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WORLDRADIO

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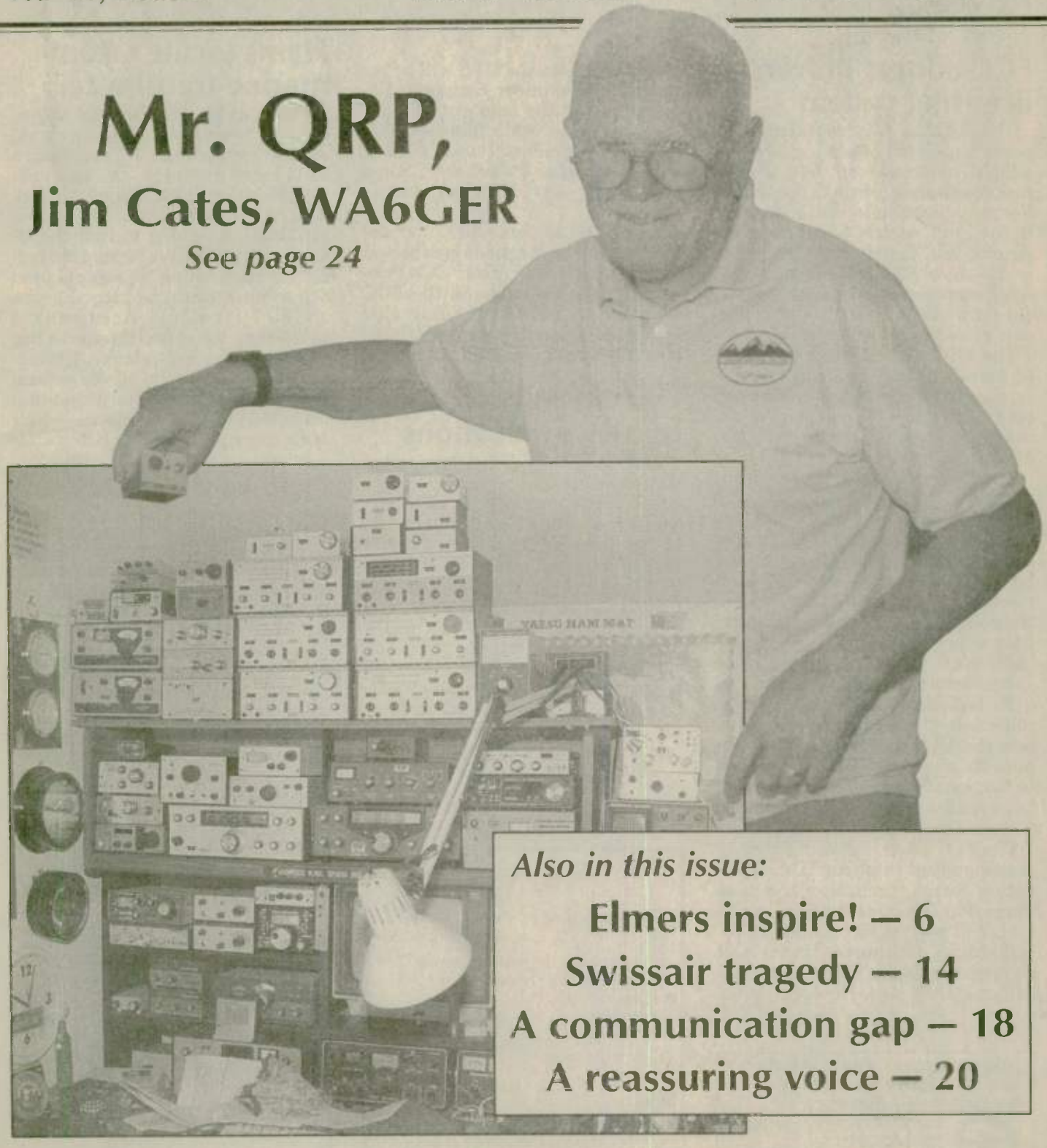
Mr. QRP,

Jim Cates, WA6GER

See page 24



Also in this issue:

Worldradio — Your best value in Amateur Radio!

NEWSFRONT

Worldradio

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

FCC adopts universal licensing system

The FCC has adopted its long-proposed Universal Licensing System, which replaces Form 610 with a new, electronic Form 605, the Quick-Form Application for Authorization in the Ship, Aircraft, Amateur, Restricted and Commercial Operator, and General Mobile Radio Services. Applicants may continue to use the old forms for six months after the new rules go into effect.

The FCC also adopted proposals to permit automatic reciprocal licensing of foreign Hams wishing to operate in the U.S., pursuant to recent international reciprocal operating agreements.

The FCC said the ULS will "fundamentally change" the way the Commission receives and processes wireless applications and makes licensee information available to the public. The rules adopted 17 September will, in the FCC's words, "consolidate, revise, and streamline" license application procedures for radio services under the Wireless Telecommunications Bureau. The FCC last November began initial collection of licensee data to populate the ULS. Using the ULS, applicants and licensees will be able to file, modify, and renew electronically. Access to the ULS is via http://www.fcc.gov/wtb/uls/.

The FCC's action consolidates 40 existing forms into four ULS application forms, including the new Form 605. Electronic filing in the ULS will not yet be mandatory for individual amateurs. Hams will have the option of filing electronically or on paper. However, electronic filing via the ULS will be required for Volunteer Examiner Coordinators in the Amateur Service. Mandatory electronic filing requirements go into effect 01 July 1999 or six months after the use of ULS in a particular service, whichever is later.

An official Report and Order detailing the FCC's actions is expected to be released soon. The FCC's Public Notice is available on the FCC Web site at www.fcc.gov/Bureaus/Wireless /News_Releases/1998/nrwl8040.html. —*ARRL Letter*

Lower vanity fee boosts applications

According to FCC numbers out of Gettysburg earlier this month, the new, lower vanity call sign application fee induced an additional spurt of applications from the typically thrifty ham radio community. The FCC reports getting 281 applications on 14 September, the first day of the new $13 fee, and another 78 applications the next day.

That's in sharp contrast to the 130 or so applications received between 25 August and 02 September. During all of August, the FCC received just shy of 600 vanity applications. —*ARRL Letter*

Hams locate errant marine transmitter

Hams in Florida recently helped to track down the source of a signal on marine channel 16, most often used for emergencies and as a calling frequency. DEC Linda Mullen, AD4BL, reports Charles Wooten, WA4IMC, was able to find the offending transmitter "through a process of elimination" of reports from other amateurs monitoring the 156.80 MHz signal. Apparently, a sailboat operator had dropped a bag on his marine radio's mike. The signal remained on the air for several hours. "The Coast Guard was in a tizzy," AD4BL reports. — *Nils Millergren, WA4NDA, ARRL Letter*

New vanity address for paper filers

Effective 14 September, there's a new address at Mellon Bank for vanity call sign paper application filers only. For people who submit a paper Form 610V and FCC Fee Remittance Form 159 and vanity fee using the U.S. Postal Service, the new address is: FCC Wireless Bureau Applications, Post Office Box 358130, Pittsburgh, PA 15251-5130.

The FCC says Electronic Form

Got a typewriter? Write a story for *Worldradio*.

610V Vanity Call Sign filers should continue to send Form 159 with the vanity fee to FCC Amateur Vanity, Post Office Box 358994, Pittsburgh PA 15251-5994.

The vanity call sign filing fee is now $13 dollars for applications filed on or after 14 September 1998. — *FCC, ARRL, Newsline*

Townsville Australia club loans radios

Congratulations to Australia's Townsville ARC. This, for finding a unique way of getting youngsters into Amateur Radio.

All students who successfully complete the clubs Amateur Radio training courses are offered the free loan of a two meter rig.

The radios are crystaled onto the Townsville club repeater. This helps to educate the newcomer into the tradition of ham radio while he or she awaits the purchase their own rig. — *Q-News*

Amateur Radio growing in VK-land

Amateur Radio "Down Under" grew slightly during the first four months of this year, according to figures supplied by the ACA, the Australian's equivalent of the FCC. The Wireless Institute of Australia reports the number of hams in Australia rose from 15,901 to 15,941 between January and April. The biggest growth was in the lowest and highest license classes, Novice Limited and Unrestricted respectively. Australia has five license classes. — *ARRL Letter*

Regulatory talks encourage RAC

Radio Amateurs of Canada says that it is encouraged with its negotiations with the Canadian government following a meeting with Industry Canada officials held on 11 September.

The dialogue between the Amateur Radio society and the government agency was held to discuss several issues of concern to Canadian Amateurs. Prominent among the matters on the table was a proposal for the streamlining of the Authorization process by Industry Canada. As a part of the proposal, the Department would drop the requirement of a station licence and eliminate the annual twenty-four dollar renewal fee.

Radio Amateurs Canada says that it raised a number of issues related to Ham radio in Canada. They expect many of the concerns expressed by Canadian amateurs will be taken seriously by the government regulators. It says that these will hopefully be addressed in a manner which will be mutually satisfactory to the government and to Canadian amateurs. — *RAC, Newsline*

Labor Day — no picnic in western NY

There was no Labor Day holiday for amateurs in upstate New York, who activated SKYWARN nets in the face of severe weather that struck several counties. In the wee hours of 07 September, straight-line winds ranging from 70 to 115 mph tore across 11 of the 30 counties that make up the Western New York section, from Niagara County in the west to Herkimer, Otsego and Delaware Counties in the east. Some 270,000 customers were without power until mid-week. Gov. George Pataki declared nine counties as disaster areas. Four deaths and nearly two dozen injuries are blamed on the storms. Oneida County SEC Bud Hippisley, K2KIR, reported a lightning strike at his home damaged several pieces of Ham radio and computer gear.

Shortly after midnight on Labor Day, the National Weather Service began issuing severe thunderstorm and tornado warnings. One of the more severely damaged areas was the New York State Fair Grounds, where the annual fair was scheduled to wind up on Labor Day. The storm hit there at 1:20 a.m., killing two State Fair vendors and injuring several campers. The State Fair was closed on Monday.

Western NY SM Bill Thompson, W2MTA, said initial severe weather alerts by the Binghamton NWS center came at 12:52 a.m. SKYWARN activations followed in Cayuga, Onondaga, Seneca and Yates counties. Tornado warnings were posted from Onondaga County eastward to Madison and Oneida counties at 1:05 a.m. Additional SKYWARN nets activated at 1:30 a.m. with WB2UEC as SKYWARN net control on the Oneida County 2-meter repeater.

Red Cross shelters remained open at mid-week in four counties. Damage assessment and debris removal was expected to continue for several more days. Army and Air National Guard personnel were activated to help. — *W2MTA, ARRL Letter*

WORLDRADIO

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News & Features

Departments

Next month's columns will include Club Huddle, Computers & Basic Stuff, MARS, Positively CW, Wires & Pliers, and YLs on the Air.

Worldradio

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Publisher's Microphone

A *Worldradio* Lifetime Subscriber wheels his Rolls-Royce into the driveway at the Ritz Hotel in Paris.

Both the General Manager and the Concierge dash out to take the luggage. Bowing and scraping they call their new guest by name.

"But how did you know my name? I haven't stayed here before."

"Sir, we looked it up from the call sign on your license plate."

"Oh, you must have a Buckmaster CD with all the Hams on it?"

"No, not any more. We found that all we really needed for our purposes was a list of the *Worldradio* Lifetime Subscribers. And, by the way, sir, we have moved you into the Presidential Suite at no extra cost. We're sending four bellmen to put up a 120-foot tower and eight-element beam on the roof for your stay tonight."

Joining the ranks of the *Worldradio* SuperBoosters (Lifetime Subscribers) are:

- **Neal Swenor, KA1SAW Northborough, MA**
- **Perry Stalcup, KQ4MF Murphy, NC**
- **Raymond Thomas, NØAYL Springfield, SD**
- **Frances Sharpe, KB6LOE Los Angeles, CA**
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- **Gene Thorpe, KB6CMO Fullerton, CA**
- **Kent Anderson, K6QHE San Jose, CA**

•

The Morse Code must be one of the greatest things there is. We can assume that because, as in inverse proportion, it produces the most whining, and illogical whining at that.

In the October issue of *Popular Communications*, Editor Harold Ort, N2RLL (who has not availed himself of the 13 wpm test), wrote: "Like it or not, we're living in a different world than it was 10, 20, or 30 years ago. Fact is, unless they're retired, most people hardly have time after they get home from work to eat, study, talk with the kids about their day, and hit the sack, ready to repeat the process the next day, let alone take 45 minutes to listen to and practice code."

It seems, according to Mr. Ort's view of the world that no one is bowling, attending sports events, going to movies or plays, being in bridge tournaments, visiting friends, going to college at night, coaching Little League teams, chasing DX on 20M, etc., etc. They just fall into bed, exhausted, instead.

You may think that there was a ball park filled with fans the night McGuire hit his 62nd home run. No, the stands were empty, it was an illusion created by the TV station.

Actually the self-assigned 45 minutes is much too long. Better 15 minutes a day, every day. Anyone who can't find 15 minutes a day must either be building a huge personal fortune or going to medical school at night.

Hey, if someone can't find 15 minutes a day to learn CW, what's the problem? He/she won't have time to get on the air either, so it doesn't matter.

Some say that CW is obsolete. Well, the army has lots of trucks but they still teach marching. The air force has atomic bombs but the pilots still carry pistols.

Time? A few minutes could be taken at the lunch hour with a tape recorder and earphones. Those riding public transportation to work have all the time they need for CW training. In the car? A tape recorder with CW is no more distracting than listening to the radio.

Hundreds of thousands of people, many with highly demanding occupations and families, have somehow found time to learn CW.

The mail coming here has contained everything imaginable, for example, "I tried to learn the code for 15 years."

We think that anyone, in a spare moment who could say to themselves, "dah di dah dit, C" for a month at a time and then for all of the next month, "dah dah di dah, Q," could learn the code in three years.

There are those who have learned the code 20 years ago but don't believe they can increase their speed.

It would hardly be an imposition to listen to a tape at six wpm for five minutes a day, every day for a year.

Next year, seven wpm, the following year, eight wpm, and on. Yes, there are much quicker and better ways to do it but we were trying to make a point. — *Armond, N6WR*

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Elmers inspire!

NANCY KOTT, WZ8C

I've made the pilgrimage to the Dayton Hamvention for many years, but never attended the annual Youth and Ham Radio Forum. The topic didn't interest me since I have no children nor do I know any young Hams. But this year, the arena was hot and the forum room air-conditioned, so I decided to visit the forum to hear what the kids had to say.

It turned out to be one of the most refreshing hours of the weekend, and not just because of the air-conditioned room. It reminded me about the basic reason most of us get into this hobby — Ham radio is just plain fun! These kids weren't complaining about the local repeater users, the problems with license requirement restructuring, lowering standards of the exam or the myriad things which bog us down. They shared their excitement of discovering the hobby with us.

Carol Perry, WB2MGP, moderator, chose a very articulate and poised group of young people to speak to the crowded room. Although each had a different story to tell, one thread ran through each; all the kids have Elmers in their local clubs and parents who care enough to make children a priority.

The Boulder Amateur Radio Club has an auxiliary kid's group called BARC Jr. They have their own Field Day where the children run the show. Kids like Blair Harness, KBØROM, and Crystal Hart, KCØAJF, get on the air with their Elmers — they love operating at night because they rarely get to do that at home. Crystal was the first Ham in her family, but she had the supportive Boulder Amateur Radio Club to Elmer her. After Crystal earned her license, her father followed suit. They enjoy homebrewing together. Crystal does the soldering and she has made her own J-pole and transceiver.

Another Colorado club, Amateur Radio For Youth (ARFY), has members ranging from 11 to 19 years old. ARFY has its own call sign, WØYF, and a web site at www.mesa.k12.co.us.mgm/arfy. Bill Nesbitt, KGØZI, and Andrew Be, KIØJZ, explained that the kids make all the important decisions which gives them a sense of ownership in their club. They have a newsletter and handbook, a web

Buddy Cumberland, 11, KE4WCT, Fletcher, NC.

site, banquets and of course, Field Day. They have a point system for earning awards. For example, the kids can earn points by contributing to the newsletter or volunteering for projects. The two top scorers go to the Dayton Hamvention, all expenses paid.

Jonathon Chambers, KBØTKD, spoke about a "DXpedition" the ARFY group took one year for Field Day.

Rebecca Rich, 11, KBØVVT, Raytown, MO.

They operated atop a 9,000-foot mountain. Unfortunately not every club has the opportunity to make such an exciting Field Day trip! However, just including the kids in on your plans and letting them pitch tents can make a big impression, planting that all-important seed of curiosity.

Steve Pituch, W2MY, sparked an interest in his 11-year-old son John, W2MBY, by taking him along where he assisted in races and other public events. This gave John a chance to see that even a kid can be important and help others. Then his father introduced John to Field Day, where

Crystal Hart, 12, KCØAJF, Boulder, CO.

John Pituch, 12, W2MBY, Livingston, NJ.

they could pitch a tent, make a campfire, cook, and sleep outside. In six weeks, he was a Tech Plus. Even though John gets a kick from helping with public service, he is learning to contest and he enjoys CW.

John Crovelli, W2GD, got started in contesting at age 10. He emphasized the camaraderie of the contesters in his local club. Even serious competitors are friends and take the time to share their knowledge with newcomers.

Rebecca Rich, KBØVVT, is an 11-year-old extra. She's quite a celebrity in her hometown in Missouri. The local TV stations have featured Rebecca's accomplishments and she brought a video of their newscasts to share with us. Rebecca's mother, Barbara, spoke to the group about helping kids to get their licenses. She suggested that it is important to develop a schedule and set a date for learning each section of the exam. Study one or two sections at a time — don't go on until you get a section about 80% correct, then add another section. Don't be discouraged by people who tear down Morse code; make learning the code a family project. Barbara also suggests that you keep your goal to passing the code examination in sight. Pass the test, then perfect your theory later.

While listening to this group of bright young Hams, I found my own enthusiasm for the hobby being buoyed. It reminded me of how Ham Radio should be — Field Day fun and contesting camaraderie, public service and emergency communications. From what I saw at this Ham Radio and Youth Forum, the future of Amateur Radio is in good hands.

Rules & Regs

Jack Kelleher
W4ZC

E-mail: w4zc@clark.net

This column will be devoted primarily to actions and reactions to the ARRL and FCC Radio amateur license restructuring proposals. (For those readers who "came in late," here's a brief summary of the matter.)

In mid-July 1998 the ARRL Board approved a restructuring proposal from its "WRC-99 Planning Committee," which had been working on it since early 1996; the proposal was sent to the FCC 22 July.

The FCC had been conducting a review of its rules since late 1997, as part of its Congressionally-mandated biennial review of regulations applicable to licensees to determine whether certain rules are no longer necessary. This time the review specifically included Part 97 (Amateur Radio Service Rules), and the Commission announced it would seek comment on amending the Radio Amateur Service rules to privatize further the administration of the Service and simplify the licensing process.

The League letter of 22 July recognizes this parallel activity, and says in part: "the purpose of presenting this (proposal) to you now..... is not to forestall or preclude the Amateur Radio Biennial Review item, but rather to complement the considerable work that we understand has already been performed by your Wireless Telecommunications Bureau staff."

Presently, the deadline for comments on the FCC item is 01 December 1998, and for reply comments, 15 January 1999.

We anticipate and encourage both individual amateurs and amateur organizations to comment on these proposals. Comments should be constructive, and objective. We don't believe that comments favoring the status quo will carry much weight.

Structuring the restructuring debate

Love it or hate it, the ARRL's recent license restructuring plan certainly has generated considerable debate and controversy within the Amateur Radio community and gotten licensees thinking about what's good and what's not so good about the current system. ARRL Directors report they're getting lots of e-mail on both sides, and the overall trend appears to be in favor of the plan the Board released earlier this month.

Some Hams have suggested the current system is just fine, and to change it will diminish the status of current licensees. ARRL Executive Vice President David Sumner, K1ZZ, has an answer for the "don't-change-anything" camp, however. "If you're flatly opposed to any change at all, I don't think that you've taken into consideration the changes that have occurred over the past seven years," he said. For example, Sumner points out that the Novice license, instituted in 1951, no longer is the route of entry to Amateur Radio for more than about 5% of the amateur population. Other than 10 Meters, the Novice bands "are significantly underutilized," he observed. Sumner says amateurs can't make a case for additional bands if the present allocations aren't being used to capacity.

In recent years, most of those coming into the hobby have come in as Technicians. Nevertheless, they still must pass the Novice element, which includes questions on HF that are irrelevant to Technician ops. "This pretty much forces you to accept the fact that there must be some change," he said. "The real issue is how far should that change go, and on that, reasonable people

Amateur Radio Call Signs

The following shows the last call sign in each group to be assigned for each VEC Region under the sequential call system as of 01 September 1998.
For more information about the sequential call sign sytem, see Fact Sheet PR5000 #206-S or contact the FCC, 1270 Fairfield Road, Gettysburg, PA 17325-7245; e-mail: fccitd@fcc.gov.

Radio District	Group A Am Extra	Group B Advanced	Group C Tech./Gen.	Group D Novice
Ø	ABØHW	KIØNZ	++	KCØECE
1	AA1TZ	KE1KG	++	KB1DEZ
2	AB2FN	KG2OY	++	KC2EAH
3	AA3RP	KF3CB	++	KB3CZM
4	AF4LR	KU4UM	++	KF4ZYN
5	AC5RF	KM5SM	++	KD5FDC
6	AD6GN	KQ6XM	++	KF6SQT
7	AB7YX	KK7PN	++	KD7CRE
8	AB8DD	KI8GS	++	KC8KWK
9	AA9WL	KG9OH	++	KB9TIM
N. Mariana Is.	NHØF	AHØBA	KHØHE	WHØABJ
Guam	++	AH2DH	KH2TR	WH2ANX
Hawaii	NH7L	AH6PN	KH7JZ	WH6DEU
Amer. Samoa	AH8R	AH8AH	KH8DM	WH8ABF
Alaska	ALØM	AL7RG	KLØQD	WL7CUW
Virgin Is.	++	KP2CN	NP2KE	WP2AIJ
Puerto Rico	NP3Y	KP3BK	NP3YG	WP4NNX

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

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can and will differ, and we'll be discussing that over the coming months as the process goes forward."

Sumner said nothing is cast in stone at this point, and if better ideas surface as a result of the current debate, "there will be every chance for those to be reflected in the ultimate FCC action."

FCC phases out Novice, Tech+ licenses in NPRM

The FCC has proposed to phase out the Novice and Technician Plus class licenses, leaving just four amateur license classes in place — Technician, General, Advanced, and Extra. The Commission also has asked the amateur community to express its opinions on Morse code requirements for licensing and testing, but offered no specific changes. And the FCC proposed to permit Advanced class licensees to administer amateur exams up through General class. The proposals were among several suggested rules changes and invitations to comment contained in an FCC Notice of Proposed Rulemaking, WT Docket 98-143, made public 10 August.

In proposing to phase out the Novice and Tech Plus tickets, the FCC pointed to what it called "an unnecessary overlap between the Novice, Technician, and Technician Plus," and asserted that Technician and Tech Plus operators "predominantly" use FM and packet on VHF and UHF. The FCC said Novice applicants last year numbered fewer than 1,000, while there were nearly 21,500 Technician applications.

Under the FCC plan, Novice and Tech Plus licensees would retain current operating privileges, but no new Novice or Tech Plus licenses would be granted. For examination purposes, current examination elements 2 and 3A would be combined into a new element 3A. For administrative purposes, the FCC would combine the current Technician and Tech Plus databases into a single Technician database.

The proposal would eliminate the 5 wpm code test, Element 1A, as a required element for any class of license, while retaining references to it elsewhere in the rules. This has left Hams wondering exactly what the Commission intends. The elimination of the Novice and Tech Plus license classes and Element 1A as a requirement appear to effectively raise the bar for most future applicants wanting HF operating privileges, unless the FCC ultimately reduces Morse code requirements.

The FCC did not propose to change any operating frequencies or license privileges for amateurs. However, the FCC does seek comment on the disposition of the current Novice HF bands, which carry a 200W output power limit for all licensees. The FCC invited comment on whether it would be "appropriate" to delete the Novice bands and the power restrictions on higher-class licensees and permit Novices to operate CW anywhere on 80, 40, 15, and 10 Meters at 200 W output.

The FCC opened the door to comments on all aspects of Morse code testing from the amateur community. In particular, the Commission said it wants to know if Hams prefer the current three-level system or would like to see it reduced to a one or two-tier system — and, if so, at what required speeds. The FCC asked whether Hams would be willing to trade a reduction in Morse code requirements for additional written elements on newer digital technologies "which, in part, are replacing the Morse code." And, the Commission asked whether it should consider specifying Morse code examination methods, such as fill-in-the-blank or one minute of solid copy, instead of allowing VEs to determine the testing method.

FCC proposes other rules changes

In its Notice of Proposed Rulemaking, WT Docket WT 98-143, the FCC also seeks comments on how to deal with potential abuses of the current disability waiver for higher-speed Morse code tests. In its proposed rules, however, the FCC has altogether deleted current language regarding a physician's certification to waive the 13 or 20 wpm Morse requirement. In RM-9196, the ARRL had asked the FCC to require anyone applying for an exemption pursuant to a doctor's certification to first attempt the higher-speed test before examination credit could be given. The League also asked that VECs have access to relevant medical information from the certifying physician. The FCC said the ARRL's proposal would place "an unfair burden on examinees" and raised serious privacy and confidentiality issues.

The FCC went along with an ARRL petition and proposed allowing Advanced class Hams to be eligible to prepare and administer license examinations up through General class under the VE program. The Commission said the change would permit greater testing opportunities for Hams. The FCC also invited comments on whether it should change written examination requirements "to provide VEs and VECs additional flexibility in determining the specific contents of written examinations."

Referring to yet another ARRL petition, RM-9150, the FCC invited comments on how it can improve its Amateur Radio enforcement processes. The FCC applauded the ARRL "for its creative thinking" in that petition, but said the specific proposal was "inconsistent" with the current statutory role of administrative law judges. The FCC raised the possibility of encouraging complainants to include a draft order "to show cause to initiate a revocation or cease and desist hearing proceeding." The FCC said it also wants to hear how it can better use the services of the Amateur Auxiliary in beefing up enforcement.

The FCC proposed to phase out Radio Amateur Civil Emergency Service, or RACES, stations by not renewing their licenses. No new RACES licenses have been issued since 1980, and only 249 valid licenses remain. The FCC said RACES stations no longer are needed because any amateur station that has been properly registered with a civil defense organization has the same privileges as a RACES station.

The FCC also used the occasion to clarify the definition of "power" as used in the RF exposure table in Section 97.13(c)(1). The FCC said it refers to peak envelope power (PEP) input to the antenna. It also made clear that no one holding an FCC-issued Ham ticket may apply for a

reciprocal permit for an alien amateur license.

Without comment in the NPRM text, the FCC also appears to have eliminated the 365-day time limit for a Certification of Successful Completion of Examination (CSCE) to remain valid. The current 365-day limit remains in proposed wording in Section 97.9(b), Operator license, however.

The FCC is expected to issue an erratum to correct outright errors in the NPRM, but it has no plans to clarify the Commission's intent on individual issues.

The FCC set a longer-than-normal comment period. The deadline for comments is 01 December 1998. The deadline for reply comments is 15 January 1999. The FCC will accept electronic comments via the Internet at http://www.fcc.gov/e-file/ecfs.html.

A copy of the complete NPRM has been posted on the ARRL Web page, http://www.arrl.org. The FCC NPRM also can be downloaded from the FCC Web site in WordPerfect 5.1 and text versions as http://www.fcc.gov/Bureaus/Wireless/Notices/1998/fcc98183.wp or http://www.fcc.gov/Bureaus/Wireless/Notices/1998/fcc98183.txt, respectively.

An article and an editorial in the October issue of *QST* will explore the FCC's NPRM and its implications in greater detail.

FCC denies Checkpoint Systems petition

The FCC has turned down a bid by Checkpoint Systems, a maker of theft deterrent systems for stores, to raise the permissible radiated and power-line conducted emission levels of its products operating at HF. The Part 15 devices, known as electronic article surveillance or EAS systems, are located at store entrance and exit gates. The gates include a transmitter and receiver that can detect passive electronic tags attached to merchandise and trigger an alarm.

Last year, Checkpoint asked the FCC to be allowed to operate between 1.705 and 30 MHz at a maximum radiated emission level of 1,000 uV/meter (measured at a distance of 30 meters), and a maximum conducted emission level of 3,000 uV. Current rules permit a maximum radiated emission level of 30 uV/meter (measured at a distance of 30 meters) between 1.705 and 30 MHz, or 100 uV per meter between 1.705 and 10 MHz. The current conducted emission limit for such devices operating between 1.705 and 10 MHz is 250 uV.

In its comments, the ARRL opposed the Checkpoint petition arguing that it would result in increased interference to amateur HF operation. The League also said Checkpoint had not provided any technical analysis of the potential for increased interference at the frequencies in question.

In a decision issued 05 August, the FCC went along with the League, saying Checkpoint had not provided sufficient technical analysis to justify the requested tenfold increase in radiated emission limits. The Commission also said that Checkpoint had not justified its assertion that its EAS systems were in danger of being "drowned out" by other sources of radio noise.

Spectrum bill picks up more co-sponsors

During August, HR 3752, the Amateur Radio Spectrum Protection Act, picked up seven new co-sponsors: Rep Frank R. Wolf, Virginia; Rep Linda Smith, Washington; Rep George Miller, California; Rep Max Sandlin, Texas; Rep Lynn Rivers, Michigan; Rep William Goodling, Pennsylvania; and Rep Anne Northup, Kentucky. This brings the total to 64, plus the original sponsor Rep Michael Bilirakis of Florida.

Guatemalan Hams seek public support for return of bands

The Amateur Radio Club of Guatemala (Club de Radioaficionados de Guatemala (CRAG) has issued "a call to the public conscience" as part of its effort to get the Guatemalan government to restore access to UHF and SHF bands to Hams. In 1996, the Guatemalan Congress eliminated 40% of the Amateur Radio frequencies including the formerly shared 430 to 440 MHz band and SHF bands. The spectrum has been sold for commercial use.

Reports from that Central American nation indicate commercial land mobile stations are now being licensed in the 70-cm band. CRAG and amateur satellite interests elsewhere in the world worry that the commercial stations and existing amateur satellite operations will not be able to comfortably coexist in the band. Amateur satellites operate between 435 and 438 MHz.

According to CRAG, the Guatemalan government has so far ignored its objections that the frequencies should be reserved for Ham use in accordance with ITU radio regulations. CRAG already has presented a formal request to the Guatemalan Ministry of Communications to restore 430 to 440 MHz to Amateur Radio use but says the government has not responded to its pleas.

In a statement, CRAG expressed concerns that the commercial activity at 70 cm would cause interference to neighboring countries. "A commercial communication service is incompatible with the Amateur Radio Service," CRAG said. CRAG also worried that the commercial activity would strain relations with other countries, and that Guatemalan amateurs would not be able to take part in future space and satellite communication, including the International Space Station.

Beyond that, CRAG said, eliminating the 70-cm band in Guatemala "also discards its beneficial use for thousands of Guatemalans in case of natural disasters and emergencies."

Further north, Mexican authorities last year auctioned spectrum at 440 to 450 MHz and 485 to 495 MHz, currently all or part of TV channels 16, 17 and 18, for "fixed or mobile wireless services." Gina Dalma of the Mexican Federal Telecommunications Commission (COFETEL) says five fixed-wireless service licenses were offered in those bands; another four (for what she called "national footprint") already are held by Iusacell (Bell Atlantic).

COFETEL's 1998 auction plan indicates intentions to auction 148-174 MHz and 450-470 MHz for "private communication systems" on the state level.

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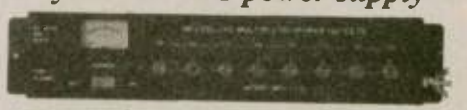

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Halifax mobile command post for police and fire also has provisions for Amateur Radio.

Swissair 111 Tragedy

— *Canadian Amateurs respond*

JOSEPH "JOE" MACPHERSON, VE1CH

Wednesday evening 02 September 1998 was much like any other in the quiet little fishing villages on St. Margaret's Bay, Nova Scotia. Many of the fishermen who begin work in the early hours of the morning had retired for the night and few heard the roar of Swissair flight 111 as it flew low over the coastal villages. Only a very few had heard what sounded like a loud crash of thunder as the MD-11 en route from New York to Geneva plunged into the Atlantic Ocean near Peggy's Cove, tragically ending the lives of the 229 passengers and crew on board.

Alerted by Air Traffic Controllers, the various emergency services began to mobilize their resources. Police, Fire and Ambulances (approximately 35 of them) were initially dispatched to the area of Bayswater Beach at the western entrance to St. Margaret's Bay only to be redirected to Peggy's Cove when the debris field from the downed airliner was located near there.

Peggy's Cove is a quiet little fishing village of approximately 60 residents located approximately 50 miles from Halifax on the southwestern shore of Canada's second smallest province. Its rocky coastline and picturesque lighthouse is a popular tourist attraction and one of several "must see" places for visitors to Nova Scotia.

