*Emergency Communications • Public Service • International Friendship*

# Worldradio

Year 26, Issue 4 October 1996 • $1.50

**Major Pat McPherson, WW9G (right) coordinates activities at the fire scene.** *—photo by Ken Havlick, KA9TRG*

# Joining SATERN's rings

**Ann Shaver, WH2E**

"SATERN differs from all other radio organizations because of the group you're helping," Mike Duce, N9IWZ, explained enthusiastically.

"The Salvation Army is involved in such a wide variety of things. In my experience it makes the heaviest use of Amateur Radio operators," Paticia Duce, WZ9H, continued. "And I think there is a closer relationship between the served agencies and SATERN members."

SATERN (Salvation Army Team Emergency Radio Network) provides emergency communication support to the Salvation Army wherever needed. And what a mind-boggling range of situations SATERN members have found themselves in: tornadoes, floods, hurricanes, fires, aircraft accidents, bombings and earthquakes — just to name the more expected types of emergencies. SATERN volunteers also help quell urban violence, reduce the chaos of a Christmas party for thousands of inner-city kids, feed street people during winter freezes, and direct parking-lot traffic at major events.

SATERN volunteers establish health-and-welfare nets, pass messages between field workers and their respective command posts, string up dipoles and operate from emergency generators. They also have been known to unload trucks of ice, deliver a motorized canteen to earthquake-ravished Kobe, check on the welfare of vulnerable elderly in a mega heat wave, and prepare sandwiches and hot coffee for firefighters battling an extra-alarm blaze in below-zero weather. In short, SATERN is not your ordinary radio club!

"Because I was a ham, I immediately saw the role of communications support in disaster services," said Major Patrick McPherson, WW9E, Director of Emergency Disaster Services for the Chicago Metropolitan District of the Salvation Army and one of the founders of SATERN. "But as important as communications are, that isn't the whole story. Every SATERN member has other skills to offer in an emergency. They come to us because of their interest in helping others, not just because they want to help us communicate. So we use their help to the fullest extent possible."

"With SATERN, I have the opportunity to be out there doing something," Mike Duce elaborated. "Sure I'm available all the time to communicate. In the meantime, I might be giving a drink of water to someone who is dehydrated."

## SATERN-international in scope

Given the worldwide scope of the Salvation Army, it is not surprising that there are SATERN links to the United Nations, Australia, Canada, and Russia and established SATERN groups in more than 16 U.S. states. As would be expected, SATERN volunteers have offered their skills in places far from home.

When the January 1995 earthquake left thousands of people homeless in Kobe, Japan, The Salvation Army immediately began preparing to airlift a mobile canteen — a mobile home completely equipped for the preparation and distribution of hot and cold meals to Japan. Major McPherson deemed SATERN volunteer Bill Shillington, W9ZCL, the ideal person to accompany the canteen and demonstrate its use to Japanese Salvation Army personnel. Shillington was the Metropolitan District's Motor Vehicle

*(please turn to page 17)*

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# NEWSFRONT

Worldradio

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

## FCC Preempts local TV antenna regulations

The FCC has adopted rules to prevent local governments from restricting the rights of homeowners and businesses to install television antennas and satellite dishes. These new regulations could also stop municipalities from restricting most two-way radio antenna systems, including those of licensed radio amateurs.

The new rules were enacted on Tuesday, August 6th, and prohibit the enforcement of local laws, rules, private covenants and homeowner association regulations that in any way interfere with television reception. This includes over-the-air broadcast stations, satellite-delivered services and microwave-delivered wireless cable systems.

Enactment of these far-reaching regulations is based on a regulatory interpretation issued earlier this year (see May *Worldradio*, p.1). At that time the Commission acted to prevent any and all entities from restricting the installation of the popular small-sized, direct-to-consumer pay television systems. Broadcasters and other RF-based delivery services that compete with cable systems claimed that regulations governing antennas for their services made interference-free delivery difficult. As a result, broadcasters saw satellite television gaining an unfair advantage. The result is the across-the-board action that bans restrictions on all over-the-air television delivery services.

The new regulations do grant communities some latitude in interpretation. For instance, communities can still enforce local safety rules even if such regulations hinder reception. This includes banning the installation of antennas on fire escapes.

Antennas can also be restricted in regions that are considered to be historical districts but does not address the installation of antennas on common property found in many planned communities. Also excluded is the placement of antennas on rental property, but the FCC says that it wants to receive comments on rules that could be enacted to protect those involved in rental situations.

The action covers only antennas and satellite dishes specifically intended for the reception of television signals. Don't look for any immediate help for Amateur Radio, but it does open the door for FCC action on a similar request by the two-way radio industry. They filed a request with the FCC late last year asking the Commission to ban local restrictions on communications antennas.

If the FCC decides to invoke extended preemption for the two-way radio industry, it may not be possible for restrictions to be selectively enforced against the nation's Amateur Radio community.

**Correction:** In the September '96 issue, the author of the Alaska fire story was incorrectly listed. He is Larry Strain, N7DF.

## New RF safety standards

New FCC RF safety standards effective 1 January 1997, could affect the way some hams operate, including those using vehicle-mounted antennas.

The changes to ham radio are far-reaching and come in the wake of a Report and Order 93-82 on RF safety adopted by the FCC on 1 August 1996.

As a result, the Part 97 Amateur Service rules will now require hams running more than 50W PEP to conduct routine RF radiation evaluations to determine if RF fields are sufficient to cause human exposure to RF radiation levels in excess of those specified. Where routine evaluation indicates that the RF radiation could be in excess of the limits, hams will be forced by law to take action to immediately remedy the situation. According to the FCC, this could mean altering operating patterns, relocating the antenna, revising the station's technical parameters and other remedies.

Exactly what is involved in conducting a "routine RF radiation evaluation" is not yet clear. These guidelines will have to be established by the FCC.

Speculation is that they could be as simple as field measurements with some form of RF sniffer to as complicated as a full-blown environmental impact study. No one knows for sure.

*(more NEWSFRONT, page 7)*

# Worldradio

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

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# Publisher's Microphone

The Olympics have come and gone. Famous names have already faded into obscurity. Here though, are names that will last forever. The latest to become ***Worldradio*** SuperBoosters (Lifetime Subscribers) are:

***Michael Behar, WM1O, Larchmont, NY**

***William Lyle, KC4ZUG, Pace, FL**

***Stuart Rohre, K5KVH, Round Rock, TX**

***Scott Mehls, KBØSHS, Lafayette, CO**

***Bob Sloan, AB7RB, Boise, ID**

***Robert Lloyd, KD6UVK, Huntington Beach, CA**

***Merrill Card, KB6TO, San Jose, CA**

***Calvin Graden, W7KKS, Bellevue, WA**

***Bo Bowman, N7ZRT, Seattle, WA**

***James Forgacs, KC8BGJ, Britton, MI**

•

Don't forget to mark the first weekend in June, 1997 on your calendar. That will be the ***Worldradio*** QSO Party so a lot of great people can say hello to each other. We're still working on the rules, etc., so get your suggestions in. Dick Kelly, W6BKY, Ventura, CA sent in his ideas of category breakdowns.

BIG GUN: 500 watts, or more and any antenna. MODERATE: Less than 500W and any antenna. BASIC: Less than 500W and no antenna with gain over a dipole. He said Big Guns should be Class A, Moderate would be Class B and Basic would be Class C. The suggested on-air exchange would be: First two numbers of the ZIP code, Name, and Category (or Class).

Hurry and get your ideas in.

•

In writing about Field Day in their club newsletter, the River City ARCS (Sacramento, CA) said: "Everyone did a tremendous job of putting up and tearing down the equipment and loading most of it onto one big truck. These people are the spirit of the most wonderful hobby in the world and the essence of our club."

For those who are deeply interested in 40-80-160 DXing, the monthly newsletter *Low Band Monitor* does a fine job. They will send you a sample copy for $2. The address is PO Box 1047, Elizabeth, CO 80107.

•

The above-mentioned Michael Behar, WM1O, wrote: "I treasure Bob Brown's unique contribution — his ability to totally captivate his readers (in otherwise complex material) with his clear, concise and wholly entertaining writing."

After that I should mention that NM7M's 128-page book *The Little Pistol's Guide to HF Propagation* is only $10 (& $2 S/H) and the ad can be found elsewhere in this issue.

WM1O also said, "I especially look forward to 'Kurt N. Sterba's' special blend of dry wit, shocked (but well-placed) indignation and wisdom."

Which brings us to mention that we hope AERIALS (Vol.1), Second edition, will be available in 2-3 months.

•

Thanks to those who wrote in about what I said last month. "I enjoy your philosophy in the editorials. Keep up the quality line, there is too much lowering of standards nowadays by people trying to cut corners." Alan Donaghue, MD, ZL4QT.

"Any time we give in to the so-called popular opinion, we end up giving the farm away. I think it is time we stood up and get counted." Capt. Pete Hardiman, N7DUC.

•

Here's your chance to get a legal limit linear amplifier and do a good turn at the same time. In cooperation with Martin F. Jue, K5FLU, President of MFJ, ***Worldradio*** will auction off (by mail) a brand new Ameritron AL-1500, legal limit HF amplifier with the $629 Eimac 3CX1500A7/8877 tube. The retail price is $2,695. This is a husky brute that runs on 240V. The transformer alone weighs 32 pounds and the rest of it is 45 pounds. There is an automatic trip-off (if mistuned) circuit and a PEP wattmeter.

We'll accept bids for 30 days after the first one is received. The highest bidder will be notified and asked to make their check out to the HANDI-HAMS, an organization that helps the handicapped get licensed and on the air. The entire proceeds of the winner's bid will go to the HANDI-HAMS. They also run a one-week licensing summer camp. (Just imagine trying to figure all this out if you were blind.) The cost is $160. If the student can not afford the $160, if HH has the money they give "scholarships."

If the winner of the amplifier prefers to pay by credit card, we'll run it through ***Worldradio's*** account and absorb the charge card fee so HANDI-HAMS get the full amount.

This is only being announced in this column. —*Armond, N6WR*

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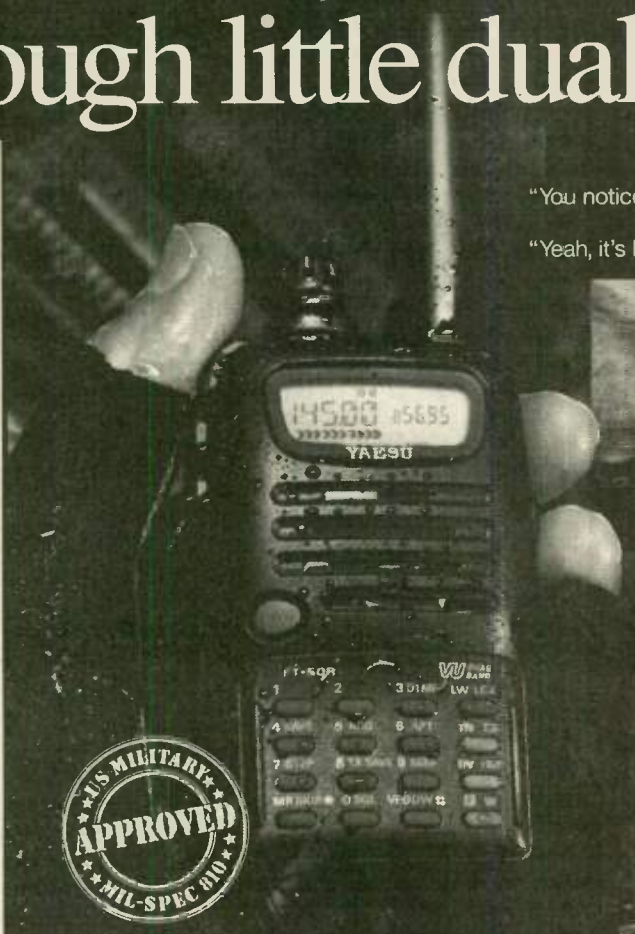


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**Operating from inside the train are (from left to right): Al Johnson, AA7CS, Jim Romelfanger, K9ZZ and Don Evenson, K9JYX. —*photo by Bob Dott, N9KW***

# Amateur Radio rides aboard the Great Circus Train

**By Jim Romelfanger, K9ZZ**

What is a half mile long, makes a fair amount of noise, makes onlookers smile and wave, and is seen in Wisconsin only once a year? The Great Circus Train, of course! The train carries 60 perfectly restored, colorful circus wagons from Baraboo's Circus World Museum to Milwaukee for the Great Circus Parade the following Sunday. (Baraboo is where the Ringling Brothers began their circus, and the museum is in their original winter quarters.) Thousands and thousands of people gather all along the train's route to watch that spectacle roll by. Passengers wave and shout greetings to the "watchers," and the watchers respond in kind, with smiles, yelling greetings in return, and cheering and waving.

Amateur Radio Emergency Service (ARES) amateurs from Milwaukee County provide two-meter and cell phone communications from one coach, and in the coach behind, just ahead of the first flat car, is the HF/2-meter simplex operation.

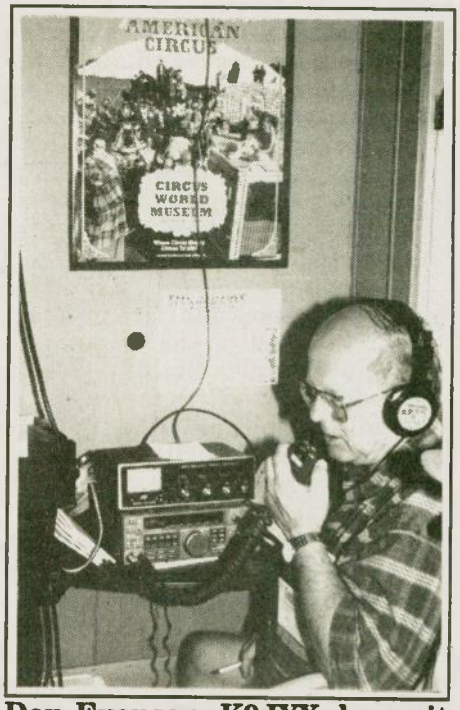
In 1966, Don Evenson, K9JYX, first operated an Amateur Radio station on the Great Circus Train, using a Motorola radio which had been converted to two meters, communicating with a chase vehicle in which the operator relayed information to and from Milwaukee on 75 Meters. The operation became a sort of circus of its own, with tubes going bad, beer running into and back out of the rig, and so on.

The train's route was changed this year. It has been a two-day trip, but the first day in 1996 became a 12-hour ride, not the previous 6 or so hours; the route was much longer. Thus, three operators, originally set to split duty (two per day), all worked both days.

In 1996, Don observed the 30th anniversary of that first operation by operating both HF and 2 Meters from the train. All who worked the station, K9JYX/Railroad Mobile, will receive a colorful certificate and other information after Don receives their 9 x 12" SASE with 3 units of U.S. postage attached. (Send that to 401 11th Street, Baraboo, WI 53913.)

After boarding on Day One, July 8, Don clicked the power switch on, and stations were there, on 14.240, already calling him. Among those worked were ***Worldradio's*** cartoonist extraordinaire Bob Beasley, K6BJH, and Bill Snyder, WØLHS, of Digital Bus fame. After a 2-day stint of operating by Don, Al Johnson, AA7CS, and me, Jim Romelfanger, K9ZZ, about 230 contacts were made in 32 states, two Canadian provinces, two in Italy, and one in Cuba. I used my high school Spanish on that QSO, and managed to not embarrass myself — at least not this time.

Just after departing the Baraboo rail yard, I was on my hands and knees, digging for something in the spare "stuff" box. Someone tapped me




**Don Evenson, K9JYX, hams it up and tells a contact about the Great Circus Train, during a QSO on 20 Meters.—*photo by K9ZZ***

twice on my shoulder and said, "Hello down there." I kept digging and replied, "Hello up there, and who are you?" Then I looked up. "Oops, good morning,Governor Thompson, it's good to see you again." He must have been chuckling as he headed into the next coach.

We carry that "just in case" box of spare stuff in an effort to counter the ever-present and always-in-force Murphy's Law. We didn't need much this year, but the duct tape came in handy. We used it to keep a leaky pipe under control. And one of the Dixieland jazz band's members used some to fix his tuba.

The 1994 and 1995 HF operations included feedline duct-taped and run out the door to the flatcar behind. This was a problem, as it did not permit complete closing of the door and it hit the feedline each time someone went out to or came in from the observation deck. This year, Don neatened it up beautifully. He installed three bulkhead adapters through a window sill, and used elbow connectors to keep the feedline routed out of the way. He dressed the lines inside the coach through an old heating duct to the radio table. It looked neat — almost invisible.

Early July 9 (Day Two), in Horicon, WI, where the train spent the night after the first day's run, the Rock River Radio Club's members — those who were up early — got the "cook's tour" of the radio setups, arranged by Mark Mullen, N9KQV, (an engineer with Wisconsin Southern Railroad) and Don. Among the RRRC folk were Wisconsin Section Manager Roy Pedersen, K9FHI, and his wife, Beryl, KA9BAC.

Bill Hommell III, KA9QFJ, Baraboo, loaned his TS-440S for the HF part of the operation and it did the job just fine. The two- meter rig was a Midland 13-510. The HF double-resonator Hustler mobile was C-clamped to the Deutz tractor, per usual. The 2-meter simplex antenna was mag-mounted to a metal flap on the generator. The 1995 operation, on 20 and 40 Meters, netted 55 contacts.

This year, we more than quadrupled that total. Since we knew we had an operational HF station and antenna, after some experimenting the first two years, we gave this year's operation some advance publicity. We'd sure like to break the 500-QSO mark next year. With the solar cycle looking like it is finally inching its way up from the bottom, we just might. If propagation looks as though it might "find" 15 Meters in 1997, that band may be added.

It is an honor and a privilege to operate from the train and to describe and publicize it to those we work. It is an educational outreach. To really appreciate the beauty of the train and its priceless cargo, though, it has to be seen "live."

Thanks to all who stood in line to work us. Hope to hear even more in 1997 from more of you! WR

## NEWSFRONT
*(continued from p. 3)*

The ARRL is now studying the 100-plus page docket to see if the League should seek reconsideration of any aspects of the FCC decision.

Executive Vice President Dave Sumner, K1ZZ, notes that the FCC expects it will not be difficult for most amateur stations to show that the specified limits will be met.

Sumner says that for high-power mobile operation and for operation with indoor antennas — particularly in apartment buildings and other situations where there is "uncontrolled exposure" to neighbors and the general public, "amateurs may well have to make changes in how they operate."

K1ZZ says the ARRL lab staff and the RF Safety Committee will be evaluating the new requirements.

The new regulations also will require the addition of five questions on RF environmental safety to the amateur examinations for Novice, Technician, and General class. Sumner notes that the Commission's Report and Order does not take into account the practical problems associated with such a significant revision to the volunteer-administered amateur examinations, and that more time than the Commission has allowed will be required to do a good job.

## Keeney to Commission

Regina Keeney who used to run the Commission's Wireless Telecommunications Bureau may soon be an FCC commissioner. President Clinton has announced his intention to nominate her to a seat on the five-member Commission.

Keeney is currently serving as the Chief of the FCC's Common Carrier Bureau. Here she has led the Commission's implementation of the 1996 Telecommunications Reform Act. Before joining the FCC, Regina Keeney served as the Senior Republican Counsel for Communications to the Senate Commerce Committee. A graduate of Georgetown University, Keeney practiced communications law before taking on her senate duties.

*(More NEWSFRONT on page 16)*


## Regulatory Highlights

Many times, in previous columns, we have included items which were not strictly FCC Highlights, but had a bearing on future FCC actions.

Thinking back on these, we have planned for some time to re-title this column "Regulatory Highlights," to allow the inclusion of such material without case by case explanation.

What is happening now, in connection with preparations for WRC-97 and WRC-99, illustrates our perceived need for broader and more anticipatory coverage. So this column (and perhaps future columns) is entitled Regulatory Highlights." to report on some aspects of the anticipated consideration of ITU Radio Regulation S25 at WRC-99.

Article 32 in the 1994 edition of the Radio Regulations (Now Article 25 in the streamlined and renumbered Regulations), stipulates that:

"1. Radiocommunications between amateur stations of different countries shall be forbidden if the administration of one of the countries concerned has notified that it objects to such radiocommunications;

"2. (1) When transmissions between amateur stations of different countries are permitted, they shall be made in plain language and shall be limited to messages of a technical nature relating to tests and to remarks of a personal character for which, by reason of their unimportance, recourse to the public communications service is not justified;

" (2) It is absolutely forbidden for amateur stations to be used for transmitting international communication on behalf of third parties;

" (3) The preceding provisions may be modified by special arrangements between the administrations of the countries concerned" (The United States has made arrangements for third party traffic between U.S. Amateurs and those of a number of other countries — see list on page 7-3 of ARRL's "The FCC Rule Book," tenth edition, 1995).

"3. (1) Any person seeking a license to operate the apparatus of an amateur station shall prove that he is able to send correctly by hand and receive correctly by ear, texts in Morse code signals. The administrations concerned may, however, waive this requirement in the case of stations making use exclusively of frequencies above 30 MHz.

" (2) Administrations shall take such measures as they judge necessary to verify the operational and technical qualifications of any person wishing to operate the apparatus of an amateur station.

4. The maximum power of amateur stations shall be fixed by the administrations concerned, having regard to the technical qualifications of the operators and to the conditions under which these stations are to operate.

"5. (1) All of the general rules of the Convention and of these Regulations shall apply to amateur stations. In particular, the emitted frequency shall be as stable and as free from spurious emissions as the state of technical development for such stations permits.

Section II, Amateur-Satellite Service.

"6. The provisions of Section I of the Article shall apply equally, as appropriate, to the amateur-satellite service.

"7. Space stations in the amateur-satellite service operating in bands shared with other services shall be fitted with appropriate devices for controlling emissions in the event that harmful interference is reported in accordance with he procedures laid down in Article 22. Administrations authorizing such space stations shall inform the IFRB (International Frequency Registration Board) and shall



# Amateur Radio Call Signs

Amateur Radio operators often ask the FCC what call signs have been assigned lately. This list shows the last call sign in each group to be assigned for each district, as of the first of August 1996.

For more information about the call assignment in the Amateur Radio Service, see Section 97.17(f) of the FCC Rules, or write to the FCC, Consumer Assistance Branch, Gettysburg, PA 17325-7245.

| Radio District | Group A<br>Am Extra | Group B<br>Advanced | Group C<br>Tech./Gen. | Group D<br>Novice |
|---|---|---|---|---|
| Ø | ABØCL | KIØDX | | KBØYDQ |
| 1 | AA1QJ | KE1FS | N1XSM | KB1BYX |
| 2 | AB2BV | KG2HV | | KB2ZOZ |
| 3 | AA3OR | KE3XD | N3XXK | KB3BPN |
| 4 | AE4WV | KT4UJ | | KF4LDT |
| 5 | AC5JD | KM5CH | | KC5VOO |
| 6 | AC6WW | KQ6IB | | KF6FLG |
| 7 | AB7RW | KJ7ZS | | KC7SEA |
| 8 | AA8XS | KG8YE | | KC8ENT |
| 9 | AA9TS | KG9HP | | KB9OEY |
| N. Mariana Is. | NHØA | AHØAW | KHØFA | WHØABF |
| Guam | WH2W | AH2DB | KH2QT | WH2ANR |
| Hawaii | | AH6OT | | WH6DCN |
| Amer. Samoa | AH8O | AH8AH | KH8DA | WH8ABF |
| Alaska | | AL7QQ | KLØAH | WL7CTW |
| Virgin Is. | WP2X | KP2CJ | NP2JK | WP2AIE |
| Puerto Rico | KP3D | KP3AG | NP3EG | WP4NMH |

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*Thank you!*

***Worldradio*** is a two-way communication. Send in Amateur Radio information and news. Share your knowledge with your fellow amateur through ***Worldradio.*** We are most interested in your comments and suggestions. We would appreciate being placed on the mailing lists of radio club bulletins.

Subscriptions received by the 20th of the month will begin with the issue dated two months from the month of receipt, i.e., if we receive the subscription by April 20, your first issue will be June, which will be mailed to you in early May.

ensure that sufficient earth command stations are established before each launch to guarantee that any harmful interference which might be reported can be terminated by the authorizing administration."

The chief concern of U.S. amateurs (and probably those in other countries) concerning potential changes to these Regulations seems to be the possibility of deleting the long-standing international requirement for demonstration of Morse code proficiency to operate an amateur station below 30 MHz. In this connection, in January, 1996, the ARRL has established a Committee to develop recommendations for ARRL policy positions on these and related matters. Their Report is due in December,1996.

Somewhat earlier (November 1995), the IARU (International Amateur Radio Union) established a Future of the Amateur Service Committee (FASC) to guide the formulation of an IARU position on the WRC-99 preliminary agenda item concerning Article 25. Its Terms of Reference are:

"A. Examine the international regulations governing the Amateur Service and the Amateur-satellite Service (other than frequency allocations) with a view to formulating the changes, if any, that are desirable to properly reflect the objects, needs, obligations and privileges of the services for the next century, so that the services remain viable and valuable, meaningful and relevant to both the community and to those licensed in the services, having regard to the definition of the services, the provision of emergency communications, the means to facilitate the international recognition of amateur licenses, the technical and operational qualifications for licenses in the amateur services, and any other matters considered by the committee to be relevant, with a view to formulating appropriate changes (if any) to the Radio Regulations.

"B. Undertake its task: encouraging full discussion of these matters by preparing discussion papers providing background information, identifying issues and proposing possible solutions, inviting comments from individuals, groups, member societies and regional organizations, participating as appropriate in international and other meetings, and taking into account the comments it receives, preparing reports, recommendations and proposals for the consideration of the Administrative Council, member societies and regional organizations and ultimately preparing such material as is necessary to ensure that administrations accept proposals adopted by the Administrative Council, all of the foregoing being an ongoing task bearing in mind the regional conferences and the likely agenda for WRC-99."

In April, 1996, the FASC issued a Discussion Paper (DP). In a summary of the DP it is stated, regarding the Morse code "We do not question the value of Morse Code as a means of communication, nor do we question the right of an administration to require its amateurs to demonstrate a skill in Morse code. At present, Morse code as a qualification is a treaty obligation. We have regard to the fact that we are concerned with obligations that will govern the amateur service in the next century.

"Should testing the Morse code ability of certain amateur licensees be retained as a treaty obligation? If so, what are the reasons that administrations would find persuasive?"

Other parts of the DP imply that there is a predilection in the FASC for deleting the Morse code requirement at WRC-99; but our interpretation may be erroneous.

These developments have already led to two surveys of IARU member societies, one by the Radio Society of Great Britain (RSGB), another by the American Radio Relay League.

We will update this situation as new information becomes available. **WR**

# News for your repeater

*Part one of a two-part series*

**Bill Pasternak, WA6ITF**

Nobody involved ever planned for it to go on for almost twenty years. It was only intended to be a single half-hour presentation to let Los Angeles hams know that the FCC could not make up its mind on repeater deregulation. That was back in 1977. Now, almost twenty years later, a lot of us are still at it. By the time many of you read this, we will have passed 1000 weeks of supplying news bulletins to the ham radio community of the nation and the world.

## What is *Newsline*?

For those of you who never heard of our service, a bit of explanation is in order. *Newsline* is a weekly news and information audio service delivered to several thousand repeaters and high frequency bulletin stations by automated telephone feeds from various locations around the United States and more recently by audio sites on the World Wide Web (www). The newscast tape runs between 15 - 20 minutes and is released Thursday evening in Los Angeles, (Friday morning Eastern) with other lines usually updated within 24 hours.

A typical *Newsline* report of the 1990s begins with what the editorial staff considers the news item that has the greatest effect on the most people. As this is written in June of 1996, there are several items that fall into this category but none is more important than what amounts to a declaration by the Low Earth Orbiting Satellite industry (little LEO) that it intends to displace hams from 2 Meters and 70 cm by asking that the 1997 World Radio communications Conference reallocate these bands for LEO service. Such a spectrum grab — if successful — would wipe out most VHF and UHF ham radio operations and the Amateur Radio community wants to know what's happening. This is assuredly the number one or "lead" story.

Two or three more stories of national importance come next and are then followed by a five-second break to permit these stations replaying

***Newsline* producer Bill Pasternak, WA6ITF, accepts the ARRL National Certificate of Merit for *Newsline*, 1994.**

the bulletin to identify themselves. As we go into the break, we have a long tradition of mentioning one of the repeaters or clubs who have shown support for *Newsline*. For example, a typical break lead in would be something like: "This is *Newsline*, heard on bulletin stations around the world, including KA9LOY serving Schaumberg, Illinois." Five seconds later we are back to the "B" section.

Unless there is far too much breaking news to get it all into the "A" section, here is where we get into the human-interest aspect of what's happening in ham radio. Not necessarily in any particular order we will cover minor FCC actions; ARRL news; AMSAT and other ham radio space related items including the SAREX program; personal accomplishments of individual hams or radio clubs; upcoming major contests; VHF news, UHF news; and DX and DXpeditions; and anything else related to ham radio or personal communications that we hope our audience will enjoy hearing.

## How it started

To understand *Newsline*, you first have to meet Jim Hendershot, WA6VQP. Back in the early '70s, Jim spent several years as a broadcaster with several Christian television stations around the world. Jim returned to Los Angeles just as the FM and repeater revolution was really beginning to grab hams worldwide. In short order, Jim had a repeater of his own on the air.

Jim Hendershot saw more than just noise-free communications in FM. He reasoned that FM would be an ideal way to tell hams on the VHF and UHF bands what was happening in their hobby. As luck would have it, Jim got his idea at just the right time. The FCC was in the process of deregulating repeaters, and that in itself was an important topic to most VHF FM enthusiasts.

One night while having dinner, Jim suggested to yours truly that we two might try producing a news bulletin to bring Los Angeles hams up-to-date on the topsy-turvy happenings at the FCC regarding repeater deregulation.

It took a few months to get it all assembled. There was information to be gathered, a script to be written and recorded, and lots more.

Finally, on 27 September 1977 — the bulletin — loaded with information on repeater deregulation, was ready. Wayne Rankin, WA6MPG, an engineer with CBS who had handled the technical end of recording the first newscast, offered to do the replay. Wayne loaded himself, a Midland 220 MHz transceiver and a tape player on his motorcycle and rode to the top of a mountain known as Contractors Point. At 8 p.m. that evening, hams listening on 223.50 MHz (simplex) heard Jim Hendershot say: "Good Evening. This is the Westlink Amateur Radio news . . . ." What Jim Hendershot named the Westlink Radio Network was born!

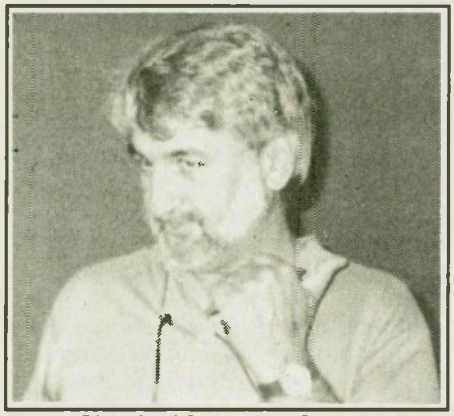
## "The best laid schemes o' mice...."

Jim's plan was to do it once and then walk away. He never dreamed that the next Sunday evening — when there was no newscast — that his telephone would be ringing off the hook with hams demanding more! Soon, repeater owners all over the Los Angeles area were calling. They too wanted copies of the Westlink News tape to play for their users. They also wanted more newscasts.

Dutifully, Jim recorded and supplied copies to anyone who would send him a blank cassette and a self-addressed, stamped mailing envelope. Within a short time Jim was getting requests for news tapes from

across the country. Not only were VHF hams in Los Angeles eager to get the latest news, so were their compatriots in Chicago, Dallas, New York, Miami and towns and cities in between.

Within a year, Jim was duplicating and mailing out more than 100 tapes a week. The Westlink Radio Network was becoming an unpaid full-time job. Something had to give and it did in 1979, when Jim got



***Newsline's* Alan Kaul, W6RCL**

married and decided to relocate.

Since I had been assisting Jim from Westlink Radio's beginning, when he called to tell me that he was moving away, I approached another friend named Bill Orenstein, KH6IAF (now KH6QX). Back then Bill was an audio engineer with the NBC Network in Burbank, California, and suggested that we two pool our resources and take over Westlink. I would write and produce, while KH6IAF would handle all the technical chores.

But they still needed someone to record the newscast. Enter Alan Kaul, W6RCL (now the West Coast Producer of NBC Nightly News). At that time, Alan was a writer and producer for KNBC television news. He had a solid background behind the microphone as well. It did not take to much arm-twisting by Bill Orenstein to get Alan to become a part of the first Westlink Radio news team.

### Automation strikes

One thing that neither Bill Orenstein or I wanted to do was to duplicate and mail out tapes as Jim Hendershot had done. Neither of us had enough time. Obviously, the answer was to automate the entire news dissemination process using some sort of telephone answering machine. The only problem was that answering machines of the day were fairly crude devices. They used endless-loop cassettes for outgoing messages. They were limited in time to less than a minute, and in general were very unreliable. The tapes would jam or break at the least opportune time. Since the machine had to run unattended, 24-hour-a-day reliability was essential.

Out of that need came a set-up literally hay-wired together. It consisted of one of the earliest broadcast cartridge recorders and players ever built. Built by Automatic Electronics for the broadcast division of Collins Radio, they were a decade old and antiques by the time they were donated to *Newsline* by Jay O'Brien, W6GO, of Rio Linda California — the same Jay O'Brien who, with wife Jan, K6HHD, was the publisher of the famed "Go-List" of QSL managers.

I modified the "play only" unit to answer the phone, play the newscast, hang up and get ready for the next feed. In mid-1979, it was announced that Westlink newscast number 77 could be obtained over the telephone. Soon, hams from around the world were calling into the first automated ham radio news service and for days on end, the lines were jammed!

### A period of slow growth

From a technical standpoint, that's where things stood for the next half-decade. The next several years were used to develop the "style" of the Westlink Radio Network. In those days, the tape system used in the automation equipment was limited to ten minutes. This meant that stories had to be tightly written. Often, this caused us to leave out important details that were peripheral to a given story. In that same time frame, new anchor voices were added.

These included well-known radio personality Jim Davis, KU8R, the person who became known as "the voice of *Newsline*."

Jim was not alone, though. Burt Hicks WB6MQV — who would later become publisher of the *Westlink Report* ham radio newsletter — came to us from Armed Forces Radio and Television while Robert Sudock, WB6FDF, and Mert Garlick, N6AWE, joined us from Metromedia Television, KTTV. From the late '70s through the mid-1980s it was this group in Los Angeles plus a growing number of hams around the nation and around the world who brought you the news, week after week.

**Judi Franco records *Newsline* at station WZVU in Long Branch, NJ.** ***—photo by WZVU***

Much to our surprise, it did not take very long for the Westlink Ham Radio News to become a staple fixture on repeaters around the country. As hams found it harder and harder to get through to the one line in California, several offered to set up regional lines of their own. The first of these was in Dayton, Ohio, sponsored by the Dayton Amateur Radio Association. A year later, the Metroplex Amateur Radio Communications Association set up a line to service the New York, New Jersey and Connecticut tri-state area. Today, volunteers maintain automated *Newsline* feeder lines in cities all across the nation.

### The evolutionary years

The 1980s also saw a number of changes. In 1988, the Westlink Radio Network renamed its on-the-air program *Newsline*. The name *Newsline* came from a similar type of general news report aired over the Dutch World Broadcasting Company's Radio Netherlands, an organization with whom we have had the opportunity to work over the years.

We also added several new voices. First came Andy Jarema, who proudly uses the phonetics N6Tiny California Quake. Later we were joined by Paul Courson, WA3VJB, who covers the nation's capitol for us. David Black, KB4KCH, established and anchors our South Eastern news bureau in Birmingham, Alabama, while Warren Elly, WA1GUD, reports and anchors from Tampa Bay, Florida. From New York we get to hear the lovely voice of Judi Franco.

Back home in California, we have been joined by Mark Allen, Ken Butler, KE6KDV, and Tony Valdez, KC6LXQ, of Fox 11 News, which

rounds out the hometown team. Upon his retirement from NBC, we were honored to have the dean of aerospace correspondents — Roy Neal, K6DUE. These people combined with another forty or so volunteer reporters around the world today make up the *Newsline* family.

## Frequently asked questions

**Q) How do I get *Newsline* onto my favorite repeater?**

A) The first thing to do is to ask the person who owns the repeater and/or its sponsoring group if they want to have it. Remember, only repeater owner/operators can decide what is transmitted over their repeaters.

**Q) But the radio club that sponsors the repeater told me to find out how to get it? What do I do?**

A) Get a good quality cassette recorder with jacks for an external microphone and speaker, some sort of telephone-to-recorder interface, and a recorder to your transceiver interface (almost any good hybrid phone patch will do for both these applications — we use the MFJ Telepatch II which is reasonably priced and works very well). Next, select the phone number closest to you and record the newscast. Later, at the time designated by the repeater owner or sponsoring radio club, replay the tape to those listening. Be certain to identify your station during the "identification beeps."

**Q) But why record the newscast? Can't I simply phone patch it onto the air?**

A) Since most *Newsline* bulletins contain a lead message to the issuing bulletin station called a "closed circuit advisory" — that often deals with fund raising — we recommend that bulletin stations prerecord the service and retransmit only that part which constitutes the text of the *Newsline* service itself. This is easily accomplished by calling into one of the numbers listed below and recording *Newsline* for delayed retransmission. This also permits easy integration of *Newsline* into already established nets or on-air Amateur Radio information services.

