Emergency Communications • Public Service • International Friendship

WORLDRADIO

Year 27, Issue 7 January 1998 • $1.50

Don't fight City Hall — join 'em

GEORGE LINDLEY, WA5HKW

D.C.A.R.A emergency communication vehicle, an old ambulance maintained by the city. Below, Don Roberson, KG6LE, adjusts a feedline on a push-up pole antenna.

You have heard the expression, "Don't fight City Hall." We found that it was much better to work with them than to fight them. We have all heard about city ordinances, deed restrictions, neighborhood covenants, etc., pertaining to towers, and all this leads us to think unkind things about City Hall. In our city, we found we could work very well with the city fathers, and we have no tower restrictions.

I have had a ham license for 35 years, and for most of that time I have been a member of the Denton County Amateur Radio Association, the local ham club in Denton, Texas, population 75,000. For most of those years we have performed public service activities such as Skywarn nets, bicycle rides, walk-a-thons, parades, searching for lost persons, drownings, power outages, etc., providing emergency communications as needed. But, as I like to say, it was all done by guess and by gosh; nothing was very organized.

Yes, we did a pretty good job, but what was lacking was cooperation and organization and absence of public awareness of what we could do. Mostly what was lacking was organization, so we decided to organize an ARES group. We now have 84 members, many who carry pagers, since we are on call 24 hours a day, 7 days a week.

Good public relations

We realized the first thing we needed to do was a massive public relations campaign. Let people know who we were and what we could do. We started with the city and county officials. We had meetings with the fire chief, the police chief, the city manager, the county judge, county sheriff, city attorney, city council and any other place where we could get a foot in the door. We also presented programs to the Lions, Kiwanis, Rotary, Daughters of something-or-other and some little old ladies' sewing circles — anywhere we could get a group together to hear what we had to say. Our approach was to show and explain to them what we could do for them and for the community — all free of charge, of course — and that made a hit with the city and county officials. With budget restrictions being what they are, they were delighted to have something offered to them free of charge. We met with some opposition at first. A lot of uninformed people look upon us as CB radio operators, so we had to overcome that obstacle. The word "amateur" does not help any when you are trying to explain that we are really professionals at what we do. All of this took about a year for Hank Bass, KB5THB, and myself to do, but it paid off in the long run.

As a result of our meetings, plus the professional way the hams conducted themselves during some of the Skywarn nets and a few small disasters, our relationship with the city and county grew to be very good. We work very well now with all of the officials.

Yield good results

We now have a communications center located in the central fire station here in Denton. We have sev-

(please turn to page 6)

NEWSFRONT

Worldradio

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

WR6WR

The *Worldradio* Staff Amateur Radio Club received the call sign WR6WR. It was used in the ARRL Sweepstakes contest 15-16 November. When calling CQ SS or answering a call we'd use the internationally accepted phonetics of Whisky Romeo. But in the SS exchange, when the call sign is given again, we'd use "World Radio". This resulted in comments such as, "I thought that was you, ***Worldradio.***" "Great call." "I'm a life subscriber." "My favorite magazine." "Hello, Armond,"and the like. Thanks to all.

Look for WR6WR in Field Day, Cal QSO Party, WPX, QCWA QSO Party, and other contests. And, we have something special coming up, more about that later.

One station, a non-subscriber, said, "That's a real tongue twister." We told him we got it because the name was Wally Rogers.

CQ, CQ, all hams!

The Tri-State Amateur Radio Club supports the handicapped. We have helped all we can with handicapped problems and special needs. We also have help for the handicapped on our Web Site.

In October we arranged some assistance for Don May, KC2HV, and Don is now back in business. His antennas were repaired after a 60 mph windstorm hit our area, damaging his VHF and HF beams and his 80-40M dipole. The volunteers also widened the doorway of his radio room to allow passage of his wheelchair into his ham shack. This was accomplished through the efforts of Dave Henry, K2KIP, John Taylor, N2CWY, Fred May, N2HLG, and Frank Birtch, KB2YER.

After two years in a VA hospital and several operations, Don is recuperating and is doing much better! Don was very active as an officer and member of TSARA, and was involved in ARES/RACES in the Tri-State area. He also served with MARS. Don is now a deserving lifetime member of TSARA. *—Raymond Henry, WY2D*

Amateur Radio will be on ISS

Amateur Radio is now considered to be an official payload on the International Space Station, or ISS. Matt Bordelon, 2KC5BTL, at Johnson Space Center, says Amateur Radio is the first payload to become official. Bordelon has already started the training program for the first crew who will be putting together the ISS starting in January 1999. *—via AMSAT-NA*

KB6LQS–Around the world in 15 days

The ham who co-piloted a lightweight aircraft around the world nonstop is about to try the same trip by balloon. In 1986, Dick Rutan, KB6LQS, and Jeanna Yager, KB6LQR, flew the airplane *Voyager* around the world without refueling. Now, almost a decade later Rutan says he's ready to go around the world again, this time with famed high-altitude balloonist Richard Abruzzo.

Abruzzo, the previous holder of the absolute balloon duration record, set in 1992 during a flight from North America to Africa, and Rutan will pilot the 170-foot tall balloon, *Global Hilton,* on an estimated 15-day mission.

The *Global Hilton* will be filled with helium in one compartment and hot air in another. The two pilots will live in an 8-foot sphere suspended below. Rutan said the craft will be ready for launch from Albuquerque, NM, on or about 01 January 1998, but the launch could be delayed as late as 01 March, depending on weather conditions along the line of flight.

The *Global Hilton* venture, estimated to cost about $1,000,000, is sponsored by Pepsi Cola, Hilton Hotels and Barron Hilton, chairman of Hilton Hotels. *—via published news reports*

N4XKG plugs Amateur Radio on Today Show

Persistance paid off for Jackie Forbes, N4XKG, who wanted to top off her visit to New York City, by getting a chance to plug ham radio, the ARRL, and her 70th birthday on NBC Television's "The Today Show," and according to Larry Brown, KD4KVE, she succeeded. Brown says Forbes wrote to the show's director and even pulled a trump card,

sending along a photo of herself and Bill Miller, who worked on "Today" in the early days when Dave Garroway was the host. Still not knowing if she'd be granted a few fleeting seconds of fame on national TV, Forbes arrived outside NBC on the morning of her birthday, 04 August. Only then did she learn that "Today" personality Al Roker would give her a live shot at 7:35 a.m. During the interview Forbes greeted Amateur Radio operators. She told a Punta Gorda newspaper she wanted to be on "The Today Show" to draw attention to the ARRL's efforts to protect Amateur Radio frequencies from incursions by commercial interests. — *via ARRL*

WSJ article features Morse Code

Without looking at the "translations," most hams would have a hard time deciphering the Morse code represented in an article that appeared in the 01 October edition of prestigious *Wall Street Journal* because most of the code shown is American Morse, not the International code hams use. The report, "The Internet Generation Taps into Morse Code," by Anna Wilde Mathews, focuses on a resurgence of interest in American Morse Code — the version Samuel F. B. Morse invented in the 19th century and was used for many years by railroad and Western Union telegraphers.

The ARRL and Amateur Radio also are mentioned, but Mathews' otherwise interesting article fails to distinguish between American Morse, the telegrapher's code, and International Morse, the radioman's code.

Orbital calendar QRT

For some years now, the League has offered a monthly orbit calendar for use with the OSCARLocator. Since requests for this monthly listing have dwindled to less than a half dozen, the League plans to end this service at year's end. —*Jon Bloom, KE3Z*

Hams in control

Jeff Reinhardt, AA6JR, PIC Santa Barbara Section and member of the League's national Public Relations Committee, was elected to the Agoura Hills, California, City Council in the general election held on 04 November. Fred Fowler, KE6EPM, won election to a seat on the Sunnyvale, California, City Council. Congratulations, Jeff and Fred (and any other hams who were successful at attaining elective office in the recent elections)! — *ARRL Letter*

Ham license fee going up in '98

The cost of the Amateur Radio exam is going up again in 1998. The FCC announced that effective 01 January 1998 the maximum allowable reimbursement fee for an amateur operator license examination will be $6.39.

The 1998 exam fee amount is based upon a 2.2% increase in the Department of Labor Consumer Price Index between September 1996 and September 1997.

Volunteer examiners and volunteer-examiner coordinators may charge examinees for out-of-pocket expenses incurred in coordinating Amateur Radio examinations. The amount of any such fee from any one examinee for any one examination session, regardless of the number of exam elements administered, must not exceed the maximum allowable fee. Where the VEs and the VEC both desire reimbursement, they jointly decide upon a fair distribution of the fee. —*via FCC, W6NW*

Hamming at 100

A happy 100th birthday to George Wilson, W7HF, of Aberdeen, Washington. Wilson celebrated his 100th birthday on 01 November. Best of all is that Grays Harbour Amateur Radio Club member Frank Volz, KA7DNK, reports that Wilson is still active on the high frequency bands. This George Wilson — not to be confused with a former ARRL President having the same name — has been a League member since 1934. —*via ARRL*

Vanity Gate 4 opens 02 December

Gate 4 of the Vanity Call Sign program opened 02 December, just in time for many General, Technician Plus, Technician and Novice Class amateur operators to get a vanity call sign as a present for themselves for the holidays.

The same basic rules apply as for the opening of gates 1, 2 and 3. If your application is received prior to this date or if you do not qualify under the standards your application will be dismissed. Request must be filed on FCC Forms 610-V and 159.

Amateur Extra and Advanced Class operators continue to be eligible to file for a vanity call sign under filing gates previously opened. Forms are available from the Commission's Internet site at www.fcc.gov/wtb/amateur —*via FCC release* **WR**

Congratulations to Takeo Yamashiro, KH6FS,
winner of a $200 gift certificate (redeemable from MFJ). His name was selected at random by the computer from the ***Worldradio*** subscriber list. Check here next month to see if your name has been selected.

Worldradio
January 1998

News & Features

Departments

Next month's columns will include 10-10, Club Huddle, Computers & Basic Stuff, Old-time Radio, RFI & You, With the Handi-Hams, & YLs on the Air

Worldradio

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

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

We 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 armond@delphi.com

Worldradio is an independent magazine not affiliated with any other firm, group or organization. Its pages are open to all.

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Publisher's Microphone

We now present a list of those who are highly literate, possess impeccable manners, have a gusto for life, entertain their friends with sparkling wit and are acknowledged to be the upper crust. The latest to become ***Worldradio*** Superboosters (Lifetime Subscribers) are:

- **Dave Dabay, KD3PC**
  Dublin, VA
- **Charles Jones, K9TZJ**
  Anderson, IN
- **Mike Fielder, KB8YFG**
  Royal Oak, MI
- **Wayne Colborne, N8RAR**
  Warren, MI
- **Raymond Voss, KGØDK**
  Minneapolis, MN
- **P. R. Santos, AC1D**
  Los Angeles, CA

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There is a position available here at ***Worldradio***. We're looking for an editor.

For a young person it could be a most enjoyable and highly interesting lifetime career in sunny California. (Or a springboard to an eventual job at *QST* in freezing Connecticut.) For a more mature person, joining ***Worldradio*** could be an opportunity to share your knowledge of the lore and the lure of Amateur Radio.

The job offers full medical and dental benefits, moderate salary and semi-tolerable working companions. Send your application to: Hunt For An Ink-Stained Wretch Department, ***Worldradio,*** 2120 28th St., Sacramento, CA 95818.

Some journalism experience would be helpful. Knowledge of good English usage and grammar would be preferred but as you have observed over years of reading this magazine not entirely essential. M/F, EOE and all that. Preference is given to good Field Day operators. Resumés received which contain spelling errors will be forwarded to *73* magazine at no cost to the applicant.

Seriously, it can be a wonderful job for someone who feels a great attachment (even the word love would not be overstating it) for Amateur Radio.

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The anti-CW crowd, to help make their argument, point to the fact that the military has dropped CW. It appears that CW isn't the only thing the service has dropped. The 20-mile march with full field pack, helmet and rifle that many of us remember is gone. On the obstacle course, if you don't like one of the challenges, well, just walk around it. The hand-to-hand combat training has been reduced to four hours of making karate-like motions in the air. No contact with another person is made.

So it appears that using the Army as an example for "raising the bar" has lost its usefulness. There was a courtroom battle recently. A teacher who lost her job was suing the school district to get her job back. When she was on the stand she was asked what 10 percent of 80 was. She couldn't answer.

I suppose we could have a society where soldiers can't soldier, teachers can't teach, etc., but if these attitudes toward accomplishment had been in vogue in years past we would not today have flush toilets or air conditioners.

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Many say that the Internet has hurt Amateur Radio. I would agree 100% with that, because if any person possibly interested in joining our ranks decided to look us over first by dropping in on the Internet, he would run fast. The argumentative nature, the childishness, the bizarre behavior on the part of some would make a sensible prospect cringe. But the Internet may be a good thing. Thankfully, the odd ducks can't be on the amateur bands and on the Internet at the same time.

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Chuck Peters, Sr., K4FZG, Wilmington, NC, wrote: "Keep up your 'Best Ham Radio Publication' in the world."

Thanks. What makes ***Worldradio*** what it is, is its readers who are its writers and reporters.

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We received a note from a ham who said he wouldn't subscribe to ***Worldradio*** because it was pro-CW. All other reasons aside for the moment, there's one great reason for keeping the CW test — it gave many people, after meeting a challenge and conquering the difficulty of it, more confidence in themselves. From there, seeing that they could prevail, they attacked other endeavors.

Many say that thousands of people have been kept out of Amateur Radio because of the CW test. No, many thousands of people have taken the CW tests and become amateurs. Those who declined would have also blamed whatever the requirement had been, a semester of high school French, walk two miles in 25 minutes, etc. — *Armond, N6WR*

2m/70cm Mobiles **FT-2500M/FT-7400H**

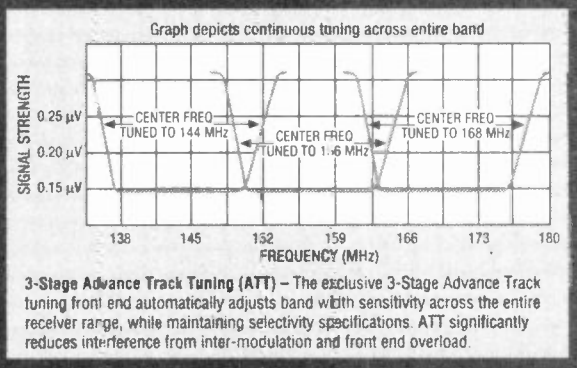
Advanced Track Tuning, Mil Spec, true FM. All in one radio!

Outside, you can easily see why the FT-2500M stands up to the shock and vibration like no other. We engineered the first mobile radio to meet the rigid standards set by the U.S. Military back in the '50s, and that same critical design is in the FT-2500M. From the simplified front panel, rubber coated knobs, durable pebbled finish coating, and huge Omni-Glow™ display to the one-piece die-cast chassis, the FT-2500M can take whatever you throw at it!

Inside, the electrical circuitry meets standards so uncompromising the FT-2500M can respond like no other radio. Built-in 3-Stage Advance Track Tuning (ATT), automatically retunes from 140 to 174 MHz permitting consistent receiver sensitivity across the entire band.

But there's more. Like alpha-numeric display capability! Lets you program a frequency or a 4-character name on any of the 31 memories. With three selectable power output levels and up to 50 watt power output, the FT-2500M extra large heat sink means forced air cooling is not necessary. And, as a bonus, Yaesu's exclusive backlit DTMF mic comes with every FT-2500M.

Experts say the FT-2500M is the only commercial-grade amateur radio available. So, for tough manufacturing standards, inside and out, with true FM clarity, and outstanding performance, the FT-2500M is your mobile.



3-Stage Advance Track Tuning (ATT) – The exclusive 3-Stage Advance Track tuning front end automatically adjusts band width sensitivity across the entire receiver range, while maintaining selectivity specifications. ATT significantly reduces interference from inter-modulation and front end overload.

Specifications

- **Frequency Coverage:**
  FT-2500M
  RX: 140-174 MHz
  TX: 144-148 MHz
  FT-7400H
  RX/TX: 430-450 MHz
- Rugged Military Spec Design
- Advanced Track Tuning (ATT)
- Selectable Alpha-Numeric Display
- Omni-Glow™ Display, largest available
- Power Output:
  FT-2500M 50/20/5 Watts
  FT-7400H 35/15/5 Watts
- Flip Up Front Control Panel hides seldom used buttons
- Backlit DTMF Mic
- 31 Memory Channels
- CTCSS Encode Built-in
- Automatic Power Off (APO)*
- Time-Out Timer (TOT)*
- Manual* or Automatic Backlighting Adjustment
- **Accessories:**

FP-800	20 Amp HD Power Supply w/ Front Mounted Speaker
FRC-6	DTMF Paging Unit
FTS-17A	CTCSS Decode Unit
SP-4	External Mobile Speaker w/ Audio Filters

*FT-2500M

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Don't fight City Hall

(Continued from page 1)
eral 2-meter stations, a 440 station, HF radios, packet station, radar on TV, and telephones. We have street maps of every city in the county and every road and highway. We also have access to the fire, police and sheriff radios, so all city and county officials are informed if there is impending danger from weather, an accident, power outage, etc., anywhere in the county. This communications center is provided by the city.

In addition to our com center, the city gave for our use an older ambulance, which we converted into to communications vehicle. This vehicle has practically the same thing as our com center. We have fire, police and sheriff radios, 2-meter, HF, packet, and cellular phones. We can operate completely self-contained (but must keep the motor running), plug into commercial power, or we have a 4 kW trailer mounted generator that we can pull behind. With vehicle mounted antennas, push-up poles or wire antennas, we can talk to practically anyone we wish, by any mode. The vehicle, which remains property of the city and the fire department, is located at the central fire station and still has the lights and siren, which we are authorized to use at our discretion. Since we do have the capability to talk to almost anyone, anywhere, the public services — police and fire, frequently use the vehicle as a command post in the event of a need for additional communications.

Provide a needed service

To provide an ever greater community service, we developed a storm safety program for latchkey kids, complete with narration and slides. We begin the program with who we are and what we do. Then we show them slides of what causes thunderstorms and why we have them. Then we show them slides of some of the damages that storms can do, and finish with safety tips on how to prevent injuries from wind, hail, flash floods or tornadoes. we were amazed to discover that 70-80% of school children are home alone after school until their parents arrive home. We targeted 4th-6th graders. Our reasoning was that the little ones were taken care of and teenagers already know everything, so you can't tell them anything. The fire department has an excellent safety program for these kids, such as don't answer the door, don't cook anything and don't tell anyone on the phone that you are home alone, but there was nothing about safety during violent storms. We live in an area the National Weather Service refers to as "Tornado Alley," so our risk is great during our storm season. We have presented this program in all of the schools in our city, and most of the county schools during the past 3 years. This program was sorely needed and has greatly enhanced our visibility with the citizens.

You can do it, too

So if your club or ARES group wishes to accomplish what we have, try doing what we did. Present to your city and county officials what your capabilities are. Offer to work with them any time you are needed. Stress that your services are free. have literature, available from the ARRL, to give them. Show them what you can do. But a word of caution — be prepared for rejection. Sometimes that will happen, but keep at it. Invite them to listen in when you have a weather net, or better yet, take them on a tour of your local weather service office, if possible. Invite some of them to ride along when doing emergency communications for a bicycle ride or a walk-a-thon. If your area is prone to have severe weather, talk to your school officials and help them secure a scanner that will keep them apprised of impending danger from the weather. Talk to civic groups or youth groups about Amateur Radio, stressing emergency communications. Contact your local newspaper to do a story on some emergency that you participated in, such as for the Red Cross. Any publicity you can get will help impress the officials. Use all of the modes you have at your disposal for communications to demonstrate your capabilities. Chances are they will be amazed at what you can do.

Good luck! **WR**

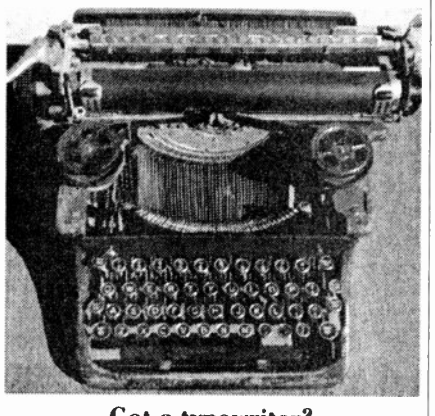
Inside Amateur Radio

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

Front page story

LENORE JENSEN, W6NAZ

Thirteen-year-old Mike Davis, WD6FFV, of Torrance, California, was staying up too late, but he was having a very good time tuning the long-distance band, 20 Meters. Suddenly he heard a station in New Zealand trying to understand what another one, a ship 75 miles off Jamaica, was saying. It had issued a distress call.



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

The two signals were fading from each other but Mike could hear the ship very well and offered to take over. He was given the facts. Mike promptly looked up the number of the Coast Guard in Southern California. The Guard in turn alerted the Coast Guard in Miami.

Unfortunately, radio conditions did not allow Miami to hear the ship, but Mike still had good contact and for hours relayed information back and forth. Finally in the early morning, an aircraft located the ailing boat and guided a rescue ship to the spot.

When word got out that a 13-year-old ham had been responsible, it made front page news across the country, and national TV. **WR**

Early-season snowstorms activate Midwest Hams

Late October brought unseasonably early and extremely heavy snowfall to the Rocky Mountain states and the Great Plains. Hams volunteered to help, providing emergency communications and other logistical support as residents in some cases found themselves without power, telephone service, or transportation. Mike Proctor, KBØIAP, of Colorado Springs, Colorado, reports that the Pikes Peak District 14 ARES (PPARES) actually began its activities by tracking the storm before it arrived, then ramped up its activities accordingly as the weather situation went from bad to worse. After the National Weather Service issued the blizzard warning, PPARES used its severe weather page over the 146.97 repeater for the first time.

PPARES was called in to support the Colorado Springs Police Operations Center to help with staffing and transportation. As the storm became too much even for many 4x4 vehicles, the U.S. Army sent in Humvees, and some hams were assigned to these for communications. Humvees were used to rescue stranded travelers and for emergency transport. By the third day of the storm, El Paso RACES requested PPARES to staff El Paso County Search and Rescue as RACES had exhausted its resources. At one point in the middle of the weather emergency, telephone circuits became overloaded. "We were very fortunate that power failures did not occur," Proctor said.

In all, Proctor reports 85 hams took part, including PPARES, District 24 ARES and El Paso County RACES. "PPARES and its members performed admirably, exceeding mission requirements and receiving strong praise from our served agencies," he said in a lengthy report. Even snowbound hams helped with net control, dispatch, map lookups, mission coordination and telephone calls.

In Nebraska, many residents found themselves without power for up to a week as heavy, wet snow downed trees and power lines in the Cornhusker State. Hams volunteered to help transport stranded emergency workers in the city of Lincoln, Joe Eisenberg, WAØWRI, told Newsline. Hams also helped transport Red Cross workers and equipment to and from shelters.

Midlands ARES Assistant EC Mary Joseph, NØTRK, of Omaha, says ARES pitched to help coordinate the cleanup effort in the week or so following the storm. She reports that ARES worked with the Nebraska National Guard to support communications. Joseph says she and her husband Pat, NØHPP, set up a station in the Guard command center, "right next to their communications people."

At one point, mobile ATV units were able to send back video of the troops in action and scenes of just how bad the situation was—a capability that Joseph says impressed the Guard commanders. Once the Guard commanders and ARES folks felt more comfortable with each other, the military came to call more often on the hams' capability. "Soon, it became obvious that ARES-relayed traffic was more reliable from all areas and faster than cellular phones," Joseph says. "Amateur Radio was mentioned as a positive by one commander, and everyone agreed that ARES made their job easier, getting the message through fast and accurately."

Hams also were assigned to work with Guard troops in vehicles to keep lines of communication open. Overall, 30 ARES members from Midlands ARES, Sarpy County ARES and Cass County ARES logged nearly 560 hours of volunteer service to support the cleanup mission of the Nebraska Army National Guard between 01-07 November. "During that time, Midlands ARES was always able to get the message through," Joseph says. This was critical in those situations where the Guard's radios or cellular telephone service were unable to perform. —*ARRL Letter*

Super typhoon hits Marianas Islands

Amateur Radio became the only method of communications left after one of the worst typhoons in recent history hit the Northern Marianas Islands. Super Typhoon Keith packed top winds of 165 miles per hour with gusts of 200 mph as it slammed into the island of Rota on Sunday night, 02 November.

According to news reports, all normal means of communications with several islands was lost around 3 a.m. At that point government officials and relief agencies turned to Amateur Radio as the only remaining link to several islands during the storm. —*Newsline*

E-mail:
w4zc@macconnect.com

State Department seeks U.S. CEPT participation

The State Department has applied for U.S. participation in the European Conference of Postal and Telecommunications Administrations (CEPT) Amateur Radio licensing system. The 22 September move could eventually make it easier for U.S. hams to operate temporarily in European countries that participate in CEPT. Holders of a CEPT license could operate in CEPT-participating countries without having to apply for a reciprocal license.

"No doubt there will be some give and take between the European Radiocommunications Office (ERO) and the Department of State over the details before the U.S. is accepted as a participant, but an important milestone has been reached," said ARRL Executive Vice President David Sumner, K1ZZ. The application consists of a four-page letter with voluminous attachments. Last year, the FCC had asked the State Department to apply for participation in the CEPT Agreement as a non-CEPT country.

The action follows in the wake of an earlier suggestion by the ARRL to the FCC that the U.S. take advantage of the CEPT Recommendation T/R 61-01 arrangements and issue a CEPT license that would be recognized by other participating administrations and valid for visits.

Last fall, the FCC proposed amending the Amateur Radio rules to make it easier for hams holding a CEPT license or an International Amateur Radio Permit (IARP) to operate during short visits to the U.S. — *ARRL Ltr. V16 #40*

FCC updates Special Event "Fact Sheet"

The FCC has revised Fact Sheet 206E, which deals with the Amateur Special Event Call Sign System and has added the W4VEC VEC of High Point, NC, to the list of approved Special Event Call Sign Coordinators. Here's the revised FCC Fact Sheet:

When transmitting in conjunction with an event of special significance, an amateur station "special event station" may transmit the identification announcement using a special event call sign in accordance with the procedures detailed below. Substituting a special event call sign for its assigned call sign may help a special event station call attention on-air to its participation in the special event and to the unique opportunity for the amateur service community to exchange greetings with the station. Use of these provisions, however, must not detract from the station making the source of its transmissions known to those receiving them. The special event station must also transmit its assigned call sign at least once per hour during such operation.

Special event call signs. A block of 750 call signs is available for use in the special event call sign system. The format of each call sign (1x1) consists of a single letter prefix K, N or W, followed by a single digit numeral 0 through 9, followed by a single letter A through W or Y or Z (X is not available to amateur stations). The station license grantee must obtain coordination for the use of a special event call sign through one of the following special event call sign coordinators. These coordinators maintain and disseminate worldwide a common database for the day-to-day usage of the one-by-one format call signs (for example K1A). Upon completing the coordination process, the special event station may substitute the 1x1 format call sign for its assigned call

Amateur Radio Call Signs

The following shows the last call sign in each group to be assigned for each VEC Region under the sequential call system as of 3 November 1997.
For more information about the sequential call sign sytem, see Fact Sheet PR5000 #206-S dated August 1996, or contact the Federal Communications Commission, Consumer Assistance Branch, 1270 Fairfield Road, Gettysburg, PA 17325-7245, toll-free 1-888/225-5322.

Radio District	Group A Am Extra	Group B Advanced	Group C Tech./Gen.	Group D Novice
Ø	ABØGP	KIØKL	++	KCØCDV
1	AA1SW	KE1IS	N1ZUQ	KB1CFM
2	AB2EL	KG2MZ	++	KC2COJ
3	AA3QK	KF3AN	N3ZZZ	KB3BVZ
4	AF4GG	KU4LU	++	KF4UNL
5	AC5OD	KM5MS	++	KD5COB
6	AD6DQ	KQ6SX	++	KF6OFV
7	AB7WT	KK7KJ	++	KC7ZNS
8	AB8BL	KI8EH	++	KC8ISH
9	AA9VC	KG9LT	++	KB9RPV
N. Mariana Is.	NHØB	AHØAY	KHØGT	WHØABI
Guam	++	AH2DF	KH2SQ	WH2ANV
Hawaii	KH7J	AH6PD	KH7GZ	WH6DEJ
Amer. Samoa	AH8P	AH8AH	KH8DL	WH8ABF
Alaska	ALØH	AL7QV	KLØKR	WL7CUN
Virgin Is.	++	KP2CM	NP2JV	WP2AIJ
Puerto Rico	NP3Q	KP3BC	NP3RK	WP4NNM

== New prefixes are available for this block, but none have been issued. ++All call signs in this group have been issued in this district.

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sign during the period of the special event.

Coordinators: These volunteer entities have been certified as special event call sign coordinators.

•ARRL/VEC, 225 Main St, Newington, CT 06111-1494; tel 860/594-0300, fax 860/594-0339, e-mail vec@arrl.org

•The W5YI Group Inc, 2000 E. Randol Mill Rd, Suite 608-A, Arlington, TX 76011, tel 817/461-6443, fax 817/548-9594, e-mail fmaia@ internetMCI.com

• Western Carolina Amateur Radio Society/VEC Inc, 5833 Clinton Hwy, Ste. 203, Knoxville, TN 37912-2500; tel 423/688-7771, e-mail WCARS@KORRnet.org

• Laurel Amateur Radio Club Inc, Box 3039, Laurel, MD 20709-3039, tel 301/317-7819, e-mail rbusch @erols.com

• W4VEC/VEC, 3504 Stonehurst Pl, High Point, NC 27265, tel 919/841-7576, e-mail W4VEC@aol.com

Indicators: In addition to the special event call sign system, any amateur station, including a special event station, may include with its assigned call sign one or more indicators (example W1AW/national convention). Each indicator must be separated from the assigned call sign by a slant (/) or by any suitable word that denotes the slant mark ("portable," "stroke," etc.). If the indicator is self-assigned, it may be included before, after, or both before and after, the assigned call sign (example KP2/W1AW/contest). No self-assigned indicator may conflict with any other indicator specified by the FCC Rules (such as AA, AG, AE or KT) or with any prefix assigned to another country (such as DL, F, G or VE).

Questions concerning 1x1 call signs and the common database should be directed to the special event call sign coordinators. For information concerning Fact Sheet 206E, contact John B. Johnston, e-mail jjohnsto@fcc.gov; tel 202/418-0680. *—FCC, ARRL Ltr. V16 #40*

FCC's new Form 610

As of 1 January 1998, Amateur Radio applicants may only submit FCC Forms 610, 610 A and 610B that carry an edition date of September 1997. After the first of the new year, previous editions of Form 610 will not be accepted for filing by the FCC or by Volunteer Examiner Coordinators (VECs). Amateurs may begin using the new Form 610s now.

The major change on the new form is a certification that says the applicant has "read and will comply with Section 97.13(c) of the Commission's Rules" regarding RF radiation safety and the amateur service section of OST/OET Bulletin No 65, Evaluating Compliance with FCC-Specified Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields. But Amateur Radio Supplement B of Bulletin 65, which has additional information on how to conduct a routine RF safety evaluation and explains other aspects of RF safety, is still in the draft stages and not yet available to the Amatuer Radio community.

ARRL Executive Vice President David Sumner, K1ZZ, says the League is concerned that the new Form 610 could be in the hands of hams before Amateur Radio Supplement B is complete. Sumner says it's essential that the FCC make Supplement B available in time for hams to complete their evaluations to meet the deadlines in the rules.

ARRL Lab Supervisor Ed Hare, W1RFI, who's been involved in reviewing the draft supplement, said he expects the FCC to release it in November. The ARRL will release a book on the new RF safety regulations near the end of the year. "Above all, it is important that the required station evaluation be as easy as possible for hams," Hare said. "The FCC has pretty much met that goal. Additionally, most hams, by virtue of their power levels, will not need to do an evaluation at all."

Section 97.13(c) reads: Before causing or allowing an amateur station to transmit from any place where the operation of the station could cause human exposure to RF electromagnetic field levels in excess of those allowed under 1.1310 of this chapter, the licensee is required to take certain actions.

1. The licensee must perform the routine RF environmental evaluation prescribed by 1.1307(b) of this chapter, if the transmitter PEP exceeds the following limits: 160-40 meters, 500 W; 30 meters, 425 W (*legal limit is 200 W—Ed*); 20 meters, 225 W; 17 meters, 125 W; 15 meters, 100 W; 12 meters, 75 W; 10 meters, 50 W; VHF (all bands), 50 W; 70 cm, 70 W; 33 cm 150 W; 23 cm, 200 W, 13 cm 250 W, SHF/EHF (all bands) 250 W.

2. If the routine environmental evaluation indicates that the RF electromagnetic fields could exceed the limits contained in 1.1310 of this chapter in accessible areas, the licensee must take action to prevent human exposure to such RF electromagnetic fields. Further information on evaluating compliance with these limits can be found in the FCC's OET Bulletin 65, Evaluating Compliance with FCC-Specified Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields.

The new Forms 610 may be obtained from the FCC Web site via the Internet at http://www.fcc.gov/formpage.html, at ftp://ftp.fcc.gov/pub/forms/ or by fax at 202/418-0177 (request index, or for Form 610 use form code 000610, for Form 610A use form code 006101, for Form 610B use form code 006102). The FCC Forms Distribution Center will accept FCC forms orders by calling 800/418-3676.

ARRL VEs and VE teams will be able to obtain a supply of the new Forms 610 in mid to late November, once the ARRL/VEC has had time to obtain a supply of the new forms.

Individual amateurs may obtain a copy of the new Form 610 by sending a self-addressed, stamped envelope (SASE) to: ARRL/VEC, 225 Main St, Newington CT 06111. Include 32 cents postage for each Form 610 requested (this is a four-page form).

For general information, contact the FCC, 1270 Fairfield Rd, Gettysburg, PA 17325-7245, or call the FCC's National Call Center at 888-225-5322 (CALL FCC). *—FCC, ARRL Ltr. V16 #40*

Tightening CW waivers

The CW waiver system that has been in effect for seven years is not working. The League filed a rules change request with the FCC to make it harder for those not qualified to obtain one. The League says that experience has shown that many applicants without severe handicaps have abused the process by obtaining a physicians' certificate. This, even when a person's disability was an unrelated issue.

ARRL Vice President Steve Mendelsohn W2ML, recently told Hap Holly, KC9RP, of RAIN about

one extreme experience that graphically illustrates the problem. "I know of no individual who came in limping and had bad knees and felt that he just absolutely could not take a CW test; which leads me to wonder if he was planning on using his foot."

The League says that at present, 8% of those applying through the ARRL-VEC have requested a medical exemption from the higher speed code. It adds that other VEC's report similar experiences. The League cites a growing suspicion among hams of anyone who has upgraded by waiver. It says this is unfair to those who require and deserve the exemption because they cannot be tested by the usual procedures.

The FCC rules require volunteer examiners to exercise broad latitude in administering CW exams to accommodate handicapped applicants. Measures include using a flashing light or vibrating surface for hearing-impaired applicants, pausing after sentences, phrases, words or characters, or even substituting a sending test for a receiving test.

Instead, the League observed in its filing, there is a tendency for applicants to seek exemption instead of accommodation. The League says that it believes the procedural changes it has requested will deter those who might abuse the process while still allowing exemptions to deserving applicants. So far, no one has opposed the ARRL's position. —*Amateur Radio Newsletter 1053*

Kennard heads FCC

William Kennard has been confirmed as the new Chairman of the FCC.