Initial knowledge of this tragic incident occurred at approximately 10:40 p.m. when Paul Hubley, VE1SAR contacted Dave George, VE1AJP to advise him of dramatically increased activity on emergency services frequencies. Dave is the Halifax Regional Municipality — Emergency Measures Organization (HRM-EMO) contact person and Emergency Coordinator for the Halifax area in the Radio Amateurs of Canada Field Organization. After hearing the commotion on his own scanner, Dave called Bill Elliott, VE1MR, President of the Halifax Amateur Radio Club (HARC) to advise him what had happened and after a brief discussion, it was decided that amateurs would not be called and placed on standby until more information had become available.

At 11:20, Dave and his wife Sherry, VE1WST, departed their Dartmouth home and proceeded to Bayswater Beach in an effort to determine what, if any, Amateur Radio assistance might be required. While en route to Bayswater Beach, Dave and Sherry encountered multiple emergency vehicles, many of which converged at that location. At 11:45 Dave received a pager message from Barry Manuel, the Emergency Measure's Organization Coordinator for the Halifax Regional Municipality, asking him to determine if Amateur Radio assistance was needed.

After checking with the temporary command post, Dave was informed that Amateur Radio had been officially requested. He then called Bill who initiated the call-out procedures. In a short time thereafter, all key Amateur Radio personnel had been alerted and were standing by on VE1PSR, a local Halifax repeater.

My first knowledge of this tragic event occurred when Bill called me. Already in bed and very sound asleep, it took me a few moments to make sense out of what Bill was saying. My first thoughts were of an exercise the HRM-EMO Group had held in the Spring in which a small plane had actually crashed injuring the two occupants. When Bill mentioned that the plane was a large one with over 100 persons on board, I quickly scrambled from my bed and began collecting items needed for a prompt response.

Shortly after Bill's call, I received a second call. This call originated from Murielle Provost, Disaster Response Team leader for the Halifax office of the Canadian Red Cross. As Telecommunications Officer for the Disaster Response Team (DRT), I was asked to proceed to Peggy's Cove to meet up with the Red Cross Emergency Response Vehicle (ERV) and to set up local telecommunications for Red Cross responders.

After collecting Amateur Radio and commercial UHF equipment, chargers, tools and other items, I proceeded to rendezvous with the ERV. Because the ERV had just been put into service, no means of communicating with it was available except for cell phone and I unfortunately did not have a cell phone with me.

Just before departing in my vehicle, I called Edson Wall, VE1HM, President of the Senior Amateur Radio Association (SARA) which provides emergency backup Amateur Radio

Barry Manuel, VE1JRG, the emergency measures coordinator, Halifax Regional Municipality discussing Amateur Radio operations.

communications for the Red Cross in an emergency. Ed agreed to go in to the SARA shack located on the 4th floor of the Red Cross building and establish communications with me on VE1PSR. George Dunfee, VE1AGT, was also alerted and asked to assist Ed at least until we knew what was required.

As I made my way to Peggy's Cove, a directed net had been established on VE1PSR by Robert "Bob" Burns, VE1VCK. Bob had begun to register EMO Amateur Radio operators as they checked in. Shortly after assuming net control, Bob himself received an emergency call from his employer urging him to proceed to his place of work to reestablish a broadcast transmitter that had temporarily gone off the air. Net control was picked up by Herb Bradley, VE1HJB, who continued to check in operators. Herb continued this task until relieved by Tom Caithness, VE1GTC, at approximately 3:00 a.m. Tom very graciously permitted his residence and Ham shack to be used for over a week on a 24-hour-a-day basis. Tom was ably assisted by a number of amateurs who did double duty as net control and in booking other amateurs for shifts at various locations. Although many contributed to this effort, Betty Caithness, VE1BSW, and Helen MacRae, VE1HMR, were among the most active.

One of the first deployments came shortly before 1:00 a.m. Tim Hemming, VE1RX, was dispatched to Shearwater, a Canadian Forces airbase just outside Dartmouth and the home of a temporary morgue under the jurisdiction of the Medical Officer of Health.

At about 2:50 a.m., Al Penney, VO1NO/VE1, and his wife Shelly, VE1NOS, arrived at Peggy's Cove. At about the same time Leo Sutherby, VE1PUP, and his wife Nancy, VE1NAN, also arrived and were asked to remain at the police perimeter in order to assist other responders needing to report to the Mobile Command Post. Al and Shelly proceeded to the area where the Halifax Regional Mobile Command Post had already been parked.

Al reported to the Royal Canadian Mounted Police officer in charge and when Bill, VE1MR, and his wife Lynn, VE1ENT, arrived, all four Amateur Radio operators began installing equipment and temporary antennas. The Command Post is a converted 48-seat coach with an operations area in the front section and telecommunications area in the rear with two operating positions. Because the bus was

Barry Manuel, VE1JRG, maintaining the net.

made of aluminum, magnetic mount antennas had to be held in place with duct tape until a more permanent installation could be made.

By early morning, Amateur Radio stations were in operation at a number of locations throughout the area including Canadian Forces Station Shearwater, the Command Centre, Red Cross Headquarters, the Net Control station and the main gate and shortly thereafter, at the Provincial Emergency Measures Organization Emergency Operations Centre in downtown Halifax. I provided the Command bus with a UHF portable radio in order to communicate with the Red Cross ERV which was parked a quarter-mile away. In very short order, the Red Cross ERV was operational and all key personnel were outfitted with commercial UHF portable radios. Although Amateur Radio portables could have been made available, none of the Red Cross workers were qualified as Amateur Radio operators so commercial UHF was used.

Upon initial arrival at Peggy's Cove the sky was lit up with the eerie glow of para-flares which were being dropped from military aircraft. There were police, fire and other emergency vehicles everywhere as small boats operated by police and local fishermen and helicopters from the Navy and Coast Guard searched the waters

off Peggy's Cove for survivors. It soon became apparent that no one had survived this horrible tragedy. This was followed by a parade of satellite-dish equipped media vehicles and the endless stream of reporters attempting to interview anything that moved. One observer commented that the media would have interviewed the dogs of residents if they could talk. The situation worsened on the second and third days as reporters from the international press and media arrived. In addition to the huge satellite trucks, virtually every square foot of ground had some form of portable satellite dish pointing skyward.

In addition to those Amateur Radio operators, too numerous to identify by name or call sign, (more than 110 of them) who provided service to the key areas in those early stages of the disaster and for a week after, members of Search and Rescue teams from across Nova Scotia also used their Amateur Radio licensed members to relay messages to and from search teams scouring the coastline and islands for debris. Although many of the searchers communicated on private or EMO radio frequencies, considerable use was made of Amateur Radio repeaters and simplex in the massive search initiative that continues to this day.

Several factors contributed to what was a quick and efficient response from the amateur community. When I interviewed him, Barry Manuel, the HRM-EMO Coordinator, said, "the amateurs did a terrific job." He said, "They provided me with connectivity that would not be possible otherwise and did so in a highly organized and professional manner."

During 1997 and early 1998, members of the HRM-EMO Amateur Radio group, which is made up of amateurs from local clubs as well as those who are not club members but who volunteered to assist EMO in the event of an emergency, were involved in extensive training in proper radio procedures, formal message handling and net control procedures. Tom, VE1GTC, with the help of Dave McHattie, VE1RCN designed an OF-

Al Penney, VO1NO/VE1 passing traffic.

FICIAL identity card which helped greatly in gaining access to the tightly controlled inner perimeter of the site. Tom's efforts to maintain an up-to-date list of contact numbers also proved invaluable.

A two-day workshop held in February 1998 provided Amateur Radio operators an opportunity to meet and exercise with senior officials of local government including District Fire Chiefs, Police Inspectors as well as heads of many other Departments. It was clear that all present were impressed with the capability of Amateur Radio to provide organized backup in the event of an emergency.

In addition to the formal classroom training, members of the EMO Amateur Radio group participated in two major exercises early in 1998. Named "Mercury" and "Neptune", these exercises helped members of the group to develop skills in passing formal messages. Although the Swissair incident involved tactical messages for the most part, some formal messages were passed. Both exercises were conducted in accordance with criteria taught at the Canadian Emergency Preparedness College and were thoroughly evaluated. Lessons learned from these exercises greatly assisted in the smooth response to this tragedy. Procedures used in training are based upon Allied Communications Publication 125. Normal amateur lingo and home-made phonetics were not used. The official International Civil Aviation Organization (ICAO) phonetic alphabet, 24-hour clock and accepted pro-words are all part of the formal training. On air weekly nets conducted by Al, VO1NO also contributed significantly to the amateur successes.

As is the case with any large-scale deployment of personnel, amateur or otherwise, a number of lessons were learned. The following is an abbreviated list of some of the observations made during this tragic event:

- The importance of an effective training program cannot be overemphasized. Knowing what is expected enabled our operators to quickly mobilize and to cope with what might otherwise be a disaster of its own.
- Important information such as Search and Rescue, public service, Coast Guard frequencies as well as key telephone numbers, amateur repeater information is essential. It is too late to start scrambling for this information after the disaster occurs.
- Although there are restrictions on the use of frequencies outside the Amateur band, except in an emergency, it is useful to have radio equipment, both HF and VHF/UHF, that is frequency agile.
- It is imperative that sufficient equipment be readily available to carry out related tasking. Kits containing message forms, stationery, pens, pencils, notepads as well as log sheets are vital. Kits containing such material should be at each potential

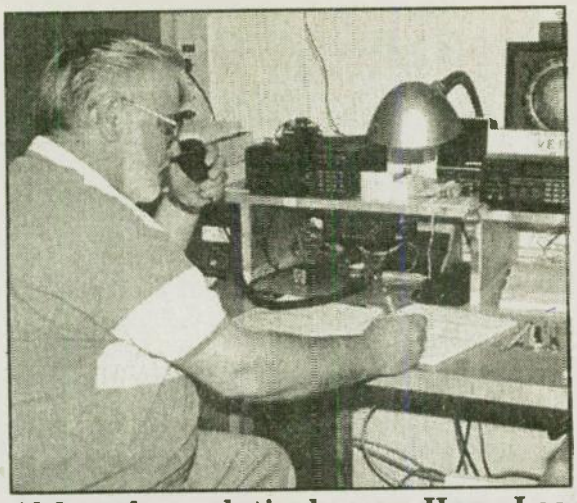
location or be available for transport to areas needed right away.

• Don't ignore CB equipment. Had there been CB available in the Command Bus, it would have been much easier to communicate with fishing boats that were equipped with CB instead of marine radios. The ability to operate on marine frequencies was also very important.

• Do not forget the tool kit and the extra goodies that always come in handy. Spare fuses should be taped to power cords of all radios. In addition, spare fuses, duct tape, electrical tape, diagonal cutters etc must be available in the tool kit.

• Up-to-date lists of Amateur Radio operators in the area is also very important. Because of the duration of this incident, it is imperative that every available amateur be contacted as relief to those who must take a break or go to their places of employment.

•It is important to recognize that some amateurs are required elsewhere and may not be available to assist in emergency situations, i.e., firefighters, police officers, military personnel and other agencies (Red Cross, Salvation Army, St. John Ambulance etc).



Although a relatively new Ham, Leo Sutherby, VE1PUP, was involved from the beginning of the Swissair tragedy.

• It is important to have, as we did, a technical support team capable of doing radio installs when and where necessary. An administration team would also have been very useful in scheduling operators over extended periods.

• Don't forget headphones with boom mics. Life in any Emergency Operations Centre can become very hectic for all concerned. Noise levels become elevated and this makes message handling, tactical or otherwise, very difficult indeed

• Wherever possible, try to incorporate packet radio into response plans. This is one area where we found that we need to learn to use packet. Packet was not used during this operation although it would have been very helpful.

As we look back over the events of the past weeks, it is refreshing to see how many people from the area came together and worked as a team under very difficult circumstances. From the fishermen who braved the stormy North Atlantic to those who spent hours searching beaches and islands to those making sandwiches for tired volunteers; everyone did his/her+ best to contribute.

On behalf of all of us who tried our best to help out, may we extend to the family and friends of those who perished on Swissair 111 our sincere regrets that we could not have done more to save the victims of this tragic disaster.

A communications gap

IRVING F. HAZARD, AA9QD

In late January, while my family was planning a spring vacation trip to Sicily, my thoughts naturally drifted to Ham radio. It might be fun to take along an HT and talk with some Italian Hams living in those picturesque villages, I dreamed. I knew most of them spoke English and my inferior language skills would not be a problem. But before going, I would have to process all the international paperwork required to obtain a temporary Italian Amateur Radio license, of course.

We weren't leaving until 17 April, so I had three months to get the authorization. Since I would be dealing with a bureaucracy, I decided to start immediately. Never having done this before, my first questions were: where do I go and what do I have to do? It seemed logical to contact the Italian Consulate in Chicago.

During a telephone call with the Consul General I was asked to visit the Consulate and take my passport along with the sales receipt for my HT. To be on the safe side, I also took a copy of my American Amateur Radio license and the HT.

After reviewing my materials, the Consul General informed me I should pay the Italian government 60,000 lira ($34.30) and they would send me an authorization in the mail. A couple of weeks later, on 10 February I received an impressive-looking document, affixed with six 10,000 lira stamps and the Consul General's seal. It was in Italian and it did not resemble a Ham radio license. When I asked the Consul General what call sign I should use, his response was he did not know anything about radio communications. He explained the document I had paid for was a temporary permit to import and export my HT in and out of Italy. This permit was an absolute necessity if I wanted to clear my HT through Italian customs. As to obtaining a license to operate it while in Italy, he simply threw up his hands, smiled warmly, and said that I would have to get that from someone else in Italy. Who else? After my head stopped rotating from side to side, a sixth sense told me that the ARRL might be helpful. I struck gold there, when they immediately understood my problem and knew the procedure. Two days later I received their set of step-by-step instructions, along with the required license application form, complete with English and Italian instructions for filling in the blanks. I couldn't thank the ARRL enough.

I immediately completed the Italian license application, attached a photocopy of my U.S. license, an International Money Order for another 25,000 lira ($14.29) to cover the license fee, and a cover letter telling them where to send the temporary license. On 14 February everything was sent airmail, and registered, to the Amministrazione Della Poste E Della Telecomunicazione Di Radioamatore, in Rome, Italy. I now had a little more that two months before I would be leaving on vacation and all I had to do was wait.

And wait I did. Weeks went by and I became apprehensive as 17 April approached. Finally, on 10 April I received a registered letter from Rome. At last, I thought, they came through with my temporary license just in time.

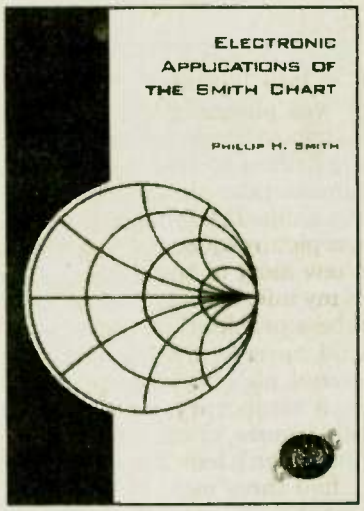
However, I was disappointed to find that the envelope contained only a letter, written in Italian, along with my International Money Order for 25,000 lira. I immediately faxed the letter to an Italian- speaking friend who came back with the English translation. My application was being rejected because the fee was now 26,000 lira and I was 1,000 lira (57 cents) short. In addition, they would not accept my International Money Order, but demanded cash (in lira), or Italian postage stamps, sent by registered mail. Wondering what it cost them to inform me of this shortage, I looked in disbelief at the 6,800 lira ($3.89) they spent on postage and registration of their letter. If they had been tracking the daily money exchange rates, there would have been days when they owed me a refund.

Having only a week left until our vacation began, and in view of the timelessness of their response, I wrote this misadventure off as an "educational experience." The lesson I learned when dealing with a foreign bureaucracy was to allow time, months and months of time, for un-snagging inevitable snafus. With all of this said and done, I raise my glass of Chianti with this toast: Arrivederci, Italia Radioamatore!

The Smith Chart

Electronic Applications of the Smith Chart

by Phillip H. Smith



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A reassuring voice on the radio

KEN NEUBECK, WB2AMU

Once in a lifetime does a truly exciting circumstance arrive in an Amateur Radio operator's career. Perhaps he will arrive on the scene of a car accident and dial 911 through the local repeater. Perhaps he will be part of the communications link for a search effort. On a rare occasion, a truly unusual situation will arise that no one ever expected and the Hams involved will have to draw from not only their operating skills, but on other important skills as well. This is the situation that members of the Grumman Amateur Radio Club faced during their efforts in the evacuation of U.S. citizens from Iran in early 1979.

Grumman in Iran

The story opens in late 1978 with less ominous overtones. The GRAC at the time consisted of 70 members consisting primarily of Grumman employees, retirees and family members. Grumman Aerospace was a prime aircraft manufacturer based in Long Island, New York, that made a number of military aircraft for the Navy, including the E-2C Hawkeye, the A-6 Intruder, the EA-6 Intruder variant and the F-14 Tomcat. The nation of Iran was at that time ruled by the Shah, and he had ordered a number of F-14 aircraft from Grumman.

The Shah was modernizing Iran, both in the cultural and industrial world. He was determined to have a modern air force and the purchase of F-14 aircraft was one part toward achieving this goal. Grumman had sent a number of their people to the southern part of Iran near the town of Isfahan where the airfield was located as part of the support team for this major contract.

Some workers had taken their families, while several did not. One of the civilian workers for the U.S. government stationed there was Vern Hardy, a Ham fortunate enough to obtain permission to operate in Iran. He received the call EP2VH and he developed a weekly schedule with the GRAC. Typically, the schedule would be at noon EST in the 15M or 20M phone band, depending on conditions.

A number of club members took turns operating the club station, WA2LQO, and it was a thrill for the members to work a rare DX station. The club station was located on the top floor of a ten-story building and had a number of directional antennas. It was a great location and the Collins KW amplifier made it a super signal for contests and DX. As third party traffic could not be passed on the air, general information was exchanged about the culture and how everybody was doing. Little did anyone realize that this weekly schedule would soon take on major international importance.

Trouble in the wind

By December 1978, there were some serious political problems developing in Iran. The Shah had pushed through many changes that went against the rules of Islamic culture. In addition, there were questions about human rights violations, particularly with regard to the secret police, Savak, which persecuted political foes. Cracks were developing in the rule of the Shah and Islamic fundamentalism was springing up through these cracks. The situation escalated rapidly and a revolution was on its way. Rumors circulate that an Islamic religious leader, the Ayatollah Khomeni, who was living in exile in Paris, was preparing for a return to Iran.

The two sides of the weekly schedule between EP2VH and WA2LQO detected this increasing tension. In December, the weekly schedule was changed to a daily schedule as a precaution in case something drastic happened. Increased operator support from members of the club was provided. Words were carefully selected to convey the apprehension that Vern and the rest of the crew in Iran were feeling. Routine travel information was exchanged about the plans of some of the crew's families. A number of families who had spent almost two years there had to leave many things behind, including pets and furniture. The tension continued throughout January until early February of 1979, when the Shah left the country.

Go home, Yankee

At this point, all hell broke loose in Iran. Street demonstrations were common in the big cities and revolutionary guards were roaming about. All Americans in Iran were advised to go home. This was difficult enough for those who lived near the capital of Tehran, but extremely difficult for Grumman employees located in the southern part of the country. Not only were they isolated at the airfield, but the Iranian people they worked with either left or were now unfriendly toward them.

Through all of this time, Vern still managed to keep in contact with the GARC. Is your license still valid when a revolution is taking place and no real authority exists anymore?

In Vern's case, he was determined to stay on the air as long as possible. Also there was real concern about the F-14 aircraft and associated equipment falling into the wrong hands.

However, with a revolution taking place, a whole new dimension was added to schedule between WA2LQO and EP2VH. There were still a dozen Grumman people who had to get out and help was being sought on how to accomplish this.

It is important at this point to note the type of people and equipment that was used to monitor both ends of the schedule. On the GARC side, there were about a dozen or so volunteers who were maintaining the schedule. Just about all of these volunteers had had Field Day experience with the GARC. Many of the members also had either contest or traffic handling experience. The equipment was near top-of-the-line, with a Drake transmitter and receiver going out through a Collins KW amplifier. This went into a 3-element beam on 20 and 15 Meters with the entire station on top of a 15-story building at Grumman on Long Island. The station setup and crew were near optimal. On the Iran side, the equipment was a transceiver going into a 3-element beam that was up about 30 feet. Vern was the only Ham in the compound, but now he was providing radio training to another person in the group.

WA2LQO was getting some assistance from a number of Hams when they were on 20 Meters in keeping the frequency clear. Tension could clearly be felt on the frequency.

Surreptitious communications

A number of senior government officials who were monitoring the situation were surprised to find out that a communication link still existed between the United States and Iran. They were most anxious to witness this schedule and to gather what information they could about the situation. It was agreed that because of the very sensitive nature of the situation, it would be a good idea to go on the MARS frequencies located just below the amateur bands. This would be better for the communications in the 20-meter band because of the inherent high volume of stations that were on the Ham frequencies. Code names were given to the principal stations involved when they tuned in the 13.9 or 20.9 MHz range on SSB. EP2VH became "Pinnacle" and WA2LQO became "Schooltie." There were a number of other monitoring stations in the Mideast that were also on board. One was a station from a U.S. base in Turkey with the codename "Phantom." The frequencies were quieter and this amplified the tension even moreso than on the Ham band.

More volunteers on both sides of the schedule were drafted to monitor the principal radio stations. On Pinnacle's side, Vern got one or two of the Grumman people with him to learn enough radio technique to help relieve him. On the Schooltie side, additional club members were brought in to provide monitoring around the clock. A cot was brought in so that members could stay overnight. In all, over 30 Hams from the 70-member Grumman club volunteered part of their time towards maintaining 24-hour communications. They did this through all types of conditions — QRM, QRN and QSB — without any major break in the communications link.

View from the U.S.

I went in one weekend and did a tour for the afternoon. I was in the club shack, with about a dozen people, including one or two military people, and I have never had an experience like this before or since. The procedure was to leave the frequency clear and every 10 or 15 minutes or so run a quick radio check between the two stations to see that band conditions had not changed. During the transmissions on that Saturday, Vern expressed serious concerns that the revolutionary forces would eventually notice his tribander beam and shut him down. When the suspicions of the revolutionary forces were raised, Vern would tell them that the antenna was for a television set or stereo. In addition to the concern about the antenna, he would try to convey how scary it was over there by relaying incidents that were happening in the area.

Skip Courtney, a GARC member, described the mood to the Grumman newspaper, *Plane News*. "You'd be here at 3 a.m. talking to Vern, and all of a sudden he'd say something like, 'Well, I'm gonna get off now. There is a group of armed Iranians in the area,' and then he'd shut down. There was nothing much you could do but sit and wait for him to come back on again."

Club president Ray Schubne, W2DKM, noted that "when you're 5,000 miles away, there's not a lot you can do. Sometimes it seemed that what we were providing was just psychological support, simply the reassurance that they weren't cut off, that there was someone out there listening for them."

Time to evacuate

Many of the Grumman people in Iran stayed out of sight by staying indoors, hoping to minimize the risk of danger. But there were frequent knocks on the door by revolutionary guards who would barge in and search around. In one of these visits, a soldier saw a picture of the Shah on the wall, tore it down and smashed it, shouting obscenities. Despite some close calls, Vern still managed to keep the station going. It was truly a test of nerves to see how long he could defy the laws of probability in keeping the station going.

Everyone involved knew that shutdown could occur at any time, so all efforts were made to get various tasks done as quickly as possible. On that particular Saturday in February, one got the feeling that it would not be long before Pinnacle would be shut down. On 14 February, Vern passed a practical request to the Long Island station that flowers be sent to the XYLs of the Grummanites stationed in Iran since there was no way that the guys in Iran could wire the flowers. This was taken care of by the club.

Because there was a concern that the communications could be monitored by the Iranian Government, Vern's messages would sometimes be cryptic. He would talk about the "picnic" that they were planning, which was in reality the code for their departure from Iran. Details of the picnic would involve the day, time and the number of "baskets" or suitcases that Vern and the others would be taking.

On Tuesday, 20 February, Vern relayed the message, "Call the wives, we're coming home." Vern shut down shortly after this message and the waiting period began for members of the GARC as they wondered if Vern and the others would make it out okay. The waiting continued for the next few days. By Tuesday, word was received at Grumman that all of the people had reached their destinations in Europe or India. Both Vern's radio and logbook were confiscated by the Iranians prior to his departure. He said later, "I felt pretty bad about that, but all things considered, I guess I got my money's worth out of it!" Vern later called Grumman to tell some of the members that he had made it.

Home again

Members of the GARC were recognized for their participation in this operation. First, Grumman sent the Stirling award for outstanding achievement by Grumman personnel. The ARRL sent a certificate of Public Service to everyone involved. In the letter that accompanied the certificate, the ARRL president, Harry Dannals, W2HD, said "the actions of you and other members of the club will go down in the annals of Amateur Radio history." I felt good about receiving these awards even though I played only a small part. I think the great majority of Hams would have extended themselves to help in a similar situation.

"Pinnacle," or Vern, visited the GARC several months later to personally express his thanks. He said it was very reassuring to hear a friendly voice on the radio when he was in Iran and that the Grumman Hams will never know how much that it meant to him and the others. He talked at the club meeting about his experiences in Iran and what it was like on his end of the QSO. He noted he had taken his radio with him to Iran just for the fun of it and "would never have imagined just how important it would become to me." He also brought a stack of his EP2VH QSL cards that he used to confirm the QSOs that he made on the air with members of the GARC. I have to say that this is one QSL card that has a story behind it and I have it in a prominent place in my shack. Many of the the other GARC Hams also shared the same sentiment about their EP2VH QSL. It truly was more than just an ordinary DX QSL card.

About a year later, the U.S. embassy hostage crisis began in Iran.

While this series of events was a once-in-a-lifetime situation for the Hams in the GARC, the operators who participated were essentially prepared through their experiences with Field Day and other radio contests. Many of us may never encounter a simililar situation during our Ham Radio lifetime, but many of us are trained through events like Field Day or normal traffic handling. This particular event also required knowledge of the bands and their conditions during the day so that appropriate band switches were made at the right time. Finally, improvisation was needed in maintaining the schedule, particularly in the final week when the switch was made to MARS frequencies. All of these ingredients made for a success in this operation.

Occasionally, similar situations come up that are covered on TV. For example, a Ham Radio station in Bosnia provided communications during the siege of 1994. When I see events like this, I can't help but recall the Iranian situation that I was fortunate to be a small part of. It is truly amazing when one realizes how important being a Ham can be during an international crisis.

Postage increases forces QSL service to adjust

Starting in 1999, the ARRL Outgoing QSL Service will increase its fees from $4 to $6 a pound. ARRL Membership Services Manager Bill Kennamer, K5FUV, says this is necessary to absorb the effects of a proposed postal rate increase and to bring the money-losing service a bit closer to a break-even basis. The rate for 10 cards will remain at $1.

Kennamer said the rate increase represents a cost of 4 cents per card (based on 150 cards per pound) to sort, package and mail QSL cards to the bureaus of the other IARU member societies. "Even with the increase, this still represents one of the better bargains in services to ARRL members," he said.

"The ARRL has subsidized the Service since the beginning, and continues to do so today," Kennamer explained. The League's handling and mailing costs now run more than $9 a pound, leaving a shortfall of more than $5 per pound at the current rates. — *ARRL Letter*

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Oh, I only wish I had read AERIALS III before I started my experiments. That would have saved me many years of hard work. — Guglielmo Macaroni

A visit with Mr. QRP

RICK McCUSKER, KO6DJ

I recently visited Jim Cates, WA6GER, co-founder of the Northern California QRP Club, at his home in Sacramento. His knowledge of QRP operating and equipment is second to none and his home features a vast collection of QRP equipment and Morse code keys. Our conversation centered on the Northern California QRP club, how it came to be, and how it has become one of the premier QRP organizations in the world.

WR: How did you get your start in QRP?

JC: "It was probably in the late 60s. I picked up a GE transistor data book, and there was a schematic in it for a 2-transistor 80-meter radio, and I built it."

WR: So in other words, you couldn't afford a store-bought rig, so you built your own.

JC: "I couldn't afford anything. My two kids were growing up."

WR: I understand you are one of the founding members of the Northern California QRP Club.

JC: "That's correct. Doug Hendricks, KI6CS, and I started the club in 1993."

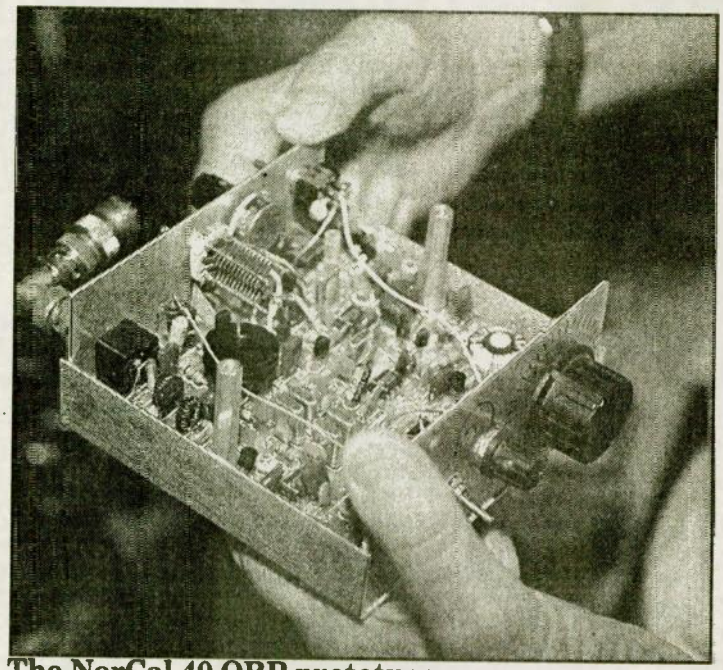
WR: The club has been quite successful in getting members. How many members do you have, and where do you meet?

JC: "We have 2,800 members in all 50 states, and 75 countries.

"We have a monthly meeting near the Livermore, California, swap meet at the California Burger. That gives our members what we call a "double pinochle" — a chance to go to the swap, and get to the meeting."

WR: What do you find fascinating about using QRP versus 100 watts?

JC: "My philosophy is 'to each his own,' and I like QRP because it takes an ordinary contact and makes it into something exciting or unusual. I just came back from a trip around Nevada, Oregon and Idaho, and I have an MFJ 9020, and used a Hamstick mounted on the roof of the car. There is some question about the efficiency of that type of antenna, but it served me well. I worked every station that I called but one. Every signal report I got was 5-5 to 5-7 and I was only running about 4 watts. I find that low power works well for me. If I don't make the contact, life goes on. If he doesn't hear me, it isn't a big deal."



The NorCal 40 QRP prototype.

WR: What is the lowest amount of power you've used?

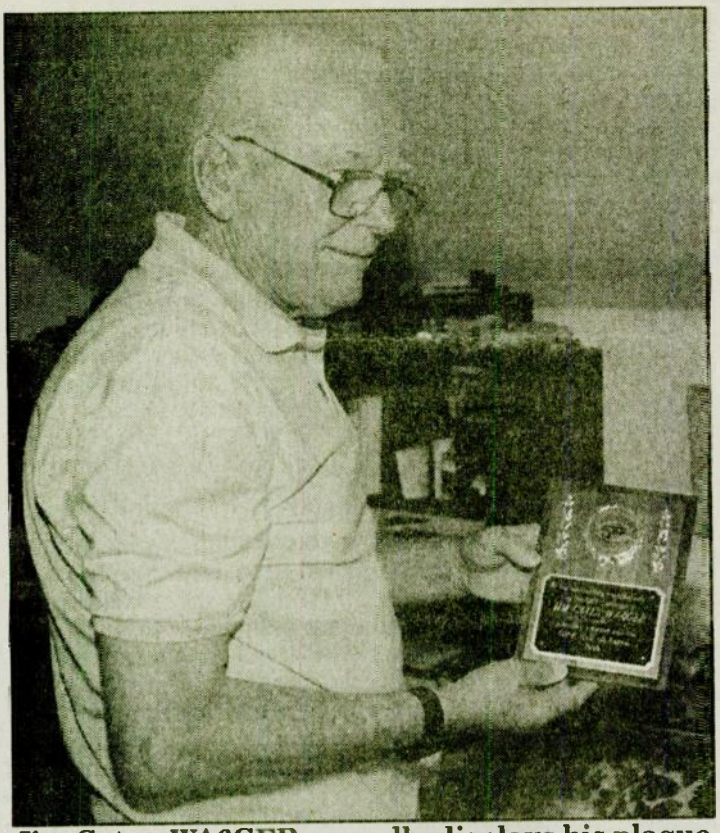
JC: "I have a power meter hooked up to one of my QRP rigs that lets me turn the power down as far as 10 milliwatts. That is the lowest I can go. I worked a fellow in Portland, Oregon, who was using a Ten-Tec Argonaut with a 3-element Yagi on 40 Meters. I kept reducing power and got down to 100 milliwatts and was still a 5-3. It's fun to try, but I don't advocate QRP for everybody; if a person likes it, fine. If he likes a kilowatt better, that's fine with me. I gave a talk once before I got smart. I started off by saying, 'OK guys, you can throw away those linear amplifiers.' I had a very hostile audience. Someone there asked me, 'OK, what's the last DX you worked QRP?' I said, 'Costa Rica.' There were a few snickers until I added, 'five watts, teletype.' No one there had ever thought about QRP RTTY."