**Q) Where can I find a list of telephone numbers that play *Newsline*?**

A) Right here. As of June, 1996, the current numbers playing *Newsline* are (note that long distance charges may apply to any of these numbers):

| | |
|---|---|
| Chicago, IL | 708/289-0423 |
| Cincinnati, OH | 513/745-1948 |
| Conroe, TX | 409/525-6250 |
| Houston, TX | 713/362-4650 |
| Louisville, KY | 502/894-8559 |
| Los Angeles, CA (Primary Feed Line) | 805/296-2407 |
| Melbourne, FL | 407/953-1637 |
| Seattle, WA | 206/281-8455 |
| Tacoma, WA | 206/927-7373 |
| W. PalmBeach,FL | 407/684-4636 +960+1 |

Note: The West Palm Beach access is shared with WPTV Television news "Info Lines." Please follow the voice prompts.

**Q) Who pays the long distance or toll charges?**

A) You do. *Newsline* does not accept "collect" calls.

**Q) Are there any restrictions on the way we use *Newsline*?**

A) The copyright owner of The Amateur Radio *Newsline* is *Newsline*. Permission to reuse all or part of either the written, or the audio form requires that the item be taken in its entirety, not be subject to any further editing or commentary, and that full credit is given to *Newsline* as the source.

Permission is granted to all amateurs who want to transmit the audio version in its entirety over nets or repeaters. The text version may be used for packet distribution as long as it is sent in its entirety and the "BIN" header is kept intact.

When *Newsline* is transmitted in its full form over voice or digital forms of Amateur Radio, it is recommended that the closed circuit advisory be deleted. Audio, computer, and packet retransmission must be made without the editing or deleting of any other part of the *Newsline* content. Unauthorized additional commentary to the original message is also prohibited. To do so is a violation of copyright and subjects the initiator to legal action by *Newsline*.

*Newsline* may also be excerpted for code practice transmissions, and may be used as a reference source in bulletin board discussions under acceptable Fair Use practices. Any other use is not allowed without the expressed permission of *Newsline*.

**Q) What does all of this cost me?**

A) Nothing other than your own telephone expenses. It's free!

**Q) But doesn't it cost a lot of money to gather the news and prepare the newscast?**

A) Yes. Between $900 to $1,200 a month.

**Q) Who pays for it?**

A) *Newsline* is supported in two ways. First, donations are made by radio amateurs who appreciate the weekly newscast. Second, when there isn't enough in the bank, I write a personal check.

**Q) But we want to help. What can I or my club do?**

A) Donations are encouraged and accepted. They should be made payable to the *Newsline* Support Fund and sent to: *Newsline* Support Fund, in care of Andy Jarema, N6TCQ, P.O. Box 660937, Arcadia, CA 91066.

*In next month's conclusion,* Newsline's *use of new technologies and how to access them will be highlighted.* **WR**

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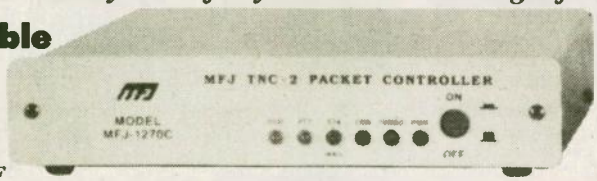
- *Memory Expands to 64K, 128K or 512K*

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**MFJ-1270CT, $209.95.** Has all the features of the MFJ-1270C plus built-in fast 2400 baud modem. Operate 300, 1200 and 2400 baud packet with the MFJ-1270CT. Radio modification is *not* necessary when operating 2400 baud packet.

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For MFJ-1270C/1276. Plugs into RAM socket for extra *mailbox* memory. **MFJ-45A** (32K), $14.95, **MFJ-45B**(128K), $29.95, **MFJ-45C** (512K), $159.95.

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### FM Deviation Meter

**MFJ-52,** $29.95, plug this board into your TNC configured as TheNet X-1J Node and users can check their transceiver packet FM deviation. Requires X-1J or later nodeware. See *CQ Magazine*, Nov. 1993.

### Firmware Upgrade

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**You** won't have to unplug your microphone and plug in your TNC *everytime* you want to work packet or other digital modes.

Just plug these pre-wired cables into your rig's microphone connector and into your TNC and you're ready to go -- no more hard-to-find connectors and wiring up cables.

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**MFJ-1272BX/1272MX,** $39.95, for PK-232.
**MFJ-1272BYV/1272MYV,** $39.95, for KAM VHF/KPC3.
**MFJ-1272BYH/1272MYH,** $39.95, for KAM HF Port.

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| Radios \ TNC Type | All MFJ TNCs/ PK900/PK96/ PK12/PacCom/ other TNC-2 compatibles | KAM VHF[5]/ KAM HF[5]/ KPC3[5]/ KPC9612[5] | PK-232 | PK-88 |
|---|---|---|---|---|
| Icom[1]/Yaesu/ Alinco/Radio Shack HTs | MFJ-5024 | MFJ-5024YV | MFJ-5024X | MFJ-5024Z |
| Kenwood[2] HTs | MFJ-5026 | MFJ-5026YV | MFJ-5026X | MFJ-5026Z |
| Yaesu 8-pin | MFJ-5080 | MFJ-5080YV MFJ-5080YH | MFJ-5080X | MFJ-5080Z |
| Icom[3] 8-pin | MFJ-5084 | MFJ-5084YV MFJ-5084YH | MFJ-5084X | MFJ-5084Z |
| Kenwood/Alinco 8-pin | MFJ-5086 | MFJ-5086YV MFJ-5086YH | MFJ-5086X | MFJ-5086Z |
| Yaesu 8-pin modular | MFJ-5080M | MFJ-5080MYV | MFJ-5080MX | MFJ-5080MZ |
| Icom[4] 8-pin modular | MFJ-5084M | MFJ-5084MYV | MFJ-5084MX | MFJ-5084MZ |
| Kenwood 8-pin modular | MFJ-5086 | MFJ-5086MYV | MFJ-5086MX | MFJ-5086MZ |
| Radio Shack 8-pin modular | MFJ-5088M | MFJ-5088MYV | MFJ-5088MX | MFJ-5088MZ |

1. does not include IC-W2A
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5. YV for KAM VHF port, YH for KAM HF port. Other Kantronics use YV models
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**The** ***automatic*** **notch and** ***adaptive*** **noise reduction can be used with** ***all*** **relevant tunable pre-set filters.**

***Automatic gain control*** **(AGC) keeps audio level constant during signal fade.**

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**Turning** on noise reduction silences background noise. It reduces fatigue and makes noisy signals readable.

**Noise** reduction works in all filter modes and on all random noise -- white noise, static, impulse, ignition noise, power line noise, hiss.

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**For** Voice and Data, nothing beats MFJ's exclusive *tunable* highpass/lowpass FIR linear phase "brick wall" filters.

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**Unlike** other filters, speech is not distorted by unequal time delay.

**When** signals are weak, you can improve copy by removing noisy high and low speech frequencies that contain little information.

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**Narrow** band signals like CW and RTTY jump out of QRM when you switch in MFJ's *exclusive* tunable FIR bandpass filters.

**You** can tune the center frequency from 300 to 3400 Hz, and vary the bandwidth from 30 Hz to 2100 Hz -- from super-tight CW filters to wide razor-sharp Data filters.

**As** you narrow the bandwidth, interfering signals drop out, because, just 60 Hz away, they're down by over 47 dB.

**You** can use narrower bandwidths to fight tough QRM because these linear phase filters don't distort signals with unequal time delays

**Even** with the narrowest 30 Hz bandwidth, you'll never have a problem with ringing.

**One** position gives you two tunable filters you can use together. For example, tune one to mark, one to space and set the bandwidth tight for an incredibly sharp RTTY filter.

### 15 *pre-set* filters -- use factory set or program your own

**You** can select from fifteen convenient *pre-set* filters. Use them for SSB, AM, CW, packet, AMTOR, PACTOR, RTTY, SSTV, WeFAX, FAX or any mode you can think of.

**If** you don't like our pre-set filters, you can program your own -- *an MFJ exclusive!* Save center frequency/ bandwidth, lowpass/highpass cutoffs, auto/manual notch, noise reduction -- all filter settings -- in 10 *programmable* filters.

**Only** MFJ gives you the best of both worlds -- *tunable* filters to eliminate nearly any QRM and fast convenient *pre-set* filters customized for any mode.

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**A** push-button bypasses your filter -- lets you hear the *entire* unfiltered signal.

**2½** watt amplifier, volume control, input level control, speaker jack, PTT sense line, line level output. 9½x2½x6 inches.

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## Gate 2 opens 23 September

Amateur Extra Class operators may apply for any unassigned call sign under the vanity call assignment system beginning 23 September 1996. A list of up to 25 calls may be submitted, and the first available call on that list will be assigned to the requester. Earlier "gates" permitted relatives of a deceased licensee to apply for their family member's call, and clubs to request the call sign of a deceased member, in memoriam.

The request must be filed on a Form 610-V, and a $30 fee must accompany the request. The Commission stresses the need for legibility: "If the information on your application is not legible, you could experience a delay in processing, lose the opportunity to obtain a requested call sign or even obtain a call sign different from what you want." The completed 610-V should be mailed to: FCC, Amateur Vanity Call Sign Request, P.O. Box 358924, Pittsburgh, PA 15251-5924.

For forms and further information, contact the Consumer Assistance Branch of the FCC at 800/322-1117.

## 610-Vs — carefully read instructions

The FCC wants hams to be more careful filling out their paperwork when applying for vanity call signs, according to Larry Weikert, who is the FCC's point man in Gettysburg for processing vanity call sign applications. Weikert says that many vanity applicants are failing to follow directions when filing the Form 610-V vanity call application. He asks that all applicants take the time to carefully read the instructions and follow them explicitly to avoid problems or disappointments. In addition, applicants should always print legibly.

Weikert also says that some applicants are attaching Form 610s to their vanity call sign applications to renew licenses or to file an address change. He says that Form 610 transactions should be filed separately. They should not be included as part of a vanity call sign application.

## DX bulletins sold

*The Long Island DX Bulletin* will be known as *The DX Reporter*, after its sale by well-known DXer and writer Chod Harris, VP2ML. He turns over the reins to new publishers Paul and Nancy Smith, AE4AP and KB4RGW.

The couple is also taking over the *DX Bulletin* and *The DX Magazine* from Harris. *The DX Reporter* will be published every two weeks. The changeover is supposed to happen within a few weeks.

The Smiths already produce "The GO List" the QSL manager list that they previously acquired from Jay and Jan O'Brien, W6GO and K6HHD.

## TWA flight 800 efforts

More than 125 hams from the greater New York City-Long Island vicinity contributed more than 2,500 volunteer hours to support recovery operations in the wake of the TWA Flight 800 disaster. Although the recovery effort continues, and Amateur Radio remains on call, official involvement by hams concluded the last weekend in July.

Walt Wenzel, KA2RGI, the regional RACES officer for the New York State Emergency Management Office had high praise for the work of the ham radio volunteers. Wenzel also offered some lessons learned from the recovery support effort. He says that hams must learn to not always count on 2-meter repeaters alone to provide coverage of a disaster area. He also says to keep a database of available equipment that can be loaned to operators who turn out to help.

## Alabama plates

Amateur Radio operators in Alabama are getting something they have wanted for years.

A current Alabama Amateur Radio license plate looks a lot like a regular plate. The only difference is that the call sign appears in place of the regular license numbers. This has led to years of questions from non-hams, wondering about the strange mix of letters and numbers. Alabama hams have wanted something more distinctive, a plate that clearly identifies Amateur Radio. They will soon be getting their wish, thanks to Lawrence Thompson, KE4RPX, of Montgomery.

"My background, before I became a priest, was as a lobbyist in Kentucky. I thought I knew my way around the legislative process fairly well. It occurred to me that the enabling legislation was already on the books. So, to me this was an administrative process and that is what it turned out to be," said Thompson.

He contacted the state's Department of Motor Vehicles. A few meetings and phone calls later, and Alabama hams had approval for new plates they can call their own.

The new plates leave no doubt as to what the letters and numbers mean. Thompson helped design it:

"This plate says Amateur Radio at the bottom. It has a tower on the left hand side of the tag. So from a distance it will be easily discernible that it is a ham radio operator driving the vehicle."

The new plates will be available starting in January, 1997.

## Sat band protection

In Europe, Region One of the International Amateur Radio Union is extending its monitoring service to protect the satellite bands as well as HF. In Europe, terrestrial interference to satellite operations it is a big problem in some countries. For example, signals from Spanish taxi communications in the 2-meter band frequently block satellite uplinks. While the problem exists outside Region One, the other regions have not yet made the commitment to support IARU Monitoring Service.

# SATERN

*(continued from page 1)*

Officer, in charge of fitting out and maintaining the canteens and other emergency-response vehicles both to fulfill their primary purposes and to serve as communications platforms. Moreover, Shillington was employed by a Japanese-owned firm that was delighted to give him time off for this worthwhile volunteer project. Indeed, it even helped arrange support once Shillington and the canteen arrived in Japan. As Major McPherson has noted, people with a range of skills to offer come to The Salvation Army through Amateur Radio!

### SATERN volunteers active in Oklahoma bombing

No community is immune from disaster, and most SATERN activations take place in the volunteers' own area. Some, like the Oklahoma City bombing in April 1995 are dramatic. Within 15 minutes of the explosion, John Zilavy, KC5DRI, a SATERN volunteer, was at Salvation Army Territorial Headquarters and had opened the emergency net which eventually lasted 363 hours. Although the operation was officially considered an ARES function, the core of the volunteer communicators were trained SATERN members. This made it relatively easy to add additional volunteers, who came from all over the region to help, without greatly impeding the efficiency of the operation.

"Our job is to be ready," Frank McCollom, N5FM, Oklahoma SATERN coordinator stated emphatically. "We've always known someday we would be needed. With this in mind, we have monthly HF training nets, local VHF nets, and check in regularly over AMTOR and packet with Quent Nelson, WA4QZY, over in Atlanta. On the nets we emphasize using standardized, quality equipment and good operating procedures.

### "Our readiness paid off."

Salvation Army Officers were impressed by the professional quality of communications provided by their so-called amateur shadows. "On the scene in Oklahoma City, Tim Diehl, KB5ZVC, handled all of my communications, reminded me of appointments, kept me from getting lost, etc.," reported Jon R. Wallace, Director of Social Services for The Salvation Army in Tulsa. "More than once I had representatives of other disaster relief agencies, including FEMA, comment on how well organized we were and how impressive our communication abilities were. This wouldn't have been the case if I hadn't had an Amateur Radio volunteer to support me."

Indeed, Wallace was so impressed with the value of Amateur Radio that he now has his own license and is now known in some circles as KC5OEB.

## Cover photo:

*The photo on the front page shows Major Pat McPherson, WW9E, at the scene of the apartment fire that this letter describes.*

When you start out on an ordinary, even humdrum sort of assignment with SATERN, sometimes funny things happen. Greg Buttimer, WA9GYI, had been sent to provide additional radio security at a parking lot during a meeting of The Army's upper echelon in a rather rough area of Chicago. It was a cold February day and it seemed like it was going to be a morning of fairly cold, drab duty. Read the note he sent to WZ9H afterward.

Dear Pat:

When you asked if I would be able to participate with SATERN for special duty at The University of Chicago on Feb. 4, I thought the duty would be rather mundane since we were to guard a parking lot for a few hours.

Shortly after I arrived Major McPherson, WW9E, assigned me to Canteen 1 and a few minutes later the Canteen was responding to an apartment building fire a few blocks away. Away we went, lights and sirens, whoop-whoop-whoop-brap-yelp. I wasn't supposed to be having so much fun . . . . Dave is an excellent driver, and he and his able assistant, Stan, were ever watchful as they cautiously but assertively moved that thirty-foot canteen through red lights and traffic obstacles.

As we arrived at the scene, the police moved their barricade and ushered us on (nice to feel so welcome). The Major directed us, via ham radio, to a good setup location to provide hot drinks and food for the many fire fighters. These guys were sooty and had icicles hanging from them . . . .There were four working fires in different areas of Chicago at this time. We spent about two hours at this site and it wasn't long before we were sent to another fire.

So, Pat, the next time someone says, "No, I don't want that kind of duty assignment, only call me for the big, important stuff," you can tell them about GYI when he had a parking-lot assignment!

Thanks for the opportunity.

Sincerely,

Greg J. Buttimer, WA9GYI

—Excerpted from *SATERN Ring*, May, 1995

**Pat Duce, WZ9H, acts as net control station during the General's Congress Field Day in Indiana.** ***—photo by KA9TRG***

### Monster twisters strike Fort Smith

Almost exactly a year later, Mac McDonald, AB5SG and other Oklahoma City SATERN veterans were thinking about holding a training simulation when monster tornadoes struck the Fort Smith, Arkansas, area. "My wife, Betty, and I reported immediately to the police command post. They instructed us to open a shelter at the nearby Junior High School," McDonald related.

"Jim Weaver, KC5AAY, had difficulty getting to Salvation Army Headquarters. They were without phone or electricity there — a situation which lasted two weeks. But Jim had no trouble establishing a command post and net because just two weeks earlier we had installed heavy-duty batteries in the radio room there for this very purpose."

In typical SATERN fashion, volunteers pitched in wherever help was needed and did not strictly confine themselves to communication services. Many hams had pick up trucks fitted with 2-meter equipment. These were particularly useful for delivering supplies, transporting equipment, and other logistical efforts.

Indeed unlike many public-service radio groups which emphasize that communicators are not to undertake other tasks, SATERN personnel believe that their communication skills give them the flexibility and mobility to do more. "Communications allows one to cover more territory," says Shillington, the Chicago Motor Vehicle Officer. "With our radios, we are not tied down to a particular position. For instance, Dee (WB9WVY, his XYL) is a professional food-service manager who serves as a canteen volunteer. She can use her own radio skills to be directed where she is needed most. She doesn't need a shadow (a communicator assigned specifically to her)."

### Small-scale emergencies

Earthquakes, hurricanes, bombings, and tornadoes are certainly dramatic events. SATERN, of course, does not overlook the myriad of smaller-scale calamities that befall communities. For instance the Minot, North Dakota, SATERN group — like many others — is closely tied in with the local RACES organization. Bill Feist, WB8BZH, in fact, serves as coordinator of both organizations. Amateurs are regularly activated to provide communications for canteens and shelters following house fires, grain-elevator fires, train derailments, and the like. Reading Feist's reports, in fact, makes life in the Minot area seem hazardous indeed!

### Halloween in Detroit

Detroit, Michigan, Halloween night, is certainly a hazardous place. Or at least it was until this past year, when a group of volunteers convened by the Mayor's Office of Emergency Management developed a strategy to counter the rampant arson that had become a local Halloween ritual. When Mayor Archer asked for an "army of angels" to protect the city, it was only natural for Captain Bill Heaver, KB8QHP, and The Salvation Army to respond.

Heaver agreed that The Army's canteens should be placed in strategic locations around the city to provide beverages, nourishment and encouragement to emergency personnel. Effective, reliable communications, naturally, would be essential. Aware that the cellular system would be overloaded during the Devil's Night mayhem and would quickly become useless, Heaver and Walt Gracey, WB8E, equipped all the canteens and support vehicles with 2-meter radios — and SATERN volunteers to operate them. City officials were impressed by the service rendered by the "amateur" volunteers.

When a veteran Detroit Police Sergeant approached SATERN volunteer Dan Larned, KA8NDY, and expressed gratitude for "all you Sally Ann people do," Larned enthusiastically remarked "This encounter made all the long hours worth it." It is precisely this sense of doing something meaningful that makes SATERN so important to many radio amateurs.

Perhaps only a little less chaotic is a Christmas party for 3,000 underprivileged Chicago kids. Every year Chicago SATERN volunteers actually take time off from their regular jobs to be part of this activity. "Basically what you're doing is getting the kids off 60 buses, herding them inside to see Santa and get their presents, and then get them back on the right buses to go home," explained Mike Duce nonchalantly. Easier said than done. But with good communication skills and the smooth working relationship that

comes from repeated practice, "We were down to only 9 lost kids last year," laughed Pat Duce.

In June 1995, SATERN personnel were involved in every phase of the General's Congress Field Day, a large Salvation Army convocation in Indiana involving an estimated 4,000 people, over half of whom were children. SATERN volunteers helped with traffic control, crowd control, emergency communications, canteen communications, and logistics. Pat Duce served as Net Control Station, a function she routinely and admirably fulfills in large-scale disasters such as the Plainfield Tornado in 1990. The General's Congress was not a disaster, only pandemonium.

## Understanding communications

Interestingly, one of the activities of SATERN volunteers is to help Salvation Army personnel understand how communication support can make their work easier and more effective. "The founding goal of SATERN was both to develop a reservoir of amateurs to assist The Salvation Army and to make the Army aware of this valuable resource," explained Major McPherson.

"Just as we train amateurs to work with The Salvation Army, we also must train Salvation Army personnel to work with amateurs," Pat Duce elaborated. "The Officer needs to be in six places at once, communicating with a dozen different people.

"Many of them think having a cellular phone is all they need. You and I know that isn't the case." So do the people in Detroit who marveled at SATERN's abilities. Indeed Salvation Army personnel — and all emergency responders — are increasingly aware of the limitations of cellular communications in the early stages of any calamity.

## Nets, seminars promote training

Despite its unique mission — to provide communications support for The Salvation Army —SATERN is in many respects like many other radio groups. There are formal nets — HF, VHF, and digital. Net skills are particularly important for SATERN members. VHF Net discipline is essential to coordinate on-site activities. On the HF side, SATERN typically opens a net following any kind of disaster to handle health-and-welfare traffic. "We were busy for several days following Hurricane Andrew," remembered Mike Duce. "We set up a net following the crash of USAir Flight #427 near Pittsburg, but we closed it almost immediately because there were no survivors. I wish there had been something to do. . . ."

The nets serve as training sessions and as a means for members across the globe to keep in touch with each other. Because of the close working relationships developed over the nets, SATERN members have a real sense of camaraderie. Moreover, nets serve as a way for affiliates in the field to get reports back to headquarters immediately. For example, SATERN volunteer Jerry Jennison, N5OKQ, in his capacity as Texas VOAD (Voluntary Organizations Active in Disaster) president, flew to Austin in October 1994, during severe flooding in Houston. The Emergency Operations Center was located three stories underground at the Texas Department of Public Safety.

"We were charged with the task of providing information to the Governor's Office as to the response of all voluntary agencies; that is, numbers sheltered, number of meals served, canteens in service, volunteer hours provided, etc. The State of Texas has a very good emergency communications room and very good antenna systems," Jennison continued. "I decided that it was too bad that the equipment was not being used a great deal of time.

"I received permission from the officer in charge to use the equipment to check into the SATERN 20-meter net daily. This worked out very well as we were able to provide information all over the U.S. as to the wonderful job The Army along with the other agencies were doing each day. Frankly, I hope this information helped raise funds for the flood victims, which were really needed."

A weekly packet net — accessible through the Internet as well as local 2-meter packet gateways — allows participants to sharpen their digital skills. McCollom in Oklahoma City observed that the potential of packet often is not realized in emergencies because of the many different software packages and hardware configurations in existence. Participants in this net try to simplify operations as well as get better acquainted with far-flung members: regular participants in the net include SATERN volunteers from Moscow and Ontario as well as throughout the United States.

Local training nets reflect local interests and local needs. Like the Oklahoma City bunch, the Phoenix, Arizona, SATERN group emphasizes AMTOR and packet. Warren Andreasen, N6WA, maintains a full-service packet BBS. He also has developed a SATERN site on the World Wide Web; Harry Gilling, W9IB, also offers a SATERN homepage. Both are useful for attracting new members as well publicizing current activities.

## Field Day

Like hams everywhere, SATERN volunteers get hands-on experience with simulated emergency conditions through participating in Field Day. Some groups, like the Mount Clemens, Michigan, gang, run a large operation — 16 different operating positions. Others, such as the fledgling Hawaii contingent, join forces with established groups, in this case Army MARS for a regular celestial confluence.

In Chicago, the SATERN folks use Field Day not only as an opportunity to test their operating skills but also as a chance to practice canteen operations; the various mobile canteens arrive at the Field-Day site, are inspected by Motor Vehicle Officer Shillington and then offer their famous taste treats to radio opera-

tors madly making contacts. In Arizona, Field Day participants typically have to contend with extreme heat. Whatever the conditions, SATERN members use Field Day to hone their skills and to call attention to their program.

**Annual seminar**

The annual Disaster Services Seminar held at The Salvation Army's Camp Wonderland, near Kenosha, Wisconsin, provides a chance to discuss operating techniques, equipment, philosophy of service and related topics. On occasion SATERN volunteers serve at particularly gruesome scenes such as the Indiana crash of American Eagle flight #4184, or in the Uptown area of Chicago last summer when hundreds of frail elderly died from the excessive heat. To prepare members for these kinds of experiences, other sessions deal with bio-hazards, health precautions, sanitation, critical-incident stress debriefing and pastoral counseling.

Two other highlights of the Camp Wonderland seminar are a special event station, which gives operators a chance to practice working pile-ups, and food — lots of food — which gives canteen personnel a chance to perfect their talents. It is well known among disaster responders that a Salvation Army assignment means plenty of tasty chow.

Clearly, SATERN is more than just another radio club. It is a far flung, diverse group of individuals who care deeply about their fellow human beings and want to use their communication skills and other abilities to alleviate human suffering. Probably all would agree with Mike Duce's assessment, "Our primary responsibility is to pass information back and forth — but you can also be doing something." "SATERN gives you the feeling of being able to contribute in a lot of ways," Pat Duce added.

Because no community is exempt from calamities, each community should have a SATERN affiliate. The vast majority of SATERN members will never accompany a canteen to Japan like Bill Shillington or run a packet BBS like Warren Andreasen, but every amateur can relay information in a timely fashion. This is, essentially, what John Zalevy did when he heard the news of the Oklahoma City bombing.

"One of the most important things a SATERN volunteer can do," explains Major Pat McPherson, is monitor the frequencies — public-service frequencies, commercial broadcast frequencies, amateur repeaters — and notify The Salvation Army when something happens. Thanks to a keen-eared monitor, we were able to get help quickly to the scene of that tragic accident where a train collided with a school bus. Our monitors are often the first indication we have that there's been a serious fire in our area or an earthquake somewhere else."

Just as The Salvation Army doesn't ask questions of people who contribute their coins and bills to its Christmas kettles, no one asks questions of those who want to contribute their time and talents. The only requirement to become a SATERN member is an Amateur Radio license. Members are given training materials and introduced to appropriate nets.

Participation need not be limited to nets and monitoring, of course. For those who would like to become more actively involved in SATERN, Major McPherson is glad to discuss the mechanics of becoming part of a local Salvation Army Corps or Emergency Disaster Service Unit. Details, of course, vary, from community to community.

For more information on becoming a SATERN member, please send your name, call sign, and address to Della Garcia, Administrative Assistant, Emergency Disaster Services, The Salvation Army, 5040 N. Pulaski Rd., Chicago, IL 60630. Amateurs are welcome to join the SATERN nets. Those who are more digitally inclined might wish instead to contact Major McPherson at ww9e@xnet.com and he will respond promptly.

**SATERN nets:**

20-meter SSB 14.265 MHz is on the air weekdays at 1500 UTC.

40-meter SSB 7.265 MHz is on Saturdays at 1630 UTC.

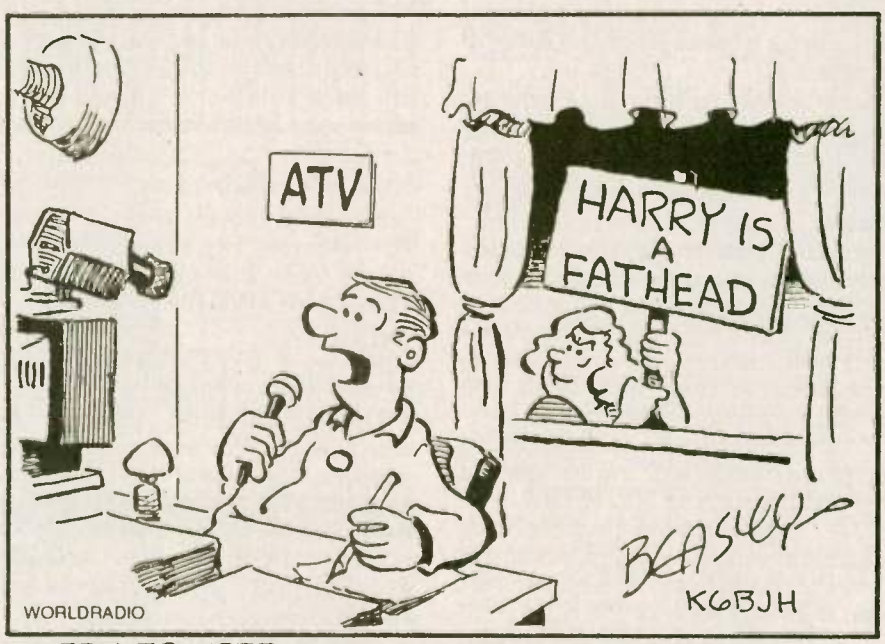
Telnet Channel 265 via packet or Internet at 2000 UTC is on Fridays.

Note: For areas that observe Daylight Savings Time, these nets meet one hour earlier UTC in order to preserve the same "local clock" time.

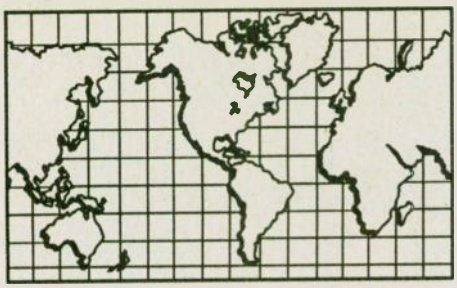
Web sites:

http://gn2.getnet.com:80/~n6wa/#satern

http://www.prairienet.org/~satern WR




I TRY TO KEEP THE XYL OUT OF THE SHACK, HARRY--- SHE MAKES RUDE REMARKS TO SOME OF THE GUYS I TALK TO



# 100 Nations Award

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

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

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

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

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

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

## Rules

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

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

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

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

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

6. The application shall include the following:

a. Letter requesting **W-100-N.**

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

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

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

7. All applications and requests shall be addressed to:

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

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

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

## W-100-N nations list criteria

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

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

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

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

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

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

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

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

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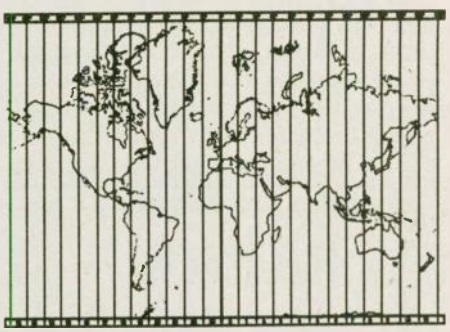


# CATZ

To help commemorate 25 years of ***Worldradio***, we announce a new award to be known as "Contact All Time Zones" (CATZ).

## Rules

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

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

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

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

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

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

## Application

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

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

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

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

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

Those receiving the CATZ award will have their name and call sign reported in the ***Worldradio*** DX column. **WR**

# Product Review

## The MFJ-9406 SSB Transceiver

**Ken Neubeck, WB2AMU**

As one of several Six Meter operators who had been pushing for low-cost gear, you can imagine how pleased I was last November when MFJ announced their new 6M transceiver, the 9406. The radio was sent to me in the spring for a product review.

The dimensions of the radio are 6" x 6.5" x 2.5." The front panel is quite simple, with a signal strength meter, an on/off button, volume control and tuning dials. The tuning involves a main dial which spans 50.0 to 50.3 MHz. The markings are in 25 kHz increments. There is an additional "fine tune" dial that does just that. I have found that it is necessary to use this fine tuning feature on nearly all received signals.

It was important to me to evaluate the radio under normal operating conditions. I would then be able to compare the radio with other 6M radios, as well as work stations during the sporadic-E season in order to gauge its capabilities.

I received the radio in late March, just in time for some early spring openings on the "magic band" from my home QTH on Long Island, New York, to Florida. I found that this radio rated at 10W PEP was comparable in signal output and quality to the other proven radios that I had in the shack; the Kenwood TS-670, for example. The receiver is also comparable to the other radios, so nothing has been lost in making this low-cost transceiver.

I found the tuning knob to be a nice advantage in one way since I could tune the entire band very quickly compared to digital radios. However, the coarse graduations of the dial do not allow you to know exactly what frequency you are on, within two or three kHz. This is a problem when someone says to "QSY up ten," which is a common practice on the band. This is the same problem that I had with the Swan 250, my first rig. I never knew my precise frequency (particularly with respect to the calling frequency of 50.125) but that is the usual state of affairs with an analog rig.

I ran into some difficulties when I ran the rig off the car battery. Occasionally, the receiver would make a motorboat sound, indicating an incorrect voltage situation with the voltage regulator. This same problem came up all the time when I ran it off of a portable 12-volt supply. It turned out that I had to adjust the variable resistor to the voltage regulator to 10-volts instead of the 10.5-volts as called for in the manual.

Rich Littlefield, K1BQT, the designer of the radio, called me up and pointed out that there was a tolerance condition with the voltage regulator of plus or minus one volt. The receiver should be adjusted correctly in the MFJ factory. The problem was fairly straightforward, and easy to correct with a non-metalic tuning tool and a voltmeter. This should also not pose a serious problem if another user should encounter it.

I did manage to work some stations via sporadic-E skip running the rig off the car battery and received acceptable reports of audio quality. Subsequent to my tests, I requested that my friend Joe Nehm, NI1L, give it a workout. He achieved good results, with several local and skip contacts. In addition, I have worked a number of hams who were using the 9406 and I have found that the receive audio quality is quite acceptable.

The 9406 includes an input for keying an external amplifier that does not have a sensor circuit for automatic switchover. I used the radio output directly into an Mirage A-1015G amplifier and found that it works very well.

The low list price of $260 for the radio and microphone is very impressive. This setup by itself can be run in the car using the car's battery for power. If one desires home operation, a plug-in AC power supply with voltage regulator is available at a cost of $60. For an additional $50, you can purchase a CW module made for the 9406.

When you consider the high prices that 6M operators faced in the past in order to use the SSB portion of the magic band, $260 is a terrific price. No longer can hams use the excuse that the prices of 6M radios are prohibitive. I think that the introduction of this radio will force some changes in strategy by the different radio manufacturers in making more competitively priced radios for 6M. This radio will aid in increasing the population of the band, particularly by the no-code Technician class.

The radio comes with "a no-matter-what" one-year warranty. So all that it costs you is shipping, should a problem be encountered.

The 9406 transceiver fills the need for low-cost 6M startup rig that the band's operators have been requesting. If you accept the premise that the MFJ radio is a no-frills rig and has some limitations because of its level of technology, then this radio is just the ticket as a starter radio for the "magic band." WR

*Worldradio!* Your source for information!

# Station Appearance

## Bill Clark, KI5VW

*Enter **Worldradio's** Station Appearance contest by sending a picture and description of your shack to **Worldradio**, P.O. Box 189490, Sacramento, CA 95818. Stations will be judged on neatness and accessibility of equipment. Winners will receive a free one-year subscription to **Worldradio**.*

Pictured is the mobile installation I have built in my motor home. The cabinet is my design but built by a neighbor and fellow ham, Bob Wilson, KC5QB. The cabinet is secured to the metal frame of the motor home and all equipment is bolted through the shelves of the cabinet in a very secure manner. It should be stronger than some other equipment in the motor home.

The radio is a Kenwood TS-850 SAT with TCXO unit, 1.8 kHz sideband filter and 270 Hz CW filter. Also utilizes the SP-31 external speaker by Kenwood.

The amplifier is a golden oldie Swan 1200W and metering is accomplished with a Diawa CN-101.

The small aluminum plate on the right of the console holds the up-down control to resonate the Don Johnson-style antenna with coil built by Mike Little, KB5IWX, with remainder of the antenna being constructed by myself. Not shown is a Heil PRO-50 boom mike and headset activated with either a foot switch or optional hand switch.

All wires and antenna leads enter through the floor. The wires and the busses for both 12V and ground services are behind the curtain in the knee area of the console.

The station is fully operational down the road with the TS-850 on 12V and the 120V for the Swan amp supplied by the on-board generator.

I have confirmed 80 Meter phone contacts from Australia and other South Pacific locations from within the 5th call area to confirm the efficiency of the installation.

I am able to work 10-80M without any trips back to the antenna — all accomplished with the good 'ole Don Johnson Screwdriver antenna. WR

## Hungarian hams seek lodging for U.S. vacation

Art and Emma Balo, both licensed amateurs in Hungary, are planning to vacation in the U.S. in November '96, and are seeking lodging. They are primarily intersted in the San Francisco Bay area, Los Angeles, and Sacramento in California and the state of Floida.

If you can help, please write to the Balos at the following address: Art and Emma Balo, TOBOZ UT 4, GODOLLO 2100, Hungary.

Build and write!
Tinkering hams love to share their construction achievements with ***Worldradio*** readers.