Inside wiring

Here's something that will affect everyone in the United States as we head toward completion of the information Superhighway. The FCC has adopted a Report and Order and Second Further N.P.R.M. amending inside wiring rules to enhance competition in the video distribution marketplace and broaden consumer ability to install and maintain their own wiring. The second N.P.R.M., designated 97-376, requests further comment on several issues, including exclusive service contracts to maintain such wiring. —*FCC release quoted in Amateur Radio Newsletter*

RFI guide for consumers

Consumers who are affected by radio interference may be helped by a new publication issued jointly by the Consumer Electronics Manufacturers Association and the American Radio Relay League. According to an FCC release, the document is available on the world wide web at http://www.fcc.gov/cib/eas/handbook.htm —*ARN 1054*

ARRL urges Fed antenna preemption adoption

The ARRL Executive Committee has voted to have the League continue to urge adoption of the antenna regulatory preemption policies contained in its petition, RM-8763. The action came on a motion from ARRL Vice President Steve Mendelsohn, W2ML, as the Executive Committee met 11 October in Philadelphia.

The League's petition, filed in February 1996, seeks enhancement of the PRB-1 limited federal preemption of state and local regulation of Amateur Radio antennas. However, the FCC appears to have made no progress with regard to the petition, which asked the FCC to declare that localities must find the least restrictive means to deal with Amateur Radio. Among other things, the petition called on the Commission to amend Section 97.15(e) of the rules to say that any state or local antenna restrictions limiting Amateur Radio antennas to heights below 70 feet would be "presumed unreasonable," unless the state or local authority could show its restrictions were necessary for health, safety or aesthetic reasons.

It was also announced at the Executive Committee meeting that the League will submit comments in Mass Media Bureau Docket 97-182 supporting a comprehensive antenna facilities siting policy, including amateur antenna structures. —*ARN 1053* **WR**

Endurance in emergency communications

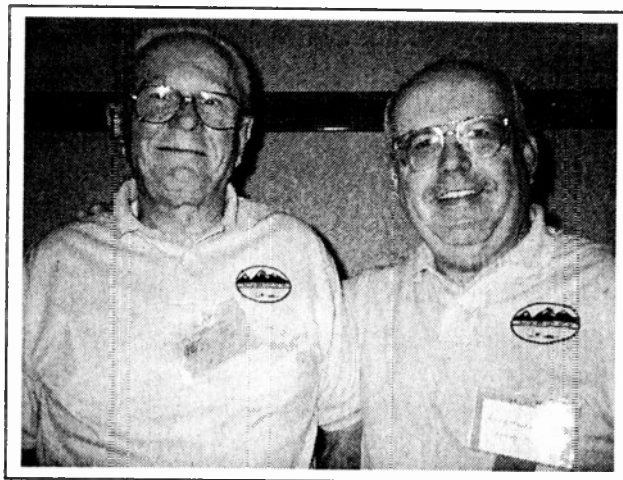
If you're an Amateur Radio operator active in emergency communications, you know that being ready to respond quickly is important. But fast response isn't all that hams have to be ready to provide. According to David Black, KB4KCH, hams in Alabama learned recently about something equally importan: endurance.

Radio amateurs in north Alabama exchanged storm reports with hams at the National Weather Service in Birmingham on 25 October, a day of severe storms that pounded much of the state. When Weather Service forecasters asked hams to respond, the first net controls were on the air by mid-morning. Tornado and severe thunderstorm warnings were scattered across the state. Radio amateurs pride themselves on helping as long as there's a need. This time, the need went on and on as more severe weather watches were issued. Well past midnight, spotter groups and net controls throughout the state remained on the air through the switch from Daylight Savings time to Standard time, adding another hour. When the all clear was given, hams left the Weather Service forecast office after being on the air for more than 24 hours straight, setting what's believed to be a record for hams in central Alabama.

Six-, eight-, even twelve-hour-long severe weather outbreaks are common for hams in Alabama. But the last weekend of October may be an indication of things to come. Forecasters say long- duration weather events are a good bet in the spring — leaving amateurs with the prospect of more long nights ahead.

This is a busy time for Alabama hams. The Weather Service plans to close its Huntsville Office 02 December. The closing means that hams in the northern part of the state will have to relay their reports to the Birmingham Forecast Office, nearly 80 miles away. As a result, spotter groups in both areas have been working closely with each other to insure a smooth transition. —*via Newsline* **WR**

Have you heard about the antenna tuner maker's daughter? They found a match for her. —*Montgomery ARC*



Veteran QRPers Jim Cates, WA6GER, left, and Doug Hendricks, KI6DS, were joint recipients of "California Ham of the Year."

1997 West Coast QRP Symposium

RICHARD FISHER, KI6SN

In the middle of opening remarks to a packed room at the 1997 West Coast QRP Symposium, Doug Hendricks, KI6DS, paused, almost as if hit by a revelation.

"You know," he said, "we've got the very best lineup of QRP speakers in the world here today." The more than 200 low-power enthusiasts who converged on the NorCal QRP Club-hosted program during Pacificon '97 in Concord, CA, seemed hard pressed to disagree.

From up-and-coming electronic keyer design Wunderkinds Brad Mitchell, WB8YGG, and Gary Diana, N2JGU, to longtime QRP legend Roy Lewallen, W7EL, Hendricks laid out a daylong smorgasbord of technical and operating speakers in a near non-stop series of hour-long QRP seminars.

Along with the high-powered speakers program came several QRP news flashes which quickly sent ripples through the low power community worldwide:

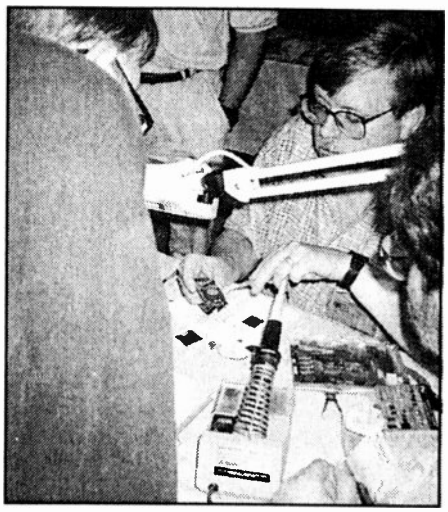
•The launch of EleCraft, a Northern California company formed by veteran QRP design guru Wayne Burdick, N6KR, and QRP DXer Eric Swartz, WA6HHQ, who jointly announced development of two sophisticated QRP projects to inaugurate its product line: the K2 SSB/CW transceiver kit, and E2 electronics lab compact test station kit.

•The much-anticipated unveiling of NorCal's secret kit project — a high-quality rugged Iambic keyer paddle and base for $30, designed by Wayne Smith, K8FF, and produced by a QRP project team from around the country.

•Distribution, hot off the press, of the first reprint of the 1984 classic "The Joy of QRP: Strategy for Success," by renowned QRPer Adrian Weiss, WØRSP, of Vermillion, SD.

•The west coast debut of Small Wonder Labs' new QRP DDS monoband CW transceiver, designed by forum speaker Dave Benson, NN1G, of Newington, CT.

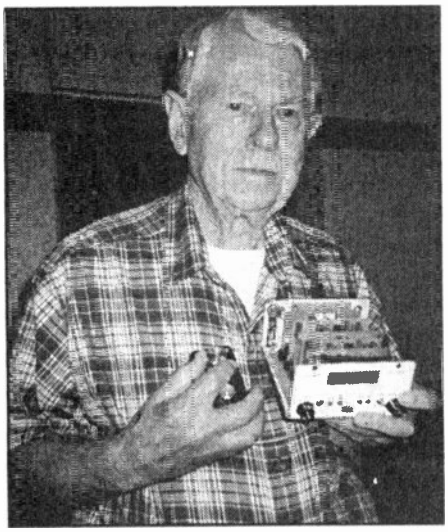
•The selection of Hendricks, of Dos Palos, and his NorCal QRP Club co-founder Jim Cates, WA6GER, of Sacramento, as joint recipients of "California Ham of the Year."



QRPers crowd around Mike Gipe, K1MG, for a demonstration of surface mount building.

For the first time, QRP seminar coverage was carried worldwide on the Internet in a technological tie-in by NorCal webmaster Jerry Parker, WA6OWR. In addition to text updates, a computer-linked digital camera periodically captured seminar events for "almost live" photographic postings on the world wide web.

Hundreds of low-power enthusiasts converged on the Concord Hilton, 17-19 October, representing regional QRP clubs and organizations from around North America.



Jim Pepper, W6QIF, poses with his winning entry in the NorCal QRP Building Contest: a scratch-built four-band direct conversion CW/SSB transceiver.

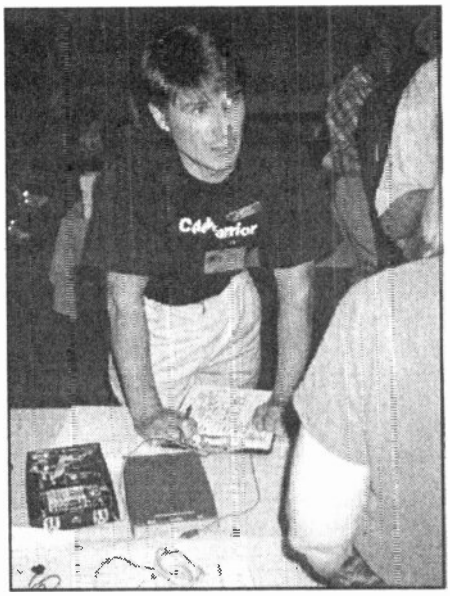
Among them: the New Jersey QRP Club, Arizona ScQRPions, St. Louis QRP Society, QRP Club of New England, QRP Amateur Radio Club International, QRP Club of British Columbia, Zuni Loop Mountain Expeditionary Force, Southern California QRP Society, and Adventure Radio Society.

The entire QRP symposium, organized and sponsored by NorCal, was free with the $5 Pacificon price of admission.

Mitchell, WB8YGG, and Diana, N2JGU, on behalf of their Rochester, NY-based Embedded Research, kicked off Saturday's series of QRP seminars with a two-part program covering the history of electronic keyers and a technical stroll through development of their wildly popular TiCK chip — perhaps the hottest keyer on the market today. From the early designs of keyer pioneer John Curtis, K6KU, to Embedded's newest 8-pin PICs, Mitchell and Diana gave a comprehensive and fascinating view of keyers past, present and future.

The program smoothly segued into a discussion of PIC-based transceiver design by Benson, NN1G, detailing the technology in Small Wonders Labs' new direct-digital synthesis based CW transceiver kit. Initially available for 40 or 20 Meters, the rig features a 4-pole 500Hz AF active filter, 300Hz/30Hz step tuning, AF-derived automatic gain control, 6-digit yellow backlit LCD display, mode A or B electronic keyer and will be capable of running a full QRP gallon: 5 watts-plus. Benson's discussion of PIC frequency measurement and control — including Huff 'n' Puff VFO stabilization — brought many questions from the audience during a lively Q&A session.

Paul Harden, NA5N, the Socorro, NM-based author of the popular *Electronic Data Book for Homebrewers and QRPers*, led a session

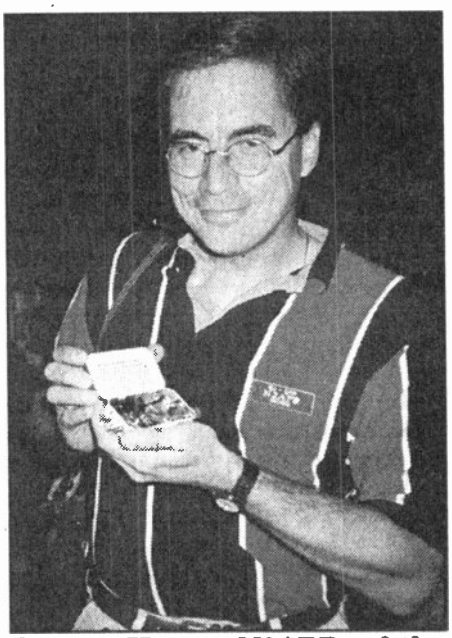


Joe Gervais, AB7TT, of the Arizona ScQRPion QRP Club, takes notes during the 1997 West Coast QRP Symposium.

on QRP gear alignment and troubleshooting. Using test equipment ranging from simple voltmeters to oscilloscopes and spectrum analyzers, Harden explained the methodical approaches necessary for successfully optimizing — or repairing — today's solid-state circuitry.

In a launch reminiscent of Bill Gates and Windows 95, Burdick, N6KR, and Swartz, WA6HHQ, ceremonially unveiled EleCraft to the QRP community. They brought a mock-up of the start-up company's K2 all-band CW/SSB transceiver kit now in development, and in a slide show outlined many features, options and accessories being developed for the radio: dual synthesized VFOs, LCD-with-bargraph metering, RIT/XIT, full QSK, 10 watts PEP SSB with QRO upgrades possible, SBL-1 receiver front end, built-in battery, RS-232 port, AF filter module, attenuator/pre-amp/noiseblanker, time clock, power amplifier, automatic ATU, 6M transverter. It's configured on a four-slot motherboard with plug-in modules. Burdick and Swartz are also considering offering the K2n, an entry-level version of the rig, and the E2, a sophisticated test station for the QRP experimenter.

The St. Louis QRP Society's Dave Gauding, NFØR, gave a tutorial on stealth antennas suitable for apartment and condominium or cliff-dwellers. From Slinky designs to aluminum foil drape arrays hung in a cramped attic, Gauding gave tips on getting the most out of small spaces on all bands — even at QRP levels. "This stuff is so simple," he said, "it hurts."



George Heron, N2APB, of the New Jersey QRP Club, holds a Rainbow Tuner, a project the organization offered as a kit last year.

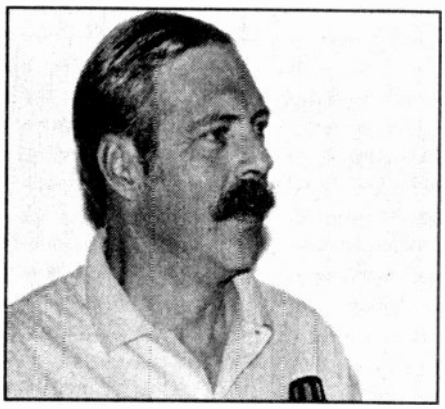
Gauding also detailed improvements to the radial and mounting systems of the famed St. Louis Vertical and answered many questions about optimizing small systems.

Concluding the day's speaker program was world-renowned QRPer Roy Lewallen, W7EL, from Beaverton, OR, who presented a show-and-tell primer on putting together a minimalist QRP Field Day.

Pulling items from a knapsack,

TiCK keyer designers Gary Diana, N2JGU, left, and Brad Mitchell, WB8YGG, in the QRP Hospitality Suite.

Lewallen displayed his legendary 1.5-watt Optimized QRP Transceiver, various other station accessories, gave tips on slingshot-erected antenna systems, lightweight multiple-band antenna systems, choosing a location, choosing an operating partner, essential survival gear, and lots more. His slide program showed some of the beautiful oper-

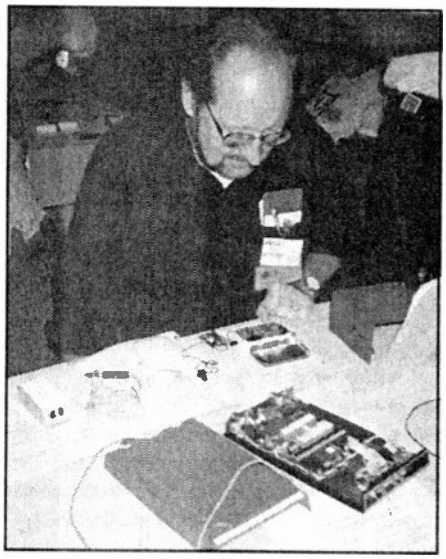


Paul Harden, NA5N, gives tips during a mid-morning seminar on QRP gear troubleshooting and analysis.

ating locations Lewallen has visited in the mountains of Oregon — frequently with famed QRP colleague Wes Hayward, W7ZOI.

NorCal's QRP Hospitality Suite was jammed in the evening, with dozens of QRPers displaying their homebrewing handiwork in the club's building contest.

Top honors were taken by Jim Pepper, W6QIF, who entered his scratch-built four-band direct conversion CW/SSB transceiver. Other honorees included Bill Jones, KD7S,

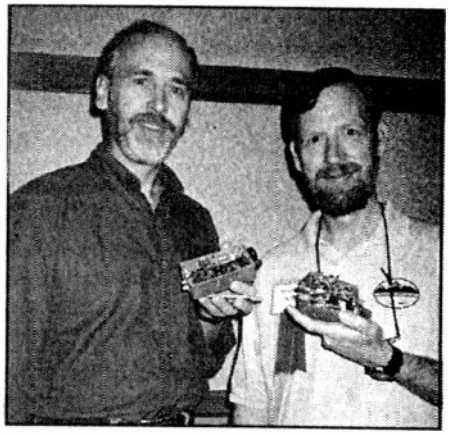


Brian Kassel, W5VBO, examines entries in the NorCal Building Contest.

(40-meter version of the 38-Special transceiver, featuring digital display); Ted Williams, GØULL, (a handsomely handcrafted Morse key); Debbie Blanke, KG6UI, (Super Pixie-2 transceiver package); and Peter Demmer, KH6CTQ, (multi-function keyer). Honorable mentions went to Pete Hoover, W6ZH, (Super-T antenna tuner) and George Heron, N2APB, (multi-unit stacked QRP station).

Famed Internet QRP-L administrator Chuck Adams, K5FO, of Dallas, TX; veteran QRPer David Yarnes, W7AQK, of Tucson, AZ; and Harden, NA5N, judged the projects.

Adams then joined QRP ARCI's "QRP Quarterly" editor Ron Stark, KU7Y, of Carson City, NV, in an informative and often humorous demonstration of CW contest operation, offering tips for QRP success in competitions such as the American Ra-



Cam Hartford, N6GA, left, compares his version of the Optimized QRP Transceiver with that of its designer, QRP legend Roy Lewallen, W7EL.

dio Relay League's November Sweepstakes.

The evening also included Adams' announcement of Hendricks and Cates' joint selection as "California Ham of the Year," awarded by the Pacific Division of the ARRL in ceremonies Sunday.

Just before Saturday's midday break, NorCal unveiled its new Iambic keyer paddle kit, and announced its sale at Pacificon, prompting a rush to the club's sales table. A long line of customers quickly formed, snaking through the Hilton's hallways. In 17 minutes, 130 of the kits had been sold. In less than two hours the entire initial run of 200 were gone.

Designed by Smith, K8FF, the paddle kits were produced by machinist Doug Hauff, KE6RIE, of San Luis Machine Co., San Luis Obispo, CA, and a project team including Cates, WA6GER; Harden, NA5N; Adams, K5FO; Parker, WA6OWR; and Hendricks, KI6DS.

The paddle's manual features beautifully-illustrated assembly instructions by Harden, NA5N. WR

CW on the night shift — a trucker's escape from boredom

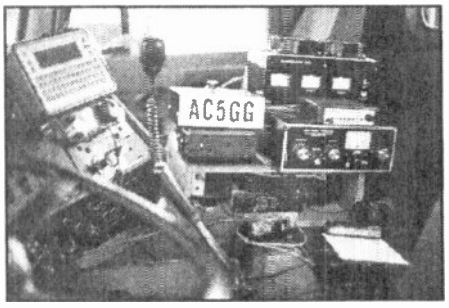
LEE E. EVANS, AC5GG

Driving an 18-wheeler truck over the same route five nights a week generates monotony. Listening to the vulgarity transmitted on CB radios grows wearisome also. I have been driving a United Parcel Service truck for twenty-two years and have been in the big rigs on the night shift for the last eight years. I was also looking for a hobby that I could explore on the weekends that would not disturb my family and neighbors at night, since my body clock is 180 degrees off. Adding these ingredients together gave me the curiosity to learn about Amateur Radio.

Getting started

I borrowed a couple of local library books and got interested enough to start working on my Tech-Plus ticket. I passed my tests and got my first call, KC5PCT, 7 June 1995. I bought a used Yaesu FT-757GX and started listening to 75 meters in my truck. An interesting group met every night on 3.973 MHZ. They called themselves the Before Breakfast Club. Listening to these friendly folks encouraged me to work on my General ticket so I could join the fun.

As with many aspiring hams, moving up in Morse code speed was an obstacle. It wasn't that I didn't like CW, I just had trouble moving past 10 wpm. I decided to give Dr. Wheeler's "Code Quick" system a try and I became another of his success stories. I discovered that CW really is fun. When I was ready for my General exam, I tried the 20 wpm code test on a lark and passed it! I then set a time goal for getting my Extra ticket and was successful in January 1996, and was issued my current call, AC5GG.



UPS-IVIS (In-Vehicle Information System): Computer timecard/ DOT log, Icom-706 remote head, 7-pole Chebyshev filter, IC-706 body, Skywalker-500 solid state amp., Timewave DSP9+, MFJ tuner, AM/FM stereo, Kent paddles, Lighted knee clipboard, Heil headset.

Lee Evans, AC5GG, and his truck.

CW *mobile?*

I did join the fine Before Breakfast Club group as #776 and really enjoy checking in with my friends there on SSB from my truck. I also enjoyed working CW from home on the weekends. It was one of these QSOs that changed my ham life! I worked Terry, KJ5ZR/M on 40M CW. I had to ask what the /M on his call meant and he said he was mobile in an 18-wheeler in Azle, TX. I couldn't imagine how he accomplished this and asked him to explain. He told me that he copied CW in his head, of all places, and drove at a comfortable speed in the slow lane of the interstate when traffic was not bad.

I never imagined anyone could listen to CW and not have to write everything down. I never imagined anyone could do this and drive down the road at the same time. But I figured that if Terry could do it and have as much fun as he seemed to be having then I would give it a try. To shorten this story, I listened to CW every night on the road and practiced improving my sending every morning when I got off work. I did this by sending the front page of the newspaper in CW on a practice oscillator at speeds faster than I could copy. I finally got comfortable with hearing the code as words and sentences and finally conversation.

Look for me on 40M

You can find me prowling the 40-meter CW band 0100-0800 UTC, Sunday through Thursday nights. Just listen for the /M on my call, AC5GG/M. I drive a Navistar-International cab/over tractor and pull double trailers between Beaumont and Houston, TX on Interstate-10. And, if you are curious, I have 22 years of safe driving and am very careful about traffic and weather and QRT for safety. I run an Icom 706 to a Skywalker-500 homebrew kit solid state linear amplifier which feeds 400 watts on CW to an Outbacker HP-50 antenna mounted on the left mirror bracket. I hold Kent iambic paddles in my lap because my seat rides on an air shock and I can best steady them there. I have a pilot's lighted clipboard on my right knee to jot calls, names, QTHs, etc. to enter in my computer log at home.

Operating mobile CW offered me a challenge and now it is rewarding me with hours of productive conversation that would have been wasted time before. It is amazing how quickly the time and miles fly by while I am pounding brass. I have found that the mental exercise of copying CW is an excellent tool in keeping me alert and awake on those long and dark stretches of highway. I have made hundreds of friends from my UPS truck and hope to meet you from there soon!

TNX es 73, de AC5GG/M AR SK WR

MFJ pocket size Morse Code Tutor

Learn Morse code fast, anywhere . . . LCD display lets you check your copy instantly . . . Easy no-code Beginner's Course . . .Takes you beyond Extra Class . . . Customized Practice . . . Plain English QSOs . . . Word Recognition Mode™ . . . Interactive Mode™ . . .

Learn Morse code anywhere, anytime with this tiny *MFJ Pocket Morse Code Tutor*™!

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MFJ-418 gives you a large LCD display that reads out letters, numbers and punctuation in *plain English*. See code as it is being sent!

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Realistic plain English QSO practice helps you pass your FCC code exam.

High-speed practice takes you to Extra Class and beyond . . .

Practice copying words as *one sound* -- not individual characters. Instant word recognition makes you a true, high-speed CW pro.

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MFJ's interactive mode lets *you* set the pace -- *you* decide when to copy the next group and how many -- *not the tutor.*

Easy-to-use -- choose from menus on the LCD display -- no instruction manual needed!

Beginner's Course

QST rate MFJ tutors *"the clear choice for beginners"*. Follows ARRL/VEC format.

MFJ-418 takes you from knowing zero code to solid copy fast! You learn individual letter, number and prosign sets first. As you do, previously learned sets are combined with new sets to reinforce all that you have learned.

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Practice copying and then replay to instantly check your copy on the LCD display.

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If you have trouble with certain characters, you can *build and save* a custom set of these for extra practice -- *an MFJ exclusive.*

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You can practice copying *realistic* on-the-air style plain English random QSOs.

They'll help get you ready for your FCC exam. When you're comfortable copying these QSOs, you're ready to pass and upgrade!

They'll also give you plenty of confidence before you make your first *real* contact.

MFJ's *CodeTest*™ set lets you practice *only* the characters required on FCC exams.

MFJ Word Recognition Mode™

MFJ's *Word Recognition Mode*™ gives you hundreds of commonly used words in amateur radio. Practice recognizing *entire words* instead of individual letters.

Learn to copy words without writing it down and carry on an entire CW conversation without paper -- just like pros on 40 Meter CW.

You can save 10 words of *your choice* for word recognition practice -- *an MFJ exclusive.*

You'll never run out of practice

Select letter, number, punctuation, prosign or code test sets, random call signs, random words, QSOs or combination sets for practice -- you'll never run out of study material.

You can even make up and save your own word and character sets for practice.

NEW! MFJ-418 **$79.95**

MFJ InteractiveMode™

MFJ InteractiveMode™ lets *you* decide when to copy the next or previous group and how many -- great for beginners.

Normal or Farnsworth

Select normal or Farnsworth spacing.

Farnsworth makes it easier to recognize entire characters. It stops the tendency to count individual dots and dashes that slows learning.

Farnsworth character speed is adjustable 10 to 60 words-per-minute for high-speed practice.

Fixed or Random Length Groups

Use fixed length or more realistic random length groups. Up to 8 characters per group.

Change Speed on the Fly

Change speed on the fly while you're playing a session -- 3 to 55 words-per-minute.

No Instruction Manual needed!

Choose from easy-to-use menus on LCD display. Simple 3 button operation.

SettingSaver™

Your settings are *automatically* saved, ready to use next time -- no more #$%* resets!

Large LCD Display

Read words, letters, numbers and punctuations in *plain English* as code is being sent. It's a powerful sound and sight aid!

Check your copy, select from menus and program custom characters and words.

LCD has 2 lines and 32 *huge* ¼" high-contrast characters.

SilkySmoothSidetone™

Only MFJ gives you *SilkySmooth Sidetone*™ with *TruTone*™ sinewave and *SoftStart*™ dots/dashes -- lets you concentrate on learning without the distraction of harsh keyclicks. Use earphones for private practice or built-in speaker for groups.

Adjustable volume. Loud, powerful audio amplifer. Variable pitch 300-1000Hz.

Pocket Size

Fits in shirt pocket with room to spare! *Smaller than a pack of cigarettes* -- tiny 2¼x3¾x1 in., weighs less than 5½ oz.

Toss it in your briefcase, travel bag or stash in your car's glove compartment and you'll always have it ready for instant practice.

Uses 9 volt battery. Not included.

Tapes Can't Compare

Tapes play the same old boring stuff over and over again. Unlike tapes, you'll never memorize the MFJ-418 random code sessions.

You'll pay more for a few sets of code tapes than an MFJ-418. The MFJ-418 is less expensive, lots of fun and *far* more effective.

More pocket size MFJ Morse Tutors

MFJ-417, $59.95. Random characters, words, QSOs. Selectable character sets. *CombineSet*™ Fixed or random length groups. Instant replay. Normal or Farnsworth. *3 to 35 WPM. Setting Saver*™. *SilkySmoothSidetone*™. Adjustable pitch 300 to 1000 Hz. Volume control. Use earphone for private practice. No LCD.

MFJ-413, $39.95. Similar to MFJ-417, less random words, QSOs, *SettingSaver*™.

MFJ-411, $69.95. Widely acclaimed original. Has most of the features of MFJ-418, no LCD.

Get Yours Today!

Enjoy more ham band privileges -- learn Morse code and upgrade! *Order yours today!*

MFJ Code Practice Oscillator

MFJ-557 **$24.95**

Learn to send Morse code with MFJ-557. Straight key with adjustable travel and tension, and built-in speaker with volume and tone controls lets you practice to your heart's content. Earphone jack. Heavy non-skid steel base stays put as you tap out Morse code. Use 9V battery or 110 VAC with MFJ-1305, $12.95.

MFJ-550, $7.95, telegraph key only.

2 Meter *IntermodFighter*™

MFJ-713
MFJ-714
$59.95

Intermod causing squeaks, squawks, unidentified voices and other noises all across the 2 Meter band? Can't use your radio?

MFJ *IntermodFighter*™ eliminates intermod by reducing interference up to 50 dB with three high-Q bandpass filters. Plugs between radio and antenna.

MFJ-713, $59.95. For handhelds, has BNC connectors. Uses 9V battery. **MFJ-714, $59.95.** For mobile rigs, has SO-239 connectors. Uses 12VDC.

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MFJ-116, $14.95. ID buzz every 10 minutes. Big ⅝" red LED digits. Loud/soft alarm. Uses 110 VAC. 9V battery backup. 4½x2x4 inches.

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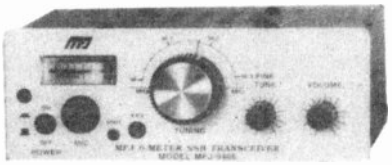


MFJ-9406
$249.95
MFJ-9406X
$259.95 with mic

Work exciting 6 Meter DX from all over the world on ham radio's *"magic band"*!

It's an adventure every time you turn on your MFJ-9406 six meter SSB transceiver.

Distant stations come rolling in loud and clear with crystal clear armchair copy. You'll have fun exploring exotic 50 MHz band openings -- Tropo, Sporadic E, F2, TE, Aurora, Meteor Scatter, and more.

Ragchew with locals, hunt down new grid squares from far-away places from home, car or mountain top.

***Special Offer!* MFJ-9406X, $259.95!** Includes MFJ-9406 & MFJ-290 microphone.

Here's what you get . . .

Full SSB/CW coverage: 50.0-50.3 MHz covers SSB, CW, propagation beacons.

Potent signal: 10 Watts PEP output. MFJ's exclusive *Constant-Current*™ syllabic speech processing gives you up to 6 dB more punch to cut thru noise, fading, QRM.

Hot receiver: Crystal-mixed single-conversion superhet with low-noise preamp digs deep into the noise to capture weak signals. If a station is there, you'll hear it!

Easy to operate: No microprocessor mumbo-jumbo . . . just turn on and tune in.

Low power drain: Mountain-top all day on lightweight NiCads or operate from home on 110 VAC with MFJ-4110, $39.95.

Excellent selectivity: Sharp *HF proven* SSB crystal ladder filter reduces QRM and passband noise.

TVI protection: Seven element low-pass filter knocks out TVI -- lets you operate when *you* want to!

Real S-meter: Give meaningful signal reports, accurately steer your beam, monitor speech processing.

Smooth tuning: Vernier reduction drive makes tuning precise and easy.

External amplifier: Jack provides a key-line for activating 6 Meter SSB amps.

Built to last: Premium PC board, quality components, brushed-aluminum panel and tough vinyl-clad case gives years of service.

Compact: At only 2½x6½x6 inches, the MFJ-9406 fits in just about anywhere.

Fully guaranteed: MFJ's exclusive one-year *No Matter What*™ warranty. We will repair or replace (at our option) your MFJ-9406, no matter what happens, for 1 full year.

MFJ-9406 Accessories

Handheld dynamic SSB microphone: Specially matched to compliment the *Constant Current*™ speech processor used in the MFJ-9406. **MFJ-290, $29.95.**

CW Module: Install this and operate CW -- a must for DXers. Provides semi-QSK break-in and sidetone. **MFJ-416, $39.95.**

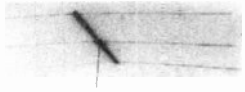
Power Supply: Heavy duty wall transformer and voltage regulator delivers 13.8 VDC for MFJ-9406. Powerful, yet small. Fits in your coat pocket! **MFJ-4110, $39.95.**

Portable Battery/AC Power Pack: Use Ni-Cad, Alkaline, regular D cells or 110 VAC. Charges Ni-Cads. Fastens to MFJ-9406. Batteries not included. **MFJ-4112, $69.95.**

6 Meter Antennas

MFJ 3 element 6 Meter Yagi

MFJ-1762
$69.95



MFJ's three element 6 Meter Yagi quadruples your effective radiated power over a half-wave dipole. 6 foot boom. 2 pounds. Can use TV rotator and mast. Handles 300 Watts PEP SSB. Mounts vertically or horizontally. Current balun decouples feedline. Excellent front-to-back ratio.

MFJ full halfwave 6 Meter Antenna

MFJ-1764
$44.95

MFJ's *full halfwave* 6 Meter centerfed antenna has excellent bandwidth and low angle radiation for super DXing! Mounts vertically for FM/Packet or horizontally for SSB. Ferrite choke balun decouples feedline, shunt choke bleeds off static. Strong lightweight aluminum. Two 47" radiators, 23" boom. 1½ pounds. On 2 Meters you get 2 stacked 5/8 wave radiators for twice the gain of a single 5/8 wave!

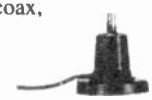
MFJ 6 Meter folded dipole

MFJ-1776
$34.95

MFJ's efficient low SWR folded dipole is light-weight, easy-to-carry, easy-to-put up. Perfect for MFJ-9406 and other 6 Meter rigs.

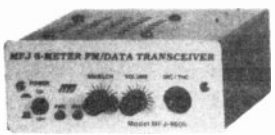
MFJ Dual Band 6/2 Meter Mobile

MFJ-1728B
$24.95



On 6 Meters, it's a high performance *full quarter wave* mobile magnet mount antenna. On 2 Meters, it's a *maximum gain* 5/8 wave antenna. Low SWR, handles 300 Watts PEP, heavy duty magnet, 12 feet coax, *free* BNC adapter for handhelds.

MFJ 6 Meter *FM Communicator*™ Transceiver

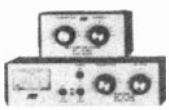


MFJ-9606
$149.95
MFJ-9606X
$159.95 with Mic

The MFJ-9606 *FM Communicator*™ is the most inexpensive way to get on 6 Meter FM Voice or Packet! 10 Watt transmitter, *CrystalClearVoice*™ puts the fun and fidelity back into ham radio with true-to-life speech quality and ultra-clean AFSK data signals. *Super fast* PIN diode switching, no compromise dual-conversion FM receiver with quiet LNA, factory installed 52.525 MHz calling frequency crystals. Additional plug-in crystals, $24.95 per frequency.

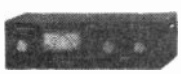
6 Meter MFJ Antenna Tuners

Compact 6 Meter Antenna Tuners



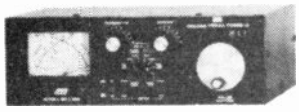
MFJ-906, $79.95. Lighted 2 Range Cross-Needle SWR/Wattmeter, bypass switch. 100 watts FM, 200 Watts SSB PEP. 8x2½x3 inches.
MFJ-903, $49.95. Like MFJ-906, no meter, bypass switch. 5x2½ x3"

Mobile 6 Meter Antenna Tuner



MFJ-945E, $99.95. Compact *mobile* tuner covers 6 Meters thru 160 Meters. Lighted Cross-Needle SWR/Wattmeter. Antenna bypass switch. 300 Watts PEP SSB. 8x2x6". Mobile mount, **MFJ-20, $4.95.**

Roller Inductor Antenna Tuner covers 6 Meter thru 160 Meters!



MFJ-969, $179.95. MFJ-969 has MFJ's superb *AirCore*™ Roller inductor, *continuous* 6 Meter - 160 Meters coverage and *QRM-Free PreTune*™! Wide matching range, lighted Cross-Needle SWR/Wattmeter, 8 position antenna switch, dummy load, 4:1 balun., 300 Watts PEP SSB. 3½x10½x9½".