WR: What's your best QRP contact?

JC: "Interestingly, I was on 40 Meters with a friend of mine in Idaho, and when we finished a fellow in Seoul, Korea, called me.

"One of the last DX stations I worked was in Zagreb, Yugoslavia. I was there about eight or nine years ago, before the civil war started. I met the fellow, and I wanted to communicate with him about my experiences and his, but he spoke about as much English as I spoke Slav, so we didn't talk very much. I really don't care if I work DX or local, doesn't make any difference to me. I was listening to a QSO between a guy in Buenos Aires and a guy in Tokyo. I called the guy in Buenos Aires and said, 'I have friends there.' He replied, 'My antenna is such and such, my rig is so and so.' I realized that he couldn't speak English, so I switched to Spanish. Now, it has been about 50 years since my high school Spanish classes, so he starts in on me with irregular verbs, past tense, etc."

WR: What type of antennas are



Jim Cates, WA6GER, proudly displays his plaque inducting him into the Qrp Hall of Fame.

you using for QRP?

JC: "I have a 5BTV vertical up on the roof with the radials. I had a mini-quad up, but the windstorms last winter took care of that. For my kind of operating the vertical works well."

WR: I have always been of the opinion that it doesn't matter how much power you're using. If you have the right antenna, and the right frequency, you'll get through. How do you feel about that?

JC: "That's the way I feel about it. There are several factors though. A good antenna and a good feedline (and the higher the antenna — the best you can get up in the air) increase your chances. A lot of QRP operating requires skill in pileups. My operating practices don't require much skill."

WR: The Northern California QRP Club came up with the NorCal 40 QRP rig. How did that come about?

JC: "In the early days, before the club was actually formed, Wayne Burdick, N6KR, whom I consider a design genius, joined us for the after swap meeting at the California Burger. We came up with an idea for a QRP kit, with a super heterodyne receiver, all solid state, no wires, and all the controls on the PC board. We decided to produce 100 of the kits. I initially bought all the parts out of my own pocket. I had $5,000 left on my credit cards, and used most of it to make up the kits. We sold the first 100 kits in six weeks, made another 100 kits and sold them in three weeks. We eventually sold 400 of the NorCal 40 kits. So far, we have sold over 8,000 kits. We have done antenna tuners, 30-Meter kits, a sideband CW kit, and a portable antenna.

"Our latest kit is a 20-meter transceiver kit.

"We also did a multiband rig, the Sierra. Wayne is the one who got us started on the kits. He took the Sierra to a commercial manufacturer, and they are still available from Wilderness Radio. We don't have anything to do with that radio. We just finished a magnetic Iambic paddle kit. We do check with the commerical kit makers because we don't want to compete with them. The feedback that we get from them is that we have actually helped them sell their kits. People will buy one of our $25-$28 kits and get used to soldering, then purchase a more expensive kit from one of their companies.

"Our last kit was a 20-meter transceiver kit, and for every kit that was sold, a kit will be distributed to a Ham in a third-world country at no charge. The distribution is being handled by the G-QRP club in England, and George Dobbs, G3RJV, has connections all over the world. These kits will be hand-carried all over the world to make sure they get delivered. We produced 500 kits, with 500 kits available for the program, and we sold out in 18 days.

"Doug now buys all the parts and bags them, while I do all the mailing and record keeping. All of this we do for free. We do this because we are QRP ding-a-lings, and don't know any better. Now we are re-

ferred to as 'NorCal Zombies.'"

WR: Is kit-building becoming more popular?

JC: "It sure is. Just try building your own Kenwood or Yaesu. Most Hams have this hidden urge to melt solder, so we try to accommodate them. There is an immense sense of satisfaction in making a contact with something that you build yourself."

WR: Do you have anything other than a QRP rig? Something modern?

JC: "I have an Icom IC-706 that I have used about four times for a CW contact. I generally use it as a frequency counter when I build a new kit. I use it when I am adjusting an oscillator or something like that. I refer to it as my $1,500 test instrument."

WR: I have heard that you have an extensive QRP equipment collection. What do you have?

JC: "I have just about every QRP rig ever built. I also have the prototype NorCal QRP rig that we used to design the kit.

"At that point, we went upstairs and examined Jim's extensive collection. His assortment is extensive, and very historic. His pride and joy is the complete line of Heathkit QRP equipment. As the photographs show, he truly is 'Mr. QRP.'"

The Northern California QRP club is fast becoming the information and kit source for Hams interested in QRP operating. Membership is free, with a quarterly newsmagazine (60-85 pages) available for $15.00 annually, mailed first class. If you are interested in the organization, or wish to join and subscribe to the magazine, write to: Jim Cates, WA6GER, 3241 Eastwood Rd. Sacramento, CA 95821. Checks should be made payable to Jim Cates.

Why belong to a club?

MIKE ANDERSON, WV7T/W9USN

Having been an amateur for 26 years and a career Navy sailor for 22 years, I have had the opportunity to travel widely. Moving every three years from here to there can be a pain, but does allow for meeting new Hams. Radio clubs have been the best way to get acquainted with the new location and the people who live there.

I started my infamous Ham career at the tender age of 16 in Colorado Springs, Colorado. In May 1971 I received my Novice license, WNØEQM, and promptly joined the Pikes Peak Radio Amateur Association (PPRAA). These wonderful Hams adopted me and were so supportive. Rosie Calaway, WAØMNL, Ron Seats, KØLZD, and James Don Carlos, WØITU (silent key), made sure I had plenty of encouragement. I was made the Chief Operator of the club's Field Day Novice station. The Rocky Mountain ARRL convention was also in the summer of 1971, and an anonymous club member paid my way in and also for the special dinner that night. I worked very hard to get my General license. Many trips to the Denver FCC office came and went. Finally I passed the General. I was ecstatic! That very night the PPRAA held its monthly meeting and I proudly stood up and said, "I MADE IT!" Then the club passed the hat and took up a collection for me. I bought some door prize tickets and won the first prize — I still use that yellow Black and Decker drill to this day. I've been a member of Ham clubs in Denver, CO; Portland, OR; Pueblo, CO; and San Diego, CA. I formed clubs at U.S. Naval Air Stations in Sigonella, Sicily; Italy; Pearl Harbor, HI and at the U.S. Naval Training Center, Great Lakes, IL.

The North Shore Radio Club, NSRC, of Highland Park, IL is quite a club! It's bursting at the seams with caring and talent. For anything you want to try or if you have a technical problem, there is someone in the club who can help. I have felt very much a part of the NSRC. Having participated in so many facets of Ham activities I have made myself available to the club. There is no feeling compared to being called upon to help a new Ham or with a project the club is working on. Hams need to be needed, and this club utilizes its members' assets skillfully. I have been privileged to be a part of the NSRC twice, as this is my second tour at the Naval Training Center. I was in the club from 1987-91 and returned in 1995. I left Illinois in 1991 and was sent to Operation Desert Storm. Each month the club sent me the monthly newsletter and a picture of the club members at a meeting to put on my bunk. I got letters, too. The club never forgot me. My wife is a Ham, too, and was also an NSRC officer. Just before leaving for the Persian Gulf the club bestowed Life Memberships to both of us. We were shocked that the club thought that much of us.

Clubs focus the talents and energies of the deversified membership. In the group is caring and support—people who are willing to go not only the extra mile, but go the whole trip. If you're not a member of a club, think of visiting one. If you are lucky to have many clubs in your area, visit each one. No club where you are? Start one. It's easy to form a club and there has always been more fun in numbers. Think about it — the more people in your group — the more people you can brag to!

Presently I am president of the Great Lakes Amateur Radio Club, W9USN, U.S. Naval Training Center, Great Lakes, IL.

Ten-Tec Black Box

Ten-Tec's PC-controlled RC-320 receiver is on the street. The model RX-320 is the first "black box" receiver from a U.S. manufacturer. Carrying a price tag of $295, the RX-320 offers reception up through HF. — *ARRL Letter*

Worldradio *Technical* Books

Check the box next to the items you wish to order and fill out the information on the bottom. Shipping and handling charges are $5.00 for the first item and $1.00 per item thereafter.

☐ **Transmission Line Transformers**, *by Jerry Sevick, W2FMI*

This book stands alone in its coverage of the subject of broadband transmission line transformers. Many configurations of Ruthroff and Guanella types of transformers are described in complete detail, including core selection, conductor types, winding instructions and complete measured performance. Balanced-to-unbalanced (balun) and unbalanced-to-unbalanced (unun) types are included, for matching low and high impedances to an operating impedance of 50 or 75 ohms. — **$34.00** (CA residents add $2.64 tax).

☐ **Transceiver System Design for Digital Communications**, *by Scott R. Bullock*

This system-level approach to transceiver system design covers digital communications, building on principles required for military applications and translating those concepts for widely used commercial applications. Topics include: link budget, receiver and transmitter specifications, modulation, spread spectrum, multipath and error probability, jamming resistance, and tracking and navigation applications. — **$54.00** (CA residents add $4.19 tax).

☐ **Advanced Digital Communications**, by *Kamilo Feher, editor*

This extensive reference book, now available again in hardcover format, includes data on systems and techniques for ISDN, speech coding, echo cancellation, digital speech interpolation, digital television, modulation and demodulation methods, correlative coding, interference considerations, mobile radio and satellite systems, and adaptive equalization. One of the most complete books on digital communications engineering. — **$69.00** (CA residents add $5.35 tax).

☐ **Telecommunications Measurements, Analysis, and Instrumentation**, *by Kamilo Feher, Hewlett-Packard Engineers*

This is perhaps the only book dedicated solely to high-performance measurement techniques for modern telecommunications systems. It discusses performance measurement for digital transmission systems and digital signal processing and includes coverage of analog communications channels. Radio and microwave systems, wireline channels, telephone channels, PCM channels, digital radio and FDM are among the areas covered. — **$59.00** (CA residents add $4.57 tax).

☐ **HF Radio Systems & Circuits**, *by William E. Sabin and Edgar A. Schoenike, editors*

A comprehensive reference book for the design of high-frequency communications systems and equipment. Previously published as *Single* Sideband Systems & Circuits this revised edition has been retitled to better describe the wide range of its content. Its approach follows the needs of an engineer from system definition and performance requirements down to the individual circuit elements that make up radio transmitters and receivers. 653 pages, plus updated disk. — **$75.00** (CA residents add $5.81 tax).

Clip or reproduce this page and send, filled out, to Worldradio Books, 2120 28th Street, Sacramento, CA 95818; or call 916/457-3655

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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.***

U.S./U.K. Reciprocal agreement stalled

Hams in the United Kingdom are complaining that the United States State Department is sitting on a new third party agreement between the two nations. Now, the British Foreign and Commonwealth Office is agreeing with them.

The Foreign and Commonwealth Office has issued a letter concerning the State Department's refusal to conclude the new agreement. Simon Elvy of the Commonwealth office says the problem lies squarely with the U.S. which he says does not attach a particularly high priority to this issue.

Elvy also tells British Hams the his office will continue to follow up this agreement. He says that much of the work has already been done but there is little more his office can do on a government to government basis at this stage. He also tells Hams in the U.K. that they are free to pursue this as individuals if they have personal contacts who are willing and able to help. — *G3ZHI, Newsline*

Silent Keys

ROBERT L. HESS, N6SZB

Robert "Robaire" Hess, N6SZB, died 05 August 1998 in Southern California. He was given the nickname "Robaire" by his amateur friends who thought there were too many "Bobs" around. He could keep visitors entertained for hours with his tales of his service with the U.S. Air Force, and his jobs as a Navy technical representative and as a field representative for the FCC. "Robaire" was a lifetime subscriber to ***Worldradio***, as well as being a lifetime member of the QCWA and ARRL. For the past several years, he was a fixture at several swap meets and hamfests, helping his good friend Anne Wright, N6BOP, in her "Hats for Hams" activities, putting call signs and names on hats.

ELLIOTT SECONDARI, K6TW

Elliott Secondari, K6TW, of San Francisco, California, died 01 September 1998. He began his Amateur Radio career in April of 1941 as W1NIA. Shortly after obtaining his license, WWII restrictions took him off the air. Elliott was granted a fully paid student-resident scholarship at the University of Maine College of Technology. He attended the school in 1942-43 and was placed as a civilian electronics technician at the Radiation Laboratory at Massachusetts Institute of Technology. He worked there until being called for active duty in October of 1943. He attended Cryptographic-Intercept school, both as a student and assistant instructor. His overseas duty assignment was the Rhineland-Ardennes area and he was actively involved in the Battle of the Bulge, intercepting radio traffic with the 9th Army. After the war ended, he continued in Germany as station manager of a VHF/UHF multichannel repeater network used by the 7th Army until his release from active duty in March 1946.

He worked at the Mare Island Naval Shipyard and Hunters Point Naval shipyards until his retirement in 1977. He then worked part-time for the San Francisco and Berkeley Police Departments in their communications facilities. He also worked full time at KGO Television Sutro transmitting facility.

In 1980, Tom Stands introduced Elliott to the volunteer crew of the SS *Jeremiah O'Brien*, the last active Liberty ship, now a floating museum and memorial in San Francisco. He signed on as the Radio Officer and was part of the crew for the inaugural cruise in May 1980 and a relief crewman in 1994 during the voyage returning the ship from France back to San Francisco after the 50th anniversary of the D-Day invasion.

Elliott and his twin brother, Richard, K6TR, were avid collectors of military vehicles, and toured the U.S. and Europe attending "meets" featuring military vehicles.

LEONID LABUTIN, UA3CR

One of the earliest proponents of Amateur Radio experiments in space, Leonid Labutin, UA3CR, died of a heart attack at his summer residence near Moscow, 10 September 1998. Leonid was directly involved in various Russian satellite projects and he helped bring Amateur Radio to the MIR space station. He also operated a mailbox system and digipeater in Moscow with a regular gateway to UO22. His was one of the first ground stations and gateway for the Digital Communications Experiment on UO11. In 1989, Leonid assisted with the North Pole Bering Bridge Transpolar Ski Trek Expedition from the USSR to Canada, communicating via Amateur Radio satellites.

JULIUS "JULES" WENGLARE, W6YO

Jules Wenglare, W6YO, passed away 16 August 1998. He was first licensed in 1930, and retired from the U.S. Air Force after 20 years in communications. He was one of the first U.S. military personnel to land in Japan following the end of hostilities. He was in an advanced group of communications specialists assigned to set up radio communications for U.S. aircraft bringing troops to occupy Japan at the end of WWII. After the Air Force, Jules' communications career with the Voice of America started. He was also a member of many DXpeditions, including YI4LIU, SV6AA, SV7AA, AR8AR, FHØYO and ZD7YO. Jules was the first in the world to work 100 countries with 100 watts in 1936, and the first "W" to work 40 zones in 1939. In 1977 he sailed around the world on the *Yankee Trader* and operated in 45 different countries, meeting 125 Hams during this cruise. Jules was known for his antenna designs including a 6 element 20 Meter Quad on a 50 foot boom, made out of tower sections. He constructed 100 different antennas during his 68 years as an Amateur Radio operator. Jules was a member of QCWA and several other Amateur Radio organizations and clubs.

Book Reviews

Aerials III — an unbiased review

After much waiting, the third collection of antenna wisdom, erudite and scintillating thought and good advice is available. *Aerials III* by Kurt N. Sterba & Lil Paddle is another compilation of the writings of the two very popular writers for ***Worldradio***.

The now-standard cover has America's first renaissance man, Ben Franklin, in triplicate flying his famous kite. On the cover of this tome the famous Ben is stylishly attired in a Kurt Cap, the symbol of those who comport themselves in an adult manner. The back cover photo has the lovely Lil Paddle, also fetchingly adorned with the now-famous emblem of truth, justice and feedline intelligence.

Anyone who is a serious seeker of the truth about antennas and feedlines, particularly those like me who don't do math, should find *Aerials III* very useful. Kurt and Lil Paddle cut through the higher math and vector physics of antenna theory and give easier to understand and workable suggestions to improve any antenna (aerial) you might have room to put up. Do you need 120 radials of at least 1/4 wavelength long? Not if you read and heed the words of wisdom found in *Aerials III*.

Every book review must have a carp, complain and criticize section and here is mine. A bit more judicious editing, to remove time sensitive material, those things overcome by events, would be appreciated. For example, I missed (I don't know how) the opportunity to purchase *Aerials II*. So several inclusions of "book two is coming," "book two is now available" could have been deleted without adversely affecting the content.

The short-time offering of drawings for equipment, which had a magazine life of less than four months could be omitted. The sections of the column usually devoted to "the masked and caped crusaders doing works on behalf of amateurs..." could also use some consideration. Page 78 lists the winner of one equipment drawing.

Also obligatory in a book review is a section of suggestions for improvement or for further efforts. Far be it from me to avoid my responsibility. Not being overly visual, some drawings or diagrams on the finer points of antenna construction would be helpful for us not as technically adept as the dynamic duo. I would also really like to see an antenna book by Kurt and Lil that comprises Kurt's experiences. This book should, of course, have a section of tables complete with the 1005/F, the tables on pages 23,80,86, 87, and page 99.

Should auto makers claim 67 miles per gallon for their mid-size car, most people would recognize this as an overblown claim. We, the buyers and drivers ,would check it out ourselves and if proven false, we would complain. But when antenna makers claim 9dB for a 2L Yagi, where the true figure is closer to 6 dBd, the writings of Kurt and Lil are sorely needed. Are the topics covered in *Aerials III* repetitive? Yes. Like Don Quixote, Kurt continues to tilt at erroneous and downright wrong information. Unlike The Man from La Mancha, Kurt is entirely correct. The repetition comes in because people either do not listen or do not remember what they "learned."

Unlike Clark Kent, LaMonte Cranston or El KaBong, no one knows the real-world identity of Kurt N. Sterba and Lil Paddle. From hints contained in the book , we can deduce that they live in Texas, probably the radio famous area of Del Rio. Further that Lil is/was an English lady. And that both are, like me, over age twenty-five. Judging from the writing, I would be proud to claim friendship with the gurus of aerial facts.

This book should be a welcome addition to the reference shelf of any amateurs who want to learn more facts about antennas, decibels over a dipole, and "S" units as opposed to Sterby units. Plus those who enjoy having a good chuckle at some of the pomposity of antenna gain claims will both laugh and learn from this book.

I could and probably should go on into great detail, but I won't. I recommend *Aerials III* by Kurt N. Sterba & Lil Paddle. Available from ***Worldradio***, P.O. Box 189490, Sacramento, CA 95818, for the small sum of $14 plus $2 postage and handling. Suffering Six-land residents must add $1.08 for the Dept. of Revenue removal. — *James Sackey, N9ESM (Kurt Cap wearer #132)*

A Spark to the Past

Sixth in a series of Amateur Radio-centered books for young adults, A Spark to the Past by Cynthia Wall, KA7ITT, transports Kim Stafford, Marc Lawrence and five-year-old Bobby Courson 100 years into the past for an adventure on the Oregon Trail with a wagon train.

Struggling to reach their destination in Oregon Territory before the winter weather sets in, the group is faced with many perils, but Kim and Marc are able to aid the group thanks to their knowledge of 20th Century technology and some items (including their two-meter rigs and an HW-9) that were transported into the time warp with them. Kim, Marc and Bobby's situation is complicated by the need to "fit in" with the members of the wagon train and not arouse suspicions about their being anything but regular (albeit slightly peculiar) 19th century folk.

To add a more surreal dimension, Marc and Kim contact an injured WWII Navy pilot who has crash-landed on an island in the Pacific in 1944, and succeed (from 1845) in getting aid to him.

Needless to say, all's well that ends well, and Marc, Kim and Bobby manage to zap themselves back to the 20th century. In their follow-up research, they again contact their Navy pilot for a conclusion that will make your spine tingle.

Cindy has written another fine book that will appeal to the adventurous spirit of young readers. The combination of history, adventure and Amateur Radio makes it easy to recommend it. The book costs $6.95 and is published by Dimi Press, 3829 Oak Hollow Lane, SE, Salem OR 97302. — *Helen Noble,* **Worldradio**

Off the air

October Publisher's Microphone

The comments in the Publisher's Microphone in the October issue against the move to make the entry into Amateur Radio "easier" were very much on target. I have been a high school math teacher for 28 years, and I have witnessed so much "dumbing down" that it is disgusting, revolting, even to the point of being immoral. Those of us who try to have high standards are looked upon (even by administrators) as being the "bad guys." How much more room is left in the "cesspool of mediocrity"? Keep up the good work!

Charles Coxey, K4TG
Shreveport, LA

Tip of the hat

My hat's off to you for a real fine article in the "Publisher's Microphone" in the October issue. The most disgusting article was on page 69 (Oracle affiliates with NCI). These people must lobby for equipment manufacturers. Keep up the good work out there.

Herb Raemsch, WA3HGT
Mantoursville, PA

More dumbing down!

I worked hard for my Extra class license. All the Hams I've helped through the license and upgrade studies worked hard. Nobody liked the code, but they did it and are very proud of their accomplishments and new privileges. So the ARRL thinks it's too tough? Let's upgrade the Tech Plus and Novices to General (with HF privileges)! Great! Why not upgrade all CBers to Extra? Or upgrade all B, C, D and F students to "A" students; maybe co-valedictorians! The ARRL and whomever else is involved in this, the FCC, the radio manufacturers, are assisting in the dumbing down of America! Or is this designed to distract Hams from the "Monica" thing?

Roy Davidson, WP2F
Portland, OR

What Amateur Radio Means to Me

Kudos to ***Worldradio*** for initiating the essay contest on "What Amateur Radio Means to Me", and my sincerest thanks to all who have participated in this most relevant journey across the Wonderland of Amateur Radio.

As a Public Relations man for the Lake Monroe Amateur Radio Society in Altimonte Springs, Florida, I have had the privilege of working with Karl Lambert, KB4DCR, in helping to introduce Amateur Radio into 30 schools in central Florida. Karl was my candidate and recipient of the 1995 ARRL Excellence in Recruitment Award.

In the above context, I would urge radio amateurs to follow the example of compiling all these subject essays into a gem of a public relations pamphlet as media publicity or as a recruitment tool.

Larry Amann, K5TQN
Denver, CO

SPECIAL EVENTS

Send your special event to ***Worldradio*** *two months in advance and we'll put it on this page!*

FIRST SUCCESSFUL NEW WORLD SETTLEMENT

The Whitman ARC will operate WA1NPO on Saturday and Sunday, 28-29 November from 1400Z-2100Z both days to commemorate the first successful settlement in the New World. The special event station will be operated from a location overlooking Cape Cod Bay. Suggested frequencies are: 3.970, 7.270, 14.270, 18.140, 21.370, 24.970 and 28.370. A special QSL card will be sent to those Hams and SWLs sending an SASE. Also, a handsome 7 1/2x10 special certificate with the Mayflower II in the background is available for the event. All replies must be sent to: Whitman ARC, P.O. Box 48, Whitman, MA 02382.

Visit us on the web at: www.wr6wr.com

Station Appearance

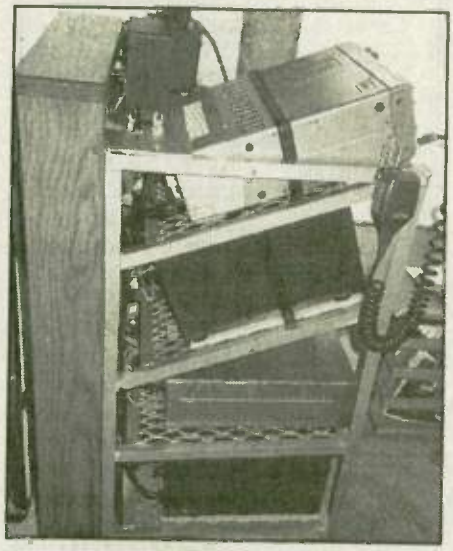
Send Worldradio a picture of your shack and the staff will choose a winner to receive a free one-year subscription to Worldradio! Stations will be judged by neatness (wires tucked away, etc.) and accessibility of equipment. Monetary value of equipment is not a consideration.

Jack McKenzie N5MFG

This is my station in my home-away-from-home — our 34' Airstream Motor Home. I don't operate going down the highway, at my age I need to keep both eyes on the road. Since I operate only while parked at a campground all of my equipment requires 120V shore power. The vehicle came equipped with a 7.5W Onan Generator so I can operate using that if I am not located too close to other campers.

Everything is mounted in a steel rack I designed and built. The shelves are of expanded metal to better facilitate the flow of air. Each piece of equipment is held in place by resting its rubber feet in holes cut in 1/4-inch plastic which is bolted to the shelf. An automotive rubber tie-down strap keeps it there. A space in the rear of each shelf provides a vertical cable with easy access.

My equipment is: Top shelf, a Kenwood TS-440 transceiver with a Palomar Engineers Model 840 SWR & Power Meter in back along with a Kenwood TM-215A HT in its holder/charger. Second shelf, an Ameritron ALS-600 solid state linear amplifier. Third shelf, a Kenwood PS-50 Power Supply and bottom shelf an Ameritron ALS-600PS power supply for the amplifier. All is fed to a screwdriver antenna on the rear of the vehicle or to a feed point to connect to a dipole. I carry seven military surplus fiberglass interlocking poles and often amuse my fellow campers by erecting all sorts of antennas.



The station was designed to be efficient, practical and compact — but let's face it fellows, it was all the space my wife would allocate to me in our otherwise crowded bus!

Amateur "Hi"

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

Even in my dreams

PATRICK SOMERS, KE3WN

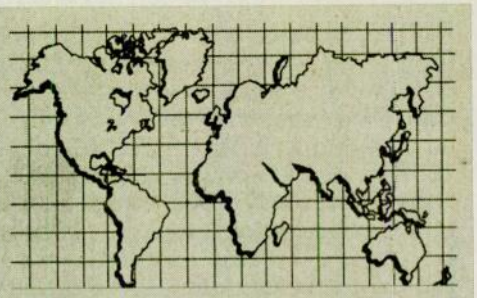
I've been a Ham since September 1994, and I find a great deal of enjoyment in this hobby. My wife is glad that I enjoy Amateur Radio, although there are rare occasions when my enthusiasm for Ham radio annoys her. This is one of those occasions.

One Sunday evening before last Christmas, we were talking about her three nephews and one niece who live in another town 120 miles north of us. We went to bed shortly after the conversation. Jen watched TV and I read a magazine. I fell asleep a short time afterwards.

About an hour later, Jen asked me a question about one of her nephews. Still asleep, I responded "It depends on what frequency it's on." She shook me in an effort to awaken me. I remained asleep, no matter how hard she shook me. Jen finally gave up in disgust and went back to watching TV.

When she told me about this incident later on, Jen said that I am so wrapped up in Ham radio that I even dream about it.

DX WORLD



John F.W. Minke III, N6JM
• P.O. Box 310 Carmichael, CA 95609-0310 • E-mail: n6jm@pacbell.net •

W-100-N

The following deserving DXers successfully completed the requirements for ***Worldradio***'s Worked 100 Nations Award:

538. Jeff Wittich, AC4ZO All CW 10 Aug 98
539. Stephen Bosbach, KG5BR 10 Aug 98
540. Peter Tiffany, KT4BW 28 Aug 98

Steve included the comment: "This means more to me than my first 100 'countries' to make DXCC. I don't have to apologize or explain to non-Hams the way countries are counted in DXCC, many are not really countries. This is the real McCoy."

The staff at ***Worldradio*** appreciates the comment. Not to belittle our own award, but the DXCC program is an entirely different ball game. To many DXers it is a thrill to go chase a DXpedition to some remote part of the world, such as Bouvet Island. For W-100-N this would count as nothing. Although the island belongs to Norway we could not count it, Norway or otherwise, as the island is uninhabited. Penguins do not count. Please keep this in mind when applying for this award. The term "nation" is the clue.

CATZ

There haven't been many applications for our second award which has been around just over two years. Only 24 contacts are required for this one, one with each 15-degree segment around the world. All Amateur Radio stations are valid and the only restriction is that contacts made with your own nation do not count. This month another Alaskan has been added to the list of successful applicants.

6. Edward Broderick, WL7ZA All CW 10 Aug 98
7. Denslow Thatcher, W6VRK 28 Aug 98

Libya (5A)

Club station 5A1A has been showing on the bands recently, by operator Abubaker. He has been reported to have been near 21.290 MHz after 1800 UTC with a list operation taken by himself. Abubaker has also been on CW.

It is suggested that when sending a QSL card to this station use registered mail.

Western Samoa (5W)

425 DX News notes that PA3AXU will be active from Samoa (OC-097) from about 28 October through 8 November. He has requested the call 5WØXU, and the call A35XU in Tonga, where he will operate for a week prior to the Samoa operation. His activity will be limited to CW and RTTY.

Maldive Islands (8Q)

The Daily DX reports a huge German team will be going to the Maldives for an operation that will run from 18 October through 5 November. The team will include some 16 DXers, including four YL operators. The YL members will sign with the call 8Q7IQ, where the OM ops will be using the call 8Q7IO.

Activity will be on all bands, 10 through 160 Meters, on CW, SSB and RTTY. The emphasis of this DXpedition will be the *CQ* Worldwide DX Contest at the end of October. So, if you need this one here is a good chance to work it. With three transceivers on simultaneously and with 16 operators, they should be on around the clock.

Temotu Islands (H4Ø)

Temotu Islands, also known as the Temotu Province of the Solomon Islands, has been added to the DXCC List. The effective date for contacts with this one was beginning 2359 UTC on 31 March 1998. The DXCC Desk began accepting cards on and after 01 October of this year.

Temotu Province includes Santa Cruz Islands (OC-100), Reef Islands (OC-065), Duff Islands (OC-179) and Vanikolo Islands (OC-163), and are located more than 356 kilometers from the main grouping of the Solomon Islands. With the activities of H4ØAA and H4ØAB most serious DXers now have these added to their totals. Many IOTA hunters will be looking for reactivation of the other mentioned island groups.

Market Reef (OJØ)

During the July 1998 DXpedition to Market Reef (EU-053) some 14,350 contacts were logged at OJØAU, with 2,393 of them logged during the RSGB IOTA Contest.

Falkland Islands (VP8)

Jan Heise, K4QD, will be in the Falkland Islands (SA-002) for three weeks signing with VP8CRB from 26 December through 16 January. Jan says he will be assisted by Bob Valler, VP8BFH, and Tim Cotter, VP8CKN, and will be on all bands and modes. During the ARRL RTTY Roundup in January they will use the special call of VP8TTY.

The emphasis of the operation is the concentration on areas, bands and modes that are most needed by our deserving DXers. So, here is your chance to gain a new one, whether for a brand new all time new one, or just a needed band and/or mode.

Campbell Island (ZL9)

The ZL9CI DXpedition to Campbell Island, sponsored by the Kermadec DX Association, is mov-

ing along as planned. This may be the last chance for many years to work this one as the New Zealand Department of Conservation is restricting access to the island.

The team line-up is impressive and includes such DXers as Ken Holdom, ZL2HU; Ron Wills, ZL2TT; Lee Jennings, ZL2AL; Brian Biggings, VE3XA; Al Hernandez, K3VN; Declan Craig, EI6FR; Michael Mraz, N6MZ; Jun Tanaka, JH4RHF; Andrew Williamson, GIØNWG; Jason Christensen, ZL2URN, and James Brooks, 9V1YC.

The total budget for this undertaking is near $85,000 (I assume this is in New Zealand dollars) of which the team has contributed $33,000. Most of the cost is the boat charter, which is $70,000. As of this writing they have received contributions amounting to only $11,000 and still need an additional $38,000 to meet the expected costs of the DXpedition. If you wish to contribute, send your contributions to: The Kermadec DX Associations, P.O. Box 56099, Tawa, Wellington, NEW ZEALAND. All donations will be acknowledged and in the event the DXpedition fails to materialize, all donations will be returned.

IOTA

Over the last few years there has been an increase in island chasing with several other awards programs, other than the standard IOTA awards program, being initiated. Such awards include the Canadian Islands Award and the United States Islands Award. However, be aware that these two programs include all islands, whether they lie in a river, lake, pond, pothole, or whatever. Such islands do not count for IOTA. Unfortunately, the activity centers around the IOTA operating frequency of 14.260 MHz, which just confuses the troops. There is nothing illegal with this as IOTA does not own the frequency (although there are those who think so). One might justify the activity to keep the frequency busy just in case an IOTA operation shows.

In addition there are several European awards for chasing islands. Be aware, too, that many of those awards programs included non-IOTA islands.

Mac McDaniel, W3HC, reports that the Chinese have activated several new IOTA islands recently. The BI3H DXpedition to Shijiutuo Island (AS-134) collected over 1,800 contacts during 23 hours of operation. Other new ones included BI4C on Changxing Island (AS-136) and BI5Z on Zhoushan Island (AS-137). Other scheduled DXpeditions to new IOTA islands included BI4M to Changdao Island and BI5P to Pingtan Island. Mac is the QSL manager for all of these mentioned islands.

According to *425 DX News* Malcolm Johnson, VK6LC, reports that the 1999 DXpedition to Imperieuse Reef in the Rowley Shoals is official. Referred to as VK9-99, the DXpedition is a share charter contract between the Department of Marine Wildlife and will be for a duration of five days between 20-26 September 1999. The shoals have no IOTA reference number since no known operation has ever taken place from here. More details later.