# Amateur "Hi"

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

## What's a little water in your antenna!

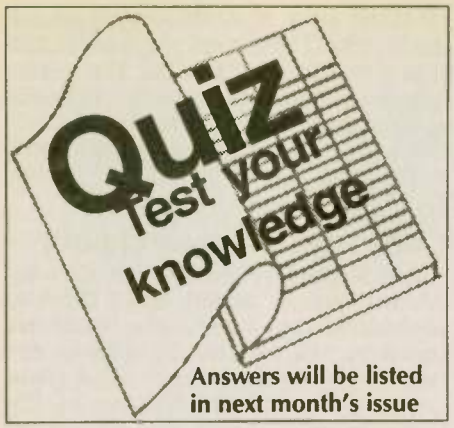
**Allan E. Schmidt, AB5XM**

When we have our travel trailer parked in a campground, I use a 15' high PVC mast to support the center of my dipole antenna. I support the mast along the side of the trailer.

During a recent camping trip, a gentleman parked in the next campsite — seeing the mast and wires — walked by and asked if I were a ham radio operator. I said that I am and he continued walking.

The next day, after having been parked there for several days, my wife and I were performing the unpleasant task of washing out the trailer's sewer holding tank. My wife was inside with a hose and I was outside to open and close the water and drain valves. While waiting or instructions from my wife to open or close the drain valve, I was standing there looking up at the mast and antenna.

When we were finished, our neighbor walked over and said, "I hate to be nosy, but my curiosity has gotten the best of me. I have to ask what are you doing?" I said that we had been cleaning out the holding tank. "Oh," he said. "I heard the water running and saw you looking up at the PVC antenna mast. I thought you were filling the pipe with water for some kind of new antenna system." WR




The answers to last month's quiz questions 20-34 are as follows:
20. A; 21. B; 22. C; 23. D; 24. A; 25. C; 26. C; 27. D; 28. A; 29. B; 30. B; 31. C; 32. D; 33. A; 34. B

35. How may a repeater station be identified?
A. By a burst of digitized information
B. Only voice may be used for identification
C. By CW or voice
D. Only CW may be used for identification

36. When a repeater station is identified in Morse code using an automatic keying device, what is the maximum code speed permitted?
A. 13 words per minute
B. 30 words per minute
C. 20 words per minute
D. There is no limitation

37. How often must a beacon station be identified?
A. Every eight minutes
B. Only at the end of the series of transmissions
C. At the beginning of a series of transmissions
D. At least once every ten minutes during and at the end of activity

38. When may a repeater be identified using digital codes?
A. Any time that particular code is used for at least part of the communication
B. Digital identification is not allowed
C. Only voice may be allowed
D. No identification is needed in digital transmissions

39. When is prior FCC approval required before constructing or altering an amateur station antenna structure?
A. When the antenna structure violates local building codes
B. When the height above ground will exceed 200 feet
C. When an antenna located 23,000 feet from an airport runway will be 150' high
D. When an antenna located 23,000 feet from an airport runway will be 100 feet high

40. What must an Amateur Radio operator obtain from the FCC before constructing or altering an antenna structure more than 200 feet high?
A. An Environmental Impact Statement
B. A Special Temporary Authorization
C. Prior approval
D. An effective radiated power statement

41. Without special FCC approval, what maximum height above ground level (excluding airport proximity effects) is permitted for any amateur antenna support structure, including the radiating elements, tower, supports, etc.?
A. 46 m (150 feet)
B. 61 m (200 feet)
C. 76 m (250 feet)
D. 91 m (300 feet)

42. From what government agencies must permission be obtained if you wish to erect an amateur antenna structure that exceeds 200 feet above ground level?
A. Federal Aviation Administration and Federal Communications Commission
B. Environmental Protection Agency and Federal Communications Commission
C. Federal Aviation Administration and Environmental Protection Agency
D. Environmental Protection Agency and National Aeronautics and Space Administration

46. Which of the following types of amateur communications is not a "prohibited transmission" as defined in Part 97?
A. Transmission of messages into a disaster area for hire or for material compensation
B. Transmissions ensuring safety on a highway, such as calling a commercial tow truck service
C. Transmission of communications that facilitate the regular business or commercial affairs of any party
D. Transmission of communications concerning moving, supplying and quartering participants in a charity event as long as the sponsoring charity is the principal beneficiary of such communications, not the public

47. May an amateur operator inform other amateur operators of the availability of apparatus for sale or trade over the airwaves?
A. You are not allowed to sell or trade equipment on the air
B. You are allowed to derive a profit by buying or selling equipment on the air on a regular basis
C. This is a permissible activity if the apparatus can normally be used at an amateur station and is not done for profit by the offering individual on a regular basis
D. This is allowed only if you also give the serial number of the equipment

48. Under what conditions, if any, may communications be transmitted to a commercial business by an amateur station?
A. When the total remuneration does not exceed 25
B. When the control operator is employed by the FCC
C. When transmitting international third-party communications
D. When the immediate safety of human life or immediate protection of property is involved

49. What are the only types of messages that may be transmitted to an amateur station in a foreign country?
A. Supplies needed, on a routine schedule
B. Emergency messages or business messages
C. Business messages or messages of a technical nature
D. Personal remarks, tests, or messages of a technical nature

50. What are the limitations on international Amateur Radio communications regarding the types of messages transmitted?
A. Emergency communications only
B. Technical or personal messages only
C. Business communications only
D. Call sign and signal reports only

51. Under what circumstances, if any, may amateur operators accept payment for using their own stations (other than a club station) to send messages?
A. When employed by the FCC
B. When passing emergency traffic
C. Under no circumstances
D. When passing international third-party communications

52. Under what circumstances, if any, may the licensee of an amateur station in repeater operation accept remuneration for providing communication services to another party?
A. When the repeater is operating under portable power
B. When the repeater is under local control
C. During Red Cross or other emergency service drills
D. Under no circumstances

53. Who is responsible for preparing an Element 1(A) telegraphy examination?
A. The volunteer examiners or a qualified supplier
B. The FCC
C. The VEC
D. Any Novice licensee

# Special Events

## MissionFest '96

On 5 October, from 0800 to 2200 PDT, the 7th annual MissionFest, co-sponsored by Christ Lutheran of Wichita Falls, Texas, and Elim Lutheran of Lake Stevens, Washington, will take place on 28.840 MHz, 21.340 MHz, 14.340 MHz and 7.260 MHz (+/- for QRM). The invitation is given for all Christian Missionaries, supporters of mission activity, and those who just like to talk to make contact and receive a special QSL certificate. Local activities at the two churches will involve missions speakers/seminar and a chance to "get on the air" for the special event! For information, contact Mike Crowell, N5UJA at 206/334-2540 or write c/o MissionFest, Elim Lutheran Church, Box 318, Lake Stevens, WA 98258.

## Maple Leaf Festival

The Douglas County ARC will operate KCØGL on 19 October, 1400-2100Z in conjunction with the Baldwin City Maple Leaf Festival. Operation will be 40-10 Meters. Also, a station will be operated/Railroad Mobile aboard the Midland Historical Railway caboose, enroute between Baldwin City and Nowhere. For certificate/QSL, send QSL and SASE to: Ken Blair, 1711 West 19th St., Terrace, Lawrence, KS 66044.

## Founding of the Greater Cincinnati ARA

The Greater Cincinnati ARA will operate W8DZ from the Greater Cincinnati, Ohio area, to celebrate the 60th anniversary of its founding, with a commemorative QSL card: 0000UTC, 13 October through 2400UTC, 20 October. Operation will be on 1.936 MHz, 28.480 MHz and +25 kHz from other band edges. QSL with SASE to K8JE, P.O. Box 40201, Forest Park, OH 45340.

## Chicago fire

The Hamfesters Radio Club will operate W9AA on 5 and 6 October to commemorate the 125th anniversary of the Chicago fire. Operation will be in the General portions of 80-15 Meter phone, 28.410 and 146.43. For certificate, send 9 x 12 SASE with 2 units of postage to Hamfesters Radio Club, P.O. Box 42792, Evergreen Park, IL 60805.

## Carnegie Science Center

The Breezeshooters ARC will operate W3XX on 6 October from 1400-2100 UTC, to celebrate the centennial of the Carnegie Science Center. Operation will take place from the submarine U.S.S. *Requin* docked at the Carnegie Science Center, in Pittsburgh, PA. The special event will operate vintage CW equipment in the 40 Meter Novice band and in the Novice portions of the 10 and 15 Meter bands, conditions permitting. Phone operation will be in the General Class segment of 20 and 40M. For certificate and QSL, send QSL and an 8½ x 11-inch SASE to Jack Buzon, KA3HPM, 47 Grubbs Rd., Cheswick, PA

## Iowa Radiosport

The Iowa Radiosport Society will operate KBØVGA from Nowhere, Illinois, 19 October from 1400-2100 UTC. Operation will be in the lower portion of the General 40 & 20 Meter phone subbands. For photo QSL, send SASE to P.O. Box 68, Burlington, IA 52601-0068.

## A ghoulish Halloween

The Transylvania County ARC will operate KE4ZIS from Transylvania County, NC, on Halloween. Hours of operation will be from 1900UTC, 31 October, until 0100UTC on 1 November. Frequencies will be 7.237, 14.295, 21.365, and 28.335 SSB and 146.52 FM simplex. For certificate, send a business size or 9 x 12 SASE to: T.C.A.R.C., P.O. Box 643, Brevard, NC 28712. Weather permitting, operation will be from the Devil's Courthouse on the Blue Ridge Parkway.

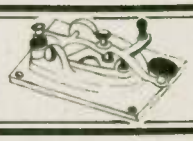
## Centennial anniversary

The Ouachita Amateur Radio Association will operate AC5BI, 18-19 October, 1400-2200UC, to observe the centennial anniversary of the founding of Mena, Arkansas, and the building of the Kansas City Southern Railroad. Frequencies: 80-10 Meter phone bands. For QSL, send QSL and #10 SASE to: AC5BI, L.J. Brewer, Jr., 268 Polk 36, Hatfield, AR 71945.

## Birthday of U.S. Navy

The Great Lakes ARC at the U.S. Naval Training Center, Great Lakes, Illinois, will operate WV7T, 12 October, 0000 UTC through 14 October 2359 UTC, to celebrate the 221st birthday of the U.S. Navy. Operation will be on 80-10M CW, SSB, RTTY. For certificate, send QSL (please provide contact number) to: Great Lakes ARC, 2072-A Langley St., Great Lakes, IL 60088. (SASE-IRCs appreciated). WR

# Silent Keys



## Norman N. Henkel, K6BA

Norman N. Henkel, K6BA, passed away 5 August 1996, after a long illness. He was born in Los Angeles, on 4 January 1916, and lived there all of his life. He was first licensed as W6FHI in 1931, at the age of 15 and later became a member of the ARRL, Quarter Century Wireless Association, and The Old Timers Club. Norm served as net control operator for both the SSB and CW nets of the Los Angeles chapter of QCWA for many years.

Norm constructed almost, if not all, of his low band transmitters and many of his receivers. Norm had a large number of six-foot racks full of equipment he built and kept operational. He also constructed his own antennas, all of which were of the most efficient designs. The unusual thing about his abilities is that Norm taught himself all of the electronic knowledge he needed to build his equipment and enjoy his hobby. He had no formal training in electronics.

He is survived by his wife Lila and three daughters, Kathy, Maria, and Ali. Norm was a friend to many hams. His familiar,"This is K6BA in LA" will be missed by many. —*submitted by Bob Rickey, NF6P*

## Henry J. Melancon, KBØCED

Henry J. Melancon, Jr., KBØCED, died 21 June 1996, after a brave battle against cancer. A resident of Cloquet, Minnesota, Mr. Melancon was born in Nickerson, MN, and had graduated from Bruno High School in 1939. He was an Army Air Corp veteran, and had also served in the 125th Field Artillery in the National Guard.

He married the former Virginia Dyer in 1941. After working for the Great Northern Railroad, he attended and graduated from West Texas State College. He taught at the air base in Amarillo, Texas, then moved to Tucumcari, New Mexico, where he taught school until 1958.

The family returned to Minnesota, where KBØCED became the audio-visual director for the Cloquet public schools until his retirement in 1986. —*submitted by Virginia Melancon, KBØGHN* WR

# Off the air

Worldradio
2120 28th Street
Sacramento, CA

## Amateur Radio — a necessity

There have been, in some circles, references to Amateur Radio not being as needed as it used to be. This as you well know is not even close to being true. The crash of an Eagle Flight in Indiana on about 31 October, 1994, proves this. Even with all of the technical communications and traffic systems available with the various agencies, guess who were some of the first people on duty and on the air helping out! That's right, Amateur Radio operators. There were many hams from across the area operating radios and providing radio contacts that were just not available anywhere else. Not only were some of the hams physically there, they also provided net communications that reached out across many miles to places such as Chicago. This covered areas of communication needs that just weren't there for different service organizations.

Because of time and resource constraints put on responding services, they just could not match the constant (just ask our spouses) operating procedures of the ham community. Amateur Radio operators were on the air with repeater and local transmission nets almost instantly. Some area services had a sort of communication hole in their systems due to equipment and time setup needs. Some of the people contributing time and phone help were many miles away from the crash site but were still in the thick of things.

Hams helped with everything from directions to and from the crash site for emergency agencies, crash victim families, and all kinds of help to actual crash information to the public and media. Try to tell these people interest is not as great in Amateur Radio. Okay, maybe some of the government agencies such as the Coast Guard are giving up on Morse Code, but the ham community is still providing emergency phone and CW service when needed.

Also, give this some thought. If a phone line and or a power line goes down, how are the computer links and services going to operate? While they are waiting for service to be restored, the Amateur Radio operators will be providing help to those in need.

**George R. Young, Jr., N9VOK**
**Chicago, IL**





## Company listens

In January, ***Worldradio*** published my product review on the CodeBoy electronic keyer kit. In the article, I pointed out that there was a small problem in fitting the keyer circuit board into the case. The board spacers were too close to the rear wall of the case and a modification to the case holes were necessary for proper installation.

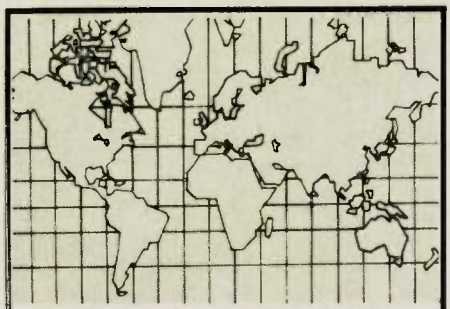
I recently received a letter from Lee Richey, WA3FIY, at Radio Adventures Company stating that this tight mechanical assembly problem has been fixed. Based on my ***Worldradio*** article, RAC changed the case assembly design slightly and began a new production run.

It is a pleasant experience to find a company such as RAC which is willing to listen to feedback from its customers. It is my hope that all amateur equipment dealers could be as receptive to constructive criticism.

Lee also stated that RAC has a couple of new kits available and they plan on having more out in time for Christmas. For further information on the CodeBoy, or other RAC items, drop them an e-mail note at rac@usa.net or write Radio Adventures Company, RD4 Box 240, Franklin, PA 16323.

**John D. Carlini, KA2FWX**
**Harrogate, UK**

Amateur Radio is a friendly joining of great people, enabling lasting friendships to be cherished.



# DX WORLD

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

## '97 DX convention

Len Geraldi, K6ANP, reports the 1997 International DX convention will be held at the Centre Plaza Holiday Inn in Fresno, California, 4-6 April.

There is a special convention rate of $78 per room. The telephone number for reservations is: 209/268-1000.

The Park Centre Fresno location is more spacious than the former location in Visalia. More rooms are available, and there is also RV parking available. Convention co-chairmen Rich Carbine, WB6UDS, and Rich Chatelain, AB6ZV, promise that this convention will have more activities and prizes. In addition to the usual convention patch, every registered attendee will receive a unique gift.

### Lesotho (7P)

Martin Rigby, G4FUI will be active on SSB and CW as 7P/G4FUI in Lesotho until early December. QSL to home call.

### Martinique (FM)

Peter van Veenendaal, PA3BBP, Rob Sneider, PA3ERC, Ronald Stuy, PA3EWP and Dick Grolleman, PA3FQA, will operate FM/ from 30 September to 6 October. The all band (including 160) operation will be on the air on SSB, CW, RTTY, with two stations around the clock. QSLs to: Rob Sneider, PA3ERC, Van Leeuwenstraat 137, 2273 VS Voorburg, Holland, or the bureau.

### Nigeria (5N)

22 October to 3 November, Pete Meyer, WØAW, Mike Goode, N9NS, Joe Pontek, K8JP and Vincent, GØLMY will be active from Nigeria. They will be using CW, RTTY, via satellite on RS-12 and AO-13, and plan to operate in the CQWW SSB contest 26-27 October using the call 5N9N. QSL via N2AU.

### Laos (XW)

The DXNL reports that officials in Laos have several license applications from DL, UA, JA and PA operators. Due to the high number of applications, Andreas, DK9LM, hopes to receive a positive answer from Vientiane in the near future.

### Ruturu, Tubuai (FO)

Joel, F5JJW, plans to operate as F5JJW/FOØSUC from Rurutu (OC-050) on 9-14 October. He will then operate from Tubuai on 14-19 October. He will be on both CW and SSB using 100 watts to a vertical, and for 20M, a dipole. QSL via the bureau to F5JJW, or direct to P.O. Box 7, 69520 Grigny, France.

### Zaire (9Q)

Alex van Elijk, PA3DZN/9Q2L has left due to local dangers. 9Q5OWN is still on the air from Goma, QSL via F6ITD.

### Tunisia(3V)

The *DX News Sheet* reports Eddie Schneider, GØAZT will be active 9-13 October from 3V.

### Egypt (SU)

An Egyptian DX net called SU DX Net meets Fridays and Saturdays at 1500Z on 14.220 MHz. Operators who are usually present included SU1ER, SU1SK, SU1GS and SU3AM.

### Ohio convention poll

The *OPDX Bulletin* reports that over the past few years, several members of the Northern Ohio DX Association (NODXA) have talked about having a DX Convention in Cleveland. Now that the International DX Convention is no longer being held a week before the Dayton Hamvention at Visalia, should NODXA take the step in having the first annual "North Coast DX Convention/EXPO?"

Messages read on the Internet from the DX community seem to indicate they want something the weekend before Dayton. Just think of it, a DX Convention and Dayton

# DX Prediction — October 1996

Maximum usable frequency from West Coast, Central US and East Coast *(courtesy of Engineering Systems Incorporated, Box 939, Vienna, VA 22183).*

The numbers listed in each section are the average maximum usable frequencies (MUF) in MHz for contacting five major areas of the world centered on Africa-Kenya/Nairobi, Asia-Japan/Tokyo, Oceania-Australia/Melbourne, Europe-Germany/Frankfurt, and South America-Brazil/Rio de Janeiro. Chance of contact as determined by path loss is indicated as bold *MUF for good, plain MUF for fair, and in parentheses for poor. UTC in hours.

**WEST COAST**

| UTC | AFRI | ASIA | OCEA | EURO | SO AM |
|---|---|---|---|---|---|
| 10 | (9) | 10 | *14 | (8) | 13 |
| 12 | (9) | 10 | 13 | (7) | (12) |
| 14 | (18) | 9 | 12 | (15) | 22 |
| 16 | (21) | 10 | *15 | (15) | 26 |
| 18 | 22 | (9) | (13) | (12) | 27 |
| 20 | 22 | 16 | (20) | (9) | 27 |
| 22 | (18) | 21 | 24 | (8) | 27 |
| 24 | (16) | 22 | 27 | (8) | *25 |
| 2 | 12 | 19 | 26 | 8 | *20 |
| 4 | 11 | 13 | 22 | 7 | *17 |
| 6 | (10) | (11) | 18 | 8 | *15 |
| 8 | (9) | *11 | *16 | (8) | *12 |

**CENTRAL USA**

| UTC | AFRI | ASIA | OCEA | EURO | SO AM |
|---|---|---|---|---|---|
| 8 | (11) | 8 | *13 | (8) | *12 |
| 10 | (11) | 8 | 12 | (7) | 12 |
| 12 | 23 | 7 | 12 | 15 | 21 |
| 14 | 26 | 10 | *18 | 16 | *24 |
| 16 | 28 | (10) | (15) | 15 | *26 |
| 18 | 27 | (9) | (13) | (12) | *27 |
| 20 | 22 | (16) | (20) | (9) | *27 |
| 22 | 18 | (17) | 24 | (8) | *26 |
| 24 | *15 | (15) | 25 | 8 | *22 |
| 2 | 14 | (10) | 20 | 8 | *19 |
| 4 | *13 | (9) | 17 | 7 | *16 |
| 6 | (12) | (8) | (15) | *8 | *14 |

**EAST COAST**

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

Hamvention within a week and only a 3½ hour drive between the two. The city of Cleveland could easily fill the days between the two events with visits to the Rock and Roll Hall of Fame, Science Museum, Art Museum, Natural History Museum, Auto Museum, the Cleveland's Metroparks Rain Forest/Zoo and much more.

Maybe Cleveland is ready to have its first DX Convention. NODXA would like to poll the DX community on their views about this possible event. We would ask that you answer the following questions and e-mail your answers to:

ncdxc_expo@barf80.nshore.org

1. Would you attend the convention in Cleveland if it were held the weekend before the Dayton Hamvention (or possibly the weekend after so as not to conflict with Mother's Day)?

2. Where will you be traveling from to attend the convention?

3. What type of forums would you attend (technical, DXpedition, etc.)?

Optional questions to answer:

4. Would you/group/organization be interested in conducting a forum?

5. Would you/group/organization be interested in helping to sponsor the convention?

6. Any other comments/input you may have.

Your participation in this poll is very important to us. It will help us make our decision. Also, time is an important factor to get the ball rolling. NODXA thanks you for your input. 73 de Tedd, KB8NW

### Swaziland, 3DAØ

Dave, WJ2O, Sam, ZS6BRZ and Andre, ZS6WPX will be active 25-28 October on 160-10M SSB.

### Israel (4X)

4X9 and 4Z9 prefixes followed by a three letter suffix are being used by Novice Class licenses. They may be worked on 40 and 15 Meter CW.

### Seychelles (S7)

Paddy, S79MAD, can be heard around 28.500 MHz, 1300Z on weekdays, and 1000Z on weekends.

### Bahrain (A9)

Bob Frick, N3NGC, was still signing A92GD as of late August.

### Zambia (9J)

CT3HJ recently worked 9J2SZ on 6 Meters.

### CADXA Scholarship

The Central Arizona DX Association, an organization of over 100 amateur operators in Phoenix, AZ, is pleased to announce the winners of their scholarship program for 1996. Awards of $500 went to the following young amateurs: John Steenis, KI7LX of Phoenix, and Sarah Laurel Brown, N7XYR of Page, AZ. Both have exemplary grades, have been active in the hobby, and will definitely be valuable role models for other Amateur Radio operators in the future.

The CADXA believes that the future belongs to the young, and that a small effort on our part now will pay big dividends in the years to come. Please join us in congratulating these fine young amateurs as they begin their college careers.

Additional information about the CADXA scholarship program may be obtained by contacting Gary Capek, K8BN, 5403 W. Dobbins, Laveen, AZ 85339; telephone 602/237-4314 or Internet e-mail: gcapek@getnet.com

### QSL routes

| | | | |
|---|---|---|---|
| C6AFP | N4JQQ | FG/F6BUM | F6BUM |
| C91/UA9MA | DK8FS | FJ/I4ALU | I4ALU |
| CØ2JD | HI3JH | FK/JE5WIM | JE5WIM |
| CQ4I | CT4IN | FM5GU | WA4JTK |
| CYOAA | WD8SDL | FØ5PI | F5OTZ |
| E21CJN | K3WUW | FOØALE | CX3AN |
| EA1AGZ/P | EA50L | GDØAFV | W2KN |
| EA1ASC/P | EA1EAU | GMØWDY/P | GØPCA |
| EA3AJW/7 | EA3AJ | GS4BJC/P | GØDBX |
| EA4ENB/P | EA4ENB | GSØXCW | GM3YTS |
| EA5FMC/P | EA5AR | GUØDXX | GØDXX |
| EA7CRL/P | EA7CRL | GW4KCT/P | G4KCT |
| EA7HDO/P | EA70H | HBØ/IV3HYP/P | IV3HYD |
| ED1MC | EA1MC | HI9/I4LCK | I4LCK |
| ED2SRA | EA2CBY | HLØY/3 | HLØY |
| ED4IDR | EA2BUF | IG9RAI | IK7RWE |
| ED5VNA | EA5GPO | IJ7/IK7IMO | IK7IMO |
| ED7MCT | EA7EY | IJ7/IK7JWX | IK7JWX |
| EJ5CRC | EI2HY | IJ7/IK7UYB | IK7UYB |
| EU1AI | DJØIF | IJ7/IK7VEH | IK7VEH |
| EX8F/EX | DL8FCU | IJ7/IK7VJX | IK7VJX |
| F5CCO/P | F5CCO | IL3/IK2EUY | IK2EUY |
| F6EPN/P | F6EPN | IL3/IK2HTW | IK2HTW |
| | | IL3/IK2PZG | IK2PZG |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| IL6/IK6CGO | IK6CGO | JW9THA | LA9THA | KP4RV | KD8IW | OHØLQK | OH3LQK | S79MAD | GW4WVO | SV8/EA3CB | EA3CB |
| IMØ/IK2MZ | IK2MRZ | JY5HZ | JY6ZZ | KP4SB | KD8IW | OHØMB | OH1VR | SPØZS | SP8BJH | SV9/HAØHW | HAØHW |
| IMØ/IK4HPU | IK4HPU | K26PI | K4PI | KP4TN | KD8IW | OI6LNI | OH6LNI | | | | |
| IMØ/IK8HCH | IK8HCH | K4ØØPI | K4PI | KP4VP | KD8IW | OIØKAG | OH1KAG | | | | |
| IT9GNG/P | IT9FXY | K96PI | K4PI | KP4WN | KD8IW | OX3IPA | OZ5AAH | | | | |
| J28JA | F5PWH | KH4/NH6D | KL7H | LA/DF8YO/M | DF8YO | P29TL | KF9TH | | | | |
| J41ØG | SV1QN | KH6/WB9PTN | WB9PGB | LX9UN | LX1NJ | P4ØDC | AA6DC | | | | |
| J41ØG | SV1BSX | KLØ/AA5EA | AA5EA | MXØADJ | G3NYY | R2MWO | DL1FCM | | | | |
| J48AFA | SV1CIB | KLØ/AB5EB | AB5EB | OD5PN | LX9EG | RF1CB | RA1CP | | | | |
| JW6RHA/P | LA6RHA | KLØ/KB5SKN | KB5SKN | OD5RQ | GØDBH | RF3ØØL | UAØLAX | | | | |
| JW8KT | LA8KT | KP2J | N7RO | OHØKDY | OH2KDY | RX1OX/FJL | DL6YET | | | | |

Thanks to the following contributors: *425 DX News, Ohio/Penn DX PacketCluster,* Northern Ohio Amateur Radio Club, *The DX Bulletin,* Northern Ohio DX Association and *59(9).* **WR**

# 4M5 Los Roques Islands

**by Nellie de Lazard, XE1CI**

After returning home from the Friedrichshafen, Germany *Ham Radio* convention, I had to start preparing for the 18-21 July Venezuelan DXpedition to Los Roques Islands, IOTA SA-035.

I had been invited to join the Asociación de Radio Aficionados de Venezuela on this DXpedition, and it was an honor to be part of the group. Counting myself, we numbered 14 in all.

This was the first time that all of the group was completely Spanish-speaking, and it was a new experience for me, and I was grateful for this opportunity. It gave me the chance to share with them many similar things.

They are a great team. Most of them are the same people who do a DXpedition every year to different Venezuelan islands, such as Aves Island, Blanquilla Island, Tortuga Island, and Margarita Island, to name a few.

The object of the DXpedition is to celebrate Venezuelan Navy Day (the Armada), and it was thanks to the Navy that we went to Los Roques Islands. They flew us from La Guaira airport to the islands in a small Navy plane, a flight of about 45 minutes from the mainland. They hosted us in their compound, and fed us very well — they certainly gave us the royal treatment. They hold Amateur Radio operators in very high regard.

It is difficult for me to express in English the beauty of the islands that comprise Los Roques. The group is comprised of almost 40 islands, and we were on the largest. The sea is turquoise and the water is very clear. The sand is a soft, clean white, and the fish and birds are out of this world. It is being maintained as an ecological resort, with no hotels, just a few fishermen's houses that hold a few people for a couple of days. Everything has to be brought in from the mainland, and most visitors come just on day visits on a small plane, and return to the main land that night.

**Some of the YV operators from the 4M5 DXpedition with the author standing in the center.**

The DXpedition was such a pleasure; everyone got along well, and everyone knew what to do — putting up antennas, installing the stations, which bands to work, etc.



The first day I operated for almost five hours, and no one said a word. Quite the contrary, they told me that if I wished, to work more! I felt embarrassed; believe me, they were so kind that I have to say again how proud and honored I am to have been included in the group.

The totals are not yet available, but we ran 4M5LR on CW, satellite and SSB on all bands, and a video is planned as well. QSLs go to WS4E

When we returned to Caracas, that night I was given a big surprise. I was made a member of the Asociación de Radio Aficionados de Venezuela, complete with their pin and a wooden plaque recognizing my participation.

It was truly a wonderful experience. A DXpedition and DXpeditioners long to be remembered. **XE1CI**

# QSL managers

## 1995 WPX SSB Contest

| Call | Mgr | Call | Mgr |
|---|---|---|---|
| 3G1X | CE1IDM | LT4E | LU4AA |
| 4M3B | YV3BKC | LT6E | LU6ETB |
| 4N73N | YU7FIJ(a) | LV1V | LU1VV |
| 4U5ØUN | W8CNL | LX95VEC | LX1NO |
| 4U9Q | ON5NT(b) | LZ9A | LZ2KTS |
| 5H3CK | I4LCK(c) | OC4EI | OA4ANR(o) |
| 5T5JC | F6FNU(d) | OM8A | OM3RM(h) |
| 6D2X | K5STQ | P39P | 5B4ES |
| 9A3B | 9A1KDE | P43DJ | (i) |
| 9G1BJ | G4XTA | P4ØMR | VE3MR |
| 9Q5MRC | G3MRC | P4ØV | AI6V |
| 9Q5TT | ON5NT | PJ9T | AB4JI |
| 9X5EE | PA3DLM | PJ9T | AB4JI |
| BV4MU | KA6SPQ | RJ4W | UA4WE |
| BVØFMT | JP1RIW | RR9W | RW9WA |
| CJ2SPY | VE2SPY | RU4L | UA4LL |
| CJ2ZP | VE2ZP | RU9D | RK9CXE |
| CJ3XN | VE3XN | S5ØK | S57EK |
| CJ4VV | VE4VV | SN9K | SP9PRO(e) |
| CJ6JO | VE6JO | TE2M | TI2YO(j) |
| CJ7NTT | VE7NTT | TM1C | F6CTT(k) |
| CJ7SBO | VE7SBO | TM8A | F5SSG |
| CJ9HF | VE9HF | TO5GI | F6ASS (l) |
| CT9M | CT3-Buro | TP8CE | F6FQK |
| E2ØAT | HSlHSJ | VE2PZ | VE2SPY |
| EL2PP | N2CYL | VKlDX | VK1PJ |
| EM2I | UT2IZZ(e) | VP2EN | AA4NC |
| ER3ED | I8YGZ | VP2MDE | K5GN |
| FH5CQ | F6ITD | VP5A | KN4UG |
| FS5PL | FG5BG | VR2NR | WA3RHW |
| H2O | 5B4AAJ | VX2LR | VA2LR |
| HC1OT | W2KF | VX3WTO | VA3WTO |
| HH2/N3SIY | (f) | VY9QR | VE5MX |
| HH2PK | KA9RLJ | XO5SF | VO1SF |
| IO5A | I5ØYY | XR4B | CE4ETZ |
| IQ7A | IK7XIV | XX9GD | (m) |
| IR9B | IT9XUC | XX9X | KU9C |
| IU9S | IT9BLB | Z3ØM | Z37GBC |
| IY1LEC | I4LEC | ZP6XR | ZP5XFB |
| KP4XS | W3FG | ZP8YA | (n) |
| L37N | LU2NI | ZS95A | WA3HUP |
| L3HL | LU3HL | ZVOW | PP5JR |
| LQ5C | LU1ARL | ZY2HT | PY-Buro |
| LT2A | LU2ATR(g) | ZZ1Z | PY1NEZ(e) |

**Notes:**

(a) EU-163
(b) count for 9Q DXCC
(c) IOTA AF-054
(d) only direct!
(e) given by Operator
(f) P.O. Box 15630, Port-of-Prince
(g) LU-Buro
(h) Tibor Ferenec, 93030 BAC 126, Slovak Republic
(i) P.O. Box 417, Aruba Is.
(j) not TI2OY!!
(k) yes correct!
(l) count for FG in DXCC
(m) Tony, P.O. Box 1476, Macau
(n) Susan, P.O. Box 5, Pilar, Paraguay
(o) or OA-Buro

## More QSLs

| Call | Mgr | Call | Mgr |
|---|---|---|---|
| 3C1DX | EA6BH | 5WØKI | JE4IVL |
| 3D2PN | OH5UQ | 5X4F | KB4EKY |
| 3DAØMA | DF8FS | 6V1A | 6W6JX |
| 3ZØPAE | SP1NQF | 7P8FS/MA | DK8FS |
| 3ZØWAW | SP5BPE | 7Q7DC | WA6IJZ |
| 4H9RG | DU9RG | 7Q7SB | AB4IQ |
| 4L8A | LZ1HPS | 7S6PS | SM6VAO |
| 4L1DX | OE1HPS | 7SØHS/5 | SMØMPV |
| 4N14ØT | YU1SB | 8P6CV | KU9C |
| 4N4L | 9A2AA | 8Q7QQ | HB9QQ |
| 4S7DRG | DL7DCU | 9A11ELS | 9A2AA |
| 5B4/DL5MX | DL5MX | 9A17ST | 9A2AA |
| 5B4/G3ØZF | G3ØZF | 9A4A | 9A4AA |
| 5H3ES | DF9SU | 9G5RC | N1OCS |
| 5NØT | F2YT | 9H3UD/F | DL8OBC |
| 5R8DJ | DL7FT | 9H3WQ | G3OZF |
| 5R8EZ | DK8FB | 9J2DI | AA6BB |
| 5W1PC | WH6XY | 9J2SZ | SP8DIP |
| 5WØBS | AA8HZ | 9K2/YO9HP | YO9HP |
| 9K5HN | 9K2HN | KG4MN | WB2RAJ |
| 9M2IY | JA1INP | ON6USA | ON4TG |
| 9M2TO | JAØDMV | P29MO | K3BYV |
| 9M8AD | DL3ABL | PJ8/W9LNQ | N9ALC |
| 9M8CC | PBØALB | PW4Y | PY40Y |
| 9Q5TR | 4Z5DP | PYØTI | PY1UP |
| 9U/EA1FH | EA1FFC | SN2B | SP2FAX |
| A35PM | OH5UQ | SØ1A | EA2JG |
| A41JR | YP3DAD | SØ1M | EA7EL |
| AH6AZ | UT1AD | SØ2R | EA2JR |
| AP2N | DF8WS | SØ7NY | EA4URE |
| BZlAJ/9 | JA4HCK | ST1AP | IØLCJ |
| C94AI | CT1CKP | SV1AFA | SV1CIB |
| CQ3B | HB9CRV | SV1CID/DPJ | |
| ED5SVF | EA5AEF | /DPL | SV1CID |
| EU5F | EW6WF | TF3D | ON4GO |
| FG5FC | F6DZU | TJ1GB | WA6SLO |
| FOØDI | DK1RV | TM6T | F6KBF |
| H25Z | 5B4ES | TP1OCE | F6FQK |
| HAM6DX | HA6DX | TU2DP | K4MQL |
| HH2PK | 9A2AJ | TU2XR | AK1E |
| HV3SJ | IØDUD | TU4VQ | KE6YUW |
| IØ2A | IK2RZP | VØ7XC | VØlXC |
| IQ4T | IK4HVR | V59X | V51CM |
| IQ7A | IK7XIV | VP2MF | VE3FHQ |
| IU2E | IK2VUE | VP2MGF | WB9HRO |
| IU3V | IK3VIA | VU2TLO | OM6MO |
| IU9C | IT9JOF | X50B | YU7KMN |
| J28JA | F5PWH | XR8S | CE8SFG |
| J28NP | F6BZF | YM3DL | DL4VBP |
| J41AFA/CIF | SV1CIB | ZD7VJ | G4ZVJ |
| J43AFA | SV1CIB | ZK2ZE | LA9GY |
| J48AFA | SV1CIB | ZW5CIA | PP5VB |
| J56CK | I4LCK | ZW5W | PP5CT |
| J56DY | IK4SDY | ZX5J | PP5JR |

## QSL addresses

9A2AJ —Polak Tomislav, Brace Domany 6/XIX, Zagreb, 41000, Croatia

A45ZN —Tony Selmes, P.O.Box 981, Muscat, Code 113, Sultanate of Oman

A92BE —Don, P.O.Box 26803, Manama, Bahrain

AA5DX —Ron Marra, Marginal 301-C, La Rambla, Suite 205, Ponce, PR 00731, USA

CX7BL —Jene, P.O.Box 37, Montevideo, Uruguay

DL1BX —Torsten Dithberner, Butterblumenweg 2, D-15566 Schoeneiche, Germany

DL3ABL —Andrea Diekmann, Bruno-Taut-Ring 56, D-39130 Magdeburg, Germany

DL4VBP —Patrick Scheidhauer, Fontanestrasse 134, D-60431 Frankfurt Germany

DL7CM —Hans-Rainer Uebel, Am Goldmannpark 47, D-125S7 Berlin, Germany

DL7DF — Siegfried Presch, Wilhelm-smuehlenweg 13, D-12621 Berlin, Germany

EK buro —P.O.Box 22, Yerevan, 375000, Armenia

ER buro —P O.Box 6637, Kishinev-50, 227050, Moldavia

EU buro —c/o EUlAO, P.O.Box 469, Minsk-50, 220050, Byelorussia

EX buro —A.R.U.K., P.O.Box 1100, Bishkek, 720020, Kirghiziatan

EY buro —T.A.R.L., P.O.Box 303, Glavpochtamt, Dushanbe, 734025,

EZ buro —T.R.A.L., P.O. Box 555, Ashgabat, 744020, Turk-menistan

JT1CS —Bat Erdene, P.O.Box 125, Ulan Bator 20, Mongolia

JX9ZP —Amateur Radio Station JX9ZP, N-8099 Jan Mayen, Norway

RA9XF —Leonid Sidrkin, P.O.Box 841, Syktyvkar 167000, Russia

RN9XA —Eugene Bugrimov, P.O.Box 1229, Syktyvkar 167001, Russia

TJ1AD —P.O.Box 13062, Yaounde, Cameroon

UA buro —CRCRF, P.O. Box 88, Moscow, Russia

UA buro —UR, c/o RZ3AZO, P.O.Box 9, Moscow, 105122, Russia

UK buro —P.O.Box 0, Tashkent, 700000, Uzbekistan

UN buro —c/o UN9PC, P.O.Box 112, Karaganda, 470055, Kazakhstan

UR buro —U.A.R.L., P.O.Box 56, Kiev-1, 252001, Ukraine

UA9XC — Andrey Pervakovm, P.O.Box 73, Syktyvkar 167023, Russia

V51CM —Chad Megenis, P.O.Box 1500, Tsumeb 9000, Namibia

VK4FW —R.W Thurley, 17 Meredith Avenue, Hornsby Heights, NSW 2077, Australia

VK9CA —K.Miyamori, c/o P.T.T.M.S. P.O.Box 02 JKTC, Jakarta 11850, Indonesia

YIØEB —Gassan, P.O.Box 55072, Baghdad, Iraq

Z21GN —Fred, P.O.Box BW 255, Harare, Zimbabwe

ZB2JO/EX —Alex, P.O.Box 907, Gibraltar

—*Tnx* IK1GPG, ON6DP

**ANAHEIM, CA**
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933 N. Euclid St., 92801
(714) 533-7373
**(800) 854-6046**
Janet, WA7WMB, Mgr.

