 Ararat Dr., in Kansas City, MO. Features include new technology by commercial vendors, trader's room, ham equipment,

computer hardware and software accessories, free parking, security officers on duty, door prizes, VE exams (advance reservation with completed Form 610 to Exam Registration, P.O. Box 12757, No. Kansas City, MO 64117; fax 816/842-0800) and special guest Hiram Percy Maxim. Admission is 3/$5 in advance or $3/door. For tickets, reservations and information, contact Steve, WJØI at 816/941-0620; fax 816/941-3392 or e-mail sdowdy@ qni.com

New Jersey

The **Shore Points ARC** will sponsor its 15th annual hamfest, Springfest '97 on 01 March from 8 a.m. (vendors 6:30 a.m.) at Holy Spirit High School, located on Route 9, 3/4 mile south of Route 30, in Absecon, NJ. Features include indoor heated selling area, outdoor tailgating, free parking, and refreshments. Admission is $5 (non-hams, XYLs and children are free). Tables (indoors) are $7 per 8' section. Reservations will be accepted. Outdoor tailgating (weather permitting) is $5 per painted parking space (first-come, first-served, no reservations accepted). For more information, contact SPARC, P.O. Box 142, Absecon, NJ 08201; call/fax 609/653-1987. Talk-in on 146.985(-) (PL 146.2 Hz).

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The Split Rock and West Morris Radio Clubs will hold the annual North Jersey hamfest on 01 March at the Pal Building on Smith Road in Parsippany, just off Routes 46 and 80. For information, contact Bernie, WB2YOK, fax/voice 201/584-5399 (24 hours) or e-mail 75503,3221@compuserve.com Talk-in on 146.98(-) (PL 131.8).

•

The **Delaware Valley Radio Association** will hold Hamcomp '97 on 23 March from 8 a.m. (vendors 6:30 a.m.) at Tall Cedars of Lebanon picnic grove. Take I-195 East to Exit 2, Yardville, South Broad St. to end, 3.7 miles, left at yield sign on to Old York Rd., next right onto Sawmill Rd. 1.1 miles on right. Admission is $5 (non-ham spouses and children are free); tailgaters $10 (includes space and one admission); limited 8-foot covered spaces $15, includes table and one admission. Limited electricity available. For more information: Hamcomp '97, P.O. Box 7024, West Trenton, NJ 08628; 609/882-2240. Talk-in on 146.670(-).

Ohio

The **Lake County ARA** will hold a hamfest on 23 March from 8 a.m. to 32 p.m. at Madison High School on North Ridge Rd., in Madison, OH. Features include door prizes, forums, equipment test and VE exams. Admission is $5 at the door. Six foot table for $6, eight-foot table for $8. For reservations, contact Roxanne at 216/256-0320.

•

The **Toledo Mobile Radio Association** will hold a hamfest on 16 March from 8 a.m. to 3 p.m. at the Lucas County Recreation Center, 2901 Key St. in Maumee, OH. The event is all indoors and parking is free. Admission is $4/advance and $5 /door. For advance tickets send an SASE to Jimmy Old, WD7DCT, 6632 Santo Lane, Maumee, OH 43537. For other information, send SASE to TMRA, P.O. Box 273, Toledo, OH 43697-0273 or Paul Hanslik, N8XDB, c/o TMRA, telephone 419/243-3836. Talk-in on 147.27(+) or 442.85(+).

Tennessee

The Shriners of the **Kerbela Amateur Radio Service** will hold a hamfest on 15 March from 8 a.m. to 4 p.m. (vendor setup 4-9 p.m. on Friday and 5-8 a.m on Saturday) at the Kerbela Shrine Temple in Knoxville. Admission is $5, indoor vendor tables are $8 plus admission and outdoor tailgating spaces are $3 plus admission. Smoking in designated areas only. For more information, contact Paul Baird, K3PB, 1500 Coulter Shoals Circle, Lenoir City, TN 37772; 423/986-9562. Talk-in on 145.43(-) or 146.52(S).

•

The **Middle Tennessee ARS** will hold a hamfest on 29 March from 8 a.m. (vendors 7:30 a.m.) to 3 p.m. at the National Guard Armory. Admission $3, tables $5. Information: Ian Haynes, AB4SW at 615/649-5187; fax 615/649-2941 or e-mail ithaynes@edge.net Talk-in on 146.70(-).