The Daily DX reports that the Pitcairn Amateur Radio Club plans to operate from Ducie Atoll (OC-182) 22-27 October. The call was not given.

Here is another first! The 1st Brazilian YL DXpedition is scheduled for the period of 29 October-02 November and will be to Comprida Island (SA-024). All modes will be used on the usual five HF bands. The operators will include: Alda, PP5ASN, Arilda, PY5OA, Teresa, PT2TF, Lourdes, PY5LO, and Adri, PY5NT. They will sign PR2YL on SSB and PS2S on CW.

Here is another selection of IOTA activity during the month of August. There is a gap of about ten days during the middle of the month as I was attending the DX convention in New Orleans. The selection has been limited to no more than one call per IOTA island group.

AF-018 IH9/IT9BLB	Pantelleria Island	02-07 Aug
AF-019 IG9/IK3AWP	Lampedusa Island	26 aug
AF-070 V5/DK6AO	Seal Island	22 Aug
AN-006 EM1LV	Galindez Island	10-26 Aug
AS-005 RAØBK	Dickson Island	01-02 Aug
AS-008 7K3EOP/1	Miyaki Island	01-02 Aug
AS-015 9M2TO	Pinang Island	02-18 Aug
AS-017 JR6EA	Okinawa Island	01 Aug
AS-024 JR6USF	Yaeyama Islands	24-26 Aug
AS-028 UAØQMU	Kotelny Island	01-21 Aug
AS-037 JF6WTY/6	Koshiki Island	01 Aug
AS-053 HSØ/IK4MRH	Phuket Island	06-28 Aug
AS-059 UAØIAS/Ø	Sparfar'yeva Is.	18-25 Aug
AS-080 HLØY/3	Anmyon Island	01 Aug
AS-083 RN9CWV/9	Kara Sea Coast East	24 Aug
AS-090 HL5ØC/2	Tokckok Island	01-05 Aug
AS-105 HL5ØT/2	Yong-hung Island	08 Aug
AS-139 BI7W	Weizhou Island	21-23 Aug
EU-008 GMØAXY/P	Iona Island	02 Aug
EU-009 GM4WSB/P	Orkney Islands	09-10 Adg
EU-010 MM/PA3GIO/P	Outer Hebrides	04-06 Aug
EU-012 MMØ/DJ6AU	N. Mainland Is.	01-02 Aug
EU-016 9A6KZK	Drvenik Island	04-17 Aug
EU-017 ID9/IK8WTM	Salina Island	24-28 Aug
EU-020 SM1SBI	Gotland Island	02-05 Aug
EU-028 IA5/IK4RUX	Elba Island	01-10 Aug
EU-029 OZ1CQX	Falster Island	24 Aug
EU-031 IC8/IK8TWX	Vivara Island	27 Aug
EU-032 F5PHW/P	Re Island	04-29 Aug
EU-037 SM7CRW	Oland Island	05 Aug
EU-038 PA/DL1JZ	Texel Island	04 Aug
EU-042 DLØSY	Isle of Sylt	21-23 Aug
EU-043 SK6NL/P	Tjorn Island	23 Aug
EU-045 IBØ/IKØCKJ	Zannone Island	28-30 Aug
EU-048 TM7I	Bretagne Region	19-20 Aug
EU-049 SV8/HAØHW/P	Aegean Islands	03-10 Aug
EU-052 SV8AQY	Ionian Islands	02-25 Aug
EU-055 LA2JX	Lok Island	17 Aug
EU-057 DFØWLG	Ruden Island	22 Aug
EU-058 F/EA2BUF/P	Lerins Islands	05 Aug
EU-060 SV1/IK3GES/P	Euboea Island	24-26 Aug
EU-062 LA6OP	Grytoey Island	22-23 Aug
EU-064 F/IK1SPE/P	Pays de la Loire Reg.	08 Aug
EU-065 F8BMI/P	Bretagne Region	09 Aug
EU-070 F5RBB/P	Hyeres Islands	26 Aug
EU-072 SV8/IK3GES/P	Skiathos Island	22-23 Aug
EU-075 SV1TP/P	Poros Island	17-27 Aug
EU-080 ED1BMA	Pontevedra Province	30 Aug
EU-083 IA1/IK2GPQ	Liguria Region	08 Aug
EU-084 SMØOIG/5	Roslagen Island	02-25 Aug
EU-088 OZ/DL3HBG/P	Anholt Island	02 Aug
EU-089 CU9A	Corvo Island	
EU-096 OH1LU/P	Eprosaari Island	19 Aug
EU-098 DL7VOX/P	Poel Island	27-30 Aug
EU-107 F6HQP/P	Les Sept Iles	07 Aug
EU-113 SV8/IK3GES/P	Peloponnisos South	29-30 Aug
EU-120 GØUIH/M	Holy Island	24-26 Aug
EU-123 GM3VLB/P	Sanda Isle	05-06 Aug
EU-124 GB5FI	Flatholm Island	29-30 Aug
EU-126 OH8TA	Hailuoto Island	23 Aug
EU-127 DL8OBC/P	Helgoland Island	09 Aug
EU-128 DK5AN/P	Fehmarn Island	23-30 Aug
EU-129 DL2BWO/P	Goermitz Island	30 Aug
EU-130 IL3/IV3WDH	Friuli-Venezia Giulia	29 Aug
EU-131 IL3/IK3BPN	Venezian Islands	19-30 Aug
EU-132 SO1DX/P	Wolin Island	03-07 Aug
EU-133 R1ASP	Kotlin Island	10-27 Aug
EU-136 9A/OK2PAA/P	Adriatic Sea Coast	03-24 Aug
EU-138 SK7FK	Blekinge District	23 Aug
EU-141 LA/ON5TQ/P	Finnmark County East	01 Aug
EU-146 PA3EVJ	North Sea Coast South	02 Aug
EU-147 RK3DZJ/1	Nemetsky Kuzov Is.	24-28 Aug
EU-148 TM5B	Brescou Island	28-30 Aug
EU-155 IL4/IK2XDE	Emilia Romagna R.	26-29 Aug
EU-165 IMØ/F6BUM	San Pietro Island	06 Aug
NA-010 KB4SVP/VE1	Cape Breton Island	25 Aug
NA-031 WA4ZZ	Aquidneck Island	03 Aug
NA-034 W4ZW	Florida State West	27 Aug
NA-036 VE7IU	Vancouver Island	02-09 Aug
NA-041 KL7IFP	Alex. Archipelago	17-19 Aug
NA-047 VE8TA	Baffin Island	09-19 Aug
NA-049 HK3JJH/Ø	Providencia Island	22-26 Aug
NA-057 N7QXQ/HR6	Roatan Island	22-30 Aug
NA-059 NO7F/KL7	Unalaska Island	22-24 Aug
NA-065 N7FL	Matia Island	23 Aug
NA-067 WB8YJF	Okracoke Island	01 Aug
NA-072 3E1DX	Contadora Island	23 Aug

DX Prediction — November 1998

Maximum usable frequecy from West Coast, Central U.S. and East Coast (courtesy of Engineering Systems Inc., Box 939, Vienna, VA 22183). The numbers listed in each section are the average maximum usable frequencies (MUF) in MHz for contacting five major areas of the world centered on Africa—Kenya/Nairobi, Asia—Japan/Tokyo, Oceania—Australia/Melbourne, Europe—Germany/Frankfurt, and South America—Brazil/Rio de Janeiro. Smoothed sunspot number = 108. Chance of contact as determined by path loss is indicated as bold *MUF for good, plain MUF for fair, and in *(parentheses)* for poor. UTC in hours.

CENTRAL U.S.A.

UTC	AFRI	ASIA	OCEA	EURO	SO AM
8	*(16)*	*11	*17	*(11)*	*17
10	*(16)*	11	*16	*(10)*	16
12	29	10	*16	18	*31
14	35	*14	*27	21	*35
16	*37	*(14)*	23	19	*37
18	*37	*(13)*	*(21)*	13	*39
20	*30	*(16)*	28	12	*38
22	*25	23	33	11	*33
24	*21	*(19)*	32	11	*23
2	*19	14	22	11	*21
4	*17	*(12)*	19	10	*19
6	17	*(12)*	18	10	*17

WEST COAST

UTC	AFRI	ASIA	OCEA	EURO	SO AM
10	*(13)*	*14	*17	*(11)*	16
12	*(13)*	*13	*17	*(10)*	16
14	*(22)*	*13	*16	18	*32
16	27	*14	*23	18	*37
18	29	13	*(20)*	13	*39
20	29	17	27	*(12)*	*39
22	25	*27	33	*(11)*	*38
24	*22	*29	*36	11	*33
2	*16	*25	33	11	*22
4	*15	*17	23	10	*20
6	*(14)*	16	20	10	*16
8	*(13)*	*15	*18	*(11)*	*17

EAST COAST

UTC	AFRI	ASIA	OCEA	EURO	SO AM
7	16	*11	*(17)*	*11	*17
9	16	11	*16	11	*16
11	30	10	*16	*19	*28
13	*36	12	*29	*22	*33
15	*38	*(11)*	25	*21	*36
17	*38	*(11)*	*(20)*	17	*38
19	*34	*(11)*	*(25)*	13	*39
21	*28	*(19)*	31	*12	*34
23	*21	*(19)*	32	*11	*25
1	*19	*(13)*	22	*11	*22
3	*18	*(12)*	19	*11	*19
5	*17	*(11)*	*(18)*	*10	*18

NA-073 V31KR	Ambergris Caye	26-29 Aug
NA-091 VE7FGY	Paisley Island	05 Aug
NA-110 WB4WTY	James Island	26 Aug
NA-111 N2OB	Barnegat Island	08-09 Aug
NA-112 AE4MK	N. Carolina West	27-30 Aug
NA-134 OX3LG	West Coast Group	08 Aug
NA-150 KL7/W6IXP	Little Diomede Is.	01-05 Aug
NA-151 OX3LG	East Coast Group	02-05 Aug
NA-173 VE8C	Charlton Island	19-22 Aug
NA-180 V31CX	Caribbean Sea Cst	22-27 Aug
NA-207 NU2L/VE8	Akimiski Island	18-19 Aug
OC-011 V63KU	Truk Islands	01-29 Aug
OC-027 FO5QB	Marquesas Islands	09 Aug
OC-050 FO5JR	Rimatara Island	01-10 Aug
OC-059 V63AO	Kosrae Island	04-05 Aug
OC-067 FO5NL	Raiatea Island	08-30 Aug
OC-070 YC8VIP	Ambon Island	01-29 Aug
OC-075 YC5TML	Batam Island	01-28 Aug
OC-082 ZK1SCQ	Penrhyn Island	17-21 Aug
OC-121 3D2WD	Malolo Island	28-30 Aug
OC-129 DU6RCR	Negros Island	10 Aug
OC-130 DU8DJ	Mindanao Island	01-09 Aug
OC-133 9M6HX	Sigadan Island	20-25 Aug
OC-137 VK4GP	Bribie Island	02-10 Aug
OC-141 VK8KTC	Groote Eylandt	29 Aug
OC-142 VK4NDW	Fraser Island	23 Aug
OC-143 YB5QZ	Sumatra Island	09 Aug
OC-148 YC9MKF	Timor Island	23-30 Aug
OC-149 H44NC	New Georgia Is.	08-29 Aug
OC-159 ZK1SCQ	Mangaia Island	25-26 Aug
OC-169 A35RK	Ha'apai Island	03 Aug
OC-196 VK3AJJ/P	Gabo Island	29-30 Aug
OC-201 ZL1MFW	Great Barrier Reef	01 Aug
OC-210 YC8TXW	Sangihe Island	05-19 Aug
SA-008 LU8XPD	Terra del Fuego	23 Aug
SA-009 9Y4NW	Tobago Island	30 Aug
SA-012 YV7A	Margarita Island	24-30 Aug
SA-018 CE7OXZ	Llanquihue/Chiloe Prv.	03 Aug
SA-027 PP5OW	Santa Catarina Is.	29-30 Aug

The Little Diomede Island (NA-150) DXpedition by Barry Bettman, K6ST, and Tom Attwood, W6IXP, was not disappointing to most North Americans. Their location on the island was such to have a very high mountain immediately between them and North America. An attempt made to climb to the top of the mountain was easier said than done. The duo collected some 1,337 contacts signing with the call KL7/W6IXP with most of them from Europe. In addition they were plagued with the auroral problems, typical with that part of the world. If any of you think they should have just moved to the other side of the island, then you don't know Alaska. Alaskan islands literally leap out of the sea, many without a beach.

DX Reflector

After many years of faithful service to the DX community, Lyndon Nerenberg, VE7TCP, has transferred his DX Reflector over to the North Jersey DX Association. This reflector has been a good source of DX news and has helped many a DXer work a new one. And it had been a help to me in preparing this column. Those subscribers to Lyndon's reflector have automatically been transferred to the new reflector.

I'm sure many of you have heard of this DX group, especially those of you in 2-land, as they maintain the W2 Incoming QSL Bureau.

Steve Adell, KF2TI, asked me to mention this reflector in my column, especially to those DXers who are unaware of such a DX news source.

The DX Reflector, or DX-News, is a mailing list devoted to the discussion of DX, making contact with other Amateur Radio operators in distant lands. Such subjects include DXpeditions, Contest DXpedition Planning, DXCC/DXCC-2000, WAZ, WPX, Equipment, and anything else related to DX. All you need is to be online with an e-mail address.

To subscribe to this mailing list send a message to listserv@jerseycape.net, and in the body of the mes-

sage put: subscribe dx-news. It is simple as that. To post a message to this list just send it to: dx-news@jerseycape.net. Please limit your posts to DX-related items. You will note that many DXers will get upset with some posts and respond rather bluntly. But we DXers are human and sometimes overreact. But, despite these flames that appear, and I am no exception, the reflector is highly recommended if you wish to keep in touch with the DX community.

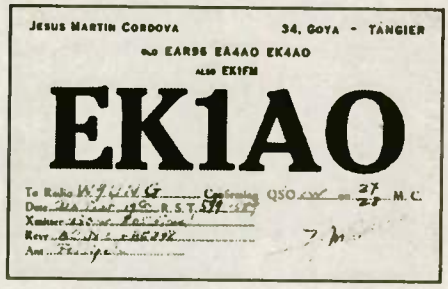
Antique QSL department

For this month's selection of old cards there will be four different cards, one of them dating back over 60 years!

The first two are from the collection of Charles Kerney, W6ONX, of Capitola, California, first licensed in Fresno in January 1937 and has held the same call ever since. All contacts were made with a homebrew transmitter consisting of a 6V6 oscillator, 53 buffer, and an 801 final tube amplifier. The power amounted to 75 watts running to a Windom antenna, 67.5 feet long where the lead-in was tapped at 22 feet off center. For receiving he used an SW5, although his first ever receiver was an SW3. Ah, those were the days of simplicity. You younger fellows really don't appreciate the old days of crystal control and a couple of tubes. That's where the old saying "standing by and carefully tuning" comes from. But we are getting away from antique QSL cards.

The call J2KO was assigned to a R. Sakai of Shizuoka, whom Charles worked on 09 September 1938. He only received an RST 349X, the "X" signifying that his signal was solid (crystal controlled). This was for a 40-meter contact and J2KO was running only 6 watts.

The second card from W6ONX is for a contact he made on 23 November 1939 with KF6ROV on Canton Island. The operator, M.F. Paquette, signed the card "Frenchy." Canton Island is no longer a U.S. possession and is now part of Kirabati.



The second two cards come from Lew Wilhelm, W7TB, who has used several different calls during his Amateur Radio career dating back to about 1935. The first card is for a contact with ZU5AQ that Lew made operating from his dorm room at Arizona State University at Tempe in 1937. The operator for the South African station was Milton Rosveare of Umbilo, Durban.

The fourth card in this selection is for a contact with EK1AO of Tangier in 1950. The call Lew used at the time was W9UNG, while residing in Illinois. The contacts were made during the annual ARRL DX contest. Notice that the receiver indicated was a BC-342 and a BC-348. Most likely he was using separate receivers for the two bands indicated, 27 and 28 MHz. Yes, the CB band once belonged to us!

QSL information

Jerry Warner, W7RH, says that several sources show SP5EXA as QSL manager for Chris, A45XR. This is Chris' home call, and although valid, will take a long time for a turnaround as he visits Poland only once a year. Jerry suggests to send your QSL directly to his address in Oman, shown in the QSL Routes.

Dennis Motschenbacher, K7BV, has assumed the responsibility for handling QSL requests for the 1997 CY9AA DXpedition to St Paul Island. If you have previously sent requests to either Dennis or Mike Smith (VE9AA), please do not send duplicate requests. It will take some time to clear the backlog of cards received.

Thanks go to the following contributors for this month's column: PS7AB, KF2TI, W3HC, K3ZO, K4QD, W6ONX, W7RH, W7TB, W8ZNH, Northern Arizona DX Association (W7YS), American Radio Relay League (NC1L), WebCluster (OH2AQ), *425 DX News* (I1JQJ,), *DX News Letter* (DJ5AV), *The OPDX Bulletin* (KB8NW), *The Low Band Monitor* (KØCS), *Island/DX News* (N5VL), *The Daily DX* (W3UR), *QRZ DX* (N4AA), and *DX News Sheet* (G4BUE).

I had the pleasure of again attending the New Orleans International Convention this August. This year the attendance was down to around 140 or so due to a conflict with the convention in Huntsville. The convention was still enjoyable. Why not plan on attending next year? The time in August does vary sometimes, but this is due to the availability of the hotel and to have the convention at another facility is out of the question at present. I will have my convention coverage on this event, hopefully in the next issue.

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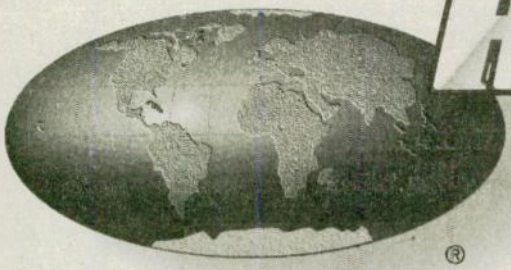

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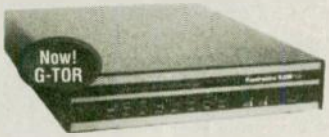

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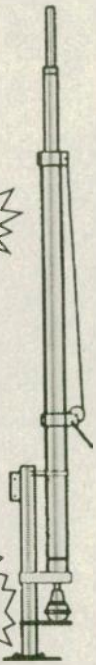
(AR-446 also shown)

US TOWER



Shown with Optional Rotor Base

MA-40

40' Tubular Tower

REG. $809

SALE $679.95

MA-550

55' Tubular Tower
Handles 10 sq.ft. at 50mph
Pleases neighbors with tubular streamlined look

Reg.$1369

SALE $1069.95

TX-455

55' Freestanding Crank-Up
Handles 18 sq. ft. @ 50 mph
No guying required
Extra-strength const.
Can add raising and motor drive acces.

Towers Rated to EIA Specifications
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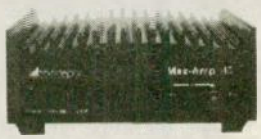
concepts



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3W6TV	JA2BWH
3W6WE	K2WE
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3Z0BEZ	SP8ZKX
3Z0PWS	SP8BJH
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4M1X	YV5EED
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4S7YSG	JA2BDR
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5V7MF	KC7V
5V7RF	GM3YTS
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5V7VM	G3VMW
5V7VT	K5VT
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5W0LZ	HB9DLZ
5W1SA	JH7OHF
5X1Z	SM6CAS
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6K50ZW	HL5FPL
6M0HZ	DS2AGH
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6Y5/PA3ERC	PA3ERC
6Y5/PA3EWP	PA3ERC
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7Q7CE	IN3VZE
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9G1BJ	G4XTA
9G1OO	PA3ERA
9G5CH	G4FAM
9G5JL	K7GE
9G5MF	KC7V
9G5RF	GM3YTS
9G5SW	G3VMW
9G5SX	G3SXW
9G5VJ	G4ZVJ
9G5VT	K5VT
9G5ZM	G3ZEM
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9H3II	DL4VCR
9H4TI	DL2AAZ
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9M2PS	HB9AAP
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9M8FH	N5FTR
9M8YL	N5FTR
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9Q5YT	K4YT
9R1A	PA3DMH
9V1BG	JL1MWI
9V8BG	JL1MWI
9V8OK	9V1OK
9V8RH	9V1RH
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A41KJ	N5FTR
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A61AN	WA2JUN
A61AQ	N1DG
A61AS	YO3FRI
A61AS	YO3FRI
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AP50WAP	IK4ZGY
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AX2PS	VK2PS
BA1DU	W3HC
BD4RE	BY4RSA
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BI4C	W3HC
BI5P	W3HC
BI5Z	W3HC
BI7W	BD7JA
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C21JH	VK2GJH
C46A	9A2AJ
C56/DL6AMI	DL6AMI
C6AJZ	WI9WI
C91A	I4LCK
C91J	N5FTR
C9RJJ	N5FTR
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CO0XE	XE1CI
CO8TW	W3HNK
CQ98BM	CT3BM
CT3/CT1AHU	
CT1AHU	
CT9AOZ	CT1AOZ
CU9A	CU5AC
CX3CCC	CX2ABC
CX9AU	KA5TUF
CY9/WV2B	WV2B
CY9AOE	VE1AOE
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D2BB	W3HNK
DL1GKG/HI3	DL3GA
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DX1DX	DU1SAN
DX1HB	JA1KJK
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EA8BH	OH2BH
ED1NFA	EA1ATT
ED1SDC	EA1AUM
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EK6GC	W3HNK
EK88L	IK2DUW
EL2AB	IK0PHY
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FO0YAM	JK1FNN
FO5QG	XE1L
FP/N9PD	N9PD
FR/JH1BMT	JH1BMT
FS5PL	N0JT
FT5XN	F6PEN
G3XFA/P	G0UIH
GB2LAY	GM0JHF
GB5FI	GW0ANA
GI6YM	K1WY
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H2T	5B4XF
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HI3HN	DH2JD
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HL5/JI6KVR	JJ6LXX
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HS0/JA6GIJ	JA6GIJ
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SM3CVM	
HS0ZAA	KM1R
HS1RU	JG3AVS
HS6MYW/1	HS1CHB
HS98AG	HS1CKC
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HZ1AB	K8PYD
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IC8/IK8GCP	IK8GCP
IC8/IK8TWX	IK8TWX
ID9/I2IAU	I2IAU
ID9/I5RFD	I5RFD
ID9/IT9AXZ	IT9AXZ
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IG9/I2VXJ	IV3TAN
IG9/IK2QEI	IV3TAN
IG9/IT9EQO	IV3TAN
IG9/IT9GSF	IV3TAN
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IQ9L	I2EOW
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IS/I0ER	I0ER
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IU3VMD	IK3AWP
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JD1/7J2ADX	K1NO
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JD1/K5FUV	K1NO
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JW2PA	LA2PA
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JX7DFA	LA7DFA
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KG4DD	N5FTR
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KH0AA	JA5DQH
KH0U	JA1QNV
KH2/NH6D	N6FF
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L20XSI	LU6EF
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L8D/X	LU6EF
LM2T	LA2T
LU1ZC	LU6EF
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LU3ZI	LU6EF
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LU6UO/Z	LU6EF
LU6Z	LU6EF
LU7X	LU6EF
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MD/DL8WAA	DL8WAA
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MU0ASP	F5OIU
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OD5SK	KB5RA
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TF8GX	K1WY
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TJ1PD	N5DRV
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UN7JX	IK2QPR
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V31ML	N5FTR
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VE8TA	VE2BQB
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VI88NSW	VK2PS
VK2RSY	VK2PS
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VP9/W4QA	W4QA
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VP9ID	K1EFI
VP9KG	K1EFI
VP9KK	K1EFI
VP9KR	K1EFI
VP9LR	K1EFI
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VQ9QM	W4QM
VQ9VK	N1TO
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VR2MM	JR3JFZ
VR98LC	VR2LC
VU2ABE	JA4DOB
VU2JPT	VU2FWW
VU3AGX	F6EGX
W1A	WO1N
W4Z	AC2P
W5R	KC5BFM
W8G	W8VP
WP3A	W4DN
XM3PBX	VE3INB
XM7P	VE7ARS
XR40TC	CE6TC
YB1XUR	W6MD
YB23AR	YB5NOF
YB3SPS/P	YB5NOF
YB5NC/6	YB5NOF
YB5QZ	W3HNK
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YC0LOW	N2AU
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YS1DRF	9J2DR
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ZL7DK	DK7YY
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ZP6CW	ZP6CU
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ZS6/PA3DZN	PA3DMH
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ZV2WZV	PY2RKM
ZW2F	PY2ORF
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A quick look at the 1998 CS-VHF-CON meeting

About 180 VHFers attended last July's Central States VHF Conference in Kansas City, Missouri. While I could not make it there in person, it was not long before I had read almost every nuance of what transpired. This from posting after posting on the W6YX VHF Reflector. One of the most informative tidbits came from Paul Husby, WØUC.

Paul summed it up well when he said there were really two items that affect anyone who operates a weak signal mode. The first was a resolution that was passed in support of a widened 6 Meter DX window from 50.100-50.150, with the domestic calling frequency moving to 50.200.

Needless to say this suggestion has evoked quite a discussion on the reflector, on other Internet discussion groups and on the air. A number of postings credit the idea to a suggestion from Chip Angle, N6CA, that was integrated into the CSVHFS proposal. It seems that N6CA, who is one of the world's most respected VHF/UHF operators, didn't think a 100 kHz wide 6 Meter DX window was necessary, but also believed that the current 25 KHZ window will be too small when the F2 starts coming in. Because of this, Angle and others felt that the domestic calling frequency should be moved away from the edge of the DX window. This would permit domestic stations to tune in both directions from the calling frequency during a run-of-the-mill E opening, giving flea-power stations a better chance at contacts. Of more significance, it would protect the DX stations and DXers from being interfered with by high power stations who are primarily interested in chasing domestic grid squares. Many of them tend to stay on the calling frequency for all of their operations.

The question then becomes, will this suggestion fly? I think band conditions will have a lot more to do with it than all the rhetoric posted to the remailer. As the band heats up with more and more E skip followed by F2 openings, this will, in turn, bring more people to this "magic band." Once the crowds build and those on 50.125 start stepping on each others' toes, those with lower power or less efficient antennas will congregate elsewhere. 50.200 is as good of a choice as any other.

I was on 6 when the calling frequency changed from 50.110 to 50.125 came about. There was not as much one-on-one wrangling because the Internet did not exist. But even then there were the "pro and con" people. So, a lot of us simply moved up to 50.125 and the rest followed. I think it will happen here, too.

The CSVHFS Board will be petitioning the FCC to set aside the bottom 300 kHz of every VHF/UHF band (actually the .100-.300 segment where .000-.100 is CW only). This will be protected spectrum for signals with bandwidths not to exceed that of an SSB voice signal (like the 10M freqs below 29 MHz), as a non-FM/non-packet "preserve." For instance on two meters this would be 144.1-144.3 since 144.0-144.1 is a CW only subband. The petition will be worded in terms of narrow bandwidth, rather than specifying actual modes (SSB/CW/etc.).

This is really the latest incarnation of an idea floated as early as 1997 by many non-FM operators and covered in past editions of this column. It stems from weak signal and other narrow bandwidth operators having become tired of having their contacts wiped out by wideband signals — primarily coming from FMers.

It is no secret that hard feelings have existed between the weak signal and FM communities for many years. This has led to an ever-escalating number of on-the-air intermode confrontations. A few months ago there was some hope one or more of the nation's repeater coordinators might take a point position in trying to educate the FM community of the need to live together in harmony.

Unfortunately, this has not happened on any large-scale basis. Having run out of options, the weak signal people have decided to seek the kind of protection they believe can only come if their spectrum is made off-limits to "wideband-operators" and protected under federal law.

The question is; will an FCC that is bent on restructuring, simplifying and deregulating the U.S. Amateur Radio service be willing to make one aspect more restrictive?

My guess is probably not. Knowing the current makeup of the FCC

the chances of this concept being codified is exceedingly slim. It's pretty well known that all of the Hams who once helped guide Ham radio rule making through the FCC's bureaucracy are gone. They have been replaced in may cases by "bean counters" with a hostile eye toward Hams whom they see occupying valuable spectrum that could bring billions of dollars to the federal treasury if sold to commercial interests. While anything is possible, the probability of more restrictions in such an unfriendly federal deregulatory atmosphere is practically nil.

Next year's conference is set to go back to Cedar Rapids, Iowa. The host will be Rob Blocksome, KØDAS. In 2000, the conference will be hosted by Barry Malowanchuk, VE4MA, in Winnipeg Canada. More information on this and future WSWSS conferences can be found on the Central States VHF Society at: http://www.csvhfs.org/

(Special thanks to all of those on the VHF Reflector who provided information so that I could write this brief report.)

Fill-in repeaters in the UK

The Radiocommunications Agency has agreed to permit Hams to establish repeaters specifically designed to "fill-in" in the gaps between areas presently served by wide coverage repeaters that do not overlap.

The RA says these new systems can be on either the 144 or 430MHz bands. They will be low power units with carefully tailored service areas. The first of these new fill-in repeaters recently became operational with the call sign GB3KY. It's a 2M system located at Kings Lynn, running 10 watts and a highly-directional antenna on 145.750 MHz.

Beacon news

A quick note from Brandon Anderson, N8PUM. He says he is putting a new beacon on the air on 222.055 +/– 1kHz. Brandon will be using the new — PAR 222 MHz halo antenna. The beacon will be located in grid square EN65bx and run 1-2 watts power.

And Ed Parsons, K1ETR, reports that his 903.065 MHz beacon, located in FN42FM, was down or operating in an impaired state for the last couple of months. It has been repaired and reinstalled. Ed says that he would appreciate any signal reports. Send them by e-mail to esparsons@lucent.com.

From the E-mail bag

The following was sent to me by Robert Jordan, N5RKN.

"I thought I might fill you in on an ongoing story happening here in the Lone Star state.

The Southwest Lynx System is a statewide repeater system that was created over 10 years ago. Originally it was part of a regional West Texas repeater system called 'The West Texas Connection' which covered from El Paso to Midland/Odessa, and to Abilene. In the late 80s we were given permission to utilize some dedicated phone lines to link into San Antonio, Lubbock, Amarillo, and Austin. Eventually Harlingen & Corpus Christi were linked up to form one of the largest coverage area 'open' repeater systems in the U.S. At each site, the audio came from phone lines to radios that were either linked to further sites near each city or were just stand alone sites for that city.

"This has also allowed for packet to expand without need of multiple nodes throughout the state. Therefore, TEXNET was expanded and now covers more than just the eastern & central parts of the state. With wire line links, it allowed TEXNET to link Amarillo, Lubbock, Abilene, and the Midland & Odessa areas of the state.

"This formed one of the largest coverage area 'open' repeater systems in the U.S. At each site, the audio came from phone lines to radios that were either linked to further sites near each city or were just stand alone sites for that city.

"What we lack in Texas are large mountain tops to provide repeaters that can give hundreds of miles of coverage. So, unless a group can help provide linked repeaters or nodes and insure upkeep and expenses of such equipment...we are at a loss.

"Just look at a map of Texas to get an idea of what's involved in distances between metropolitan areas and you will have a good idea of the problems we have faced.

"The regional communications company that provided this service for us was sold several times over the years. Each time we managed to continue with permission of the newer owners. However, the time has come that the Lynx is facing its greatest challenge. To precede this a little, here is the text of a recent message that came from Harry Ridenour, NØCCW, who has been involved since the beginning.

"'It is with great regret and sadness that the following report is filed:

"'Informal notification has been received from *WorldCom* that the donated wire line facilities linking San Antonio / Dallas / Abilene / Midland /Lubbock /Austin and Amarillo will be lost in the very near future—probably within two to three weeks. This will affect BOTH the TEXNET packet network and the SouthWestLynx voice network.

"'This loss is not due to *WorldCom* declining to continue the service but the fact *WorldCom* is closing ALL of their POPs and getting out of the 'end user' business. *WorldCom* will no longer have, maintain nor support Multiplex systems, channel banks nor bridges. They are turning all end user subscriber business over to the local telephone companies (i.e. *SW Bell*) and devoting their business to large volume fiber systems. Their interconnects will all be at the T-1 or greater level.

"'*WorldCom* has exhausted every means trying to find a way to continue providing us with the service. The where-with-all simply will no longer exist.

"'They continue to be willing to provide the long-haul circuits but will have no way to extend them to us. Channel banks and associated cable pairs will be the property of the phone company (i.e. *Southwestern Bell/G.T.E.* etc). These entities do not have a history of providing donated facilities to the amateur community.

"'There are ongoing low-level con-

tacts continuing in the hope that some arrangement might be made with these companies but the outlook is dim at this point. At present the best hope may be paying for two circuits (one packet/one voice) between San Antonio and Midland but it is too early to tell if this is either possible or financially feasible.

"'It is very important that it be clearly understood by all just how hard the management/engineering personnel of *WorldCom* have worked to find a solution. We shall be ever grateful to them for these efforts and for the tremendous service they have provided over the years.