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(818) 842-1786
**(800) 854-6046**
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1 mi. west I-5

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**(800) 644-4476**
Bob, WN3K, Mgr.
RT.13 1/4 mi., So. I-295

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**(800) 854-6046**
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Tigard-99W exit
from Hwy. 5 & 217

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Joe, KDØGA, Mgr.

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**(800) 444-9476**
Gary, WB7SLY, Mgr.
1 mi. east of I-17

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**(800) 444-7927**
John, KB4NUC, Mgr.
Doraville, 1 mi. no. of I-285

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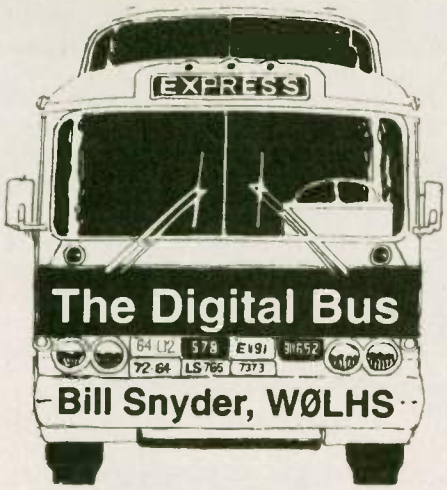


This column concludes another year doing this bit for the ***Worldradio*** readers. I think it might be my 15th year, but I'm not sure. My recent cranial memory bank ain't too good these days. I know I have a stack of ***Worldradio*** issues filed in a couple of boxes for my kids to read when they take over my shack. I began doing this column because *WR* didn't have a RTTY column and I was writing the RTTY DX column for the *RTTY Journal*, and so I switched.

Now that technology has swept by me at a jillion miles per hour, this column has become the "you should have been here yesterday" corner of this magazine. And I'm enjoying this role, too. My memories of early days of ham radio seem to be as good as the day they were lived; it's those of the last few years that are growing dim.

The other day I received a photo copy of the Tex-La Golden Triangle Chapter of the QCWA bulletin with a story about one of my old friends that I treasure, so I'm going to repeat some of it here.

Back in 1934, I went to St. Paul, Minnesota, and took my Class A exam from the FCC office there. I had owned my "Amateur" license for a little over one year when I boarded the Northern Pacific Railway train, flashed my annual rail pass issued to me because my father was a telegrapher — wire chief for over 20 years, and rode the 250 miles to St. Paul for zero bucks. I was a junior in high school at the time.

When I came home from the successful test, I had to wait for the ticket to arrive in the mail, and that was a long wait, believe me. While I waited, I began to surf the 20-meter phone band and plan on what I would do with my newly acquired access to the restricted area in the radio spectrum.

Surfing — that term didn't exist in those days — the 20 phone band was fun. That was the gathering point for those active hams with a batch of power and good antennas. If my memory serves me correctly, the Yagi beam had not been invented and most everyone used long wire antennas for the specific band they were transmitting on. I had a 66 foot Zepp antenna stretched from a 20-foot A-frame on the top of my parent's two-story house to another A-frame on a neighbor's garage. How I ever got permission from the house painter who owned the garage, I can't remember, but it must have been easy. The antenna really worked well and no neighbor objected to my key clicks which I'm sure got into everyone's broadcast radio in my neighborhood, but nobody screamed at me, so life was normal. I blinked the porch light on and off with my keying for a while, but that didn't seem to cause my neighbors to complain.

For surfing the 20-meter phone — please remember there were no sideband radios in those days — I used a National SW-3 regenerative receiver and rather poor receiving antenna. I think the SW-3 was named for the number of tubes it used to receive short-wave signals. It used plug-in coils to change bands, and the whole receiver with one set of coils cost $13.30 from the Lew Bohn Company in Minneapolis, our nearest ham radio dealership. Extra coils were $3 per set. I owned two sets, one for 40 and another for 20. The power supply consisted of a "B" battery "eliminator" which put 135 volts on the plates of the tubes, and a step-down transformer furnishing the AC voltage for the filaments of the three vacuum tubes in the set.

I didn't have an antenna changeover relay, so I was using a bunch of wire strung around the attic of our house for a receiving antenna.

Now that you have the background of my situation at that time in 1934, here's what I did while waiting for the Class A ticket to show up. I listened, and I listened, and in between I worked on jury-rigging the modulation circuit. It was the cheapest way that I, a high school kid, could get on the magic "Class A" phone bands.

My code speed at that time was in the 10 to 15 word per minute range.

Although I used a Vibroplex bug belonging to my father to practice on, I was a bottom-end code user. Oh, yes, I did a lot of hamming with the straight key, too. Working VKs and ZLs on 40 Meters in the middle of the night was rather common. The 203-A in my final was kicking out a good 50 watts or more to the antenna, and the Zepp on the roof was radiating with great efficiency. I used a neon bulb to help tune my crystal-controlled transmitter which was complete with a batch of Triplett meters. I had a milliameter on each oscillator, doubler, and final stage measuring plate current. If my memory serves me correctly, each meter cost a little over three bucks, except for the antenna current RF meter which was five big bucks plus change. I guess the two extra bucks was for the thermocouple that went in the antenna feed line.

However, while my attention was really on the 20-meter phone band with all jumble of hetrodyne whistles and overmodulation splatter accompanying the AM phone signals, it still was fun to listen. The big boomers in those days were on 20 phone, and they were really big boomers. One guy I used to listen to quite often was W6CNE, J. Roy Hunt, a Hollywood cinematographer of note at the time. He was located in Canoga Park, California, and when he described his shack and location he became my ham idol. Oddly enough, I never worked him with my peanut whistle, but I did visit him later when I was working in Hollywood for Technicolor. The late Ray Donald, N6VQX, and I made an expedition to Canoga Park and Roy's shack. It was something for a young ham to see.

Recently I purchased a CD-ROM with all kinds of movie trivia and I looked up Roy Hunt and discovered that he was the credited cinematographer for 119 movies from 1921 to 1953.

**The Texas Dewdrop, Mary Palmer, W5DEW, in 1946. From left to right: A HT-4 Hallicrafters transmitter (actually it is an army surplus Signal Corps BC-610 that her then husband, Buz Palmer, W5BUZ, bought after World War II ended), The Dewdrop, transmitter control panel, and a HQ-129 Hammarlund receiver.**

Another voice that came through my earphones in 1934, was that of the distinctive W5DEW, known on the 20 band as "The Texas Dewdrop." Her name was really Mary Palmer and she owned the sweetest southern drawl of all time. While I was assembling my phone rig, I listened to her quite often. She really boomed into North Dakota from Port Arthur, Texas, where she was living.

I couldn't afford the transformers for Class B modulation, so I sort of jury-rigged a grid modulator circuit on my vacuum tube 203-A final amplifier. It was a terribly inefficient operation and I think I was able to get about 15 watts of phone signal into the AM phone band on 20 Meters. Now 15 watts in that 20-meter AM phone of those days is like a sneeze in a hurricane, so I did more listening than transmitting.

So when I recently received the QCWA copy, I read about the Dewdrop in those early days with interest. She earned her General Class license in 1934, according to the article. She was married to Buzz Palmer, W5BUZ, and they had two kids, a son and a daughter. During World War II the Dewdrop taught CW and theory to thousands of GIs who were sent to Port Arthur College by the government. These men were sent all over the world to fight the war for the USA.

Now for the kicker in the article by Dukes Graham, K5JFM. The Dewdrop admits to working that restricted phone band before she got her Class A license by having properly licensed operators sign her log book.

I'm happy to write this story because I live just a few miles from the Dewdrop and know her well. She had married the late Goodwin Dosland, WØTSN, a widower, during the ten years he was president of the ARRL. The Dewdrop and "Dos" met the day he addressed the ARRL national convention in Galveston, Texas. He brought the Dewdrop to Moorhead, Minnesota where she still lives after Goodwin's death.

In a conversation with Dewdrop Mary the other day, I asked her if she remembered Roy Hunt's ham signal in 1934. "Sugar," she said, "it was a big one. It was really something!" Not only is Mary's voice sweet, her vocabulary is also sugary.

You can maybe hear the Dewdrop by listening on Thursdays at 3 p.m. Central Time on 14.267 MHz. At that time she usually checks in with a group of World War II veterans. After they are finished with their net, you might give her a call. You won't have any problem recognizing her on the air; the Texas Dewdrop is a southerner with a voice sweet like honey and a bubbly personality to match! There is only one Texas Dewdrop in this great big world of ours!



## EAVESDROPPINGS

I SAW THIS SIGN IN A SCIENTIFIC LABORATORY THE OTHER DAY: "DO NOT STARE AT THE LASER WITH REMAINING EYE!" . . . MY COMPUTER IS ON THE BLINK — MY MOUSE HAD A NERVOUS BREAKDOWN . . . HAM RADIO AS A HOBBY IS RUINED — TOO MANY FOREIGNERS . . . IT'S HARD TO CLIMB A TOWER WHEN YOU HAVE TO KEEP ONE FOOT ON THE GROUND . . . MY COMPUTER WENT WILD THE OTHER DAY AND THE SCREEN KEPT FILLING WITH ALL KINDS OF JUNK — KEPT ON UNTIL I LIFTED THE BOOK THAT WAS PILED ON TOP THE MOUSE.

Thanks to our regular contributor to the EAVESDROPPINGS collection, Rod Scribner, KA1RFD, and N3LBC for help. Write me: Bill Snyder, WØLHS, 1514 12th ST S, Fargo ND 58103-4134. Packet address: WØLHS @ WØLHS.#SEND.ND.USA.NOAM. 73 DIT DIT. WR

## MSN reopens the ham radio forum

Bruce Baily, KA6TFH reports that Microsoft Corporation has restored the Ham Radio Forum to its Microsoft Network. No reason was given by Microsoft on its about face after disbanding the forum.

# Computers & Basic Stuff

C.H. Stewart, KD5DL
P.O. Box 181
Duncan, OK 73534

## BASIC alternative

A few months back I presented a version of an interesting SWR program first presented by Irv L. McNally, K6WX, in 1984 (see my Feb. '96 ***Worldradio*** column).

I thought the program was appropriate because of the number of fallacies about power loss in coax cable that were being propagated over the air and in amateur literature. The McNally program was a perfect way to show the relationships between SWR, input power, power consumed in a load (e.g., radiated by an antenna) and power lost in the transmission line.

Irv had written me several years earlier, sending me some programs dealing with vertical antennas and their radiation resistances. At that time he included what I assumed was a "proof sheet" showing the validity of his calculations. It wasn't until I got with him again late last year that I found out what the proof sheet really was all about.

Irv explained that he had gotten rid of his earlier Tandy TRS-80 and IBM computers and was using an Apple Macintosh instead. He had also gotten away from BASIC programming, preferring instead to run his calculations out in a spreadsheet program. At the time he said he was using Microsoft's Excel for the Mac.

"I like the spreadsheets because you can change any input and immediately see the results," he said. "The spreadsheets (can be) expanded to include more data, and also to handle reactive loads."

"Neat," I thought. Another way to use a computer to calculate entries without having to know BASIC.

I thought I'd share Irv's discovery with you. Maybe his technique will help those of you more familiar with working with spreadsheet programs than with BASIC. Call it "an alternative to BASIC."

Spreadsheets are generally defined as electronic versions of ledger records. In a spreadsheet program it is relatively easy to set up and define "cells," to edit them independently of other cells and manipulate data in them with that contained in other cells.

For example, in times past an accountant used a ledger book to set up and monitor payroll records. The mathematics might involve the number of hours an employee worked, his hourly pay rate, his overtime calculations, commissions and other bonuses he might get, and so forth. The accountant might also have to deduct contributions to insurance and pension programs, to charity, and taxes, etc.

Furthermore, different employees might earn different commission percentages, or their salaries would put them in different tax brackets.

If our accountant had to keep track of every employee in a large corporation, his ledger book would probably have the annotation of the formulas necessary to work each salary, and additional pages necessary to track all the bonuses, the commissions, the contributions and the with-holdings, both for the employees and for the corporation's "bottom line."

A spreadsheet is like that accountant's ledger book. It can be tailored so that each employee can be treated individually, and that all pay factors can be summarized in the spreadsheet's totals.

It's a spreadsheet's number-crunch-

```
INPUTS                          B2
Z0=LINE IMPEDANCE               B3
L=LINE LENGTH, FT.              B4
D=dB LOSS/100 FT.               B5
PI=INPUT POWER                  B6
R=LOAD'S RESISTANCE             B7
X=LOAD'S REACTANCE              B8
        CALCULATIONS
dB LOSS (MATCHED LINE)  B10 B4*B5/100
                B11 ((B7+B3)^2+B8^2)^.5
                B12 ((B7-B3)^2+B8^2)^.5
SWR AT LOAD     B13 (B11+B12)/(B11-B12)
                B15 10^(B10/10)
                B16 (B13-1)/(B13+1)
SWR AT LINE INPUT  B17 (B15+B16)/(B15-B16)
                B18 (B13-1)/(B13+1)
                B19 2.718^(-.46*B10)
                B20 2.718^(-.23*B10)
                B21 B18^2
FORWARD POWER     B22 B6/(1-(B21*B19))
LOAD POWER  B23 ((1-B21)*B20*B6)/(1-(B21*B19))
REFLECTED POWER  B24 B22-B6
MATCHED LOAD POWER      B25 B6/10^(B10/10)
ADDED SWR LOSS     B26 10*(LOG10(B25/B23))
TOTAL dB LOSS     B27 B26+B10
POWER LOST TO SWR               B28 B25-B23
POWER LOST IN LINE              B29 B6-B23
```

**Figure 1.**

ing abilities and cell printouts that makes it useful as a BASIC alternative. And, as Irv said, "you can change any input and immediately see the results."

Note that the B terms are similar to BASIC's variables. In fact, there's no reason a programmer cannot use the variables and formulas in the spreadsheet listing to write a BASIC listing.

Here's an example McNally provided. He defined cell functions (the numbers beginning with B2) as either inputs (B3 through B8) or as formulas to handle the input or manipulate the data (B9 through B29).

In the example (Figure 1), terms on the left explain the data and results and the terms on the right are the cells and their associated formulas

Irv provided an example of a line of 50 ohm impedance (B3) 75 feet long (B4) having a rated attenuation of 0.85 dB (B5) at the design frequency. He feeds the input with 100 watts of power (B6) into an antenna with a resistive component of 80 ohms (B7) and a reactive component of 30 ohms (B8).

The first calculation (B10) determines that the loss to a matched 50 ohm antenna would be .6375 dB, but because of the mismatched load, the load SWR (B13) would be 1.9325 to 1. Further calculations (to B17) show that SWR at the feedpoint of the transmission line is 1.757:1, that the actual forward power at that point is (B22) 108.1577 watts, that the power being accepted by the load (B23) is 83.9625 watts, and that (B24) 8.1577 watts is reflected by the load because of the mismatch.

Had the load been a perfect 1:1 match for the line, it would consume (B25) 86.3475 watts of power, (less than 3 watts more than our mismatched load), and the added loss of the mismatch (B26) is only 0.1216 dB.

In this example, the 1.757:1 input SWR would result in only a (B27) 0.7591 dB total power loss, which equates to (B28) 2.385 watts. That, plus the original attenuation of this particular line, results in an overall loss (B29) of 16.037 watts.

Nifty, huh?

Thanks, Irv, for sharing your discovery with us.

If you haven't yet learned BASIC well enough to feel comfortable using it for electronic calculations, then maybe a spreadsheet program is what you're looking for. If you find a program you think the rest of us might like, don't keep it a secret. Send it in and we'll do our best to help pass it around.

So, till next time, stay radio active. **WR**

THE CC&Rs WON'T LET ME PUT UP A TOWER, SO I HIRED HIM AS AN ANTENNA BASE--- NOBODY'S SAID A WORD !!

# VE exam schedules

As a service to our readers, ***Worldradio*** presents a feature listing those VE exams, times and locations which are sent to us.

Please remember that our deadline for publication is three months in advance. For example, if your VE group is scheduling an exam for October, please have the information to us by mid-July.

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

***Worldradio***, 2120 28th St., Sacramento, CA 95818. Please mark the envelope "VE Exams."

List the location (City), any information examinees should have (advance registration, etc.) and the name and telephone number of a person to contact for further information.

w/i pref. = w/i preferred to p/r
w/i = walk-in only

| State | City | Contact | Notes |
|---|---|---|---|
| **Alabama** | | | |
| 11/04/97 | Mobile | David, WA4VAC 205/649-5229 | |
| **Arizona** | | | |
| 11/09/96 | Prescott | John, KM6BF 520/636-1228 or Dave, W9KRQ 520/772-8539 | w/i |
| 11/09/96 | Tucson | Joe, K7OPX 520/886-7217 | |
| **Arkansas** | | | |
| 11/16/96 | Gassville | Phil, AB5ZU 501/425-7406 | p/r pref. |
| 11/09/96 | Siloam Sprgs | Mike, KJ5OP 501/524-8090 | p/r pref. |
| **California** | | | |
| 11/14/96 | Colton | Harold, AB6RN 909/825-7136 days or 909/685-6073 eves | |
| 11/30/96 | Culver City | Scott, K6PYP 310/459-0337 or Dave N3BKV 818/559-2572 | p/r pref. |
| 11/09/96 | Culver City | Clive, AA6TZ 310/827-2538 | p/r pref. |
| 11/16/96 | Cupertino | Emmett, AE6Z 408/243-8349 | p/r |
| 11/30/96 | Escondido | Harry, WA6YOO 619/743-4212 | p/r |
| 11/30/96 | Fairfield | Dick, AB6EY 916/791-0268 | w/i pref. |
| 11/05/96 | Fremont (TP) | Greg, KJ6EP 510/791-6818 | w/i only |
| 11/17/96 | Fresno | Charles, W6DPD 209/431-2038 | p/r pref. |
| 11/30/96 | Garden Grove | John, N6CTV 714/534-8633 | p/r pref. |
| 11/16/96 | Glenn Ellen | Jim, 707/996-6461 | p/r pref. |
| 11/09/96 | Jackson | Ray, AA6EW 209/296-3412 | p/r pref. |
| 11/04/96 | Lancaster | Adrienne, WA6YEO 805/948-1865 | p/r |
| 11/03/96 | Oakland | Allen, AA6UX 415/752-8783 | p/r pref. |
| 11/23/96 | Pomona | Don, WA6HNC 909/949-0059 | p/r |
| 11/09/96 | Redding | Evan, WU6Q 916/547-3665 | p/r |
| 11/06/96 | Sacramento | Larry, KD6OLN 916/361-2476 | p/r pref. |
| 11/09/96 | San Pedro | Elvin, N6DYZ 310/325-2965 | p/r pref. |
| 11/13/96 | Santa Ana | Red Cross, 714/835-5381 x140 | w/i |
| 11/09/96 | Santa Barbara | Phil, KG6KB 805/962-8957 | p/r pref. |
| 11/16/96 | Stockton | Mark, W6DKI 209/465-7496 | w/i |
| 11/12/96 | Yuba City | Homer, KB6EJ 707/673-0868 | p/r |
| **Colorado** | | | |
| 11/09/96 | Denver | Glenn, WØIJR 303/366-9689 | p/r pref. |
| 11/96 | | All Exams recording 303/360-7293 | |
| **Connecticut** | | | |
| 11/9/96 | Stamford | Tom, WB1L 203/363-0319 or Marv, N1AWJ 203/438-7889 | |
| **Florida** | | | |
| 11/16/96 | Melbourne | Bill, WB9IVR 407/724-6183 | p/r pref. |
| 11/27/97 | Pensacola | Steve, KO4TT 904/968-1092 | |
| 11/08/97 | Valparaiso | Bill, W4WIJ 904/243-9720 or Hud, KF4BU 904/862-2566 | p/r pref. |
| **Georgia** | | | |
| 11/16/96 | Marietta | Joanne, AC4JQ 770/955-3171 | w/i |
| 11/04/96 | Marietta | Delaine, KM4FV 770/993-9758 | w/i |
| **Idaho** | | | |
| 11/06/96 | Athol | Bob, N7GHV 208/683-2094 | p/r |
| 11/09/96 | Boise | Lem, W7JMH 208/343-9153 | p/r pref. |
| 11/09/96 | Sandpoint | Russ, AA7XM or Chris, AA7XN 208/264-4534 | p/r |
| **Illinois** | | | |
| 11/19/96 | Aurora | James, N9UZC 708/879-3042 | w/i |
| 11/16/96 | Loves Park | Dennis, W9SS 815/877-6768 | p/r pref. |
| 11/09/96 | Oak Forest | David, NF9N 708/448-0580 | p/r pref. |
| **Indiana** | | | |
| 11/09/96 | Chesterton | Bill, N9SLQ 219/762-2887 | w/i pref. |
| 11/09/96 | Lafayette | Bob, W7YE 317/423-1035 | |
| **Maryland** | | | |
| 11/26/96 | Glen Burnie | Jerry, NU3D 410/761-1423 | p/r pref. |
| **Massachusetts** | | | |
| 11/22/96 | Holyoke | Dave, N1MHP 413/592-4978 | w/i |
| 11/16/96 | Melrose | Scott, WB1F 617/665-7654 | p/r pref. |
| **Minnesota** | | | |
| 11/02/96 | St. Paul | Jay, KØQBE 612/222-7253 | p/r pref. |
| **Missouri** | | | |
| 11/02/96 | Kimberling | Jim, NQØG 417/739-2888 | p/r pref. |
| **Nebraska** | | | |
| 11/01/96 | Sioux City | Mike, NFØN 402/494-6070 | p/r pref. |
| **Nevada** | | | |
| 11/16/96 | Minden | George, WW7E 702/265-4278 | w/i pref. |
| **New Jersey** | | | |
| 11/09/96 | Cranford | 24 hour hot-line 201/377-4790 | w/i pref. |
| 11/21/96 | Bellmawr | Bill, NT2N 609/933-1500 | w/i pref. |
| 11/13/96 | Ft. Monmouth | Gerry, WB2GYS 908/532-5354 | p/r pref. |
| 11/16/96 | Pennington | Don, AA2F 609/737-1723 | p/r pref. |
| **New York** | | | |
| 11/16/96 | Long Island | Les, AA2FJ 516/364-0030 or 516/922-0947 | p/r pref. |
| 11/12/96 | Long Island | Bob, W2ILP 516/499-2214 | w/i pref. |
| 11/03/96 | Yonkers | Emily, AC2V 914/237-5589 | p/r pref. |
| 11/24/96 | N.Lindenhurst | Walter, KA2RGI 516/957-0218 | p/r pref. |
| **Ohio** | | | |
| 11/02/96 | Cincinnati | Herb, WA8PBW 513/891-7556 | p/r pref. |
| 11/09/96 | Van Wert | Robert, KA8IAF 419/795-5763 | p/r pref. |
| 11/21/96 | Youngstown | Jerry, N8IRL 216/534-1394 | p/r pref. |
| **Oregon** | | | |
| 11/09/96 | Albany | Alesa, KA7UGQ 503/868-4865 | p/r pref. |
| 11/20/96 | Florence | Hal, N7NNA 541/997-2323 or Bob, KH7VA 541/997-1222 | p/r pref. |
| 11/13/96 | Roseburg | Dick, AA7GC 541/672-7564 | p/r pref. |
| **Pennsylvania** | | | |
| 11/02/96 | Erie | Norma, W3CG 814/665-9124 | p/r pref. |
| **Rhode Island** | | | |
| 11/03/96 | E. Providence | Bob, AA1CT 401/438-0935 | p/r pref. |
| 11/14/96 | Providence | Judy, KC1RI 401/231-9156 or Al, NN1U 401/454-6848 | w/i pref. |
| **Texas** | | | |
| 11/16/96 | Austin | Jim, AB5EK 512/327-6184 | w/i pref. |
| 11/14/96 | Ft. Worth | Ted, AB5QU 817/293-6745 | |
| 11/12/96 | Houston | Harold, ND5F 713/464-9044 | p/r pref. |
| **Virginia** | | | |
| 11/30/96 | Glouster | Harry, N4THN 804/642-3517 | p/r pref. |
| 11/02/96 | Portsmouth | Art, AA4AT 804/484-2857 | p/r pref. |
| **Wisconsin** | | | |
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## Of SPOC, ARRL and NFCC

Only a few days after I finished writing the September column, I got some e-mail from Owen Wormser, K6LEW. Regular readers know that K6LEW was the chairman of what started out last October being known as the "Single Point of Contact" Drafting Committee. Its purpose was to develop an organizational structure for representing the coordination community to the FCC that was acceptable to most (if not all) of the nation's recognized repeater frequency coordinators, to the ARRL and to the FCC.

As previously reported, this led well away from what was proposed in St. Louis and to the creation of a new political entity known as the National Frequency Coordination Committee (NFCC).

The last order of business for the Drafting Committee was to elect and put in place the first Board of Directors for the NFCC. This partial text of Owen Wormser's public release spells out the final days of the committee:

"The work of your drafting committee to bring into being the first organization of its kind in Amateur Radio is concluded. As Chairman, I want to acknowledge the tireless efforts and voluntary contributions of each member of the drafting committee: Dick Isley, WD9GIG; Whit Brown, WBØCJX; Bill Kelsey, WA6FVC; Jim Fortney, K6IYK and Paul Gilbert, KE5ZW.

"Each of these individuals made significant contributions toward developing the recently-approved NFCC Bylaws, Articles of Incorporation, and Draft Memorandum of Understanding (NFCC / ARRL). Further, each participated in a substantive way during development of the proposed rule making language which is now in final draft form ready for disposition by the newly-elected Board of Directors . . .

"I want to especially call attention to the very significant contributions of Dick Isley, and Whit Brown. We owe them a deep debt of gratitude for their roles as principal administrators, record keepers, and auditors of your committee's processes . . . . The incoming NFCC Board members will be, in order of votes received: Dave Shiplett, AC4MU, two year term; Dick Isely, WD9GIG, two year term; Owen Wormser, K6LEW, two year term; Whit Brown, WBØCJX, one year term; James Fortney, K6IYK, one year term . . . ."

So that you know who will be representing your wants, needs and desires in repeater matters to the ARRL (if the ARRL gives recognition to NFCC) and to the FCC, here is a bit of background on each man.

Dave Shiplett AC4MU is the president of the multi-state South-Eastern Repeater Association and retired Air Force officer. Dick Isley, WD9GIG, spent many years "driving" jet transports for American Airlines. He is now retired and serving as President of the giant Mid America Coordination Council (MACC) as well as pulling duty with the Illinois Repeater Association.

Owen Wormser, K6LEW, is best described as a successful businessman who also serves as President of The Mid Atlantic Repeater Council (T-MARC); Whit Brown, WBØCJX, is a longtime friend of mine who has been coordinating repeaters in Colorado since the first machine took to the air, and Jim Fortney, K6IYK, is the head of Southern California's 220 MHz Spectrum Management Association.

Each of these people has decades of experience in repeater coordination issues. All are true "professionals" with the ability to make the needed decisions to help carry ham radio into the next century.

Which leaves only one question. After all of the work done by the NFCC Drafting Committee, will the ARRL accept it? That is to say, will the ARRL Board of Directors officially recognize the existence of the

NFCC, agree to fund its operation, and suggest to the FCC that it recognize the NFCC as well?

The answer appears to be a "definite maybe." The ARRL Board of Directors held the second of its semi-annual meetings of 1996, 18-20 July. Recognition of NFCC was discussed, without any definite decision. The Ad-Hoc Committee on Repeater Coordination is to continue discussions between the two organizations in hope of finding common ground for recognition.

### MACC changes its position on 70 cm ATV

A year ago last spring, the Mid America Coordination Council (MACC) took the position that the 70 cm (435 MHz) band was far too crowded to continue to support fast-scan Amateur Television repeaters. The MACC Board of Directors said that MACC member-states should consider no longer coordinating new 70 cm ATV repeaters and as of 1 January, 2000, all fast-scan ATV repeaters should vacate 70 cm.

Needless to say, this position was not at all popular with those hams who operate ATV. The ATVers — lead primarily by Henry Ruh, KB9FO and his *ATVQ Magazine* — mounted a full-scale public relations campaign against MACC's proposal— and on any FM repeater coordinator who embraced the MACC position. Their "grass roots" campaign was relentless. Every Amateur Radio-related magazine and news outlet was bombarded with pro-ATV literature. ATVers used the packet airwaves, the Internet and WWW to "educate" the non-ATV ham community on the virtues of ham television and ATV repeaters. It seems to have worked.

At the Dayton Hamvention, I was informed by a MACC official that the organization had reconsidered its position on the future of 70 cm ATV repeaters. When I returned home, I found the following e-mail waiting:

"From the minutes of the MACC Board of Directors" Meeting, 5-17-96:

Don Smith moved/John Gebuhr seconded the following two resolutions:

1. That MACC clarify its recommendation on 70 cm ATV passed on April 28,1995 as follows: MACC recommends that new digital video compression technology be used as it becomes available — and further that in-band [that is, input and output both on 440, as opposed to split band operation] 440 MHz ATV repeaters be actively discouraged.

2. That MACC's previous recommendation to vacate existing 440 MHz ATV repeaters effective 1 January, 2000 is no longer effective."

The first motion passed unanimously, the second motion also passed. Please bear in mind that this — as with the recommendation of 28 April, 1995 — is a policy suggestion only. Whether or not it is followed is at the discretion of each member. My guess is that most, if not all MACC member states will go along with the recommendations in order to avoid such future confrontations.

ATVers, who are experimenters by nature, should also be happy as it gives them a new frontier to conquer — that of standardizing on one system and then implementing video compression technology to help conserve bandspace. With both MPEG and JPEG technology literally available "on a chip" its only a matter of time before digital replaces analog in the fast-scan ATV world.

### The best repeaters in town

Recently, a new thread has developed on the America Online Ham Radio Club BBS that really needs to be shared. It is titled "The Best Repeater" and is gaining a lot of popularity among the AOL hams.

The idea, first brought to the AOL group by Michael Henderson, KK5WJ, is simply a request to post information on the repeaters in any given area that go out of their way to make tourists and other visitors feel welcome.

What KK5WJ suggested is that other hams on the AOL Ham Radio Club BBS simply share with others what they find to be the best "traveler's repeaters" in any given city or town. For example, Michael suggests that when in Dallas, throw out the call on the "DARC 146.88 repeater," located near the Southern Methodist University campus. He says that other hams are always listening and are happy help you with directions and a warm welcome to Texas. Michael says that this idea will save you lots of trouble.

### Other bands — other antennas

While we tend to concentrate on the world of FM relay, there are many other interests sharing the same bands. One of the most interesting to this writer is weak-signal operations on 6-, and 2-meters.

I became addicted to 6 meters the day my first license, WA2HVK, arrived in 1959, and have operated the band ever since. I started with a homebrew AM station and by the late '60s had built up a truly first-class SSB/CW station. As I remember, I ran a National NCX-3 HF transceiver (using 20 Meters as the operating IF) to a P&H "Gray Box" transmitting converter. The P&H put out about 100 watts PEP — enough to drive a pair of 4-400As to almost the legal limit! On the receive side, I used Ameco and/or Tapetone converters back to the NCX-3. Sitting 25' above the roof of my apartment house was a pair of wide-spaced, full-sized Hy-Gain 6-element Yagis that gave me a rather noteworthy signal on 6. All of that ended when I moved west almost a quarter of a century ago.

Weak signal is a true challenge these days living in a condo with low power radios, in-attic dipole antennas, and iron-ore hills surrounding the housing development. Nevertheless, I still get to do a bit of DXing

with my FT-690 and FT-290 — both running bare foot at about 10 watts PEP out! Obviously, I am always looking for better ways of eking out (and in) a bit more RF.

Have you ever heard of a horizontally polarized antenna called the "Halo?" You know what a dipole is. Imagine taking a dipole and forming it into a perfect circle. In theory, such an antenna would radiate equally in all directions other than the feed point. While theory is wonderful, it does not always hold true as in the case of most halos. At least the earliest ones.

Back in the late 1950s and through the 1960s, the antenna of choice for most 6-meter AM mobile activity was a halo antenna manufactured by the now defunct Hi-Par Antenna Corporation and known as the Saturn 6. This is an antenna that many say should not have worked, but someone forgot to tell that to the "Saturn 6!"

Its design was exceedingly simple. Three parallel fed dipoles spaced about an inch and a half apart, each side forming half a loop of about 15" in diameter. The end side of each tri-dipole half terminated in a round plate. These plates in turn were fastened about an inch from each other with ceramic spacers to form a rigid assembly. The two plates also formed a capacitor that was made variable by use of a smaller plate mounted on a screw that could be adjusted to resonate the antenna to a specific frequency. The opposite end of this three-ring antenna was tied to plates that connected to screw terminals on a Bakelite™ strip.

Many hams, including yours truly, got started on 6 Meters with a roof or attic-mounted Saturn 6. While in no way comparable to a directional array, their almost omni characteristics made them more useful than a dipole. Even hams with large directional arrays would use a halo when it came time to check into or run a net — no constant "swinging the beam" to hear all the stations checking in. For many public service minded hams of the late '50s and early '60s, a VHF station consisted of a $29 Heathkit "Sixer" transceiver, a $10 "plug in" vibrator power supply and a "Saturn 6" halo. It was kind of the "HT of yesterday!"

Today, there is an abundance of equipment and a resurgence of interest in 6 meters, primarily on SSB phone. To its credit, Advanced Electronic Applications, has discovered what we 6-meter pioneers knew three decades ago: The easiest way to get on six meters is to connect a transceiver to a halo antenna. AEA does not make 6 meter transceivers, but their new "Halo-6" may be the answer to my prayers and the prayers of many other hams who live in apartments and condos.

While I have not yet tried the AEA "Halo-6," its specs are exciting. The antenna is truly as close to omnidirectional as possible. The photo that came with the product announcement shows a design where the only possible null is off the rear mounting point. While still separated by spacers, the front of the AEA version overlaps the ends of the two dipole elements to minimize a forward null. Also, no special matching sections or external baluns are requited. This modern halo has the match on-board so all you need do is connect your coax to it through its on-board SO-239 and have at the world of 6 Meters!

The AEA "Halo-6" is 27" in diameter. AEA says that the minimum mounting height is only six feet which makes it a good choice for mobile operation or indoor/attic mounting. In the latter case, the antenna is light enough to be supported by fishing line!

As soon as I have the time, I'll pop over to my local ham radio emporium, pick one up, mount it in the attic and let you know how it performs.

For those who want to experiment themselves, the AEA "Halo-6" carries a list price of $69 and is available from AEA factory-authorized retailers.