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Watts Out	6	22	42	63	84	98	122	142	150
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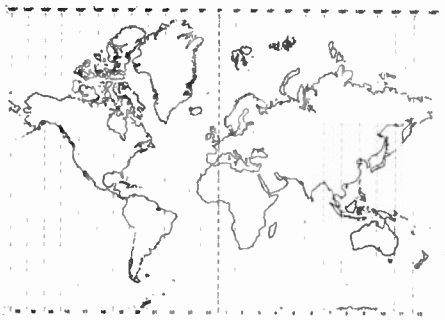


100 Nations Award

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

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

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

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

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

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

Rules

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

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

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

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

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

6. The application shall include the following:

a. Letter requesting W-100-N.

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

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

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

7. All applications and requests shall be addressed to:

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

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

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

W-100-N nations list criteria

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

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

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

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

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

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

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

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

Product Review

A modern contact restorer

BILL WELSH, W6DDB

I remember when carbon tetra chloride was the standard material I used to clean electrical contacts on switches, connectors, relays, potentiometers, air variable capacitor bearings, and roller contacts on adjustable inductors. I used carbon tet because it was about all we had, but it had to be used in an area where the ventilation was very good. When a contact had been cleaned with carbon tet, its conductivity was improved for a while, but future cleanings were required. An extensive variety of cleaners were sold during the following four decades and I tried most of them while experiencing limited successful results. The unsatisfactory situation that existed was eliminated when CAIG Laboratories began marketing its Cramolin spray several years ago. That spray did its job very well but it is no longer sold because it does not meet current environmental standards.

CAIG Laboratories now markets DeoxIT D5, ProGold and CaiLube MCL (for conductive plastics) cleaners with brush applicators, needle dispensers, pen applicators, spray cans, syringe dispensers, and wipe pads. It is used in a temperature range of minus 30 to plus 200 degrees Celsius.

DeoxIT is useful in a variety of electrical and electronic applications, with most of these uses being unrelated to Amateur Radio. The propellant in this cleaner is Dymel 152a, it is not the freon which caused Cramolin to be taken off the market. DeoxIT cleans contact surfaces to improve conductivity. It preserves these surfaces. It provides lubrication which minimizes abrasion and wear. It deoxidizes contact surfaces. The existence of dissimilar metals promotes corrosion and oxidation of electrical contacts. DeoxIT is effective on dissimilar metals. I have experienced excellent results from using DeoxIT on the key switches of my wife's electric typewriter, connectors on our telephones and our entertainment equipment, connectors on my Amateur Radio gear, and the contact surfaces of my bug, handkey, and electronic keyer paddle. Obviously, it will perform well in aircraft, boat, and motor vehicle applications. One application of DeoxIT provides a long lasting beneficial effect.

CAIG's ProGold is designed to be used on plated surfaces. It penetrates the plated surface and bonds to inner material. ProGold cleans and removes oxidation contamination from contact surfaces. ProGold was specifically designed to clean and protect gold-plated contacts. It also provides one to ten years of protection to contacts made of copper, nickel, rhodium, silver and other metals.

CAIG sells an extensive assortment of cleaners, conductive coatings, and contact rejuvenators. Their catalog can be requested by writing to CAIG Laboratories, Inc., 16744 West Bernardo Drive, San Diego, CA 92127-1904. Their voice telephone number is 619/451-1799. Their facsimile telephone number is 619/451-2799.

CAIG products are sold by many electronic parts stores throughout the country. You can request a list of their distributors from CAIG by calling or writing to them. **WR**

SPECIAL EVENTS

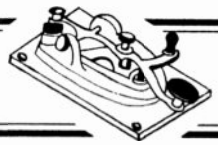
CHALLENGER COMMEMORATION

Challenger Middle School ARC, KI6YG, will be operating a special event station to commemorate the 12th anniversary of the space shuttle *Challenger* tragedy on 28 January 1998 from 1500-2400 UTC, on or near 14.250, 21.350, 28.350, and 146.52 simplex. QSL to Challenger Middle School ARC, 10810 Parkdale Ave., San Diego, CA 92126.

4U1WRC

The International Amateur Radio Club in Geneva is operating 4U1ITU under the call sign 4U1WRC to mark the Radiocommunication Assembly and the World Radiocommunication Conference. A commemorative QSL card will be available for contacts 20 Oct.-21 Nov. 1997. 4U1WRC will be operational in all modes, including PACTOR and CLOVER. **WR**

Silent Keys



D.STRITTMATTER, SR., WD8BHX

Donald "Commodore" Strittmatter, Sr., WD8BHX, died 20 October 1997 at St. John Hospital, Detroit, MI. He was born 30 September 1923. Don was a veteran of World War II, having served in the United States Air Force. He worked as a millwright for the Ford Motor Company and The Dupont Corporation in Mt. Clemens, MI, until his retirement in 1992 after 22 years of employment.

Don held a General class license for many years and was instrumental in teaching many soon-to-be hams. He remained active in Amateur Radio until he died, was always an excellent operator and a pleasure to talk to on the air. He was a member of the Snowbird Club of Florida, the Alert Radio Club, QRST Radio and was a former security guard at the Mt. Clemens Race Track.

He is already missed here locally, on the repeaters and simplex. I will truly miss him. 73 Don, cul. — *Mike Muylaert, KC8FXF*

ROBERT M. MORRIS, W2LV

Inventor, researcher and radio pioneer Bob Morris, W2LV, of Sparta, NJ, died 15 October. He was 95. Morris was first licensed in 1922 as 2CQZ. He became 2LV (later W2LV) in the late '20s. Early in his amateur career, Morris' 2CQZ (running a spark gap transmitter) was among the stations heard in Great Britain and in Europe during the ARRL's Third Transatlantic Tests. He later worked with Edwin H. Armstrong, the man credited with inventing FM. Morris retired in 1966 after a 42-year career as an inventor, researcher and broadcast engineer.

A noted broadcasting historian and storyteller, Morris appeared in Ken Burns' PBS documentary, "Empire of the Air — the men who made radio." He was a member of the ARRL for 75 years, a founding member of the Antique Wireless Association and of the New Jersey DX Association, and a member of the Sussex County Amateur Radio Club.

Bob is survived by his wife, Dorothy, a son, daughter, several grandchildren and great-grandchildren. The family requests that donations in Bob's memory be made to the Antique Wireless Association, c/o Dexter Deeley, Treasurer, 8 Briar Cir., Rochester, NY 14618.— *Robert Reed, W2CE*

THERON M. WOODS, W6ANX

Theron Woods, W6ANX, died 12 September in Auburn, CA, after a long bout with cancer. He and his wife, Kay, W6HDG, were married 30 November 1940. Both Kay and Woody were licensed in the early 1940s and Amateur Radio has played a very vital part of their almost 57 years of marriage. Woody was active on CW up to his last days. — *Kay Woods, W6HDG*

ANTHONY SMAKER, JR., KL7AF

Tony Smaker, KL7AF, of Kodiak, AK, died 17 October at the Providence Kodiak Island Medical Center. Born 20 July1933 in Richmond, CA, Tony grew up and was educated in Vallejo. He served several years in the U.S. Army, and armed with a degree in electical engineering, went to work for Lockheed and NASA, which eventually took him to a long-standing job at the Chiniak Tracking Station in Kodiak. He later established his own business, Smaker Communications & Electronics, in Kodiak. First licensed at 16, Tony was a life member of ARRL, QCWA, and was instrumental in establishing the Alaska Sniper's Net and the Kodiak Amateur Radio Emergency Service. Tony was preceded in death by his wife, Carel. He is survived by his sister, Aileen Alves, son Douglas, and daughter, Brenda Lamoureux, and two grandchildren. — *Chuck Mackey, WL7EM*

WILLIAM G. MATHIS, W3GM

Former Eastern Pennsylvania Section Communications Manager Gerry Mathis, W3GM, of Pennsburg, Pennsylvania, has died. He was 86. Atlantic Division Director Kay Craigie, WT3P, reports Mathis passed away in late October.

As W3BES, the call sign he earned in 1930, Mathis was ARRL SCM for Eastern Pennsylvania from the late 1930's until 1951.

When the Ohio River flooded in 1937 and a detachment of Philadelphia police was sent to Louisville to help, W3BES acted as a relay station to keep Philadelphia in touch with Louisville. Some of his transmissions were broadcast over local radio station WFIL to keep the public informed about the disaster.

Mathis' professional life also revolved around electronics and radio. He was employed by a number of different radio-related companies. Many hams remember him from Consolidated Radio, where he built custom transmitters for various prominent amateurs.

During World War II, he was active in the War Emergency Radio Services (WERS) and then went to the First Fighter Command to organize the air-to-ground communication.

Gerry was a member of the Frankford Radio Club and constructed a multi-multi contest station where he trained many club members in the art of contesting. He also was a long time ARRL member.

In 1991, the ARRL Atlantic Division honored Gerry Mathis with the Grand Ole Ham award. This award recognizes outstanding hams for a lifetime of service to others. — *ARLB065*

ROBERT A. MATTHEW, KC4RKJ

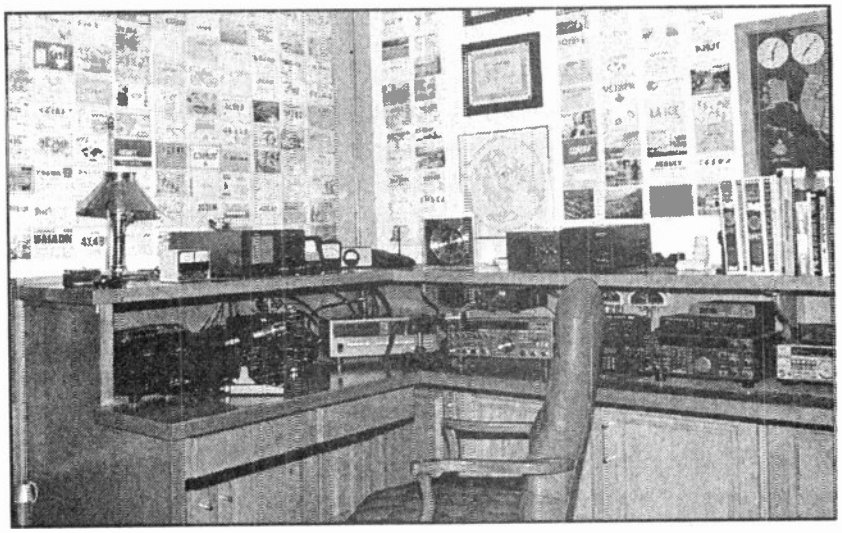
Robert Matthew, KC4RKJ, better known as Army MARS AAA9MR, died in Kingman, AZ on 5 November 1997. "Matt" agreed with the premise that to justify the financial requirements of a top-flight Amateur Radio station, it had to be put to good service as well as used for pleasure. Army MARS became that service, and Matt's focus never wavered. He was known for his work in conjunction with his wife of 45 years, Lori. That work included keeping the station on the air at all times and in creating the graphics for use in public relations/membership recruiting packages used all over the world. No doubt most hamfest attendees have seen his work. His service also always included ARES and communications services for the localities in which he lived. Licensed in Florida, his first service was in the Panhandle and with Florida Army MARS. A recent move to Golden Valley (So-Hi), AZ, shifted his local focus to Mohave County, AZ. His was a lifetime of service which included military service in the Korean War, teaching for 36 years and, of course, the services that he was able to render through Amateur Radio. Matt will be missed but he will also be remembered because of his service to others. Godspeed, Matt. 73.

(continued on page 69)

Station Appearance

George McClintock K4BTY

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



This month's station appearance winner is George McClintock, K4BTY, in Tennessee. George was first licensed in 1958 at KN4BTY and is currently Amateur Extra.

His station as seen above consists of the following:

Lower level U-shaped console: Kenwood TS-870, Yaesu FL7000 500W amplifier, Yaesu FT763R for 50,144, 222, 440MHz, Antenna Switch, CW keyer (not visible), Kenwood TR-7325 for Packet (behind chair). Uniden BC9000XLT scanner, Kenwood TS850S and TS440S (remote telephone controlled.)

Upper level: Kenwood SM 230 station monitor scope, Rotor control, miscellaneous meters for AC, battery voltage and SWR, speakers for radios below.

The QSL cards displayed on the walls represent well over 150 countries. WR

– Amateur "Hi" —

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

The catwhisker.....

JASPER HOGEWEIDE, WØMUF

Back in the early 30s when Al Bruening became interested in radio he began with a crystal set. He found a description detailing how to build a crystal radio. He followed the instructions for winding the coil on a block of wood. He obtained a chunk of galena but the catwhisker had him confused. He couldn't tell from the pictorial just how it was connected.

Al's grandfather had a gentle old tomcat and so he decided that would be a good source for the catwhisker. He sat the cat on his lap, choose a good strong whisker and took a firm grip with his pliers. One good jerk extracted the whisker and sent old Tom into instant action. He extended his automatic traction devices (claws) and headed for the next county. Al had the prized whisker and severe claw marks on his upper legs.

Al attempted to connect the catwhisker into the circuit as shown, but could not obtain the desired result. Finally, he learned of a nearby ham and went to ask questions. The ham had a good laugh and supplied the missing information. Al went on to become a ham and is still enjoying getting on the air as W7LDE. WR

Off the air

Yeah, VHF!

Just read the many letters on how to "save" Amateur Radio. Very interesting theme — HF access makes one a real ham, and VHF/UHF offers little. From ORACLE to individual concerned hams, all say the same thing — you MUST work DX every day with a watt and wet string with SSB or you will lose interest.

MFJ, Bill, WA6ITF, and Dave, N7TWJ, have the right idea — work with simple equipment with few bells and whistles, and make every QSO into a personal fun challenge.

I like the two new 6M rigs by MFJ for SSB and FM. They do sell them as rigs for "No-code Techs and veterans alike..." and many can work DXCC, WAC and WAS on Six Meters with low power and tiny antennas.

Instead of driving a wedge between our so-called upper and lower class licensees, I consider ALL licensees as hams, and VHF+ as our final frontier where all classes of licensees can work DX and local alike with every legal and imaginable mode.

Considering that hams of all license classes may lose more VHF+ spectrum in the future, we should focus on encouraging VHF/UHF operation as the pinnacle of the perfect ham, rather than supporting the view that once you upgrade past "No-code Tech," you should get on HF with all possible speed.

We should also stop calling a Technician a "No-code Tech." This implies these many hams are not real hams, or there's something limiting and nasty about the Morse Code, depending on one's view regarding Morse Code.

ROBERT HOMUTH, KB7AQD
Phoenix, AZ

Pet peeve?

The letter by B. Pratt, W9ZC, in the November issue points out the problem when one club member has a pet project and delivers it as an ultimatum to the others.

Unilateral presentations have no place in an Amateur Radio club—or anywhere else. You float your idea, tell the reason why you feel it is important, then listen to other members to see if the club generally feels it is a valid course of action for them.

I'd sure like to hear from the club members. I'm willing to bet they have opinions on this "my way or the road" club activity.

TOM CARTEN, KIPZU
Wilkes-Barre, PA

JOTA

Jamboree On The Air has come to be a very neat amateur/scout service project for many of us here in Davis County, Utah. I started JOTA here four years ago and it has grown each year. I plan to continue with it as the chairperson and have some great people helping me. I hope to encourage more clubs and hams to get involved with the hobby in respect to scouting as the two have a lot in common.

At our 17-18 October Davis County JOTA, about 250 scouts and adults enjoyed camping overnight in Hess Park and Bi-Centennial Park in Clearfield.

Friday night featured a campfire program with several troops giving skits and run-ons, an Indian dance ceremony by the Order of Arrow, and two songs by Bob Petersen of Morgan, UT: "God Bless the USA" and "The Wind Beneath My Wings."

Saturday activities included the Radio Merit Badge, with 106 awarded (a 400% increase over last year), and talking to other scouts across the states and in foreign countries by means of Amateur Radio.

My sincere thanks to all Amateur Radio operators, the Davis County Amateur Radio Club and especially my family for helping to make this a wonderful event for all.

GARY SMITH, KC7IHZ
Kaysville, UT

No, thanks

Thank you for the complimentary copy of your magazine. I especially enjoyed the "Aerials" column. I will not subscribe, however, due to your editorial stance vis-à-vis the code requirements. By using your standards, all drivers would still have to know how to drive the old 3-pedal Model T, use a hand crank to start it, stop it by using the old mechanical brake systems. As I have, thankfully, left those days behind, I look forward to the day when I can relegate Mr. Morse's invention to the past where it belongs. Unfortunately for Amateur Radio, the Morse code mindset is keeping thousands of otherwise willing and able persons from joining our ranks. If your magazine's seeming credo of "Morse code is essential" prevails, Amateur Radio will not.

DAN SHERMAN, KB7DGW
Sheridan, WY

(Ed: To each his own. Although we depend upon electricity for our daily needs, we still like to keep a supply of candles handy.)

Thanks for Digital Bus

Dear Mr. Snyder,

I just finished reading the December 1997 issue of ***Worldradio*** and I read that you are going to retire the "Digital Bus" column.

I want to offer my sincere thanks for the work that you have done, I enjoyed reading your stories every month. I especially enjoyed your "war stories". I found them filled with humor, and often caused me to pause to think of what my uncle (USMC, Iwo Jima) and others of my father's generation endured so that we have what we do today.

I'll miss your stories. Best 73,

Bob Boehm, N8EXF
Cincinnati, OH

Orkney correction

Reference my article, "A visit to the Orkney Islands," published in the November issue, I would very much appreciate it if you would make some corrections. My mistake was to not write things down on site! I spoke with Clive, CM3POI, this morning we noted I had the wrong information on his antenna farm. I am sure his many DX friends in the U.S. would like to know that he uses the following antennas: 160M–a Delta Loop + Beverages; 80M–a 4 Square; 40M–2-el at 100 ft. On all HF Bands he uses a 13-el Log-periodic at 90 ft.

Clive really has a super station for DXing, and again, I really would appreciate it if you could find a small space in my favorite radio magazine to insert the above.

BILL SCHUCHMAN, W7YS
Flagstaff, AZ

NVIS error

Just got my December ***Worldradio*** and noticed the article on NVIS (p.18), which you credit to Robert Burchardt, N6BJ. N6BJ is Al Simants, who lives in Anderson. Just thought I'd mention it.

JERRY BOYD, K6BZ
Igo, CA

(Ed: Jerry's quite right. Robert Burchardt's call is N5BJ. Our apologies for the error, and our thanks to Jerry for spotting it.)

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- Ticket requests that are received **AFTER** the deadline will be processed and **HELD** for pick-up at the Hara Arena box office beginning Wednesday, May 13 at 9:00 a.m.

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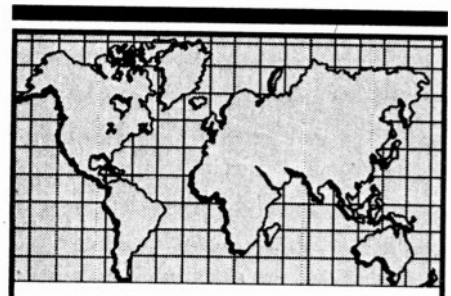


DX WORLD

John F.W. Minke III, N6JM
P.O. Box 310 Carmichael, CA 95809-0310
• E-mail: n6jm@pacbell.net•

The following DXers were awarded ***Worldradio's*** Worked 100 Nations certificates during the month of October:

524. Shailer Herrick, Jr. W1NHJ 30 Oct
525. Mac McCulley, W6MAC 30 Oct

CATZ

Hold the phone! Someone finally applied for Armond's world-famous CATZ award. Young 14-year-old Chris Hurlbut, WL7KY, is our first applicant, and is the son of Frank Hurlbut, KL7FH, of Anchorage, Alaska. According to his grandfather, Frank, KE7MP, Chris is the 4th generation Radio Amateur in the Hurlbut family.

Chris even submitted the QSL cards for verification. The submits included some interesting QSL cards, such as VKØIR on 80 meters and S21XX. The ***Worldradio*** staff is pleased to award Chris with the very first CATZ award, for confirming two-way Amateur Radio contacts in the 24 time zones in the world.

Now, who's going to be the second?

Spratly Islands (1S)

Don Field, G3XTT, sends the latest on the Chiltern DX Club DXpedition to Layang Layang Island in the Spratly Islands (AS-051) in February 1998. They will be signing with 9MØC from 12 through 24 February.

The team is expected to include several operators to man four stations for an around the clock operation. They are veterans of many DX and contest operations, with a wide experience of both LF and HF bands. Layang Layang Island, a.k.a. Swallow Reef, has been the location for several Spratly DXpeditions, including 9MØA and 9MØS.

The following frequencies are guidelines of the DXpedition, and are all in MegaHertz. They may vary somewhat due to conditions on the frequency at the time.

160M	CW	1.824	SSB	1.845
80M	CW	3.502	SSB	3.805
40M	CW	7.002	SSB	7.080
30M	CW	10.102		
20M	CW	14.022	SSB	14.195
18M	CW	18.072	SSB	18.145
15M	CW	21.022	SSB	21.295
12M	CW	24.892	SSB	24.945
10M	CW	28.022	SSB	28.495
6M	CW	50.102	SSB	50.145

RTTY operations will be on 7.035, 14.080, 21.080, and 28.080 MHz.

All operations will be split, listening up, with the exception of the 80-meter SSB band where the split may also be down to accommodate both European and American requirements. Please do not call on the DXpedition transmitting frequency unless the operator clearly indicates so. This probably will happen near the end of the DXpedition when the pileups have been depleted. The splits will be kept to a minimum consistent with the size of the pileup. On CW it is hoped to contain the pileup within 5 kHz and on SSB within 20 kHz.

The team members include: Atsu Asahina, VK2BEX, Don Beattie, G3OZF, Tony Canning, GØOPB, Neville Cheadle, G3NUG, Mike Devereux, G3SED, Don Field, G3XTT, Ray Gerrard, G3NOM, J.R. Linford, G3WGV, Donald Soh, 9M6SU, Steve Telenius-Lowe, G4JVG, and Vince Thompson, K5VT.

West Malaysia (9M2)

Ray Gerrard, 9M2OM, has left Malaysia and has returned to his home in the United Kingdom, according to *The Daily DX*. Ray has helped many of the deserving DXer work a new one, including a couple of IOTA island DXpeditions. I had the pleasure of working him on 80 Meters to help me wrap up DXCC on that band. All QSL requests should now be sent to Ray via his home call, G3NOM.

United Arab Emirates (A6)

With the help of some contesters, according to *The Daily DX*, the antenna farm of Ali, A61AJ, should now be completed that will include two 100-foot towers with two elements on 80 Meters, three on 40 Meters, six on 20 Meters, a TH11 on 15 Meters, and six elements on 10 Meters. They will also have capabilities for 160 Meters.

But, according to Don Greenbaum, N1DG, in October Dubai had a rare event in which they were hit with a cyclone, severely damaging the antennas of three of the four active DXers there. The KT34XA at A61AD was knocked off the tower and is a total loss. At A61AN the 20-meter monobander is down but repairable, and Don says that the 4-element KLM monobander at A61AO is vertically polarized with one element down and is also fixable.

The antennas at A61AQ are fine. Don also says he soon hopes to receive the logs from this station, so if you are awaiting a card, please be patient.

Pakistan (AP)

According to Tariq, AP2TJ, there have been several CW operations from Pakistan by Slim, such as the call AP2ZP on 15 Meters in October. Tariq says the only bona fide CW operators include the calls: AP2HA, AP2MY, AP2SD, AP2NK, and AP2TJ. Some of these calls may be presently inactive.

Tariq also says the recent activity of AP2JZB on 40- and 80-meter CW was that of Slim, as this station does not work CW.

Minami Torishima (JD1)

According to *The Daily DX* Take, JG8NQJ, is now on Marcus Island (OC-073) signing with JG8NQJ/JD1 and should be there through 20 February 1998.

Jan Mayen (JX)

According to *The Daily DX* Terge Berg, LA3EX, is active from Jan

Paul Pai, BV4FH, (left), poses with his friend from Taiwan, Jimmy Tu, BV4AS, at the New Orleans International DX Convention in August.

— photo by Wes Strauch, W5VBX

Mayen (EU-022) signing with JX3EX. He is expected to be on the island through March or April 1998.

Kingman Reef (KH5K)

Unfortunately, the scheduled 48-hour stopover at Kingman Reef (OC-096) by Chuck, N4BQW, never materialized. According to Tony DePrato, WA4JQS, the captain of the vessel claimed that there was no time as he had to get back to Christmas Island (OC-024) to catch the weekly plane out. There was nothing Chuck could do. They were returning from Palmyra Island (OC-085) where Chuck signed with N4BQW/KH5 making many of the deserving DXer very pleased.

There were reports of Chuck signing from Kingman Reef with N4BQW/KH5K, but this was our friend Slim on 40-meter CW. As far as we know Chuck doesn't care for CW operations.

Willis Island (VK9)

Bill Horner, VK4FW, says that the grand total of contacts made from Willis Island (OC-007) by VK9WM and VK9WY was 42,275. After removing duplicate contacts this amounted to 30,367 contacts from VK9WM and 9,898 contacts from VK9WY. The total, with dupes excluded, for the two was 40,265. I guess that amount to 2,010 contacts made by greedy DXers who were not satisfied with one contact per band per mode, thus depriving other fellow DXers of a possible contact with them.

Bill also states that a Willis Island commemorative shirt is available from ODXG. It is in two colors, powder blue with black collar and arm bands, plus a large pocket in front. The shirts will have the ODXG logo with full details of the Willis Island DXpedition on it, and are available in sizes S, M, L, XL, XXL and XXXL. The total price is $25 (U.S.) which includes postage. All proceeds will be used to cover the costs of replacing damaged equipment from the DXpedition and surplus will be used for the next rare one. You may order direct from ODXG, P.O. Box 929, Gympie, 4570, AUSTRALIA. A video will become available at a later date.

Macquarie Island (VKØ)

CW contacts from Macquarie Island (AN-005) are presently not available. His QSL manager, Simon Trotter, VK1AUS, says: "Tom, VKØTS, is not an avid CW man, so he didn't take a key with him to Macquarie Island. He found an old key in a drawer down there, cleaned it up and has given a few scratchy CW contacts, but during a panic in the radio room one day the 40-year-old key was knocked to the ground and broke into two pieces, so I don't think there will be many more CW contacts. He has tried to fix it, but he now says that it just sounds totally awful. Tom is trying to make another CW key while he is down there and so we can just hope that he gets one going." Perhaps an old-time DXer has a spare J-38 lying around. Plenty of those sure were available not too long ago.

During the period of 25-31 October the call of VKØANARE was used from Macquarie Island, including the *CQ* Worldwide DX Contest. This was the same station as VKØTS.

S. Shetland Islands (VP8)

According to *The Daily DX* Stan, SP3BGD will relieve Marek, SPGVX, the operator of HFØPOL at Henryk Arctowski Station, located on King George Island (AN-010). Since 1991 this club station has made over 25,000 contacts.

Also from the South Shetland Islands LU1ZC is active from an Argentine base on Deception Island (AN-010). The station is reported to be manned by at least four operators. They should be active until about late February 1998. For the Antarctic Bases Award, (WABA), this counts as LU-04.

Harry Popov, LZ1BB, reports that Danny, LZ1UU, will return to the Bulgarian Antarctic Base on Livingston Island (AN-010) the beginning of December and should be signing with LZØA. They plan digital communications with their operations.

Harry is asking for donations to help with the station there so they can purchase a tri-band Yagi antenna. Any help would be appreciated and you should contact Harry at e-mail ibc@omega.bg for details.

N. Cook Islands (ZK1)

Tom, K8XP, reports via *The Daily DX* that the ZK1XXP DXpedition team collected 15,299 contacts during five and a half days of operation. Of that there were 6,708 contacts on SSB, 8,101 on CW, and 490 on RTTY. The goal was to work Europeans, but only 1,900 contacts were made with that continent. The QSL cards should be ready in about a couple of months.

IOTA

The Daily DX notes that John Walker, WZ8D, and three others will operate as C6AIE from Abaco Island (NA-080) 10-17 December. Their main purpose is to operate during the annual ARRL 10-meter contest.

Joe Adams, VE3BW, will operate from Roatan Island in Honduras (NA-057) 1-22 February signing with VE3BW/HR6. He will also be active in the ARRL International DX Competition.

David Rankin, 9V1RH, whose back door is right in with many of those elusive Indonesia stations, says that many of the island groups are quite isolated, and it takes quite some time for QSL cards to reach them. David reports with some activity such as YB9AS and YC9BU on Bali Island (OC-022); YC7JKS on Indonesian Kalimantan (OC-088); YC8UYB on Sulawesi Island (OC-146); YC8BJK/9 on Irian Jaya's Coastal Islands (OC-147); YC9MKF and YC9NBR on Timor Island (OC-148); YC8TZR on Talaud Island, and YC8TXW on Sangihe Island (OC-21Ø). Refer to QSL Routes for the addresses of these stations. Incidently, Timor Island was formerly the DXCC country of Portugese Timor.

There are many resident DXers on these islands. Such as the case for the Orkney Islands (EU-009) located off the north coast of Scotland. Clive Penna, GM3POI, is very active on the CW bands, including the major contests. From Oland Island (EU-037) in Sweden is SM7DLZ can be worked on both SSB and CW. His spots have included 7.003 to 7.009 MHz from 0530 UTC, and 14.260 to 14.262 MHz from 0930 to 1330 UTC.

There are many DX stations on Sakhalin Island (AS-012). These Russian calls can be identified by a zero in the call followed by the letter "F" in the suffix of the call. Therefore, such calls as RAØFA, UAØFAI, or UEØFFF are located on Sakhalin Island.

Nerio Baaratta, HSØ/IK4MRH, is very active from Phuket Island (AS-053). Look for him near the 20-meter IOTA frequency (14.260 MHz) between 1000 to 1100, and 1530 to 1730MHz.

Off the coast of Maine on Vinalhaven Island (NA-055) Ray Taboski, AK1L, shows often and was reported on 15 and 20 Meters. Look for Ray near these frequencies: 14.015 to 14.017, 14.260, 21.014 to 21.040, and 21.258 to 21.262 MHz. His times appear to be from about 1200 to 2130 UTC.

Other IOTA islands reported during October included the following. The frequencies are the usual MHz and times in UTC.

AF-023	S92FL	14.188-14.195	1945-2100
AN-006	EM1HO	14.191	0930
AS-005	RAØBK	14.215-14.221	1230-1245
AS-008	7K3EOP/1	14.245-14.258	0615-0830
AS-015	9M2TO	14.032	1615
AS-17	JR6EA	21.227-21.257	0900-0945
AS-024	JS6PMR	7.009- 7.025	1115-1345
AS-036	JH6KFY	21.260-21.266	2300-0115
EU-009	GM3PGY	14.260	1215-1500
EU-010	GMØKCY	3.772	1015-1300
EU-012	GMØEKM	3.772	2015
EU-020	SM1BIQ	14.260	1415
EU-031	IC8JAH	14.260	1545
EU-038	PAØMDG	21.266	1400
EU-044	LA8NGA	14.260	1000-1300
EU-045	IBØJN	7.063	1615
EU-056	LA4GHA	14.260	1230-1300
EU-075	SV1TP/P	14.263	0745-1415
EU-082	U1ZA/A	14.002-14.006	0715-0945
EU-133	R1ASP	14.260	0715
EU-141	LA5SJA	18.161	1000
EU-146	PA3EVJ	14.260-14.266	1000-1600
NA-010	VX1XA	14.260	1630
NA-018	OX3LG	14.260-14.265	1515-1715
NA-029	VY2RO	21.252-21.300	1230-1415
NA-051	VE7TLL	3.720	0415
NA-Ø57	HR6/N7QXQ	21.323	2130
NA-066	KI6T/P	14.040	0100
NA-075	VE7KRC	14.260	2000
NA-110	WB4WTY	14.257-14.259	1200-2000
NA-138	W5IJU	21.260	1445
NA-198	VO1BAR	3.798	0145
OC-011	V63KU	14.170-14.195	0945-1015
OC-022	YC9BU	21.255-21.295	1200-1415
OC-034	YC9WZJ	21.253-21.290	0030-0100
OC-042	4F3FVA	21.260-21.300	1115-1300
OC-059	V63AO	18.124	1015
OC-119	DU8ARK	21.270-21.330	1215-1415
OC-128	4F2DX	14.260-14.262	1500-1630
OC-137	VK4CY	14.213	0715
OC-137	VK4LV	21.008	0130
OC-141	VK8KTC	21.250-21.295	0915-1430
OC-146	YC8UPE	21.265	1430
OC-148	YC9NBR	21.255-21.295	0830-1200
OC-151	YC9LZ	21.250	1230
OC-194	V85HG	21.290	1530
OC-209	YC8TZR	21.283	1300
OC-210	YC8TXW	21.260-21.278	0845-1145
OC-224	YC8SHQ/P	21.225-21.275	1130-1430
SA-008	LU8XPD	21.340	1630
SA-008	LU1XSI	14.019	2300
SA-024	PX5JP	28.456-28-460	1515-1645
SA-064	CE7AOY	21.260	1800

In October, Osvaldo, CE1LDS, operated from Chanaral Island, first signing as CE1LDS/2, and later as CE1LDS/P. This was reported to be a new island, and at the time of this writing no IOTA reference number has been assigned.

IOTA matters

The following IOTA operations have been accepted upon receiving validation material, including those operations where volunteered, and not specifically required:

AS-052	JF1IST/7J	Okino Torishima	Mar '97
AS-129	BD7JA/7	Wai-Ling-Ding Is.	Aug '97
EU-123	GMØDEQ/P	Isle of Little Cumbrae	Jul '97
EU-167	CT1CJJ/P	Pessegueiro Island	Aug'97
EU-167	CT1/LX2JJ	Pessegueiro Island	Aug'97
NA-088	HP1XBI/4	Bocas Tel Toro Island	Jul'97
NA-118	N6VV/VE7	Green Island	Jul/Aug'97
NA-118	W7DR/VE7	Green Island	Jul/Aug'97
NA-118	VE7EDZ	Green Island	Jul/Aug'97
NA-202	HP1XBI/2	Grande Island	Jul'97
OC-055	N4BQW/KH4	Tern Island	Aug/Sep'97
OC-164	VK6ISL	Rottnest Island	Sep'97
OC-223	VK2IOM	Montague Island	Sep'97
SA-028	ZY2IB	Sao Sebastiao Island	Apr'97

Provisional IOTA reference numbers have been issued for the following and are waiting for the neces-

sary validation material:

AS-1283	W4EZD	Quan Phu Quoc Is.	Jun/Jul'97
OC-224	YC8SHQ/P	Yamdena Island	Sep '97

Most needed countries

The ARRL has a list of the top 100 most-needed countries for DXCC. The list is based on DXCC applications and is not that of the former list that was published by *The DX Magazine*. The latter list was based on a survey of subscribers what they personally needed.

I'm not going to list the whole list here, but here are a few:

1	P5	North Korea
2	BS7H	Scarborough Reef
3	BV9P	Pratas Island
4	VKØH	Heard Island
5	7O	Yemen
6	E3	Eritrea
7	A5	Bhutan
8	VU	Andaman & Nicobar Islands
9	FR/T	Tromelin Island
10	Z3	Macedonia
11	5A	Libya
12	VKØM	Macquarie Island
13	T9	Bosnia-Herzegovina
14	SV/A	Mount Athos
15	FR/G	Glorioso Island
16	VU7	Laccadive Islands
17	OK	Czech Republic
18	ZL9	Auckland & Campbell Islands
19	ZS8	Prince Edward & Marion Islands
20	3Y	Bouvet Island
21	3B7	Agalega & St Brandon Islands
22	FR/J	Juan de Nova, Europa
23	FT5W	Crozet Island
24	ZL8	Kermadec Islands
25	FT5Z	Amsterdam & St Paul Islands

Remember, this list is based on the DXCC applications. No doubt many DXers already have confirmed some of the above and have not requested credit for them. Also, after that highly successful Heard Island DXpedition this one most likely will no longer be in the top 100.

Good contact!