Texas

The **Midland Amateur Radio Club** will hold their annual St. Patrick's Day swapfest on 15 March from 9 a.m to 5 p.m. and 16 March from 8 a.m. to 2:30 p.m. at the Midland County Exhibit Building. Features include a huge flea market inside, many dealers, a large tailgate area, T-hunts, and a full-service concession stand serving hot meals. Admission is $7/advance or $8/door. Tables are $12 each for the first four and $17 each for additional tables. For information, contact the Midland ARC at P.O. Box 4401, Midland, TX 79704; or contact Larry Nix, N5TQU via e-mail: oilman@marshill.com. You may also download a registration form at: http://www.lx.net/edge/midswap.htm.

Washington

The **Mike & Key ARC** will hold a hamfest and electronics show on 08 March from 9 a.m. to 3 p.m. in the Pavilion Exhibition Hall at the Western Washington Fairgrounds in Puyallup, WA. Admission $5, under 16 free w/paid adult. New and used electronic equipment, VE testing, snack bar, free parking. RVs okay Friday night (no hookups). Tables $20. For information, contact Michael Dinkelman, N7WA, 22222 148th Ave., SE, Kent, WA 98042; 206/631-3756 (eves). Talk-in on 146.82(-) or 146.58(S).

Wisconsin

The **SEWFARS ARC** will hold a swapfest on 09 March from 8 a.m. to 2 p.m. (vendors 6 a.m.) at the Waukesha County Expo Center. Admission $4/advance, $5/door, reserved tables per $4/4', electrical outlet $5. VE exams. Reservation deadline 23 February. Mail with SASE (check payable) to SEWFARS, P.O. Box 102, Delafield, WI 53018; 414/650-0724. Talk-in on 146.82 (PL 127.3).

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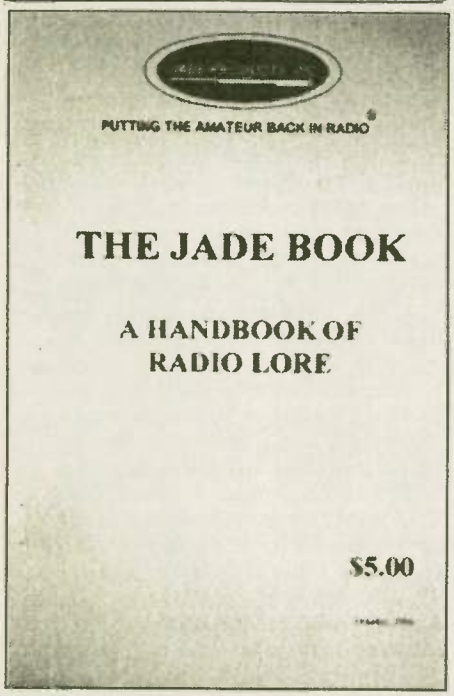
The **Tri-County ARC** will hold its annual hamfest on 16 March from 8 a.m. (vendors 7 a.m.). Monies generated will go to providing a scholarship to a second-year electronics student from the Tri-County area. Admission is $4 and tables are $5 for a six-foot or $6 for an eight-foot table. For information, write TCARC, W9MQB, 711 East St., Fort Atkinson, WI 53538; 414/563-6502 (evenings). WR

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



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For more information or your nearest dealer, contact MFJ Enterprises, Inc., 300 Industrial Park Road; 601/323-5869; fax 601/323-6551; Internet at http://mfjenterprises.com or order toll-free by calling 800/647-1800.

Firestik product guide

Firestik Antenna Company is now mailing their 1997 product guide, full-color, featuring antennas and accessories for Amateur Radio, scanners, cordless phones, and CBs.

The Firestik product guide provides valuable tuning instructions that covers the setup and testing of antenna systems and lists the 10 most common problems that create poor SWR.

The 1997 Firestik product guide is available from Firestik Antenna Company, 2614 E. Adams St., Phoenix, AZ 85034-1495; telephone 602/273-7151, e-mail firestik@ primnet. com or on the web at http://www.firestik.com WR

VE exam schedules

As a service to our readers, ***Worldradio*** presents a feature listing 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 October, please have the information to us by mid-July.