### Some final thoughts

A final item this month is a change in electronic mail addresses for this writer. On 1 July, I dropped our long established MCI Mail address to go with a full service Internet Provider (IP). After a long search of available services, Netcom was selected as our new home base of operations. Their "NetCruiser" software is the most intuitive I have ever run across and this move also gave us the opportunity to come up with simple and easy to remember e-mail address. Easy it is. How about "newsline@ix.netcom.com"

Yes, I'm keeping the America Online account (billwa6itf@aol.com) active as well, and will be checking both several times a day. WR

# Search And Rescue Communications

**Jerry Wellman, WB7ULH**
**P.O. Box 11445**
**Salt Lake City, UT 84147**

Let's play with some words for a little while this month. How often have you heard someone indicate that "we need to be more professional," or that we need "more professionalism?" I've heard this expressed during Civil Air Patrol, Amateur Radio, and even Scouting meetings. The guy at the chalkboard will be coaching us in some topic and then say, "we all need to become more professional in our roles." Everyone in the audience will generally nod in agreement.

What does it mean to become more professional? What would happen if you, in the audience, were to ask the person up front to explain the statement? What is "professional?"

I checked an unabridged dictionary and found a number of ideas. A profession was defined as a vocation requiring knowledge of some department of learning or science. Examples included an attorney, a medical doctor, a chemist or some other scientist. Another definition was "any vocation or business." Under the word "professional" we discover that it applies to one engaged in a profession. One interesting entry was "one following as a business occupation that which would normally be a pastime." Examples were a professional golfer or professional basketball player.

The last definition was "a person who is expert at his or her work." There! It is obvious that as Amateur Radio operators, we cannot be "professional" amateur operators (that's against the FCC rules), but we could undertake to become expert at what we do. Some identifiers of a "profession" include specific educational requirements, some control of entry (i.e. testing), skills that are unique (perhaps operating on 40 Meters), and a body of knowledge. Amateur Radio certainly has all of the above — we just can't make money doing it!

Let me give you my spin on what it means to be professional with regard to public service: You equip your people with the skills, expertise, and tools so they can make correct decisions in the field on assignment. I regard this to mean that if you select someone as net control station, he or she has the ability to make decisions relating to the NCS assignment.

If you're making a search assignment, you don't want the pilot calling in every five minutes to verify how to fly the assigned pattern — you are expecting the pilot to be able to fly as assigned, and do the job correctly — that's my idea of "professional." In the Amateur Radio world, this means that when you put someone on location, they do not need to check every action with the team leader. It means your people can make decisions and not fear someone will come along and second-guess them.

Professional leaders, by the way, recognize that any organization is made of people. If you irritate them enough, they go away and you are left with no people. Leaders understand that even trained members will make mistakes, but they will learn!

How does your group become professional? You create experts! Can you have too many experts? No! You can even have specialty experts (packet, technical, antenna, NCS, operations, planning, command, logistics, Morse code, RTTY, SSB, UHF, VHF, and the list goes on). The limiting factor is leadership. If you, as leader, are threatened by expertise, you're not a leader! Leaders allow people to become experts. Leaders recognize that an organization of many experts is stronger than an organization where the leader must be THE expert.

Good leaders allow expertise to happen and encourage it. Some of the most impressive leaders I've known are those who can comfortably turn to another and say: "This is your area of expertise, what do you recommend?" And then the leader trusts what is said and doesn't second-guess, or belittle the expert opinion (even if the leader doesn't agree exactly with what is said). This may be a shock to the ego, but if you have a professional organization, your people should function well if you, as leader, step back and observe. People will come to you with the really tough questions, but on regular assignment, they need to function on their own abilities.

Professionalism is our goal. We need to help it happen, recognize it when it happens, and not be threatened that someone is a professional. Remember that every good operator started with the basics. There is no magic involved, it takes work, it takes time, it takes patience, and it may be individually defined. Some of us will be great net control stations and others will simply be great operators. Very, very, very few will be expert in all areas. If you expect the latter, you need to reexamine your understanding of people.

## More training ideas

A recent column contained some ideas for training from the NASARs standards for SAR people. Many of you expressed thanks for the infor-

mation and asked for more. Here are some additional suggestions from the NASAR book that you could use for your training schedule.

Explain the difference between a 24-hour ready pack and an urban ready pack. List the general contents of a 24-hour ready pack. Describe the components of the general travel skills used for your local environment.

List and explain at least three types of maps used in search and rescue. Identify, define, and tell the color of topographical map symbols. Explore and identify information contained around the border of a topographical map. Explain what contour lines are. Tell the difference between true and magnetic north. Show how to tell distances. Orient a map and compass to the terrain, and follow a simple compass bearing.

Define the following components of emergency operations: pre-planning, notification, planning and strategy, tactics and operations, suspension, and critique.

As I encouraged before, if you don't have the skills to teach your group, contact your local SAR agency (sheriff, CAP, Mountain Rescue, etc.) and see if they're willing to come and help teach. You can do all the classroom and field preparation, copy materials, and get everything ready for your guest teacher. Most groups will be flattered when you ask them to help. It's also a great way to become known to other agencies, as well. You should also volunteer to help teach other groups your skills. Areas of basic communication, net control, basic technology, propagation, etc., can be of great benefit to SAR groups and public service agencies.

## Deadly meetings

I found a great article on the Internet concerning the conducting of meetings. If you have access, check out Fast Company Magazine (http://www.fastcompany.com). The following information comes from an article in this magazine by Eric Matson (and I would recommend you get a copy of the article off their Internet site if you can).

Matson describes the "seven sins" of meetings, and proposes solutions. I will only mention a few of the most important areas that apply to my observations of volunteers and meetings. Meetings are too long, and many people don't take meetings seriously. One suggestion is to have a poster on the wall at each meeting that asks questions: Do you know the purpose of this meeting? Do you have an agenda? Do you know your role? Do you follow the rules for good minutes?

One reason meetings drag on and don't seem to accomplish anything is simply that they are not planned in advance. How often have you attended a meeting and spent most of the time reminding everyone what they were supposed to do? Everyone should have an agenda and you should stick to the agenda. Agendas are published in advance, with the opportunity for members to suggest agenda items. Don't be a dictator, be a facilitator. Listen to suggestions for agenda items!

Another valuable item are the minutes of past meetings. These serve to remind everyone of what was assigned, what was discussed, what was proposed, and what was agreed upon. Without minutes, you're prey to the memories of all present (and the subsequent arguments when memories are not in agreement).

As a facilitator get serious about your agenda. The article suggests a "parking lot" for discussion items not related to your agenda. When someone brings up a topic not on the agenda, you write it on a "parking lot" board. These items can be discussed AFTER the agenda items are taken care of or they can be used to formulate the next meeting's agenda. You must not ignore "parking lot" items, but simply take care of pressing business and then move on to the tangent items.

Have you gone to a meeting only to discover that you cannot make decisions because important information was not presented? The answer is, according to Matson, to get data (as well as people) to meetings. With an advance agenda, the idea is to bring supporting information to the meeting in order to make the best decisions.

Finally, Matson suggests that it takes effort to make meetings better. He suggests you monitor what works and what doesn't work and then hold people accountable. If you record in the minutes what went right and what went wrong, over time you create an agenda for change. Meetings improve when people observe good meetings and begin having fun.

Good stuff! I've always been of the opinion that it has to be a darned good meeting to be better than no meeting at all. Good meetings attract participants and encourage excitement. Poor meetings chase away talented members — they're not willing to waste time they could spend being challenged in other fun ways.

## Until next month

Some of you have asked for NASAR's address. You may contact the National Association for Search and Rescue at 4500 Southgate Place, Suite 100, Chantilly, VA 22021. You can reach them by telephone at (703) 222-6277 or by FAX at (703) 222-6283. If you have Internet access, their home page can be found at http://www.nasar.org and from their page you can discover other SAR related sites and links.

I hope you've had a great summer. Autumn is the time to buckle down and get back with your training schedule. I recommend a social activity to renew friendships, energize your ideas for your group, and evaluate where you're headed for the upcoming year.

Until next month, I remain jw@desnews.com, and in Salt Lake City, Utah via snail mail (address at the top of the column). WR

WITH THE HANDI-HAMS

# New man in town

**Patrick Tice, WAØTDA**

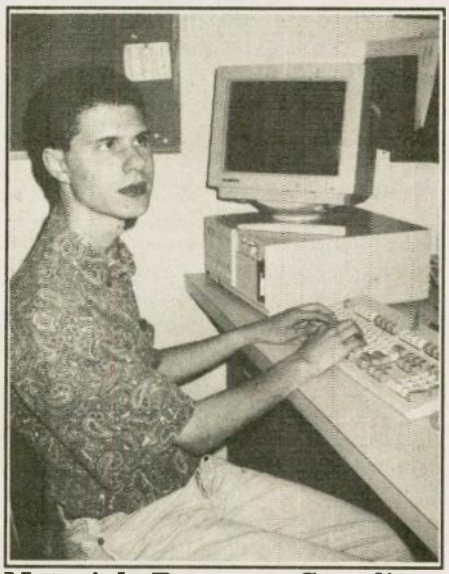
The Courage HANDI-HAM system welcomes our newest employee, Chris Peterson, KGØBP. Chris fills an entirely new position here at HANDI-HAM Headquarter — he is our new Materials Resource Coordinator. So what does that mean? For starters, you have to realize that much of what we do at HANDI-HAMS is related to education. Chris will be working to produce the highest quality taped study materials for our members who cannot read regular print. He will also produce our materials on computer disk, researching the latest shareware offerings, and compiling a knowledge base on adaptive hardware and software.

HANDI-HAMS also has an equipment program. Chris will be working closely with our shop volunteers to find and adapt ham radio and computing equipment for our members with disabilities.

We are excited to have Chris with us! Even though he has just graduated from high school this spring, he has experience in computer technical support by phone. The holder of an Extra Class ticket, Chris is very active on the ham bands, and operates two repeaters. An avid computer user, Chris is on the Internet as well and will be researching adaptive equipment problems using that medium. He will be using the Internet to keep in touch with our growing list of members who have e-mail addresses.

Chris reads Braille and will be attending guide dog school in California this summer. He is familiar with computer screen-reading programs and can answer your questions. Chris is a longtime HANDI-HAM member, and has attended "Radio Workshop." Welcome, Chris!

So much for the new guy. What about the ladies?



**Materials Resource Coordinator, Chris Peterson, KGØBP**

As you know from reading ***Worldradio,*** Sister Alverna, WAØSGJ, and Maureen Pranghofer, KFØI, were both injured in separate auto accidents.

Sister Alverna O'Laughlin, WAØSGJ, the HANDI-HAM Education Coordinator, was injured in an auto accident on Friday, 31 May. She was planning to represent the Courage HANDI-HAM System at the combined Midwest/Dakota Divisions HAMBOREE in South Sioux City, Nebraska. Her injuries are not life-threatening, but she did break her leg in three places.

While Sister was out of the office,

**Sister Alverna O'Laughlin, WAØSGJ**

Maureen Pranghofer, KFØI, the former Student Coordinator at the HANDI-HAM System, filled in. Sadly, Maureen and her husband Paul, both of whom already had severe disabilities, were injured in yet another crash while returning from a family reunion. Both had multiple fractures and will be in casts for several months.

Sister Alverna recently returned to work part-time at HANDI-HAM Headquarters. She expects to return to full-time soon, but will have her leg in a cast until some time in the fall.

Maureen's injuries were most extensive, and she will be recovering in a health care facility for several months.

The Pranghofers need help with their expenses, as both are unable to return to work for some time. If you can help, send a donation to "The Paul & Maureen Pranghofer Recovery Fund, c/o TCF Bank, Attn: Amy Brose, 3330 W. 66th St., Edina, MN 55435.

Need information about how to help persons with physical disabilities or sensory impairments learn Amateur Radio? Contact us at:

Courage HANDI-HAM System
3915 Golden Valley Road
Golden Valley, MN 55422
612/520-0515 (voice)
612/520-0577 (fax)
612/520-0245 (TTY)
Internet e-mail: handiham@mtn.org
On the WWW: http://www.mtn.org/handiham **WR**

Avoid the rush and get your Christmas shopping done early this year. Get your ham friend a nice ***Worldradio*** mug to go along with a subscription. What a combination!

# Visit Your Local RADIO CLUB

## ALASKA

**South Central Radio Club.** 8023 E. 11th Ct., Anchorage, AK. Meets 2nd Fri./monthly, 7 p.m., UAA Business Ed. Bldg., Rm. 220. KL7CC, (907) 338-0662 for info. Club rptr: KL7CC/R 146.97(-) PL 103.5 Hz. 2/97

## ARIZONA

**Arizona Repeater Association.** P.O. Box 35758, Phoenix, AZ 85069-5758. Operates 20 VHF & UHF rptrs. in AZ. Meets 4th Thurs./monthly, 7:30 p.m., 1515 E. Osborne, Phoenix. Info: (602) 631-4879. 9/97

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

**Old Pueblo Radio Club, (OPRC).** P.O. Box 42601, Tucson, AZ 85733. Meets 2nd Wed./monthly, 7:15 p.m., Northwest Neighborhood Center, 2160 N. 6th Ave. (South of Grant). 2/97

**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. 3/97

## CALIFORNIA

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

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

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

**Contra Costa Communications Club, Inc., WD6EZC/R.** P.O. Box 20661, El Sobrante, CA 94803-0661. Meets 2nd Sun./monthly (except May & Dec.), 7 a.m., Baker's Square Restaurant in Richmond, CA. Info: Ed Caine, KA6OFR, (707) 996-0962. 1/97

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

**East Bay Amateur Radio Club, Inc.** Meets 2nd Fri./monthly, 7:30 p.m., Albany Sr. Cntr., 846 Masonic Ave., Albany, CA. Info: S. Primbsch, (510) 741-8227. 145.110 MHz. 6/97

**Fresno Amateur Radio Club.** Meets 2nd Fri./monthly, 7:30 p.m., Ernie Pyle School, 4140 N. Augusta, Fresno, CA. 146.94(-) 223.94(-). 11/96

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

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

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

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

**Livermore Amateur Radio Klub, (LARK).** Meets 3rd Sat./monthly, 9:30 a.m., City Council Chamber, 3575 Pacific Ave., Livermore, CA. Net Mon. 1900 on 147.12(+). For info: LARK Secretary, P.O. Box 3190, Livermore, CA 94551-3190. (510) 846-6513. 12/96

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

**Motorcycling Amateur Radio Club.** Meets 2nd Sat./monthly, 8 a.m., Lake View Cafe, 2099 E. Orangethorpe, Placentia, CA, at 91 Fwy/Lakeview. Info: Ray Davis, KD6FHN, (714) 551-2010 or (714) 551-1036. 2/97

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

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

**Orange County Amateur Radio Club.** Meets 3rd Fri./monthly, 7:30 p.m., Orange County Red Cross, 601 N. Golden Circle, Santa Ana, CA. 146.550. Contact Bob Buss, KD6BWH, (714) 534-2995. 1/97

**Palos Verdes ARC.** Meets 3rd Wed./monthly, 7:30 p.m., Community Rm., "Shops at Palos Verdes," 550 Deep Valley Dr., Rolling Hills Estates, CA. Info. Herb Clarkson, KM6DD, (310) 377-6342. Rptr. 145.38(-) PL 100. 11/96

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

**Sacramento Amateur Radio Club.** Meets 2nd Wed./monthly, 7 p.m. Sac. Blood Ctr., 32nd St. & Stockton Blvd., Sacramento, CA. Info net at noon on rptr. W6AK 146.91(-). Steve Cates, KC6TEV, (916) 391-7341 or Les Ballinger, WA6EQQ, (916) 393-4775. 10/96

**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. 10/96

**San Gabriel Valley Radio Club, Inc.** P.O. Box 88, Monrovia, CA 91017-0088. Meets 1st Tue./monthly, 7:00 p.m., Arcadia County Park, 405 So. Santa Anita Ave., Arcadia, CA. 147.765(-) PL 131.8. Info: (818) 857-0249. 12/96

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

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

**Sierra Foothills ARC.** P.O. 3262, Auburn, CA 95604. Meets 2nd Fri./monthly, 7:30 p.m., Firehouse, 226 Sacramento St. Auburn. 28.415, 2/220m, Thurs. 7:30 p.m., 145.430(-) (PL 94.8) & 223.86(-). 3/97

**Simi Settlers Amateur Radio Club (SSARC).** P.O. Box 3035, Simi Valley, CA 93093. Meets 2nd Thurs./monthly (except Dec.), 7:30 p.m., Seventh Day Adventist Church Hospitality Rm., 1636 Sinaloa St., Simi Valley. Contact Ron, KD6VLM, (805)584-6737, 147.930(-) (PL 127.3). 11/96

**Siskiyou County Amateur Radio Assoc.** Meets 1st Sat./monthly, 10 a.m., rotates between Bob's Ranch House in Etna, CA and The Tree House in Mt. Shasta. For info: Al, WA6IHK, (916) 467-3255. 10/96

**So. Sierra ARS.** Meets 2nd Thurs./monthly, 7:30 p.m., Veteran's Hall, 125 East F St., Tehachapi, CA. Contact: Caroline, KD6KMN, (805) 822-5995. 147.06/224.42. 12/96

**South Bay ARC.** P.O. Box 536, Torrance, CA 90508. Meets 3rd Thurs./monthly, 7:30 p.m., Torrance Memorial Hosp., 3330 Lomita Blvd., Torrance, CA. Talk-in on WB6MYD rpt. 244.38(-). Info: (310) 328-0817. 7/97

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

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

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

**Tri-County Amateur Radio Assoc.** P.O. Box 142, Pomona, CA 91769. Meets: 2nd Mon./monthly, 7:30 p.m., Covenant United Methodist Church, corner of Towne Ave. & San Bernardino Rd. in Pomona, CA. 11/96

**Trinity Country ARC.** P.O. Box 2283, Weaverville, CA 96093. Meets 2nd Wed./monthly, CD Hall in Weaverville, 7:30 p.m., Rptrs: WA6BXN 146.73(-) PL 85.4, W6HOR 146.925(-) PL 85.4. 10/96

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

**Vaca Valley Radio Club.** Meets 2nd Wed./monthly, 7:30 p.m. (Board mtg., 7 p.m.) Vaca Fire Dist. Stn., Vine St. in Vacaville, CA. Rptr. WD6BUS 145.47(-) PL 127.3. Alan McCarthy. (707) 446-0200. 5/97

**Victor Valley Amateur Radio Club.** P.O. Box 869, Victorville, CA 92392. Meets 2nd Tues./monthly, 7:00 p.m., Presidio Recreation Cntr., 11100 Apple Valley Rd., Apple Valley, CA. Talk-in 146.94(-), PL 91.5. Net Sun. 7 p.m. 146.94(-). 12/96

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

**West Valley Amateur Radio Assoc.** P.O. Box 6544, San Jose, CA 95150-6544. Meets: 3rd Wed./monthly, 7:30 p.m. (except Dec.) Cambrian Sch. Dist. Office, 4115 Jacksol Dr., San Jose, CA. W6PIY/R. Net Tue., 8:30 p.m. 147.39(+), 223.96(-). 10/96

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

**Yolo Amateur Radio Society.** Meets 1st Tues./monthly, 7:30 p.m., Training Rm. of the Davis PD, 226 F St., Davis, CA. Contact Dave Nishikawa, KC6YFG, (916) 756-6375/Talk-in 144.430. 10/96

**Yuba-Sutter Amateur Radio Club, (YSARC).** P.O. Box 1169, Yuba City, CA 95991. Meets 2nd Tue./monthly, 7:30 p.m., Yuba City Police Bldg., 1545 Poole Blvd., Yuba City. 12/96

## CONNECTICUT

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

## FLORIDA

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

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

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

**Saint Petersburg Amateur Radio Club.** Meets 1st Fri./monthly, 7:30 p.m., Red Cross Bldg., 818 Fourth St. North, St. Petersburg, FL. Nightly net 6:30 p.m., 147.06(+). Rptrs. 147.06(+), 224.66(-), 444.475(+). Info: C. Wagner, KE4EYI, (813) 894-6710. 1/97

**South Brevard Amateur Radio Club.** P.O. Box 2205, Melbourne, FL 32902. Meets 1st Tue./monthly, 7 p.m., Public Library, 540 Fee Ave., Melbourne, FL. 6/98

**Vero Beach ARC, W4OT.** P.O. Box 2082, Vero Beach, FL 32961. Meets 2nd Thurs./monthly, 8 p.m., Emerg. Mgmt., Indian River County Adm. Bldg., 1840 25th St. Net Mon., 7:30 p.m. 146.64. 12/96

## GEORGIA

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

## HAWAII

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

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

## ILLINOIS

**Chicago FM Club Inc., (CFMC).** P.O. Box 1532, Evanston, IL 60204. 146.76(-)(PL 107.2)/224.10/224.18/443.75 (PL 114.8). Ham help line: (312) 262-6773. Info net Tues., 9 p.m. on 146.76(-). Meets 3rd Wed./monthly, 8 p.m. 7/97

**CHI-NET Amateur Radio Club.** North & Northwest Chicagoland & Suburbs. Specializing in PACKET Radio and 220 Phone to further the fulfillment of Amateur Radio. Meets last Thurs./even mos. Info: (708) 307-8198 or Packet on 144.99 MHz or Voice on 224.24 MHz. 11/96

**Dupage Amateur Radio Club. (DARC).** P.O. Box 71, Clarendon Hills, IL 60514. Meets 4th Mon./monthly, 7:30 p.m., Holy Trinity Church, SE corner of Cass & Richmond, Westmont, IL. Net Sun., 9 p.m. on 145.25. W9DUP repeaters 145.25(-) (107.2PL), 442.55(+) (114.8PL), 224.68(-). 11/96

**Fox River Radio League.** P.O. Box 673, Batavia, IL 60510-0673. Meets 2nd Tue./monthly, 7:30 p.m., Old Bank Bldg., 900 No. Lake St., lower level, Northgate Shopping Ctr. & Rt. 31, Aurora, IL. 7/97

**Hamfesters Radio Club, W9AA.** P.O. Box 42792, Evergreen Park, IL 60805. Meets 1st Fri./monthly, 8 p.m., Crestwood Civ. Ctr., 139th & Kostner, Crestwood, IL. Nets: Sun. (local) 0100 UTC, 28.410 MHz; Mon. 9 p.m. 146.43 S., Packet Mailbox 145.65 MHz. Info: (312) 974-3291. 1/97

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

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

**The Starved Rock Radio Club, W9MKS.** P.O. Box 198, Tabor St., Leonore, IL 61332. Meets 1st Mon./monthly, 7:30 p.m. Rptr. net 7 p.m. Wed./wkly., 147.12(+). 11/96

## IOWA

**Sooland Amateur Radio Assoc., (SARA).** Meets 3rd Tues./monthly, 7:30 p.m., American Red Cross Bldg., 1512 Pierce St., Sioux City, IA. Contact: Glenn Holder, KØTFT. (712) 239-1749. Call-in 146.97(-). 11/96

## LOUISIANA

**Baton Rouge ARC.** Meets last Tue./monthly, 7 p.m., Catholic HS cafeteria, 855 Hearthstone Dr., Baton Rouge, LA. Info: Norma Ramey, WD5GFD, (504) 654-6087. Club rptr. 146.19/79. 9/97

## MAINE

**Androscoggin Amateur Radio Club.** Meets 1st Wed./monthly, 7:00 p.m., Auburn Police Station, 1 Minot Ave., Auburn, ME. 11/96

## MASSACHUSETTS

**Quannapowitt Radio Assoc., Inc.** 6 Savin St., Burlington, MA 01803. Meets 4th Fr./monthly, 8:00 p.m., (May & Nov. meets 3rd Fri.), at Lynnfield-Wakefield Methodist Church, Wakefield. Info: Jim Chamberlain, N1AKG, (617) 944-5098. 1/97

**Wellesley Amateur Radio Soc., & Babson Wireless Club.** Meets 1st & 3rd Thurs./monthly, 7:30 p.m., Tomasso Hall, Babson College Forest St., Wellesley, MA (Sept.- June) Talk-in 147.03(+). Info: J. Driscoll, NV1T, (617)444-2686. 12/96

## MICHIGAN

**Adrian Amateur Radio Club, W8TQE.** Box 26, Adrian, MI 49221. Meets 1st Fri./monthly, 8 p.m., Civil Air Patrol Bldg., Lenawee Co. Airport, Cadmus Rd., Adrian. ARES net Sun., 9 p.m. 145.37(-). Info: Tom Parsons, N8QEW, (517) 263-5568. 3/97

**Chelsea Amateur Radio Club, Inc.** Meets 4th Tue./monthly, 7 p.m., Society Bank, 1478 Chelsea-Manchester Rd., Chelsea, MI 48118. 12/96

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

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

**Genesee County Radio Club, Inc.** Meets 3rd Tues./monthly, 7:30 p.m., Genesee Area Skill Center, Torrey Rd., Flint, MI. (810) 634-6077. 2/97

## MINNESOTA

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

## MISSISSIPPI

**Jackson Amateur Radio Club, Inc.** Meets 3rd Thurs./monthly, 7 p.m., Am. Red Cross Bldg., Riverside Dr., Jackson, MS 39202. 10/96

## MISSOURI

**PHD Amateur Radio Assn., Inc.** P.O. Box 11, Liberty, MO 64068. Meets last Tue./monthly, 7 p.m., Gladstone Comm. Bldg. (816) 781-7313, Volunteer Examiner Coordinator. 2/97

## NEVADA

**Frontier Amateur Radio Society, (FARS).** Meets: 2nd Sat./monthly, bkfst. 8 a.m. & mtg. 8:30 a.m., Country Inn, SE cor. W. Sunset, Valley Verde. Club info: Jim Frye, NW7O, (702) 456-5396 or Leona Wallace, WA6OHB, (702) 247-6450. 7/97

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

**Sierra Intermountain Emergency Radio Assoc., (SIERA).** Meets 2nd Tues./monthly, 7:30 p.m., Douglas County Lib., Minden. Contact: George Uebele, WW7E, (702) 265-4278, 147.330. 11/96

## NEW HAMPSHIRE

**Great Bay Radio Assn., WB1CAG.** P.O. Box 911, Dover, NH 03820. (603) 755-2600/335-6643. Meets 2nd Sun./monthly, 7 p.m., Rochester Fire Dept. Training Rm. Talk-in: 147.57. 11/96

## NEW JERSEY

**10-70 Repeater Assn., Inc.** 235 Van Emburgh Ave., Ridgewood, NJ 07450. Meets 1st Wed./monthly (except July & Aug.), 8 p.m., VFW, Valley Rd., Clifton, NJ. Rptrs.: 146.70(-), 224.84(-), 444.15(+). 10/96

**Bergen Amateur Radio Assoc., (BARA).** P.O. Box 304, Hackensack, NJ 07601. Meets 1st Sun./monthly, New Milford Elks Lodge, Patrolman Ray Woods Dr., New Milford, NJ 07646. Nets: 28.350 Mon. 9 p.m., 144.40 9 p.m. Wed. 5/97

**South Jersey Radio Assoc., (SJRA).** Pennsauken Sr. Hi Sch. at Hylton Rd. & Remmington Ave., Pennsauken, NJ 08109. Meets Jan.-Oct., 4th Wed./monthly, 7:30 p.m. (Nov.-Dec. 3rd Wed.). Talk-in: 145.29(-) rptr. Club call K2AA. 8/97

## NEW YORK

**Amateur Radio Assoc. of the Tonawandas, (ARATS).** P.O. Box 430, No. Tonawanda, NY 14120. Meets 3rd Tues./monthly (except July & Aug.), 7:30 p.m., Sweeney Hose Co., 499 Zimmerman St., No. Tonawanda, NY. Talk-in: 146.955(-) rptr. W2PVL. 10/96

**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. 12/96

**Hall of Science Amateur Radio Club.** P.O. Box 131, Jamaica, NY 11415. HOSARC, 2nd Tue./monthly, Hall of Science Bldg., 47-01 111 St., Flushing Meadow Park, 7:30 p.m. Info: Amie, WB2YXB, (718) 343-0172. 2/97

**Orleans County Amateur Radio Club, (WA2DQL).** Meets at Emergency Management Office, West County House Rd., Albion, NY 14411, 2nd Mon./monthly, 7:30 p.m. 145.27(-) — WA2DQL. 12/96

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

**The Radio Club of J.H.S. 22, N.Y.C., Inc. WB2JKJ.** P.O. Box 1052, New York, NY 10002. 24-hr. hotline: (516) 674-4072. Fax: (516) 674-9600. Non-profit org. using Ham Radio to enhance the education of youngsters, nationwide. Join us — "Classroom Net", 7.238 MHz, 7 a.m. E.S.T. PSE QSL! 9/97

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

**Westchester Amateur Radio Assoc., (WARA).** Meets 1st Wed./monthly, 7:30 p.m., Am. Red Cross Bldg., 106 N. Bway, White Plains, NY. Club net: 145.495(-) rpt. Tues., 7:30 p.m. Info: Dan Grabel, N2FLR, (914) 723-8625. 2/97

**Westchester Emergency Comm. Assoc., (WECA).** Meets 2nd Mon./monthly, 7:30 p.m., Westchester County Ctr., White Plains, NY. Contact WB2VUK (914) 631-7424 or WECA INFO LINE (914) 741-6606 for details. Talk-in WB2ZII/R 147.06(+) PL 114.8/2A. 10/96

**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(-), 440.15(+). 10/96

## NORTH CAROLINA

**Stanly County Amateur Radio Club.** Stanfield, NC. Meets 4th Thurs./monthly, 7 p.m. Talk-in 146.985(-) for location. Wed. net 9 p.m. 146.985(-). Fri. tech net 9 p.m. 147.390(+). Phone: (704) 888-4815. 5/97

## OHIO

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

**Firelands Area Rptr. Assn., (FARA).** Meets 4th Tue./monthly, 7 p.m., Erie County Admin. Bldg., Sandusky, OH. WB8LLY rptr. 146.805(-). Net Sundays, 8 p.m. Info: FARA, P.O. Box 442, Huron, OH 44839. 11/96

**Greater Cincinnati Amateur Radio Assn., (GCARA).** Meets 4th Wed./monthly, 7:45 p.m., Brusman's Hall, 4813 Vine St., St. Bernard. ARRL SCC, Net Thur. 9 p.m. EST. 1.936 MHz. TI 147.15(+). Info: WA8STX or (513) 772-7378. 11/96

**Northern Ohio Amateur Radio Society, (NOARS).** Meets 3rd Mon./monthly, 7:30 p.m., Gargus Hall, Rt. 254, Lorain, OH. Info: rptr. K8KRG 146.70, DX alert rptr. 145.15. 10/96

**Toledo Mobile Radio Association.** P.O. Box 273, Toledo, OH 43697. Meets 2nd Wed./monthly, 7:30 p.m., Luke's Barn, Lucas County Rec. Ctr., 2901 Key St., Maumee, OH. Contact: Brenda, KB8IUP, 866-5928. 11/96

**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(-). 2/97

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

## OREGON

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

**Keno Amateur Radio Club.** P.O. Box 653, Keno, OR 97627. Meets 3rd Thurs./monthly, 7 p.m., Keno Fire Stn. Rptr. 147.32(+) W7UFM. Info: Tom Hamilton, WD6EAW, (503) 883-2736. 11/96

**Central Oregon Coast ARC.** P.O. Box 254, Florence, OR 97439. Meets 3rd Sat./monthly, 9 a.m. for brkfst. Net, Wed. 7 p.m., 146.80(-). Info: 997-2323 or 997-4074. 1/97

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

**Valley Radio Club of Oregon.** Meets 1st Fri./monthly, 7:00 p.m., Lane County Red Cross chapter house in Eugene. Info: (541) 683-0987 or write: VRC, c/o 159 E. 16th Ave., Eugene, OR 97401. 12/96

## PENNSYLVANIA

**Butler County Amateur Radio Assn.** P.O. Box 1787, Butler, PA 16001-1787. Meets 1st Tues./monthly, 7:30 p.m., Boy Scout Cntr., 830 Morton Rd., Butler, PA. Call-in W3UDX/R 147.36(+). Net 10:10 p.m. nightly. 10/96

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

**Mid-Atlantic ARC.** Box 352, Villanova, PA 19085. Meets 3rd Thurs./monthly, 8:00 p.m., Radnor Mem. Libraray, Wayne, PA. Call Bob Haase, W3SA, (610) 293-1919. 147.06(+) WB3JOE PBBS 145.09. 1/97

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

## RHODE ISLAND

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

## TEXAS

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

**Brownsville ARC (CHARRO).** Meets 2nd Tue./monthly, 7:00 p.m., Confederate Air Force Hangar, Brownsville Airport in TX. Talk-in on 147.040(+). 12/96

## VIRGINIA

**Southern Peninsula Amateur Radio Klub, (SPARK).** Meets 1st Tue./monthly Salvation Army Community Bldg., Hampton, VA. Repeaters 146.73(-), 449.55(-). VE Exam Info: (804) 898-8031, W4RTZ. 2/97

**Virginia Beach ARC.** Meets 1st Thurs./monthly (except July), 7:30 p.m., St. Andrews United Methodist Church, Tucson & Princess Anne Rds., Virginia Beach, VA 23462. 2/97

## WASHINGTON

**The Mike & Key Amateur Radio Club.** Meets 3rd Sat./monthly, 10 a.m., Salvation Army Renton HQ., 720 Tobin St., Renton, WA. Talk-in on 146.82(-) rptr. Doors open at 9:30 a.m. 5/97

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

## WEST VIRGINIA

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

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


**Lorraine S. Matthew, N4ZCF**
**MARS call AAA9PR**

9-1-1 . . . This series of numbers represents a universal source of help in an emergency. Army MARS, and, by invitation all three service MARS and other federal agencies, has established a national HF MARS net which serves the same purpose. As Chief, Army MARS, Robert L. Sutton has expressed it, the CONUS Emergency Coordination Net, newly redesignated as the Army MARS National Emergency Coordination Net (AMNECN), is our 9-1-1 system.

This net originated as part of the United States Army Information Systems Command (USAISC) Grecian Firebolt (GF96) exercise which concluded at the end of June 1996. Suggested by Barbra Dahl, AAMØAD, and Terry Bell, AAMØO, the AMNECN was approved by Chief Sutton as a last minute addition to GF96.

Terry Bell is the coordinator of the current net which has evolved out of the GF96 exercise. As a participant in the AMNECN, I can attest to the effect of the current difficult propagation conditions which have plagued all of the ham radio world and the MARS frequencies as well. The net frequency is an Army MARS guard frequency which means that operators are requested to monitor the frequency in case someone does come in with an emergency situation to report.

At this time the net converts to an emergency net for emergency support communications. With all this silence, an operator can often wonder if he is being heard by anyone when he checks into the net. If I check in with an Arizona Net Control Station, I usually hear no response. Relays from out of area usually guarantee confirmed entry.

With this in mind, I wondered about the wisdom of an emergency exercise being called late on a Saturday afternoon with little prior notice. Barbra Dahl, who is the Assistant Western Area MARS Director, had arranged MARS affiliation with the National Weather Service (NWS) in Oregon, and by extension, with NWS offices in other locations in the Western Area states.

It was the National Weather Service which established the scenario for the exercise and which requested MARS participation. In short, this was an NWS originated exercise. Until 1995, emergency support operations were always MARS originated. MARS is continuing to follow new protocols in order to be a genuine asset to many federal entities.

Knowing the spirit of MARS, I should not have had reservations about this exercise. More than 100 checkins were recorded in the 5-hour exercise. The scenario being supported reflected the devastating windstorm that entered central California in October 1992 and blew its way up the Pacific Coast into Canada before it diminished. With all the activity coming into the AMNECM and the other command and control net with all those operators checking in, supporting message traffic was shunted to other frequencies. Air Force MARS also opened two frequencies for the exercise network use. In the middle of all this activity, actual incident Essential Elements of Information (EEI) reports were also processed in immediate time frames.

All of this activity not only shows that the MARS spirit is alive and well but that a much larger number of operators are monitoring the AMNECN than had been realized. That number of participating operators gave a geographic coverage which guaranteed the defeat of the poor propagation conditions.

There was always someone out there who could communicate with someone else. That guarantees the ability of the 9-1-1 network to function well on a 24-hour basis. Active participants on this net range from NY and TN in the Eastern Area to Hawaii and the islands of the Pacific. It is this wide-spread operator participation which has led to the renaming of the AMNECN. It had been the CONUS Emergency Coordination Net. Our operations are no longer CONtinental U.S. (CONUS). Operations have been and are being supported by operators who live far off the North American continental shores.

Planning for this NWS exercise was carried out by representatives of all the participating organizations. This, too, is an expansion of roles for MARS members and for the Civil Air Patrol units which were very much a part of this operation. Listening to the stations on the air that afternoon, one heard Army calls, Air Force calls, Navy calls, and C.A.P. calls plus an NWS Army MARS call, AARØCMF.

What did all this accomplish besides validating the new AMNECN? In her assessment of the operation, Ms. Dahl, AAMØAD, observed that the number of participants had been underestimated but that the exercise showed that MARS members are eager to be able to participate actively. She further stated that this exercise gathered the communications assets in the three MARS services and the C.A.P. in a dedicated effort to be of service. This combination of assets can provide active and effective support to our customers no matter what their needs might be. Lessons were learned and flaws in the operation will be overcome by the adaptation of new operating protocols.

The great cooperation among all the services proved conclusively that interoperability is a very viable operating mode. The strength of the future is interoperability and the development of friendships, fidelity, and familiarity within the MARS/C.A.P. community. With such assets and attitudes, the future for all of us is assured. Commitment to a job well done is a driving force felt by the 100 or more operators who spent a July Saturday afternoon and evening on the air being able to help when and if needed.