"'It should also be noted these losses will not affect the 'mainline' TEXNET backbone from Sherman through Dallas, Austin, San Antonio to the Rio Grande Valley. It remains intact however the alternate routing capabilties we have enjoyed will be gone.

"'Just how BBS and DX Cluster routing will be solved remain somewhat nebulous at present. It is hoped that some sort of meeting might be arranged during the Midland Swapfest in two weeks to discuss these subjects.

"'Reestablishing links between some/all of these locations via RF is not impossible. Its a matter of whether the desire is there. The biggest hurdle would be sites/antennas/feedlines. Virtually everything else is 'laying around'.

"'We all have the opportunity to look at this as either a challenge or a kick in the mouth. I prefer to see the opportunities.

"'73 Harry NØCCW
Texnet Network Manager'

"This has been a great 11 years of wonderful coverage. I have run a weekly net for nearly eight years on the Lynx. For the last 6-7 years I have included rebroadcasts of *Newsline*. The number one thing that Hams across the state have said that they will miss the most is: *Newsline*.

"Many of them can still catch it on local repeaters being rebroadcast in their areas and many are online and check into RealAudio rebroadcasts of it. But, I record every Saturday evening and then replay at the top of the Sunday noon net we have on the Lynx. Because of this, quite often they hear it first on the SouthWest Lynx System.

"We are still actively pursuing other possibilities for keeping the system going. However, it may never have the tremendous coverage that it has had over the years. There were a few times years ago that we tied into the Evergreen network in the northwest by phone. And many times, a 10 Meter to 2 Meter link was tied in for a short while. Now... that's a kick especially to a new or prospective Ham to see another Ham with his handie — talking to a Ham in Japan, or to a Ham in British Columbia.

"I think the Lynx system has done more for promoting Amateur Radio and exciting prospective Hams in Texas than most other means have done. It will be truly missed."

Happy Holidays, or if it's Christmas this must be December?

Sweeps band change rule won't be enforced

The ARRL Contest Department will not enforce a new general band-change rule for the 1998 ARRL November Sweepstakes because of what it called "widespread confusion" within the contesting community. The General Rules for All ARRL Contests, published in the December 1997 *QST*, limit multioperator Sweepstakes entrants to no more than six band changes per hour, a change from previous years. As defined by Sweepstakes rules, even some solo operators must enter in the multiop category. "If you use packet, you go immediately to multiop class," said ARRL Membership Services Manager Bill Kennamer, K5FUV. The Sweepstakes rules only allow one transmitted signal at any given time.

While the General Rules were included by reference in the 1998 ARRL November Sweepstakes Rules in the October 1998 *QST*, the announcement did not emphasize the change. As a result, Kennamer says the League will not enforce the six-band-changes-per-hour rule this year.

"Because of the change in the way the rules are published, and because we feel that all participants may not have been fully informed about the differences between the multioperator category of the past and the current rule, for this year only, the band change limitation will not be enforced," Kennamer said. But, he added, "unless something changes, we'll enforce it next year."

Single ops who do not use packet spotting networks in their quest for a clean sweep will not be affected by the rules change, Kennamer said.

For further information Contact Bill Kennamer, K5FUV, e-mail bkennamer@arrl.org. — *ARRL Letter*

Search And Rescue Communications

Jerry Wellman, W7SAR
P.O. Box 11445
Salt Lake City, UT 84147
jw@desnews.com

I was listening to the hurricane net on 20 Meters last month and was sad to hear some intellectually impaired subhuman maliciously interfere with the net. The net was processing weather reports from various coastal stations and relaying barometric pressures, etc. And then you hear the purposeful interference and insulting comments. I refuse to call this individual either an Amateur Radio operator or even a "radio operator." I hate to even refer to "him" as a member of the human species (the voice was masculine in nature, but idiotic in content).

The frequency wasn't congested and there wasn't a contest in progress. This was during the middle of the afternoon during the week. Two things came to mind. This subhuman was someone who obviously has no job, no friends, no concept of public service, no hobbies, and few enjoyments in life.

Locally we have another subhuman life form that loves to bring up local repeaters, call 9-1-1, and hangup. Or bring up remote bases and send all sorts of irritating tones and noises. Others like to purposefully jam local nets or interfere with certain people giving information broadcasts during local nets.

Here's what puzzles me. We have a local repeater. It is owned and supported by one individual. The repeater is available and used for many public service events. It's linked to other repeaters also owned and operated by the same individual. It's an open repeater (i.e. no dues, no club affiliation, no support fees.) There is also a repeater owned and operated by a local group. It's also an open repeater (no one calls you and tells you to join the club.) There are very few nets or scheduled activities on these repeaters, yet both are targeted by the subhumans during events and nets.

What would cause a subhuman to desire attention so much and apparently create some sort of joy in purposefully interfering with HF or FM activities? My oldest son was diagnosed with a bi-polar affective disorder (the two sides of the brain don't work together well) and he is also afflicted with a severe Attention Deficit Disorder. So I've got some experience over many years, first hand, with someone who can be disruptive and acts out seeking attention.

Let me tell you folks, this type of on-the-air behavior is not ADD-oriented. Interfering with public events, I believe, is symptomatic of some severe mental impairments. It goes beyond even abnormal behavior. It's beyond comprehension as to why someone would want to give Amateur Radio a bad reputation to the 9-1-1 operator or to the many agencies that monitor Amateur Radio for needed information during times of emergency or public service events.

I can understand finding a particular operator "annoying" or "obnoxious." I can understand an individual "closing" a system and asking for users to help support a system. I can understand a club allocating dues to help support a system. Repeaters often cost thousands of dollars. And when lightning hits one, you start over — and it gets expensive. You then have power costs, control link costs, telephone costs, maintenance costs, etc. It's only reasonable to help support an expensive undertaking and I have no right to assume I can simply use the repeater just because it is there. It's also unreasonable to assume it is OK for everyone else to help support it so I can get a free ride.

What I cannot understand is a subhuman's need to seek out a net where large portions of the band are available to use, or a repeater when a dozen or so others are available, and then willfully choose to interfere with a net that is serving a useful purpose. What is the driving force? If the net (or operator) is so irritating, why not activate the "on/off" function and go do something else? I know, this presupposes the subhuman knows how to activate that function and actually has something else to do.

Anyway, I've vented my frustrations and am much calmer now. If any of you can offer insights I'd welcome your input. If any of you are of this subhuman category and would like to send anonymous replies, I'd sure like to know what motivates you. (I know, must of these subhuman types don't read, but I thought I'd try.) I'm thinking this behavior is becoming worse and it concerns me. I can recall once in a while where one person and another had a disagreement, chose to interfere with each other, but usually they settled their differences, shook hands, and got on with life. Once in a while they chose to just stay upset at each other, but didn't spend a lot of time affecting others. Now I'm seeing almost weekly examples. Can any of you help shed light? I'm mostly looking to understand the behavior. Surely there must be some among the intelligent that understand how the mind works and could help. If you've got insights I'll be more than happy to include your ideas in future columns.

Wasatch Front 100

Locally the Amateur Radio community supports an event known as "ultra running." This is where someone chooses (of their own free will, oddly enough) to run 100 miles, up and down mountains, for up to 36 hours. While I don't understand this behavior either, it does seem fun and the runners have a good time competing.

In Utah, the "Wasatch Front 100" course covers several counties, starts on a Saturday at 5 a.m. and ends the next Sunday at 5 p.m. The course director told me the elevation change (up and down) over the 100-mile course exceeds 50,000 feet. If you were to look at a topographical map of the course, you would see the course go from 5,000 feet to 10,000

feet as the route covers the tops of many of our beautiful mountains.

The challenge is linking this mountainous course and keeping track of 200 runners. In the many years Amateur Radio has supported this event, a number of repeaters (and linked systems) have been used and many creative linking solutions have been found. There are a dozen or so major checkpoints and other minor checkpoints. At each, runners are checked in and out, possibly weighed (they can only lose so much weight during the run), and perhaps fed.

It's challenging for the runners and also for the communications support. Here's how the communications support works. The net control is located near the finish line and housed in communications trailers supplied by the Davis County Amateur Radio Club and by the State of Utah Comprehensive Emergency Management. At net control there are 11 operators who rotate through the 36-hour (plus) schedule.

Both packet and voice are used and the NCS compound consists of six networked computers. Runner times, inquiries, weather reports, trouble calls, and informational traffic comes from each of the checkpoints via voice or packet. Over 100 communications volunteers are pressed into service. Checkpoints open and close on a historical schedule based on when runners "should" be through the particular checkpoint. Some checkpoints can be driven to in cars, others require four-wheel drive, and several require hiking.

Two of the "hike-to" points see runners during the midnight hours which presents additional challenges. The weather is also a factor and this year was no exception — it rained, it hailed, it snowed, a tornado threatened one checkpoint, and then it was warm and sunny. Runners were impacted by the terrain and by the weather, experiencing myriad of minor injuries and even significant threats such as hypothermia. One runner collapsed a mile from the finish line and was followed to completion by an ambulance. (Late word is the runner is OK.)

I am part of the "Upper Big Water" checkpoint about midway through the course. Runners typically begin arriving about 5 p.m. and continue until 4 a.m. At this point runners often change to warmer clothing, grab a bite to eat (usually noodles or fruit) and head further up the mountain. We are located at the top of a narrow canyon and must use a variety of antennas (including an 11-element beam) to communicate.

Cell phones are non-functional at most points along the course and almost all have no commercial power. We usually take along two generators to power the communications trailer and provide light throughout the night.

We arrived at our assigned location about 2 p.m. Saturday. The sky was dark and thunderstorm warnings were posted. We parked the comm trailer, put up the beam and vertical FM antennas. We set up the generator and ran about 200 feet of heavy cord so the noise from the generator is muffled by distance.

About the time all was plugged in and working, we were hit hard by rain, sleet, and hail. The wind was not strong but we kept a wary eye on the antennas mounted on portable masts, up about 20 feet. On the radio, we heard another checkpoint report that they had been hit hard by weather. Later we learned there had also been a tornado in their vicinity which explained the ferocious weather they experienced.

Meanwhile our power quit. As we inspected the generator (in the rain, of course) we learned the tank had developed a leak. Later another leak would develop as well. Usually I take a second (back-up) generator, but not this time. We found some metal screws and plugged the holes which held throughout the night.

About 11 p.m. our usually-dependable primary voice radio died and field repairs were not possible. Another operator quickly moved his mobile radio from his car to the trailer and we were back on the air. This pointed up the value of having standard power and antenna connectors! The crew was able to pack up and get home by 6 a.m., some 17 hours from leaving home to returning home. While it makes for a long day, it offers a great way to provide service and test your gear. (I've got repair parts coming for the radio and a new gas tank on order for the generator.)

Packet radio

I do want to tell you about what a significant part packet radio played in this event. Kirk Boman (KDØJ) decided several years ago that packet could make runner tracking and runner status inquiry a much more efficient process. And he was correct!

Kirk placed several temporary (and portable) nodes on a couple of mountain peaks and also worked on a software package called ARESDATA and modified it to work with this particular race. Kirk's efforts allowed a significant amount of data to be sent via packet to the point the voice network was often idle which was good for priority and emergency calls.

At a checkpoint, most of the traffic concerns runner times and inquiries from support crew for a particular runner. In prior years, the radio channel would be at or near capacity about 12 hours into the race and through the race completion. This year our checkpoint was able to enter about 99 percent of runner data via packet and query the database to determine where runners were in response to crew questions. Had we not been able to get a voice channel re-established, we could have completed our assignment completely on packet. Other checkpoints were also able to transfer most, if not all, data via packet.

There are several benefits. First is accuracy and speed. The times entered, if done carefully, were not subject to operator tiredness, radio interference, and frequency congestion. The system was up for the entire race and faster than voice. The second benefit is to free up the voice channels for those checkpoints (such as the hike-in ones) that needed voice. The terrain was challenging enough that voice was the only mode for several spots and their requests and times were handled quicker than if they'd had to compete for air time.

It takes practice

All of this points out to my major push — you can do training, but actual experience is what counts. Training points you in the correct direction and is valuable. Taking that training and doing the assignment is where it all pays off and you discover how effective your training is. Last year Kirk put up the nodes and we used packet, but discovered some problems in the setup. During the year he addressed those issues and made the process better — to the point that it will probably become part and parcel of local support for this event.

Some of the problems this year were simply operator challenges. Packet is difficult for some to set up and use. Listening remains a skill we must all strive to improve upon. The challenge is for us now to address training needs to the discovered weaknesses and better prepare operators to use the system. Each year the event goes better, which means learning is taking place and experience is being gained. It's exciting to hear new call signs, indicating others are learning the enjoyment of service to others.

Until next month, best wishes from Salt Lake City!

Inside Amateur Radio

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

Only a pillow

LENORE JENSEN, W6NAZ

His daughter-in-law had no idea what her handmade Christmas gift would mean to Bob Burns, N6ZH, of Sherman Oaks, California. (He's the son of the famous comedian and bazooka player.)

It was a small pillow, made of black and white satin, in exact replica of his favorite hand-held transceiver, complete with his call letters.

"It was very clever, so I showed it to all my friends, including Bob Jensen, W6VGQ, who took a picture of it. He then sent it to the publication ***Worldradio***, where it was printed.

"Well, imagine my surprise a couple of months later when a letter came, forwarded from the magazine. It said, 'Dear Bob, could you possibly be my long-lost cousin for whom I've searched many years?

"'I, 'too, am a Ham but not on the air as I live on an Island in the San Juans of Washington and we have no power nor telephones. I hope to hear from you if you receive this letter.'

"Of course I immediately wrote back and so did he. In fact, he invited me and my wife, Naomi, to come visit. It sounded so interesting, we did.

"Getting to the island wasn't easy, but we arrived by a small boat to find a tiny community of people who shunned most city ways and conveniences. It was beautiful.

"After catching up on each other's lives, I brought out a small transmitter I had carried, plus a battery arrangement. We strung 'invisible wire' between trees for an antenna, so not to offend the conservationists.

"When I was back home, we started keeping regular schedules on the air and it was very good to have found my cousin, my friend.

"All because of that pillow!"

Visit Your Local RADIO CLUB

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

ARIZONA

Cochise Amateur Radio Assn., (CARA). Meets 1st Mon./monthly, 7:30 p.m. at club facility on Moson Rd., Sierra Vista, AZ. K7RDG/R 146.76(-) rptr. PL162.2. 5/99

Old Pueblo Radio Club, (OPRC). P.O. Box 42601, Tucson, AZ 85733. Meets 2nd Wed./monthly, 7:15 p.m., Tucson Med. Cntr., Grant & Beverly St. in the AZ Rm. of the Volunteer's Bldg. (1st bldg. on the left going north off Grant). 2/99

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

CALIFORNIA

Amador County Amateur Radio Club. P.O. Box 1094, Pine Grove, CA 95665. Meets 1st Thurs./monthly, 7:30 p.m., Jackson Sr. Cntr., 229 New York Ranch Rd., Jackson, CA. Info: call 146.835(-). 3/99

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

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

Coachella Valley ARC. Box 11092, Palm Desert, CA 92255-1092. Meets 2nd Wed./monthly, 6:30 p.m., Portola Com. Cntr., 45480 Portola, Palm Desert. Info: Bill Dews, (760) 346-8611. Net Thurs. 7 p.m. 146.025(+) PL 107.2. 5/99

Contra Costa Communications Club, Inc., WD6EZC/R. P.O. Box 20661, El Sobrante, CA 94820-0661. Meets 2nd Sun./monthly (except May & Dec.), 0630, Baker's Square Restaurant in Richmond, CA. Info: Ed Caine, KA6OFR, (707) 996-0962. 1/99

Downey Amateur Radio Club Inc., W6TOI. Meets 1st Thurs./monthly, 7:30 p.m., So. Middle School cafetorium, 12500 S. Birchdale, Downey, CA. VHF net W6GNS rptr. 146.175(+) Thurs., 7:30 p.m. 5/99

East Bay Amateur Radio Club, Inc. Meets 2nd Fri./monthly, 7:30 p.m., Albany Sr. Cntr., 846 Masonic Ave., Albany, CA. Info: S. Primbsch, (510) 741-8227. 145.11(-) MHz. 11/98

Fresno Amateur Radio Club. Meets 2nd Fri./monthly, 7:30 p.m., Ernie Pyle School, 4140 N. Augusta, Fresno, CA. 146.94(-) 223.94(-). 11/98

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. 10/98

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

Livermore Amateur Radio Klub, (LARK). Meets 3rd Sat./monthly, 9:30 a.m., City Council Chamber, 3575 Pacific Ave., Livermore, CA. Net Mon. 1900 on 147.12(+). For info: LARK Secretary, P.O. Box 3190, Livermore, CA 94551-3190. (510) 846-6513. 1/99

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

Motorcycling Amateur Radio Club. Meets 2nd Sat./monthly, 8 a.m., Lake View Cafe, 2099 E. Orangethorpe, Placentia, CA, at 91 Fwy/Lakeview. Info: Ray Davis, KD6FHN, (714) 551-1036 or (714) 551-2010. 3/99

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

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

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. 10/98

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

South Bay ARC. P.O. Box 536, Torrance, CA 90508. Meets 3rd Thurs./monthly, 7:30 p.m., Torrance Memorial Hosp., 3330 Lomita Blvd., Torrance, CA. Talk-in on WB6MYD rpt. 244.38(-). Info: (310) 328-0817. 8/99

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

Southern Sierra ARS. Meets 2nd Thurs./monthly, 7 p.m., Veteran's Hall, 125 East F St., Tehachapi, CA. Contact: Caroline, KD6KMN, (805) 822-5995. 147.06(+), 224.42(-), 145.090(S) Packet. 1/99

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

Tri-County Amateur Radio Assoc. P.O. Box 75, Claremont, CA 91711-0075. Meets: 2nd Mon./monthly, 7:30 p.m., Covenant United Methodist Church, corner of Towne Ave. & San Bernardino Rd. in Pomona, CA. 1/99

This month ... Bergen Amateur Radio Association, from Hackensack, NJ, has won an MFJ Antenna Analyzer to share with its members. The club's name was selected at random from our "Visit Your Local Radio Club" listing.

North Hills Radio Club. Meets 3rd Tue./monthly, 7:30 p.m., Carmichael Elks Lodge, 5631 Cypress, Carmichael, CA. Nets 8 p.m. Tue., Wed.,Thur., 145.190(-) PL 162.2 and 224.400(-). For info contact: Bob, AC6HF, (916)966-3654. E-mail: ac6hf@juno.com or http://www.ns.net/~NHRC 3/99

Orange County Amateur Radio Club. Meets 3rd Fri./monthly, 7:30 p.m., Orange County Red Cross, 601 N. Golden Circle, Santa Ana, CA. 146.550. Contact Bob Buss, KD6BWH, (714) 534-2995. 2/99

Poinsettia ARC. Meets 1st Thurs./monthly, 7:30 p.m., First Christian Church, Telegraph Road. & Teloma Drive, Ventura, CA. For info: George Myers, KA6WZR, (805) 644-1131. 4/99

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

Sacramento Amateur Radio Club. Meets 2nd Wed./monthly, 7 p.m. Sac. Blood Ctr., 32nd St. & Stockton Blvd., Sacramento, CA. Info net at noon on rptr. W6AK/R 146.91(-). Steve Cates, KC6TEV, (916) 391-7341 or Les Ballinger, WA6EQQ, (916) 393-4775. 2/99

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. 12/98

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

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. 10/98

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

Vaca Valley Radio Club. Meets 2nd Wed./monthly, 7:30 p.m. (Board mtg., 7 p.m.) Vaca Fire Dist. Stn.,Vine St. in Vacaville, CA. Rptr. WD6BUS 145.47(-) PL 127.3. Gerald Grossardt, (707) 447-0869. 5/99

Victor Valley Amateur Radio Club. P.O. Box 869, Victorville, CA 92392. Meets 2nd Tues./monthly, 7:00 p.m., Presidio Recreation Cntr., 11100 Apple Valley Rd., Apple Valley, CA. Talk-in 146.94(-), PL 91.5. Net Sun. 7 p.m. 146.94(-). 2/99

West Coast Amateur Radio Club, (WCARC). P.O. Box 2617, Costa Mesa, CA 92628. Meets 3rd Thurs./monthly, 7 p.m., Fountain Valley Sch. Dist. office, 17210 Oak St., Fountain Valley, CA. 145.440(-) PL 136.5. For info: Jane, KD6ODV, (714) 531-6707 10/98

Westside Amateur Radio Club. P.O. Box 11092, Marina del Rey, CA 90295. Meets 4th Tues./monthly, 7:30 p.m., West Dist. Red Cross Bldg., 11355 Ohio Ave., W. Los Angeles, CA (VA Cntr. grounds). Net every Tues., 8 p.m. 146.67(-) except mtg. night. Website: http://www.qsl.net/warc Voice mail: (310) 917-1100. 7/99

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

Yolo Amateur Radio Society. Meets 1st Tues./monthly, 7:30 p.m., Denny's Restaurant, 4120 Chiles Rd., Davis, CA. Contact Dave Nishikawa, KC6YFG, (916) 756-6375/Talk-in 144.430. 10/98

Yuba-Sutter Amateur Radio Club, (YSARC). P.O. Box 1169, Yuba City, CA 95992. Meets 2nd Wed./monthly, 7 p.m., The Mall at Yuba City, 1215 Colusa Ave., Yuba City. 2/99

COLORADO

Bicycle Mobile Hams of America. 46 states/6 nations membership. Annual Forum at Hamvention. Net: 14.253, 1st & 3rd Sun., 2000 UTC. Info, sample newsletter: SASE to BMHA, Box 4009-W, Boulder, CO 80306. 2/99

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

CONNECTICUT

Tri-City Amateur Radio Club. P.O. Box 686, Groton, CT 06340-0686. Meets 2nd Tue./monthly, 7 p.m., St. Lukes Lutheran Church of Gales Ferry on Rt. 12. Info: Bob Dargel, KA1BB, (860) 739-8016. 11/98

Western CT. DX Club. Meets 1st Tues/monthly, 8 p.m., Brookfield Com. Cntr. (on Pocono Rd. across from Brookfield P.O.) Info: contact Victor at: victoras@EROLS.com 2/99

FLORIDA

Gulf Coast ARC. P.O. Box 595, New Port Richey, FL 34656. Meets 4th Mon./monthly, 7:30 p.m., Marchman Tech. Ed. Cntr., 7825 Campus Dr., Bldg. C, Rm C122, New Port Richey. WA4GDN rptrs. 146.67(-) & 145.33(-), serving all of Pasco County. 10/98

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

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(-). 11/98

Vero Beach ARC, W4OT. P.O. Box 2082, Vero Beach, FL 32961. Meets 2nd Thurs./monthly, 7:30 p.m., Emerg. Mgmt., Indian River County Adm. Bldg., 1840 25th St. Net Mon., 7:30 p.m. 146.64. 2/99

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. 4/99

Gwinnett Amateur Radio Society, (GARS). P.O. Box 88, Lilburn, GA 30048. Meets 3rd Thurs./monthly, 7:30 p.m., Gwinnett Central Baptist Church on Gwinnett Dr., Lawrenceville, GA. 147.075+ PL 82.5. Contact: Mike Swiderski, K4HBI, (770) 449-0369. 8/99

HAWAII

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

Emergency Amateur Radio Club, (EARC). P.O. Box 30315, Honolulu, HI 96820-0315. Meets 4th Thurs./monthly, 7 p.m., Lincoln 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. 11/98

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

ILLINOIS

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

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

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

Hamfesters Radio Club, W9AA. P.O. Box 42792, Evergreen Park, IL 60805. Meets 1st Fri./monthly, 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. 1/99

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

Schaumburg ARC. P.O. Box 68251, Schaumburg, Illinois. Meets 3rd Thurs./ monthly, 7 p.m., Rec. Center, Bode and Springinsguth Roads. (630) 612-9446. http:/ /members.aol.com/sarcradio 10/98

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(+). 1/99

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

INDIANA

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

LOUISIANA

Baton Rouge ARC. Meets last Tue./ monthly, 7 p.m., Catholic HS cafeteria, 855 Hearthstone Dr., Baton Rouge, LA. Club rptr. 146.79(-). Info: Russ Allor, N5ADF, (504) 927-6290. E-mail: W5GIX@aol.com 10/98

MAINE

Androscoggin Amateur Radio Club. Meets 1st Wed./monthly, 7 p.m., Auburn Police Station, 1 Minot Ave., Auburn, ME. Info: (207) 782-8699. 11/98

MASSACHUSETTS

Quannapowitt Radio Assoc., Inc. 6 Savin St., Burlington, MA 01803. Meets 3rd Fri./monthly, 8:00 p.m. at Lynnfield-Wakefield-Lynnfield Methodist Church, Vernon St., Wakefield. Info: Jim Chamberlain, N1AKG, (781) 944-5098. 3/99

MICHIGAN

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

Genesee County Radio Club, Inc. Meets 3rd Tues./monthly, 7:30 p.m., Genesee Area Skill Center, Torrey Rd., Flint, MI. (810) 655-4360. 3/99

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

MINNESOTA

Viking Amateur Radio Society (VARS). Meets last Tues./monthly, 7:30 p.m., basement EOC, Waseca, MN. Call-in 146.94(-). 10/98

St. Cloud Amateur Radio Club. Meets 3rd Thurs./monthly, 7:30 p.m., Radio Club Bldg., 401 4th St. N., Waite Park, MN 56387. Info: (320) 255-1410, 146.94 or 147.015 or www.w0sv.org/ 2/99

MISSISSIPPI

Jackson Amateur Radio Club, Inc. Meets 3rd Thurs./monthly, 7 p.m., Am. Red Cross Bldg., Riverside Dr., Jackson, MS 39202. 11/98

NEVADA

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

Wide Area Data Group, Inc. P.O. Box 3132, Sparks, NV 89432. Meets 1st Sat./ monthly, 8:30 a.m., Bonanza Casino/Restaurant, 4720 N. Virginia, Reno. Info: (702) 356-8200. Call on 147.30(+) MHz. 5/99

Sierra Intermountain Emergency Radio Assoc., (SIERA). Meets 2nd Tues./monthly, 7:30 p.m., Carson Valley United Methodist Church, 1375 Centerville Ln., Gardnerville, NV. Contact: George Uebele, WW7E, (702) 265-4278, 147.330 MHz. 11/98

NEW HAMPSHIRE

Great Bay Radio Association, W1FZ. P.O. Box 911, Dover, NH 03820. (603) 749-2970/ 332-9107. Meets 2nd Mon./monthly, 7 p.m., Rochester Community Ctr. Talk-in: 147.57. 1/99

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

NEW JERSEY

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

The Garden State Amateur Radio Assoc., (GSARA). P.O. Box 34, Fair Haven, NJ 07704. Meets twice monthly/1st & 3rd Wed., 8 p.m., Bicentennial Hall, Cedar Ave. (off River Rd.) Fair Haven, NJ. Contact: Bob Buus, W2OD, (732) 946-8615. 12/98

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

NEW YORK

Amateur Radio Association of the Tonawandas, (ARATS). P.O. Box 430, No. Tonawanda, NY 14120. Meets 3rd Tues./ monthly (except July & Aug.), 7:30 p.m., Sweeney Hose Company, 499 Zimmerman St., No. Tonawanda, NY. Talk-in: 146.955(-) rptr. W2PVL. 11/98

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. 1/99

Hall of Science Amateur Radio Club. P.O. Box 150131, Kew Gardens, NY 11415. Meets 2nd Tue./monthly, Hall of Science Bldg., 47-01 111 St., Flushing Meadow Park, 7:30 p.m. Info: Voice mail (718) 760-2022. 2/99

PROS, Pioneer Radio Operators Society. Meets 1st Wed./monthly, 7 p.m., Sardinia Town Hall, Savage Rd., Sardinia, NY. Net 9:15 a.m. Thurs. 3853 MHz. 3/99

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 — "Class-room Net," 7.238 MHz, 7 a.m. E.S.T. PSE QSL! 10/98

Suffolk County Radio Club, (SCRC). Meets 3rd Tues./monthly, 8 p.m., Bohemia Rec. Ctr., Ruzicka Way, Bohemia, NY. Talk-in: 145.21(-) rpt. Info: W.S. Black, KB2YAP, (516) 289-5587. 4/99

Westchester Emergency Comm. Assoc., (WECA). Meets 2nd Mon./monthly, 7:30 p.m., Westchester County Ctr., White Plains, NY. Contact WECA INFO LINE (914) 741-6606 for details. Talk-in WB2ZII/R 147.06(+) PL 114.8/2A. 11/98

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(+). 10/98

NORTH CAROLINA

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

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. 5/99

OHIO

Ashtabula County ARC. Ken Stenback, W8KS (964-7316). County Justice Ctr., Jefferson, OH. Meets 3rd Tue./monthly, 7:30 p.m., County rptr., 146.715(-). 10/98

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

Greater Cincinnati Amateur Radio Assn., (GCARA), W8DZ. ARRL SCC, meets 4th Wed./monthly, 7:45 p.m., Brusman's Hall, 4813 Vine St., St. Bernard. Nets: Mon. 145.27-, Thurs. 1.936 MHz, 9 p.m. Info: http://w3.one.net~rkuns/gcara.html. K8JE (513) 825-2868, W8XS (513) 474-0287. 12/98

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

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. 2/99

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(-). 2/99

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

OREGON

Central Oregon Coast ARC. P.O. Box 254, Florence, OR 97439. Meets 2nd Sat./monthly, & every Wed./weekly, 9 a.m. for breakfast at Lovejoy's/Pier Point Inn. Net Wed. 7 p.m., 146.80(-). Info: 997-2323 or 997-4074. 1/99

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) 389-7194. 9/99

Keno Amateur Radio Club. P.O. Box 653, Keno, OR 97627. Meets 3rd Thurs./monthly, 7 p.m., Keno Fire Stn. Rptr. 147.32(+) K7ENO. For info: Tom Hamilton, WD6EAW, Telephone/FAX: (541) 883-2736. wd6eaw@cdsnet.net 11/98

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

PENNSYLVANIA

Butler County Amateur Radio Assn. P.O. Box 1787, Butler, PA 16003-1787. Meets 1st Tues./monthly, 7:30 p.m., Boy Scout Cntr., 830 Morton Rd., Butler, PA. Call-in W3UDX/ R 147.36(+). Net 10:10 p.m. nightly. 11/98

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

TEXAS

Brownsville ARC (CHARRO). Meets 2nd Tue./monthly, 7:00 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(+). 4/99

VIRGINIA

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

Southern Peninsula Amateur Radio Klub, W4QR (SPARK). Meets 1st Tue./ monthly Salvation Army Community Bldg., Hampton, VA. Repeaters 146.73(-), 449.55(-). VE Exam Info: (757) 898-8031, W4RTZ. 2/99

Virginia Beach ARC. Meets 1st Thurs./ monthly, 7:30 p.m., St. Andrews United Methodist Church, Tucson & Princess Anne Rds., Virginia Beach, VA 23462. 2/99

WASHINGTON

The Mike & Key Amateur Radio Club. Meets 3rd Sat./monthly, 10 a.m., Salvation Army Renton HQ., 720 Tobin St., Renton, WA. Talk-in on 146.82(-) (103.5 CTCSS) rptr. Doors open at 9:30 a.m. 5/99

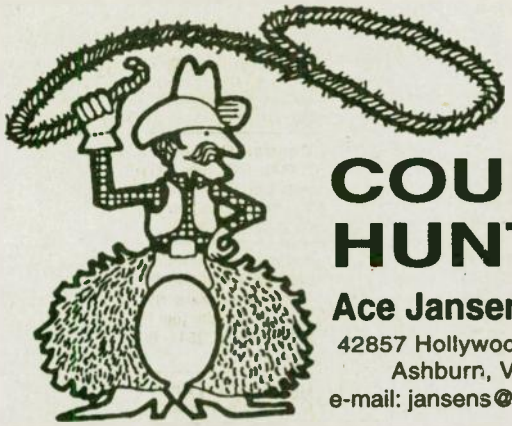
WEST VIRGINIA

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

Tri-State Amateur Radio Assn. Meets 3rd Tues./monthly, 7 p.m., The American Red Cross, 111 Veteran's Memorial Blvd., Huntington, WV. 5/99

WISCONSIN

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



COUNTY HUNTER

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MARACgate

I don't know about you, but I'm getting pretty sick and tired of scandals. It's running rampant in our society and you can't escape it. It's bad enough when all you hear on the news is the President and Monica; thank God for Mark McGuire and his journey to record baseball history, but the controversy is now striking too close for comfort, our beloved county hunting hobby.

Now, you can't view the county hunter's internet web forum without reading about what I'll call MARACgate. I'm almost glad I'm not very active on the county hunters' nets...perhaps no one is making mobile contacts anymore, instead, they're just discussing MARACgate. What is MARACgate you ask? I struggled over being yet one more person to weigh in on this topic, and to date I haven't on the Internet web forum. The bottom line is this: MARAC, the Mobile Amateur Radio Awards Club, has made an accusation and ultimately a decision that many of its members have not agreed with. For background, mobile operations on the county hunters net are based on trust and respect that the mobile operator is operating from the county they say they are. Unlike DXCC, there is no burden of proof on the mobile operator to prove they are where they are. I am aware of a few grievances over my past 20 years of county hunting; some mobile operators were not operating with a valid license, some operators were at their home and not actually mobile, etc. But for the most part, we are an honest, fun-loving, good-spirited bunch of human beings. Most say the county hunting people are more important to our hobby than the pursuit of awards. Unfortunately, an event happened, additional actions were taken, and the entire county hunter community it seems is disappointed. On one hand, MARACgate appears to be rotting the very fiber that keeps us county hunting, our warm community. At the very least, it has the entire membership questioning the MARAC leadership.