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

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.

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

State	City	Contact	Notes
Alabama			
4/01/97	Mobile	David, WA4VAC 205/649-5229	
Arizona			
4/12/97	Tucson	Joe, K7OPX 520/886-7217	w/i
Arkansas			
4/12/97	Siloam Sprgs	Mike, KJ5OP 501/524-8090	p/r pref.
California			
4/30/97	Anaheim	Robert, AC6JM 310/429-8275	p/r pref.
4/12/97	Brea	Robert, KD6DA 310/691-1514	p/r
4/06/97	Chico	Jackie, W6YKU 916/342-1180	p/r pref.
4/24/97	Colton	Harold, AB6RN 909/825-7136 days or 909/685-6073 eves	
4/06/97	Concord	Gene, WW6H 510/254-5090	w/i only
4/26/97	Culver City	Scott, K6PYP 310/459-0337 or Dave N3BKV 818/559-2572	w/i
4/12/97	Culver City	Clive, AA6TZ 310/827-2538	p/r pref.
4/05,19/97	Cupertino	Emmett, AE6Z 408/243-8349	w/i only
4/19/97	Downey	Wes, KA3DSE 310/923-5598	p/r pref.
4/17/97	Ftn Valley	Allan, AB6UB 714/531-6707	p/r pref.
4/01/97	Fremont	Dennis, K6DF 510/791-0954	w/i only
4/06/97	Hanford	Carleton, AA6GZ 209/924-4221	w/i only
4/04/97	Lake Isabella	Ham Radio HOTLINE 619/379-2947	p/r pref.
4/19/97	Long Beach	Donald, NN6Q 310/420-9480	p/r pref.
4/21/97	Mission Viejo	Louis, 714/951-0336	p/r
4/05/97	Ontario	Gary & Pamona 818/810-0442	
4/26/97	Pomona	Don, WA6HNC 909/949-0059	p/r pref.
4/19/97	Redwood City	Joe, KB6OWG 408/255-9000	w/i only
4/13/97	Sacramento	Dick, N6DK 916/383-2113	p/r pref.
4/12/97	San Pedro	Elvin, N6DYZ 310/325-2965	p/r pref.
4/09/97	Santa Ana	Red Cross 714.835-5381 x140	w/i
4/12/97	Santa Rosa	Claude, 707/527-8593	p/r pref.
4/26/97	Sonoma	Jim, 707/996-6461	p/r pref.
4/19/97	Stockton	Mark, W6DKI 209/465-7496	w/i
4/12,27/97	Sunnyvale #1	John, KG6XF or Gordon, W6NW 408/255-9000	w/i only
Colorado			
4/12/97	Denver	Glenn, WØIJR 303/366-0155	w/i pref.
4/05/97	Littleton	Dave, NØHEQ 303/795-5718	w/i pref.
Connecticut			
4/17/97	Trumbull	Kevin, N1KGM 203/268-5015 or Bob, KA1ZMF 203/933-9587	
Florida			
4/19/97	Melbourne	Bill, WB9IVR 407/724-6183	p/r pref.
4/12/97	Panama City	Al, NZ5W 904/235-0186 or Charles, N4DPU 904/785-0449	
4/24/97	Pensacola	Steve, KO4TT 904/968-1092	
Idaho			
4/12/97	Boise	Lem, W7JMH 208/343-9153	w/i pref.
Illinois			
4/19/97	Morton	James, NT9C 309/266-6756	p/r pref.
4/12/97	Oak Forest	David, NF9N 708/448-0580	p/r pref.
Indiana			
4/12/97	Chesterton	Bill, N9SLQ 219/762-2887	w/i pref.
4/06/97	Terre Haute	Fred, K9EBK 812/466-2122	p/r pref.
Iowa			
4/26/97	Council Bluffs	Lorraine, AAØBS 712/322-1454	p/r pref.
Maryland			
4/29/97	Annapolis	Lois, KA3VVQ 410/647-4178	p/r pref.
Massachusetts			
4/15/97	Melrose	Scott, WB1F 617/665-7654	p/r pref.
Michigan			
4/11/97	Houghton	George, W8FWG, 906/337-2542	p/r pref.
Nevada			
4/12/97	Reno	Don, W7FD 702/851-1176	p/r
4/19/97	Reno	Steve, W7VI 702/972-3672	p/r
New Jersey			
4/17/97	Bellmawr	Diane, N2LCQ 609/227-6281	w/i
4/12/97	Cranford	24-hour hot-line 201/377-4790	w/i pref.
4/26/97	Dennisville	John, AA2TZ 609/884-8117	w/i pref.
4/09/97	Ft. Monmouth	Jerry, WB2GYS 908/532-5354	p/r pref.
4/07/97	Sayreville	Larry, N2ELW 908/390-5857	w/i pref.
New York			
4/08/97	Bethpage	Bob, W2ILP 516/499-2214	w/i pref.
4/06/97	Yonkers	Emily, AC2V 914/237-5589	p/r pref.
4/27/97	N. Lindenhurst	Walter, KA2RGI 516/957-0218	p/r pref.
Ohio			
4/05/97	Cincinnati	Herb, WA8PBW 513/891-7556	p/r pref.
Pennsylvania			
4/05/97	Erie	Norma, W3CG 814/665-9124	w/i only
4/03/97	Philadelphia	Dusty, ND3Q 215/879-0505, 215/448-1139 (tape)	p/r pref.
Rhode Island			
4/10/97	Providence	Judy, KC1RI 401/231-9156 Al, NN1U 401/454-6848	w/i pref.
4/26/97	Slatersville	Bob, W1YRC 401/333-2129 or 401/333-2373	
South Dakota			
4/12/97	Rapid City	Frank, NUØF 605/348-6564	p/r pref.
Texas			
4/19/97	Austin	Jim, AB5EK 512/327-6184	w/i pref.
4/10/97	Ft. Worth	Ted, AB5QU 817/293-6745	p/r
4/08/97	Houston	Harold, ND5F 713/464-9044	p/r pref.
Vermont			
4/25/97	Essex Jct.	Mitch, W1SJ 802/879-6589	p/r pref.
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WANTED FOR MUSEUM: Apple-1 and other pre-1980 micro-computers, also early micro-computer journals, newsletters and advertising literature. KK4WW, P.O. Box 341, Floyd, VA 24091, 703/231-6478 or 703/763-2321. 297-298