The spirit of MARS goes on . . . proud, professional, ready. WR

**PHOTOS**

Remember to include photos whenever possible in submitting contributions to ***Worldradio.***

Quarter Century Wireless Association, Inc.

## John G. Troster, W6ISQ

### I lost

Remember I bet our ***Worldradio*** Editor, Lou Ann that she would not get three phone calls from folks who read about her in this column last month? Well, I lost. A dozen readers called and belted out a refrain or two for her. I suggested that a brief aria from grand opera would be appropriate, but Lou Ann said she also was treated to a little Gilbert and Sullivan from a gentleman from Washington — state, that is. And, as you might expect, Don Doughty, W6EEN, called twice. (I only gave him credit for one call though). First time he couldn't think of anything to sing. Next time he tried to sing the famous aria from over in Berkeley, aka as the *Cal Fight Song*, but forgot the words. But say out there, standing ovations to you all for participating in this survey.

Okay, it was really all a front to get information [*Gee, and I thought it was because he liked me-Ed*]. Every other phone call or so you get nowadays is a survey about the latest presidential move or some other earth-shattering matter, so why not us, thinks I. I would find out how many of you actually read this column. Expected reply from mailed advertisements is 3%. With that yardstick, the 12 who responded in song, let's say, were 3% of the readership of the QCWA Column. Voila, at least 400 gallant readers! Half a league, half a league, half a league onward, Read the four hundred. Or was that 600?

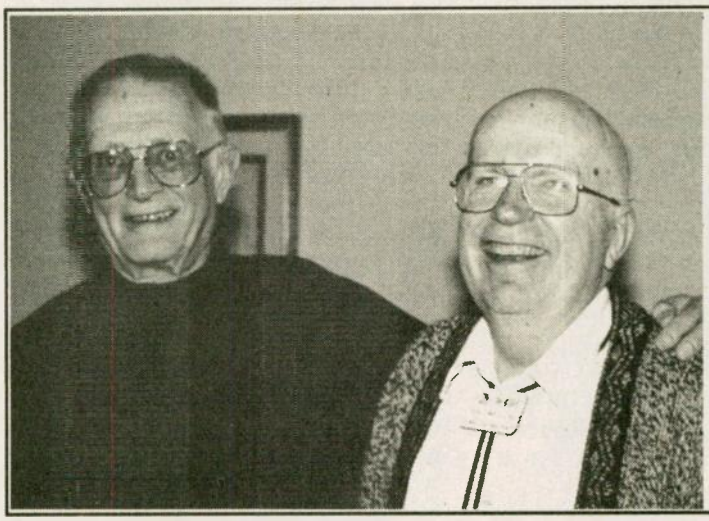
Then there's the ***Worldradio*** survey taken recently which sent 1,100 questionnaires to a random sampling of their more than 30,000 mailing list and received an amazing 77.5% return. So on the other hand, if we assume that our dozen singers represent 77.5% rather than 3% readership, we have a total of sixteen readers. Mega thanks to you faithful 16! Of course none of this is taking into account those who wanted to reply but can't carry a tune.

Sigh.

If you wanna improve the numbers, you can still call to get a melodious, "Hello, this is Lou Ann Keogh. How may I help you?" See phone number at the masthead of this here magazine.

### John Swafford, W4HU, Secretary, QCWA

The faithful 16 (see above) will immediately recognize the name, John Swafford, W4HU, as the current QCWA Board arm wrestling champion, having defeated Big John, K8LBZ, at the last Board meeting. So, we thought you would like to meet the new champ.



**QCWA Secretary John Swafford, W4HU (right) with QCWA President Jack Kelleher, W4ZC.** ***—photo, W6ISQ***

John was born in Tacoma, Washington, but removed thence at a very tender age, when his family moved to Hutchinson, Kansas. It was his high school buddy there, Wayne Mohr, WØCMY, who became his Elmer, and got John thoroughly interested in Amateur Radio. Wayne moved off to college but by then, fortunately, John had other ham buddies who kept his interest alive. John became especially enamored of those wonderful old RME-69 receivers alongside those old breadboard wonders. Didn't we all?! In Junior College John received his Class C license and went on the air with a familiar 6F6 crystal oscillator and 6L6 final into a long wire. He used a Sky Buddy and made his way to 20 and 40.

That was in 1940. In short order, John passed his Commercial exam and automatically was upgraded to an Amateur Class A ticket. Then, off to Midland Radio and TV School, in Kansas City, MO.

School work finished, John began work for Northwest Airlines in mid-1941 as a radio operator and was sent to Whitehorse, Yukon. When WWII began, John found himself being traded back and forth between Northwest Airlines and the Army Air Transport Command which had ties to the Army Air Communications System.

Gradually, the Army took over and John moved up and down the various stations handling both phone and CW radio circuits along the Alaskan Highway and up into Fairbanks. It was there that the Russian pilots came to pick up the US-made planes to ferry back to Russia.

After the war, John headed home to Hutchinson and went to work for radio station KWBW. One interesting event was his being assigned to install their FM station, which was only the second one in Kansas. He renewed his hamming and went back on the air with one of the popular war-time ARC series excit-

ers driving an 807. Also, he used a Breting 9 receiver. Remember them?

Then he bought a Hammarlund 129 when they first came out, and built a high-power amplifier using a pair of 800s, feeding an old reliable end-fed zepp.

When the Korean War began, John headed for Washington, D.C., taking his radio equipment with him. There he signed on with the PEA, Plant Engineering Agency, where he found many of his old friends from his AACS days.

Unfortunately, living in a small apartment, he couldn't get back on the air with the big rig, so he settled for a Lysco exciter, and later a Johnson Viking 2, feeding a wire out the window to a tree. Sounds like a familiar set-up, right?!

At PEA, John's work involved antenna research, installation and testing for the Signal Corps, not only in the US, but the Mid-East, Africa and Europe. In '62, John went to Frankfurt, Germany for a four-year stretch, doing many kinds of radio testing and experiments. However, he says his most important achievement there was meeting and marrying Annie, who worked for the State Department, in 1966. During that stint in Germany John acquired the call DL5DF.

In '67 John returned stateside and was assigned to Fort Huachuca, Arizona. After the lively life in Washington, all that desert sand and cactus didn't sit too well (little joke) with John and Annie, so they returned to Washington. John transferred to the State Department as Radio Branch Chief handling HF and some VHF equipment for Washington and the embassies.

Of course, he got back on the air again "big time" in Washington with Collins gear, driving a Henry 2K, plus Yagis and quads. He was into DXing, traffic, rag chewing, contesting, everything, especially the QCWA CW QSO Party. He immersed himself in all sorts of radio clubs and functions and meetings and joined to ranks of SOWP (Society of Wireless Pioneers) and, of course, QCWA. Currently John writes the ARRL column for *Auto Call*, the popular multi-club newsletter in the Washington area.

Annie, who had been ill for some time, died last January. She was a popular lady. She accompanied John to QCWA board meetings, and her presence at John's side is missed by all of us. Their two children are married, and live not far away. Son Gail is a computer guru in Allentown, PA, and daughter Marla, works for the Interior Department in Washington.

John's a special guy to watch at board meetings. He sits up at the corner of the front table, in command of his space, very alert, taking notes and keeping a recorder aimed at the proper speaker. Result, he gets his minutes out fast, and right, plus providing an enormous stream of information flowing to the board, always with good humor and a calmness we all appreciate. Keeps us on our uppers to stay with him.

An admiring salute to you, John, member and Secretary par excellence. We're are glad to call you One of Us, the Proud, the Many, the Elite, the QCWA.

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

# YLs on the Air

**Kay Eyman, WAØWOF**
Rte. 2, Box 366 • Garnett, KS 66032

### Activities

13-15 Sep — YL Island on the Air (Buckeye Belles)

28-29 Sep — 25th JLRS Party Contest (SSB)

5-6 Oct — 25th JLRS Party Contest (CW)

9-11 Oct — YL Anniversary Party (CW)

23-25 Oct — YL Anniversary Party (SSB)

### YL-ISSB

Three major YL meetings were held during June and July. Phyllis Shanks, W2GLB, sent coverage of the first one, the YL-International Single Sidebanders' meeting.

Celebrating their 33rd year of operation, the YL-ISSBers held their annual convention in West Lafayette, Indiana, on 14-16 June, 1996. Early arrivals were treated to a barbeque at the home of Rene, VP5RW, and Margret Weber, WB9USL.

The next day, the group visited Conner Prairie, which depicts life in an 1836 village, and on Friday, they visited Tippecanoe Battlefield, where they learned a bit of history about this famous battle. That night they went to Wolf Park, a research and education wildlife park to learn about the wolves' social structure and their role in the wild.

When instructed to howl at the wolves, they were answered by the wolves from several different points.

On Saturday morning, the annual business meeting was presided over by Marion White, WA6TGR. Suggestions for improving system operation during this period of depressed sunspot activity were discussed, applications for the YL-ISSB scholarship were revised, and additional system controls were signed up. Dick MacWilliams, KA3CDQ, offered to host the 1997 convention in Maryland, with the place and time to be announced.

Diana Shattuck, the daughter of Darlene Kokinakis, WB7DZX, won the YL-ISSB scholarship. The Top Flight Operator of the Year trophy went to Rene Van Brugge, KA8TGK, and the Rigel Trophies were awarded to Karen West, KB8NSA, and Dwayne Randle, VE3DZR. The President's Plaque went to Gene Iwaschuck, VE6ELI, and Jim McChesney, WAØPFV, received the 15 x 15 award. Bill Champagne, VY1AU, won the ZL Award.

A farewell breakfast was held on Sunday morning, and as members said their good-bys, packed their cars, or caught the airport shuttle, all were looking forward to next year!

### Berlin YL World '96

Over 160 YLs and OMs from 17 countries attended the Berlin YL World '96 meeting on 20-23 June, 1996. Seventeen countries were represented, including 11 European, 3 Asian, 2 North American and 1 South American. The chief organizer was Gertrud Szyza, DK8LQ, and she was aided by Christa Elksnat, DJ1TE; Anni Glasstetter, DH2IAH; Hilde Mohringer, DL5UF, and Isolde Unger, DF4ZX. Gertrud's OM Horst, DJ9FC, and Gunter, DJ2SL, and Friedl Meissner, DK6FM, also provided invaluable assistance on many occasions.

**YLs in Berlin. Pictured left to right: Judy Chomer, 4X6SJ; Nellie de Lazard, XE1CI; Christine Dons, GM4YMM; Kaneko Okawa, JN2WHR and Friedl Meissner, DK6FM.**

DAØYL, the special event station was on the air Wednesday, with a top-of-the line transceiver and amplifier, provided by Yaesu, which was later donated to the Berlin Amateur Radio Club. The meeting officially opened on Thursday, with registration, coffee, and sightseeing walks in Berlin. Early the next morning, there was a bus trip to the Spreewald region with a boat trip through the canals. The YL Forum was scheduled later that afternoon, and everyone appeared in their official Berlin YL World '96 t-shirts for personal introductions, coffee and pastries, and a group photo.

The YL-OM banquet was held Friday night, and some of the highlights included a beautiful Korean fan

dance; a video of the Asian YL Meeting '93 that Gunter, DJ2SL, had made; special music by several participants, and Unni Gran, LA6RHA, presented a slide show of the three-YL DXpedition to Svalbard this spring.

On Saturday there was a tour of Berlin, Potsdam, and the Sans Souci Castle, ending with dinner aboard the M. S. *Mark Brandenburg* and a moonlight walk back to the Berlin Hilton.

### Berlin to Friedrichshafen

Fifty-nine YLs and OMs boarded a bus on Sunday morning for an unforgettable tour of Germany, on the way to Ham Radio, the big international meeting in Friedrichshafen, which was held on the next weekend. Some of the places we visited were the church where Martin Luther posted his theses in Wittenburg; Goethe's summer home in Weimar; Buchenwald; the Kyffhauser Mountains, where we went down to the Barbarossa Caves and then up to the top of the Kyffhauser Memorial; Wartburg Castle; a cathedral in Fulda; a guided tour of Koblenz; a winery for a wine-tasting; a boat trip on the Rhine, from Koblenz to Bacharach; the Heidelburg Castle; and in the Black Forest country, we were guided through a centuries-old farmhouse and outbuildings.

Along the way, we were very warmly hosted for coffee and refreshments at the homes of Edith Gillrath, DF7WU, and her OM, Addie, DF3WU, in Koblenz, and Christa Elksnat, DJ1TE, and her OM Joe, in the Black Forest region. We arrived in Friedrichshafen Friday evening, and were invited to the home of Zita DL4GA, and her OM Willi, DL9ZZ.

It was Willi's birthday, and tables were set up in the backyard. Gertrud had supplied each of us with a birthday candle to light and then Willi came through the crowd to put each one out. Three musicians played lively music as we devoured huge platters of sausages, pitchers of beer, wine, and ice cream. There was group singing and then a long line of dancers formed as we all helped Willi, who just retired last year as the primary organizer of Ham Radio, celebrate.

Everyone was anxious to see Ham Radio and we arrived early on Saturday morning. I think everyone thoroughly enjoyed their time here, and details of this meeting will be in *Worldradio's* November issue. On Sunday morning, we boarded the bus and had another full day of sightseeing as we drove back to Frankfurt, the end of our journey. Our thanks go to all who helped with Berlin YL World '96.

**Edith Gillrath, DF7WU, and her OM Addi, DF3WU, greeted guests in the aprons given to everyone by the Korean YL Club.**

### YLRL

President Marti Brutcher, N6XDS, and newly-appointed Vice-President Nancy Hall, KC4IYD, greeted members at the Omni Hotel as the SAYLARCs hosted YLRL's 13th International Convention in Albany, New York, on 11-14 June, 1996. Over 60 YLs, including Helene Wyss, HB9ACO, attended. Miriam Lamb, AA2DX, loaned her call sign to the special event station on the 14th floor of the hotel, and AA2DX was in operation almost continuously.

After registration on Thursday evening, refreshments were served in the Hospitality Room, and Helen Drake, K5ECP, spoke about QCWW. The first of several prize drawings was held.

On Friday morning, the group took a bus trip to Hartford, Connecticut, and was given a tour of ARRL headquarters, with the opportunity to operate from W1AW. Back in the Omni Hotel that night, Arline Berry, N1OMA, gave a slide presentation detailing her work with the Girl Scout merit badges, and more prizes were drawn.

Marti, N6XDS, hosted a working breakfast for YLRL officers and appointees early on Saturday morning, and the forum and business meeting opened at 9 a.m. Marti announced the recent scholarship fund drive, chaired by Marte Wessel, KØEPE, had surpassed the goal of $3,600 and had raised $4,300. Marte was given a standing ovation for her unstinting devotion and hard work. Members voted to sponsor a participant in each of the two Handi-Ham Courage Center Camps, held each year, and to increase the annual YLRL Scholarship to $1,500. It was announced that the next YLRL Convention will be held on the West Coast in 1999 to celebrate our 60th anniversary and that the Buckeye Belles have offered to sponsor the next one in 2003.

Steve Mendelsohn, WA2DHF, First Vice-President of ARRL, spoke at the banquet. Several YLs were recognized for their work on behalf of YLRL, and the evening closed with a poem, composed and read by "The Rowdy Bunch," which summarized the meeting. A brunch on Sunday morning concluded the festivities. Thanks to Convention Chairman Minerva Fronhofer, WB2JNL, and all the SAYLARCs who helped. WR

# 10-10 INTERNATIONAL News

Chuck Imsande, W6YLJ
10-10 19636

### 10-10 Day Contest

The new 10-10 Day Sprint Contest, will be held on 10 October. This new 24 hour 10-10 contest begins at 0000Z on 10 October and ends at 2400Z on the same day, 10 October. Remember you do not have to be a 10-10 member to participate. Use contacts to get your 10 contacts for 10-10 membership. If you are a member, use contacts made during the sprint to increase your BAR count, add counties to your County Award list or new prefixes to your WPX (Prefix) Award list.

The rules are basically the same as for any 10-10 QSO Party except that any mode of operation can be used; AM, FM, CW, RTTY, or SSB. The sprint begins at 0000Z on 10 October, and ends at 2400Z on 10-10-96. Complete rules are listed in the July issue of the *10-10 News*. Logs go to Don Zielinski, KØPVI #9902, 10-10 Contest Manager, PO Box DX, Genoa, CO 80818-0119, on or before 15 November 1996.

### 10-10 Internet update

The 10-10 Internet connection continues to grow with the addition of information on almost a daily basis. Chapter awards, contest information, and other information associated with 10-10 is being added regularly. Band openings have been regularly mentioned in real time to help members grab a few QSOs. The uses are endless — and are likely to increase as the band begins to open again. (The band will open again — won't it?)

To subscribe, send a message to: LISTSERV@LEHIGH.EDU with no subject (only a single letter if your system demands a subject) and this text: SUBSCRIBE TENTEN-L<firstname><lastname><call>. If you change servers, be sure to UNSUBSCRIBE via your old server before it dies and then SUBSCRIBE anew from your new server. If you have any difficulties, send an e-mail message to L.B. Cebik, W4RNL #41156, TEN-TEN-L coordinator at the following e-mail address: cebik@utkux.utcc.utk.edu.

### New Information Manual

A new edition of the 36-page, *10-10 Information Manual* is now available. This updated info manual has been updated with current information. A complete manual for all 10-10ers and potential 10-10 members, the new edition, dated September 1996, is available from the Mike, KF7ZQ for $1.00, post paid. Mike's address is listed below.

### New Friday Net Control

Jimmy Morgan, AE4NA #66957, has taken over the Friday 10-10 net on 28.380. The 10-10 net meets at 1800Z every day, except Sunday on 28.380 MHz. Another 10-10 net meets, also at 1800Z, on 28.800 MHz. Listen on either frequency at 1800Z, every day, except Sunday, for the 10-10 net.

### In Memoriam

The recent loss of John Hugentober, N8FU #16154, will be not only a great loss to 10-10 but to the Amateur Radio community as well. John was born and lived his entire life in Cincinnati, Ohio. John was first licensed in 1955, and participated in every facet of Amateur Radio. He was one of the DXCC field card checkers, a VE , the 10-10 8th Area Manager, and very active in his local radio club as well as their club station, K8SCH. Even though John is now an SK, the impact he made in Amateur Radio will be lasting.

New members from the 8th district, that is those with an "8" in their call, should now send their application for new membership to 10-10 International Net, Inc. 643 N., 98th Street, Omaha, NE 68114-2332.

### W6OI on the air

The 10-10 Club Station, W6OI, #109, is on the air each Wednesday at 1800Z as the 10-10 Net Station on 28.800 MHz. Net control for the Wednesday 28.800 net is Louise Chapman, N6ELK #36654. For a W6OI QSL card, send a SASE along with your card to N6ELK, 3210 Clark Ave., Long Beach, CA 90808.

### 10-10 Scholarship Winners

10-10 is honored to have awarded three $1,000 scholarships to three

deserving amateurs. The three receiving 10-10 scholarships were:

David A. Case, KA1NCN #41751 from Hampton, CT. David was recommended by 10-10 member George Bombria, W1WRN #51294, who describes him as one who thrives on learning from others as eagerly as he shares his own experiences and knowledge.

Joanna Gallant, KB2EJP, of Monsey, NY. Joanna was recommended by 10-10 member Richard O'Brien, NJ2J #14119, and says she hopes to enter one of the health professions and has added the study of English to have a well-rounded education. She is attending Boston University.

Jason Handwerker, N1UEQ, from Lexington, MA. Jason was recommended by Joseph Fratto, N1RLO #65432. Jason is starting his final year in Chemical Engineering at MIT where he is an honor student.

The Foundation For Amateur Radio (FAR) made recommendations for a total of 56 sponsored scholarship awards, of which the three noted above were sponsored by 10-10. The three $1,000 10-10 scholarships were funded 100% from donations from members. The 10-10 membership should be proud to have been so active in putting the 10-10 scholarship funding "over the top" by making all of those voluntary donations.

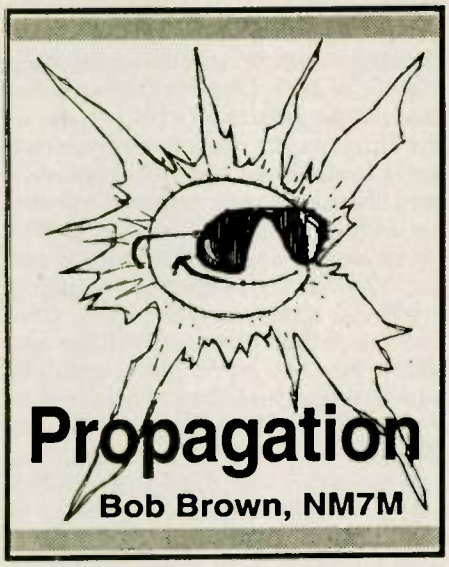
The scholarship fund for 1996-1997 is now under way and donations for the three $1,000 for the upcoming awards are now being accepted by the scholarship manager, Morrie, W6EHM #4189. If you would like to become a 10-10 scholarship volunteer by making a donation to the scholarship fund, please send you donation, in any amount, to Morrie Goldman, W6EHM, #4189, 10-10 Scholarship Manager, 21518 Marjorie Ave., Torrance, CA 90503-6814.

Make your check payable to the 10-10 Scholarship Fund. You will receive a handsome certificate of appreciation for becoming a 10-10 scholarship fund volunteer.

### Information about 10-10?

If you would like information about 10-10 and how you can become a member and receive your own unique 10-10 number, send $1 plus 2 first class stamps and an address label for the return of your information package to: Mike Elliott, KF7ZQ #54625, 10-10 Information Manager, 9832 Gurdon Court, Boise, ID 83704-4080. No SASE please, as the information package requires a 9 x 12 envelope. You will receive a copy of the 8 page prospective new member brochure which contains everything you want to know about the 10-10 organization, a listing of all 10-10 chapters, their day, time and frequency of net operation and an application form. Also enclosed will be a copy of the latest issue of *The 10-10 International News*, the 32 page 10-10 quarterly magazine.

If you have lost, or forgotten, your 10-10 number, the same as above to Mike will get you the information package along with your original 10-10 number. If your membership in 10-10 has expired, send your dues ($10/year) to: 10-10 International Net, Inc., 643 N. 98th Street #142, Omaha, NE 68114-2332. You will become an "active" member again and receive all of the benefits of 10-10 including the quarterly *10-10 International News*. Remember 10-10 numbers are issued for life and your originally issued number is always yours. WR




Let's pick up from where we left off last month — a valley in the night-time E-region and the question of making use of it for DXing on the 160 Meter band. The idea, of course, is to get signals rattling along in the valley, from one end of a path to the other end, without all the lossy ground reflections in between. As shown in last month's column in Figure 3, signals could go along between about 100 and 160 km altitude. Of course, there would still be some ionization in that region so the signals would not be "reflected" off of mirror-like surfaces. But instead of doing the "right thing," showing paths from a ray-tracing calculation, it is a lot easier at the discussion level to use those mirror reflections to illustrate the various possibilities. So let's do that for the moment and I'll sketch a ray or two later.

On the 160-meter band, we're dealing with RF around 1.8 MHz. At night, the critical frequency at any location can be anywhere from about 1.5 MHz to 0.4 MHz, depending on how far the sun is below the horizon. So the 1.8 MHz RF could penetrate the E-region if it was going vertically upward at a large angle I from the horizon. Now if one leaves out the earth's curvature and works in a "flat earth" geometry, the angle I from the horizontal direction is the same as the angle that the RF makes with the bottom of the E-region. That's just elementary geometry. Okay?

Back in September '94, I talked about the "effective vertical frequency" for RF incident on an ionospheric layer, just like the E-region above. The effective vertical frequency, important for how RF proceeds, is given by the QRG multiplied by the trigonometric sine of that angle of incidence I. Suppose the angle I is 30 degrees; the sine of 30 degrees is 0.5 so for 1.8 MHz the effective vertical frequency would be 0.9 MHz. Now, at night when foE is about 0.4 MHz, that means RF incident at 30 degrees would penetrate the E-layer peak and go on upward. So, for RF to be reflected, the effective vertical frequency would have to be 0.4 MHz or less; that means an angle incidence I of 14 degrees or less.

But we're interested in ducting in the E-region valley so our RF has to approach the E-layer at an angle a bit greater than 14 degrees; then it gets into the ducting region. But what happens to it next? Good question. Of course, in a region of lower electron density, it will keep going upward until it encounters an electron density in the F-region that is high enough to "reflect" it back downward again. OK, now away from a critical height like the peak of the E-layer, the term "plasma frequency" is used and the RF will be reflected downward from the upper portion of the valley when it encounters a plasma frequency equal to the effective vertical frequency. So far, so good.

We began by talking about a duct between 100 and 160 km and simplified the discussion by using the "flat earth" approximation. On that basis, the 1.8 MHz RF encountered the E-region about 400 km from the transmitter, reached the top of the duct after another 200 km and is now down at the bottom the duct after yet another 200 km, making a total of 800 km from the transmitter. What happens now depends on how the effective vertical frequency of the RF compares with the critical frequency foE 800 km down the path. If foE is too low, the RF will



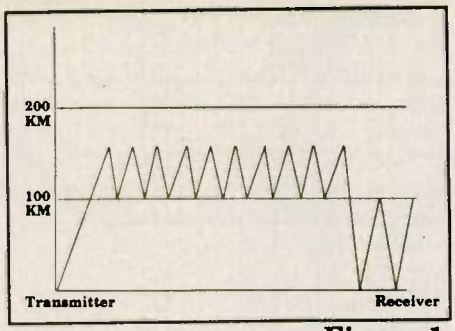



**Figure 1.**

penetrate the E-region and return to ground. On the other hand, if the foE is higher than before, the RF is reflected upward at the 100 km level and continues down along the duct. That is shown in Figure 1, although the vertical and horizontal distances are not to scale and the vertical scale is greatly exaggerated. The RF will continue moving along the duct, facing the same test every time it returns to the peak of the E-layer.

Now we have to ask the question of how the critical frequency foE varies along the duct. Thinking of the distance covered in Figure 1, you can see the question, whether there's a reflection or penetration at the second encounter with the E-layer peak, comes up at about 400 km from the first encounter? That's about 2,400 wavelengths along the path and it would truly be a wondrous world if the condition of the ionosphere at that distance were exactly the same as at the beginning. Put another way, the ionosphere is part of the earth's atmosphere and something as thin, tenuous and wispy as a gas is not exactly as solid and unalterable as a rock.

So we can expect foE to change, vary, fluctuate or whatever along the path and that will determine just how effective the E-region valley duct will be for 160-meter DXing. The nature of the ionospheric region is reason enough to expect foE to vary; add to that all the atmospheric motions that go with sunrise and sunset propagating away from the line of the terminator. If anything, one would expect foE to be more variable around the sunrise portion of the terminator, making the duct very "leaky" at that region. This is shown in Figure 1 where the signal leaks out and the hop just before reaching the receiver is an E-hop.

But 160-meter DXing is a fact of life so ducting through the valley, a regular feature of the nighttime ionosphere, has to be one of the propagation modes, along with

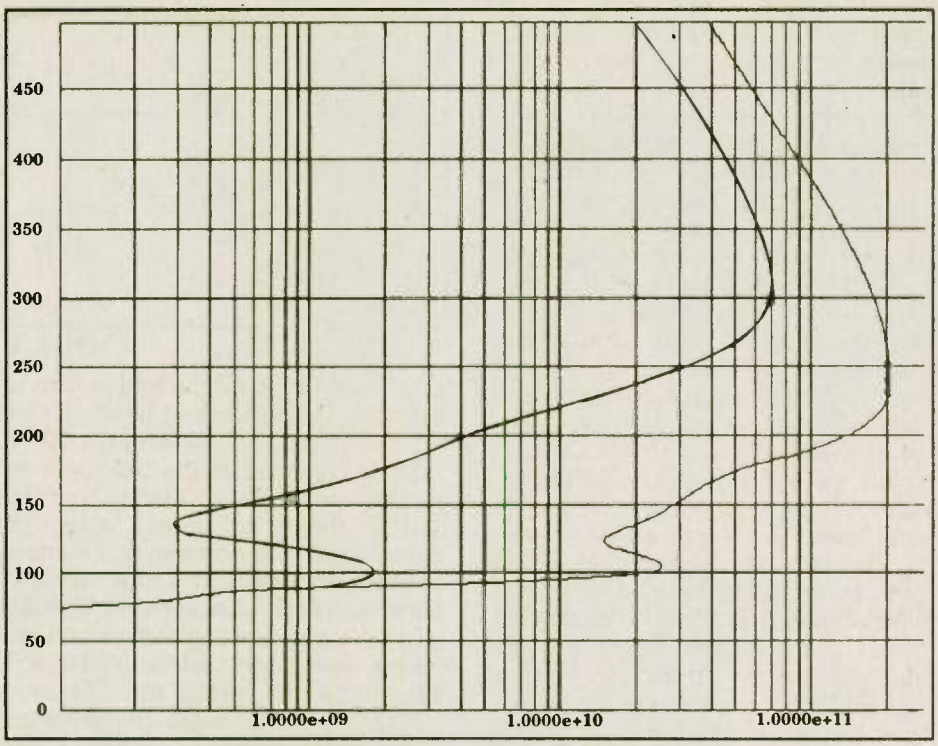



**Figure 2. Electrons/cubic meter**

earth-ionosphere hops, in effect at that time. Which one dominates is a question and that comes down to the matter of losses, signal spreading with distance and signal loss with ground reflections. There is still some absorption because of electron-neutral collisions, even in the dark, but while it's probably small compared to ground reflection losses, it should be considered too.

Well, that pretty well covers the basic ideas behind ducting in the E-F valley, as it's called. It opens after sunset, closes up at sunrise, even gets closed during magnetic storms. As I indicated, 160-meter waves bounce back and forth between two heights where the plasma frequency is greater than the effective vertical frequency. Since the foE values vary with solar illumination, I thought you'd be interested in the extremes of the valley, it's deepest in the dark of night and how it recovers, just before dawn. For that, look at Figure 2 where two electron density profiles are given for a difference of four hours of local time on a path between Japan and the East Coast.

Okay, that was for the valley; now let's take a look at the duct as a whole but at two extremes: 1) beyond the transmitter but at a time around sunset, before the duct is open there, and 2) toward the receiver site but after the duct is closed with sunrise at the far end. The path between JA and W1 is about 12,500 km long and Figure 3

gives a composite view of the duct for those two situations, a vertical slice of the ionosphere showing how lines of constant plasma frequency, i.e., electron density, vary with height along the path.

The transmitter in Japan is to the far left and the first 5,000 km of the figure show how the plasma frequency values vary, from 0.2 MHz to 1.5 MHz in 0.1 MHz steps, before the duct is open from JA. The receiver is on the East Coast of USA, at the far right of the figure, and the part beyond 6,000 km shows how the plasma frequency values vary along the path after the duct has closed at the W1 location.

In talking about ducting on that path, we used 0.4 MHz as the foE value and the effective vertical frequency of a wave had to exceed that, ever so slightly, to get into the duct. If that is the case, the wave will then be refracted in the region of low ionization and finally reach the upper part of the duct where it will be "reflected" back downward. So it goes, up and down, and this state of affairs is also sketched on the left of Figure 3, showing a ray path which starts about 1,000 km from the JA location, at a point where the local time is later and also the valley/duct has formed to the East.

The right side of Figure 3 is for a time after the duct closed at the W1 location but it includes a ray path approaching the end of the duct and dropping down to impact ground around 10,000 km distant from JA, 9,000 km from its point of origin. For the ray to leave the duct on reaching the bottom, the foE value there would have to be less than the effective vertical frequency of the wave at that point, just like the initial entry into the duct. Indeed, the foE values along the bottom of the duct are crucial to the entire process, letting waves into or out of the valley region at the beginning and end, possibly at other bottom points along the path, making for a "leaky duct."

So that brings up another question, how foE varies along the duct, at different distances and times. Now from the standpoint of the origin of the ionization, one would expect greater levels of ionization or foE values for locations in the duct which are nearer the sun, say close to sunset and sunrise. Beyond that, there is the matter of the variability in the level of ionization at various times for a given location. The experimental data is rather meager, suggesting up to about +/-5% under normal conditions. That is enough to get a small range of radiation angles of signal into the duct; the rest of the antenna pattern will go forward via the usual earth-ionosphere hops.

In saying the foE data on variability is meager, I really mean that not much work has been done using ionosonde frequencies in the broadcast band. So data at higher frequencies is extrapolated downward to use in discussing these questions. And there is still the question of how much influence atmospheric wave motions coming up from below 100 km can have on the ionization density there. Any increase in the level of ionization would serve to defeat entry of 1.8 MHz waves into the E-F valley duct; that's one concern. And for paths that go across high latitudes, there's the question of auroral bombardment; there, incoming auroral electrons give rise to ionization by collisions and if that takes place over a region where a valley might be expected, the duct could be filled up with auroral ionization. But like everything else in this world, that will pass too.

So now you can see how DX can be worked down on 160 Meters. It is tough because of all the ionospheric absorption and demanding because of the late hours required, just looking for an open duct. But they tell me it's worth it. For me, the 160 Meter band is still a sacred place, where I got my start in Amateur Radio. Maybe DXing existed on the band then but I'm not sure as I only cared about learning CW. WR

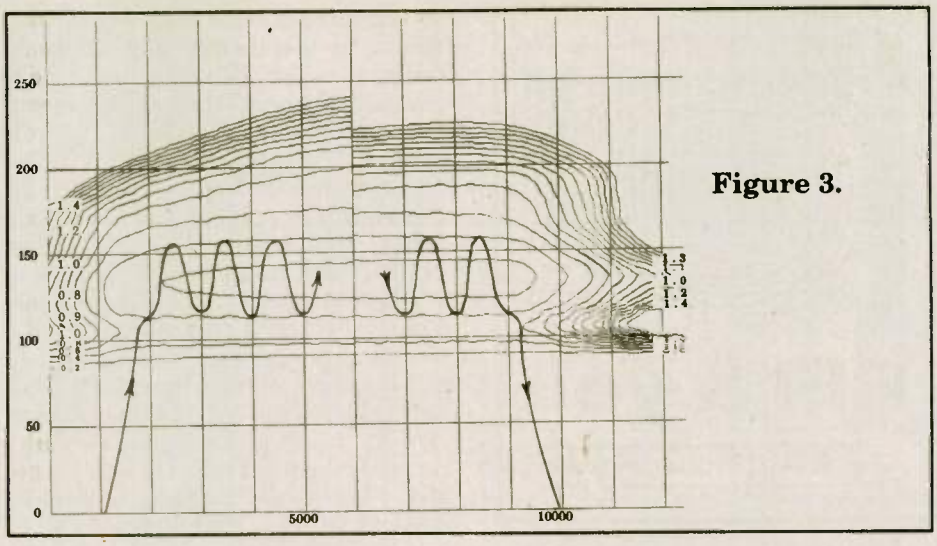
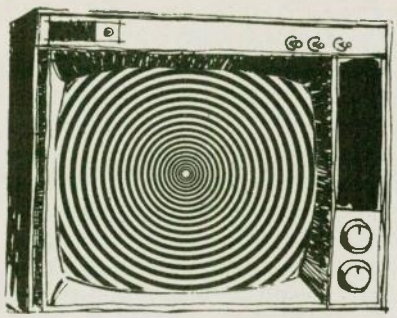



**Figure 3.**



# RFI & you

Jack Althouse, K6NY

She called from Dallas. Her voice was pleasant but she was worried. As she explained the problem I could see why.

She was a writer who got story tips from correspondents around the country. They called her answering machine and left messages. But her next door neighbor was a lady who talked on CB all day long, and her voice came in loud and clear on the answering machine. Many of the callers, hearing her voice, thought they were talking to someone. Callers were confused, messages were lost, the telephone company's efforts failed, the FCC couldn't help, she was getting desperate. Could I suggest something? Anything to get rid of that CB woman.

I thought that a split bead or two might do the job. I recommended a Palomar FSB-1/4; these are "Ferrite Split Beads," inch-long blocks of ferrite with a quarter inch diameter hole. They've been split in half lengthwise so you can place them over a cable, mate the two halves together again, then tape them in place. This way you can get a bead over a cable that already has big plugs, or a telephone, on the end. The telephone cable will go through the hole a couple of times.

She ordered two and I sent them to her. Case solved, I hoped. A week later she called again, and told me that they didn't work. She put both beads on the telephone cable and the CB lady was still there. I thought for a minute then asked her if there were any other wires coming out of the answering machine, a power cord for example. "Yes," she said. "There's a wall plug power cord." "Try putting one of the beads on that cable," I suggested. "Okay, wait a minute," she said. There was silence for awhile then she was back quite excited. "She's gone! She's gone! She's gone!" she said. "As soon as I put that bead over the power cord she disappeared."

I'm always in the wrong place at the right time. Here I was in San Diego. Had I been there in Dallas I'm sure she would have given me a big kiss. As it was, she thanked me profusely, and I had made a lady very happy.