Here is an interesting item by Alex van Eijk, PA3DZN. Alex writes: "It seems to me that there are some unemployed net controls roaming the bands, desperately looking for some sort of DX frequency to control, or maybe it is the NETosism that's taking over. On at least two occasions this week I encountered the unsolicited 'assistance' in full swing; I was listening to a G station on 80M SSB who was trying to work a VK. They had difficulties hearing each other through QRN, so someone jumped in to scream 'YOU DID NOT COPY THE SECOND NUMBER, COUNT AGAIN!', and then this person finally proclaimed that it was not a 'GOOD CONTACT'. Same happened to me when I was working some difficult Pacific station on 40M SSB, completing the contact to our mutual satisfaction, then an I station comes and DEMANDS me to repeat the report I received, to which I replied that I don't see why I would have to share this info with him. After all, it was not a net. In response the Floating Control accused me of 'guessing' and 'faking' (familiar qualities of net operators) and that it was not a 'GOOD CONTACT'!"

DX Prediction — January 1998

Maximum usable frequecy from West Coast, Central U.S. and East Coast (courtesy of Engineering Systems Inc., Box 939, Vienna, VA 22183.) The numbers listed in each section are the average maximum usable frequencies (MUF) in MHz for contacting five major areas of the world centered on Africa—Kenya/Nairobi, Asia—Japan/Tokyo, Oceania—Australia/Melbourne, Europe—Germany/Frankfurt, and South America—Brazil/Rio de Janeiro. 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	*(11)*	12	***14**	*(9)*	***14**
12	*(11)*	11	***14**	*(9)*	*(13)*
14	*(10)*	11	***13**	*(9)*	26
16	*(20)*	11	***21**	*(14)*	30
18	23	*(11)*	*(16)*	*(10)*	***32**
20	24	*(12)*	*(20)*	*(10)*	***33**
22	20	22	25	*(9)*	31
24	*(18)*	24	29	*(9)*	***27**
2	14	20	27	9	***18**
4	***13**	14	18	9	***16**
6	*(12)*	13	16	9	***15**
8	*(11)*	***12**	*(15)*	9	***14**

CENTRAL U.S.A.

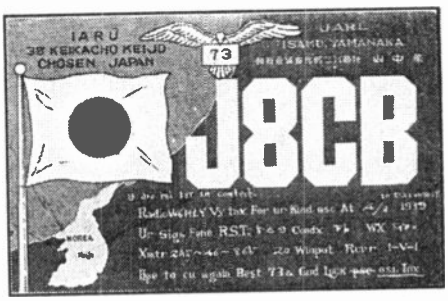
UTC	AFRI	ASIA	OCEA	EURO	SO AM
8	*(14)*	9	*(14)*	***9**	***14**
10	*(13)*	9	***14**	*(9)*	***13**
12	*(13)*	9	13	*(9)*	20
14	26	12	***25**	17	***28**
16	30	*(11)*	21	*(15)*	***30**
18	***30**	*(11)*	*(17)*	*(11)*	***32**
20	25	*(10)*	*(21)*	*(10)*	***33**
22	21	*(19)*	25	*(9)*	***30**
24	***17**	*(15)*	26	9	***22**
2	***16**	*(11)*	18	9	***17**
4	***15**	*(10)*	*(16)*	9	***16**
6	*(14)*	*(10)*	*(15)*	9	***15**

EAST COAST

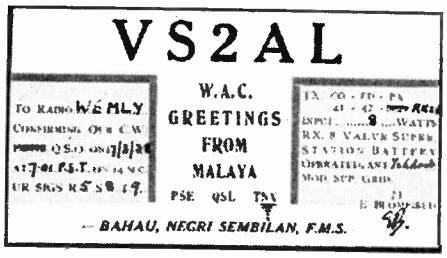
UTC	AFRI	ASIA	OCEA	EURO	SO AM
7	*(13)*	9	*(14)*	9	***14**
9	*(13)*	9	***14**	***9**	***14**
11	24	9	13	15	20
13	29	10	***25**	18	***28**
15	31	*(9)*	*23*	17	***31**
17	***31**	*(9)*	*(19)*	15	***32**
19	***28**	*(9)*	*(18)*	*(11)*	***33**
21	***23**	*(15)*	*(24)*	10	***30**
23	***17**	*(15)*	*(26)*	10	***23**
1	***16**	*(11)*	*(18)*	9	***18**
3	***15**	*(10)*	*(16)*	9	***16**
5	***14**	*(10)*	*(15)*	9	***15**

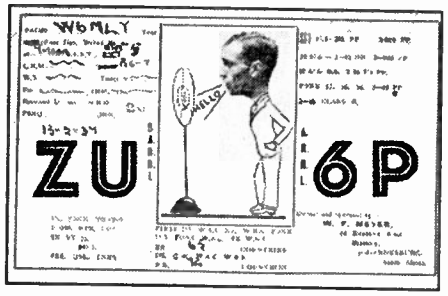
Antique QSL Department

George R. "Dick" McKercher, WØMLY, provided this month's selection of old QSL cards. (George's picture is on page 30) And, not one of them is good for DXCC. Why? Because they are all pre-World War II; the new DXCC program started with contacts since November 15, 1945. In those days Dick was signing with W6MLY, although we do not know which state, as the 6th call area included other states in addition to California.



The first card you might say is four-color, black, red, blue and white. The pertinent data is hand printed in white on a blue background. The operator for the call J8CB was a Isamu Yamanaka, who





Dick worked in 1939 during a DX contest. Chosen would later become independent and known as Korea.

Dick's second card is from Malaya, who he worked in 1938. The operator of the call VS2AL was an E. Blomfield.

The third card, ZU6P, was for a 1937 contact with W.F. Meyer of Johannesburg, South Africa. Obviously, the DX station was operated by a PHONE man. Maybe he preferred to operate standing up too. Notice that he was a member of the ARRL.

The ZU6P also included his country count of 65, still far short of DXCC. Upon reaching the required amount to join the DX Century Club it was a real accomplishment to brag about. Working those needed countries was very difficult. A lot just were not on, plus there were no spotting nets, no PacketCluster, etc. No DX bulletins either, other than a monthly column in *QST*.

New DXCC country?

Dean Norris, K7NO, posted on the *DX Reflector* that he understands that St. Kitts and Nevis Islands have separated, where Nevis Island will become independent. Dean wonders if Nevis Island will be given separate DXCC status. This will be interesting to see what develops. Further investigation on this is that they are thinking of separating.

Little-known Hamfacts

This little item appeared in a recent issue of *DXTRA*, the newsletter of the Northern Arizona DX Association, edited by Bill Schuchman, W7YS.

"It is much more difficult to make DXCC 80 Meters (and 5BDXCC) from the West Coast because: There are more than 50 'countries' within a 2000-mile circle centered on Washington, DC. The same-size circle centered on Los Angeles yields only four, and two of them are XE4 and Clipperton! Hams in Washington, DC, may find it slightly more difficult to work XE4 since the mileage is 1,900 miles compared to 1,580 from L.A."

Now, you know why East Coast scores are always higher than West Coast scores in the DX contests.

Clubs

Outgoing president of the Willamette Valley DX Club, Bob Norin, W7YAQ, announces the new officers for the coming year. For President, Vince Varnas, K7REG; Vice-President, John Fulton, W7WZ; Secretary, Bill Vanderheide, AA7KF; and Treasurer, Mike Conatore, K7NT.

Bob reports that the club is now in its 35th year handling the 7th District Incoming QSL Bureau, managed by Ken Miller, K7IFG. The club also meets in Portland the last Thursday of each month at 7.30 p.m. at the Round Table Pizza, 10070 SW Barbur Blvd. They will sponsor the Pacific Northwest DX Convention in 1999, but not at the pizza parlor.

Green stamps or IRCs?

The deserving DXer is often confused — is it better to send a green stamp (a U.S. dollar bill) or an IRC (International Reply Coupon) when requesting a direct QSL card return? The present rate for an IRC at the post office is $1.05 and is good for redemption at another country post office for one unit of airmail postage, enough to cover the return of a QSL card. Obviously, a green stamp is cheaper.

However, a single green stamp is not enough to certain countries such as Germany. And, this also the case with Australia where postage increases were made last March. The letter rate (20 to 50 grams) to the U.S. is $1.50 and a green stamp will not cover this. The single IRC should cover the postage.

Then, there are places where U.S. dollars can cause problems as citizens are not allowed to have them in their possession. And, in some countries postal workers sense the presence of such items in the mails and these green stamps never reach the intended party.

Harry Popov, LZ1BB, says Bulgaria is such a place. Not only that, Harry says some of their mail passes through Hungary and the mails are pilfered there. The Bulgarian postal workers then catch what was missed in Hungary. The IRCs do get through. Harry says that an airmail return will cost two IRCs. One IRC is supposed to do the job. But, if you are in a hurry for a card from Bulgaria, you had better send the two IRCs. The best idea, says Harry, is to send an s.a.e. with Bulgarian postage.

Harold K4HB suggests using mint Russian postage instead of green stamps to that country. He said, "I didn't seal the envelope, and wrote 'UEHHOCTEW HET' (nothing of value) on the mailer envelope". His requested cards arrived back in less than one month. In fact, the cards came from the station's QSL manager, in this case Toivo, RA3AR. Harold had sent cards direct to RW3AH, for his 9X/RW3AH (now 9XØA) operations. Please refer to QSL Routes for QSL cards to 9XØA.

So, if you choose to send green stamps with your QSL requests, for almost all countries, the single U.S. dollar bill will be enough, with the exception of Germany. When in doubt send an IRC.

QSL information

Jim, KH2D, of the KH2 QSL Bureau, reports that they are receiving a large amount of QSL cards for DXers that are (and never been on Guam). Although, some of these cards may have been on Guam at one time or another, there are some calls that were issued under the vanity call program.

If you just happen to have an AH2, KH2, NH2, or WH2 call, Jim says you should make people you work on the air aware that you are operating from parts of the world other than Guam. Also, if you want those QSL cards that have arrived at the

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Eric, KA6IHT, Mgr.
Victory Blvd. at Buena Vista
1 mi. west I-5

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(800) 854-6046
Mark, KE6OFP, Mgr.
I-880 at 23rd Ave. ramp

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Tom, KM6K, Mgr.
Hwy. 163 & Claremont Mesa

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Joe, KDØGA, Mgr.

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(800) 444-9476
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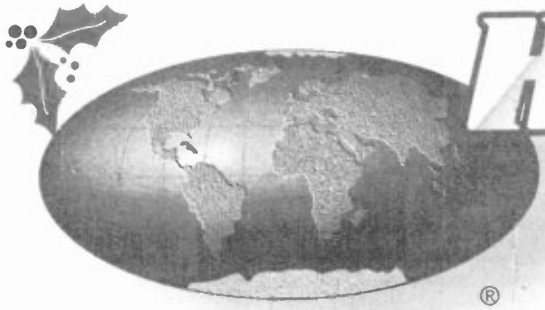

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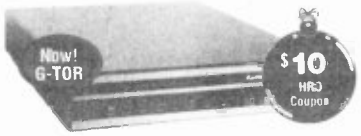

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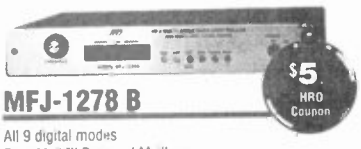

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As for calls with the former Guam prefix of KG6, KG6ASO is the only known active station operating from Guam at this time.

Refer to the QSL Routes for some Guam calls. These should not be sent via the Guam QSL Bureau.

This looks like a potential mess. With this vanity call thing maybe these cards for Guam can all be handled by the 2nd call area bureau. I can't see any disadvantages other than that the local DXers on Guam will no longer be able to collect their cards at their club meetings.

All requests for direct QSL cards for the BS7H DXpedition have been answered. If you have not received your card you should reapply as the request may have been lost in the mail.

On the far right is Dick McKercher, WØMLY, taken at Visalia a few years back. Next to him on his right is your DX Editor, and next to me is Armond Noble, N6WR, famous bossman. Next to Armond is Peter Onnigian, W6QEU.

Chris, K4PC, notes he is working at getting hold of the outgoing cards from the Moldavia QSL Bureau. He said there is a three-to-four-foot-high stack of U.S. cards sitting there. He missed taking them out with him during his last trip to the country. So if you are still waiting for an ER QSL card, please be patient a little longer.

Neil, VK6NE, who handles the VK9/VKØ Australian QSL Bureau, says that the only VK9 or VKØ stations that collect QSL cards through that bureau are VK9LA and VK9LH. No other VK9 or VKØ stations collect their cards. We assume that includes Jim Smith, VK9NS, who is very active from Norfolk Island. However, most of us would request a QSL card from Jim directly.

Neil also says that any station managed by the ODXG people, cards addressed to the bureau in VK4, or any DXpedition carried out by ODXG will not accept bureau cards. He adds "Not Wanted Via Bureau" and returns cards via the overseas bureaus.

This leads into another related subject regarding ODXG (Oceania DX Group). Akio Shimizu, JA3JM, said that he sent several QSL cards to VK4FW of ODXG with an IBRS envelope. This envelope (International Business Reply Service) is only good if mailed to Japan. He received an empty envelope back with the note, "Please don't send these to me without return postage to cover QSL printing." Akio, comments that he wasn't interesting in an expensive QSL card, just a simple card to confirm the contact. Bill Snider, K6KM, who was on the team, later clarified this, and said that Bill's note had really said there was not enough postage on the IBRS envelope to cover the return of *five* QSL cards, not for QSL printing.

An answer to this comes from Don Greenbaum, N1DG, who says, "If VK4FW wants something for printing costs he should be able to request it. If it was for an expedition I think it is a common courtesy to include something extra. You spend thousands of dollars on equipment, but can't spare $1 to cover postage, printing and some of the expense of the expedition to give you a new one?"

A good point. Yes, it is a common courtesy to include funds for a DXpedition. If a DXer sends an SAE with sufficient funds to cover the postage, that should be enough. Funding and QSL requests should be separated. QSL requests without the necessary provisions should be answer via the bureaus.

I know, this can be made into a debate. A deserving DXer sends a green stamp for his single contact. However, if this were a DXpedition, is one dollar really enough, considering that the contact was a new one for him? What about the DXer who works the DXpedition on all bands and all modes, perhaps ten contacts. Should he include ten green stamps? After all, he had more to gain than the fellow who only made one contact. Perhaps, members of previous DXpeditions could have some input here regarding reasonable contributions.

There will always be the DXer has quotes "A QSL card is the final courtesy". Well, yes it is, but to what extent? Surely, this statement does not eliminate the need for an s.a.s.e. That JA3 mentioned above still stands be his laurels and claims

DXpeditions should be "paid with own money". That's a sad attitude. DXpeditions cannot happen without financial support. As this JA3 also holds a Stateside call, he is not hurting financially if he can afford to come to the U.S. to take the test!

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The *CQ* World Wide DX Contest this October was a tremendous success. To the delight of many of the contesters were the 10-meter openings. Although not as good as it has been during those past years, some of the east coast big gun stations collected some very impressive total for that band. Tom Roscoe, K8CX, reports that N2RM made 547 contacts in 25 zones and 107 DXCC countries; KC1XX with 553, 22 and 112; K3LR with 608, 25 and 1Ø7; W3LPL with 754, 26 and 120; and K1KI with 463, 24 and 105. Tom was one of the operators at K3LR. Mats Pearsson, 5X1Z, said he spent too much time on 10 meters. Mats said he made 1228 contacts with 28 zones and 106 DXCC countries. If you were in the contest and never bothered to check 10 Meters you really missed the boat! 73 de John N6JM. **WR**

First China-North America EME QSO

BY1QH again was active on 144 MHz EME on 25 October and worked KB8RQ for the first-ever China to North America EME contact. BY1QH also worked W5UN. The station operator was David, BZ1BM, who had help from Lasse, SM0KAK. *—SARRL Letter, ARRL Letter, MØKAK* **WR**

QSL managers

There was an error in one of the QSL routes in the November issue. The route for T99MT should have read K2PF, not K3PF.

These QSL routes are correct to the best of my knowledge, and any corrections would be appreciated. Where two calls are listed as the route, that indicates that two routes are available, or the manager has changed his call; old and new calls are provided. *—N6JM*

3A/AA2LF	—WA4JTK
3A/I1YRL	—I1YRL
3A/JH1NBN	—JH1NBN
3A/N9NC	—OM2SA (6)
3A/WØYR	—OM2SA (6)
3B8/CX4CR	—CX3CE
3B8/FSHMJ	—F6HMJ
3B8/JE2HCJ	—JA2JSF
3D2KY	—JA3MVI
3D2ME	—JG2EBN
3D2MF	—ZL2MF
3D2RW	—ZL1AMO
3D2XU	—PA3AXU
3DAØCA	—W4DR
3DAØNX	—ZS6CAX
3DA5A	—JH7FQK
3V8BB	—YT1AD
3W5FS	—7L1MFS
3W5KDN	—JR2KDN
3W5KVR	—JI6KVR
3W5MNB	—JA2MNB
3W6EZD	—XW2A
3W6VT	—JJ6LXX
3ZØZAM	—SP8LZC
4F3CV	—HB9CXZ
4K6/KE6UP	—KE6UP
4K6DFT	—UA9AB
4K6FT	—UA9AB
4K8F	—UA9AB
4K9W	—DL6KVA
4LØCR	—IK7JTF
4L1UN	—IK7JTF
4L8A	—OZ1HPS
4NØS	—YU7JDE
4U1ITU	—OK1CZ (7)
4U1WB	—KK4HD
4U1WRC	—Bureau
4X6TT	—N2AU
4Z5BZ	—RW6HS
5A1A	—DL3KDV (1)
5B4/RA9JR	—RA9JR
5B4/UA9YAB	—UA9YAB
5B4AADA	—9A2AJ
5H3HG	—WY3V
5NØBHF	—OE6LAG
5N36CPR	—SP5CPR
5N3TT	—F2YT
5R8FR	—NY3N
5V7A	—GM4FDM
5V7BC	—F5KPG
5V7GL	—EA5WX
5W1CW	—ZL1AMO
5X1S	—DF2RG
5X1T	—ON5NT
5X1Z	—SM7PKK
5Z4RL	—N2AU
6D2X	—K5TSQ
6V1C	—6W1QV
6W1QV	—F6FNU
6Y4A	—WA4WTG
6Y5DA	—VE1JK
6Y6A	—JE3MAS
7Q7DC	—KC7JDC
7Q7EH	—AA9HD
7Q7RM	—GØIAS
7S6QW	—SK6QW
7Z1IS	—SMØOFC
7Z5OO	—N2AU
8P6DA	—KU9C
8P9DX	—VA3DX/VE3ICR
8P9GE	—K2PF
8P9GI	—AC7DX
8P9HR	—K4BAI
8P9HU	—K3KG
8P9IJ	—VE3VET
8P9Z	—K4BAI
8Q7AJ	—KD6WW
8Q7HY	—JK1FNN
8Q7KD	—EA1BD
9A5ØD	—9A1BHI
9G1BJ	—G4XTA
9H3RJ	—HB9TU
9H3TT	—GØNJZ
9H3YG	—DF4RD
9J2BO	—W6ORD
9J2CE	—IN3VZE
9K2GS	—WB6JMS
9K2RR	—KU9C
9M2EU	—JA2EJU
9M2TO	—JAØDMV
9M6AAC	—N2OO
9M6CT	—VR2CT
9M6HIL	—N2OO
9M6JM	—JHØSPE
9M6TG	—JH3GAH
9M6YY	—JH3GAH
9M8R	—W7EJ
9N1BV	—JA1PBV
9N1RHM	—G4CRY
9Q2L	—PA3DMH
9Q5HX	—IK2MRZ
9R1A	—PA3DMH
9U5CW	—EA1FFC
9U5W	—VE2MNS
9V1ZB	—JL3WSL
9V1ZW	—JA9IFF
9X/RW3AH	—RW3AH
9XØA	—DL5WM (5)
9X5EE	—PA3DMH
A35EA	—ZL1AMO
A35KY	—JA3MVI
A35MJ	—KS7D
A35RK	—W7TSQ
A4/GØBQV	—GØBQV
A41LK	—UA9AB
A61AO	—N1DG
A92GD	—K1SE
AHØAY	—JA1MXY
AH2BE/KH9	—AC7DX
AH2F	—N4UK
AH2M	—KP2L
AJ2U/VP9	—AJ2U
AMØMM	—EA3MM
AM3AEQ	—EA3AEQ
AP2AP	—JA1EZM
AP2JZB	—K2EWB
AP2N	—AP2MMN
AP2TJ	—W3HNK
AY7D	—LU7DW
BA1DU	—W3HC
BA4TB	—9A2AJ
BVØDX	—KA6SPQ
BXØCQ	—BV2BC
C21/ZL1AMO	—ZL1AMO
C6A/K8DD	—K8DD
C6A/W4CJK	—W4CJK
C6AHN	—EA3ELM
C6AIE	—WZ8D
C6AJT	—W4CJK
CEØZIS	—CE2RKD
CE166NP	—CX3FL
CI9DH	—VE9DH
CL3IP	—CO3CL
CL8VP	—CO8RCG
CM3IP	—WD4OIN
CN8NY	—DL2EAD
CO3CL	—W3HNK
CO3ET	—WD4OIN
CO7KR	—DL5DCA
CP4BT	—DL9OT
CP6AA	—OHØXX
CS6S	—CT1ERK
CT2CLO	—CT1AP
CT3/DL7BY	—DL7BY
CU7DT	—CU7AA
CV1F	—CX6FP
CW166NP	—CX3FL
CW1D	—CX1AK
CW5R	—CX2ABC
CYØDX	—VA3EU
CY9R	—VE3MRN
CZ1TX	—VO1TX
D25L	—PA3DMH
D2BB	—EA1BB
DAØISL	—DL9GOA
DAØRP	—DJØJE
DL7DF/HR3	—DL7DF
DU3/AH8F	—G4ZVJ
DU3NXE	—W4NXE
DU8ARK	—I2YDX
E21CJN	—K3WUW
E22AAC	—HS1RU
EA8BH	—OH2BH
EA8BYR	—UA9AB
EA9/DL3OCH	—DL3OCH
ED2MGB	—EA2URV
ED3PSL	—EA3GIS
ED5JAC	—EA5GMB
ED5JOR	—EA5WX
ED7NHI	—EA7AJM
EGØMGB	—EA2URV
EI/IKØXBX	—IKØXBX
EJ/G3PFS	—G3PFS
EJ/IKØXBX	—IKØXBX
EL/K3KN	—KB3U
EL2JR	—KB3U
EM1HO	—I2PJA
EN6O	—UA9AB
EP2MKO	—UA6HCW (6)
EU5R	—EU1FC
EXØV	—N6FF
EX2U	—IK2QAR
EX8F	—DL8FCU
EX8MLE	—IK2QPR
EY4AA	—UA9AB
EY8/K4YT	—W2KT
EY8AM	—DF3OL
EY8XX	—GW3CDP
FG5BG	—JF2DQJ
FH/DJ2BW	—DJ2BW
FK8GJ	—F6CXJ
FK8GM	—WB2RAJ
FK8HC	—VK4FW
FM/K2PF	—K2PF
FOØBRD	—N6RT
FOØKEO	—KA7CQQ
FOØKK	—W6KK
FOØRW	—W6RW
FOØSPE	—KG6AR
FOØSUC	—F5JJW
FO5VO	—N6VO
FO8DX	—KG6AR
FP/KG8CO	—K8AQM
FP5EJ	—K2RW
FP5EK	—K1RH
FR5VZ	—F8VJ
FS5PL	—NØJT
FT5ZG	—F5RQQ
FWØBX	—ZL1AMO
FW5DX	—FR5DL
FW5IW	—OH5UQ
FW5XX	—ON4QM
FY5YE	—W5SVZ
GB3ML	—GM3PXK
GJ4IFB/P	—G4IFB
GX4BJC/P	—GØDBX
H22A	—YL3AF
H44GC	—K2PF
H44KA	—K2PF
H44RW	—ZL1AMO
HBØ/HAØHW/P	—HAØHW
HBØ/HA4GDO/P	—HA4GDO
HBØ/HA5RT/P	—HA6NL
HBØ/HA6PS/P	—HA6PS
HBØ/HA6PX/P	—HA6PX
HBØ/HA6ZV/P	—HA6ZV
HBØ/HA9AX/P	—HA9AX
HBØ/HA9RR/P	—HA9RR
HBØ/HA4XG/P	—HA4XG
HBØ/HB9AON	—DJ2YE
HB4FG	—Bureau
HB5CC	—HB9BCK
HC5C	—W5AJ
HC8N	—AA5BT
HFØPOL	—SP3FYM
HH2LQ	—KM6ON
HKØHEU	—HKØFBF
HL5KY	—W3HNK
HL9MM	—AC7DX
HP1XBI	—F6AJA
HQ3CW	—DL7DF
HQ3DX	—DL7DF
HSØZAA	—KM1R
HSØZAZ	—K3ZO
HSØZBJ	—W8GIO
HV4NAC	—IKØFVC
HZ1AB	—K8PYD
HZ1TA	—OE6EEH
IA5/I5GWO	—I5GWO
IC8JAH	—IC8SDL
ID8/IZ8BGY	—IK8WEJ
II7A	—IØYKN
II9ZZ	—IT9PKO
IJ9/IT9SGC	—IT9SGC
IL3CII	—IV3CII
IMØA	—ISØLLJ
IQØA	—IKØXBX
IQ1A	—I1JQJ
IRØMFP	—IKØAZG
IRØS	—ISØJMA
IY4FGM	—IK4QJH
J28YC	—F6EJI
J37K	—W8KKF
J38AT	—NØAT
J38DD	—KC5AK
J38EA	—N7UE
J38L	—WA8LOW
J38LL	—N6LL
J38NA	—NH7C
J38RO	—K6RO
J38SR	—W6SR
J38YL	—KC5DJI
J3A	—WA8LOW
J41OC	—SV1BSX
J41W	—SV1CIB
J41WCA	—SV1BSX
J42TCE	—SV2CWW
JG8NQJ/JD1	—JA8CJY
JI6KVR	—EA5KB
JL1KFR/JD1	— Bureau
JQ1ALQ	—JA1EPL (2)
JW1CCA	—LA1CCA
JW2PA	—LA2PA
JW5NM	—LA5NM
JW7VK	—LA7VK
JX3EX	—LA3EX
JY5SK	—W9XY
JY8XY	—W9XY
JY9QJ	—DL5MBY
KØA	—KØRX
K4M	—KE7LZ
K6A	—K6AO
K7K	—KE7LZ
K8JP/VA2	—K8JP (4)
K9AW/KH2	—WF5T
KE8RO/TF	—KC8CSD
KG4AU	—W4WX/KQ4GC
KG4DC	—W4WX
KG4MN	—WB2YQH
KG4QD	—K4QD
KG4VN	—K3VN
KG4WB	—N2WB
KHØ/JA1HGY	—JA1HGY
KHØ/JA1HYF	—JA1HYF
KHØ/JA4DND	—JA4DND
KHØ/JR1MLU	—JR1MLU
KHØA	—JF1MIA
KHØAC	—K7ZA
KH2D	—K8NA
KH2F	—N4UK
KH2H	—JS6BLS
KH2J	—JARL Bureau
KH2K	—JA1RWU
KH2KU	—JA2TBS
KH2L	—WF5T
KH2O	—JH1DXU
KH2P	—JL1BLW
KH2S	—JH4RHF
KH2V	—JA8RWU
KH2W	—JH4RHF
KH2Y	—JA8RUZ
KP2/AG8L	—NN6C/M6ON
L4ØH	—LU4HH
L7ØFM	—LU4FM
LA1H	—LA2MV
LX8DL	—LX1DA
LZØA	—LZ2KDP
N4BQW/KH5	—WA4FFW
N5KO/HC8	—AA5BT
NH2B	—JA7MVI
NH2C	—JI3ERV
NH2D	—JQ3OZY
NH2G	—WF5T
NH2Q	—JG3HJG
NH2X	—JR6IQI
NN5ØCIA	—KB4EFP

OA8ADM —N8LN
OD5/9K2MU —WA4JTK
OD5NJ —EA5BPY
OD5PI —IK7JTF
OD5PN —LX1NO
OFØJAM —OHØBHU
OFØRJ —OHØRJ
OFØTA —OH2TA
OF1MDR —OH1MDR
OHØ/K8MN —WA8JOC
OHØ/LA1H —LA2MV
OX3LG —OZ2ELA
OX3XR —OZ3PZ
OY2H —IØWDX
P29AS —K6VNX
P3A —W3HNK
P4/NE8Z —K8LJG
P4ØE —W3HNK
P4ØGH —WA2TTI
P4ØW —N2MM
PA3EVJ —VE3MR
PJ2MI —W2CQ
PJ9/W9QQ —W9QQ
PJ9B —K2SB
PP5UB —PP5UA
PR2W —PT2AW
PX5JP —PP5CW
R1ANZ —UW1ZC
R1FJR —F5PYI
R1FJV —UA3AGS
R3RRC —RW3GW
RKØQXY —UAØKCL
RN9HM —RW6HS
RX1OX —DL6YET
S5ØO —S59VM
S92FC —CT1EAT
S97A —CT1EAT
SK2RW —ZL1AMO
SO1HH —DL7VRO
SO5OE/1 —DL7VRO
SPØIPA —SP9BRP
SUØERA —SU1ER
SU1JOTA —SU1ER
SU3AM —DL1FCM
SV8/HA6NL/P —HA6NL
SV9/G3NYY —G3NYY
SV9/G4VXE —G3SWH
SX2THE —SV2TSL
T28RW —ZL1AMO
T3ØBH —ZL1AMO
T32BE —WC5P
T32Z —N7YL
T5EC —DLØMAR
T77V —ISØQDV
T88AA —JI1CEL
T88FM —7J2YAA
T88HN —JF1VXB
T88ME —JG2EBN
T91ENS —DJØJV
T95A —K2PF
T97M —K2PF
T99MT —K2PF
T99W —DL1QQ
TA2/HA3JB/P —HA3JB
TF/KE8RO —KC8CHD
TF/OZ5IPA —OZ5AAH
TK/DL4FF —DL4FF
TM9XR —F2WS
TP9CE —F6FQK
TQ5TO —YO5CUU
TT8JWM —N4RXL
TT8KM —F6FNU
TT8LJP —F5TRP
TZ6JA —JA3EMU
TZ6SI —DJ6SI
TZ6VV —AAØGL
UAØAZ —W3HNK
UEØFFF —KL7H
UK4YT —W2KT
UK8FF —W3HNK
UN5J —W3HNK
UN7JID —UA9XFY
US1IDX/VP9 —N5FG
UT/K2JV —K2JV
UU4JDD —KD1PW
V26AK —N2TK/WB2P
V26B —WT3Q
V26E —AB2E
V26ED —WA3WSJ
V26FV —W3FV
V26J —WXØB
V26KW —K3TEJ
V26OC —N3OC/W3WJD
V26R —KA2AEV
V26RN —N5NJ
V26RS —N2SR
V26TS —K3MM
V26U —W2UDT/WA2UDT
V31DX —N2AU
V31JP —K8JP (4)
V31MX —KØBCN
V44KAI —K2SB
V47KP —K2SB
V47NS —W9NY/W9NSZ
V51CM —WA2JUN
V51MA —NN9K (3)
V63BR —AA4US
V63CP —JH1BLP
V63KU —JA6NL
V73AR —JA3OIN
V73AT —K2CL
V73GT —WF5T
V73MM —JA3OIN
V73NH —JA3OIN
V73TX —JA3OIN
V73YAQ —JA3OIN
V85TG —JH3GAH
V8EA —JH7FQK
VD3NJ —VA3NJ
VE2QRZ —WB2K
VE3BW/HR6 —VE3BW
VKØANARE —VK1AUS
VKØTS —VK1AUS
VK8AN —VK4FW
VK9LF —JR4PMX
VK9LL —JH4RHF
VK9LR —JH4RHF
VK9WM —VK4FW
VK9WY —VK9FW
VP5/K8JP —K8JP (4)
VP5/K8RF —K8RF/WT8N
VP5JP —K8JP (4)
VP5T —N2VW
VP8CTR —DL5EBE
VP8CTX —L22UU
VP9ID —AJ2U
VQ9AI —WBØBNR
VQ9KR —N4UK
VQ9SS —N6SS
VQ9ZZ —NS1L
VR6CT —JA6CT
VR6TC —WD6GUD
VR97LC —VR2LC
VU2GTE —VK6RO
VU2JPS —VK9NS
VX1YX —VE1YX
VX2ICM —VE2ICM
VX2KH —VE2KH
VX3AEA —VE3AEA
VX6BF —VE6BF
VX8XN/P —VE3XN
VY7A —VE7DUG
VY7V —VE7DUG
W1BRK/KHØ —JA1BRK
W2B —W2HHE
W4WX/C6A —W4WX
WHØABC —JR6OCL
WH2F —JI2QUQ
WH2H —KP3U
WH2I —JH2PDS
WH2J —JA3NEP
WH2L —PA3DZN
WH2M —JE7RJZ
WH2Q —JI1DLZ
WH2Q/WHØ —JI1DLZ
WH6ASW/KH2 —VK4FW
WP2Z —KU9C
WP3A —NP4QH
XE2MX —K6VNX
XF3/EA3AOK —EA3BT
XF3/EA3BT —EA3BT
XU2A —XW2A
XU2FB —N4JR
XU6WV —KØTLM
XX9TRF —K2PF
YB1AQS —DK7YY
YB1AQT —DL2SDS
YB3OSE —W7TSQ
YC8FI —IKØZKK
YE52AB —YB2FRR
YI1US —WA3HUP
YJØAMF —ZL2MF
YJØARW —ZL1AMO
YM3SV —TA3YJ
YN4/WK6O —KB5IPQ
YN6WFM —JA6VU
YR7C —YO7VS
Z2/DF3XZ —DF3XZ
Z21KW —GØMVM
Z22EW —ZS6EW
Z38G —OH3GZ
ZA1M —IK2HTW
ZA1MH —Z32KV
ZB2/G3HBN —G3HBN
ZD7HI —N2AU
ZD8V —KF4OOX
ZD8Z —VE3HO
ZD9IL —ZS5BBO
ZF2AH —W6VNR
ZF2DE/ZF8 —N4BP
ZF2DN/ZF8 —N4BP
ZF2VR —WB8WCU
ZK1CQ —ZL1AMO
ZK1MFJ —ZL2MF
ZK1MVI —JA3MVI
ZK1SSB —N4RF
ZK1XXP —WA4YBV
ZK2KY —JA3MVI
ZK2MF —ZL2MF
ZK2PJ —VK4AAR
ZK3RW —ZL1AMO
ZL5PX —ZL3PX
ZL7AA —ZL2AL (6)
ZL7AMO —ZL1AMO
ZL9AMO —ZL1AMO
ZM7A —ZL2AL (6)
ZM7AMO —ZL1AMO
ZPØR —W3HNK
ZPØZ —W3HNK
ZS6/PA3DZN —PA3DMH
ZS6F —KK3S
ZS9F —KK3S
ZW1A —PY1OB
ZW2E —PY2YW
ZX1A —PY1SL
ZZ2Z —AC7DX
ZZ97JP —PY1NEZ

7X4LX—Kader Slatna, P.O. Box 11030, Oran, ALGERIA
9K6POW—Kuwait Amateur Radio Society, P.O. Box 5240, Safat 13053, KUWAIT
9V1AG—Robert M. Limb, The Waterside #20-01, 1 Tanjong Rhu Road, Singapore 436879, SINGAPORE
A45XR—Krzystof Dabrowski, P.O. Box 2038, C.P.O. 111, OMAN
AP2AMR—Arbab Amir, House #1, Street #40, G-104, Islamabad 44000, PAKISTAN
BA1DU—Alan Kung, P.O. Box 8091, Beijing 100088, CHINA
BD7YA—Li Hongmin, Mechanical & Electrical Engineering Department, Changsha Railway Universary, Changsha 410075, CHINA
BD9SA—Yin, Security Department, Xining Steel Works, Qinghai 810005, CHINA
BT1IARU—Chinese Radio Sports Association, P.O. Box 6106, Beijing 100061, CHINA
BT7C—Chinese Youth Amateur Radio Competition, P.O. Box 652, Guangzhou 510220, CHINA
BT7D—Chinese Youth Amateur Radio Competition, P.O. Box 652, Guangzhou 510220, CHINA
BV2PC—Carl Chen, P.O. Box 1-113, Yung-Ho, TAIWAN
BV2RR—G.C. Chang, P.O. Box 117-822, Taipei, TAIWAN
BV7ID—Tony Chang, P.O. Box 19-91, Fong San, TAIWAN
BXØYL—Christine, P.O. Box 163, Feng-Yuan 420, TAIWAN
BY7KH—Amateur Radio Station of Guangzhou Haizhu Children's Palace, P.O. Box 652, Guangzhou 510220, CHINA
DU9RG—Robin U Go, 818 Acacia Ave, Ayala Alabang Village, Muntinlupa city 1780, PHILIPPINES
EP23TIE—Directorate General of Telecommunications, P.O. Box 931, Tehran, IRAN
ET3BN—Peter, P.O. Box 150194, Addis Ababa, ETHIOPIA
FP5KE—P.O. Box 1343, F-97500 Saint Pierre et Miquelon, FRANCE
HSØ/IK4MRH—Nerio Baratta, 18/5 Kamala Beach, Phuket Kathu 83000, THAILAND
JT1BL—N. Batchuluun, P.O. Box 602, Ulanbator 44, MONGOLIA via Japan
OM2SA—George Sipos, 93013 Trhova-Hradska 550, REPUBLIC of SLOVAKIA
UAØZBK/Ø—Igor, P.O. Box 2376, Khabarovsk 68000, RUSSIA
UA6HCW—Igor Kovalyov, P.O. Box 59, 357500 Pyatigorsk, RUSSIA
V51SG—Siegi, P.O. Box 116, Tsumeb, NAMIBIA
XE1RAT/XF3—Radio Club Mexicano, A.C., P.O. Box 19-500/510, Mexico, D.F., MEXICO 03910
YB9AS—En. Ali Sattar, P.O. Box 3594, Denpasar, Bali Island 80001,INDONESIA
YB9CCB—Andi Chandra, P.O. Box 2051, Kuta, Bali 80361, INDONESIA
YC7JKS—En. Jar, P.O. Box 15, Banjarmasin City, CP 70001, INDONESIA
YC8BJK/9—En. Jerry Katuuk, P.O. Box 623, Biak Island 98115A, INDONESIA
YC8TXW—En. Ronny Monoarfa, P.O. Box 166, Tahuna 95800, INDONESIA
YC8TZR—En. Josef Maringka, P.O. Box 205, Lirung 95871, INDONESIA
YC8UYB—En. Ricky E.J. Welan, P.O. Box 1423, Manado 95014, INDONESIA
YC9BU—En. Kadek Kariana Sp., P.O. Box 106, Singaraja, Balli Island 81100, INDONESIA
YC9MKF—En. Ferdinand Konay, P.O. Box 1021, Kupang 85000, INDONESIA
YC9NBR—En. Irianus Rohi, P.O. Box 1021, Kupang 85000, INDONESIA
ZK1JD—Jim Ditchburn, P.O. Box 491, Rarotonga, COOK ISLANDS
ZL2AL—Lee Jennings, P.O. Box 54, Hastings 4201, NEW ZEALAND
ZP6KAA—Jorgen Kristian Johansen, C.C. 21101, Palma Loma, Luque, PARAGUAY

NOTES:
(1) The QSL route for 5A1A applies for the period of 24 November through 4 December 1997 only.
(2) The *Callbook* address for JQ1ALQ is incorrect. Direct QSL requests should be sent via JA1EPL, otherwise bureau requests should be sent to JQ1ALQ.
(3) The route for V51MA applies for contacts made since 15 September 1997.
(4) Joe Pontek, K8JP, has a new address effective 01 November 1997: 26111 Devaney Road, Arcadia, IN 46030.
(5) This route is for contacts made since 10 October 1997. Contacts made at earlier dates should be sent via his home call, RW3AH.
(6) Refer to the above address for this manager.
(7) This route applies for the period 17-18 October '97. WR

FM, Repeaters Repeaters Repeaters & VHF

Bill Pasternak, WA6ITF

28197 Robin Ave. • Saugus, CA • 91350
(Internet)billwa6itf@aol.com • (AOL)BILLWA6ITF
(Netcom)newsline@ix.netcom.com • (24-hr voice/fax) 805/296-7180
E-mail only up to 50 kilobytes can also be sent to wa6itf@juno.com

Voice repeater ID's

Last November we touched briefly on the subject of repeater IDers in the context of a discussion of one repeater operators disdain for very slow speed CW units. I can easily understand his minimum 16 wpm CW IDer decree — even if he cannot force others to abide by it. As a result of that column I've since received quite a bit of mail asking we get a bit in-depth on the subject, so let's begin 1998 on that note.