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FOR SALE: ALPHA 76CAE amplifier. Clean, used less than 50 hours, perfect condition, non-smoker. Will ship prepaid CONUS $1,750. You pick up $1,675. W6QEU, 1236-40th Ave., Sacramento, CA 95822. Msg phone 916/421-1637 (Kopps). F697

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10-WATT QRP ANTENNA Tuner Kit, $20 postpaid. Ck/MO to DAN'S SMALL PARTS & KITS, Box 3634 Missoula, MT 59806; phone/fax 406/258-2782. Catalog 2 stamps. 1096-397

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FOR SALE: Kenwood TS950SDX with YK88SN SSB narrow filter, 150 watts, $2,800; SM230 station monitor, $600; IF232C level translator TTL, $60; MC90 compatible mike, $130; operating and service manuals included. Total $3,590, buy the lot for $3,200. GEORGE DEWEY, W1QVK/4, 5100 60th St. East, Lot #0-18, Brandenton, FL 34203; 941/753-5405. 397

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ELECTRONICS and TECHNICAL Military Manuals for sale. Basic electricity, basic electronics, antenna theory, and mechanical books. Write or call for listing, ART's BOOK WORLD, Inc., 6822 22nd Ave. N., Ste 175, St. Petersburg, FL 33710. Call 813/525-4880 or toll-free 888/414-2665. Web site http://www.palms-online.com/abw/index.htm 3-497

WANTED: Comm 64 RS232 interface. KO6PG, 720 W. Vine St., Lodi, CA 95240; 209/369-7145. 397

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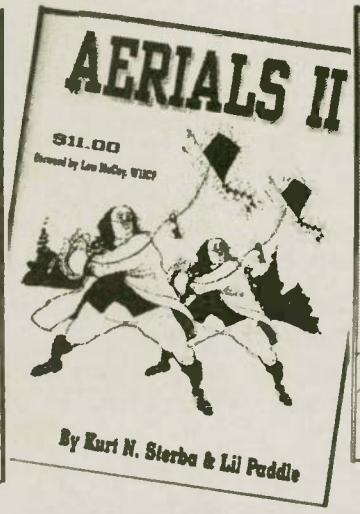