Why did I tell you this story? For several reasons: 1) because it shows how $5 worth of ferrite beads could do what the telephone company, and the FCC were unable to do. It worked so well, that to the lady, it seemed like magic, 2) at first it looked as though the beads weren't going to work at all, but by experimenting and moving the beads around, a CURE was found, 3) there may be more than one PATH the interfering signal is using to get into the RECEPTOR. And you can't tell by looking which PATH is causing the problem. Maybe several of them are. Check every cable that goes into the RECEPTOR, 4) This is a clear illustration of two common PATHS in the average building. Telephone wires tend to be long and unshielded; perfect for picking up HF signals. Power wiring also runs throughout the building and may have considerable length outside that is elevated and close to your transmitting antenna.

## Frequently Asked Questions

Q. When I put a bead over a telephone cable it stops the interference from my transmitter. But does it affect the voice signal coming into the telephone or my modem signals going out?

A. No. Not in the least?

Q. Why not?

A. Because the voice and modem signals are differential mode and the RFI is common mode.

Q. Can you put that into plain English?

A. Yes. Look at Figure 1. The arrows show the direction of current flow in a differential mode signal. This is the way currents flow in a twin-lead transmission line or in a telephone line. At one end of the line is the generator (this could be your transmitter or a telephone microphone). At the other end is the load (this could be your antenna or the telephone ear piece). Current comes out of the generator, flows to the load, through the load and back to the generator. It goes one way in the first wire and the other way in the second wire. Reminder: It takes two wires to carry electricity.

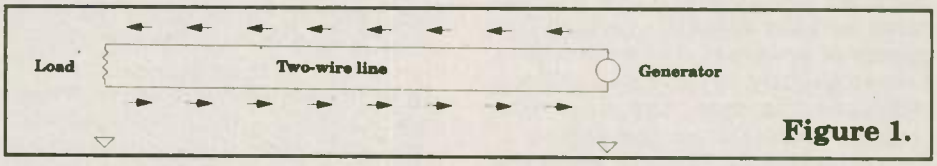



**Figure 1.**

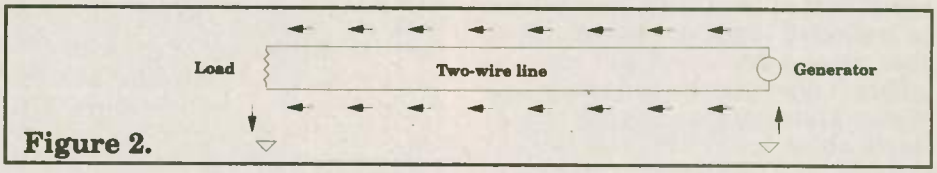



**Figure 2.**

So what happens if we put a ferrite bead over the cable? The current in one of the wires produces a magnetic field that goes through the bead. But the current in the other wire produces a magnetic field in the opposite direction that cancels the first field. The bead sees nothing and has no affect on the differential mode signal.

Now look at Figure 2. The interference signal current flows in the same direction in the two wires. Why? Because both wires have been exposed to the same RF field. We call this a "common mode" signal. The two wires of the line are just one conductor as far as a common mode signal is concerned. Where is the return path? Ground!

The ferrite bead over the cable is over just one wire as far as common mode signals are concerned. The common mode current produces a magnetic field that goes through the bead. But there is no opposite current to cancel the field because the return current is down there in the ground. So the bead, which lossy at RF, turns the field into heat thus getting rid of our RFI.

So that's how ferrite beads get rid of RFI without affecting the desired transmissions at all. WR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# QRP Homebrew Data-mania

We've been warned not to judge a book by its cover.

In the case of *The Electronic Data Book for Homebrewers and QRPers*, though, make an exception.

On the front of Paul Harden's, NA5N, 150+ page spiral-bound reference book is a tidy QRPer's bench. Test gear neatly arranged. A Hands GQ-40 QRP transceiver has its hood up. There's some thoughtful tinkering going on.

A spit-and-polished power supply, RF signal generator, oscilloscope and voltmeter are on duty in this clinical setting. Waiting in the wings for analysis are MFJ's 9420 SSB Travel Radio and Oak Hills Research's Explorer II CW transceiver.

It's all cool, calm and collected in an electronic sort of way.

Flip to the back cover, though, and you're treated to — we suspect — a dose of QRP bench reality at NA5N.

Same setting. Same camera angle. A much different scene.

Parts — hundreds of them — are strewn everywhere. Test gear probe cables snake in all directions. A schematic lays in the seat of the chair.

A telephone receiver dangles from the handle of a half-opened desk drawer. Maybe there's some inductance happening. Remember the first rule of winding toroids? "Take the phone off the hook before you begin. Nothing's so important that can't wait until you've got those 60-turns of No. 26 wire firmly in place."

Looking closer, there's a half-eaten banana sitting in the drawer of a parts cabinet. Part of a sandwich joins the GQ-40 transceiver in the center of the shot. Apparently, when you're on a roll you can't stop to eat.

Solder, hand tools and general workbench clutter reigns everywhere.

A label across the top of the back cover reads: "The Data Book for the REAL Homebrewer's Workbench. . ." It's a picture of organized chaos many of us can relate to.

This window on two worlds reveals something important about *The Electronic Data Book*'s author: Experience was his teacher. Paul Harden has spent an awful lot of time probing the innards of QRP gear, studying and collecting components and gathering tons of information. In modern day parlance: He's been there. Done that. And readers of this top-flight reference book are the beneficiaries.

"Where a particular component once had two or three variations, now there are dozens," the author writes in the preface. "Just obtaining the basic information on common components has become a real challenge for the hobbyist. It is for these 'homebrewers' — and those without access to the industrial data books — that this data book was prepared."

Harden's work is nicely categorized in five data-crammed sections:

- QRP Rig Circuit Analysis (a treatise on the theory of operation and circuits in some popular NE602-based QRP CW transceivers. The information first appeared in a four-part series in the Colorado QRP Club's journal *The Low Down* in 1995).
- Electronic Component Data Sheets (physical and electrical specifications, application notes, selection guides and parts identification of discrete electronic components).
- Specific Component Data Sheets (data sheets of specific electronic components, integrated circuits and monolithic assemblies, including application notes and common circuits).
- Appendices (other reference data and operating aids for the QRPer).
- QRP Rig Lab Tests (bench test data on several popular transceivers NorCal/Wilderness Radio's NorCal-40, Small Wonders Labs' GM-20, Oak Hills Research's Explorer II, EMTech's NW8020/20, Kanga US's Hands GQ-40, and MFJ Enterprise's MFJ-9030).



For the rank homebrew beginner and the seasoned veteran alike, Harden's *Electronic Data Book* is a must-have reference. From learning the intricacies of how and why QRP transceivers work, to the minute detail on hundreds of components ranging from capacitors, diodes, connectors, and resistors to nuts, bolts, toroids, variable inductors, potentiometers, switches of all kinds, transistors, voltage regulators and more — it's all here.

Harden also added some QRP operating aids, including log sheets, Worked All States checklist, Q-signal listing, and even grid sheets and formatted design pages for the aspiring circuit doodler.

Nestled in the back of Harden's work is Rich High's, WØHEP, *The QRP Yellow Pages*, a wonderful addendum to the mountain of data that precedes it.

After all, what good is all of the knowledge about specific components and how to use them if there's no way to get your hands on the real thing?

High, veteran QRPer and president of the Colorado QRP Club, has assembled 24 pages of parts and kit sources, manufacturers, and a comprehensive listing of QRP clubs worldwide.

Yes, *The QRP Yellow Pages* are really yellow. Several are devoted to parts/manufacturer cross-reference pages, where running your finger along grid lines quickly matches component needs to a source company's name.

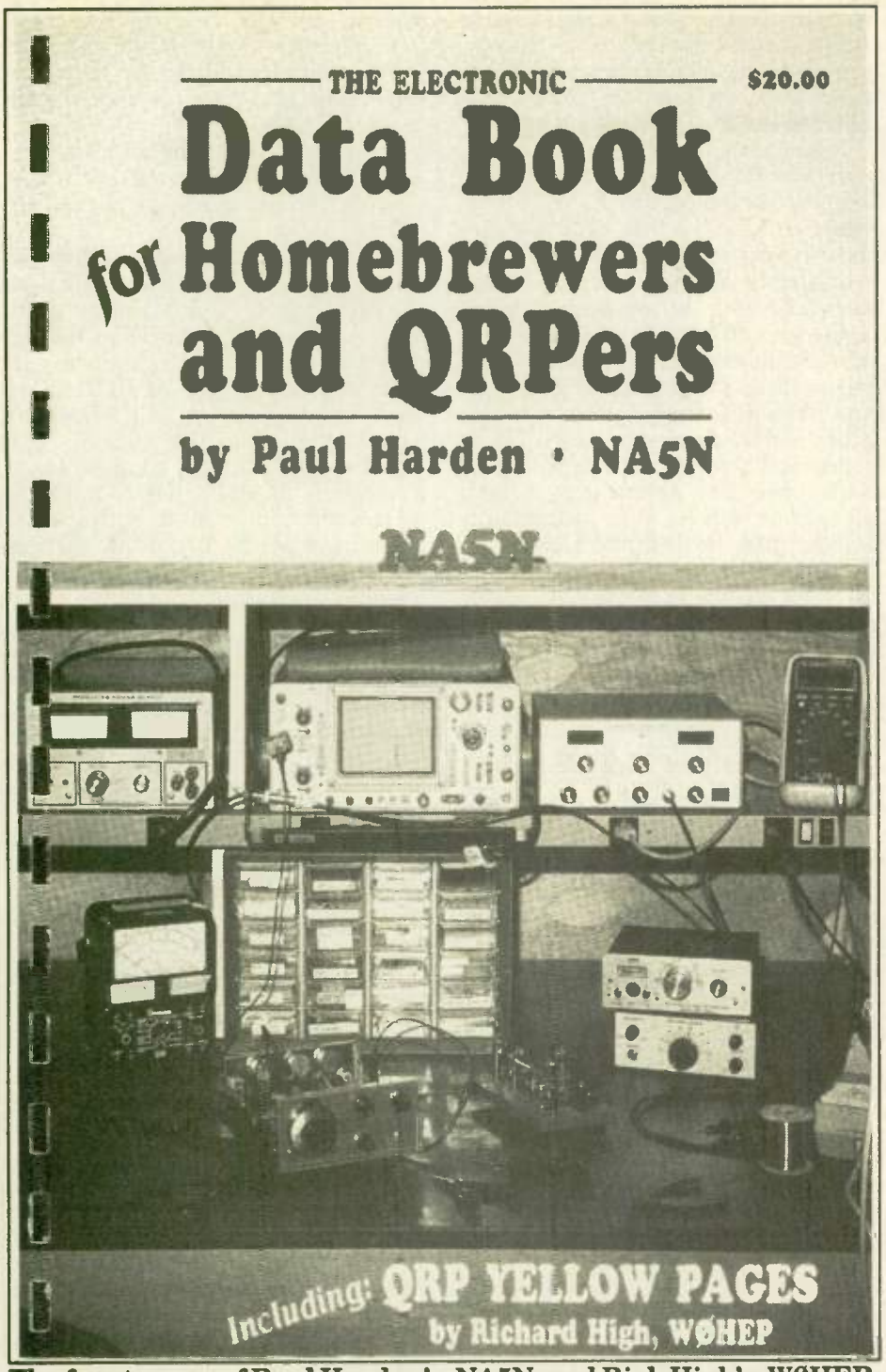
Companies are then listed alphabetically, with complete mailing information, telephone numbers, World Wide Web addresses and office hours included.

Take it from one who has done his share of parts scrounging: *The QRP Yellow Pages* leaves no component unturned. This is about as comprehensive a list of parts sources as you'll find.

The data book-yellow pages' physical size (5.5 inches by 8.5 inches) is testimony to just how workbench-friendly it is — inside and out.

*The Electronic Data Book for Homebrewers and QRPers*' with *The QRP Yellow Pages* is $20 plus $3 for shipping and handling for domestic orders; $25 postpaid for orders outside the United States.

It's available from Five Watt Press, 740 Galena Street, Aurora, CO 80010-3922. The publisher can




**The front cover of Paul Harden's, NA5N, and Rich High's, WØHEP, new book for QRPers.**

also be contacted via e-mail at QRPBOOK@aol.com or by fax at 800/44-0740.

The QRP Club of Great Britain, CW Operators QRP Club (Australia), Kanga US and Gateway Electronics sell the book, as well.

As an avid builder, *The Electronic Data Book* and *The QRP Yellow Pages* fall into the category of "required reading." Harden and High's book has found a permanent home in the KI6SN reference library, and their promised second edition is eagerly awaited.

## More on the "ONER"

Bill Kelsey, N8ET, who heads Kanga US, the Findlay, Ohio-based QRP kit supplier, writes that after seeing the July '96 ***Worldradio*** QRP column, he wanted to pass along some more information about the classic "ONER" QRP transmitter and its classic cousins.

"The ONER was originally designed by GM3OXX and published in (the QRP Club of Great Britain's journal) SPRAT No. 45. The ONER VFO was designed by G3ROO and published in SPRAT No. 53. The receiver (by G3ROO) followed in SPRAT No. 54, along with a QSK board in issue No. 56, and a Low Pass Filter in issue No. 62.

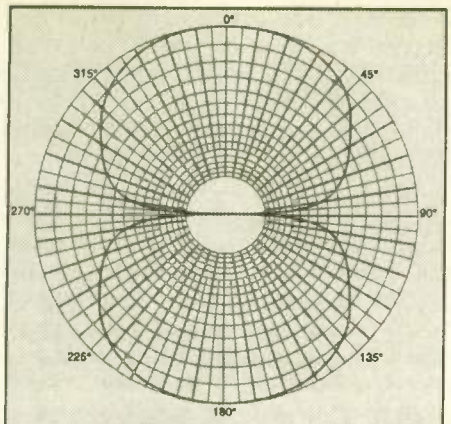
"The complete ONER Transceiver (all 5 units) is available from Kanga for $70. Assembly of each board is not too difficult — mounting all 5 boards in a small space is a bit of a trick!"

"The receiver is a direct conversion type, and uses the VFO as the local oscillator. The Kanga kit comes with L/C parts for 80 Meters, but by changing the L/C values, it can be put on any band between 160 and 20 Meters.

"The VFO actually uses an onboard trimmer as the main tuning capacitor. The documents suggest filing down a knitting needle and epoxying it to the trimmer to bring it out to the front panel. I normally mount a regular variable cap off the PC board and use it for frequency control."

If you're interested in learning more about the ONER series of kits, or want information on Kanga US's complete line of projects, send $1 or two units of first class postage for a catalog to: Kanga US, Bill Kelsey, N8ET, 3521 Spring Lake Dr., Findlay, OH 45840.

There's also a Kanga US internet site: http://qrp.cc.nd.edu/kanga/ WR




# AERIALS

## Kurt N. Sterba

Maybe it's time to replace the dipole, (which we have all come to know and love) as the basic antenna.

There is something else that in many respects is much, much better, and that is the quite-neglected one-element loop.

First, let's look at the starting point formula: 1005 divided by the frequency in MHz. Here's an example of the equation: 1005/14.2 =70.774 ft.

Here's where it starts to get really interesting. While all are familiar with the square (equal on all four sides) loop, which in this case would be 17.693 ft. on a side, here comes the twist. Take the 70.774 ft. and divide that by three. The answer is=23.591 ft. Then divide that by two. The answer is 11.795 ft. We are now going to make a rectangular loop in which the top side is 23.591 ft., and the bottom wire is 23.591 ft. The two vertical wires are 11.795 feet each. This is fed with coax in the middle (5.897 ft.) of one of the vertical wires. Some writings predict the feedpoint impedance will be 46 ohms.

What is the purpose of all this and what are we trying to accomplish? If you are (for any number of reasons) restricted in the height of your antenna, ("altitude challenged") this will be of some help.

According to the preeminent antenna theoretician Karl von Klausewitz, a dipole antenna (or inverted-V) one-quarter wavelength above ground will have a radiation angle of 90 degrees, which is straight up. Your signal will go straight up and straight down. Thus, it will take a whole lot of hops to get to Europe and there is lots of loss each time the signal strikes the ionosphere and the ground.

To the rescue comes the loop. However, according to von Klausewitz, a loop fed at the center of the bottom wire (with the top wire being a quarter-wave above ground) the main lobe will also be straight up. But, if the loop, (still with the top wire 1/4 wave above ground) is fed at the middle of one of the vertical wires, the main lobe will be at 30 degrees. There is one huge difference between 90 degrees and 30 degrees as far as DX is concerned. You will work far more DX with a new loop at the same height as your old dipole. Also, instead of a 33-foot span dipole for 20 Meters, all you need now is a wire a bit less that 24 ft. for the top wire. We have made the loop rectangular (2:1) so as, instead of seeing a 100 (or more) ohm feedpoint (as is the case with the square loop), this will (depending on wire size, insulation, location) present a near perfect match. Elsewhere in the literature you may see claims by the knowledgeable that the top wire is the one which is referenced to in "Height Above Ground." In the usual (square) configuration of the quad most authorities seem to agree that the halfway-up point is the reference. After a great deal of exhaustive research at the KNS RF Laboratory we have concluded that for the rectangular (2:1) loop the reference point is at the feedpoint, halfway up the vertical wire.

And, contrary to what you may have read elsewhere, the rectangle has more gain (ever so slight) than a square loop.

Let's go off on a tangent looking at other bands and then we'll return to measurements made on a real antenna.

Many are quite pleased if they can get an 80-meter dipole (or inverted-V) up 66 feet. That's pretty good. But wait, an 80M dipole at 66 feet has the exact same radiation pattern as a 20M dipole at 16 ft. above ground (straight up) (big whoopee). But what if, instead of a 123-ft. span of wire in the dipole configuration, there was an 88-ft. horizontal wire at the top and an 88-ft. bottom wire separated by the two 44-ft. vertical wires completing the 2:1 rectangle? Feed at the middle (22 ft.) of a vertical wire. Even if you can't get it up quite that high, remember that the loop (at any height) will offer useful improvement over that same height dipole. Working the formula backwards, 88 x 2 and 44 x 2=264 and dividing 1005 by 264 we have a frequency of 3.806818 MHz.

Let's look at the 40M figures. We have 1005/7.2=139.583 ft. The two horizontal wires would be 46.527 ft. long and the two vertical wires would be 23.263 ft. The feed line would come in at 11.631 ft. up one side. You would like to get that top wire up at least 34 feet (1/4 wave) above ground. As always though, the higher the better.

A test antenna was built for 20M using the dimensions at the beginning of this article. The 23-foot telescoping fiberglass poles from Antennas West proved just perfect for the exercise. In this case, for 20M the feedpoint (rather than the top wire, even better) was 1/4 wave above ground. The feedline from antenna to station should be horizontal as far as is practical.

To insure the quality of the test, brand new Certified Quality 4XL coaxial cable was cut to two times a half-wavelength (velocity factor 82%) as measured by a Palomar Noise Bridge. This was confirmed with an Autkek RF Analyst. Also, even though the coax was brand new, the cable was tested for loss. First, a Bird wattmeter was inserted between the transmitter and the feedline, with a dummy load at the end of the feedline. Then, the wattmeter was transferred to the end of the feedline to see the loss, as

measured in watts. That was converted to dB, scaled to dB per 100 ft. and compared to the published specs for the cable.

As the loop antenna is a balanced antenna and coax feedline is unbalanced, for best accuracy a Palomar 1:1 balun was used between the antenna and the feedline.

Here are the results of tests conducted at Radio Ranch. Please note that your results may differ. That does not mean that yours or mine are better or worse or right or wrong. Many factors affect the resonance and SWR characteristics of an antenna. The very same antenna taken down from one back yard and taken to another will measure differently.

The transmitter was set at 14.200 MHz and the Bird model 43 wattmeter was reading 50W forward power. In the reverse setting the reflected power read as zero watts. There was not even the tiniest flicker of the needle.

To double-check the results, the highly accurate Palomar Power/SWR meter was used. I've written about this terrific meter before. Instead of squinting at needles, or waiting for digits to change, this meter gives you instant (and I mean INSTANT) changes that you can see across the room. On the SWR side and the Power side there are light bars that follow your actions with tuners or amplifiers immediately.

In just the range from 1.5 SWR to 1.1 SWR there are six lights. Here are the results:

| | | | |
|---|---|---|---|
| 14.000 | 6 lights | 14.205 | 1 light |
| 14.012 | 5 lights | 14.230 | 2 lights |
| 14.035 | 4 lights | 14.257 | 3 lights |
| 14.060 | 3 lights | 14.282 | 4 lights |
| 14.085 | 2 lights | 14.305 | 5 lights |
| 14.110 | 1 light | 14.327 | 6 lights |
| 14.142 | 0 lights | | |

I first wrote about this meter after reading about a contester reporting how he spent the whole contest wondering why he was getting such a poor response to his calls. He admitted realizing (after the end of the contest) that he had been trying to pump 20M energy (by mistake) into his 40M antenna. That would not have happened if he had had the Palomar meter. WOW! There would have been 30 red light bars lighting up three inches of space a few feet from his face.

This is a rather majestic-looking antenna. We used both conductors of #18 (two conductor) speaker wire with transparent insulation. The sun hits the copper, and it looks like the real radio of days past. Radio Shack sells 70 ft. of non-insulated gleaming copper 14 AWG antenna wire for only $6.99, the part number is 278-1329 and it's beautiful. I might build some 600-ohm line with it. The spacing would be five inches between wires — a sight to warm hearts.

But, some will say, that's only 70 feet and the formula calls for 70.774 feet (at 14.200). "That's a difference of 9¼ inches" they will proclaim. OK, first, there is quite a bit of wire on the balun, 11 inches to be exact. Second, we trimmed a few inches off the loop to put the resonance where it is on our antenna and third: An SWR of 1.2 when running 100W represents 0.8W reflected — that is, 4/5 of one watt. That DL is not going to hear you (or not) because of 4/5 of a watt difference. I've often thought that the SWR mania would go away if the meters, instead of their present system, indicated percentage of power. Seeing 1%, 2%, 5% etc., would just cause big yawns (and justifiably so) instead of the reactions today.

To another subject: I was sent some printouts of antenna discussions on those computer argument channels. One ham was proud that his kluge was only 1.5 dB down from a good mobile antenna. Another ham berated him saying that he, over the years, had "sweated blood" to raise an antenna 1.5 dB and it was not a trifling matter.

I will go into this again. Obviously my earlier explanations have had no effect or the afflicted are not reading this column or believing it. Pretend you are having a hearing test. They have put a pair of earphones on you. You have been asked that when you perceive the very slightest, however small, volume change, to raise your hand. This is not speech waveform coming your way, it is not a two-tone test. It is but one single audio tone. You close your eyes and concentrate with all of your being, waiting to pounce on that volume increase. On the equipment the power is raised. It is raised some more. Finally you hear a difference. Giving it your full attention, under laboratory conditions, you hear a change. If you were Itzak Pearlman you would have raised your hand at one dB. Zubin Meta, 1.5 dB. The rest of us, probably two dB.

On 75 Meter phone rolling down the highway, forget it!

*(Next month Lil will appear with a discussion about the absolute swill in today's antenna books and keep you from blowing up your transmitter. Then Kurt will return with a novel antenna design.)* WR

# Contest Corner

**Don Durk, KA1DWX**
76226.1414@compuserve.com

## Beacon time!

**Propagation is up!**

We are into fall '96, and the propagation on 15 and 10 is improving a bit. So how do you know when to try 15 or 10? Beacons, my friends — that's right, beacons! A great place to locate these is *The ARRL Repeater Directory*. At $8, this is sure to cure those fall propagation blahs, and is guaranteed to make you feel like a new ham! If you're young enough to have plenty of memory, or if you are memory-enhanced with your rig, then just plug in a bunch of 10- and 15-meter beacon frequencies from varied directions and distances and scan away! You might surprise yourself with what you may discover. (No, it is not true that during the IARU test I used this method to work 40 or so Europeans on 10 and 15 at 3 a.m. Eastern!). See the accompanying table for a sample of the data.

Today's e-mail brought the early WRTC results. Compliments to all teams with kudos to the top performers — K1TO/KRØY; K4BAI/KM9P; K6LL/N2IC; VE3EJ/VE3IY and the blessings of a thousand saints upon all those who labored to make it happen! From the participating clubs, to those who provided QTHs to those who came from all over the world to participate! Thank you all for a great contest with the world's finest contesters! Oh yes, and thanks go to all of you who gave out a Q or two to all of the participants! Nice work all!

Most contests require separate logs per band, check sheets for over 200 Qs, a summary sheet and a signed/ dated affidavit attesting to observance of the rules of both the contest and your local regulating authority. Generally, NO WARC BANDS! A statement wherein you agree to be bound by the decisions of the contest committee is also needed. ASCII files are generally acceptable. All times are in UTC.

### *Late September 'tests*

(see September ***Worldradio*** for details)

***SAC SSB 'test**

28 September 15:00-29 September 18:00

(RS+number)

***CQWW/ADRS Journal**

Digital 'test

28 September 00:00-29 September 24:00

(US/VE-send RST+st/VE area+CQ zone; Others send RST+CQ zone)

### *October 'tests*

***EU SSB Sprint**

5 October 15:00-18:59

(Both calls + number+name) NO RS(T).

QSY Rule — if you initiate a Q via CQ or QRZ etc., you can work only 1 station on that frq and your next QSO or CQ, QRZ, etc., must be at least 2 kHz away. Single op only. Frqs. — 14.250; 7.050; 3.730. No suggestion from sponsors about how US stns can work split. Free EU Sprint contest software is available from DL2NBU and or IK4EWK. I suggest you send some$$ for postage and packaging, $5 seems to be apropos. TR by N6TR is easily adapted.

Contact N6TR or I2UIY pcortese @mbox.vol.it. Logs in 15 days via mail to I2UIY or in ASCII to eusprint@dl6rai.muc.de

***RSGB 21/28 MHz SSB 'test**

6 October 07:00-19:00

(RS+number: UK stns send county)

Q 1x/band. Wk UK only. Pts(3 per UK QSO) x (UK counties per band). Restricted or open classes. Restricted class is max of 100W out and antenna must be a single element with height no greater than 15 meters. QRP is 10W max out. Classes are: UK Open; UK Restricted; QRP; Overseas Open; Overseas Restricted; Overseas QRP; Overseas receiving. Use of packet or spotting requires multi op entry. Single op/ multi op. Logs in 16 days please! Std ASCII(No tabs or other control characters). Log file 1 logical line of data per Q w/ return character. G3UFY

***ARRL INT'L EME 'test**

26 October 00:00-27 October 24:00

This is a 2-weekend test, w/ 23-24 November the second weekend (both calls+report+ acknowledgment of calls and report)

Q 1x/band SSB/CW. 50 MHz and up. Score — pts (100/Q) x mults per band. Mults = U.S.+VE call areas+DXCC countries (not U.S./ Canada). Single op multi band/ single band// multi op-special rule-2 or more including neighboring amateurs within one call area but not greater than 50 km apart provided EME facilities for different bands on the different premises are present. Certs for even 1 Q via moonbounce. ARRL

***UCWC CW 'test**

5 October 00:00-08:00

(RST+name+UCWC number for UCWC members)

Q 1x per band 80-10. Score-Pts (1 pt for own continent, 3 for other continent) x mults(per band 1 for ea UCWC member QSO on10-20, 2 for each UCWC member on 40 and 80). Single op, multi band/multi op, single band. UA4YR.

***TN SSB/CW/Digital QSO Party**

5 October 18:00-7 October 01:00

(RS(T)+TN county for TN stns or state/ VE prov/DXCC

country for others)

Q 1x mode 80-2 Meters. CW-40 kHz up;SSB-3.900; 7.240; 14.280; 21.390 and 28.390. Novice/Tech-3.700; 7.130; 21.140; 28.140, 146.550. Score — pts (1 for phone, 2 for CW/digital) x mults (95 max TN counties or US states+VE provinces+ DXCC countries for non TN stns). Single op fixed;mobile; outside TN;multi op fixed; Novice/Tech. Certs. D.Smith, 1385 Old Clarksville Pike, Pleasantview, TN 37146-8098.

***F9AA Cup SSB/CW 'test**

5 October 12:00-6 October 12:00

First 12 hrs for CW, next 12 hrs are for SSB. (RS(T)+number+club name if club stn)

Q 1x per mode 160-10 Meters. Score — pts(club stns- 5 for same continent, 10 for different continent; other stns-3 for different continent, 1 for same continent) x mults (DXCC Countries + different clubs). Awards.Union des Radio Clubs, Coupe Fernand Raoult, 11 Rue de Bordeaux, F-94700 Maisons Alfort, France.

***IBEROAmericano SSB 'test**

5 October 20:00-6 October 20:00

(RS+number)

Q 1x per band 160-10 Meters. Score — pts(Latin American stns-1

pt per Q; non Latin American stns-3 pts per Q w/Latin American stns, 1 pt per Q w/ other non Latin Americans) x mults, sum from all bands (DXCC country list for Latin American stns. Others use:CE, CO, CP, CR, CT, CX, C3, C9, DU, EA, HC, HI, HK, HP, HR, HT, KP4, LU, OA, PY, TG, TI, XE, XX9, YS, YV, ZP, 3C and DXCC dependencies.)

Single op/multi-op single transmitter. Certs for 50 or more Qs. Plaques.Concurso Iberoamericano, c/o Concepcion Arenal 5, 08027 Barcelona, Spain.

***VK/ZL SSB 'test**

5 October 10:00 -6 October 10:00 (RS+number)

Q 1x/band. Wk VK/ZL/ Oceania. 80-10 Meters. Ok for Oceania stns to QSO other Oceania stns but not within the same country. Score — pts (For each VK/ZL/Oceania QSO 10 pts on 80, 5 pts for 40, 1 pt for 20, 2 pts for 15 and 3 pts for 10) x (1 mult for each VK/ZL/Oceania per band). Single op, all band/ single op, single band/multi op. Sep log/band. Logs in 6 weeks. ASCII log ok, but summary sheet must be on paper. Certs.ZL1AAS.

***CA QSO SSB/CW Party**

5 October 16:00 - 6 October 22:00 (RS(T)+number+state/VE prov or DXCC country for non CA or county for CA stns)

Q 1x per mode per band 160 - 2 Meters. CW — 1.805 and 40 kHz up; SSB — 1.850; 3.850; 7.230; 14.250; 21.300, 28.450. Novice 10 kHz up. Try CW on half hour.147.54 @20:00, 00:00 and 04:00.160@05:00. 75-80@03:00 and 05:00. Ok to Q CA stns agn when they change counties. CA stns on county lines count as 1 Q but multiple counties. Score: Pts (2 for phone, 3 for CW) x mults (number of CA counties{max 58}). 24 hr limit for single ops. Rest periods of at least 15 minutes noted in log. Band changes must be at least 10 minutes apart. Classes-single op; multi op, 1 tx; multi op, multi tx; CA county expedition; Mobile; Novice/ Tech. Logs w/ 200 or more Qs need dupe sheet. ASCII, CT-BIN w/ summary page to CQP-1996@kb.org or NCCC c/o Ken Anderson, K6PU, PO Box 853, Pine Grove, CA 95665.

***VK/ZL CW 'test**

12 October 10:00-13 October 10:00 (RST+number)

See VK/ZL Oct 5 SSB 'test

***PA SSB/CW/FM QSO Party**

12 October 16:00-13 October 05:00 and 13:00-22:00

(Number+county for PA stns or ARRL/RAC section/ DXCC country for others)

Q 1x per mode 160-10 Meters. CW-1810( around 03:00) and 40 kHz up.SSB- 1.850; 3.980; 7.280; 14.280; 21.380 and 28.310. Score — Pts(1 for SSB/FM;1.5 for CW and 2 for 80 or 160 Qs) x mults(PA counties {max 67} also ARRL sections and DXCC countries for PA stns). Mobiles on county line are 1 QSO credit but good for 2 mults. Mobiles add 500 pts for ea county where they generate 10 or more Qs. QRP stns multiply score by 2. Novice/ Tech multiply score by 3. Plaques+certs. W3HDH

*** YLRL CW Party**

Wednesday 9 October14:00-Friday 11 October 02:00

(RST+QSO number+state/ VE prov/DXCC country)

Q 1x/band. 3.5 - 28 MHz. Fqs:55 kHz up, 21.135, 28.195. Pts (US+VE YLs 1pt w/same including KH6 and KL7, 2 pts w/ other; Other YLs 1 pt same continent, 2 pts other continent) x mults (ARRL states/prov/ DXCC countries ) x 1.5 (CW 100 W or less, or SSB 200 W pep out or less). Certs WO6X.

***EU Sprint CW**

12 October15:00-18:59

See above - EU Sprint

SSB - 5 October

Suggested fqs.—14.040; 7.025; 3.550. Logs to OK2FD.

***FISTS CW Sprint**

12 October 17:00-21:00

This is a casual CW test.

(Name+state/VE province/ DXCC Country+ Fists number for members or power for non-members)

Q 1x per band 80 -10 Meters. Fqs.-3.558; 7.058; 14.058; 21.058 and 28.058.

Score-pts(5 for Q w/ member; 2 for non-member) x mults(1 per state/ prov/ DXCC country.K8OUA.

***IL SSB/CW QSO Party**

20 October 18:00-21 October 02:00 (RS(T)+state/VE province/DXCC country or county for IL stns)

Q 1x/band and mode.1.8 -28 MHz. Fqs.-CW-3.550, 7.050, 14.050 and 30 up for Novice/Tech/SSB-3.890, 7.290, 14.290. ILstns may Q other IL stns for Q and mult credit. /m may be worked in each county/mode. Pts (1/ SSB, 2/CW) x mults (total counties {max 102}, not per band or for IL stns states+cnties+VE prov+DXCC countries (max 5)). > 100 Qs need dupe sheet.Certs. Check rules for bonuses. SASE for results. RAMS, 3620 N. Oleander, Chic., IL 60634

***JARTS WW RTTY**

19 October 00:00-20 October 24:00 (RST+age if you choose)

RTTY, baudot only. Stns may use 00; multis may use 99. 3.5 -21 MHz. Score — pts(2/same continent; 3/diff. cont.) x mults (JA/VK/W/VE call areas + DXCC countries per band). Single op all band/ multi op multi band. JH1BIH.

***Work All Germany (SSB/CW) 'test**

19 October 15:00 -20 October 15:00

(RS(T)+number or DOK for German stns)

Q 1x/mode per band. Non-German stns Q German stns. German stns Q German and non German stns. 3.5-28 MHz. Pts(Non-German 3/QSO; German -1 pt/German; 3 pts/EU; 5 pts/DX) x mults- sum of per band mults. 1 mult per band not per mode. (German - DXCC/WAE country list; Non-German — German districts/ band = the first letter of the DOK exchange. Maximum of 26 per band). WAE countries:C3, CT1, CU, DL, EA, EA6, EI, ER, ES, EU, F, G, GD, GI, GJ, GM, GMSHET, GU, GW, HA, HB0, HV, I, IS, IT, JWBEAR, JW SPITZ, JX, LA, LX, LY, LZ, OE, OH, OH0, OJ0, OK, OM, ON, OY, OZ, PA, R1/FJL, R1/MVI, RA, RA2, S5, SM, SP, SV, SV5RHODES, SV9CRETE, SVMT. ATHOS, T7, T9, TA1, TF, TK, UR, YL, YO, YU, Z3, ZA, ZB2, 1A0, 3A, 4UGENEVA, 4UVienna, 9A and 9H.Multi op 1 tx; single op CW all bands; Single op CW+SSB all bands; Single op QRP CW+SSB all bands. DL1DTL.

***QRP ARCI CW 'test**

19 October1200-20 October 2400 (RST+st/prov/DXCC country+ ARCI number or power out)

Q 1x/band. 1.8 - 50 MHz. 3.560, 3.710, 7.040, 7.110, 14.060, 21.060, 21.110, 28.060, 28.110, 50.060. Max. op time 24 hrs. All band pts (5 pts/ ARCI member; 2 pts non member, same continent; 4 pts non member, diff. continent) x all band mults (states/provs/ DXCC countries) x pwr mult (>5W out x1; <5W out x7; <1W out x 10;<250mW out x15). Single band; all band; low band (160-40); high band(20-6).SASE for

results.N6GA

***ASIA-PACIFIC CW Sprint**

20 October 12:30-14:30

(RST+number)

Q 1x per band, 20 or 40 Meters. 150W power max. Score(1 pt per Q) x mults (prefixes per WPX rules — once only not per band). Possibles: 1S/9M0; 9M2; 9M6/8; 9V; BV; BV9-Pratas; BY;BS-Scarborough;C2; DU; FK8; FW; H4; HL; HS; JA; JD1/Ogasawara; JD1/Marcus; KC6-Belau; KH2; KH9; KH0; P29; T2; T30; T33; UA0; V6/KC6; V7; V85; VK1-9 (except VK9X+ VK9Y);VS6; XU; XV/3W, XX9; YB; YJ; ZL (except Chatham+ Kermadec). Only single op, 1 radio class. QSY rule — called stn must QSY at least 1 kHz after an exchange. T-shirts! ASCII ok. JAs to Tack Kumagai, P.O. Box 22, Mitaka, Tokyo 181, Japan. Non-JAs to James Brooks, 15 Balmoral Road 03- 08, Singapore 259801, Singapore

***RSGB 21/28 MHz CW**

20 October 07:00 -19:00

(RST+number: UK stns send county)

(See RSGB SSB 6 October)

***YLRL SSB Party**

Wednesday 23 October14:00-Friday 25 October 02:00 (RST+QSO number+state/ VE prov/DXCC country)

(See YLRL CW Party 9 Oct)

***CQ WW SSB**

26 October 00:00-27 October 24:00

(RS +CQ Zone)

Q 1x/ band. 1.8- 28 MHz. (Not WARC bands).You must sign portable if your call sign indicates a different zone or country than actual. Single ops need 12 hrs or more for awards; multis need 24. 10 minute rule and antenna details — CK RULES! Score — pts (diff continent 3 pts; own country pts but ok for mult; NA other NA countries 2 pts; Non-NA stns — same continent but different country 1 pt) x mults(ea CQ zone+ea DXCC country/WAE country per band)/mm=zone mult only. Single op all band or single band.