Whose repeater is this anyway?

First of all, a word of clarification — especially for new hams who are not aware of the more minute facets of the FCC rules. Repeater IDers are not there to inform users as to what repeater they are listening to. The reason that repeaters have IDers — mainly CW IDers — is because the FCC says that they have to be there to let the Commission know whose system it is. Informing users, and/or potential users is merely a by-product.

CW ID's can be annoying

To me, CW IDers have always been exceedingly annoying even if "Uncle Charlie" did require them. No, I do not dislike CW nor is this meant to be a "code vs. no-code" thesis. Rather it's a matter of personal preference in that I and a growing number of other hams prefer a high quality but low-level / low deviation voice ID. Perferably an ID using the vocal talent of some well-known local or national personality. I believe that such an ID gives a repeater a distinct public image, not very much different than a jingle that might be identified with a commercial AM or FM broadcast entity. That is the primary type of ID that I have used on any repeater I have owned, along with an almost inaudible high-speed C-W IDer to strictly comply with FCC rules.

Once upon a few mountain tops

At one time, voice IDers were a ham radio "craze." Back in the mid 1960s, the old WA5JDZ Repeater (146.34/.94) atop Mt. Taylor just outside Albuquerque, New Mexico, had a "mechanical voice" that announced the repeater's call sign and location every ten minutes. It was the brain-child of the system's then-trustee/owner Phil Dater (WA5JDZ) and is believed to be among the very first "voice IDs" used on an FM repeater on regular basis.

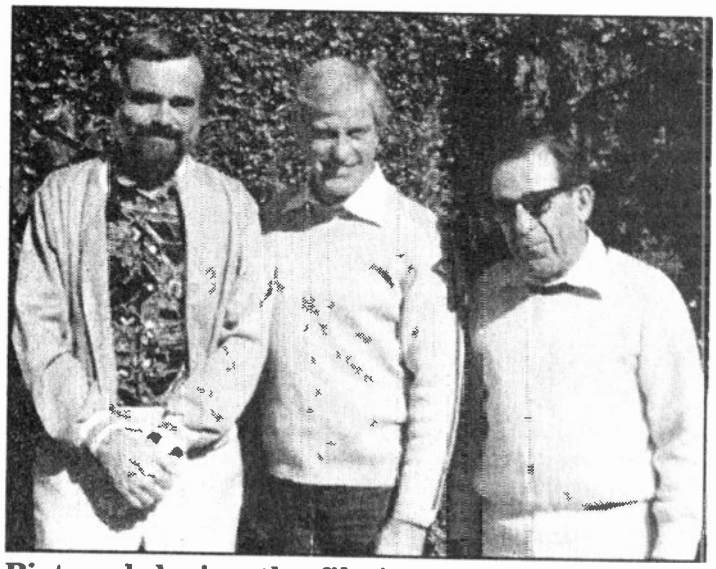
At about the same time, Burt Weiner, K6OQK, was experimenting with using a broadcast type "cart machine" on his famed WA6TDD repeater. Unlike the "mechanical voice" of WA5JDZ, Weiner's system overlooking the Los Angeles basin was well known for its high-fidelity audio. In those days, many a ham was heard to compare the overall quality of the repeated audio on WA6TDD to that of a commercial broadcast station. This was an excellent analogy since its owner was one of the region's best known and most respected broadcast engineering consultants.

In addition to a full rack of professional audio processing equipment from the likes of CBS Labs, Altec and RCA, Weiner was able to get several professional announcers to cut ID tapes for the machine. It was not at all unusual to hear a local LA radio personality proclaiming: "This is the WA6TDD repeater on 146.40 MHz in and 147.435 MHz out serving all of Southern California." My personal favorite came to air every holiday season when a deep-sounding voice would announce from the WA6TDD cart machine: "This is WA6TDD wishing you a Merry Christmas and a most preposterous New Year." That faux-pas was no accident. The word "preposterous" was deliberately substituted for "prosperous" — much to the delight of all listening.

The famed Dick Van Dyke repeater ID

WA5JDZ and WA6TDD were the first, but they gave root to many more. Perhaps the best-known repeater voice ID was recorded some two decades ago by actor Dick Van Dyke as a favor to Capt. Dick McKay, K6VGP. It is still in use to this day. There are several versions, one of which states: "From high atop Mt. Disappointment overlooking Los Angeles, California, this is the K6VGP repeater on 147.36."

I happened to be there the day the



Pictured during the filming of "The World of Amateur Radio" are Dave Bell, W6AQ, Dick Van Dyke and Byron Paul, WA6RNG.

recording took place. We were out filming the ARRL motion picture "The World of Amateur Radio" for Dave Bell Associates. The location was the home of Producer Byron Paul, WA6RNG. Those of you who saw this award-winning Dave Bell (W6AQ) movie may remember Van Dyke sitting at Byron's ham station at the start of the film, listening in on a QSO. After that scene was filmed, Dick recorded those now-famous IDs while seated in front of Byron's station, with this reporter snapping the still pictures.

Birth of a NYC urban legend

In 1969 when I put up WA2ZWP/R, in Brooklyn, New York, our group could not afford to purchase a "then expensive" CW ID unit, so we converted an automotive 8-track tape player to serve the purpose of properly identifying our machine. Our financial misfortune soon became an asset to the repeater, in that our voice ID unit gave WA2ZWP/R a personality of its own. And with good reason.

The "reason" was the voice heard telling all the New York metro area just what repeater they were listening to. Hams kept coming on to ask how we had succeeded in getting actress Joey Hetherton to record for us. It wasn't Joey Hetherton and at first we told people it wasn't. But they refused to believe us and "the voice" on our repeater quickly became another New York "urban ham radio legend."

Key-ups to hear the ID became so numerous that we had to put in a circuit to limit its playback to the first key-up after a ten-minute rest period. This, so as to avoid breaking the fragile 8-track "car tape" on which it was recorded. Even so, there would be mass migrations to hear "the voice" by the users of other area repeaters. It was almost comical to be sitting on .13/.73 or .28/.88 and hear someone say: "Let's go over to ZWP. It's almost time for her to be there." In other words, WA2ZWP had a distinct image that set it apart from every other repeater then in town. It had a personality of its own that its user base could easily relate to.

As an aside, what was ironic about all of this is that the lady who had recorded our voice ID was a ham. She was also a day-to-day user of the WA2ZWP repeater. Many times she would be in QSO when her voice on the IDer came on under her. It was easy to tell that the two voices were from the same person, but nobody seemed to catch on. Maybe that's the stuff that "urban legends" are born of.

The Bottom Line

By using modern, low-cost digital voice recorders — even simple DVRs adapted from "tapeless" answering machines — this is a "no-pain / no-strain" way to let the world know that your repeater is there; that it's on the air; where it's located and the area it serves. It won't replace CW IDers, but this gear and a few hours of work at your repeater site makes adding a great-sounding "voice ID" a "no-brainer."

Another coordination failure: TMRCC R.I.P.

Another repeater coordination council has gone belly-up, but unlike the situation on the East Coast with the Tri-State group, this failure was not unexpected, because the group in question was a newly-formed rival to a long-established coordination organization. Its decision to go away probably means that the established coordinator is the more viable of the two entities.

According to Karl Pagel, N6BBU, the two-year-old Two Meter Repeater Coordination Council of Southern California (TMRCC) is dead. TMRCC was set up as a rival to the Two Meter Area Spectrum Management Association. But in late 1997 it had fallen on hard times with dwindling membership and a faltering power-base.

Pagel says that he spoke with TMRCC founder Steve Jensen, W6RHM, Sunday, 12 October. Pagel says Jensen told him that most of the original 150 members failed to renew their membership in TMRCC, reducing the group to about 15 members. As a result, the TMRCC Board of Directors met Saturday, 10 October and decided to fold up shop. Lack of support from the ARRL and lack of membership were the main reasons for the ending of TMRCC.

But aside from the death of the rival organization, the very existence of a rival council was enough to make the politicos running TASMA take a good look at what they were doing and what they might be doing wrong. Lots of changes were made to the TASMA political structure including the abolition of multiple proxy voting which had become a main point of discontent. These changes were enough to make Southern California content once again with their longtime coordinator and negated the need for a parallel rival or replacement group — at least not for now.

W2DTN on 12.5 kHz U.K. 2M spacing

Last month we touched on a piece of e-mail we received from Gary Hendrickson, W3DTN, of The Mid-Atlantic Repeater Council. In it, Gary described a long-range project undertaken by T-MARC to plan out spectrum needs for all VHF and UHF amateurs operational in the region. Gary's note also addressed his personal sentiments regarding the various bandplans and the emergence of some newer ones being proposed or implemented to help squeeze more repeaters onto the two meter band.

"I heard about the RSGB 12.5 kHz directive on your Newsline. I'm not at all surprised, as they only have 2 MHz to play with on 2 Meters, so they will have to split their 25 kHz channels in order to fit more repeaters into their limited bandwidth. It's a sign of the times!

Domestically, I haven't heard about the 7.5 kHz in the NYC area. However, in the 145 MHz repeater band, where they use 20 kHz channel spacing, there were a few repeaters coordinated in that area which were 5 kHz off the regular 20 kHz channel (15 kHz below the next upper channel instead of 20), in order to reduce specific problems on a case-by-case basis. As far as I know, that has worked fine.

Personally, I think 15 kHz channel spacing is preferable to 20, as it provides more channels for coordinators to work with. Yes, I've heard about the requirement for greater spacing between adjacent-channel repeaters on 15 kHz channels, but here in the T-MARC area, we have numerous instances of 15 kHz-spaced repeater which are only about 15 miles apart, and work quite well. We looked at this a long time ago, and concluded that we should encourage manufacturers to provide us with equipment which will work in a 15 kHz environment, rather than continue to live in the dark ages. With decent equipment 15 kHz works very well. The 150 MHz land-mobile community has been doing it for years, and have proven that they can survive.

And you'll never get anybody to split 20 kHz channels into 10!! So I think going from 15 to 20 is a long-term mistake."

(Ed Note: If you have another opinion, send it by e-mail to the address at the beginning of this column and we'll attempt to include your views in a future column.)

FCC may preempt local tower control

If you're planning to install a new repeater or remote base or are looking to relocate a present system, take note. You'll be happy to hear the FCC is considering issuing a Notice of Federal Preemption over certain local zoning restrictions regarding the placement and construction of new broadcast transmission facilities for digital television. Since many of the nation's Amateur Radio Service repeaters operate from such structures through rental agreements, this move is as important to us as it is to the broadcast community.

The FCC inquiry resulted from broadcasters' complaints that local communities are trying to control the implementation of the new digital service. As a result, the Commission issued a Notice of Proposed Rule Making last fall seeking comments on whether, and in what circumstances, to preempt state and local ordinances that may interfere with the rapid deployment of digital television.

Designated as Mass Media Docket 97-182, comments were due 30 October. Unfortunately, the lead time of magazines like this precluded our getting notice to you of this pending legislation in time for you to comment. However, the broadcaster's lobby is one of the strongest in Washington, and in essence they are doing hams a big favor in "bird-dogging" this important issue. Stay tuned — there could be good news coming in the near future.

That's it from the "Southland" for this month. Until next time, 73 and thanks for taking the time to join us.

de WA6ITF **WR**

2M call saves heart attack victim

Can anyone help me... please, can anyone hear me?

A low voice, tight with pain, came across the 147.25 MHz Curry Repeater. It was 1:44 a.m. 20 Sept., a gloomy, overcast night. Dick, K7VPL, and Polly, N7SJH, Keusink of PBARC keep a ham rig on the headboard of their bed, scanning both the Curry and the PBARC (146.97 MHz) repeaters. Dick awoke at the first sound of the voice on the radio and grabbed the microphone. "How may we be of help?" he asked.

"This is N1ZQE, and I think I'm having a heart attack," the voice came back. "Please get help, my arms are dead and my chest has the worst pain I've ever felt."

Polly started dialing the Brookings Police Department on the bedside phone.

"What's your name and where are you?" asked Dick.

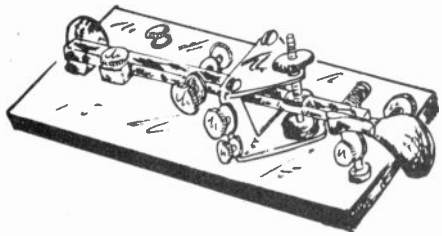
At first the only reply was a groan, but slowly the pertinent information was given. N1ZQE is William O. Rhoades of Texas. He was camping with a camper and truck near a town he called "Oar rack." With further questioning the Keusinks figured out he must be at the side of Highway 101, south of Orick, CA. He said he was near the beach in a long row of recreation vehicles. The Brookings Police dispatcher understood the situation immediately and telephoned the Humbolt County Sheriff's Department to dispatch an ambulance.

In the meantime, Rhoades turned on the lights inside his camper. He opened the drapes on the highway side. The only outside light he could manage in his pain was on the ocean side, out of view of the highway. Rhoades said he was pulling the camper with a white truck with a cattle guard, but he could not remember the Texas license plate numbers.

When the ambulance arrived, it bypassed the stricken man. Messages were relayed by Amatuer Radio, then to the Brookings dispatcher, and then to the ambulance.

Finally a young woman's voice came over the air. "We have Mr. Rhoades and are taking him to the hospital," she said. "He asked me to tell you thanks for getting help."

It was 2:20 a.m., approximately 35 minutes after the first call. But it was apparently in time. Several days later N1ZQE called K7VPL to report that his heart attack was caught early enough to treat with medication. Rhoades was on his way home to Texas, thanks to Amateur Radio. —*PBARC Sparks*



Positively CW

Nancy Kott, WZ8C
P.O. Box 47 Hadley, MI 48440-0047
e-mail: nancy@tir.com

If the mail I've received as a result of the first ""Positively CW"" column in the September ***Worldradio*** is any indication, a column about using Morse code is long overdue. One letter was negative; the sender took exception to the name of the column. He assumed that "Positively CW" inferred that CW was the only mode hams should use. Let me assure anyone who has that impression that it couldn't be farther from the truth. Amateur Radio has something to offer to everyone, and the other modes have positive aspects to them also. I chose this name for the column because I hoped to focus in on the positive and fun activities of CW operating.

This month, I'd like to share some of the stories sent to me by ***Worldradio*** readers. The first one is from Bill Ross, K6MGO. It should be reassuring to beginning CW ops; you aren't the only one in the world to have the "on the air" jitters! Bill writes, "When I read your article in ***Worldradio***, I thought, WOW, that's how I feel. My first exposure to CW was at the Air Force Radio Mechanic – Airborne School at Scott AFB. They familiarized us with Morse code but we didn't have to pass any tests unless we wanted to. Needless to say, I didn't want to.

"Several years later my coworkers were hams. They encouraged me to get my license. I passed my General in 1957 by listening to 78 rpm code records and after sweating blood. But I never made a contact on CW. I used to say all of the cliches about CW like 'if the good Lord wanted man to use CW, he wouldn't have invented microphones.'

"Meanwhile, I kept coming across those articles in ***Worldradio*** and other ham magazines about how great it is to work CW. So, 40 years later, out come the code tapes. Guess what! Soon I am up to 15 wpm, but still had never made a CW contact on the air. After much practice sending code into a dummy load and using a computer mouse for a paddle, I thought that I was ready for my solo flight.

"You talk about stage fright, I had it so bad that my mouth was dry as cotton, my hands were shaking as I sent out those first CQs. I really hoped that nobody would hear me or answer me. But, as luck would have it, on 19 August of this year, I heard my call come back to me. After I got through that QSO, I was exhausted and felt drained, but very exhilarated. It may have been my imagination, but it seemed like every word I sent had a mistake in it.

"On an Internet CW discussion group I saw a message from Dan Keefe, KS6Z. He signed his messages with the fact that he will help Novices with code practice. I wrote to him and asked him how about a 65-year-old beginner with a 40-year-old license? Of course he said yes and helped me with kind words of encouragement. We even had an on-the-air contact on 40M.

"Now I am having a ball on CW. I'm in it for the fun and that's what I'm having. If I get faster and can copy in my head at about 25-30 wpm, fantastic, but if I stay at 15-18 wpm, that's O.K., too. There are a lot of great guys out there who slow down and talk to me. Sorry about running on so, but I thought I was the only one who felt this way."

John Coughlin, W8XH, was lucky enough to have an DX contact for his first CW contact! He says, "I will never forget my first CW contact as a Novice, 20 years ago. It was on 15 Meters — 21.154 to be exact — with Henry, SM6HLN, in Goteborg, Sweden. He was an old ship's wireless operator going back to 1919 and 76 years old at the time. He invited me to join him regularly on the marine operators' sked on 21.150, along with DKØSS and SKØJO. I never heard him after that, but I have a beautiful QSL card from him. I can imagine what it must have been like to sail the North Atlantic as a 'sparks' during WWII."

Mert Nellis, WØUFO, and Ray Grier, KT4DY, pointed out that CW is a terrific mode for people with lung conditions, types of hearing loss and other disabilities that make it difficult for voice communication.

Bruce Frahm, KØBJ, sent in an example of how ham ingenuity can get you on the air with CW during emergency situations. Members of the Kansas State University ham club were helping the Red Cross with communications as well as passing Health and Welfare traffic after a tornado hit in 1970. Bruce and two other hams were set up at the Farmer's Co-Op in Greenleaf, Kansas. They wanted to check into the Kansas CW National Traffic Service net but didn't have a key. Looking around, they found a small scrap of plywood and a feeler gauge in the Co-Op's feedroom. By securing the gauge to the board and creating a contact with a nail head, they devised a crude handkey. The funny part was, by using different blades from the feeler gauge, they had adjustable spacing AND tension on the makeshift key, but they were not independent of each other. They checked into the net and passed a few Health and Welfare messages. Bruce notes that while the University club call, WØQQQ, is a super call on SSB, it's kind of a pain on CW.

Last month I told you how I first got my ticket to have 2M privileges so I could chat with my parents after I moved fifty miles north of them. Gerald Afuso, KH6TU, wondered why I made the transition to CW and if I use CW to talk with my par-

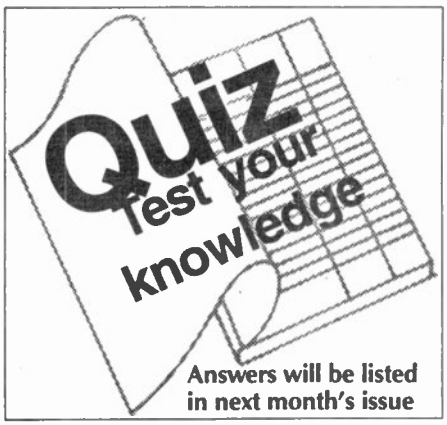
ents. To answer that, two meters was fine — there were friendly repeaters that were available that allowed us to chat just about any time. I quickly found that there is a lack of privacy on repeaters! I remember the first time I talked with my mother, Irene Kott, WO8E, on 2 Meters. I forgot that I was broadcasting to everyone within hearing distance and started chatting as if we were on the phone. She had asked what my plans for the night were. I commented that I had picked up a pizza, a video and couldn't wait to take a hot shower and put on my new nightgown and relax. Before she could answer me, a male voice chimed in, "What color is that nightgown, Nancy?" A couple more guys, who happened to know me from the local ham clubs, came in with humorous comments that I will leave to your imagination! I realize when using CW, you are still broadcasting to everyone within signal range. However, odds are if you say something embarrassing, you won't have to hear about it at the local club meetings for the next ten years!

My parents and I still chat on 2M, but we also have a regular CW sked on 40M. It's good code practice and 40M works well for us most of the time. If you hear us, feel free to join in the conversation — just don't ask me what I'm wearing, please!

David Ludwig, KC7MCE, suggested that we write a column about ways to make the transition from copying code by the letter to copying words. Anyone have any hints or words of encouragement for those readers who are studying to upgrade? Send them in and I'll include them in a future column.

Bob Hill, W5FBQ, tells me that he enjoys mobile CW. He thinks it makes him a safer driver because he watches the road more closely and is more careful with his driving when he's on the air. Doing mobile CW seems dangerous to me, but I know there are a lot of hams who enjoy it. What do you think? Is mobile CW safe? If you work mobile CW, do you use a leg key or a dash-mounted key? What suggestions do you have for others who may want to try mobile CW?

Thank you so much for taking the time to send me letters and e-mails. I welcome your comments and suggestions. Contact me at P.O. Box 47, Hadley, MI 48440 or e-mail: nancy @tir.com WR



The answers to last month's quiz questions are: 296. B; 297. A; 298. B; 299. C; 300. C; 301. A; 302. C; 303. D; 304. B; 305. C; 306. D; 307. A; 308. C; 309. A; 310. A; 317. D

318. What type of emission is produced when a frequency modulated transmitter is modulated by a television signal?
A. A3F
B. A3C
C. F3F
D. F3C

319. What type of emission results when a single sideband transmitter is used for slow-scan television?
A. J3A
B. F3F
C. A3F
D. J3F

320. How can an FM-phone signal be produced?
A. By modulating the supply voltage to a class-B amplifier
B. By modulating the supply voltage to a class-C amplifier
C. By using a reactance modulator on an oscillator
D. By using a balanced modulator on an oscillator

321. How can a double-sideband phone signal be produced?
A. By using a reactance modulator on an oscillator
B. By varying the voltage to the varactor in an oscillator circuit
C. By using a phase detector, oscillator and filter in a feedback loop
D. By modulating the plate supply voltage to a class C amplifier

322. How can a single-sideband phone signal be produced?
A. By producing a double sideband signal with a balanced modulator and then removing the unwanted sideband by filtering
B. By producing a double sideband signal with a balanced modulator and then removing the unwanted sideband by heterodyning
C. By producing a double sideband signal with a balanced modulator and then removing the unwanted sideband by mixing
D. By producing a double sideband signal with a balanced modulator and then removing the unwanted sideband by neutralization

323. What is meant by the term deviation ratio?
A. The ratio of the audio modulating frequency to the center carrier frequency
B. The ratio of the maximum carrier frequency deviation to the highest audio modulating frequency
C. The ratio of the carrier center frequency to the audio modulating frequency
D. The ratio of the highest audio modulating frequency to the average audio modulating frequency

324. In an FM-phone signal, what is the term for the maximum deviation from the carrier frequency divided by the maximum audio modulating frequency?
A. Deviation index
B. Modulation index
C. Deviation ratio
D. Modulation ratio

325. What is the deviation ratio for an FM-phone signal having a maximum frequency swing of plus or minus 5 kHz and accepting a maximum modulation rate of 3 kHz?
A. 60
B. 0.16
C. 0.6
D. 1.66

326. What is the deviation ratio of an FM-phone signal having a maximum frequency swing of plus or minus 7.5 kHz and accepting a maximum modulation rate of 3.5 kHz?
A. 2.14
B. 0.214
C. 0.47
D. 47

327. What is meant by the term modulation index?
A. The processor index
B. The ratio between the deviation of a frequency modulated signal and the modulating frequency
C. The FM signal-to-noise ratio
D. The ratio of the maximum carrier frequency deviation to the highest audio modulating frequency

328. In an FM-phone signal, what is the term for the ratio between the deviation of the frequency modulated signal and the modulating frequency?
A. FM compressibility
B. Quieting index
C. Percentage of modulation
D. Modulation index

329. How does the modulation index of a phase-modulated emission vary with the modulated frequency?
A. The modulation index increases as the RF carrier frequency (the modulated frequency) increases
B. The modulation index decreases as the RF carrier frequency (the modulated frequency) increases
C. The modulation index varies with the square root of the RF carrier frequency (the modulated frequen~
D. The modulation index does not depend on the RF carrier frequency (the modulated frequency)

More questions next month!

Active traffic stations

W7GB in WA, and W4FP in GA, continue to send ARL Sixty Nine Fists to new members. Fists is growing. Each newsletter has several pages of new calls. Since new members are being welcomed, I use the roster to invite any new member in Virginia to join our CW traffic nets. KA8WNO sends traffic to 'Wooden Canoe Heritage Association' members. NZ4O sends 'Happy Anniversary and Happy Birthday' messages from the Country Cousins. The 'Mended Hearts' Association. recently held a meeting here and KR4MU served as traffic coordinator.

Upcoming traffic

January South Florida Fair

New buzz words

72 and ZUT. At the end of a message I was copying came 72. The CW was good and from a reliable traffic handler. Now, we all know, it should be 73. Thus, I had to ask, "cfm 72?" It was confirmed. "OK," I asked, "what is 72?" "That's 73 in QRP. Do you think it will catch on?"

Fred, NY2V (I know I use a lot of Fred's comments...but he writes to me and they are interesting. Fred's not getting older, he's getting better. For those interested in Amateur Radio and traffic handling, he's living history.), says ZUT (strung together as dah-dah-dit-dit-dit-dit-dah-dah) is an unused signal that the U.S. Coast Guard ops once used as a greeting. It has since become a greeting for the USCG fraternity of past CW ops, and has come into increasing use by code users. It has come to mean that familiar motto, CW FOREVER. Zut alors!!!

X-ray

X is used for punctuation marks in CW. It's especially helpful as a comma. For example, this phrase was recently copied: "getting cooler dads". It really should have been "getting cooler x dads etc." We do try to clip whole sentences into short phrases. We can say more that way. The apt use of an X here and there can define the meaning.

Traffic handling license

Every Amateur Radio licensee can participate in a net. While most CW nets were established in the General frequencies, many were suddenly thrust into the Novice sector when the 25 kHz move was made some years ago. Our Virginia CW net, on 3680, is an example. There are also many excellent CW nets in the Novice frequencies, whose main purpose is to train and help beginners. All hams can join a local 2-meter net. If there isn't one in your area... start one. Listen in and join the traffic handling net of your choice.

Amateur licensing

Just how did it all get started? Some thoughts from NY2V. Fred was first licensed at the age of 14, in 1948, and says the following is to his best recollection and subject to comment and correction.

• • • • •

Chaos reigned on the radio waves until at least 1912. In that year, the feds began issuing licenses for all radio services. Ham licenses all had identical privileges — 5 wpm code and written theory exam.

Virtually all ham operation was done at "200 meters and down," all of the spectrum having wavelengths shorter than 200 being seen as worthless.

1923

Amateur Extra First Grade license introduced. Required 2 years at lower grade, theory exam, 20 wpm code test (20 wpm was the licensing standard for the commercial applicants). Distinctive callsign given. Additional HF frequencies given.

1927

Amateur Second Grade license made 1-year non-renewable.

1929

Amateur Extra First Grade gets 20M phone privileges.

1932

Amateur Extra First Grade gets 75M phone privileges.

1933

Class A new name for Amateur Extra First Grade. 20 wpm test dropped, since LF operations were dropped, eliminating need for ham/govt/commercial intercommunication via Morse.

Class B new name for Amateur First Grade.

Class C new name for Amateur Second Grade.

1936

ARRL requests 13 wpm instead of 10 wpm. The book *200 Meters and Down* states this was to effectively create a maximum of 16,000 hams, so as to minimize band congestion. This was granted and 13 wpm remained the lowest test speed until the Novice and Technician Licenses were created in 1951.

1941-1945

Off the air due to WWII.

1951

Amateur Extra license (but no special privileges).

Advanced Class new name for Class A. Phone only on 75M & 20M. (40M & 15M were CW-only for all classes after WWII.)

General Class new name for Class B. 13 wpm CW receiving at least one minute of solid copy, followed by a short 13 wpm sending test. Then a written test.

Conditional Class new name for Class C, for folks living over 125 airline miles from the nearest FCC examining point. Test given by ham with at least a Class C License. Privileges identical to those for

Class B/General. To upgrade, one had to travel and pass the complete General exam over again, along with the Advanced Class exam.

Technician License introduced. Test was General Class test, but code test was lowered to 5 wpm. No privileges below 220Mc band, although written test was more difficult than that for Novice License. This test was available by mail and did not have to be administered by an FCC Examiner.

Novice License introduced — one year, non-renewable. 80M and 11M CW plus 2M phone privileges. Test available by mail.

1951-1967

First, to set the tone, in 1968, Incentive Licensing was introduced. It took away roughly half the phone privileges of General and Conditional Licensees. Advanced Class was introduced with the newly-missing phone privileges, and Extra, with its 20 wpm code test, was the sole way to get all privileges returned. Many hams opposed this.

The growth rate of licenses was high and the technical advancements were many during the 1951-'67 era. FM became popular above 144MHz, and SSB essentially displaced all but a few AM rigs on the air. From what the writer can tell, at the end of the 1951-67 period, we saw clubs, especially large-city school clubs, fall apart, radio stores began to close, and the old familiar names of ham equipment manufacturers went away, or at least out of the ham business. Japanese firms replaced American ones as the primary source of big-ticket HF and VHF rigs.

1954-'67

Fifteen years of no new Advanced Class licenses being issued, since privileges were same for Advanced as for General Class.

1968

Incentive Licensing, as it was officially dubbed, introduced.

General Class loses roughly half its phone segments to Advanced Class.

Amateur Extra Class gets 25 kHz segments at bottom of HF bands for exclusive use.

Novices lose HF privileges and license term extended from 1 to 2 years.

1976

CB begins, using the 11M band.

Conditional License discontinued.

Technician Licensees acquire all Novice privileges, plus full access and privileges on both 6M and 2M bands. Prospective Techs must now appear before a volunteer examiner.

Novices are now allowed to use VFOs, but lose 2M phone.

1-year waiting period before taking Amateur Extra test eliminated.

Hams no longer are required to certify that they had operated Morse for a certain number of hours at or above his license class speed in the 12 months prior to renewal. Consensus in ranks is that most were lying about it when they renewed.

1977-78

FCC revokes all Secondary Call Signs.

FCC also drops requirement to change calls when licensee moves to different call district. Significance of number in call sign is thus destroyed, leading to later confusion of where a station might be based on callsign.

1983-84

FCC relinquishes testing function and turns it over to Volunteer Examiner system.

License terms are extended from 5 years to 10 years, except for Novices.

1987

Novice Enhancement introduced, converting the Novice License to a renewable one like all other classes, and giving phone privileges on the 220MHz and 1.2GHz bands. Techs and Novices given small segment of 10M for phone use.

1987

Complete conversion to Volunteer Examiner system is made.

1991

No-code Technician license introduced. This entry class does not have the CW privileges enjoyed by Technician and Novice Class licensees.

1991-present day

More and more new licensees are No-code Technician (renamed Technician, and former Technicians renamed Technician Plus licensees). Only a limited number of both classes of Technician license see reason to upgrade, being satisfied to mainly communicate on VHF and up. Average age of hams drops by about 8 years.

1996

Survey taken by ARRL. Respondees favoring retention of Morse familiarity rule by a vote of roughly 60% in favor, although the number of hams regularly using Morse code is reported as small, relative to SSB in particular. Internet use continues to gain ground at record pace. An even more massive rift develops between those favoring code testing and those not favoring it.

•••••

My comments

Amateur Radio is a hobby. We use a valuable commodity — frequencies. While the government regulates these frequencies, they seem to have abandoned control to amateurs. We are supposed to use the frequencies, and use them with good manners. As e-mail seems to take over the commercial world, perhaps amateurs can get back to the fun and enjoyment of checking into a traffic net, exchanging some pleasant words, making lasting friends, and enjoying the interesting game of traffic handling.