The event

First off, I will not use any names or call signs (if you have an inquiring mind, it's all on the county hunter forum: www.delve.com/ch). Right or wrong, the accused should have some privacy. Back in July, a mobile operator (Mobile) "ran" counties on the net and therefore claimed to be in those counties. A base station (Base) did not believe the Mobile was actually operating from the location claimed. In order to determine if he was correct, the Base contacted the Mobile's workplace and discussed this with his employer. A person at his employer's said the Mobile was not available, but he could page him. The Base operator believed this to mean that the Mobile was at work and not travelling around giving out counties. Apparently, the Base also called the Mobile's house and talked to his elderly mother. The accusations went downhill from there. It wasn't too much later that announcements were made on the net and the Base was questioning the validity of contacts with that Mobile. On a specific forum posting, he went so far as to call the Mobile a "liar, cheat and fraud."

MARAC Executive Board

CQ magazine had made a decision to disallow any contacts with the Mobile after 12 July for consideration for the USA-CA Award. I have no idea what process the USA-CA Award Custodian used to determine this, but this was his decision. As a result of his decision, MARAC's Executive Committee (EC) announced a meeting where a 6 to 1 vote decided to disallow any contacts made by the Mobile for any MARAC awards. The EC made their decision without input from the MARAC Awards Chairman (AC). The Bylaws clearly specify that the AC shall administer the awards program for the general membership. The AC is bound by MARAC policy and that policy cannot be changed by a simple EC vote. Also, there is no guidance in the Bylaws about invalid contacts. It appears that the EC was taking it upon themselves to administer the awards program.

Victim #1 — the Mobile

For a long time, the Mobile did not respond to the accusations or his accusers. In his mind, being declared guilty over the airwaves before having a "trial" was unacceptable and was not worthy of a response. But in a recent posting to the forum, he alerted the Base station to a state statute that prohibits employers from giving out information about an employee without the employee's consent. The Mobile also has a wide area, multi-state pager because his employer often needs to reach out and touch him immediately. The employer's offer to page the Mobile for the Base station did not mean to "page" within the building. The Mobile also talked about his phone situation at home and how he instructs his elderly mother to say that he is there for security reasons, whether he is there or not. She often will take messages for the Mobile and the Mobile will call in for those messages. The Mobile feels totally victimized and so would anyone subject to the same accusations and handling of those accusations. His privacy was invaded, his name and

call sign were slandered, and his mother and others were subject to over-the-phone verbal abuse. He certainly did not appreciate being called a "liar, cheat, and fraud."

Victim #2 — Awards Chairman

The AC received a certified letter from the MARAC EC in which they stated that the members of the MARAC EC discussed the ongoing situation concerning the MARAC standards on the issuance of MARAC-only awards. In particular the EC discussed the handling of the "Mobile" situation as it applies to the MARAC Awards and the *CQ* magazine Award. The EC determined that the AC, acting as an appointed member of the EC, was not following the wishes of the committee as a whole. The EC then determined through a vote that the AC's appointed position be terminated and a new AC be appointed to that position. The Committee also determined that the AC should inventory all awards, monies, supplies, and any other items pertinent to his position and make them ready for pickup by an interim AC on or before 16 September 1998. How would you like to receive a letter like that?

The AC reviewed the Constitution and Bylaws (C&Bs) and returned a letter concluding that he should remain the incumbent AC of MARAC. In short, he showed by analyzing MARAC's C&Bs, the BOD and EC did not follow their own policy. The AC was appointed to the office by the EC and as appointed becomes a member of the BOD and a member of the EC. There are no provisions in the Bylaws for the removal of any of the officials. The Bylaws specify that removal of an official involves a written request from any six members of the BOD with sufficient notice to the BOD on the required action. The AC was not notified of any such planned meeting or a request to remove him. Any gathering of members of the Board that does not comport with the Bylaws does not constitute a meeting of the Board and no valid action could be taken. Even if the meeting was held legitimately, removal of a member of the BOD must be approved by a majority vote of the BOD, not a majority of a quorum. The vote, if valid, would not be automatically effective. The Constitution requires that the [removal] action "shall be made known to the members of MARAC at the next regular meeting following such removal for ratification by majority vote of the members present." No meeting at which the membership could have been informed of a BOD action to remove a member of the BOD could have been held in accordance with the MARAC Bylaws in August or September.

The AC did not fault the BOD or EC, rather stated the problem has arisen because of a complete lack of a MARAC policy on invalidation of mobile contacts due to alleged violations of the MARAC guidelines. Without a written policy that has been duly adopted by the Board and ratified by the membership of MARAC, there is nothing to guide the actions of the BOD, the Awards Committee, or the AC in the event that a situation occurs that calls into question the validity of any contacts that might be claimed in an application for an award.

The AC proactively recommended a future policy include:

1. the grounds for complaints of invalid contacts and the procedure for filing a complaint;
2. the procedure for investigating a complaint and making a determination on the validity of the complaint; and
3. the consequences of a determination by the official, committee, or other body (the policy should establish who is responsible for receiving, investigating, and making a determination on complaints. A good policy will act as a deterrent to improper operations and provide a process for dealing with allegedly improper operating when it does occur.

The "ballot"

MARAC sent its members a ballot to vote on what to do with the Mobile's contacts. The ballot, however, did not include all possible choices; for example, one of the options was not to invalidate contacts with the Mobile during the one week in July. Regardless of the choices, it doesn't appear that the ballot is appropriate. The MARAC C&Bs allow membership to vote by mail on proposed amendments to the MARAC C&Bs...only! The MARAC BOD makes policy subject to ratification by the membership. The ballot doesn't appear to be a result of any BOD meeting or EC meeting and therefore, it doesn't appear that the BOD or EC has voted on any policy redirection. The Bylaws say the method used for mail ballots from the membership shall include a means by which the Secretary can validate the ballot. How the Secretary validates this ballot is a big question.

Victim #3 — County Hunters

MARACgate will undoubtedly have an effect on our hobby. It will most likely split the county hunters between those who believe the Mobile and those who believe the Base. The MARAC membership may also lose respect for their officers, the C&Bs and the officers ability to follow them. The county hunter community may be turned off by the accusers, MARAC's handling of the "fiasco," and the effort that so many folks are spending talking about this. Don't get me wrong, free speech is a good thing, and we should definitely stand up to our leaders and point out when they've gone astray. I've got to believe that there will be some effect on our friendly county hunter community. My hope is it will be minimal. I sure hope we (this article included) don't turn away any potential county hunters because of our internal politics. My opinion: I don't have real facts, not enough to make an accusation, nor to speak on someone's defense. Therefore, I will not make a statement of my belief. I do agree with the AC, a policy is needed and a checklist must be followed if this should ever happen again.

MARAC Southeast mini

It's November and it's time for MARAC's Southeast mini convention held every year in Murfreesboro, Tennessee. Let's hope there's more to talk about there than MARACgate. This mini-convention rivals the national convention for attendance and many county hunters are regulars. This year's event is 12-14 November at the Holiday Inn, 2227 Old Fort Parkway in Murfreesboro. The hospitality room opens at noon Thursday, 12 November. To get there, take I-24 and Tennessee Hwy #96. On I-24 Exit #78 from Chattanooga and Exit #78B from Nashville. Activities include the annual retreat to Mrs. Bobo's restaurant on Friday night. Contact Herb Morgan, WD9GBH, for reservations to Mrs. Bobo's. Also, Friday

noon, a meal is planned at Lynchburg, TN at the home of the Jack Daniel Distillery. The dinner Saturday night is buffet style and costs $18.50 per person. Registration for the convention is $12.00 OM/YL or $9.00 for single reservation and includes nametag, group photo and drawing for any prize. If all this sounds interesting, send registration fee and cost of dinner to William E. Bell, KM4W, 99 Smoke Rise Circle, Manchester, TN 37355-5093 or contact him at (931)728-7379.

Last 10 USA-CA recipients

945	KC4UCE 1-13-98
946	WA9LKD 1-27-98
947	W9MSE 2-20-98
948	K4XI 6-8-98
949	KD4HXM 6-23-98
950	KE3VV 7-7-98
951	KC8IJ 7-8-98
952	KB1AF 7-25-98
953	N7PIB 8-24-98
954	NØKGX 9-8-98

Special Achievement

Arnie Bachmann, K9DCJ, just finished contacting all 3,076 counties by making radio contact with 3,076 different amateurs. Arnie is always looking for a challenge and this last method of contacting counties was unique to those of us contacting counties on the net. We commonly contact mobile operators in multiple counties. Arnie only allowed himself a single contact with each mobile station. Mary Parsons, KC5UO, became one of only two county hunters to contact all 3,076 counties with a YL operator. Mary was the first YL to contact all counties with YL amateurs. (And to think I had difficulty talking her into starting county hunting in 1979!) By the way, as I reported in my January 1998 column, Arnie, K9DCJ, was the first to contact all counties with a YL operator. Way to go Arnie and Mary! Until January, may your logs be filled with needed counties and may MARACgate be something we resolve and learn from. Happy hunting! 73, Ace, N3 aha!

New QCWA president

Gary Harrison, KØBC, of Bolivar, Missouri, is the new president of the Quarter Century Wireless Association. QCWA members can contact him at gharrison@getonthe.net. — *W4ZC, ARRL Letter*

Photography Contest

You've seen the photographs appearing in ***Worldradio*** and other Amateur Radio magazines. How many times have you said to yourself, "Self, I have better photographs than that!" Well, now is your chance to showcase your talents to the world.

We are looking for your excellent photographs. We will pick 6 winners, and those photographs will be featured on the cover of ***Worldradio***, starting with the January 1999 issue. As with any contest, there are some rules to follow.

Rules:

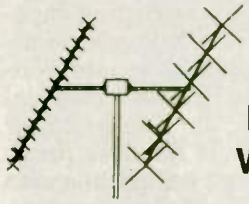
1. The contest is open to any ***Worldradio*** subscriber or reader.
2. Each photograph submitted must have an Amateur Radio theme. (Your tower falling over, the sunset as seen through your massive DX antenna complex, your station setup, the shack burning down due to the fire started by your soldering iron, etc.)
3. Anyone appearing in the photograph must be identified by first and last name, and call sign (if applicable).
4. Photographs submitted must be original, previously unpublished (other than your local club newsletter) in a print media.
5. Photographs must be sent by mail only (Sorry, no electronic submissions).
6. Multiple entries are encouraged.
7. If possible, original negatives or slides are preferred (they are much easier to work with) however, we can use prints. Prints must have a glossy finish (Matte finish doesn't scan very well).
8. If you want your prints/negatives/slides returned to you, you must enclose a self-addressed, stamped envelope with your entry.
9. The deadline for submissions is 16 November 1998.

Prizes:

Each winning entry that is selected as a cover photograph will be awarded a 3-year subscription to ***Worldradio***. In the event that the winning entry is submitted by a Lifetime subscriber, the Lifetime subscriber will be awarded his/her choice of ***Worldradio*** merchandise (books, hats, coffee mugs, etc) up to $45.00 value.

Send your entry to: Worldradio Photo Contest, 2120 28th Street, Sacramento, CA 95818

Amateur Satellites



Terry Douds, WB8CKI

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

Hello everyone! I hope everyone has been having an enjoyable time operating on the birds over the past few months. Late summer was wonderful, especially for the DXers on Oscar 10 — lots of new and rare countries for all to enjoy.

You may not have noticed (but I hope you did!) that the column has been on hiatus for a while. The powers that be have deemed the satellite column to be a quarterly one — so it will be in the November, February, May, and August issues from now on.

First of all, we have had two SUCCESSFUL launches and deployments in the last few weeks. Both TMSAT, now known as Oscar 31, and TechSat1B, now known as Oscar 32, were launched without complications and have achieved their intended orbits.

The TMSAT-1 micro-satellite was successfully launched from the Russian Baikonur Cosmodrome on 10 July 1998. TMSAT-1 is the first Thai Microsatellite, and stands for Thai-MicroSATellite. It was constructed by Thai engineers with engineers at Surrey Satellite Technology Ltd. at the University of Surrey in the United Kingdom.

Chris Jackson, G7UPN, reported via the Amsat News Service (ANS) that the commissioning plan of TMSAT-1 (TO-31) is proceeding very well and the command team is currently testing the imaging system aboard the spacecraft. TMSAT has five cameras on board — a wide-angle camera (WAC) similar to UO-22, three narrow-angle cameras (with a pixel resolution of approximately 100m and an image size of 1020x1020 pixels), and a video camera which will be used for taking still images.

G7UPN reports they have taken five images so far. The first was a test over India under manual control from Bangkok, and the other images have been taken automatically under control of the on board computer.

"For the first few images we only used the WAC, and also took the first set of images using the narrow-angle cameras (NAC) over Greece. Due to the size of the images this took some time to download, along with other housekeeping and commissioning functions that were scheduled."

Jackson has uploaded two of the WAC images to the TMSAT web site. To view these images, point your browser to: www.ee.surrey.ac.uk/CSER/UOSAT/amateur/tmsat/index.html

The assignment of consecutive OSCAR numbers to new Amateur Radio spacecraft is a tradition that dates from the launch of the very first Amateur Radio Satellite, OSCAR 1. In order for an OSCAR number to be assigned, the satellite must successfully achieve orbit and one or more transmitters must be successfully activated in the Amateur Radio bands. Then, the builders/owners of the satellite must formally request that a consecutive OSCAR number be assigned to their satellite once the first two requirements are accomplished. Speaking for the TMSAT team, G7UPN said that "I have spoken with our Thai colleagues and they are happy for TMSAT to be named TMSAT-OSCAR-31."

Likewise, Shlomo Menuhin, 4X1AS, speaking on behalf of the TECHSAT team said, "We at the TECHSAT project agree to all the terms and would be glad the TECHSAT-1B will have the OSCAR number GO-32. The letter G stands for GURWIN."

Keith Baker, KB1SF, Executive Vice President of AMSAT has said that, in the light of this information, it is now appropriate to refer to the two new amateur satellites as 'TMSAT-OSCAR-31' (or simply TO-31') and 'GURWIN-OSCAR-32' (or simply 'GO-32') respectively.

On 10 July 1998, Gurwin-II Techsat was launched into space on the same launcher as TMSAT-1. This marked the culmination of a seven-year-long effort, first initiated as a senior project, the design of a microsatellite by a group of students from the Faculty of Aerospace Engineering at the Technion University in Israel, under the guidance of Prof. Haim Eshed. A bit later, the

idea of transforming this student project into a real system was raised. Work was initiated just at the time the gates of the former Soviet Union were opened, enabling experienced space scientists and engineers to join a group of young students and engineers from the Technion to try and transform the idea into reality.

A first attempt in 1995 to launch the satellite failed due to the malfunctioning of a converted Russian ICBM being used as a launcher. Not being fazed by this failure, the team decided to proceed forward and a new Gurwin-II Techsat was developed. A fully proven Zenith launcher was chosen to launch the satellite into orbit.

The Techsat includes many different experiments onboard, but as Hams we are most interested in the last item on the information list: a digital store and forward multi-user system to be used by the international Amateur Radio electronic community, compatible with existing store and forward facilities already in use on microsatellites.

The store and forward system is a computer to computer communication system via receive and transmit units. Gurwin-II Techsat has three frequency bands for communication with the ground: Three uplinks in the 145 MHz-VHF band (2M), three uplinks in the 1270 MHz-L band (23cm), and one downlink in the 435 MHz-UHF band (70cm). Data is transmitted at two available rates: 1200 bps and 9600 bps. At 1200 bps the carrier modulation is BPSK (downlink) and FM (uplink). At 9600 bps the carrier modulation is FM (downlink & uplink).

Back here on Earth, there are exciting events which will occur in the very near future. The upcoming AMSAT-NA 16th Annual Meeting and Space Symposium is to be held 16-18 October 1998 in Vicksburg, Mississippi, at the Battlefield Inn. Registration information, forms, and a conference agenda are available on the web at: http://pages.prodigy.com/DXHF93A/

The forms are also available in the July/August issue of *The AMSAT-NA Journal*. Additional details on the symposium can be obtained by contacting Russ Tillman, K5NRK, at his e-mail: k5nrk@amsat.org

Presentations will be given on a diverse range of Amateur Radio satellite topics too numerous to mention in this column. Check out the web page for detailed information.

Numerous activities are planned during the symposium including sessions devoted to Phase 3D and an introduction to Amateur Radio satellites. This beginners session on Amateur Radio satellites will be held on Friday evening and will be open to participation by the general public. Many different activities are planned for the Saturday evening banquet including the traditional prize drawing. The featured guest speaker for the banquet will be ARRL Vice President, Joel Harrison, W5ZN.

An AMSAT Area Coordinator breakfast is scheduled for Sunday morning. Later that morning, all participants can take a field trip to the U.S. Army Engineers Waterways Experiment Station.

The symposium is always a great place to meet other satops and stay up with the newest info on our amateur satellites. It will be well worth your time if you can make it!

The newly released, "official" version of the official AMSAT-P3D Bandplan for uplink, downlink and beacons can be found on the AMSAT web site at http://www.amsat.org.

For those of you looking for a logging program for satellite contacts, Mark Hoersten, N8VEA, has recently upgraded the printing capability of his VHF-DX logging software. The program now uses Windows 95 printer drivers. This enhancement means you can now print to the various HP desk printers (which were not compatible with previous versions of the program). Many people have used his software, VHF-DX, with excellent results. VHF-DX is a VHF/UHF/OSCAR logging program for Windows95, covering DXCC, VUCC, and WAS for 50 MHz and above operation. The program logs OSCAR contacts by including the satellite name and up/down link mode. VHF-DX can be downloaded from the web at: http://www.qsl.net/n8vea.

Keep the cards & letters, questions, etc., coming to either my snail-mail address, or via the Internet — I'll get you the information you need as soon as I can! Hope to see you all soon on the birds!

Quarter Century Wireless Association

Jack Kelleher, W4ZC

The Graying of Murphy

ROD NEWKIRK, W9BRD

"You are old, Father William," The young Hams say,
"And your hair has become very white;
"And yet on the air you incessantly play —
"Do you think, at your age, this is right?"

Paraphrasing Carroll's parody of Southey is inspired by Harry Lewis, W7JWJ's recent discourse on QCWA's fragile continuency. It demonstrates that excessive maturity's bad rap goes way back. The situation is even clearer when one dabbles in such statistics as "average" age. In a four-member radio club, for example, three 15-year-olds are required to bring down the membership's average to 32 or so if there's a frisky 85-year-old on the Elmer committee. Obviously, if youth is paramount, grandpa can best serve the organization by resigning. And if grandpa's twin brother joins up, perhaps everybody should resign.

W7JWJ's recruitment entreaties, sound advice at any time, face an increasingly unfavorable social context. The Great Millennial Discontinuity is at hand, you know, when up becomes down, in becomes out, white becomes black; change, any change, is embraced to foil the evils of stability and the status quo. Seniority and loyalty must go the way of dedication, aspiration and other quaint concepts of yore. Fast fringe benefits are the thing. Grandfathering is super, too. (Oops — that should be grandpersoning.) Just waving our colorful QCWA banner no longer is enough. Like ARRL, we might well consider creative introductory offers. W7JWJ stresses QCWA's zillion years of collective know-how, so we ought to be able to come up with something at least as clever as the League's decentive-licensing proposals.

While we rush headlong for new blood, demeaning our base of ancient dues-payers will be difficult to avoid. Old friend KA9DYS, ex-W9HPJ, now a QCWA Silent Key (there's another archaic term that has to go) was once buffeted by the instant-joy stampede. A charter depositor in a local bank, Ero saw his two-digit vanity account number become just another computer entry like a thousand others. Adolescent cashiers regarded him as an annoying relic and usually insisted on full ID. But the bank's periodic promotions for new business bugged him the most. Opening a fresh account with a few bucks got you a nifty high-tech toaster or clock radio. Ero, with thousands in his longstanding business and personal accounts, got zilch. Then his daily newspaper joined the fun, giving brand new subscribers free Sunday editions. As a loyal 40-year customer, Ero didn't even get a pin to wear.

Introductory offers, however, run the risk of initial euphoria being followed by rapidly diminishing returns. Newer customers often are here today, gone tomorrow. Easy come, easy go — been there, done that. The transients grab their complimentary T-shirts and scoot. This must be kept in mind when devising silver platter schemes for "growth." QCWA, with no Ham subbands to bestow or juggle, and in no position to grant grandpersoning, is decidedly disadvantaged. There must be something we can offer. Free toupees, canes and vitamins? Very funny. QCWA's "kids" are already in their 40s and 50s, so how about Honorary Teen-Ager pins? Snicker if you will, but remember that longevity itself now is under fire.

Meanwhile, Leland Smith, W5KL, and others suggest, we could consider modifying our bewhiskered reputation. The Quite Contemporary Wireless Association? Fine, but we'll still have superannuated loyalists hanging around to besmirch our more youthful image. Membership age maximum? Drastic medicine, but it would help those averages. Alas — proud seniority, once respected enough to rate salutary ARRL membership discounts, becomes our albatross. Like Father William and the Energizer Bunny, too darned many old folks just keep going, and going. Should we just shoot the geezers?

What comes around still goes around. Today's newcomers may not hang in there very long when they glimpse a radio future even less significant than ours. Those birthdays keep coming. It has been suggested, in the interests of administrative simplification, that an Amateur Radio license be issued to every person at birth. Call sign nuisance need not be tolerated, the valued CB and Internet tradition of anonymity is to be preserved and enhanced. This no-fee, lifelong, all-privileges, no-waiver, paperless credential will be activated as soon as the infant can mumble CQ, provided an Elmer can be found to peck out an online message to the licensing authority concerned. The "growth" potential of this idea is quite evident, as well as politically correct gender balance and steadily decreasing average-age figures. Radical as it may seem to some, there is much in this for everybody, especially QRM. Note that QCWA would benefit considerably, having access to 25-year-olds early in the next century — even sooner when ensuing demands for retroactive grandpersoning prevail.

In closing, we'll let all Ham youngsters, including those yet unborn, apologize to Longfellow:

Logs of old Hams oft remind us
We can work DX sublime.
Then we'll drag our beards behind us,
Trampled in the sands of time.

Traffic

Geri Sweeney, N4GHI

Upcoming traffic:

Some special event stations that we can expect to hear soon:

Big E (Eastern States Expo – Springfield, MA)
Carolina Fair (Asheville, NC)
Western Washington Fair (Puyallup)
Ontario Science Center (Don Mills, ON)
October Foliage tours (Skowhegan, ME)
Haywood County Fair (Waynesville, NC)
Georgia National Fair (Perry)

Farewell

This is my final traffic column for ***Worldradio*** magazine. I can't believe it's been ten years. Time passes so quickly when you are having fun. But more fun is on the horizon. My husband and I will be doing a lot of sailing in the near future, we will be away for long periods of time, so the time has come to turn the column over to someone else interested in spreading the word about traffic handling.

Over the years I've received many wonderful letters from readers. Some asked for information; some gave information; some made meaningful suggestions; and, some just were nice letters. Each made my day. Thanks to all who did write and express their opinions. This is the grass roots of traffic handling and so, most appreciated.

I invite all you would-be traffic writers to email ***Worldradio*** (n6wr@ns.net) and apply for the job. Traffic handling is fun. Being able to influence others to participate is wonderful. Where else could you experience a slice of life like this: "Esther is 90 and Robert will be 97 tomorrow we ignore our problems and keep going." I may frame that message (I relayed it recently), and hang it on the wall. I'll need that reminder in 40 years. So, 88...

Discipline

What sets traffic handling apart from having a QSO is discipline. It's practice for the 'big emergency.' This emergency will hopefully never come. But we prepare. In fact, we have fun preparing. It's like playing a neat game. You sit in, learn the rules, make errors, gain perspective, and gradually grow to a top operator. You never win at the game. Each time you play, you just try and improve — do things better. We learn to discipline our minds. The mental discipline can be carried over to everything else you do. The discipline involves training your mind to think in a precise way.

Part of the big emergency is the concept of time. We need to be ready to handle the most information in the least time. And yet... Too many stations say far too much. They seem unable, or unwilling to discipline their thoughts. They waste time. I once ran a contest in Virginia to see who could write the most concise ARL Sixty Seven message, given the facts. (ARL Sixty Seven indicates a message was not able to be delivered for some reason.) The winner said it in seven words. Sometimes more words are needed. But how many ARL Sixty Seven messages have you relayed which contained 20 to 30 words?

Net Control Stations often say too much. First they waste time by calling you and insisting you let them know you are still on the net and haven't 'gone fishing.' Then they give you detailed directions using twice as many words and information as is needed. When is the last time you heard a CW Net Control Stations use QNQ?

Some stations sending traffic on voice explain everything. They add words in every position (the phone number is, the area code is). The same stations let you know if information isn't there. "No zip code... no phone number, etc." Some Net Control stations fill in their net reports with who wasn't there.

Some use the 'too much' concept with fills. They repeat everything. Or they add lots of extra words like 'need' or 'please.' Some like to tell you just where in the message to look (text, city of orig). By making it really easy to find the fill: time is lost, you show that you aren't able to discipline your mind, and you insinuate that you don't think the other person can find it without lots of extra help. Some stations, who need fills, want to explain why.

All the extra time we could save (valuable for the big emergency) could be used at the end of the net and/or message, to just have a brief meaningful chat with someone. Through the short meaningful chats, we meet wonderful people and make lasting friends. With a disciplined mind, we become accomplished operators and enjoy playing the traffic handling game. Who would want to play Monopoly with someone who never learned the rules and informed everyone when someone landed on someone else's property?

Qs

Traffic handlers enjoy the use of an established list of common things which are said a lot. This list of Q signs can be used as either a statement, or a question, when used with a question mark. They save a great deal of time. But you have to discipline yourself to learn and use them.

Far Side

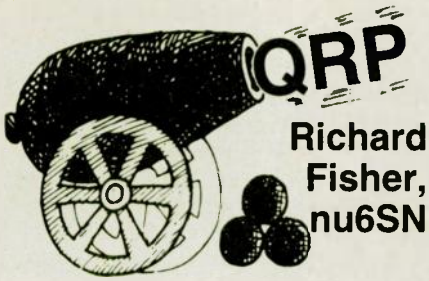
Wouldn't it be neat if we had a Gary Larson in Amateur Radio? She or he could create a 365-day calendar for us on recycled messages. If the non-disciplined minds bring fits of pique, the fun adds great value to one's life. It would be superb if we could get some of the fun and fancy on display.

CW slow speed traffic nets

For this final column, a last look at all the slow speed CW traffic, training nets which abound. Choose one, check in, enjoy.

WCSPN(CA/OR/WA)	7:00 pm	3702 D
(SoCA)	7:15 pm	3598 D
(CA/NV)	9:00 pm	3705 D
CSN (NC/SC)	6:00 pm	3715 D
FSN (FL)	8:00 pm	3715 D
MSN (MD)	7:30 pm	3717 D
EMRI (MA/RI)	9:00 pm	3715 C
MSSN (ME)	6/10 pm	3685 D
CSN (NC/SC)	6:00 pm	3715 D
NJSN (NJ)	6:30 pm	3515 D
ES (NY)	6:00 pm	3590 D
OSN (OH)	6:10 pm	3708 D
PTTN (PA)	6:30 pm	3610 D
ITN (IL)	7:00 pm	3680 D
MSSN (MN)	6:00 pm	3710 D
TSN (TN)	8:30 pm	3682 M-F
WNN (WI)	6:00 pm	3723 D
WSSN (WI)	6:30 pm	3645 D
FISTS(MI)	9:00 pm	3682 T/TH

Interested in writing the Traffic column? If so, contact the editor at ***Worldradio****.*



Richard Fisher, nu6SN

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A QRP six-pack, to go

When it comes to leading QRP neophytes by the hand to the Land of Homebrew Milk and Honey, the Rev. George Dobbs, G3RJV, doesn't squander an opportunity.

The Dayton Hamvention was a perfect venue for singing to the unwashed masses the praises of his new G3RJV Six Pack, an inexpensive kit of six simple homebrew projects just perfect for the new builder. He put the same message on last month's agenda for the West Coast QRP Symposium at Pacificon in Concord, CA.

Kitted by Bill Kelsey, N8ET, of Findlay, Ohio-based Kanga, US, the G3RJV Six Pack includes parts and printed circuit boards for: a simple 1-watt CW transmitter, a barest-of-bones receiver, SWR bridge with light-emitting-diode (LED) read-out, diode-based RF probe, voltage monitor and quartz crystal checker.

Each of these projects, of course, has a practical application around the shack, workbench, or on the air. But underlying is the experience of getting your feet wet in QRP homebrewing. That's long been a calling for the Rev. Dobbs, who is well known for his remarkable work as head of the QRP Club of Great Britain, editor of its quarterly magazine *SPRAT*, frequent contributor to various QRP publications, and as an ambassador for QRP around the world.

After opening the Six Pack kit here at nu6SN, I placed the panel of pre-cut circuit boards in front of me, closed my eyes and with an index finger, pointed to the unit that would be first to go together. It was the quartz crystal checker.

Because the crystal checker has such a wide range of uses from the shack to the swap meet, it was a particularly good choice for the Six Pack entree.

Just 14 parts fit nicely on a PC board only one-and-three-eighths inches by one-and-a-half inches.

There's a momentary pushbutton switch provided with the kit for activating the checker, and the builder needs only to supply a 9-volt power source, a battery clip, a crystal socket or alligator clips, and an enclosure.

While the fundamental application of a quartz crystal checker is for determining if the rock is, indeed, oscillating, for years I've regularly used the checker in my shack for finding the QRP calling frequency on uncalibrated transceivers, of which I have several. The Six Pack crystal checker does this quite nicely. Plugging a working 7.040 MHz crystal into the unit and pressing the button generates a nice CW note, and when copied on a nearby transceiver indicates the low power hangout on 40 Meters.

What sets the Six Pack crystal checker apart from most circuits I've used is the addition of an LED which glows brightly when the button is depressed and the crystal is oscillating. The checker is perfect for toting along to swap meets to see, literally, if the crystal you've grabbed out of that cigar box of grimy parts is good or not. No receiver needed. If the LED glows, you've got a hot rock.

The checker, like all of the projects in the Six Pack, easily goes together in an evening.

A pair of BC182 transistors are the heart of the circuit. Two OA91 germanium diodes, the LED and a small handful of resistors and capacitors complete the picture.

A Velamints candy tin, a prettier version of the popular Altoids box, became the housing for the crystal checker here, with room to spare.

After getting the parts soldered on the board and off-board parts mounted in the Velamints tin, a 7.040 MHz was plugged into the socket and the pushbutton depressed. The LED came to life, glowing bright yellow. I turned on a nearby NorCal-40 transceiver and tuned across the band listening for a carrier. A pure CW note blasted from the speaker, and "keying" the pushbutton verified that it was indeed coming from the quartz crystal checker. Neat!

The checker, however, is only the tip of the proverbial Six Pack iceberg. Following are five other projects which are just as easy to build and offer useful amenities for the QRPer.

The plug and play transmitter

According to the G3RJV Six Pack manual, this little rig is "a re-working of the W7ZOI Universal Transmitter, to include several new features. A better lowpass filter (following the W3NQN constants), full break-in TR circuit, and a variable crystal oscillator (VXO) as the RF source."

The one-watt transmitter can be built for any one of four bands: 80, 40, 30 or 20 Meters. Parts are provided for each band. The builder chooses which band on which to operate, and then selects the appropriate parts listed in an easy-to-read chart in the manual.

A 2N2222-based VXO drives a 2N3866 final, complete with hefty heat sink. Four 1N4148 diodes, a bit of inductance and capacitance combine for smooth and relayless TR switching.

There are five relatively easy toroids to wind, excellent experience for the budding builder who aspires toward more challenging projects.

A multi-pole output filter assures purity within FCC limits, and the entire rig sits atop a PC board three-and-fifteen-sixteenths by one-and-nine-sixteenths inches.

This basic circuit has provided the entry point for literally hundreds of QRP operators who chose the 'ZOI transmitter to get started in low power transmissions.

The quick receiver

"Born of necessity," the Rev. Dobbs writes, "some time ago I was in need of a test receiver to listen to some SSB signals generated at 9 MHz. At that time I did not have a receiver which covered 9 MHz, so I decided to build one for myself."

The circuit features a passive mixer which feeds an audio preamplifier. The builder must provide a local oscillator (LO) to adapt the circuit to the frequencies you'd like to receive, and audio amplification.

This little circuit is a great firstbuilding-block for a homebrew receiver, and an important learning tool as to how receivers function.

Fewer than 20 parts and a PC board two-and-a-half inches by one-

and-five-sixteenths inches gets you started.

The LED standing wave indicator

This unit features a resistive SWR bridge with a twist. Instead of using a microammeter to show the presence of reflected power in an antenna system, this kit uses an LED. It's the kind of sensitivity QRPers need when tuning up.