A1-single op high-no DX alerting assistance. A2-single op low-not> 100W out. A3-single op QRP-not> 5W out. A4-single op assisted. Multi op — all band only. B1-multi op 1 tx- 1 tx on 1 band during any 10 minute period, except 1 and only 1 other band may be used during any 10 minute rule if and only if the station worked is a new mult. B2 multi xmtr-1 signal and running station per band.

Team-any 5 ops in the single op category. You may be on only 1 team per mode. You may be on entirely different SSB/CW teams. Competing on a team does not prevent you from submitting your score for a club. A list of the teams members must be received by CQ prior to the contest's start.

FAX to CQ, Att: Team Contest, 516/681-2926. Club — at least 3 logs and club officer must report list of participants and scores.For awards single op must have minimum of 12 hours on; multi must have minimum of 24. Trophies, plaques and certs. Ck sheet for each band w/ 200+ Qs. Penalty for dupes or broken calls- up to 3%, 3 Qs removed for each error; for > 3% possible disqualification. Disks-IBM, MS-DOS compatible. Format CT.Bin for example-HS0AC.BIN or N6TR.DAT or your .DBF files.CQ.

## Beacons

| Freq | Call | QTH | Mode | Ant. | Polarity | ERP | Notes |
|---|---|---|---|---|---|---|---|
| 21.15* | W6WX | San Jose, CA | A1A | omni | vert | .1-100 | |
| 21.15* | ZS6DN | Pretoria, So Africa | A1A | omni | vert | .1-100 | |
| 21.15* | 4X6TU | Tel Aviv, Israel | A1A | omni | vert | .1-100 | |
| 21.15* | LU4AA | B.Aires, Argentina | A1A | omni | vert | .1-100 | |
| 21.15* | YV5B | Caracas, Venezuela | A1A | omni | vert | .1-100 | |
| 28.05 | PY2GOB | Sao Paulo, Brazil | A1A | omni | vert | 15 | |
| 28.175 | VE3TEN | Ottawa, Canada | A1A | omni | vert | 10 | C |
| 28.195 | IY4M | Bologna, Italy | A1A | omni | vert | 20 | R |
| 28.2 | KF4MS | St.Petersburg, FL | | omni | vert | 100 | |
| 28.205 | DLØIGI | Germany | F1A | omni | vert | 100 | C |
| 28.208 | WA1IOB | Marlboro, MA | | vert | | 75 | |
| 28.209 | NX2O | Staten Island, NY | A1A | gp | vert | 10 | |
| 28.21 | K4KMZ | Elizabethtown, KY | | omni | vert | 20 | I |
| 28.222 | W9UXO | Chicago, IL | | omni | vert | 10 | C |
| 28.2225 | HG2BHA | Hungary | F1A | omni | vert | 10 | C |
| 28.2275 | EA6AU | Balearic Islands | A1A | omni | vert | 10 | C |
| 28.23 | ZL2MHF | Mt Climie, NZ | F1A | omni | vert | 50 | C |
| 28.235 | VP9BA | Hamilton, Bermuda | F1A | omni | vert | 10 | C |
| 28.25 | Z21ANB | Bulawayo, Zambia | F1A | omni | vert | 5 | C |
| 28.2575 | DKØTEN | Arbeitsgen, Ger | F1A | omni | | 40 | C |
| 28.26 | KA1NSV | Hyannis, MA | A1A | dipole | hori | 80 | |
| 28.262 | VK2RSY | Sydney, Australia | A1A | omni | vert | 25 | |
| 28.28 | YV5AYV | Caracas, Venezuela | F1A | yagi | hori | 10 | |
| 28.285 | VP8ADE | Antarctica | | vee | beam | 8 | C |
| 28.287 | H44SI | Solomon Islands | | omni | | 15 | C |
| 28.288 | VS6TEN | Mt.Matilda, Hong Kong | A1A | omni | vert | 10 | C |
| 28.315 | ZS6DN | Irene, So Africa | | omni | vert | 100 | |

This information may not all be current. It is suggested you purchase *The ARRL Repeater Directory* for comprehensive current data.

*The August '96 *CQ* column on DX by VP2ML has an FB article on the NCDXF beacons. **Notes:** C=continuous; R=robot; I=intermittent

***TEN TEN CW 'test**

26 October-27 October

SASE to KØPVI for details.

### *November 'tests*

**11/2 Weekend**

*High Speed CW 'test

*ARRL CW SS

*RAC/QST Sprint

**11/9 Weekend**

*JA INT'L DX SSB 'test

*WAE RTTY

**11/16 Weekend**

*OK/OM DX 'test

*RSGB 1.8 MHz CW

*ARRL SSB SS

**11/23 Weekend**

*CQ WW CW

(Not Thanksgiving as usual)

*ARRL EME INT'L 'test

### *December 'tests*

**12/7 Weekend**

*ARRL 160 'test

*TOPS CW Activity 'test

**12/14 Weekend**

*ARRL 10 Meter 'test

*TARA RTTY Sprint

**12/28 Weekend**

*Straight Key Night

*Canada Day 'test

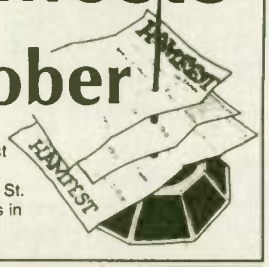
### *January 'tests*

**1/1/97**

*SARTG RTTY 'test

WR

# Hamfests October




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!

## Arizona

**The 1996 ARRL Southwestern Division Convention** will be held 11-13 October at the Mesa Convention Center, Mesa, AZ. Hosted by the Scottsdale Amateur Radio Club, this year's convention features no-code classes, no-host Special Event, commercial exhibits, SAREX, bus tours, CADXA seminar, computers, public service, MARS, ARRL DX/Contest and AMSAT Forums. For the latest information regarding the convention, call 602/351-3988 or e-mail the registration chairman, Michael Petera, KJ7KS, at 76402,1774@compuserve.com or mpetera @aol.com. Check our Internet link at http://www.getnet.com/~davidh/cadxa .html. Confirmation and convention information will be sent to you upon registration. Call 602/898-8300 and ask for the "Amateur Radio Block."

## California

**Pacificon '96** will be held 18-20 October at the Concord Hilton in Concord, CA. Antenna Seminar on the 18th from 8 a.m. to 4:30 p.m. in the Morse Room (reserve your space) $7. Guest speakers include W6ZRJ, W6VZT, N6BT, AA6ZM and W6AAQ. Swap meet on the 19th and 20th from 6 a.m. to 11 a.m. (setup 5 a.m.). Admission is free to buyers; seller fee $10. Saturday will have several forums in a wide variety of subjects by excellent speakers every hour. VE exams will take place also. Saturday evening banquet ($32) featuring Cynthia Wall, KA7ITT. Excitement continues through Sunday. Admission ticket sales via mail: contact Pacificon Hotline at 510/932-6125 or e-mail: PACIFICON@designlink.com

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**The Livermore ARK** will hold a swap meet on 6 October from 7 a.m. to noon at Las Positas College, 3033 Collier Canyon Rd., Livermore, CA (Airway Blvd., exit to north of 580 highway). Features include new, used, surplus ham, computer gear, miscellaneous electronics and testing equipment, refreshments available. Admission and parking are free; vendors $10 per space (equals two parking spaces). No VE exams. Contact Noel Anklam at 510/447-3857 (eves.) or 510/783-2803 (days). Talk-in on 145.350(-) PL 100 (receive and send), 147.045(+) PL 94.8, 147.120(+) PL 100.

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**The Bakersfield Amateur Radio Assoc.** will hold a hamfest on 10-13 October at Costerisan Lake in Bakersfield. Space including camping $25, hookups for booth *only* bring your own tables. Chicken dinner 2 p.m. Friday, Tri-Tip dinner, 2 p.m. Saturday, Adults $6, kids 10 and under $4. Write BARA Hamfest, P.O. Box 80222, Bakersfield, CA 93380-0222. For more information, call: Rob at 805/588-7065, George at 805/323-3691, or Ed at 805/589-4163. Note: The hamfest date for 1997 is 16-18 May 1997.

## Colorado

**The Rocky Mountain Radio League, Inc.,** will hold a hamfest on 20 October from 8 a.m. to 2 p.m. at the Jefferson County Fairgrounds, 15200 W. 6th Ave., in Golden. Features include VE testing, ARRL forum, refreshments and door prizes. Admission is $4/person, $10/table in advance or at the door. For information, contact Joe Dickinson, WTØC, at 303/771-9577. Talk-in on 145.22(-).

## Florida

**The ARC, Bradford Area** will hold their annual Starke hamfest and computer show 18 October 4-9 p.m. and 19 October 8 a.m. to 3 p.m. at the Bradford

County Fairgrounds north of Starke. Refreshments available. Admission for families is $3, tailgaters $4, tables are $5. Contact Dan Phillips, K4RVD, 8214 Carl Brook Rd., Keystone Hts., FL 32656; 352/475-2695. Talk-in 145.15(-), 146.82(-), or 146.52(S).

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The **Port St. Lucie ARA** will hold a hamfest on 26 October at the Port St. Lucie Yacht Club, 500 Prima Vista Blvd., Port St. Lucie. Food and drinks available. Admission is $2 per person; vendors (inside) $10; tailgaters $5 (in parking lot). For table rental, call Rick Clair at 407/335-1738. For general hamfest info, call Don Metzler at 407/879-4914. Talk-in on 146.955(-).

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The **Palm Beach Repeater Association, Inc.,** will hold a hamfest on 19 and 20 October at the South Florida Fairgrounds in West Palm Beach. Indoor flea market, exhibits, door prizes, food, on-site security and ample parking. Hours are 9 a.m. to 5 p.m. (19th) and 9 a.m. to 3 p.m. (20th). Admission is $4/advance, $5/door (valid both days). Exams will be offered both days at 9 a.m. Vendor info, call Hal Gainen at 561/439-0805. For advanced registration forms, send SASE to PBRA, Box 461, Lake Worth, FL 33460. Talk-in on 147.165(+).

## Illinois

The **Chicago ARC** will hold a hamfest (rain or shine) on 13 October from 8 a.m. to 3 p.m. (setup 6 a.m.) in Oakbrook Terrace. Entrance at Park View Dr. north from Cermak Rd. (22nd St.) on block west of Route 83. Admission $3.50/advance, $4/door. For information, call George at 312/545-3622, Dean at 708/331-7764, or Cora at 312/486-6823 or write CARC, 563 W. Irving Park Rd., Chicago, IL 60634. Talk-in on 147.255(+) and 444.825(+).

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The **Centralia Wireless Association** will hold a hamfest on 20 October from 8 a.m. (6 a.m. setup) at the Salem Community Activity Center, East Oglesby Street in Salem. Flea market tables are available on a reserved basis. For table space and reservations, contact Daisy King, AA9EK, at 618/532-6606. Prizes will be given away throughout the day. Admission is $2, or 3 for $5 in advance or at the door. Must be present for drawings. Mail ticket orders with SASE to Centralia Wireless Association, Inc., Hamfest Tickets, P.O. Box 1166, Centralia, IL 62801.

## Indiana

The **Cass County and the Miami County ARCs** are sponsoring the North Central Indiana Hamfest on 5 October from 8 a.m. to 1 p.m. at the Miami County Fairgrounds on County Road 200 North. Large indoor vendor display, plenty of free parking, and free tailgate space (with ticket purchase). Admission is $4 and 8' tables are $5. Contact the North Central Indiana Hamfest, c/o Cass County ARC, P.O. Box 1092, Logansport, IN 46947. Talk-in on 147.345(+), and 147.18(+).

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The **Huntington County ARS, Inc.** is sponsoring its 8th annual hamfest, 6 October from 8 a.m. to 1 p.m. (vendor setup 6 a.m.) at the Police Athletic League Club. Features include an indoor flea market, free parking, handicapped accessibility, and VE testing. Admission is $4. Tables are $5 (8'), first-come, first-served. Contact Ray Tackett, P.O. Box 284, Huntington, IN 46750; 219/786-0057. Talk-in on 146.685(-), and 443.975(+).

## Michigan

The **Lansing Civil Defense Repeater Association and Central Michigan ARC** will hold a hamfair on 13 October from 8 a.m. to 1 p.m. (vendor setup 6 a.m.) at the Ingham County Fairgrounds in Mason. Take U.S. 127 to Kipp Rd., East 2 miles to the Fairgrounds. Lots of parking, overnight parking available, plenty of trunk sales space, food, DX Forum. Admission $4 per person, tables $10. Contact Jeff Oberg, KB8SXK, 517/393-4713 or LCDRA, P.O. Box 80106, Lansing, MI 48908. Talk-in on 145.390(-).

## Minnesota

The **Twin Cities FM club** will hold their 12th annual Hamfest Minnesota and Computer Expo on 26 October at the St. Paul Civic Center in St. Paul. Features include a huge flea market, educational and fun seminars, retailers, major manufacturers, fabulous prizes, VE exams and food. VE exams will be given and flea market setup will take place on Friday. Admission is $5.50/advance, $7/door. Flea market tables are $18. Contact The Big One, P.O. Box 5598, Hopkins, MN 55343; or call the information line at 612/535-0637. Talk-in on 146.76(-).

## Missouri

The **Gateway to Ham Radio and St. Louis ARCs** will hold a Halloween Hamfest on 26 October from 8:30 a.m. to 2 p.m. at the West County Tech School. Prizes, forums, food, VE testing. Free admission, all indoors, free paved parking, handicapped accessible. Vendor tables (8') w/electric/$15; private tables $8 (contact Keith, NØKFE, 8427 Mathilda, St. Louis, MO 63123; 314/832-8895). Additional info, contact Dave, NØDN, 8370 Latty Ave., Hazelwood, MO 63042. Talk-in 146.94(-).

## New Jersey

The **Bergen ARA** will hold its annual Fall Hamfest 12 October at Fairleigh Dickinson University in Teaneck. Take Route 4 east/west to the River Road exit. Follow the signs to the hamfest area. Features include VE testing, plenty of parking, food and restrooms. Admission is $3; XYL and harmonics admitted free. Sellers $10. Talk-in on 146.79(-). Contact Jim Joyce, K2ZO, 201/664-6725, before 10 p.m.

## New York

The **Hall of Science ARC** will hold a hamfest 13 October from 9 a.m. to (vendor setup at 7:30 a.m.) at the New York Hall of Science parking lot, Flushing Meadow Park in Queens. Free parking, door prizes, food and refreshments. Admission is by donation, $5/buyers, $10/sellers. Contact Arnie Schiffman, WB2YXB, 718/343-0172 eves. Talk-in on 444.20(+) or 146.52(S).

## Ohio

The **Marion ARC** will hold its 22nd annual hamfest and computer show on 27 October from 8 a.m. to 3 p.m. at the Marion County fairgrounds coliseum. Prizes, refreshments and ample free parking available. Admission is $4/advance, $5/door. Table fee $10. For information regarding tickets or tables, contact Karen Eckard, N8JDH, 6583 S. Street, Meeker (Marion), OH 43302; 614/499-3565 or Betty Krist, N8UDT, 132 N. Seffner Ave., Marion, OH 43302; 614/387-3533 (after 5 p.m.). Talk-in on 147.90(-).

## Oregon

The **Mid-Valley ARES** will hold their 1996 Swap-toberfest and ARES/RACES Convention on 26 October from 9 a.m. to 3:30 p.m. at the Polk County Fairgrounds in Rickreall. Features include flea market, dealers, VE testing (p/r required), ARRL forums and exhibits, meetings and seminars. Emergency communications vehicles will be on display from the Oregon State Police, Mar-

ion and Polk County Emergency Management, Civil Air Patrol and American Red Cross. Admission is $6/advance, $7/door. Swap tables $13 ($15 w/power). Contact Evan Burroughs, N7IFJ, at 503/585-5924; for VE testing, contact Sandy Berry, N7TQQ, at 503/588-7685. Talk-in on 146.86(-).

## Pennsylvania

The **Fort Venango Mike and Key Club, Inc.** will hold a ham auction on 19 October, 8 a.m. to 3 p.m. (vendors 6 a.m.) at Christian Life Academy in Seneca. Admission 3, tables $5. VE test session 9 a.m. For reservations, contact Mary Housholder, N3QCR, 121 N. Front St., Franklin, PA 16323; 814/437-2036; Packet: N3QCR@WA3ZCA.#NWPA or e-mail: mahoushold@aol.com. Talk-in on 145.23(-).

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The **Mt. Airy VHF Radio Club, Inc.** will sponsor the Mid Atlantic States VHF Conference will be held on 5 October at the Horsham Days Inn in Horsham, just north of Philadelphia. The conference continues to present a wide variety of technical papers covering all aspects of 50 MHz through light(!) frequencies. Talks on operating, propagation, construction and theory are among those requested. Our annual hamfest will be held on Sunday at the Bucks County Drive-In a few miles north in Warrington. For information, contact John Sorter, KB3XG, 1214 N. Trooper Rd., Norristown, PA 19403; 610/584-2489 or via e-mail at John KB3XG@aol.com

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The **RH Hill ARC** will hold a ham-fest on 20 October at the Sellersville Fire House, Rte.152, 5 miles south of Quakertown and 8 miles north of Montgomeryville. VE session starts at 9 a.m., all classes, bring documents. Admission $5, XYLs and kids free. Indoor spaces $18 (table included), outdoor $6, bring tables. Hamfest Hotline, Linda Erdman 215/679-5764 or P.O. Box 29, Colmar, PA 18915.

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The **Carroll County** and Penn-Mar ARCs will hold the 7th annual Mason-Dixon computer and hamfest on 27 October from 8 a.m. (setup for vendors/tailgating 6 a.m.) at the Carroll County Age Center in Westminster, Maryland. VE exam registration beings at 8 a.m. p/r requested (call Bill at 717/359-7095). Inside tables and further information, contact George, N3JKY at 717/632-1621. Talk-in on 145.41(-).

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The **Foothills ARC, Inc.,** will hold a hamfest on 20 October from 8 a.m. to 2 p.m. at the Greensburg Hose Company #1. Free admission and prize drawings. Inside tables $10, tailgating $3. For information and reservations, contact Al Compton, N3LQX, at 412/523-3727. Talk-in on 147.18(+).

## South Carolina

The **York County ARS** will hold a hamfest on 5 October from 6 a.m. at the Knights Stadium in Fort Mill. Features include inside commercial vendors, computer dealers, flea market, huge tailgating area, food and refreshments, VE testing. Admission is $5/advance, $6/door, tables $10. For information, contact George Trunk, AB4BG, 803/327-4344. YCARS Hamfest, 2129 Squire Rd., Rock Hill, SC 29730. Talk-in on 147.03(-).

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The **Sumter ARA** will hold its 10th annual Hamfest and Computer Fair at the Sumter County Exhibition Center, 700 W. Liberty St. in Sumter. For information, contact Steve Bregger, KD4HTS, P.O. Box 52302, Shaw AFB, SC 29152; 803/953-4251 or Mike Dunlap, KC4HUT, 2763 Tindal Rd., Sumter, SC 29150; 803/481-4611.

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The **Chattanooga ARC, Inc.,** will hold a hamfest on 26 October 9 a.m. to 5 p.m. (setup 6:30 a.m. to 9 a.m.) and 27 October 9 a.m. to 3 p.m. (setup 8-9 a.m.) at Camp Jordan (East Ridge, TN). Features include indoor/outdoor flea markets, dealer area, and forums. For hams who have never built a kit, kit-building workshops will be held both days in the afternoon. Reservations required. Barbecue supper on Saturday (reservations requested). Admission $5 (good both days). For information and reservations write: HamFest Chattanooga, P.O. Box 3377, Chattanooga, TN 37406; or call Barbarra Gregory, WA4RMC, 423/629-7911. Talk-in on 146.790(-) and 444.100(+).

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The **Greater Memphis Amateurs** will hold a hamfest on 12 October from 8:30 a.m. to 4 p.m. and 13 October, 8:30 a.m. to 2 p.m. at the Shelby Farms Show Place Arena, 105 Germantown Parkway in Germantown. RV camping on site, non-ham activities, VE exams Saturday and Sunday 9-11 a.m. and forums. Admission is $5 at the door. Tables $25 per 8 ft. for the weekend. Contact Lee Bowers, KA4KVW, at 901/867-3461 after 6 p.m. Talk-in on 145.21(-).

## Texas

The **Temple ARC** will hold a Ham Expo on 5 October from 7 a.m. to 3 p.m. (vendor setup 6 a.m. or 5-10 p.m. on the 4th) at the Bell County Expo Center in Belton (from I-35 take Exit 292 to Expo Center). Features include tailgate swapfest, plus commercial vendors; transmitter hunt at 9 a.m.; VE tests for all license classes beginning at 1 p.m. Admission $1 (tailgate/commercial space not charged admission). Tailgate space $10; commercial vendor spaces w/tables $20. Contact Mike LeFan, WA5EQQ, 817/773-3590 or e-mail mlefan@vvm.com Talk-in on 146.820(-) PL 123 and 147.300(+). WR


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


## *AutoTunerExtender*™ for automatic tuners

The MFJ-914 *AutoTunerExtender*™ greatly extends your automatic tuner's matching range.

The MFJ-914 is a heavy duty, wide range impedance transforming device.

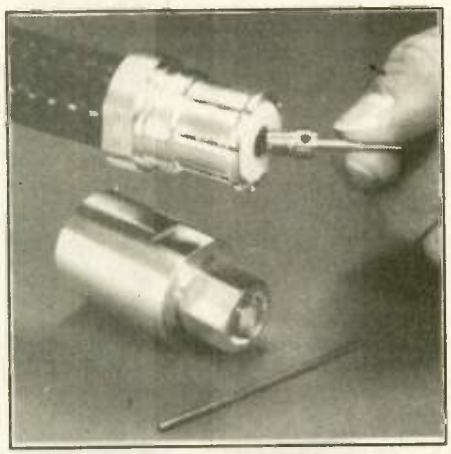
The *AutoTunerExtender*™ will transform antenna impedance up or down by as much as ten times. It puts nearly any antenna into the matching range of your automatic tuner. MFJ-914 can also greatly extend manual antenna tuners.

The MFJ-914 can be used with any transceiver from 160-10 Meters at up to 300 watts. The MFJ-914 connects between your transmitter and antenna with supplied SO-239 connectors. It's extremely easy to use. You bypass your transmitter's auto tuner and then adjust the knobs on the MFJ-914. There is a Off/Dummy Load position on the Extender to help protect your transceiver by connecting it to an external dummy load and providing ground to your antenna.

MFJ-914 *AutoTunerExtender*™ comes with MFJ's "no matter what" one-year unconditional warranty. Technical assistance is also available by calling 800/647-8324 (Tech).

For more information or to order, contact any MFJ dealer or MFJ Enterprises' Inc., P.O. Box 494, Mississippi State, MS 39762 or call 601/323-5869, fax 601/323-6551, or order toll-free 800/647-1800.





## HELIAX® cable connectors

Andrew Corporation introduces an improved line of connectors for 7/8" HELIAX® foam dielectric cable. These connectors offer installation ease comparable to a spring finger connection without sacrificing the superior performance offered by a threaded inner contact pin design. They are ideal for wireless applications.

The new design of the coarsely threaded inner contact pin reduces the number of rotations required to attach the pin to the inner conductor by 75 percent, cutting the effort and time needed to install the connector. The threaded inner stub provides a strong, reliable mechanical connection resulting in a durable installation which is highly resistant to pull-off and yields outstanding intermodulation performance.

Other features include: New inner contact threads into the cable's inner conductor with 1½ turns; reusable and extremely durable; superior mechanical connection ensures low levels of IM; high quality electrical performance.

For further information, contact the Andrew Customer Support Center at 800/255-1479, ext. 150, and request Bulletin 3836 or write to: Andrew Corporation, 10500 W. 153rd St., Orland Park, IL 60462.



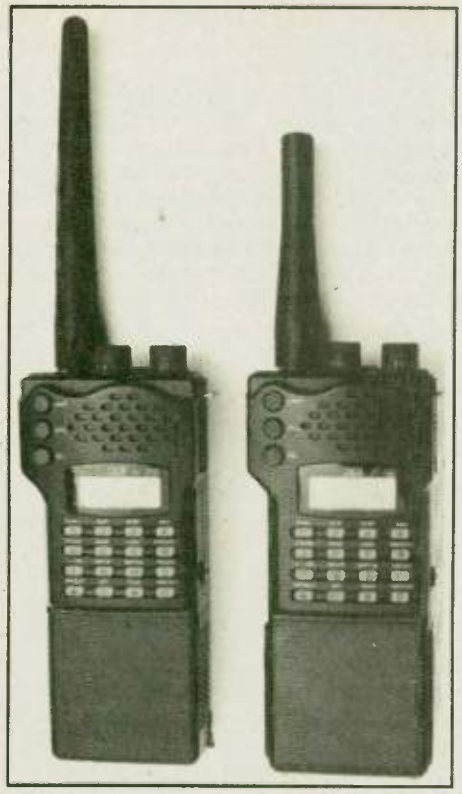

## High Performance Tetrode

Svetlana announces the new 4CX400A high performance tetrode designed for linear amplifier service. The highly efficient 4CX400A, in the AB2 mode, produces over 600 watts PEP with low intermodulation distortion and exceptionally high conversion efficiency. The high efficiency is accomplished with an innovative electron focusing and trapping configuration which reduces anode secondary electron emission, thus creating increased conversion efficiency and reduced intermodulation distortion.

A single 4CX400A will produce 600 watts PEP power output at only 2500 volts DC. At this low operating voltage, inexpensive components such as low voltage filter and tuning capacitors may be used. A pair of 4CX400As produces 1.2 kW PEP and 1.2 kW CW. Three inexpensive 4CX400A tetrodes in parallel will conservatively produce the legal limit of 1500 watts PEP and key down CW with bullet-proof reliability. The 4CX400A will deliver full performance to 500 MHz.

The inexpensive Svetlana SK2A ceramic socket is available for use with the 4CX400A tetrode. The rugged SK2A is exceptionally well designed and, together with the 4CX400A, provides a combined structure capable of severe shock and vibration. The end-user price is $140.

Contact Svetlana at Svetlana Electron Devices, Inc., 3000 Alpine Rd., Portola Valley, CA 94028; telephone 800/578-3852 for a free technical data sheet describing the 4CX400A and a list of other Svetlana power tubes.



## Handheld Transceivers

The ADI AT-200/2-meter and AT-400/70cm are new FM handheld transceivers. Both models are identical in appearance, features and size (5.5H x 2.1Wx 1.25D, with supplied battery pack). Their only difference is frequency coverage.

The AT-200 handy talky operates 144-148 MHz, with extended reception of 130-179 MHz for monitoring NOAA weather, VHF marine and public services. MARS/CAP capability is also included. The AT-400 operates 430-450 MHz, with extended reception of 400-800 MHz. Both transceivers are equipped with an easy-dial VFO, 20 memories, bright backlit display and DTMF keypad, 4 scan modes, dual watch, and one button recall of a favorite channel. Power output of the AT-200/400 is 2.5 watts high/.35 watts low with their supplied 7.2v battery pack. An optional 12-volt battery pack (RBO-120) increases output to 5 watts.

Additional features include 38-tone CTCSS encoder (2 tones can be stored in memory), CTCSS decoder (for tone squelch) and DTMF paging for silent monitoring of any busy frequency or repeater.

The AT-200 and AT-400 also have a battery save mode and auto shutoff function. Prices for the AT-200/400 are under $200.

Premier emphasizes that although the AT-200 and AT-400 are loaded with fun features, their main attractions are *simplicity of operation* and *solid reliability*. One button selects VFO or memories, for example, and another button selects output power. A volume control-mounted on/off switch avoids battery drain during non-use, and a flush-mounted squelch control avoids accidental readjustment.

The ADI transceivers are complimented by a full line of mating accessories. They include a desktop quick charger, vinyl carry cases, and a variety of Premier speaker mics.

For more information, contact Premier Communications, 20277 Valley Blvd., Walnut, CA 91789, telephone 800/666-2654; fax 909/869-5710.

## Antenna Tuner

LDG Electronics introduces an assembled version of the AT-11 Automatic Antenna Tuner. The tuner is a high efficiency, microprocessor controlled, switched "L" network designed to work with dipoles, verticals, inverted vees, beams or any coax-fed antenna. It features front panel SWR and status LED indicators.

Operation can be fully or semi-automatic. In fully-automatic, the tuner will seek a match if the SWR exceeds 3.0 to 1. In semi, a front panel push button will initiate the tune. Manual up and down push buttons are provided for capacitor and inductor fine tuning.

The tuner requires 2 watts for tuning and is rated for 100 watts during operation. Power requirements are 11-14 volts DC at 500 mA max.

The assembled AT-11 retails for $219. The AT-11 Kit is also available for $150 without the matching enclosure and $180 with the enclosure. Dealer and club discounts are available.

LDG Electronics can be contacted at 1445 Parran Road, St. Leonard, MD 20685, telephone 410/586-2177; fax 410/586-8475; e-mail ldg@radix.net, web site http://www.radix.net/~ldg WR

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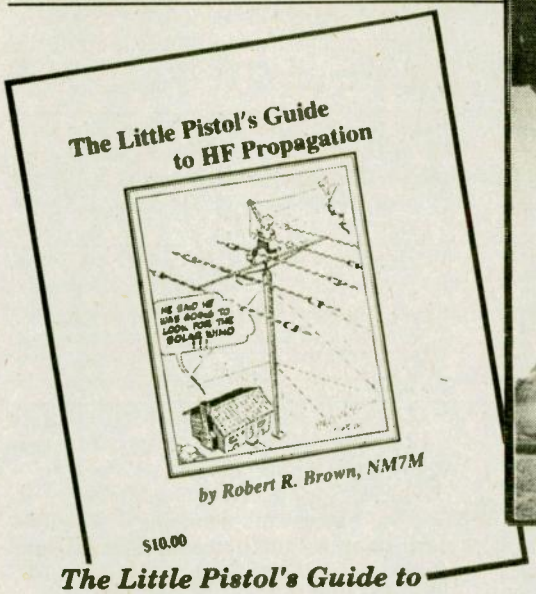


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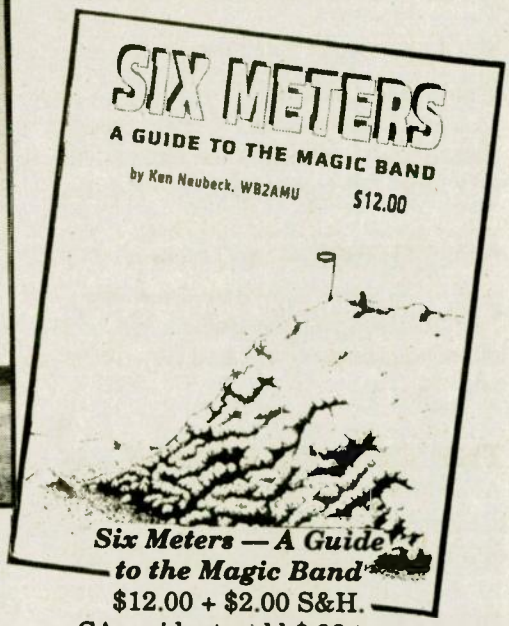


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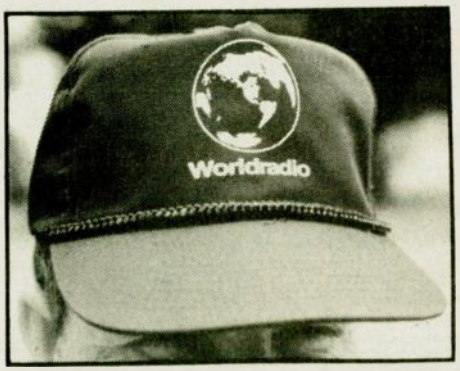


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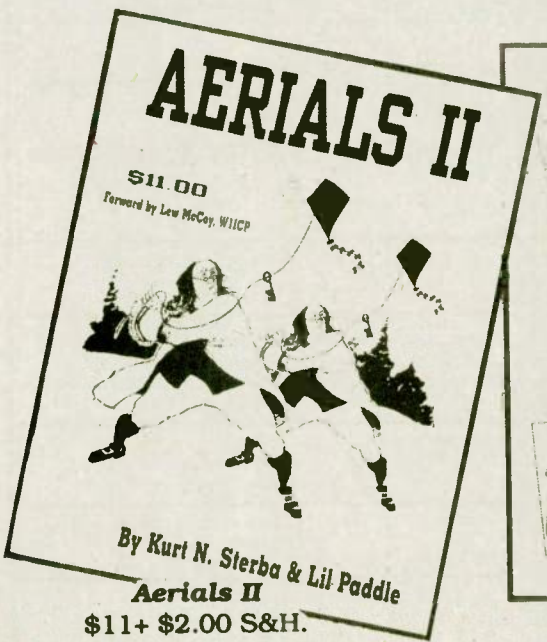


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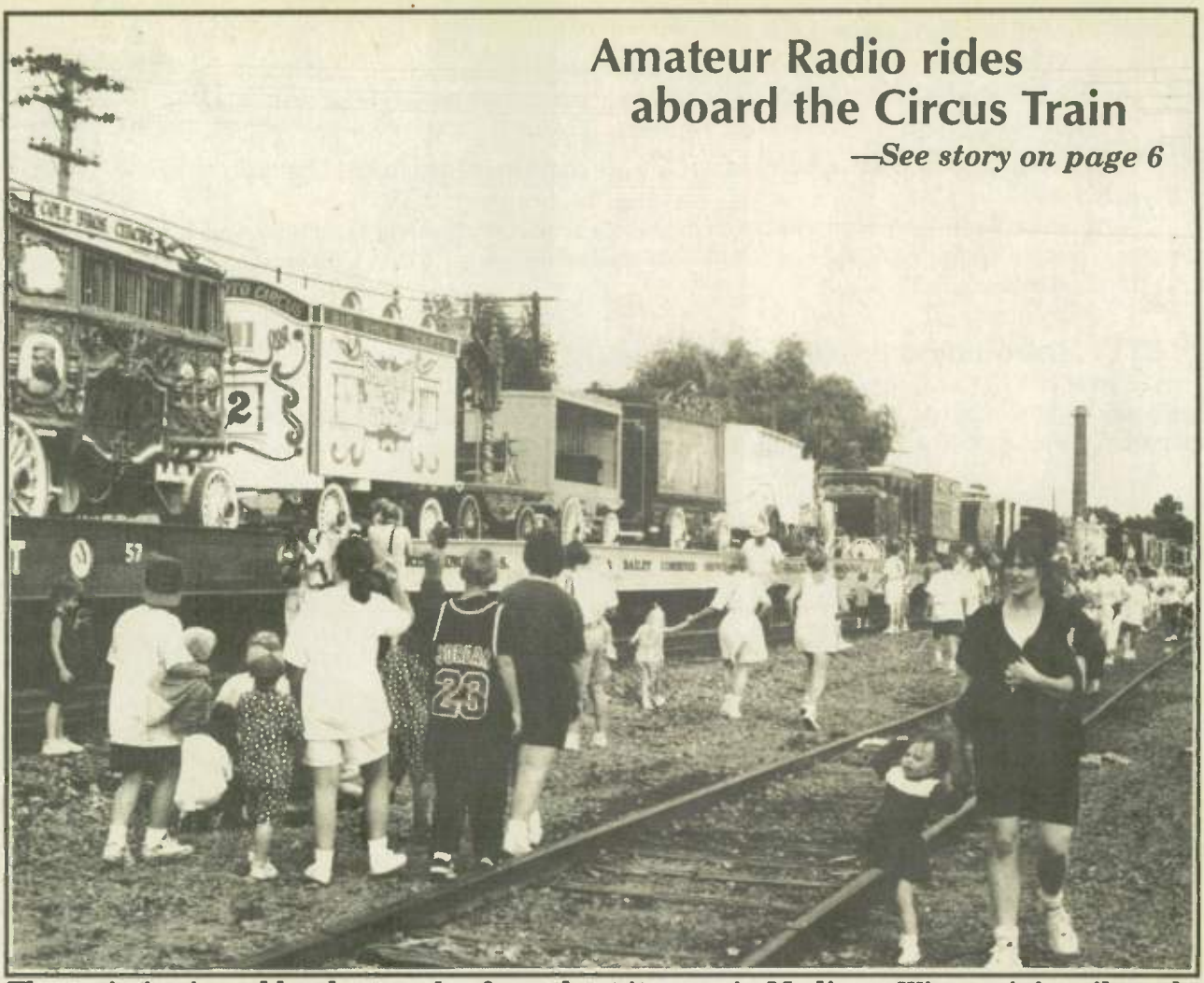

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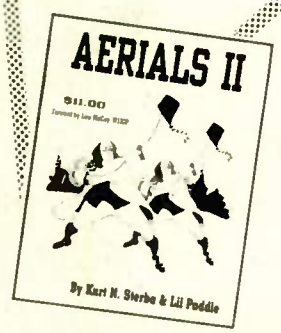


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