CW Slow Speed traffic nets

WCSPN		
(CA/OR/WA)	7:00 p.m.	3702
(SoCA)	7:15 p.m.	3598
(CA/NV)	9:00 p.m.	3705

1) Which states are included in the Pacific Area Net (PAN) sector? 2) How can you find a traffic net?

Local times. Let me know of any slow speed traffic nets in your area. It will be great when there are so many listings that we can only list one area per article. WR

The Youth Forum

Brian Mileshosky, N5ZGT
1021 Dakota S.E., Albuquerque, NM 87108
E-mail: n5zgt@swcp.com

JOTA a Success!

On 17-18 October 1997, millions of scouts, scouters and Amateur Radio operators teamed up for a weekend of fun during Jamboree On-The-Air (JOTA), an annual event that gives scouts (Boy Scouts, Girl Scouts, Explorers, Cub Scouts, etc.) and scouters the chance to experience Amateur Radio by talking to other scouts around the world. (Although this JOTA report may seem late in this month's column, it is actually the earliest it can be featured because of deadlines I must meet when submitting my bimonthly columns — Brian.)

One particular Amateur Radio club has hosted JOTA for three years as a service to their community. The Delta Amateur Radio Club and its 25 members hosted JOTA for the local Boy Scouts of America Chickasaw Council in Powell Road Park located in Collierville, Tennessee, a suburb of Memphis. Scout troops and Cub packs from towns including Memphis, Bartlett, Germantown and Collierville, Tennessee as well as Horn Lake, Mississippi, participated in this event!

Over 125 participants including 85 scouts and cubs from 12 different troops and packs experienced the thrill of Amateur Radio by operating the Delta Amateur Radio Club's ham radio station, using the callsign W4BS, which phonetically stands for "World 4 Boy Scouts." Contacts were made with other scouts and scouters from Florida, Texas, Cuba, Canada, Argentina and Mexico, to name a few places.

Scouts and visitors also had many other activities to participate in, including local police and fire department communications system demonstrations, weather spotting, disaster planning forums, and transmitter hunts.

Barry W. Moore, KE4KAG, the Delta Amateur Radio Club's JOTA coordinator, enjoyed showing scouts, scouters and visitors how Amateur Radio plays such an important role in disaster communications. Barry stated, "We were able to give our scouts a firsthand look at the total communications picture as it relates to community service and in providing reliable communications in times of extreme emergencies where normal modes may prove to be futile."

The Delta Amateur Radio Club is committed to recruiting young people into Amateur Radio. In 1995 it established Explorer Post 903, and is currently teaching a No-code Technician class to young children ages 7-12 every Saturday morning.

Frank Baker, AE4DJ, of Memphis allows a scout from Collierville, TN, to talk to a fellow scout in another state.

It is people like those of the Delta Amateur Radio Club who make this worldwide event such a success! Many people have become aware of Amateur Radio, and just how important this hobby is to communities around the world.

For those who hosted JOTA for a group of scouts last October, thank you! You are a valuable resource to Amateur Radio.

Mark your calendars for the third weekend of October of 1998 for the 41st Jamboree on the Air! It's never too early to start planning for this event. Speak to your local Amateur Radio clubs and ask them to host a group of scouts as the Delta Amateur Radio Club did, or host a group yourself for a weekend filled with fun and excitement!

Youth Profile

Stephen Bracht, KD5CDC, of Jemez Springs, New Mexico, located 52 miles northwest of Albuquerque, has been selected for January's Youth Profile. Stephen was first licensed as a Technician No-code 23 August 1996 at the age of 15, and now proudly holds a General class license. It all began when a neighbor let Bob and his brother borrow an old shortwave receiver in return for doing some work. This fascinated them because of the fact that they could hear stations from all over the world right from their house! Stephen then bought a copy of *Passport to World Band Radio* and enjoyed listening to radio programs from different countries. Soon after that, they both found frequencies for local 2-meter repeaters and began monitoring them. That was enough to convince Stephen that he needed to be part of Amateur Radio!

Stephen is one of four amateurs in his family. His father, Roger, KC5VWL, mother, Patty, KC5YCJ, and 18-year-old brother, John, KC5YCI, all use Amateur Radio to communicate with each other, and are all very supportive of the hobby.

Stephen has proven to be quite active in Amateur Radio, too! He enjoys recruiting young people to the hobby, operating on 2 Meters as well as 20 Meters, and plans on working people on 40 Meters once he puts some more antennas up to work the lower bands. He has recently started a local club called the Jemez Amateur Radio Club, which currently

has 11 members, three of whom are young hams! The purpose of the club is to recruit new people to Amateur Radio, and to be a service to the Jemez community. Stephen says the club's future plans are to build and operate a club repeater and become involved in search and rescue.

When I asked Stephen what he would say to the youth interested and involved in Amateur Radio, he replied, "I would tell them of my experiences with the hobby, and strongly encourage them to get their licenses, or work on upgrading. I would also say what I have heard from a lot of other people that the future of Amateur Radio rests in the young hams. I would also mention to them the educational benefits, such as knowledge in radio wave propagation, electronics theory, and geography. It is a great way to meet new people, and almost every ham I have met has been very friendly."

Stephen and his family plan to continue working to make Amateur Radio a better hobby not only for their community, but for all of us. If you are on the Internet, please visit Stephen's family homepage at http://www.jemez.com/brachts. Send him an e-mail, too! Congratulations, and keep up the great work, Stephen!

That's all for this month! As always, I'm looking for topics to write about in my future columns. If you have comments, suggestions or topic ideas, please mail or e-mail them to me using the addresses found at the top of this column. They will be much appreciated! I hope everybody has a great Holiday Season, and I wish one and all a Happy New Year!

73, Brian, N5ZGT WR

How I came to love the code,

.....or when the DX bug bit

LORRAINE PEERENBOOM, KC8HWV

Ham radio? Morse code? Tests? You've got to be kidding! It seems that these were my exact words every time my OM mentioned that it would be nice if I obtained my Amateur Radio license.

At the 1997 Dayton Hamvention, my OM pulled a "slick" one on me. He had just purchased a new Kenwood HT and when he finished extolling its virtues, he handed me his Icom 2AT and said, ever so sweetly, "Here, this is now yours." Well, of course, I was utterly stunned. What in the world was I going to do with an HT? I wasn't even a Ham! As I proceeded to voice all of this, he again, ever so sweetly, said, " Well, I guess you'll just have to get your ticket to use it, won't you?" What a sneak!!

But I was intrigued by this HT and I did want to learn how to use it, so I began very earnestly to study for my No Code-Technician ticket. Three weeks later I took the tests, and upon receiving my Certificate of Completion, I was nearly choked to death by the biggest bear-hug I had ever received. My OM was on cloud nine for quite some time (frankly, so was I.)

I began to attempt to get to know Mr. CW, but he appeared elusive and unattainable. In September, I decided enough was enough, and really tackled good old Mr. CW. The second weekend in October, my OM announced that on Saturday I could pass any 5 wpm code test. What? Me ready? Did I really know Mr. CW that well? I had my doubts, but I went anyway. When the test started, I felt like a blockhead! I'd never pass this! Then, to my amazement, my tired old cerebral tissue shouted, "Hey! that's Mr. CW! We know him!" It was on! I knew the code!!! Great balls of fire, I knew Mr. CW! Yeah, I passed. What a trip.

A week later, just in time for the CQWWSSB Contest warm-up, my upgrade was on the internet. Now I could get on 10 meters, and I did just that. My first contact was a little nerve-wracking to say the least, but after that it just flowed as if I had done this for years. That was when the DX bug bit. I couldn't wait for the next weekend for the real thing.

Just getting a taste of DX made me realize if I really mastered old Mr. CW, I could get on more frequencies to DX, and who knew where it would go from there. I turned into a real ham, coming home each night from work and checking out 10 to see what was cooking, before going in and tackling Mr. CW at 13 and 15 wpm. Yup, the DX bug bit, and now I knew I had to learn the code even better so I could upgrade. Yeah, I'm even looking forward to DXing CW style. Look out Mr. CW, I'm going to get to know you very, very, very well, and you and I are going to DX from sunup to sunset. Who said CW was dead, or was too hard to master? All the sweat and tears of getting to know CW was well worth it. My first 10-meter contact was with Argentina. Not only did the DX bug bite, but so did CW, and it's still nibbling at me. Guess what? I don't mind a bit; in fact, I rather enjoy it (don't tell Mr.CW. He thinks he's Mr. Unattainable, but we know better, don't we?!). WR

Search And Rescue Communications

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

Be prepared!

I hope you've been following the news reports concerning El Nino weather forecasts. The Federal Emergency Management Agency folks have issued warnings, there have been gatherings of emergency and weather experts, and local forecasters have been talking about possible effects of El Nino. Essentially the water temperature is higher in the southern hemisphere oceans (where storms seem to originate). This warmer water creates changes in global weather patterns. From what I read, you should expect the unexpected! From an Amateur Radio perspective, this is a good time to take stock of your emergency power system, your grab-and-go materials, your family preparedness gear, and do a systems check of your antennas and coax.

As we've explored over many months in this column, when it starts to snow or rain, it's often too late to begin preparations. Preparation is one of those "do it in advance" concepts. My hope is that it doesn't happen. Logic tells me it's only a matter of time before the big one hits. One operator told me he was tired of "getting ready" all of the time. If your life seems to go as mine does, the time disaster strikes is when you're least prepared.

Connectivity

A month ago our ARES group put on a display for a local emergency preparedness fair. Among the groups with displays were the local power company, fire department, sheriff, community groups, and school groups. One of the sheriff guys and I chatted for a while about the role of Amateur Radio. Let me set the scene for you.

This fair was held in a school "commons" area. It was a large room with a high ceiling. ARES had set up three packet stations, a couple of VHF and UHF stations, strung a dipole between two portable masts, and had an HF station operating. We brought batteries, meters, wires, brochures, signs, and staffed it with about a dozen ARES folk.

The sheriff guy asked what our role would be in an emergency. I said, we'd provide communications between agencies. He said, we can do that now, and pointed to his walkie talkie on his belt. He told me about their system of various frequencies and that during an emergency, all agencies could get on a common state-wide frequency. I asked him for a demonstration. He said OK. I knew I had him and smiled. Call a hospital. He said, they don't have radios. I asked him to call our local public transit provider, the Utah Transit Authority. He said, why? How about a call to the power company? He started to understand the concept of connectivity. Then he asked, "Can you people really contact all those agencies?" I assured him that there were Amateur Radio operators throughout the area who could be asked to provide emergency contact during an emergency event.

We then explored the ability of other Amateur Radio operators from nearby communities and states to come into Utah and use our repeaters. He said that when he travels and takes his walkie-talkie, he's surprised when he hears many types of public service agencies, not all of them law enforcement. He said he had tried to talk to them while on his travels, but couldn't get them to respond.

I then talked about his agency's repeater system and how he transmits on one frequency and receives on another — and that this pair isn't defined as common in another area. What works for his system probably doesn't work for any other system in the country. I think I made a convert out of this deputy. He'd not considered what it meant to communicate between various agencies. His dispatch world was to have someone in their communications center make a telephone call. With phones overloaded, this task would be near impossible. If a bus were needed to evacuate an area, how would the word get from the scene to the bus garage? He began to understand. He was justifiably happy with his department's system. It features several repeaters, automatic mobile identification (the dispatch screen shows who has transmitted via digital encoding), and a secure transmission feature yet-to-be implemented. For his day-to-day needs, it performs well. What he had never experienced, was a large scale event that would not only congest his channels, but every other agency as well.

We in Amateur Radio understand frequencies, repeater offsets, call signs, and interconnectivity. We do it all the time. When we travel from Utah to Maine, it's no big deal to poke around and find a repeater. We understand the process, but we're communicators. Often, I believe, those involved in disaster planning

at many companies and in public agencies understand their role in an emergency, know what they would be expected to do in an emergency, but don't have much of a clue how to communicate between agencies and private companies. The best way, I believe, to do some "teaching" is through preparedness events and with demonstrations. We must be aware that agencies and companies have spent great amounts of money on their current systems. Our job is not to tell them they've made a mistake, but to show them how Amateur Radio fits into the overall picture. We're the "when all hell breaks loose" folks who can help them connect. Their day-to-day needs are in great shape, it's the unexpected events that allow us to shine. I'd encourage you to make some contacts with local PTA groups, Scout groups, church groups, and other community groups. When they're planning a local preparedness event, volunteer yourselves for a table. Set up your station and show how Amateur Radio talks to the rest of the world. It's fun and opens other doors for your group to participate and be included in planning discussions.

Say again!

Here's an idea for you to munch on. Our ARES group conducts a training net each week except the third week when we have our in-person meeting. On each of our training nets, we accept check-ins and then have someone present an on-the-air training topic. Sometimes we'll have a visitor, such as a police officer or dispatcher, give the training. Most of the time it's our own people. John Parken, KA7GZH, one of our ARES gurus, in the early 1990s asked one member to tape record each net. Last week I became the keeper of the tape library. What fun it was to listen to nets from years ago. It was great to hear voices that have moved on to other locations or to other interests. It was neat to hear training topics long forgotten. My ARES role is to take some of these training topics and transcribe them as part of a resource manual. Our members will benefit from these well-researched training sessions and we'll not have to re-invent the wheel every week for training. Some of the topics are timeless, such as how to run a net, how to check out an antenna problem, or some ideas on what gear is helpful for grab-and-go situations.

These tapes also provide a back-up if the assigned trainer cannot make a scheduled net. Tape is cheap and it's easy to hook a recorder to your radio. You might give some thought to recording your own nets and perhaps offering to trade tapes with other ARES or communications groups. I'd also recommend these as a way to train net control stations. They could record check-ins from an actual net and learn to listen and write at the same time.

Tracking coax

Here's something I discovered this week. Have you ever been faced with a bundle of wire or coax and needed to repair or connect something but didn't know which cable was the correct one? You could spend time with an ohm meter and perhaps find the right wires, but this is time-consuming. What if you needed to hook something up at, for example, an emergency operations center, and were faced with many coax runs; all unlabeled of course.

My first suggestion is that you label every wire you run from the radio room. This includes coax cables, control cables, power lines, etc. Most of the time, the wires get run, connected, and ignored — until you need to fix something. But, here's the idea. When you call a telephone company to fix wiring in your home or business, they use a tone generator and an inductive receiver. The tone box is clipped on to one end of the wires they need to trace, and the inductive receiver is used to "hear" the tone at the other end. That's how the phone people track pairs of wires within a building where there are hundreds of pairs of wires. The tone tracking devices can be found at most local electric supply stores and especially from companies that specialize in telephone equipment.

One of my favorite "toy" companies is the Specialized Products Company (800/866-5353). They carry tools, tool kits, specialty test gear, and just about any type of goodie an electronics person would want. A low-end tone tracker will cost you less than $100, but here's an idea. Talk to your local phone repair company and see if they'll donate an old set to your group. They often are buying new stuff, or have an old set that might be repairable. I found a set at a pawn shop for under $20, so that's a possibility. I hooked the tone generator on a coax line in our company building. We have four runs of coax from one floor to the roof, and they're unlabeled at each end. Using the "sniffer" I was able to quickly find which run of cable I needed to use. The only caution is that you cannot use these tracking tools on energized wire, so check for voltage before you begin tracking. I'm adding a tone tracker to my tool kit of field "repair" items for those times I need to find matching ends of coax at an EOC or within a building during an emergency response.

Until next month, be safe, prepare for El Nino, and most of all, enjoy public service! Best wishes from Salt Lake City. **WR**

No accident

It was no accident that you received this issue of ***Worldradio***. If you are not yet a subscriber, please consider it an invitation to join.

Lorraine S. Matthew, N4ZCF
MARS Call AAA9PR
E-mail: LoriMatt@aol.com

At the beginning of any activity or commitment, a philosophy should be in place or in mind as a guiding light. The beginning of a new year is no exception. Army MARS moves into 1998 with many fine expressions of its guiding philosophies. It is my intention to gather them here and to set the tone of the year to come.

Toward the end of October last year, Chief Army MARS Robert Sutton began a codification of the traits of an Army MARS member. This statement has not yet reached its final form; however, it is inclusive enough to form the basis of a fine volunteer Army MARS member.

Chief Sutton wrote:

"ARMY MARS CODE: Many of you will recall that the original 'Amateur's Code' was written by Mr. Paul M. Segal, W9EEA, in 1928. It has been suggested by our members that Army MARS should also have a code. Tonight I present the following modification based on the 'Amateur's Code' as a first draft. It is intended to inspire our members to improve upon it by obtaining suggestions from the membership.

An Army MARS member is:

• CONSIDERATE....never knowingly operates in such a way as to lessen the gratification of others who voluntarily devote their precious time and talents to the MARS program.

• LOYAL....offers loyalty, encouragement and support to all members as a team effort through which MARS is represented in a positive manner to those we support and the general public.

• PROGRESSIVE....with knowledge of new technology, a well-built and efficient station and operation above reproach.

• FRIENDLY....slow and patient, participating whenever possible; friendly advice and counsel to new members; kindly assistance, cooperation and consideration for the interests of others. These are the hallmarks of the MARS spirit.

• BALANCED....radio communication is an additional activity, never interfering with the duties owed to family, job, or community.

• PATRIOTIC....station and talent always available to serve the community, state and country.

"In summary, this is just a start. I am confident that this can be improved upon and your thoughts, ideas and suggestions are most welcomed."

•

At the beginning of 1997, the year just closed, Chief Sutton wrote:

"We all have witnessed the symbolic New Year's picture depicted by the old tired man with a long white beard representing the past year, and the symbolic holding of hands with the bright smiling baby representing the new year and the future.

"This picture can also represent the Army MARS program in that the past years' accomplishments are behind us, but the new year and its many exciting challenges are ahead of us. This relationship provides a golden opportunity to learn from the past in building the future. The ensuing structure that we together as a team will build this year will be strong enough to endure the many challenges that face MARS as we head toward the next century.

"Emergency communications support is our primary mission and the first few days of 1997 has already found Army MARS establishing emergency communications support in the Northwest due to heavy flooding as reported by Mr. Smith, AAA8MT, the ID/MT State Director. We can anticipate that Army MARS will continue to be called upon for assistance during the remainder of the year.

"With your help, we will finalize the many complex interoperability issues that we have been coordinating with our sister services and our customers which will improve our emergency communications support posture.

"Dramatic advancements can be made if we focus our combined efforts towards a few specific goals, and concentrate our activities in a positive fashion. In this respect, 1997 may be considered the time when the revised or new Army MARS emerges.

"When I assumed the duties of Chief Army MARS in January 1990, it was based on the sincere desire and knowledge that as a united team we could and would continue to improve the posture of the Army MARS program during the years ahead. Your dedicated efforts have proved that you too share this desire and you are commended for that.

"I have shared this with you before but I think it is worth repeating and that is that I firmly believe that every human being, deep down, desires to do the best that he or she can. The abilities to succeed are only limited by the tools, training and guidance provided. That is the primary commitment for management this year — to bring to closure the primary documents that outline the policy and procedures for the new

Army MARS."

In reading these comments made at the beginning of a past year (1997), I find that they apply equally well to 1998, 1999, or any year that the reader chooses to open. Army MARS looks forward to many openings of many years well into the future.

"Army MARS offers excellent opportunities for professionals in all walks of life. We have removed some old outdated restrictions with resounding success and we will continue this positive trend by investigating other avenues for bringing professional talent to the program. New membership brings new ideas as well as new talent, especially to the ever changing technology with which we must keep abreast in order to survive. On the other hand, MARS as a whole must embrace this new talent and identify ways in which it can be best utilized.

"Retention of existing membership is equally important and must be addressed. We cannot afford to lose the core of our corporate knowledge. Like the picture cited earlier, the old must hold hands with the young to insure a continued and stable program."

"As we enter this new year, we might reflect on some of the benefits that MARS has to offer to its membership such as:

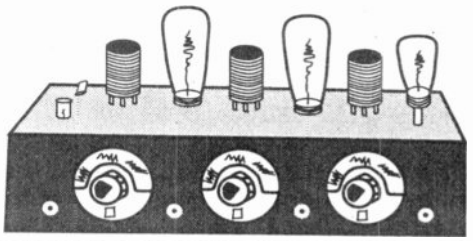
- Personal growth that comes from basing your goals, priorities and relationships with others as the posture of the program improves because of your involvement with the program.
- A sense of belonging knowing you are a unique and contributing member.
- A sense of fulfillment knowing you are carrying out the special role of an emergency communicator and you are involved with improving the morale of our deployed military.
- A renewed purpose from the fact that as a MARS member, you are participating in a special mission and a destiny that goes beyond day-to-day living.

"The future of Army MARS is ahead of us. We will need your cooperation and by working together we can bring about a new Army MARS."

•

This new Army MARS proceeds Proud, Professional, and Ready. WR

OLD-TIME RADIO



The '38 LA flood

A. K. TRAMMELL, W6QZE

During the Los Angeles Flood of 1938, I was operating WUDH, a government radio station in Arizona, handling traffic back to Washington. The other operator had gone on leave and left only me to man the station.

We were temporarily using an Army transceiver with the old lovable hand-cranked generator. (Our regular transmitter, a Collins 30FX, was down.)

We used men from the USCCC as helpers and generator operators. One of them, a professional wrestler by the name of Jack (Horseface) Nolen, cranked that generator (as needed) all night long. One relayed message was 582 words long! I asked the L. A. operator why the Senator didn't send a letter! "He did," he replied.

The next morning we took a break for breakfast and were told we could have anything we wanted. "Horseface" asked for, and ate, a dozen fried eggs, fried potatoes and gravy. He finished them off, too! As I remember, I had a couple of flapjacks and a few minutes' sleep.

They got our AC power back up the next morning, letting us use our 30FX Collins transmitter, and I had a cute young girl from the Red Cross helping me as a runner, etc. I laid my head down on the desk, telling her to awaken me if any CW started coming in on the Hammarlund Comet receiver. (I didn't get much sleep.) "Those were the Days." WR

1940 Wetherly St., Riverside, CA 92506
e-mail: KI6SN@aol.com

'97-'98 QRP Survey Results

For the fifth consecutive year, regional, national and international low power groups have stepped forward to be counted in the ***Worldradio*** QRP Organization Survey. And it should come as no surprise that the '97-'98 roundup is the biggest ever, reflecting the burgeoning growth of QRP both in the United States and around the world.

There is some great work being done in the interest of low power operation, and many of the groups listed this year are a driving force.

In our first survey in '93-'94, 14 groups were represented. This year there are 26, with several organizations making their survey debut: Minnesota QRP Society, Columbus (OH) QRP Club, Austin (TX) QRP Club, Hawaii QRP Club, Long Island QRP Club, Spain's EA QRP Club, and Benelux QRP Club of the Netherlands.

This year's survey has an entry for websites, given the growing interest QRP clubs have in posting homepages on the Internet. You'll also find QRP club callsigns attached to some of the entries.

Many thanks to the club presidents, membership chairmen and public relations officers who took the time and effort to complete the survey questionnaires and to share the good news about their organizations with readers of the ***Worldradio*** QRP column.

NOTE: Net times listed here are in UTC. Therefore, for radio amateurs in the Western Hemisphere a net at 0200Z Thursdays, for example, is actually taking place on Wednesday evenings.

NoGaQRP Group (Northern Georgia)

Founded: 1996
Membership: 20, open to all radio amateurs, no membership numbers assigned.
Cost to join: None
Annual dues for current members: None
Periodicals: None
Website: www.america.net/~w4qo/nogaqrp.html
Nets: None
Club-sponsored activities: Meetings in February, May, August, November
For information: Kenneth Evans, W4DU, 848 Valbrook Ct., Lilburn, GA 30247. E-mail: W4DU@bellsouth.net

Arkansas QRP Club

Founded: 1996
Membership: 170, open to all radio amateurs, membership numbers assigned.
Cost to join: None
Annual dues for current members: None
Periodicals: *The Arkansas QRP Club Newsletter* published quarterly. Nets: 0130 UTC Tuesdays on 3.560 MHz; 0130 UTC Wednesdays on 7.042 MHz.
Club-sponsored activities: None.
For information: Bob Schill, N9ZZ, 193 Northpointe Dr., Mountain Home, AR 72653-8124; By e-mail, Jim Hale, KJ5TF: kj5tf@mctc.com

The KnightLites, WQ4RP

Founded: 1995
Membership: 50, open to all radio amateurs, no membership numbers assigned.
Cost to join: None
Annual dues for current members: None
Periodicals: None
Website: http://RTPnet.org/~knights/
Nets: The KnightLites Roundtable meets at 0300Z Mondays on 3.686.4 MHz.
Club-sponsored activities: Annual Field Day and other contest participations annually; trip to the North Carolina Outer Banks in Spring '98 (Core Banks, midway between Cape Hatteras and Cape Lookout); QRPizza meetings at Two Guys in Raleigh the second Thursday night of each month.
For information: Dave Johnson, WA4NID, 2522 Alpine Rd., Durham, NC 27707; E-mail: WA4NID@amsat.org

Alaska QRP Club

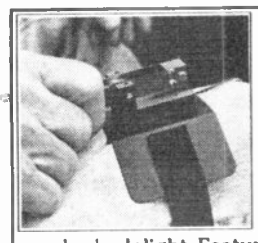
Founded: 1996
Membership: 300+, open to all radio amateurs, membership numbers assigned.
Cost to join: None.
Annual dues for current members: None
Periodicals: *The Tundra Telegraph*, distributed via e-mail twice a year.
Website: www2.polarnet.com/~akqrp
Nets: 0515 UTC Mondays and Thursdays on 3.560 MHz (if no propagation, move to 7.040 MHz at 30 minutes past the hour).
Club-sponsored activities: None
For information: Alaska QRP Club, P.O. Box 10079, Fairbanks, AK 99710; e-mail: akqrp@polarnet.com

Adventure Radio Society

Founded: 1996
Membership: 330, open to all radio amateurs with an interest in outdoor QRP operations and in reaching remarkable operating locations by human power. Membership numbers assigned.
Cost to join: None
Annual dues for current members: None
Periodicals: none
Website: www.natworld.com/ars
Nets: None
Club-sponsored activities: Spartan Sprints held on the first Tuesday of each month at 0200Z on or near 7.040 and 14.060 MHz (and 3.560 MHz in winter months); ARS Piggyback competitions held in conjunction with other major radio contests; WAS P/Q Award for radio amateurs who attempt Worked All States from portable locations reached by human power.
For information: Russ Carpenter, AA7QU, 47227 Goodpasture Rd., Vida, OR 97488; e-mail: russ@natworld.com.
For membership: Richard Fisher, KI6SN, 1940 Wetherly Way, Riverside, CA 92506; E-mail: KI6SN@aol.com

New Jersey QRP Club

Founded: 1995
Membership: 93, open to all radio amateurs, membership numbers assigned.
Cost to join: None
Annual dues for current members: None
Periodicals: *NJ-QRP Online Journal* updated monthly reporting homebrew



and club projects and activities
Website: www.njqrp.org
Nets: None
Club-sponsored activities: The club has an active e-mail listserver providing daily e-mail message threads to all club members with Internet access. Members participate in Field Day and operate as a club in other contests throughout the year.
For information: Vince Passione, WA2ECP, 1 Courtney Way, Red Bank, NJ 07701; e-mail: wa2ecp@juno.com. Also George Heron, N2APB, 45 Fieldstone Trail, Sparta, NJ 07871; e-mail: g.heron@dialogic.com

Arizona ScQRPion QRP Club, NQ7RP

Founded: 1995
Membership: 40, open to all radio amateurs, no membership numbers assigned.
Cost to join: None
Annual dues for current members: None
Periodicals: None
Website: www.dancris.com/~ki7mn/sqrppage.htm
Nets: None
Club-sponsored activities: "Freeze Your B___ Off" Winter QRP Field Day in February; "BUBBA Summer Sprint" held in August.
For information: Joe Gervais, AB7TT, P.O. Box 1822, Goodyear, AZ 85338; E-mail: vole@primenet.com

Calgary QRP Club, VE6DN

Founded: 1995
Membership: 12, open to all radio amateurs, especially those with an interest in building and trouble-shooting QRP equipment, no membership numbers assigned.
Cost to join: None
Annual dues for current members: None
Periodicals: None
Nets: None
Club-sponsored activities: Participation in Field Day, other QRP contests and nets.
For information: Calgary QRP Club, c/o Don Cole, VE6EY, 923 Whitehill Way N.E., Calgary AB, T1Y 3G1, Canada. E-mail: xylex@cadvision.com

QRP-L Internet Mail Group

Founded: 1993
Membership: 2,500, open to all radio amateurs interested in discussing all aspects of QRP activities, including — but not limited to — contests, operating, building, experimentation, club activities, the Dayton Hamvention, etc.; membership numbers assigned upon request. To join the QRP-L Internet Mail Group send e-mail to: LISTSERV@lehigh.edu and in the body of the message write: SUBSCRIBE QRP-L (Your name) (Your call).
Cost to join: None
Annual dues for current members: None
Periodicals: None
Website: qrp.cc.nd.edu/qrp-l/
Nets: None
Club-sponsored activities: Regularly scheduled CW "Fox Hunts," and QRP propagation studies.
For information: Chuck Adams, K5FO. E-mail: adams@sgi.com

Michigan QRP Club,WQ8RP

Founded: 1978
Membership: More than 1,600, open to all radio amateurs and SWLs, membership numbers assigned
Cost to join: $7 U.S./VE, $12 DX
Annual dues for current members: $5 U.S./VE, $10 DX
Periodicals: *The Five-Watter,* published quarterly.
Website: www.geocities.com/CapeCanaveral/2844/miqrp.htm
Nets: MI-QRP Net at 0200Z Wednesdays on 3.535 MHz Club-sponsored activities: Michigan QRP Club CW Contest, (36 hours) 3-4 January 1998; Memorial Day CW Sprint, 25 May 1998; 4 July CW Sprint; Labor Day CW Sprint, 7 September 1998. M-QRP Chapter II callsign: WQ8RP
For information: Michigan QRP Club, 654 Georgia, Marysville, MI 48040-1243. E-mail: n8cqa@tir.com

St. Louis QRP Society

Founded: 1987
Membership: 48, open to all radio amateurs in the St. Louis metropolitan area, no membership numbers assigned.
Cost to join: None
Annual dues for current members: $12
Periodicals: *The Peanut Whistle,* published monthly, with an expanded anniversary bonus issue each November.
Nets: None.
Club-sponsored activities: Builder's Contest, Key Night, Field Day, Tailgate Sale & Open House, Anniversary Dinner and periodic outings.
For information: Keith Arns, KCØPP, 2832 Pembroke Ln., Saint Charles, MO 63301-0344.

NorthWest QRP Club

Founded: 1992
Membership: 482, open to all radio amateurs, membership numbers assigned.
Cost to join: $3
Annual dues for current members: None
Periodicals: *The NWQ Newsletter,* published bimonthly and available free on the club's web page. Members may request an ASCII text version be sent to their personal Internet mailbox.
Website: www.scn.org/IP/nwqrp/nwqrp.html
Nets: NWQRP Net meets Tuesdays at 0300Z on 10.123 MHz, 0330Z on 3.710; and Saturday at 1530Z on 3.561 MHz.
Club-sponsored activities: NWQRP Winter Sprint, February; and NWQRP Spring Sprint, May; Norwester Award for contacting 10 or more members; endorsements for contacting 25 and 50 members.
For information: Bill Todd, N7MFB, NW QRP Club, P.O. Box 354, Bay Center, WA 98527. E-mail: bill@techline.com

Maryland Milliwatt Club

Founded: 1992
Membership: 40, currently by invitation only, membership numbers assigned.
Cost to join: None
Annual dues for current members: None
Periodicals: None
Website: http://weathernode.com/qrp

Nets: None
Club-sponsored activities: Promotion of QRP in the 3rd call district; sponsors QRP "show and tell" sessions; administrates a QRP reference library.
For information: G. Danny Gingell, K3TKS, Maryland Milliwatt Club, 3052 Fairland Rd., Silver Spring, MD 20904

G-QRP Club of Great Britain

Founded: 1974
Membership: 5,000, open to all radio amateurs, membership numbers assigned.
Cost to join: $12 (subscriptions may be paid by Mastercard or Visa. Although new members are asked to join directly to the UK, there is a U.S. representative who can accept renewal fees in $U.S.)
Annual dues for current members: $12
Periodicals: *SPRAT,* published quarterly
Website: http://ourworld.compuserve.com/homepages/g4wif/gqrp.htm
Nets: None
Club-sponsored activities: QRP tests and activities organized by A.D. Taylor, G8PG. Extensive awards program including: Worked G-QRP Club Award, QRP Countries, Two-Way QRP, QRP Master, and CW Novice Award. Trophy program including the G2NJ, Partridge, G4DQP, Chelmsley and Suffolk trophies. Annual club-sponsored contest is "Winter Sports" from 26 December to 1 January, inclusive.
For information: G-QRP Club, Rev. George Dobbs, G3RJV, St. Aidans Vicarage, 498 Manchester Rd., Rochdale, Lancs, OL11 3HE, England. E-mail: g3rjv@gqrp.demon.co.uk

QRP Amateur Radio Club International

Founded: 1961
Membership: 1,486 (current subscribers to the club's quarterly journal), open to all radio amateurs, membership numbers assigned.
Cost to join: $15, U.S.; $18, Canada; $20, DX. (Contact Ken Evans, W4DU, 848 Valbrook Ct., Lilburn, GA 30047. E-mail: W4DU@bellsouth.net)
Annual dues for current members: $15, U.S.; $18, Canada; $20 DX
Periodicals: *QRP Quarterly,* published quarterly
Website: http://rtpnet.org/~qrp/
Nets: TCN on 14.060 MHz at 2300Z Sundays; SEN on 7.030 MHz at 0100Z Wednesdays (QSY to 3.535 MHz at 0130Z if 40 meter conditions are poor); GSN on 3.560 MHZ at 0200Z Thursdays; GLN on 3.560 MHz at 0200Z Thursdays; NEN on 7.040 MHz at 1300Z Saturdays; WSN-80 on 3.558 MHz at 0400Z Thursdays; WSN-40 on 7.040 MHz at 1700Z Saturdays.
Club-sponsored activities: QRP ARCI Operating Awards Program includes QRP-25, WAC-QRP, WAS-QRP, DXCC-QRP, 1,000 Mile-Per-Watt and QRP-Net (QNI-25) awards. Contests include the Spring QSO Party in April, Hoot Owl Sprint-CW in May, Summer Homebrew Sprint-CW in July, Summer Daze Sprint-SSB in August, Fall QSO Party-CW in October, Holiday Spirits Sprint-CW in December, and Novice-Tech Roundup in January-February.
For information: Bruce Moscolino, W6TOY, P.O. Box 9333, Silver Spring, MD 20916. E-mail: w6toy@erols.com.