"The superbright LED is remarkable," the manual touts, "in that it will still glow when dissipating currents of 10 microamperes or less. As the antenna is tuned for minimum VSWR, (the LED) will extinguish."

A pre-set provides a sensitivity control for tailoring your bridge to your station's general power requirements — from microwatts to five watts output.

A Wheatstone circuit is employed using three 50-ohm resistors (actually, two 100-ohm resistors in parallel for each 50-ohm leg) in tandem with the antenna system itself. When the impedance of the load is tuned to 50-ohms, each "arm" of the circuit is equal and the voltage across the bridge drops to zero — lights out! The unit, which introduces significant loss in the antenna, is switched out of line when you're finished tuning up.

The board is just one-and-five-sixteenths by one-and-three-eighths inches, and 12 board-mounted parts come in the package. It's small enough to fit in most QRP antenna tuning units. The builder needs only to provide a switch to place the LED SWR indicator in and out of line.

Voltage monitor

Keep tabs on the output voltage of your battery between, say, 10 and 14.5 volts with this great little accessory. An LM3914 18-pin dot/bar display driver chip is the brains of the operation. It can light as many as 10 LEDs in the bar mode, or one of 10 LEDS in the dot mode depending on the input voltage.

The LM3914 works within a range of 3-18 volts. Potentiometers are used to pre-set the highest and lowest voltage you'd like to read.

"The chip contains a voltage divider and 10 comparators that turn on in sequence as the input voltage rises," according to the Six Pack manual. "There is an internal reference voltage source that can be used to set high and low reference points on two pins at either end of the voltage divider chain to adjust the range of measurement."

Individual LEDs are used to indicate voltage. The Rev. Dobbs used green LEDs for voltages between 11.5 and 13.5. Voltages above and below that range are red.

This device is particularly useful for QRPers who use battery power. Besides the LM3914 chip and 10 LEDs, there are only four other parts to this kit. It all goes on a PC board 2x1$^{5}/_{16}$ inches.

A diode probe

QRPers who believe they're destined to spend mega-bucks on test gear need to check out this little unit.

Teamed with an analog volt-ohmmeter (VOM), this "crystal radio on a stick," as the manual describes it, is a basic peak reading diode probe for tracing and measuring RF in circuits.

The Six Pack kit provides a one-and-three-sixteenths by one-and-one sixteenths-inch PC board on which are mounted two diodes and two 0.1 capacitors. That's all there is to it!

Add a probe wire, grounding lead with alligator clip, and a shielded cable to your VOM and you're in business.

The kit comes with top and bottom plates mounted on stand-offs above and below the main PC board, which reduces the chance of stray RF pick-up.

The Rev. Dobbs' experience as the Pied Piper of QRP Homebrewing has taught him well. The G3RJV Six Pack is an excellent entry point to kit building, and Kanga US has put together a high-quality set of kits well suited for the beginner.

The G3RJV Six Pack multi-kit is $40, which includes shipping.

To order, or for more information, write: Kanga US, 3521 Spring Lake Dr., Findlay, OH 45840. Telephone: (419) 423-4604.

Kanga US's e-mail address is: kanga@bright.net; Web: www.bright.net/~kanga/

If you're eager to whet your whistle at the QRP workbench, the G3RJV Six Pack is a tremendous thirst quencher, indeed.

The quartz crystal checker in a Velamints tin sits beside the panel of PC boards which make up the G3RJV Six Pack, a new kit from Kanga US.

propagation

Carl Luetzelschwab, K9LA
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e-mail: k9la@gte.net

Many of us have a directional antenna on the higher HF bands. It's usually some form of Yagi or quad on 20m, 15m, and 10m. Our rotator control box is calibrated in degrees of azimuth so we can point it where we want to in order to take advantage of the gain and F/B ratio. We usually know in our head the general direction to a target area, but sometimes we revert to a chart giving headings to each prefix.

Most of the time this is adequate, as signals usually follow great circle routes (one exception is scatter paths, which was discussed in last May's column). Unless we have long boom monobanders, pointing the antenna to within 30 degrees of the actual heading usually is good enough. So we have things well under control in terms of azimuth.

But what about elevation angles? Our directional antennas are usually fixed at one height, and the elevation pattern on a given band is determined by this height above ground. We essentially take what we get in terms of the elevation pattern. And we hope it's good enough.

Have there been any studies done on the elevation angles of arriving signals to try to help us determine what the optimum height is? The answer to this question is "yes" — in fact, there have been many studies. As best as I can tell, these studies started in the early 1930s when short wave radio was just emerging.

The results of all these studies showed that if you needed communications day-in and day-out through thick and thin, then the higher antenna gave the best results. The phrase "day-in and day-out through thick and thin" hints that these studies were somewhat slanted for a commercial service scenario, and not a typical Amateur Radio scenario. What was usually not pointed out with any great fanfare was the fact that, at times, the lower antenna outperformed the higher antenna. This suggests the elevation angle varies.

New England IONCAP Calculations, 20-Meters Signals ≥ 0 dBμV			
RX Location	Min/Max Elev Angles	99% Low	99% High
W1 - England	3.3°-29.7°	≥ 3.8°	≤ 17°
W1 - Ukraine	1.0°-15.9°	≥ 1.4°	≤ 13°
W1 - Japan	2.3°-16.9°	≥ 3°	≤ 16°
W1 - Australia	1.0°-10.0°	≥ 2°	≤ 10°
W1 - Paraguay	1.1°-13.1°	≥ 1.6°	≤ 12°
W1 - India	1.0°-17.8°	≥ 2°	≤ 16°
W1 - Zambia	1.0°-16.0°	≥ 2°	≤ 16°
W1 - Samoa	1.0°-16.4°	≥ 3°	≤ 14°
W1 - Venezuela	1.0°-31.3°	≥ 1°	≤ 31°

Figure 1 Elevation Angle Tabular Data

Can we determine the range of elevation angles needed for a certain path? We certainly can, but someone has already done that for us and the data is sitting there waiting to be used.

That someone is Dean Straw, N6BV, of the ARRL. Back in 1993, he undertook a massive study of propagation. What he did was use IONCAP to predict elevation angles required on paths from each of eight areas within the U.S. to each of nine different areas of the world. He did this for three levels of solar activity (SSN=5, SSN=100, and SSN=160), for four months (February for a winter month, March for early spring, October for early autumn, and November for late autumn), and for 80M, 40M, 20M, 15M, and 10M. As expected, this results in lots of data. It's all in his 3-ring binder book titled "All the Right Angles" (you can contact Dean about this at rdstraw@arrl.org).

For example, Figure 1 shows the elevation angle statistics for a station in W1-land (Boston) to nine areas of the world on 20M. The first column is the target location. The second column gives the minimum elevation angle and the maximum elevation angle predicted by IONCAP over the variables in the above paragraph. The third and fourth columns show the range over which 99% of the angles fall.

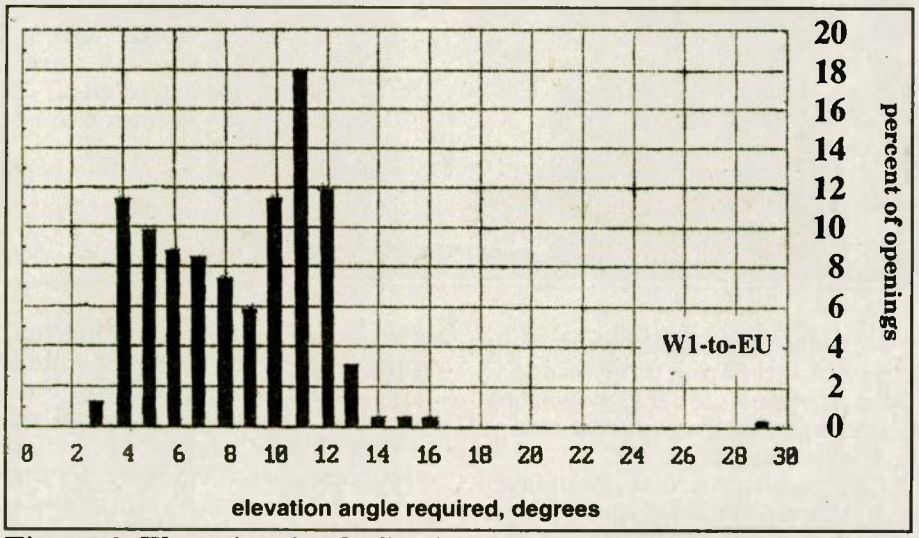


Figure 2: Elevation Angle Statistics

Although this gives a good picture of the lower and upper limits of what elevation angles are needed, it's important to go one step farther to see how the elevation angles are distributed over the total range. Are they bunched up at the lower end, are they bunched up at the higher end, are they evenly distributed, or something else? Figure 2 shows the distribution of angles for the W1-to-Europe path. What's obvious is that it is somewhat of a bi-modal distribution. It has two peaks — one at 4

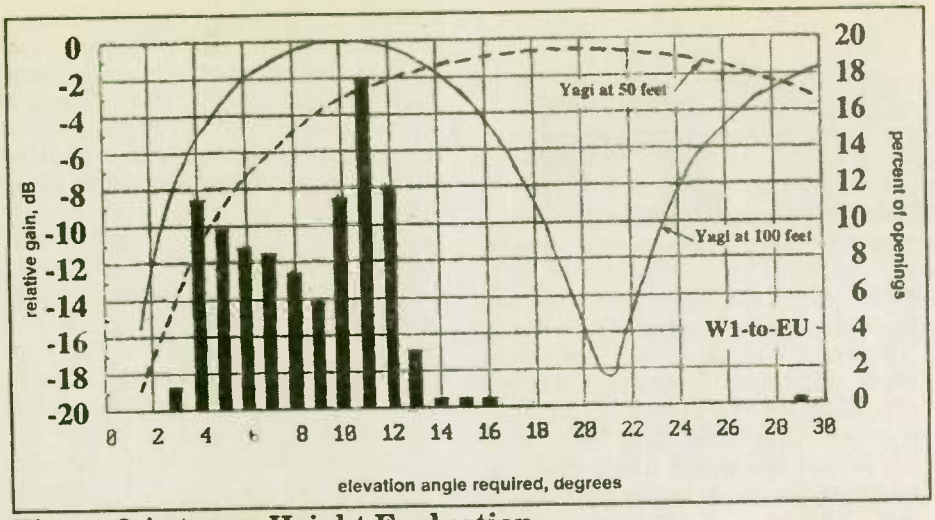


Figure 3 Antenna Height Evaluation

degrees (11% of the openings) and one at 11 degrees (18% of the openings). This is due to two ionospheric modes being predominant — the two-hop F2 mode (2F2), and the three-hop F2 mode (3F2). Also note the angle at 29 degrees. It doesn't occur very often, but it does occur.

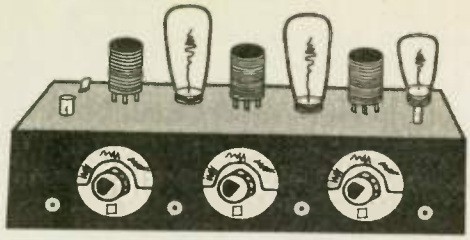
Now we're ready to see how our antennas cover these elevation angles. Let's assume I have two 20M Yagis (or tri-banders). One is at 50 feet and the other one at 100 feet. Figure 3 superimposes the elevation pattern of the two antennas on the elevation angle statistics of Figure 2.

What's readily apparent is the Yagi at 100 feet will do a much better job of covering the required angles for this specific path — even the angle at 29 degrees that doesn't occur too often. So why even have a Yagi at 50ft for 20m? The answer is because we've only looked at one of the nine target areas. Looking at the other eight areas of the world from W1 would show that the higher Yagi, with its pattern minimum in the 20-degree range, would be at a big disadvantage at times due to the other areas that do require elevation angles in the 20 degree range.

The answer to this dilemma is to have both antennas (which is commonly referred to as a stack), and to provide an RF switch that allows selection of either one (it is also common practice to provide for the selection of both).

The example I worked through is for the W1-to-Europe path. The data for this path and all the other paths is available in the aforementioned book, but it's also on the disk that came with the *1994 ARRL Antenna Book* (17th Edition). Take a look at the data for your QTH. Maybe the analysis will suggest something you could do to make an improvement in your ability to work DX.

OLD-TIME RADIO



Jerry's Rig

GEORGE FRANKLIN, WØAV

Back in the thirties, I was a high-school kid without a care in the world. I had my Ham ticket and an honest to goodness home-brewed 160-meter phone (AM, of course) rig. There were plenty of locals in the St. Louis area on 160 and having a good ragchew was hardly ever a problem. Each afternoon when I arrived home from school I'd fire up the rig and see who was on the air.

Most adults were still at work in the late afternoon, but there were a few "older guys" to keep us young kids in line. One of them was my friend Jerry, who "worked nights," as he put it. It turned out that he was pretty much under employed as a bricklayer during a time when money was tight and very little building was going on in St. Louis. His night job was playing the piano in a local beer tavern. Not much pay, but better than nothing. Jerry was a self-taught pianist and a "make something out of nothing" Ham.

During our frequent QSOs on 160 AM, I noted that Jerry's rig sounded a bit mushy and tended to drift in frequency, but all in all it wasn't bad. Jerry described his setup as "made from what he could scrounge," as his finances were severely limited. His expenses, fortunately, were few as he lived in the attic of his uncle's home in south St. Louis. You might say that he was a man of means, by no means. Apologies to Roger Miller for that one.

Not that my own Ham shack amounted to much, but Jerry's zero budget layout fascinated me. I just had to see how you could get on the air without spending a penny. Jerry invited me down to see for myself.

I arrived at Jerry's humble attic shack after a ten-cent streetcar ride. Spartan would be an apt description of Jerry's digs. An ancient cot in one corner of the semi-finished attic was the entire complement of furniture. Not even a chair was to be seen. Most of the open floor space was occupied by Jerry's Ham station. Yep, it was strung out on the floor, looking for all the world like a real life pictorial diagram. In the center was the chassis of a much-modified broadcast receiver. Jerry had removed turns from the various RF coils to slide the receiver down to tune from 1.8 to 2.0 MHz. Various wires connected it to the large speaker propped against the wall and over to a separate power supply liberated from another defunct radio.

The transmitter was a thing of beauty, in that you could literally trace the schematic by observing the parts on the floor. Most, but not all, tubes were in sockets. Myriad wires of various types and colors interconnected the components. All connections were made by twisting wires around components and other wires — Jerry did not own a soldering iron. As I recall, the transmitter measured about two-and-a-half feet, left to right. It consisted of a type 45 tube in a Hartley (self-excited) oscillator, followed by another 45 as a buffer driving a pair of 45s in the output stage. The modulator was the audio chassis from another radio. The microphone was a battered upright telephone instrument, with the "mouthpiece" removed for improved acoustics, I suppose. A foot or so away was a variable capacitor and a nondescript coil, link-coupled to the transmitter, for resonating a random length antenna of fine enameled wire (salvaged from a junked power transformer). The antenna ran out the window to a tree and then to a shed (no insulators) at the far end of the yard. There it was, a no-dollar Ham station, delivering a few watts to the waiting world. How many watts? Who knew, or cared? One thing was certain; Jerry was not exceeding the one KW power limit.

In those days, it was no trick to get all the discarded radios you could carry. You simply visited your local furniture store/radio dealer. The proprietor was usually glad to get rid of the "trade-in" boat anchors. I recall several streetcar rides carrying home "junque" of that type. Once I had to pay 50 cents for an RCA radio with a real voltmeter on the front panel. But I digress.

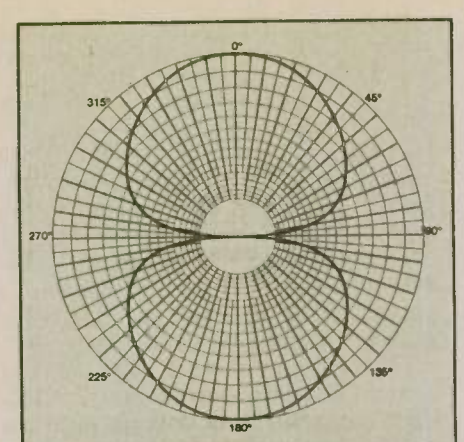
Jerry showed me how he tuned the rig for maximum performance. First, he actuated the transmitter by removing the type 80 rectifier tube from the receiver and plugging it quickly into the transmitter power supply. Quickly, because the tube was hot! I guess you would call this "plug to talk." Then, he moistened his thumb knuckle and touched it to the antenna wire, adjusting the antenna tuning capacitor for maximum "spark" popping over to his thumb. Simple but effective. Who needed meters?

At my own Ham shack I used a somewhat more advanced method of indicating antenna current; a Christmas tree lamp in series with the antenna wire. I just "tuned for max." After tuning I had to remember to short out the lamp. Otherwise, it would have consumed most of the rig's output power. Ah, but I digress again.

Jerry was a regular on 160 Meters for many years. As his fortunes improved, he eventually acquired a first-class store-bought transmitter and receiver. He and another local St. Louis Ham designed and built a unique (back then) coil-shortened 20-meter 3-element Yagi beam. It was written up in *QST* as the *Vest Pocket Beam* and was later sold commercially throughout the world.

My friend Jerry has been a "silent mike" (no CW for Jerry) for many years. I have fond memories of our many ragchews and Jerry's "made out of nothing" Ham shack. — *PHD Amateur Radio Ass'n "News"*

If you have a story that you would like to see in Old Time Radio — send it in!



AERIALS

Kurt N. Sterba

Yoick, Yoicks, Yoicks. Over lo, these many years, we've offered to go over books about antennas before they are printed, and lend our suggestions. Alas, no one has ever accepted our offer. So, we are forced to comment on books AFTER they are printed and they inflict their damage on the unsuspecting.

This book is published by a major company and the author has a one by two call. His credits state that he spent five years working for an antenna company and in his job he was "on the phone talking to thousands of amateurs about their antenna problems." We wonder just how many of them he solved.

For starters, it would be far preferable to say that the SWR is a ratio of the forward power to the reflected power. So many keep saying it is the ratio of the impedance of the feedline to that of the antenna's impedance. The same value of impedance can result from many different combinations of resistance and reactance. If one would run the formula (we've presented here in the past) one would see great variances in SWR with the same "impedance" made up from different values of resistance and reactance. To prove this, even to the owner of an antenna company who writes otherwise,: Take 50 Ohms R and 1 Ohm X. Then take 1 Ohm R and 50 Ohms X. According to the impedance formula both will be the same. However, the SWR will vastly differ. In fact the first will be 1.02:1 and the latter 100.3:1 and that is vastly different.

Then we run into things like this, "It is not practical to operate a quarter-wavelength antenna on its harmonic frequencies because the radiation pattern will change and provide high angle radiation which is much less efficient in long range communications."

Well, if that (let's say) 1/4 wave antenna were on 20M and we operated in on 10M it would now be a half-wave antenna and it would be a low-angle antenna.

And then there are pages on the V antennas and Rhombics without a clue about lengths and angles of the wires to each other.

Then, and this is getting to be painful, was the dissertation on quarter-wavelength matching transformers. That is where you may have a 100-ohm antenna and 50-ohm feedline so a quarter-wave of 75-ohm line is put between them. Sadly, no mention was made that the velocity factor of the line must be factored into the length.

About antenna tuners the author said, "Trying to keep up with three interacting adjustments can be time-consuming and frustrating." Awww, Poor baby.

Again we give the quick answer. Put the Transmitter and Antenna capacitor knobs with the pointers straight up. On many tuners that will be pointing up to the number five.

Then click the inductor taps knob to where the signals are the loudest. Adjust the capacitor knobs to the loudest incoming signal. Then apply power and adjust the capacitors to lowest SWR. It takes longer to write about it than to do it. Write down the settings on a 3x5 card. In order, write down the settings for each band. That way when you return to that band you can preset the tuner, thus sparing yourself the time-consuming frustration suffered by others.

The directions on how to use the Noise Bridge left something to be desired. He talks about having a 50-ohm dummy load and, "If I question the accuracy or calibration of a noise bridge I grab the load on the PL-259 and plug it into the UNKNOWN socket. When I see that the bridge balances at 50 Ohms and zero reactance I know that every thing is at it should be."

Oh, oh. Seemingly left out of all that is that in order to find that zero reactance spot, a dead short must be plugged into the Noise Bridge first.

The author says, "A noise bridge is not a high accuracy device." Well, you can check its accuracy with 1% resistors at wherever you want it to give you the ultimate results. The same goes for the capacitance and inductance side. One nice thing is that opposed to other devices, it doesn't drift. And, how much cutting edge accuracy do you need when you can lose 25% of your power and nobody can hear the difference.

Also, it is very annoying to see, in a supposed technical book, MA for mA and in another place it is given as Ma. And, kHz is given as KHz.

Under the heading "Frequently Asked Questions" is this exchange.

"Should I use a certain length of feed line to my antenna?"

(Then comes this answer in its entirety.)

"Normally the length of the feedline for a matched system is not important. If you are trying to measure VSWR and do not have the VSWR bridge at the antenna terminals then a length of feedline that is equal to an exact multiple of a half wavelength will repeat the antenna impedance at the other end of the line."

THAT IS WRONG! Without cutting the line to half-wavelengths with THE VELOCITY FACTOR of the line multiplied in, it is all just nonsense! We keep seeing this same mistake over and over again. What is going on???

It's almost like nobody is paying attention. One of my spies sent me the spec sheets for an antenna that an English company is trying to sell here in the States. It's some sort of high-angle radiator for which they charge about $10,000. It is irritating to see when they are showing the radiation angle relative to ground that the horizon is 90 degrees and straight up is zero degrees. Someone was asleep when they made that chart. This is an antenna that covers 2 to 30 MHz and "no antenna coupler is needed." Yes, those big fat resistors make it a broadband antenna. Then for only $5,000 you can get an inverted V. Its great virtue is that for

the dummies entrusted with erecting it, there are notches on the wire that correspond with the frequency wanted — cheaper than teaching people how to measure, I suppose.

No doubt, some otherwise useless government bureaucrat will have his agency buy these. The antennas will go into a box, never to be used, and in a few years will be sold at a surplus sale for five or ten dollars.

I received a letter from a reader. For the sake of prudence and possible hurt feelings (however in the latter case I think he is devoid of feelings, or if he had a conscience he would be walking around with a sandwich sign that said, "I'm sorry"), I am deleting both names.

The letter said "XXX XXX said to me that the greatest source of misinformation in Amateur Radio is XXX XXX."

So let's play a little game. The name of the first party shall stay unmentioned. Who is the second person? It wouldn't be nice to mention his name out loud. And we won't. (Actually I would like to but Lil won't let me.) So here is what we'll do. A game! Write to "Mystery Man," ***Worldradio***, 2120 28th St., Sacramento, CA 95818. Write the name of the person (number two) that you feel it fits. We'll throw all the right answers in a box and one will be picked out at random. The winner gets a Kurt White Hat AND a copy of the book AERIALS III. Person number one is a well-known technical figure in Amateur Radio. You are NOT to guess his identity. It is number two, the second XXX XXX mentioned that you are concerned with. You might be a winner, but only if you enter.

Then there is a book that says, "A four-to-one balun will match a 300-ohm impedance to 50 Ohms."

No, a 4-1 balun will match a 300-ohm impedance to 75 Ohms. Nobody can do arithmetic anymore. The same book says "Any length of wire can be loaded at any frequency and will radiate efficiently." How can people write such stuff?

Then there is a book called *Ham Radio Simplified* which has just been published in California. I quote, "Any antenna can operate its best on only one frequency." Hmmmm, that may explain why on 14.200 I bust through pileups with ease but on 14.201 nobody can hear me. And the "its" is incorrect. The author tells us that an SWR ratio of 1:1 is perfect and unattainable. Not so.

He really makes a mess on tuners, and tells us that 3dB means "twice as strong." In the pages devoted to QSLs, logging, and on, no mention is made of Zulu time. WAS and DXCC are mentioned but no WAC. You are told to contact the ARRL but no address is given. "The human voice operates around 400 Hz." As to filters, "On SSB, 1.5 kHz is standard and a narrow filter (750 Hz) is useful."

"A Push To Talk button is found on every transceiver." Hmmm, mine is on the microphone. There are so many goofy things in this book it was consigned to its deserved place.

Allow me to save you $25. Advertised in a recent issue of *QST* was a book, *Radio Aerials Concepts* that turns out to be 140 pages of small pages which is really 70, 8x11-inch pages. He tells us that in a book it was stated, a "half-wave counterpoise system outperformed the quarter-wave counterpoise system." By how much is left out. Was it one millivolt or a hundred millivolts? Huh?

In the experiments in the book the Field Strength Meter was located 10 feet away. Ha! At ten feet the RF is bouncing off the fillings in your teeth. The FSM should be 10 wavelengths away!

In the testing of experimental antennas it seemed that the goal was to get a low SWR. That is not a measure of efficiency.

I'll explain. It may well be that antenna's natural (and best) impedance is not 50 Ohms. For example, as Walt Maxwell, W2DU, has so often pointed out: You put up a 1/4-wave vertical with four radials. There is 14 Ohms of ground loss added to the 36-Ohm antenna. Voila! The antenna reads 50 Ohms (1:1) and you are happy. Next, you put in the perfect ground system. The SWR is now 1.4 to 1.

"Hey, the other way was better!" So you rip out the efficient ground system, have a poorer radiation system but are happy because you see 1:1. To prove the point, in Yagi antennas, for the dimensions that result in maximum gain, the feedpoint impedance is not 50 Ohms. What happens is that the antenna is adjusted for the desired parameters, the impedance is measured (maybe 15 Ohms) and that value is MATCHED to the 50-ohm cable. See?

I didn't read through this $25 book a second time because the thin light type and poor spacing makes it difficult to read. For the same amount of money the *Practical Antenna Handbook* by Joe Carr is a far, far better book and more valuable.

(Make sure the shower curtain goes inside the tub.)

New DX reflector

Jim Kehler, KH2D, reports that with the demise of the VE7TCP reflector, he has set up an unmoderated e-mail reflector. "Anyone interested in DXing is welcome to subscribe," he says. "In the event that the old reflector doesn't find a new home, this one will stay in place." Information is available on the Mariana Islands DX Association Web site, www.guam.net/pub/midxa/dx-list.html. The IDXA site is mirrored at www.qsl.net/midxa. The site has recently added a public service page, club photos, and MIDXA digital voice keyer software for Windows, which may be downloaded. — *KH2D, ARRL Letter*

Contests

Dave Goodwin
VE2ZP/VE9CB

e-mail: ve2zp@bbs.ve3jf.ampr.org
packet: VE2ZP@VA3TCP.#EON.ON.CAN.NOAM

DX clusters and HF Contesting

In most of the larger cities of the world, and in many smaller towns, DXers have set up networks of packet radio nodes dedicated to the exchange of DX information. Beginning with PacketCluster™, written by AK1A in the 1980s, and continuing with several PacketCluster™ knock-offs, such as CLUSSE, and an MSYS BBS-based "DX cluster," many DXers now have an easy means to share DX information as it happens.

In its simplest form, a DX cluster works as follows: a DXer or a club set up a packet station running special purpose-designed software, such as PacketCluster™. This "node" allows several different stations to be connected at the same time. An individual DXer sends a simply-formatted message to the node, to announce the call sign and frequency of a station he or she has just heard. That "spot" is then resent to every other connected station, and stored in a database from which any user can recall it. These nodes are also used to store WWV propagation reports and QSL information, to exchange personal e-mail between users, and to facilitate keyboard-to-keyboard conferences among users.

Much of this access is via 1200-baud 2M packet nodes, but many users access these through the Internet. The networks themselves rely on a combination of VHF and UHF packet links and the Internet to distribute the information DXers send. Your local DX cluster may have spots sent by DXers half a world away.

Through a DX cluster, you can have DX information fed to you by other DXers. When these nodes are connected in a larger network, you could have hundreds, or even thousands of DXers out there sharing information. For DXers, DX clusters have been a boon, providing a source of real-time information, letting people know what's on the bands, what bands are open, and what the propagation conditions are like.

DX clusters have had their impact on contesting, too. Now, many contesters are employing DX clusters to be alerted to new multipliers. Responding to popular demand, many contest organizers have added new categories for the packet or DX cluster-assisted single operators, or modified the wording of their rules to explicitly state who may use DX cluster assistance and under what circumstances.

Most of the most popular contest logging software (see June 1998 Worldradio) includes a means of connecting to DX clusters during a contest. This software also has "spot filters" written into the program. These "spot filters" look at each spot and compare it to your log. If the spot is for a multiplier you need, the software will alert you, and if you're properly equipped, with a single keystroke, your transceiver will retune to the frequency of the spot, and the software will be ready to log the new station once you work it.

Sounds great, doesn't it? But, like any technological innovation, there are a few ethical questions that come up, and with over ten years of experience with DX clusters, some of those questions have been answered with clear guidelines about how DX cluster assistance may be used.

For the major contests, DX clusters may be freely used by multi-op stations and participants in the special "assisted" categories. Regular single-operator entrants are not allowed to use DX clusters during most contests, and you should assume that DX cluster assistance is something you shouldn't use if you are a single operator and planning to submit an entry.

CQ Magazine's WW DX Contests have a hard-working committee who have come up with a set of rules about the permissible and impermissible uses of DX clusters in their contests. Their rules may be a useful guideline for how we all use DX clusters in any contest, and they were spelled out quite clearly in the November 1997 issue of *CQ-Contest* magazine.

For entrants in the Assisted and multi-op categories of the *CQ* WW contests, "passive" use of DX clusters is quite acceptable. This means reading spots and sending spots.

Using the DX clusters actively to identify stations or to call attention to yourself is not acceptable. Spotting yourself is a no-no. Asking other users to help you identify a station you are having trouble copying is also wrong. Correcting other people's spotting errors is wrong. Asking for propagation tips is wrong. Pleading for help to find a needed multiplier is wrong. In the view of the *CQ* WW committee, these "active" uses of DX clusters fell outside the spirit of the rules as they were written, and thanks to recent modifications, they now fall outside the language of the rules.

Contest of the Month — ARRL Sweepstakes

CW: 2100Z Sat. 07 November to 0300Z Mon. 09 November 1998.

Contest	Date/Time	Bands	QSO points	Multipliers	Exchange	Entry Categories	Logs
ARRL Sweepstakes CW	2100Z 07 Nov 0300Z 09 Nov	160-10M CW	3pt/QSO Work stns once, regardless of band	ARRL Sections Count once, regardless of band	Ser#, Pwr class, ur call, Yr first licensed, Section	Single Op: High power (A), Low Power (B), QRP (Q) Multi-op single tx	1 mo. ARRL
Japan Int'l DX	2300Z 13 Nov 2300Z 15 Nov	80-10M SSB	1pt/QSO 2pt/80, 10M Work Japan only	JA Prefectures (50) on each band JAs will send a 2-figure prefecture number	RST Ser#	Single Op: All bands, Single band Multi-op, single tx	31 Dec Box 59 Kamata Tokyo 144
European DX RTTY (Germany)	0000Z 14 Nov 2359Z 15 Nov	80-10M RTTY	1pt/QSO 1pt/QTC In RTTY contest, work stations outside Europe	WAE Countries worked on ea. band x2 on 10/15/20 x3 on 40M x4 on 80M	RST Ser#	Single Op: All bands, Single band Multi-op: Single or multi-tx All entrants may use PacketCluster	15 Dec Box 1126 D-74370 Sersheim Germany
OK/OM DX Contest (Czech Republic)	1200Z 14 Nov 1200Z 15 Nov	160-10M CW & SSB	3pt/QSO Work OK, OL and OM only	Czech and Slovak counties on each band. OKs, OLs and OMs send a 3-letter county abbreviation	RST Ser#	Single op all bands: Mixed mode, CW, SSB, QRP Multi-op SWL	15 Dec OK2FD
Ukrainian DX	1200Z 14 Nov 1200Z 15 Nov	80-10M CW & SSB	1pt/VE 2pt/NA 3pt/DX 10pt/Ukraine	DXCC + WAE Countries + Ukrainian Oblasts (27)	RST Ser# Ukr. send Oblast#	Single Op: All bands, Single band, All band QRP, Single band QRP Multi-op: Single or multi-tx SWL	1 mo. Box 4850 Zaparozhye 330118 Ukr.
ARRL Sweepstakes SSB	2100Z 21 Nov 0300Z 23 Nov	160-10M SSB	3pt/QSO Work stns once, regardless of band	ARRL Sections Count once, regardless of band	Ser#, Pwr class, ur call, Yr first licensed, Section	Single Op: High power (A), Low Power (B), QRP (Q) Multi-op single tx	1 mo. ARRL
IARU Region 1 160m	1400Z 21 Nov 0800Z 22 Nov	1810-1950 CW	1pt/QSO	DXCC/WAE countries (2 mult pts. each) Canadian provinces,U.S. and Australian states, UK counties, French departments, German DOKs, etc. (1 mult pt. each)	RST Prov	Single Op (max 14 hrs. of operation) Multi-op (no time limit) SWL	31 Dec OVSV HQ Theresienggasse 11, A-1180 Wien, Austria
CQ WW DX CW	0000Z 28 Nov 2359Z 29 Nov	160-10M CW	0pt/VE 2pt/NA 3pt/DX	DXCC + WAE countries + CQ Zones	RST CQ Zone	Single Op: All Bands, Assisted, Low power, QRP, Single band Multi-op: Single of multi-tx	1 mo. CQ mag.
ARRL 160m	2200Z 04 Dec 1600Z 06 Dec	160M CW	3pt/VE, W 5pt/DX	ARRL Sections + DXCC countries	RST Section	Single Op: High power, Low pwr, QRP Multi-op	6 Jan ARRL
ARRL 10m	0000Z 12 Dec 2359Z 13 Dec	10M CW & SSB	2pt/SSB 4pt/CW x2 for USA Novices/Techs	Canadian provinces, territories, Labrador, U.S. States, DXCC	RST Prov	Single Op: Both or single mode, all with High, Low and QRP pwr cats. Multi-op.	1 mo. ARRL

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

(PST: 1 p.m. Sat. 07 November to 7 p.m. PST Sun. 08 November)

(EST: 4 p.m. Fri. 07 November to 10 p.m. EST Sun. 08 November)

SSB: 2100Z Sat. 21 November to 0300Z Mon. 23 November 1998.