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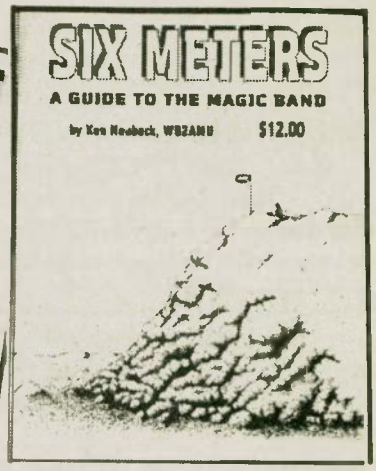

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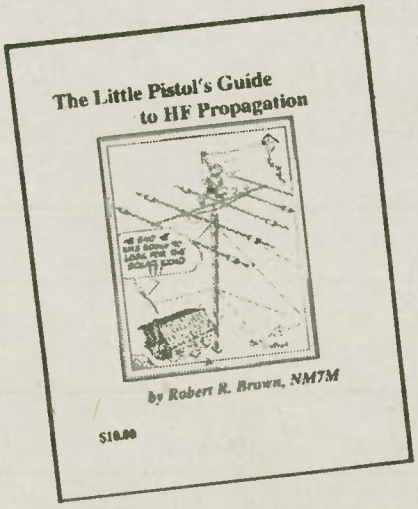

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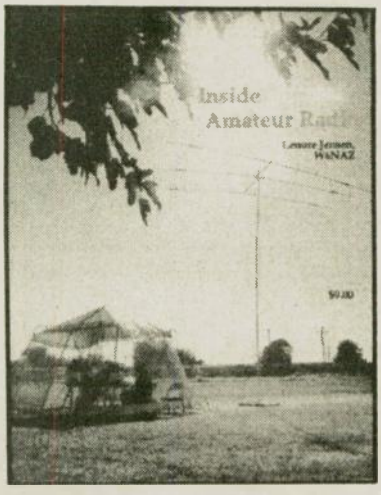

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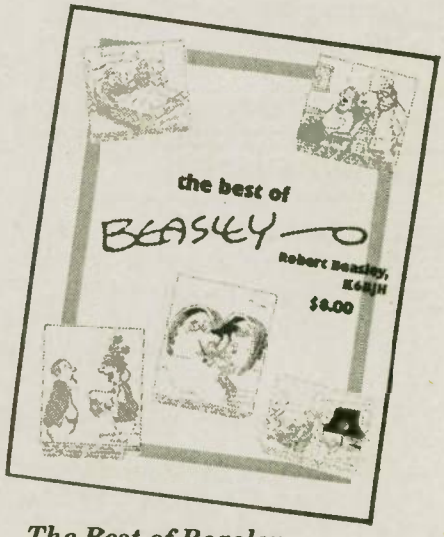

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Late Flash

Board backs members: Keep CW

The ARRL Board of Directors convened their first meeting of the year in Albuquerque, New Mexico on 17 and 18 January.

Among the topics discussed were results of the surveys conducted in 1996 which revealed that a large majority of members favor keeping the Morse code requirement, both for HF operating privileges in the United States and as an international treaty obligation. The ARRL will therefore continue to support the existing treaty requirement, an issue on the WRC-99 agenda.

The Board heard a committee proposal for future modifications of the FCC's amateur licensing structure which will be published in the March issue of *QST*. ARRL members will be asked for comments by 31 May, 1997. No action will take place before the next meeting of the Board, which is scheduled for July, so the membership will have time to discuss the suggested modifications and make comments.

VE qualifications

According to an ARRL Bulletin, the League's Executive Committee has been "...assigned the task of reviewing the FCC rules with respect to the qualifications of Volunteer Examiners, particularly with respect to those VEs who have obtained license upgrades by means of Morse code element credit waiver provisions. The same committee was also investigating the extent of abuses of the Morse code exam waiver provisions for applicants with severe handicaps, and recommend any regulatory changes deemed necessary." —*tnx ARRL Bulletin, Newsline and other sources*

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