NorCal (Northern California) QRP Club

Founded: 1993
Membership: 2,450, open to all radio amateurs, membership numbers assigned
Cost to join: None
Annual dues for current members: To receive the club publication there is an annual fee of $15 for U.S./VE stations, $20 for DX.
Periodicals: *QRPp*, published quarterly
Website: www.fix.net/norcal.html
Nets: None
Club-sponsored activities: The club sponsors the QRP To The Field contest in April and holds monthly meetings in Pleasanton, CA. It has also developed and distributed hundreds of transceiver, keyer, key paddle antenna tuner and vertical antenna kits for the QRP homebrewer and has an ongoing project development program.
For information: Jim Cates, WA6GER, 3241 Eastwood Rd., Sacramento, CA 95821. E-mail: wager@juno.com

Colorado QRP Club WØCQC

Founded: 1994
Membership: 490, open to all radio amateurs, membership numbers assigned
Cost to join: $12, U.S.; $15 outside U.S.
Annual dues for current members: $12
Periodicals: *The Low Down*, published bi-monthly.
Website: www.mtechno logies.com/mthome/cqc.htm
Nets: CQC Net meets at 0300 UTC Tuesdays on the 147.225 FM repeater (145.16 in Colorado Springs), covering Cheyenne, WY to Pueblo, CO.
Club-sponsored activities: Colorado QRP Club Winter QSO Party in February; Summer QSO Party in August; and sponsors the Colorado QRP Counties award.
For information: CQC, P.O. Box 371883, Denver, CO 80237-1883. E-mail: CQC@aol.com

QRP Society of Central Pennsylvania, KB3BNO

Founded: 1993
Membership: 25, open to all radio amateurs, membership numbers assigned
Cost to join: None
Annual dues for current members: $5, U.S.; $7 outside U.S.
Periodicals: *QRP Gazette,* published six times per year.
Nets: None.
Club-sponsored activities: QRP TAContest on the first Saturday in June; annual summer meeting with portable operation from a state park. The club serves local QRPers and promotes homebrewing and portable operation.
For information: Cameron Bailey, KT3A, P.O. Box 173, Mount Wolf, PA 17347. E-mail: kt3a@ juno.com; W3HMS@ aol.com

QRP Club of British Columbia

Founded: 1990
Membership: 35, open to all radio amateurs, no membership numbers assigned
Cost to join: $5
Annual dues for current members: None. But periodic $5 assessments are made to cover meeting and mailing costs.
Periodicals: A newsletter is sent to all members following each quarterly meeting (by e-mail wherever possible).
Nets: Daily: 0000Z on 3.729 MHz; 0400Z on 3.729 MHz (following the British Columbia Public Service Net).
Club-sponsored activities: The club is primarily interested in promoting the design and construction of SSB transceivers and other equipment related to the science of low power communication. Presentations are made at local club meetings, at hamfests and on Field Day. Lunch meetings are held quarterly and alternated between the British Columbia mainland and Vancouver Island.
For information: Laura Halliday, VE7LDH, 201-5030 Hastings St., Burnaby, BC VP5 1P6, Canada. E-mail: VE7LDH@amsat.org

Austin QRP Club

Founded: 1997

Membership: 25, open to all radio amateurs, membership numbers assigned.
Cost to join: None
Annual dues for current members: None
Periodicals: None
Nets: None
Club-sponsored activities: None
For information: Glen Reid, K5HGB, 1305 Carlotta Lane, Austin, TX 78733-1532. E-mail:k5hgb@flash.net

EA QRP Club

Founded: 1993
Membership: 370, membership open to all radio amateurs, membership numbers assigned.
Cost to join: Spain, $10; Europe, $12; DX, $15 Annual dues for current members: Spain, $10; Europe, $12; DX $15
Periodicals: *QU-R-PE*, published quarterly
Website: www.arrakis.es/~eaqrp-c
Nets: None
Club-sponsored activities: EA-QRP CW Contest, QSL bureau, club awards and QRP-EA discussion list.
For information: Juan Antonio, EA8QJ, via e-mail: jalopezd@arra kis.es

Minnesota QRP Society WQØRP

Founded: 1996
Membership: 45, open to Minnesota and border county radio amateurs, membership numbers assigned.
Cost to join: $1
Annual dues for current members: None
Periodicals: None
Website: www.qsl.net/mnqrp
Nets: None
Club-sponsored activities: None
For information: Minnesota QRP Society, Claton Cadmus, KAØGKC, 3985 Alabama Ave. So., St. Louis Park, MN 55416

Hawaii QRP Club, NQ6RP

Founded: 1996
Membership: 25, open to all radio amateurs, membership numbers assigned.
Cost to join: None
Annual dues for current members: None
Periodicals: None
Nets: Members meet on 29.025 MHz regularly.
Club-sponsored activities: The club hosts outings with on-the-air activities about five times per year.
For information: Dean Manley, KH6B, 2058 Ainaola Dr., Hilo, HI 96720-3638. E-mail: kh6b@juno.com

Long Island QRP Club

Founded: 1997
Membership: 40, open to all radio amateurs, membership numbers assigned.
Cost to join: None
Annual dues for current members: None
Periodicals: None
Website: www.hamtrader.com/liqrp/index.htm
Nets: None
Club-sponsored activities: The club likes to combine efforts with other QRP organizations.
For information: Jeff Casey, WB5GWB, via e-mail: WB5GWB@sprynet.com. Also Nick Franco, KF2PH, via e-mail: kf2ph@bnl.gov

Benelux QRP Club

Founded: 1975
Membership: 550, open to all radio amateurs and SWLs, membership numbers assigned.
Cost to join: 15 Dutch guilders for PA, ON, LX; 20 guilders for DX (approximately $10)
Annual dues for current members: 15 Dutch guilders for PA, ON, LX; 20 guilders for DX (approximately $10)
Periodicals: *De Nieuwsbrief* (in Dutch), published quarterly Website: www.xs4all.nl/~pa3asc
Nets: Saturdays on 3.795 MHz SSB; Sundays on 3.560 MHz CW
Club-sponsored activities: QRP Activity Week 26-31 December annually; "Foxhunts."
For information: Frits Faber, PAØDEF, P.O. Box 15, NL-2100AA, Heemstede, Netherlands

Columbus QRP Club, K8QR

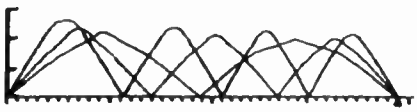
Founded: 1997
Membership: 65, open to all radio amateurs, membership numbers assigned.
Cost to join: $5
Annual dues for current members: $5
Periodicals: *CQRP Newsletter*, published monthly
Website: www.infinet.com/~lencqrp1.html
Nets: None
Club-sponsored activities: The club participates in contests and produced the MRX-40 receiver kit.
For information: Steve Bornstein, K8IDN, 475 E. North Broadway, Columbus, OH 43214. E-mail: saborns@freenet.columbus.oh.us WR

NYC Marathon communications

On Sunday, 02 November, Amateur Radio once again guided the New York City Marathon. As in years past, approximately 450 ham radio operators using 2 Meters and 70-centimeter FM guided the 40,000 runners on a 26-mile course through the five boroughs that make up the city of New York.

The New York City Marathon, the largest annual event of its type in the world, affords Amateur Radio operators a chance to provide public service on an unprecedented scale and in the public eye, since this event is seen by television viewers nationwide. —*via Newsline*

propagation



Carl Luetzelschwab, K9LA
1227 Pion Rd. • Ft. Wayne, IN 46845
e-mail: k9la@gte.net

This month is a listing of 14 worldwide web sites that pertain to propagation, the ionosphere, the sun, etc. Some are specific in nature, while others are links to many other sites. Here's a brief description of each one.

• Site number 1 gives a 27-day outlook (prediction) of 10.7cm solar flux, the planetary A index, and the largest K index for the day. It is updated once a week every Tuesday. Check for it late Tuesday evening or early Wednesday morning.

• Site number 2 is the Solar Terrestrial Activity Report put together from a variety of sources and issued once per day. Its main feature is a one month plot of solar flux, sunspot number, and planetary A index. There are also links to the last 4 weeks of solar and geomagnetic data, solar wind and electron fluence charts, data on solar cycles 21-23, and graphical comparison of cycles 21, 22, 23. There is also a detailed discussion of recent activity, with tabulated results of monthly solar data.

• Site number 3 is the Preliminary Report and Forecast of Solar Geophysical Data subtitled "The Weekly." It is put out by the Space Environment Center (SEC). It has many sub-sites that contain detailed data of a specific nature – daily particle data, alerts and warnings, GOES flare data, coronal hole maps, auroral activity, etc.

• Site number 4 is the Solar Terrestrial Dispatch home page, and is maintained in cooperation with the University of Lethbridge. It contains links to auroral data, hourly data, etc. It also displays real-time maps of MUF predictions from Proplab Pro Version 2 (a propagation program including the capability to ray trace with the magnetic field taken into account).

• Site number 5 is the home page of the Space Environment Center. It includes recent space environment reports and auroral activity from NOAA/TIROS satellite (Rice magnetospheric model, auroral electrojet plot, USAF auroral oval display, etc). There's also a large glossary of solar-terrestrial terms.

• Site number 6 is from the Goddard Space Flight Center. Some interesting items at this site are observations by the POLAR Ultraviolet Imager, images of the sun taken by the Extreme-Ultraviolet Imaging Telescope (EIT) on the Solar and Heliospheric Observatory (SOHO), and color images from the Total Ozone Mapping Spectrometer (TOMS) aboard the Nimbus-7 satellite.

• Site number 7 is world map with the current auroral oval superimposed on it.

• Site number 8 is the home page of the NCDXF/IARU International Beacon Network as discussed in the July 1997 column. Check it for updates on the beacon status. It also has links to three free programs that help identify which beacon is on when (one was mentioned in the July column). There is also a link to HAARP, the High Frequency Active Auroral Research Project in Alaska. HAARP will be the topic of a future column.

• Site number 9 is a listing of worldwide 10M beacons. It is maintained by N5EJS. This will be a good site for 10M enthusiasts as Cycle 23 progresses upward.

• Site number 10 is from OZ1RH, and is a discussion of tropospheric scatter at 50MHz. It is a technical paper dealing with the theory of troposcatter, equipment required, noise issues, scatter angle and path loss, radiation angle, effects of ground, and a lot more. There are some nice graphics to help explain some of the theory.

• Site number 11 is a massive listing of links not only to propagation items, but also to solar information, meteor shower information, beacon lists, standard frequency and time stations, and other Amateur Radio related activities.

• Site number 12 is devoted to an interesting theory on why sunspots follow an 11-year cycle. It's based on the alignment of planets and the resulting gravitational pull on the sun. This topic will be a future column.

• Site number 13 is for those interested in natural VLF listening (not man-made signals). If you're tired of 1.8-30MHz, spin your dial down into the KHz range and see what's going on.

• Site number 14 is the new address of the site referenced in the February 1997 column. This was a gopher site but now is an ftp site. As a reminder, this has historical data for sunspot numbers, solar flux values, A and K indices, etc for many years. If you need to go back and look at what was happening on a certain date many years ago, this is the site that will give you that information.

These 14 sites and the links tied to them are guaranteed to keep you busy surfing for many nights. If you know of any other interesting sites, please send me an e-mail and I'll list them in a future column.

Have fun! **WR**

PROPAGATION-RELATED WEBSITE ADDRESSES

1. 27-Day Propagation Outlook— gopher://gopher.sel.noaa.gov/00/weekly/27DO.txt
2. Solar Terrestrial Report— http://dxlc.com/solar/
3. Weekly Report— http://www.sec.noaa.gov/weekly.html
4. STD— http://solar.uleth.ca/solar/
5. Space Environment Center— http://www.sel.bldrdoc.gov
6. Goddard Space Flight Center— http://pao.gsfc.nasa.gov/gsfc/newsroom/flash/flash.htm
7. Auroral Oval— http://www.ptrr.alaska.edu/cgi-bin/worldmap/2?221,26
8. NCDXF/IARU Intíl Beacon Network— http://www.ncdxf.org/beacon.htm
9. 10M Beacon List— http://www.lehigh.edu/lists/tenten-l/beacons.html
10. Tropo Scatter at 50MHz— http://www.uksmg.org/tropo.htm
11. Com-West Radio Systems Ltd— http://www.com-west.com/b-dx.htm
12. Theory of Sunspots— http://www.alpes-net.fr/usr/j_p_desm/sun.html
13. Non-manmade VLF signals— http://www.triax.com/vlfradio/natradio.htm
14. Historical data— ftp://ftp.ngdc.noaa.gov/

Visit Your Local RADIO CLUB

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

ARIZONA

Arizona Repeater Association. P.O. Box 35758, Phoenix, AZ 85069-5758. Operates 20 VHF & UHF rptrs. in AZ. Meets 4th Thurs./monthly, 7:30 p.m., APS Bldg., 21st Ave. & W. Cheryl, Phoenix. Info: (602) 849-0851. 9/98

Cochise Amateur Radio Assn., (CARA). Meets 1st Mon./monthly, 7:30 p.m. at club facility on Moson Rd., Sierra Vista, AZ. K7RDG/R 146.76(-) rptr. PL162.2. 5/98

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

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

CALIFORNIA

Amateur Radio Club of Anderson, (ARCA). Meets 2nd Thurs./monthly, 7:30 p.m. Amer. Legion Post #746, 1709 Bruce Dr., Anderson, CA. Net every Tue., 7:30 p.m. on 146.64. http://www.snowcrest.net/bgorski/index.html 4/98

Beach Cities Wireless Society. P.O. Box 4016, San Clemente, CA 92674. Meets 2nd Thurs./monthly, 7:30 p.m., Ole Hansen Beach Club, 105 W. Avenida Pico, San Clemente. Rptr. 146.025(+) PL 110.9. 7/98

Coachella Valley ARC. Box 11092, Palm Desert, CA 92255-1092. Meets 1st Wed./monthly, 6:30 p.m., Portola Com. Cntr., 45480 Portola, Palm Desert. Info: Bill Dews, (760) 346-8611. Net Thurs. 7 p.m. 146.025(+) PL 107.2. 5/98

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

Downey Amateur Radio Club Inc., W6TOI. Meets 1st Thurs./monthly, 7:30 p.m., So. Middle Sch. cafetorium, 12500 S. Birchdale, Downey, CA. VHF net W6GNS rptr. 146.175(+) Thurs., 7:30 p.m. 5/98

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

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

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. 7/98

Garlic Valley Amateur Radio Club (GVARC). Meets last Sat./monthly, 8:30 a.m., Gavilan Restaurant near Monterey exit, hwy 101, Gilroy, CA. Info: Hal, AC6LK, (408) 779-7787. Net Tues., 7:30 p.m. Club rptr. K6THR, 147.825(-). 9/98

Golden Empire Amateur Radio Society, (VEC). P.O. Box 508, Chico, CA 95927. Club call W6RHC, rptr. 146.85(-). Meets: 3rd Fri./monthly, 8 p.m. at 1528 Esplanade, Rm. 101, Chico. 10/98

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

Marin Amateur Radio Club (MARC). W6SG. Box 151231, San Rafael, CA 94915-1231. Meets 1st Fri./7:30 p.m., Kaiser Hosp., Bldg. 2, Terra Linda, CA. (except July & Dec.; contact Membership Chair., Pete Wolford, N6IYU, 924-1578). Sun. AM Club at Red Cross, San Rafael. 9/98

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

Mount Diablo Amateur Radio Club. P.O. Box 23222, Pleasant Hill, CA 94523. Meets 3rd Fri./monthly, 8 p.m., Our Savior's Lutheran Church, 1035 Carol Ln., Lafayette, CA. Net Thurs. 7:30 p.m. on 147.06(+) PL 100Hz. Info: (510) 932-6125. 7/98

North Hills Radio Club. Meets 3rd Tue./monthly, 7:30 p.m., Carmichael Elks Lodge, 5631 Cypress, Carmichael, CA. Nets 8 p.m. Tue., Wed., Thur., 145.190(-) PL 162.2 and 224.400(-). Contact: Bob, AC6HF, (916) 966-3654. http://www.ns.net/~NHRC 3/98

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

Poinsettia ARC. Meets 1st Thurs./monthly, 7:30 p.m., First Christian Church, Telegraph Rd. & Teloma Dr., Ventura, CA. Info: Bill Klope, KB6LJN, (805) 642-4955. 4/98

River City A.R.C.S. Meets 1st Tues./monthly, 7 p.m., SMUD Bldg., Don Julio at Elkhorn, Sacramento, CA. License classes offered. For info contact Lyle, AA6DJ, (916) 483-3293. 9/98

Sacramento Amateur Radio Club. Meets 2nd Wed./monthly, 7 p.m. Sac. Blood Ctr., 32nd St. & Stockton Blvd., Sacramento, CA. Info net at noon on rptr. W6AK/R 146.91(-). Steve Cates, KC6TEV, (916) 391-7341 or Les Ballinger, WA6EQQ, (916) 393-4775. 1/98

Sacramento "Old Timers" Amateur Radio Society and Sacramento Valley Chapter #169 QCWA (Quarter Century Wireless Assn.). Meets 2nd Wed./monthly, 8 a.m., Lyon's Restaurant, 1000 Howe Ave. For info contact Paul Wolf, W6RLP (916) 331-1830. 12/98

Santa Clara County Amateur Radio Assoc., (SCCARA) W6UW & W6UU. P.O. Box 6, San Jose, CA 95103-0006. (408) 249-6909. Meets 2nd Mon./monthly, 7:30 p.m., United Way, 1922 The Alameda, San Jose. Net all other Mon., 7:30 p.m. W6UU/R 146.385(+), 442.425(+) PL 107.2. 5/98

Shasta Cascade Amateur Radio Society, (SCARS). 2124 Airstrip Rd., Redding, CA 96003. Meets: 3rd Wed./monthly, 7 p.m. at the C.D.F. Conf. Rm. Grape St., near Parkview Ave., Redding, CA. Net 146.64, Wed., 8 p.m. 10/98

Sierra Foothills ARC. 1222 San Simeon Dr., Roseville, CA 95661-5365. Meets 2nd Fri./monthly, 7:30 p.m., Auburn Library (Beecher Rm.), 350 Nevada St. Thurs. nets 7:30 p.m. 145.430(-) PL 94.8, 7 p.m., Fri. 28.415. 3/98

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. 7/98

Southern California Six Meter Club. P.O. Box 10441, Fullerton, CA 92635. USB Net Tue., 7:30 p.m., 50.150. FM Rpt. Net Thurs., 7:30 p.m., 52.86/52.36 tx. FM Smplx, call freq. 50.300. Net Sun., 10 a.m. 50.40. 4/98

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

Southern Humbolt ARC, (SHARC). Meets 4th Tues./monthly, 7 p.m., Best Western Humboldt House Inn, Garberville, CA. Talk-in on 146.79(-). 5/98

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

Stanislaus Amateur Radio Assoc., Inc. (SARA). P.O. Box 4601, Modesto, CA 95352. Meets 3rd Tues./monthly, 7:30 p.m., Stanislaus Co. Admin Bldg. 145.39(-) PL 136.5, 224.14, 440.225 PL 136.5. 3/98

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

Trinity Country ARC. P.O. Box 2283, Weaverville, CA 96093. Meets 2nd Wed./monthly, County School Adm. Bldg. in Weaverville, 7:30 p.m., Rptrs: WA6BXN 146.73(-) PL 85.4, W6HOR 146.925(-) PL 85.4. 10/98

United Radio Amateur Club, K6AA. L.A. Maritime Museum, Berth 84, Foot of 6th St. San Pedro, CA 90731. Meets 3rd Fri./monthly (except Dec.), 7:00 p.m. Monitors 145.52 Simplex 10 a.m.—5 p.m. 7/98

Vaca Valley Radio Club. Meets 2nd Wed./monthly, 7:30 p.m. (Board mtg., 7 p.m.) Vaca Fire Dist. Stn., Vine St. in Vacaville, CA. Rptr. WD6BUS 145.47(-) PL 127.3. Mary Turner, (707) 451-2134. 5/98

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

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

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. 6/98

Willits Amateur Radio Society, (WARS). 1712A South Main St., Ste. 73, Willits, CA 95490. Meets 4th Mon./monthly, 7 p.m., Brooktrails Fire Dept. (northwest of Willits). Talk-in: 145.13(-), PL 103.5. 9/98

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

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

CONNECTICUT

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

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. 10/98

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. 3/98

Port St. Lucie ARA. Meets 1st Fri./monthly, 7:30 p.m., St. Andrews Church, Prima Vista Blvd., Port St. Lucie, FL. Contact: Roy Cox, KT4PA, (561) 340-4319. Call in 146.955(-). 11/98

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

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

Vero Beach ARC, W4OT. P.O. Box 2982, Vero Beach, FL 32961. Meets 2nd Thurs./monthly, 7:30 p.m., Emerg. Mgmt., Indian River County Adm. Bldg., 1840 25th St. Net Mon., 7:30 p.m. 146.64. 1/98

GEORGIA

Dalton Amateur Radio Club, Inc., (DARC). P.O. Box 143, Dalton, GA 30722-0143. Meets 4th Mon./monthly, 7:30 p.m., Magistrate Court Bldg., corner of Waugh St. & Thornton Ave., Dalton, GA. Info: Harold Jones, N4OTC, 706/673-2291. 3/98

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(-). Lunch, 11 a.m. Fridays, Pizza Hut, Puainako Twn. Ctr. 7/98

Emergency Amateur Radio Club, (EARC). P.O. Box 30315, Honolulu, HI 96820-0315. Meets 4th Thurs./monthly, 7 p.m., Lincoln Elem. Sch., 615 Auwaiolimu, Honolulu. Nets: nightly 7:30 p.m., 146.88 & 146.80. Rptrs: 146.76(-), 146.80(-), 146.88,146.98(-), 146.94(-). Info: (808) 833-6944, WH6CZB. 11/98

Koolau Amateur Radio Club, (KARC). 45-145 Mikihilina St., Kaneohe, HI 96744. Meets 2nd Sat./monthly, 9:30 a.m., Hoomaluhia Pk., Kaneohe, HI. 4/98

ILLINOIS

Chicago FM Club Inc., (CFMC). P.O. Box 1532, Evanston, IL 60204. 146.76(-) PL 107.2/224.10/224.18/443.75 PL 114.8. Ham help line: (773) 262-6773. Info net Tues., 9 p.m. on 146.76(-). Meets 3rd Wed./monthly, 8 p.m. 7/98

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

Fox River Radio League. P.O. Box 673, Batavia, IL 60510-0673. Meets 2nd Tue./monthly, 7:30 p.m., Old Bank Bldg., 900 No. Lake St., lower level, Northgate Shopping Ctr. & Rt. 31, Aurora, IL. 7/98

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

Peoria Area Amateur Radio Club, (PAARC). P.O. Box 3508, Peoria, IL 61612-3508. Meets 2nd Fri./monthly, Red Cross Chapter House, 311 W. John Gwynn Jr. Ave., Peoria, IL. Voice mail: (309) 692-3378. Rptrs: 147.075(+) & 146.85(-). 6/98

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

LOUISIANA

Baton Rouge ARC. Meets last Tue./monthly, 7 p.m., Catholic HS cafeteria, 855 Hearthstone Dr., Baton Rouge, LA. Info: Norma Ramey, WD5GFD, (504) 654-6087. Club rptr. 146.79(-). 10/98

MAINE

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

MASSACHUSETTS

Quannapowitt Radio Assoc., Inc. 6 Savin St., Burlington, MA 01803. Meets 3rd Fri./monthly, 8:00 p.m., at Lynnfield-Wakefield Methodist Church, Vernon St., Wakefield. Info: Jim Chamberlain, N1AKG, (617) 944-5098. 3/98

MICHIGAN

Adrian Amateur Radio Club, W8TQE. Box 26, Adrian, MI 49221. Meets 1st Fri./monthly, 7:30 p.m., Civil Air Patrol Bldg., Lenawee Co. Airport, Cadmus Rd., Adrian. ARES net Sun., 9 p.m. 145.37(-). Info: Brian Sarkisian, KG8CO, (517) 265-1537. 4/98

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. 4/98

Genesee County Radio Club, Inc. Meets 3rd Tues./monthly, 7:30 p.m., Genesee Area Skill Center, Torrey Rd., Flint, MI. (810) 634-6077. 3/98

MINNESOTA

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

MISSISSIPPI

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

NEVADA

Frontier Amateur Radio Society, (FARS). Meets: 2nd Sat./monthly, bkfst. mtg. 8 a.m., Country Inn, SE cor. W. Sunset, Valle Verde, Henderson NV. Club info: Jim Frye, NW7O, (702) 456-5396 or Bill Scarborough, WA6ASI, (702) 269-9551. 8/98

Wide Area Data Group, Inc. P.O. Box 3132, Sparks, NV 89432. Meets 1st Sat./monthly, 8:30 a.m., Bonanza Casino/Restaurant, 4720 N. Virginia, Reno. Info: (702) 356-8200. Call on 147.30(+) MHz. 5/98

Sierra Intermountain Emergency Radio Assoc., (SIERA). Meets 2nd Tues./monthly, 7:30 p.m., Carson Valley Museum & Cultural Cntr., 1477 Hwy 395 North, Gardnerville, NV. Contact: George Uebele, WW7E, (702) 265-4278, 147.330 MHz. 11/98

Sierra Nevada Amateur Radio Society (SNARS). P.O. Box 7727, Reno, NV 89510-7727. Meets 2nd Sat./monthly, 0800, The Continental Garden Restaurant, 1885 S. Virginia St. (at Plumb). 146.61(-) PL 123. Contact Swede Ohlson, (702) 852-2402. 1/98

NEW HAMPSHIRE

Port City Amateur Radio Club, (PCARC); W1WQM. P.O. Box 1587, Portsmouth, NH 03802. Meets 1st Wed./monthly (Sept.-June), The Edgewood Ctr., 928 So. St., Portsmouth. Rptr. 146.805(-) PL 127.3. 7/98

NEW JERSEY

Bergen Amateur Radio Association, (BARA). P.O. Box 304, Hackensack, NJ 07601. Meets 1st Sun./monthly, New Milford Elks Lodge, Patrolman Ray Woods Dr., New Milford, NJ 07646. Nets: 28.350 Mon. 9 p.m., 146.79(-) 9 p.m. Wed. 6/98

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

South Jersey Radio Assoc., (SJRA), K2AA. Meets Jan.-Oct., 4th Wed./monthly, 7:30 p.m. (Nov.-Dec. 3rd Wed), Bloomfield Fire Hall in Pennsauken, NJ. Talk-in: 145.29(-) rptr. 8/98

NEW YORK

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

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

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

PROS, Pioneer Radio Operators Society. Meets 1st Wed./monthly, 7 p.m., Sardinia Town Hall, Savage Rd., Sardinia, NY. Net 9 a.m. Thurs. 3853 kHz. 3/98

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! 10/98

Suffolk County Radio Club, (SCRC). Meets 3rd Tues./monthly, 8 p.m., Bohemia Rec. Ctr., Ruzicka Way, Bohemia, NY. Talk-in: 145.21(-) rpt. Morten Eriksen, KA2UIU, (516) 929-6911. 4/98

Westchester Amateur Radio Assoc., (WARA). Meets 1st Wed./monthly, 7:30 p.m., Am. Red Cross Bldg., 106 N. Bway, White Plains, NY. Club nets: (10 Meters) 28.420 MHz Tues., 8 p.m. (2 Meters) 145.495(-) rptr., Thurs., 8 p.m. Info: Dan Grabel, N2FLR, (914) 723-8625. 4/98

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

Yonkers Amateur Radio Club, (YARC). Meets 2nd Sun./monthly, 10 a.m., 1st Pct., Yonkers Police Station, E. Grassy Sprain Rd., Yonkers, NY. Info: P.O. Box 378, Centuck Sta., Yonkers, NY 10710. (914) 963-1021. 146.865(-), 440.150(+). 10/98

NORTH CAROLINA

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. 5/98

SOUTH CAROLINA

Sumter Amateur Radio Assoc., Inc. (SARA) P.O. Box 193, Sumter, SC 29151-0193. Meets 3rd Mon./monthly, 7 p.m. Central Carolina Tech. College, Rm. 102, 506 N. Guignard Dr. Contact: Dee, NØZTV,(803)499-6315.E-mail: deebrown@sumter.net. Talk-in 147.015. 9/98

OHIO

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

Clyde Amateur Radio Society (CARS). Meets 2nd Tue./monthly, 7 p.m., Municipal Bldg., Clyde, OH 43410. NF8E rptr. 145.35(-) and 442.625(+) MHz. Net Sun. 9 p.m. Info: E. Remaley, KA8CAS. 3/98

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

Toledo Mobile Radio Association. P.O. Box 273, Toledo, OH 43697; (419) 243-3836. Meets 2nd Wed./monthly, 7:30 p.m., Luke's Barn, Lucas County Rec. Ctr., 2901 Key St., Maumee, OH. 147.270(+) Net every Sun. 8:30 p.m. 1/98

Van Wert Amateur Radio Club, Inc. P.O. Box 602, 1220 Lincoln Hwy., Van Wert, OH 45891. Meets 1st & 3rd Sat./monthly, 8 p.m. Call-in: 146.85(-). 2/98

Western Reserve Radio Assoc. P.O. Box 81252, Cleveland, OH 44181-0252. Meets 2nd Wed./monthly, 7:30 p.m., Jenkins Communications Cntr., Main St., Olmsted Falls, OH. Info: B. Beckman, N8LXY, Pres., 146.73(-), 444.900(+) MHz. 7/98

OREGON

Central Oregon Coast ARC. P.O. Box 254, Florence, OR 97439. Meets 3rd Sat./monthly, & every Wed./weekly, 9 a.m. for brkfst. at Mo's Rest. Net Wed. 7 p.m., 146.80(-). Info: 997-2323 or 997-4074. 1/99

Central Oregon Radio Amateurs, (CORA). P.O. Box 723, Bend, OR 97709. Meets last Thurs./monthly, 7 p.m., Bend Sr. Ctr., 1036 NE 5th, Bend, OR. 147.06(+) MHz. Info: (541) 389-7194. 7/98

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. 11/98

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 (541) 673-1310. 6/98

PENNSYLVANIA

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

Mercer County Amateur Radio Club, W3LIF. P.O. Box 996, Sharon, PA 16146. Meets 4th Tue./monthly, 7:30 p.m., Shenango Valley Med. Ctr, Farrell, PA. Net, Thurs. 9 p.m. on 145.35(-) W3LIF, Digi. 145.01. 3/98

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. 4/98

Warminster Amateur Radio Club, K3DN. P.O. Box 113, Warminster, PA 18974. Meets 1st Thurs./monthly, 7:30 p.m., Benjamin Wilson Sr. Cntr., Warminster, PA. Net on 147.09(+), Wed. 8:30 p.m. and 28.450 Sun. 9 p.m. 5/98

TEXAS

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

VIRGINIA

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

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

WASHINGTON

The Mike & Key Amateur Radio Club. Meets 3rd Sat./monthly, 10 a.m., Salvation Army Renton HQ., 720 Tobin St., Renton, WA. Talk-in on 146.82(-) rptr. Doors open at 9:30 a.m. 5/98

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. Tennant, N8ZYB, Rt. 1, Box 188, Mt. Alto, WV 25264. 7/98

Tri-State Amateur Radio Assn. Meets 3rd Tues./monthly, 7 p.m.,The American Red Cross, 111 Veteran's Memorial Blvd., Huntington, WV. 5/98

Quarter Century Wireless Association, Inc.

John G. Troster, W6ISQ

BOB BUUS, W2OD

The first transatlantic wireless

As many of you are probably aware, the first wireless transmission across the Atlantic ocean took place 12 December 1901. The transmitter, which ran 12 kilowatts at a frequency of approximately 500 kHz, was located at Poldhu in Cornwell, England (southeastern tip near Lands End). The receiver was located just outside St. Johns, Newfoundland, and was manned by none other than Guglielmo Marconi himself. The great circle distance between the transmitter and receiver was 3,470 kilometers or about 2,170 miles. News of this accomplishment was hailed at the time by many but there were also a significant number of skeptics. Interestingly enough, there are still a number of skeptics regarding the validity of this first wireless hop across the pond.

At the 1996 QCWA International Convention in Ottawa, Canada, Dr. Jack Belrose, VE2CV, gave a very interesting talk about Fessenden and Marconi.

Fraudulent claim?

The highlight of the talk (to me) was the contention by Dr. Belrose that Marconi could not possibly have heard the letter "S" across the Atlantic on 12 December 1901 unless his receiver was 47 dB (that's a factor of 50,000) better than typical shipboard receivers of that day. This contention was backed up by a rather detailed study conducted by Dr. Belrose. If we accept Dr. Belrose's study, then we have no choice but to conclude either that Marconi fraudulently claimed he heard the signal or that he confused atmospheric noise crackling for the three dots of the Morse letter "S." As a member of the Marconi Chapter of QCWA, I thought it might be of interest to investigate this matter further and perhaps obtain a better understanding of Marconi's character. I already knew that in his younger years, he was a flamboyant ladies' man who was always looking for ways to exploit wireless for profit. In his later years, he was a supporter of fascist Italy and was loved by Mussolini. So, I started my study convinced that Marconi was capable of committing fraud and probably failed to understand the subtleties of wireless communication.

Unless one is a pathological liar, one is not likely to fabricate a story unless there is something to be gained by it. The transatlantic test was secretly planned and executed by the Marconi Company at significant expense for over a year. The prime purpose of the test was to see whether wireless waves traveled in straight lines (as all theoreticians of the day claimed) or followed the curvature of the earth in some way to permit long-distance communication (which Marconi wished to prove but had been unable to do so with his successful distances extending only up to 80 kilometers or so). If the signal could be heard across the Atlantic, obviously some mechanism was permitting the wave to follow the curvature of the earth. If the signals could NOT be heard, then maybe the theory of electromagnetic radiation was correct and the Marconi Company should be cautious about investing in impractical, long distance links.

Why no other witnesses?

Some were suspicious because the experiment was only conducted for two days.

Why didn't Marconi call in other witnesses to observe the signals on the days following his announcement? I think that there are three good reasons why the tests were cut short:

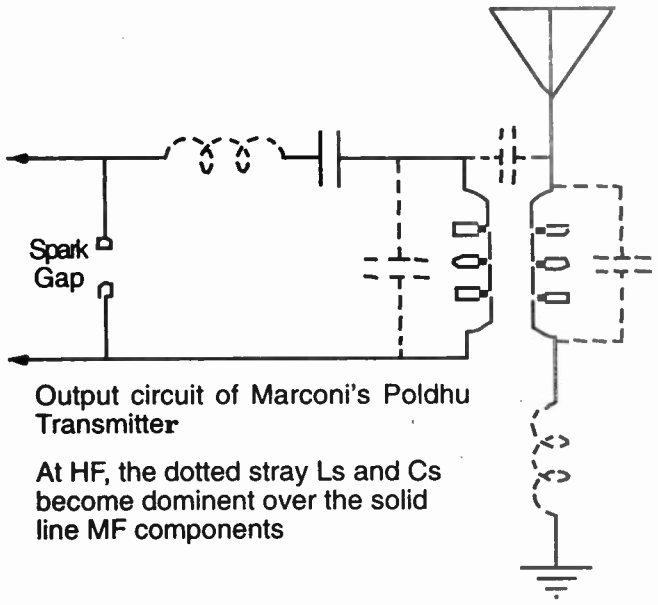
(1) Marconi had no doubts about the authenticity of what he heard so felt that further testing was unecessary.

(2) On 16 December Marconi received a letter from the Anglo American Telegraph Company demanding that he stop and dismantle his equipment since they had exclusive rights to all telegraphic communication in the Colony. Not wishing to get into a legal entanglement, Marconi replied the same day that he was packing up and going home.

(3) They were freezing their behinds getting the antenna up. Flying a kite in December on the coast of Newfoundland is no picnic!

Considering the fact that everyone who came into contact with Marconi was impressed with his sincerity and believed him to be honest, I am led to feel that it is highly unlikely that Marconi fraudulently claimed to hear a signal that he did not actually hear. It also appears highly unlikely that Marconi was exaggerating his achievement to court more publicity.

So, that leaves the possibility that Marconi was fooled into hearing the three dots among the background noise and static. This is the same Marconi who, at the time, had over five years of experience in listening to weak radio signals as he continued to push the limits of distance to ever-greater values. The signals (note the plural — it wasn't just a single "S") were also heard by Marconi's capable assistant, Mr. George Kemp, who also had experience in listening to weak signals. In Marconi's 23 December letter to his company he said: "On Thursday the 12th, a successful attempt was made to raise one aerial by means of a kite, and at 12.30, 1.10, and 2.20, the prearranged signals from Poldhu were received in a manner which left no room to doubt their authenticity by myself and Mr. Kemp, on the tele-



Output circuit of Marconi's Poldhu Transmitter

At HF, the dotted stray Ls and Cs become dominent over the solid line MF components

phone receiver, but not on the ordinary receiver. Signals were also received, but less distinctly, on Friday the 13th. On Saturday the 14th, a strong gale from the northwest made it impossible to elevate either kites or balloons." It hardly sounds like these experienced listeners were confused by static crashes, if there were any. The ordinary receiver referred to was a coherer with a tapper and inker. Unless the signal was strong enough to make the coherer conduct, the receiver would be completely dead. The telephone receiver used a self-restoring coherer (probably in a rectifying mode) which was also relatively insensitive so when the signal wasn't being received, Marconi and Kemp probably heard just nothing — no hiss, no static crashes (unless there was nearby lightening — unlikely in December), nothing but silence. After careful study, I am of the opinion that what Marconi and Kemp heard on 12-13 December 1901, were indeed authentic signals being sent from Poldhu.