(PST: 1 p.m. Sat. 21 November to 7 p.m. PST Sun. 22 November)

(EST: 4 p.m. Fri. 21 November to 10pm EST Sun. 22 November)

For a great many American contesters, the Sweepstakes is the ultimate challenge, the event which has no equal. The "SS" has a very long and unique history, stretching back to the 1930s. The SS began as a traffic-handling exercise, and entrants were required to create, send and relay messages in the full format of ARRL's National Traffic System (NTS). Over time, the nature of the event changed, influenced by the growing popularity of contests, but some elements remained the same.

In SS, you may work each station only once during the entire contest, regardless of band. As well, you collect multipliers only once, regardless of band. The maximum multiplier is 79, one for each "section" of the field organizations of the ARRL and the Radio Amateurs of Canada (RAC). As well, you may only work stations in Canada, the United States and its possessions. If you are called by a friendly G or JA, say hello, but don't log the QSO — it's worth nothing to your SS score.

The exchange is one of the most curious and unique in the world of contesting, but if you've ever handled NTS traffic, it should be somewhat familiar - it mimics an NTS message preamble. The SS exchange includes the following information: a serial QSO number; a "precedence," actually your power level (Q for those running 5W out or less, A for those running 150W out or less, B for those running more than 150W output), your call sign, a "check" which in this case is a two-digit number indicating the year you were first licensed, and the name of your section. For example, if I were taking part in the CW SS, I would send the following to the first station I worked: "1 B VE2ZP 75 QC" which translates as: this is my first contact, I'm running more than 150W, my call is VE2ZP, I was first licensed in 1975 and I am in the Quebec section. Simple, eh? Well, okay, it's not simple, but once you get used to the rhythm, it will seem almost normal.

A typical SS SSB QSO might sound like this:

Station 1: "CQ SS CQ SS November Eight Kilo Romeo, November Eight Kilo Romeo, SS." (N8KR calls CQ for Sweepstakes contacts, using proper phonetics.)

Station 2: "Victor Echo Five Mike X-ray." (VE5MX replies by saying his call sign once phonetically.)

Station 1: "VE5MX, number 453 Bravo N8KR seven-six Michigan"

(N8KR informs VE5MX that this is his 453rd contact in this contest, he is running more than 150W, repeats that his call sign is N8KR, states he was first licenced in 1976 and is located in Michigan [MI]. He then listens for VE5MX's reply.)

Station 2: "Roger, number 577 Alpha VE5MX eight-nine Saskatchewan" (VE5MX replies with a QSO number of 577, states that he's running less that 150W, repeats his call sign, states he was first licenced in 1989 and is located in Saskatchewan [SK] .)

Station 1: "Thank you, November Eight Kilo Romeo." (N8KR thanks VE5MX for the contact, and is standing by for other stations to call him. If he gets no response, he'll call CQ again.)

One tactical wrinkle in the SS is budgeting your off-time. The rules limit all entrants, including multi-ops, to a maximum twenty-four hours of operating time in the thirty-hour contest period. While that may not seem like much of a problem initially, the well of stations to work in the SS is fairly shallow. A poorly-chosen off-hour has made the difference between many a winner and a second-place score. If you are a serious, full-time entrant, you will probably work most of the other serious full-time entrants in the first several hours of the contest, however the majority of stations you work will be more casual participants, folks who may be less interested in pulling an all-nighter. In choosing your off-time, you want to make sure that you are on when most of the other casual participants will be on.

One mark of SS success is making a "clean sweep," working all 79 multipliers. The most notoriously difficult multipliers have usually been the Yukon/Northwest Territories section (VY1 and VE8), the West Indies section (KP2 and KP4), or some of the less-populated US states and Canadian provinces. Thankfully, the rarest sections are regularly activated by an inspired local, or by even more inspired visitors, so most of the time, sweeps are not impossible, but it does require some work on your part.

To boost participation in the SS, ARRL offer special coffee mugs to those who make a "clean sweep," and special lapel pins awarded for making a minimum number of SS contacts. There is a small fee for each of these, but they really dress up the shack and are good conversation-starters.

Other November contests

The CQ WW DX CW contest takes place at month-end, filling the CW bands with some of the most choice DX. The SSB version of the contest was held last month, and was featured as "Contest of the Month" in October 1998 ***Worldradio***.

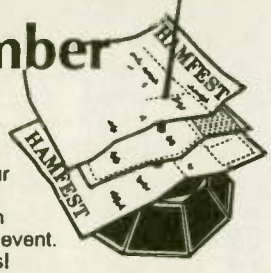
The WAE RTTY contest takes place this month. It is similar to the WAE CW and SSB contests (featured as "Contest of the Month" in August 1998 Worldradio), but contacts between stations outside Europe are allowed.

Top Band (160M) should be alive with Europeans and Africans as IARU Region organizes its third annual contest on that band. There are also national contests focused on Japan, the Czech Republic, Slovakia, Ukraine

Good luck in the contests.

Hamfests

November



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!

ALABAMA

Mongomery ARC Hamfest/Computer Show on Saturday, 14 November at South Alabama State Fairgrounds (Federal Dr. in the NE section of historic Montgomery.) Admission $5. Setup: Friday, 3-8 p.m.; Saturday, 6-8 a.m. Open 9 a.m.-3 p.m. VE exams at 8 a.m. Talk-in: 146.24 (+). Ragchew: 146.32(+), 147.78(–), 449.50(–). For information: Hamfest Committee, c/o 2141 Edinburgh Dr., Mongomery, AL 36116-1313; or call Phil, 334/272-7980 after 5 p.m.; Email: wb4ozn@world net.att.net; Web: http://jschool.troyst. edu/~w4ap/.

FLORIDA

Lake ARA Hamfest, Computer Show and Electronic Expo on 07 November at the East Chamber of Commerce Building in Sorrento, FL. Admission $5, tables $10 (includes one admission). Setup: Friday, 3:30-6 p.m.; Saturday, 6-8 a.m. VE exams at 10 a.m. Talk-in: 147.255(+) and 442.90(+). For information and reservations contact: Chuck Crittendon, KA4EXM, P.O. Box #615, Altoona, FL 32705; Tel.: 352/669-2075.

FLORIDA

Flamingo Net and the **University of Miami ARC** will hold their Hamfest 07 November at the Physics parking lot, NW corner of the U. of Miami Coral Gables campus. Free to buyers and sellers. Talk-in: 146.865(–). VE exams (appointment required). For more information, contact: Walt, W4DWN, 305/895-0398.

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Pelican Chapter #128 of QCWA Catered Fried Chicken Picnic on 16 November in shelter #13 at Lake Seminole Park, St. Petersburg, FL. Starts at 10:30 a.m. Cost is $7.50 per person. Menu is fried chicken, dessert and drink. For tickets and reservations contact: Don Bice, W4PCO at 813/347-2707. Talk-in: 145.29(–).

INDIANA

Evansville Winter Hamfest on 28 November from 8 a.m.-2 p.m. at the Vanderburgh County Fairgrounds Expo Center. Talk-in: 145.150(–), 146.925(–) and 443.925(+). For table reservations or information, contact: Neil, WB9VPG at 812/479-5741 or write: EARS, 1506 S. Parker Dr., Evansville, IN 47714; Email: earsham@aol.com; Web: http://members.aol.com/earsham.

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Allen County ARTS Fort Wayne Hamfest/Computer Show 14-15 November at Allen County War Museum Coliseum (corner of Indiana 930 and Parnell Ave.). Open 9 a.m.- 4 p.m. on Sat. and 9 a.m.-3 p.m. on Sun. Setup Fri. evening and Sat. Morning. Admission $5. Parking $2. VE testing Saturday. Talk-in: 146.88(–). For more info. leave a message at 219/483-8163 (tables) or 219/484-1314 (general info.). Or send SASE to: ACARTS/Fort Wayne Hamfest, P.O. Box 10342, Fort Wayne, IN 46851; Web: www.pipeline.com/~dagagnon/.

IOWA

Tikva Tracers ARC Hamfest on 01 November at the 4H Building, Iowa State Fairgrounds, Des Moines. Setup: Sat., 6-9 p.m., Sun., 6 a.m. Open at 8 a.m. Admission $5, Table $10 for first, $8 additional, $8 electricity. VE exam 9:30. For info contact: Hamfest Iowa 98, Randal Lees, NØLMS, 1575 Northwest 78th Street, Clive, Iowa 50325-1255; 515/279-4241; Email: rclees@ raccoon.com.

KENTUCKY

Kentucky Mountains ARC Radio Swapfest on 07 November at Hazard High School (South end of Rte. 15, Hazard Bypass) from 8 a.m.-2 p.m. ARRL forum, skywarn classes, VE exams. Admission $3, tables $4. Setup at 6:30 a.m. Talk-in:146.07(+). For info. contact: John Farler, K4AVX, 109 Hall St., Hazard, KY 41701; Tel.: 606/436-5354; Email: jfarler@mis.net.

MISSISSIPPI

West Jackson County ARC Hamfest/Swapfest on 20-21 November at Latimer Community Center North (four miles North of I-10, use exit 50, Ocean Springs, Mississippi). Open 5-9 p.m. on the 20th and 8 a.m.-2 p.m. on the 21st. Admission $2/adult or $4/family. Tables are $5 (advanced deposit required). Talk-in: 145.110(-). For info. contact: Phil Hunsberger, W9NZ 228/872-1499; or Harry

McLemore, KD4AK, 228/872-0732; or write: WJCARC, P.O. Box 1822, Ocean Springs, MS, 39564.

NEW HAMPSHIRE

Interstate Repeater Society ARC Ham Radio Flea Market on 07 November 8 a.m.- 1 p.m. at Londonderry Lions Club (Mammoth Rd. Rt. 128). Admission $2, Tables $10. For tables or information contact: Paul, K1LLX, 603/432-1538; Email: k1llx@juno.com.

OHIO

Massillon ARC Hamfest & Auction on 01 November at Stark County Fairgrounds, 305 Wertz Ave. NW, Canton, OH. Setup at 6 a.m., open at 8 a.m. Admission $5/door, $4/advance. Tables $10. Auction at 10 a.m. Talk-in: 147.18(+). For Info and reservations send SASE to: MARC, P.O. Box 73, Massillon, OH 44648; Email: marc.hamclub@juno.com or call Terry Russ, 330/837-3091 before 10 p.m.

OKLAHOMA

Enid Hamfest Group on 07 November at Hoover Building, Enid, OK (Oxford & 4th streets at the Garfield County Fairgrounds) from 8 a.m.-5 p.m. Admission $2, Tables $1. Talk-in: 147.15(+) and 444.400(+). VE testing at 1 p.m. For info. contact: Tom Worth, N5LWT, 580/233-8473, n5lwt@hotmail.com; or Fred Selfridge, N5QJX, 580/242-3551, frednnel@ionet.net

SOUTH CAROLINA

Grand Strand ARC Beachfest 98 on 7 November at Myrtle Beach High School. Admission $5, tables, $15ea., 2/$25, 3/$35. VE testing. For registration go to: www.w4gs.org. For info. contact: James Wood, P.O. Box 14581, Surfside Beach, SC 29578; Tel.: 843/238-0800; Email: kf4cje@juno.com

TEXAS

West Texas ARC Hamfest will be held on 07-08 November. See http://nonprofit.apex2000.net/hamfest/.

WISCONSIN

Fox Cities ARC Hamfest on 08 November at the Starlite Club (Hwy. 55 and Cnty. Rd. JJ). Setup at 6 a.m., opens 8 a.m. Admission $4/adv., tables, $8. VE testing (no w/i after 9 a.m.). Exam info call: Larry, KD9IA, 920/757-1167. Talk-in: 146.52. For more info.: FCARC, 1912 Russet Ct., Appleton, WI 54914; or call Chad Pennings, N9PRC, 920/993-0485.

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

MICRO-JET TORCH

Solder-It Co. annouces their new Deluxe Micro-Jet Torch (MJ-500) based on the popular Fuel Cell Technology or their standard Micro-Jet Torch. The new Micro-Jet Butane Torch produces a pinpoint 2400F flame and is fueled by a refillable butane fuel cell (included) OR by readily available disposable cigarette lighters. Additional new features include a front trigger ignition and chain secure nozzle safety cap. Included with the MJ-500 is a free syringe of Solder-It Silver Bearing Low Temperature Solder Paste. Use the Micro-Jet for coax connectors, emergency repairs, camping, crafts, eletronics, heat shirnk tubing, and hundreds of other household, hobby, and professional repair applications. Order MJ-500 for $24.95 + $5.00 S/H (check, VISA, M/C) from Solder-It Co. P.O. Box 20100, Cleveland, OH 44120. (800) 897-8989; www.solder-it.com for more info.

Kantronics GPS-TX

Kantronics is now producing a 2-meter, crystal controlled transmitter kit, ideally suited for GPS/APRS applications. The transmitter design is compatible with Kantronics' KPC-3, KPC-3 Plus, KPC-9612, KPC9612 Plus, KAM, KAM Plus, and KAM'98 TNCs (modems).

The kit includes a two-sided printed circuit board, DB-9 pcb mount connector, assembly and application manual, schematic, a 144.390 MHz AT cut crystal, and necessary parts to complete the transmitter board. The kit DOES NOT include a case, external male DB-9 connector and cabling, any test equipment, or any hand tools.

The printed circuit board is 3.5" by 4.97". The PCB is two-sided, FR-4 material and includes parts legends on the component side. The assembly and application manual includes the following: prompt sheets showing where to insert the parts and in what order, instructions for attaching the transmitter to a KPC-3 Plus (or similar) TNC, tuning procedures, and operating instructions.

Suggested Retail $79.95. Part Number: Kantronics GPS-TX

KAM'98

The Kantronics KAM'98 is a single-port multi-mode controller for wireless digital communication, with an auxiliary connector optimized for remote sensing and control. This unit advances the state of art beyond the pioneering Kantronics KAM and KAM Plus products in a number of ways, including increased processing power and more available transmission speeds.

The KAM'98 offers a wide and rapidly expanding range of commercial, governmental, and amateur uses: The KAM'98 offers full support for GTOR, PACTOR, SITOR, and/or AMTOR modes of communication — both linked (e.g. AMTOR ARQ) and unlinked (FEC, SELFEC, NAV'TEX/AMTEX) with HF transceivers.

HF/VHF transceiving: the KAM'98 uses a single radio port for VHF as well as HF operations. The HF/VHF radio port can be connected to and HF transceiver, a V transceiver, or an HF/YHF transceiver.

More speeds of communication: the HF/VHF radio port supports baud rates (equivalent bps) from 45 to 1200 (300 for HF, 1200 for VHF). This range of data transmission speeds has many advantages.

While including the modes of previous Kantronics modems, the KAM'98 utilizes a new Motorola HC 11 heavy duty microcomputer, 128K RAM standard (expandable to 512K), programmable MARK-SPACE modem, and an auxiliary port (separate from the RS-232 port) to accommodate data gathering devices — including GPS modules.

Take the next step in digital data transfer today! Suggested Retail $449.95.

Kantronics Co., Inc., 1202 E 23rd St., Lawrence, KS 66046; Phone: 785/842-7745; Fax: 785-842-2031; E-mail: sales@kantronics.com: Web: www.kantronics.com

Vibroplex Square Racers

Vibroplex has New Square Racers! A departure from our traditional Brass Racer, these keys have a heavy solid steel base which anchors the key in the operating position. The same unique Racer magnetic design is used on these New Racer models, NO springs! Each key has the famous Vibroplex brass logo plate with a unique serial number pinned to the top of each base with stainless steel pins. Maintaining the highest possible quality, its design is distinctively Vibroplex.

Available in two models: The Deluxe version has a highly polished decorative chrome base with bright chrome top with red finger pieces. Retail $134.95. The Standard version is a neat black textured base with decorative chrome top parts, with black finger pieces. Retail $109.95.

Orders will be filled on a "first come-first serve" basis so the early orders will receive the lower serial numbers.

The Vibroplex Co., Inc., 11 Midtown Park E., Mobile, Alabama 36606; FAX: 334/476-0465; 800/840-8873

Vibroplex 'Bug Tamer'

Anyone who owns a Vibroplex Original 'Bug' knows that the speed range is approximately 20 wpm on low side and 50+ wpm on high side. Given these high standards of speed, lots of Hams struggle to use the traditional 'Bug'. Vibroplex has now introduced the 'Bug Tamer' just for that reason. Now, anyone can use a 'Bug'.

The 'Tamer' extends the pendulum and makes a dramatic reduction in the Bug's speed range with the use of your existing speed weight(s). Your Bug's speed can be adjusted down to 10-12 wpm or possibly slower.

Bug tamers include the extension arm, nylon and stainless steel set screws with alien wrench to attach it to the pendulum of your Bug.

Two versions are available: Chrome version ($24.95) and Brass version ($20.00).

The Vibroplex Co., Inc., 11 Midtown Park E., Mobile, Alabama 36606; FAX: 334/476-0465; 800/840-8873

Vibroplex wooden key case for original 'bug'

Vibroplex has new wooden key cases for the Original 'Bug'. Protect your investment with this attractive carrying case. Cases are handcrafted from hardwood, with finishing touches of brass hinges and handle. The interior is felt lined and designed to hold your bug in place while transporting. Placed on top of each case is the famous serialized Vibroplex logo plate. This case is a must for any 'Bug' owner. These highly requested wooden cases are in limited quantities. ($119.95 plus shipping and handling).

The Vibroplex Co., Inc., 11 Midtown Park E., Mobile, Alabama 36606; FAX: 334/476-0465; 800/840-8873

Courage Handi-Ham Christmas Catalog

Have you stocked up on your holiday greeting cards yet? If not, why don't you call and order the Courage Cards catalog from the Courage Center? The Courage Center is the home of Courage Handi-Ham, the program featured on the cover of the June 1998 issue of ***Worldradio***.

This program is for all handicapped individuals, not just Amateur Radio operators. They have some very, very talented artists as members of the Courage Center, and they again offer a unique selection of holiday greeting cards at a very attractive price. Your purchase of cards from the Courage Center helps support their programs and services assisting handicapped individuals.

The catalog contains card designs, plates, mugs, collector's tins and unique gifts, too! Each design is a special design from the artist, and each artist is a member of the Courage Center program.

You can obtain a catalog by calling 800/992-6872.

VE exam schedules

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

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

State	City	Contact	Notes
Arizona			
11/14/98	Tucson	Joe, K7OPX 520/886-7217	w/i
Arkansas			
11/14/98	Forest City	Tom, KK5YN, 870/588-3759	p/r pref.
11/21/98	Gassville	Phil, AB5ZU 870/425-7406	p/r pref.
California			
11/19/98	Colton	Harold, AB6RN 909/825-7136 days or 909/685-6073 eves	p/r pref.
11/28/98	Culver City	Scott, K6PYP 310/459-0337 or Dave, N3BKV 818/559-2572	w/i
11/07/98	Culver City	Clive, AA6TZ 310/827-2538	w/i pref.
11/14/98	Cypress	Harrison, AC6TI 414/952-6114	w/i
11/28/98	Escondido	Harry, WA6YOO 760/743-4212	p/r
11/10/98	Fremont	Dennis, K6DF 510/791-0914	w/i only
11/15/98	Fresno	Charles, W6DPD 209/431-2038	w/i only
11/14/98	Glenn Ellen	Randy, 707/996-9252	p/r pref.
11/14/98	Harbor City	Elvin, N6DYZ 310/325-2965	p/r
11/28/98	Lake Isabella	HOTLINE 760/379-2947	p/r pref.
11/30/98	Montclair	Steve, 909/597-2249	w/i pref.
11/01/98	Oakland	Vern, AA6YE 510/233-4504	p/r pref.
11/21/98	Pablo Verdes	Paul, K1TKL 310/644-2271	w/i
11/21/98	Redwood City	Joe, KB6OWG 408/255-9000	w/i only
11/08/98	Sacramento	Dick, N6DK 916/383-2113	p/r
11/14/98	San Pedro	Elvin, N6DYZ 310/325-2965	p/r pref.
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11/14/98	Snta Barbara	Nancy, WR6V 805/967-4473	p/r pref.
11/21/98	Stockton	Mark, W6DKI 209/465-7496	w/i
11/14/98	Sunnyvale	John or Gordon, 408/255-9000	w/i only
11/28/98	Pamona	Warburg, WA6HNC 909/949-0059	p/r
11/07/98	Visalia	Carl, AB6TL, 209/732-9652	p/r
Colorado			
11/14/98	Denver	Glenn, WØIJR 303/366-0155	w/i pref.
Florida			
11/21/98	Melbourne	Bill, WB9IVR 407/724-6183	p/r pref.
11/17/98	Middletown	Paul Lux, K1PL 860/635-1742	p/r pref.
Georgia			
11/07/98	Ellijay	Hugh or Dorothy, 706/276-6660	w/i
11/01/98	Gainsville	Terry, K4FB 770/967-6364	
Idaho			
11/14/98	Boise	Lem, W7JMH 208/343-9153	w/i pref.
11/18/98	Grangeville	Larry, AB7GY 208/983-2163	w/i pref.
Illinois			
Anytime!	Burr Ridge	Deni, W9DS 630/986-0061	p/r
11/17/98	Dekalb	Lynn, AA9NA 815/824-2942	no pref
11/14/98	Oak Forest	David, NF9N 708/448-0580	p/r pref.
Indiana			
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11/09/98	Hazard	John, K4AVX 606/436-5354	w/i
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11/21/98	Concord	Bobby, AE4ZQ 704/932-9430	
11/28/98	Hendersonville	Lewis, AC4WI 704/684-3424	w/i
12/12/98	Leicester	Larry, WB4PLA 704/683-1400	w/i
11/14/98	Robbinsville	Janet, KR4DU 704/479-3173	w/i ok
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11/28/98	Van Wert	Robert, KA8IAF 419/795-5763	p/r pref.
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Tuesdays	Bend	Bill, K7ZM 541/389-6258	p/r only
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11/12/98	Providence	Judy, KC1RI 401/231-9156; Al, NN1U 401/454-6848	w/i pref.
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11/21,28/98	Memphis	Stan, AC4CQ 901/758-0661	
11/21/98	Morristown	John, AD4JB 423/581-4227	
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11/28/98	Brownsville	Bob, K5VC 210/542-7449 (days) or 210/546-4779 (eves)	p/r pref.
11/07/98	Harlingen	George, K5MRT 210/797-1762	w/i ok
11/10/98	Houston	Harold, ND5F 713/464-9044	p/r pref.
11/21/98	Mission	Vince, W9KGT 956/580-1957	
Virginia			
11/12/98	Chesapeake	Pat, KE4URC 757/421-9598	p/rf
11/28/98	Gloucester	Harry, N4THN 804/642-3517	p/r pref.
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100 QSL CARDS $8.50 postpaid. Stamp for sample. We print mini cards too. ARTIST, P.O. Box 148652, Nashville, TN 37214. 1198

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WANTED: HAM EQUIPMENT AND RELATED ITEMS. Donate your excess gear or related items, new-old-in any condition-to the Radio Club of Junior High School 22, the Nation's only full time non-profit organization working since 1980 to get Ham Radio into schools around the country as a teaching tool using our EDUCOM - Education Thru Communication. Send your radio to school. Your donated material will be picked up anywhere or shipping arranged and this means a tax deduction to the full extent of the law for you as we are an IRS 501(c)(3) charity in our 18th year of service. It is always easier to donate and usually more financially rewarding, but most important your gift will mean a whole new world of educational opportunity for children nationwide. Radios you can write off, kids you can't. Make 1998 the year to help a child and yourself. Write, phone or fax the WB2JKJ "22 Crew" today: The RC of JHS 22, P.O. Box 1052, New York, NY 10002. 24 hours, call 516/674-4072; Fax 516/674-9600; e-mail crew@wb2jkj.org; internet: www.wb2jkj.org. Join us on the WB2JKJ Classroom Net, 7.238 MHz. 1100-1230 UTC daily and 21.395 MHz. 1400 to 2000 UTC. Join us at the RCA Annual Meeting this month and see WB2JKJ receive the Barry Goldwater AR Award. 1198

CHAVERIM-WESTERN USA AND MEXICO CHAPTER. Jewish amateurs and friends interested in our chapter of Chaverim, contact PAUL KANE, WA6WGP, 5401 Sadring, Woodland Hills, CA 91367; e-mail wa6wgp@aol.com. 1098-399

WANTED: COLLINS RADIOS, any condition for my collection. FRED, W6YM, 17890 Sharon Ct., Pine Grove, CA 95665; fhonnold@juno.com; 209/296-5990. 6-1198

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Why some batteries don't hold a charge

KEN JONES, WD9IBJ

I never really understood how batteries worked and all of the concern about charging, discharging, and memories. This is of course only one of many things that I don't understand.

It seems that when I got my 2 Meter HT, I also bought and extra battery so I could be charging one up while I was running the other one down. Over a period of time, both batteries have been used about an equal amount of time, used under similar conditions and recharged about the same number of times. With this in mind, I found it hard to understand why one battery would hold a charge for an extended period while the other battery seems to drain off in nothing flat. I have pondered this situation for some time now, and have come up with a theory that seems valid even if it hasn't yet been proven.

It goes something like this

Most people don't realize that electrons come in two kinds - male and female. My one battery, the one that holds a charge, had both male and female electrons placed in it at the factory. When the radio is turned on, the electrons become excited and actually reproduce more electrons. With these additional electrons available, the battery will hold a charge longer. Eventually, however, the interbreeding of the electrons produces a lower grade electron and a complete recharging finally becomes necessary.

The second battery, the one that won't hold a charge, had only male electrons placed in it as a result of an error at the factory when the battery was built. With this battery, when the radio is turned on, the male electrons get excited but with no females around, soon abandon the battery leaving it dead. These male electrons usually fall to the floor where evidence of their existence can be found when we walk across the carpet and pick up static electricity.

Well, if you have a better explanation, let me know. — *Peoria ARC "Bandbits"*

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ADVERTISERS' INDEX

WORLDRADIO

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Back by popular demand, the original collection of antenna columns from the early years with Sterba and Paddle. 2nd printing. 112 pp. $11.00 + $2.00 s/h ($4.00 for non-US ZIP air delivery.) CA residents add $.85 tax.

•**AERIALS III**, *by Kurt N. Sterba & Lil Paddle*

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

•**NEAR VERTICAL INCIDENCE SKYWAVE COMMUNICATIONS — THEORY, TECHNIQUES AND VALIDATION,**
by LTC David M. Fielder & MAJ Edward Farmer, AA6ZM, P.E.

A compilation of previously published articles regarding NVIS propagation and communication, a mode which allows medium and high frequency radio waves to "leap tall mountains with a single bound," enabling continuous, dependable coverage of areas of operation spanning several hundred miles. 144 pp., over 100 illustrative figures & tables. $14.00 + $2.00 shipping and handling. ($4.00 for non-US ZIP air delivery.) CA residents add $1.09 tax.

•**SIX METERS, A GUIDE TO THE MAGIC BAND, REVISED,** *by Ken Neubeck, WB2AMU*

A labor of love by the author, the book provides comprehensive information on Six Meter equipment and modes. A little history of the Golden Age of Six Meters is provided along with some explanations for the causes of various forms of propagation. 96 pp. $12.00 + $2.00 shipping and handling. ($4.00 for non-US ZIP air delivery.) CA residents add $.93 tax.

•**THE LITTLE PISTOL'S GUIDE TO HF PROPAGATION,**
by Robert R. Brown, NM7M

Explains the intricacies of HF propagation so that average/low-power operators can more efficiently take advantage of ionospheric conditions to make those rare DX contacts. 128 pp., 85 figures. $10.00 + $2.00 shipping and handling. ($4.00 for non-US ZIP air delivery.) CA residents add $.78 tax.

•**EVERYTHING YOU FORGOT TO ASK ABOUT HF MOBILEERING,**
by Don Johnson, W6AAQ

This long-anticipated update on mobile antennas is packed with tips garnered from amateurs all over the country who have found a better way to adapt their mobile antenna installation to their specific needs. 64 pp., many photos and figures. $8.00 + $2.00 s/h. ($4.00 for non-US Zip air delivery.) CA residents add $.62 tax.

•**INSIDE AMATEUR RADIO**, *by Lenore Jensen, W6NAZ*

Interviews with the people who make Amateur Radio the engaging hobby that it is. A collection of short stories and anecdotes detailing courageous rescues, hilarious situations and heart-warming tales, as told by the hams who made them happen, through the "pen" of someone who truly knew what it was about "inside Amateur Radio." A must for every ham shack coffee table. 93 pp. $9.00 + $2.00 shipping and handling. ($4.00 for non-US ZIP air delivery.) CA residents add $.70 tax.

•**WHEN THE BIG ONE HITS**, *A Survival Guide for Amateur Radio Operators, by Jerry Boyd, KG6LF & Jay Boyd, KN6BP*

Tells Amateur Radio operators what to do to prepare for survival, safety of families and loved ones, and perform disaster communications duties efficiently in the face of disaster. 56 pp. $7.50 + $2.00 s/h. ($4.00 for non-US ZIP air delivery.) CA residents add $.58 tax.

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"Oh, to see ourselves as others see us..." A wacky view of Amateur Radio through the eyes of a very clever cartoonist. Great gift for a fellow amateur. 112 pp. $8.00 + $2.00 shipping and handling. ($4.00 for non-US ZIP air delivery.) CA residents add $.62 tax.

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FCC issues errata on "streamlining" NPRM

The FCC has clarified most of the questions and confusion raised by its recent Amateur Radio rules "streamlining" proposal, WT Docket 98-143. The Commission this week issued some corrections and clarifications in a 13-page Errata to the original NPRM, released in early August. The FCC said the corrections were issued "to conform the proposed rules to the proposals discussed in the text of the Notice."

A major change was to effectively reinstate language providing for a physician's certification that an applicant is unable to pass a 13 or 20 wpm Morse code test. In the NPRM text, the FCC invited comment on this issue and on an earlier ARRL proposal, RM-9196. The ARRL had asked the FCC to require anyone applying for an exemption pursuant to a doctor's certification to first attempt the higher-speed test before getting exam credit.

The Commission clarified its intention to retain the current 365-day time limit for a Certificate of Successful Completion of Examination (CSCE) to remain valid.

The FCC added the words "Element 1(A), 1(B) or 1(C)" to proposed Section 97.301(e), referring to the 5, 13, and 20 wpm code examination elements. This clarified the need to at least have credit for the 5 wpm code examination to gain Novice/Tech Plus HF privileges, neither the original NPRM nor the Errata list Element 1(A), the 5 wpm code test, as a specific requirement for any license class. The FCC appears to be proposing to provide that a Technician licensee could gain HF privileges by passing a 5 wpm code test.

The FCC also describes how applicants may claim credit for Element 1(A), however. A proposed change at Section 97.507(d) that would have substituted the words "no less than 5 wpm" has been dropped. The current wording says "no less than the prescribed speed."

The FCC also addressed apparently inadvertent rules changes in the NPRM. Gone is language that would have eliminated Extra class phone and image privileges in the 20 and 15-meter Extra class phone subbands and data privileges in the 20 and 15-meter Extra class CW subbands. Also gone is wording that would have dropped data privileges from Novices and phone privileges for current Tech Plus operators on 10 Meters. The FCC also eliminated wording that seemingly would have limited Novice CW operation to "only messages sent by hand."

The FCC's Errata also indicate that the Commission intended to retain the current 200W PEP power limit on the current Novice/Tech Plus HF bands. The NPRM had proposed imposing the 200 W PEP power restriction on HF only when the control operator is a Novice.

The FCC made it clear that Hams holding a Technician class license granted before 14 February 1991, could get examination credit for written Element 3(A). The Errata added Element 1(B), the 13 wpm code test, to the elements that may be prepared by an Advanced VE.

The Errata also corrects several apparent typographical errors and make other relatively minor changes to the original NPRM.

The Errata fails to address another discrepancy in the NPRM that was noted earlier by the ARRL. The NPRM gives an applicant who held a Technician license (expired or otherwise) granted before 21 March 1987, examination credit for written Element 3(B). But the proposed rules do not extend similar credit to an applicant who had held a General or higher class license, once the grace period is past.The FCC Errata is on the ARRLWeb at www.arrl.org/news/restructuring/98-143/errata.html — *ARRL Letter*

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