How did it happen?

So, how was this possible? It's highly unlikely that the telephone receiver was 47 dB better than the ordinary receiver of that time. The receiver was extremely simple. It consisted of a wire about 150 meters long elevated by a kite, a self-restoring coherer, and a very sensitive telephone headphone.

There was no tuning, so the receiver would respond to all frequencies up to some maximum frequency determined by the shunt capacitance of the coherer and/or the lead inductance. It is not unreasonable to assume the receiver would work in some fashion for the MF band and much of the HF band of frequencies. At HF, the sloping antenna would act as a long wire with gain. So, if Poldhu transmitted a signal 15 to 20 times the design frequency of 500 kHz, it is likely to be heard in Newfoundland after one reflection off the ionosphere.

It has been proposed that perhaps Marconi heard a harmonic of the 500 kHz Poldhu station. Dr. Belrose correctly points out that conventional spark transmitters do not produce harmonics. The transmitter at Poldhu was unlike any other used before or after the transatlantic tests insofar as it was a double spark design by Dr. Fleming (who later invented the Fleming valve or diode vacuum tube). In addition to a standard tank circuit driven by a spark gap excited by high voltage AC, this design included another spark gap in a second resonant tank circuit inductively coupled to the first. This second spark gap was excited by the RF instead of the AC power. It may be possible that harmonics could be produced in this second tuned circuit due to the non-linearity of the second spark. I really don't know enough about high frequency sparks to say.

Parasitic resonances are another possible source of HF outputs in a spark transmitter. Remembering that all inductors will parallel resonate with their stray capacitances and at frequencies above this anti-resonant frequency, will tend to look like capacitors. Similarly, all capacitors will resonate with their lead inductances and above this resonant frequency, will tend to look like inductors. Thus, if we take into account the stray capacitances across the inductors and the lead inductance of the interconnecting wires of an MF spark transmitter, there are potential tank circuits in the HF range that can be excited by the same spark that excites the desired tuned circuit (see diagram). I'm sure that many of you recall the suppressor consisting of a few turns around a 100-ohm power resistor put in the plate lead of your final amplifier tube to suppress this parasitic which was generally around 100 MHz for an HF transmitter. The same parasitic could appear in a spark transmitter although at a much lower frequency due to the larger physical size of the transmitter.

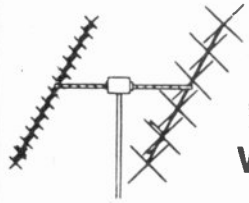
A scale model of the vertical transmitting antenna has been analyzed by Dr. Belrose and found to be resonant at around 935 kHz and 3.8 MHz; anti-resonant at 2.4 MHz and 4.8 MHz; and approaching anti-resonance between 7 and 8 MHz.

The base-loading produced by the coupling inductor brought the low frequency resonance to around 500 kHz. What wasn't modeled was the effect of stray capacitance across the coupling inductor. If this was anti-resonant around 7 or 8 MHz, any parasitic energy in the tank circuit could be capacitively coupled to the antenna and radiated. The net result could be HF energy being radiated at some frequency around 30 or 40 meters. This signal, as we all know, could easily skip across the 2,000-mile Atlantic and be picked up by a broadband receiver.

This is the scenario that I believe is the most likely one to explain the results of 1901. I have no way of proving it, however, so it remains as merely my opinion.

What do you think? I'd like to hear from you. WR

Amateur Satellites



Terry Douds, WB8CKI

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

Happy New Year everyone! Things are looking up in the satellite world, and smiles are starting to be found around the world — lots of good news unfolded just before I needed to get this column to California, so I hope this will bring you up to date.

First, as I reported in my last column, AMSAT Phase 3D was not going to be able to be launched aboard the Ariane 502, as initially planned. This was due to a mechanical stress anomaly that was determined to be a problem after analyzing data gathered during the ill-fated launch of Ariane 501. Unfortunately, it caused a delay in assembly of the satellite. Basically a new mechanical bracing structure had to be designed, then the existing modules aboard the bird had to be REMOVED, the bracing added, the modules REINSTALL ED, and then flight testing RE-DONE. Notice all the RE-words in that last sentence — lots of time spent doing what had already been done. On the other hand, we could have launched the bird, and had a $1.5 million dollar shell full of broken stuff — not a pretty picture!

As of press time, AMSAT and ESA have not announced any firm plans as to when the bird will go up, but ESA got the boost it needed in its commercial space program. On 30 October 1997, the Ariane 502 launch went very well. Twenty-seven minutes into the flight MAQSAT H and MAQSAT B, platforms carrying instruments to analyze launcher flight behavior, and the technology satellite TEAMSAT were ejected into orbit.

It did have a problem with its Second Stage booster, however, which apparently kept the platforms and satellite from going into their correct orbits. According to the AMSAT News Service, "Data collected during the flight indicates that the liquid-fueled core vehicle of the Ariane 5 rocket rolled in flight, causing its Vulcain main engine to shut down 10 to 20 seconds earlier than planned. Therefore, the upper stage booster and attached payloads (MAQSAT H and B plus TEAMSAT) did not attain the prescribed velocity and hence went into a lower orbit than expected."

They further stated that the implications of this misfire on Phase 3D, had it been aboard, were uncertain. There had been a great deal of speculation concerning what would have happened to P3D if it went up on an Ariane 4 vehicle, which would not have gone as high as the 5 series. Generally it had been stated that it COULD make it into the correct orbit, but that it may have shortened the life expectancy as well, since it would use a great deal of fuel to get there. A third flight test of Ariane 5 is presently scheduled for sometime next spring, and I guess for the time being that we have to hope that we will have some way to get on that 503 manifest. However, these negotiations are handled by AMSAT-DL, and they will do their best to get us a good flight ASAP. Keep your fingers crossed and your hopes high!

Of course, with all of these delays come additional expenses, so of course AMSAT worldwide would be very appreciative of any contributions you may make. In the U.S. and Canada, feel free to send your checks to AMSAT, P.O. Box 27, Washington, DC 20044.

As an ongoing project, there has been some great discussion of late on AMSAT-bb concerning future satellites — how big should they be, what "specialization," LEO versus Molniya or Geosynch, and other topics. Along this line has also come the realization that the Orlando assembly facility should be kept if at all possible for use for future equipment, so a move is under way to make this become a reality.

More good news has been the "healing" of the MIR space station. Over the past few weeks, the new crew members have been slowly repairing much of the damaged equipment that has caused so much trouble on the bird. New solar panels have been deployed, and new cables reconnected to replace those damaged by the crash with the Progress supply ship. The onboard computer system has been repaired, and more power has returned to the entire station. This may help to breathe some new life into the aging spacecraft.

David Wolf, KC5VPF, the U.S. astronaut aboard MIR at this time, has been quite busy with experiments and repairs, and consequently has not spent much time on 2 Meters. According to *Spacenews* and the *ARRL Letter*, Wolf reported recently that he's working up to 16 hours a day — a schedule that gives him little spare time for Amateur Radio. Wolf has been active infrequently on 145.985 MHz FM simplex, and the packet system also was active briefly. The PMS 2-meter station had been turned off while the 13 KB mailbox was completely full. The crew needs up to an hour a day to read, reply and delete the daily load of packet mail just to keep the mailbox open, and currently the crew's workload is just too heavy to support this.

Good news is coming from MIR for amateurs, however. The hand-launching of a Sputnik 1 (PS2) model from the Russian Mir space station occurred during an EVA on Monday, 3 November. The working one-third scale model of Sputnik 1 was tossed out during a space walk by Cosmonaut Anatoly Solovyev. Cosmonaut Pavel Vinogradov was taking pictures from outside the spacecraft. According to *Spacenews*, the Sputnik model is nearly eight inches in diameter and weighs just over six pounds. It transmits a "beep-beep" beacon signal, and the tone varies with the temperature inside the spacecraft (from 372 Hz at -50° C to 1213 Hz at +50° C). According to Guy Pignolet, secretary of the Aero-Club de France, power is provided by three packs of four

lithium batteries at 3.5V each. The transmission frequency is 145.820 MHz. The 500 mm antennas are circularly polarized, and it will be possible to listen to PS2 in SSB or FM. "The sound will be nicer with SSB, but the Doppler may make the shift appear more complex at the beginning and at the end of the satellite's visibility," Pignolet said. Reception reports go to FR5KJ, the club station at College Reydellet. Include an SASE and two IRCs for a certificate. For more information, see http://www.oceanes.fr/~fr5fc/spoutnik.html

Many around the world have been reporting reception of the beacon — very easily heard with any normal ground-plane based 2-meter station, but there were reports of hearing it on HTs as well.

Spacenews also reported that a special QSL card is available to anyone who copies the beacon from the Sputnik satellite. Envelopes should be well sealed and not include cash. Send an SASE and an IRC coupon to the address below, and do not make any visible notes on the outside of the envelope with Amateur Radio callsigns. Note that Dave Larsen, N6CO, will *not* be handling SWL cards for Sputnik.

Please use the following address:
Sergej Samburov
P.O. Box 73
Kaliningrad-10 City
Moscow Area, 14070, RUSSIA

People are calling the model "RS-17," but the "official" term right now is Spoutnik 40 — assuming it is still in operation by my next column, I'll tell you more then. Keep on hoping for good news concerning a launch for P3D, and for in the meantime keep on working those LEO birds! **WR**

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Grid Square Hunting

What's a grid square, why would I hunt one and why is it wasting space in a county hunter column? First, a history and geography lesson! Grid squares were developed by an international group at a conference (I don't know when, so let's just say a long time ago...history lesson over) in Maidenhead, England. For that reason, you may hear them called Maidenhead grid squares. The world was first divided into 324 large areas called fields and then further divided into grid squares. There are 100 grid squares per field, so the earth is divided into 32,400 grid squares (and you thought 3,076 counties was a lot!). A grid square is a 2 deg (in longitude) by 1 deg (in latitude) region and is referenced by four characters (two letters followed by two numbers).

Want more detail? A grid subsquare is a finer way to distinguish locations. These are the first 4 characters of the grid square followed by two additional letters, usually given in lower case, that specify a latitude/longitude cell within the grid square. Subsquares are the size of 2.5 minutes of arc in latitude and 5.0 minutes of arc in longitude and are typically called 6-digit gridsquares.

Some of you may be familiar with grid squares and even the fact that VHFers, 6-meter aficionados, and Satops like to collect them. Well, now JARL offers two Worked All Square Awards (WASA); WASA-V.U.SHF for contacts above 50 MHz and the WASA-HF for contacts on HF. This is the first grid square award for HF...on and below 28 MHz. This means you will start to see more and more amateurs asking for your grid square when you make HF contact. Also, start expecting more requests for grid squares on your QSL cards, too.

Don't know what your grid square is, now don't you? Your location may be available as the grid subsquare levels are available precomputed in the Buckmaster web site entries: http://www.buck.com/ They are usually accurate to within one grid subsquare in either direction. Also, if you know or can obtain your latitude/longitude to reasonable accuracy, you can get your grid square by using the converter program at: http://www.amsat.org/cgi-bin/gridconv.

But what's all this got to do with county hunting? Good question!

County/Grid Hunting

County and Grid Hunting has a lot in common! But, I think I'll string out the suspense. Grant Taylor, K7GT (e-mail: k7gt@qsl.net), got things rolling on the County Hunter internet reflector by requesting that mobile operators on the county hunters' nets include grid squares on their QSL. Wally, KT1M, sent a note to the internet folk stating that he believes the person wanting the different awards (whatever they may be) does the brunt of the paperwork. So if Grant added the grid square to an MRC (mobile reply card) for each county he contacted mobile, mobile operators should have no problem confirming the contact. However, there are cases where determining a grid square from a county name is ambiguous due to a county straddling multiple grid squares.

Enter Ed, K4SB (e-mail: k4sb@worldnet.att.net), to the rescue or at least he thought to the rescue. Ed is taking the FCC amateur database and converting zipcodes to counties and 4-digit grid squares. This is a great idea, except for a slight problem. Zip codes are not a good way to

determine where someone actually lives. Many times, the closest post office is not the county or grid square where the amateur lives. It is not foolproof, but it's a good idea!

Grant announced to the group that he wants to begin a project to make a list of counties that are contained entirely in a grid square. This would serve two functions. The immediate was so Grant could work county hunters operating mobile from various counties and determine if the contact was a new grid for him. It was soon after that exchange that Grant was banished from discussing grid squares on the county hunter reflector. So, if you are a grid square collector, check out Grant's newly established HFGrids Reflector. Subscribe to the grid-loc reflector by sending an e-mail to majordomo@qth.net and typing in the body of the message: subscribe grid-loc.

Here's the long-awaited reason grid hunting and county hunting are related. Some interesting things are being accomplished with a laptop, GPS receivers, and APRS software. GPS receivers give 6-digit grid squares, and county hunters could derive their county location from a combination of the grid location and the APRS software or grid-county conversion. If anyone with a laptop and GPS receiver is interested in an experiment, contact Bob, WB4APR (email: wb4apr@amsat.org), to find out how to use APRS software to know your exact position.

W1VXV found specs of the latest GARMIN GPS called the GPS III. It's a handheld 12-channel receiver with a built-in basemap which contains "state/county boundaries, lakes, rivers, railroads, cities, coastline, U.S. state/interstate highways and some local thoroughfares" on a black and white LCD. Those are not the only features of this GPS receiver that has a "street" price of $399.95. It doesn't have everything that DeLormes Street Atlas with a laptop computer would provide, but on the other hand it's at a fraction of the cost! For specs see: http://www.globe-mart.com/electron/garmin

There was much debate over using GPS to determine counties. Many thought road signs should be good enough, but others were aware of incorrect road signs. In some cases, GPS receivers may be a better determinant of county position, even better than the road sign. By the way, not all roads have county signs on them, so a GPS receiver would help indefinitely.

I encourage all county hunters to become grid-aware and in particular to get their correct grid square (if not subsquare as many JAs are doing) on the QSL at the next printing.

New USA-CA custodian

Congratulations to Ted Melinosky, K1BV, who replaces Norm, WA3RTY, as the new USA-CA chairman effective October 1997. A big thank you to Norm for his work over the past several years. Norm announced he was stepping down for personal reasons.

Alan, K2EEK, called Ted in August and convinced him to take over the USA-CA. Ted was a likely choice for Alan, as Ted has extensive experience with worldwide awards and is also a county hunter. Ted's goal is to increase the worldwide popularity for the award.

Ted was licensed in 1958 back in his college days. He is probably best know for publishing his book, *The K1BV DX Awards Directory*, a compilation of awards from all over the world. When Ted started publishing the book 11 years ago, it included about 680 awards, but it now has close to 2550 different awards from 120 DXCC countries. Ted says the job of keeping the book up to date keeps him very busy, with hundreds of minor and major changes to fees and addresses each year. Ted admits it's not a money making operation, but it helps with call recognition in contests.

Ted has a modest station and has used the same TA33 since 1967. His 80-foot tower has moved from CT to RI to CT and is now in NH. His station over the years has not limited his achievements as he has collected around 150-200 awards himself, including DXCC 351/351 Honor Roll. He started chasing counties in 1962 and needs 225 to finish USA-CA. He's more motivated now to become an active county hunter, partly because of his new position, and partly because he would like to finish up USA-CA after 35+ years.

Ted already implemented his first change to the USA-CA program. Ted has authorized the use of computer generated lists as an application for USA-CA. In the past, filing the *CQ* magazine book was the only acceptable method. You still must send a copy or a facsimile of the operator certification and two witnesses as it exists in the *CQ* book. This change has been agreed to by *CQ* editorial staff and recognizes the common usage of computers for recordkeeping in the average ham shack today. It was a different world when USA-CA started.

Items on Ted's plate for addressing are the acceptability of electronic contact confirmations (ECC) for the USA-CA. This would provide an alternative confirmation process for the 500+ county hunters who use e-mail to communicate. Also, Ted must answer the question about independent cities. The previous chairman disallowed contacts with stations located in Independent Cities.

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New USA-CA holders

A big yahoo to the latest recipients of the USA-CA award for confirming contact with all 3,076 counties and a big slap on the back for Ted in getting all these awards out so quickly.

929	W4HMV Bill	09 Sep 97
930	K6CF Chris	*17 Oct 97
931	N8STF Eldon	15 Oct 97
932	AC4XL Jim	15 Oct 97
933	NX4P Ron	23 Oct 97
934	N5XG Don	25 Oct 97
935	AA9JJ Frank	28 Oct 97
936	AD4IA Randy	31 Oct 07
937	KC4UG Ken	31 Oct 97

* date and number out of order per Chris' request — to be same as his 50th birthday!

KWIKLOG

Check out KJ4EJ's home page to get more information on county hunter software, KWIKLOG (e-mail: kj4ej@aol.com), or http://www.countyhunter.com/kwiklog/

All counties YL

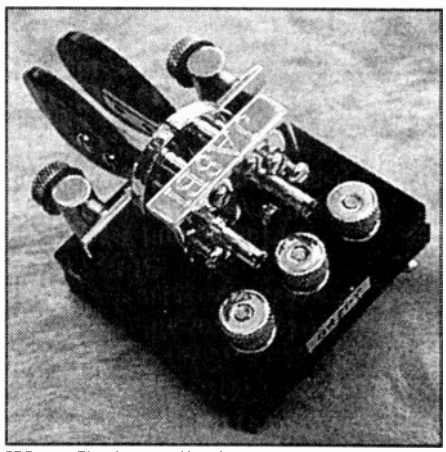
Congratulations to Arnie, K9DCJ, for completing the first MARAC YL Mobile Award for working YLs in all U.S. counties. There was some debate whether Arnie was really the first to contact all counties YL. Several believe W7KOI achieved this milestone, but the MARAC awards records only show an award for W7KOI at the 3000 level, not for all 3076. Regardless, congratulations to Arnie...for another unbelievable accomplishment.

G4ZPY Paddle Keys

Back in September, I did a short piece on what types of keyers mobile operators like. Ed Corey, K7OC, posed a question to the CW county hunters telling about his troubles with Bencher paddles and trying to get opinions on what types of keyers work well mobile. Several responded, but none were using the G4ZPY keyers.

Gordon Crowhurst, G4ZPY, sent me a nice note explaining the company has been in existence continuously for 12 years now and they pride themselves for building the finest keys in the world. He reminded me that G4ZPY keys are mentioned by K4TWJ often in *QST*, *CQ* and *73* and also in ***Worldradio*** some years ago.

There are several types of keys made by G4ZPY, but by far the most popular are the VHS (very high speed) key, "3 in 1" miniature twin paddle key, and their Hexagon arm straight key mounted on a Mahagony Base. Gordon pointed out the "3 in 1" twin lever key is ideal for mobile operators (see picture). It's a little less than 2 square inches (45mm x 45mm) and weighs less than 5 ounces (150 grams). It's the first twin paddle key in the world with a magnetic base and it also is shipped with tape and velcro for strapping to a leg. Gordon estimates there are several hundred "3 in 1" keys in California alone. A callsign is engraved on the top of the key's main body. It retails for £80 + £5 post and packing (roughly US$130). Gordon says the keys are guaranteed superior to Bencher and admits the keys are not cheap; but as he says, the best never are. Contact G4ZPY Paddle Keys at 41, Mill Dam Lane, Burscough, Ormskirk, Lancs, England, L40 7TG or by phone overseas 011-44-1704 894299.



The G4ZPY "3 in 1" twin lever key, ideal for mobile operators.

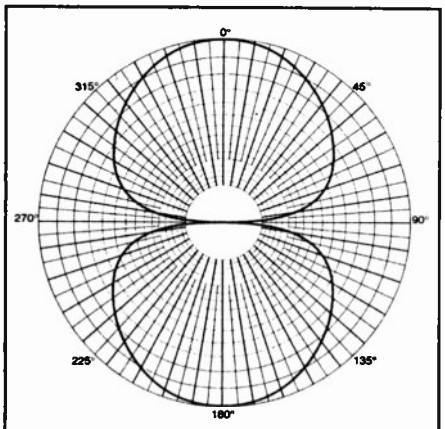
All the Best in 98

I wish you the best in 1998. Hope your year is very productive and rewarding and your log is full of county hunter contacts. Until March, happy hunting.

73!, Ace, N3 aha **WR**

If your club is involved in any emergency situations, send the story and pictures to ***Worldradio.***

See your group in print and help your fellow amateurs with shared experiences. Your story may help others be better prepared.



AERIALS

Kurt N. Sterba

The special Kurt Cap is now available. It is white (to reflect the sun while you are outside working on your antenna). The cap bears the logo shown just above at the top of this page. Send $8, plus $2 shipping and handling (W6s, add 62¢ tax), to ***Worldradio***, 2120 28th St., Sacramento, CA 95818.

I hope to hear that at Dayton, at least 25 hams wearing this baseball cap, at 11:30 a.m. on Saturday, stood shoulder-to-shoulder in front of the Granite Antenna Company booth and chanted a mantra — something like: "Ohm, Ohm, Ohm."

As in high society, and so as not to dilute the true meaning of the cap, no more than 400 will be sold. And now to the topics at hand.

So you've had that 20M Inverted V with the apex up at about 30 feet for some time now. The results are not bad, but not entirely wonderful.

Here, from your friend Kurt (and you've probably not seen this anywhere else), is how to really improve that antenna. The angle of the main lobe of radiation will lower a nice amount and there will be a bit more gain in the favored direction.

First, it's back to the full wave loop formula again which is 1005/f MHz. the answer is this case is 70.774 ft. Let's divide that by three and we see 23.591 feet. Briefly, back to your dipole. It has two legs of about 16.714 ft. each.

So what we are going to do in essence is add 6.877 feet of wire to the bottom of each of that Inverted V's legs and then run a connecting wire of 23.591 between the bottom ends of those two legs. What we now have is a triangle.

Actually it will hurt nothing (depending on what height you have to work with regarding the center support), to make the (near the ground) horizontal leg a bit longer and shrink the other two vertical legs, but here is the important part: Do not, as you might have seen elsewhere, feed your coax right at the point where the vertical wire and the horizontal wire meet at the corner of the triangle.

Instead, come down from the apex exactly a quarter wave (16.714 ft.) and feed it there with your coax. As in all antennas there will be some trimming and adjusting to compensate for your particular situation. The bottom wire need only be about three feet off the ground for decent results. That antenna will work far better than the prior Inverted V or a dipole at the same height. You may find your nearby signals are a bit down from the dipole but the long-haul signals will improve noticeably.

Let's now move to an area for some real experimentation. As you know the classic vertical antenna configuration is a 1/4 wave element with as many 1/4 radials as you can manage. Your friend Kurt will lead you to a better way. Run a 1/3 wave vertical element. For 20M that means going from 16.478 feet (14.2MHz) up to a length of 21.970 feet. (For 40M you would go from 32.50 ft. up to 43.333 ft.)

Oh, I can see it now. Apoplexy on the part of some. They are already sputtering about the high SWR because we have moved far away from "resonance." Well, here's the solution. Put a tuner right at the feedpoint. Naturally if you are going to leave that tuner out there in the yard you may wish to protect the tuner from the weather by building a little doghouse for it. Or, minus the tuner, when you measure the SWR and you see that it is 5:1, get a 1:5 balun and put that at the feedpoint.

So, what has this all accomplished? We've got the power up from wallowing around on the lossy ground. The main lobe is always 1/4 wave from the top of the antenna. Plus the number of radials will not be so important. Actually, you could make the antenna even longer but matching would get trickier and possibly out of the range of some tuners. Every bit of length will make a difference up to 5/8 wave. Making it longer than 5/8 wave will start to make the angle of radiation rise upward.

Let me know how these antenna variations work out for you. I know that there are some real antenna heavyweights reading this column. They never write in. Probably so no one else at their company will know they read my column and get all their ideas from it. Seriously, I'm looking for replies to the following and you may do it anonymously if you wish.

I may need some help in something. My puzzlement comes from an article on page 85 of the August issue of *Contestor's Quorum*. The writer (a W6) says that the signal from Africa from this 160M antenna was so strong that it made his socks

roll up and down. It was further stated Japan was worked on 160M from Africa with this antenna, which I have absolutely no reason to doubt. I truly do believe it.

But, here's my quandary. I had always believed that antenna dimensions could be scaled (up and down) and the effect on the new band would be the same as on the old band. Obviously I need some help in this regard and I'm looking for clarification from out there.

The article's antenna had a flat top of 40 feet, (with some folding), two vertical wires of 37 feet and four radials of 55 feet each. To scale that antenna would result in something like this:

Band	Top	Verticals	Radials
160M	40 ft.	37.00 ft.	55.00 ft.
80M	20 ft.	18.75 ft.	27.50 ft.
40M	10 ft.	9.25 ft.	13.75 ft.
20M	5 ft.	4.63 ft.	6.86 ft.

I have a pretty good idea of just how well a 20M antenna with a flat top of 5 ft., two vertical wires of 4-1/2 feet, and with 7 foot radials would work. So, for this problem I am in need of elucidation. Hurry, please, inquiring minds want to know. The article did say the four radials were "elevated," but not how far elevated. That would have been interesting to know. Five feet? Fifty feet? Five hundred feet?

A Kurt pal sent me a brochure he received in the mail. On one of those little papers with sticky on them he wrote, "You could probably write a whole column about this!"

The brochure was from a company I'll call Backward Engineers Bumbling. The product was for Six Meters. This circular antenna, 0.75 of a half wave, was called a "Maximum Gain Antenna," Hmmm, no. A maximum gain antenna might be a 20-element Yagi stacked with another and then that stack in horizontal stack. A maximum gain antenna might be a parabolic dish 20 wavelengths in diameter. This is not a "maximum gain antenna." The brochure says the antenna's power rating is "750 watts." Is that 750 watts of SSB, AM, FM, RTTY, SSTV or what?

We're told that this antenna has a low angle of radiation. That's odd, I always thought that angle of radiation (horizontally polarized antenna) was dependent on the height above ground.

The brochure says this antenna "is designed for the new Technician Code-Free licensee who wants the experience of working real ionospheric skip DX on Six Meters."

Hmmm, well, maybe I better get one of these antennas so I can work some "real" (no fake stuff for me, or does that mean that there is a "Slim" or "bootlegger" filter built in?). I think however, I'll stay away from a band where they work "skip DX," by golly gee whiz, yup, yup."

The day I spend $70 (plus $7.50 shipping) for a 6M dipole I'll know it's time to leave Radio Ranch and move into one of those homes where they give you crayola drawing books.

On another antenna the company offers they write about "the mostly restrictive 50-ohm feedpoint impedance of the 5/8 wave." I've heard of reactive, I've heard of resistive, but this "restrictive" is a new one on me. These young guys must have come up with a new term when I was looking the other way.

(You won't want to miss next month's column when some more silliness from recent writing by "Marty Feldman" is discussed.) WR

Contests

Dave Goodwin
VE2ZP/VE9CB
e-mail: ve2zp@bbs.ve3jf.ampr.org
packet: VE2ZP@VA3TCP.#EON.ON.CAN.NOAM

Contest exchanges

For a newcomer, one of the most intimidating things about a contest is the rapid-fire exchange of information you hear other participants make. One thing for sure, these contest QSOs bear very little resemblance to ragchews, and only a limited similarity to DX pileups. As odd as they may sound, these machine-like exchanges are critical in a contest because no QSO is complete without each station accurately copying the information the other sends.

If you plan to enter a contest, you must know exactly what information to exchange with other participants. If you're just trying to be nice and help out the serious entrants with a few contacts, take the time to figure out the exchange. They'll appreciate it, and you'll have more fun.

In the rules of every contest, organizers clearly state the minimum information that stations must exchange for a QSO to be valid. Universally, you must copy the other station's call sign correctly. Contest rules also require the exchange of at least two and sometimes more pieces of information. Here are some of the most likely candidates:

Signal Reports: Most, but not all contests require an exchange of RST signal reports. Whether it's simple laziness or for some other reason, everyone is "59" or "5NN" (N is a CW short form for 9). Even if your signal is very weak, everyone will probably give you a phony great report. If you feel you must give a precise signal report, by all means do so, but don't take other people's signal reports too seriously.

Serial Numbers: This is a unique number you give to each station you contact. Your first contact in a given

Contest	Date/Time	Bands	QSO points	Multipliers	Exchange	Entry Catagories	Entries
ARRL RTTY Roundup	1800Z 4 Jan-2359Z 5 Jan	80-10M RTTY	1pt/QSO	Canadian Provinces, Territories, U.S. states, DXCC regardless of band	RST Prov	Single Op: All bands, high & low power Multi-op, single xmtr	1mo. ARRL
Japan Int'l DX CW–Low Bands	2200Z 10 Jan-2200Z 12 Jan	160-40M CW	1pt on 40M 2pt on 80, 160M Work JA only	JA Prefectures (50) JAs will send 2-digit prefecture number	RST Ser# RST Ser#	Single Op: Both bands, single band Multi-op	1mo. Box 59 , Kamata Tokyo 144 JAPAN
North American QSO Party–CW **NA QSO Party–SSB** (NCJ)	1800z 11 Jan-0600z 12 Jan 1800z 18 Jan-0600z 19 Jan	160-10M	1pt/QSO	Canadian Call areas, U.S. states, other NA countries	Name Prov	Single Op Multi-op, two xmtr	1mo. KZ2S
Hungarian DX	0000z 19 Jan-2359z 19 Jan	160-10M CW	6pt/HA 3pt/DX 0pt/NA	Hungarian Provinces (20) and HA DX Club members. HA stations send 2-letter province abbrev. HADXC send mem#	RST Ser#	Single op: All band, single band Multi-op: Single xmtr, Multi-xmtr	28 Feb Paks Box 79, H-7031 HUNGARY
Teenager DX (Ukraine)	1000 Z 18 Jan-2200 Z 18 Jan	160-10M CW CW & SSB	1pt/own country 3pt/others	No multipliers, 20 bonus points for each country on each band	RST Ser#	Open to all 18 years old and younger Single Op: All bands, Single band Multi-op, single xmtr SWL	1 mo. Box 4994 Vinnitsa, 286018 UKRAINE
***CQ* 160M CW**	2200 Z 24 Jan-1600 Z 26 Jan	160M CW	2pt/own country 5pt/NA	Canadian Call Areas, U.S. states, other DXCC & WAE countries	RST Prov	Single Op Multi-op	1 mo. K4JRB
REF CW (France)	0600 Z 25 Jan-1800 Z 26 Jan	160-10M CW	15pt/France +terrs 5pt/F.terrs in NA	Departments of France (96). F6REF/00 on each band	RST Ser#	Single Op: All bands, single band Multi-op SWL	15 Mar BP 2129 37021 Tours Cedex FRANCE
UBA SSB (Belgium)	1300 Z 25 Jan-1300 Z 26 Jan	80-10M SSB	10pt/ON 3pt/Eur. Union 1pt/other	ON Provs (8) + ON Prefixes + DXCC countries in European Union	RST Ser#	Single Op: All bands, single band Multi-op SWL	30 days ON7LX

Addresses: ARRL — 225 Main St., Newington CT, 06111. Bands: The 30, 17 and 12m bands are never used in any contest.

contest is 001. Your second is 002. Your third is 003 and so on. On CW, "N" is often used in place of "9" and "E" is sometimes used in place of "5" when sending serial numbers.

State: This should be easy for anyone. On CW, make sure you use the standard two-letter postal abbreviation for your state. Please note that in some ARRL-organized contests, you may be required to give your ARRL "section." "Sections" are the local geographic units of the ARRL field organization. In most parts of the U.S., this corresponds to your state, but the more heavily-populated states of Massachusetts, New York, New Jersey, Pennsylvania, Florida, Texas, California and Washington have been divided into several "sections." If you're in one of those states, contact a local traffic handler or ARRL appointee to find out what your section is.

Zone: This can be a little tricky, because there are two systems of numbered zones into which the world is divided.

CQ magazine sponsors an award popular among DXers called "Worked All Zones" (WAZ). This award divided the world into forty "zones" of roughly equal size, numbered from one to 40. These zones are used in the popular CQ Worldwide DX Contests every October and November. For U.S. Amateurs, your CQ zones are as follows:

Zone 1 – Alaska

Zone 3 – California and all W7 states, save Montana and Wyoming

Zone 4 – Montana, Wyoming, Michigan, Ohio, Tennessee, Kentucky, Alabama and all W5, W9 and WØ states.

Zone 5 – West Virginia, all states in W1, W2, W3 and all W4 states save Tennessee and Kentucky.

Zone 8 – Puerto Rico, U.S. Virgin Islands and other U.S. territories in the Caribbean Sea

Zone 27 – Guam and the Northern Mariana Islands

Zone 31 – Hawaii and all U.S. territories in the Pacific, save those in Zones 27 or 32

Zone 32 – American Samoa

There are a few contests that use the 90 "zones" established by the International Telecommunications Union (ITU), the United Nations agency that regulates radio communications. The most important of these is the HF Championship every July sponsored by the International Amateur Radio Union (IARU). For U.S. amateurs, your ITU zones are as follows, but you'll need your map to confirm into which you fall:

Zone 1 – Alaska

Zone 6 – Continental U.S.A. west of 110° west longitude

Zone 7 – Continental U.S.A. between 110° and 90° west longitude, and all of Wyoming

Zone 8 – Continental U.S.A. east of 90° west longitude

Zone 11 – Puerto Rico, U.S. Virgin Islands and other U.S. territories in the Caribbean Sea

Zone 61 – Hawaii and all U.S. territories in the Pacific, save those in Zones 62 and 63

Zone 62 – American Samoa

Zone 65 – Wake Island, Guam and the Northern Mariana Islands

Grid Squares: These are letter-number combinations that identify your location. Also called "Maidenhead" locators, they are most commonly used by VHF DXers and contesters, but there are at least three HF contests every year that use grid squares as the exchange and in score calculation. The four-figure (ie. FN25) grid reference identifies your location to within a "square" of one degree of latitude by two degrees of longitude. The six-figure grid reference (ie. FN25bj) identifies your location to within a "square" of 2.5 minutes of latitude by five degrees of longitude. The four-figure reference is most commonly used. You might speak to a local VHF DXer or contester to find out the grid square for your location.

Contest of the Month — *CQ* Worldwide 160M CW

2200 UTC Friday 24 January to 1600 UTC Sunday 26 January 1998. (PST: 2 p.m. Friday 24 January to 8 a.m. Sunday 26 January) (EST: 5 p.m. Friday 24 January to 11 a.m. Sunday 26 January)

One hundred and sixty meters is a fascinating band, with propagation quite similar to the AM broadcast band. The *CQ* Worldwide 160M CW contest is the most popular event on "top band": great numbers of DX as well as U.S. stations take part. This contest is a great opportunity to improve your country total or to collect new states for ARRL's Worked All States (WAS) award, and some participants have earned WAS in a single weekend. The bottom 75 to 100 kHz of the band will fill up with stations from around the world.

One-sixty has two so-called "DX Windows," sections of the band where North Americans are supposed to refrain from transmitting. This is to make it easier for DX stations to be heard on this side of the ocean. *CQ's* rules ask that you respect the DX Window. Injudicious transmitting in the window can earn you not only a disqualification, but also the anger and resentment of your fellow amateurs.

One window is from 1830 to 1835 kHz, and the primary place to find European and African amateurs. The other is from 1907.5 to 1912.5 kHz, and is the only part the band permitted to Japanese amateurs. Listen here, and the DX stations you hear will indicate on what frequency they are listening. Having a rig with two VFOs is a necessity for this particular kind of operation.

In this contest, you may work every station you hear for credit only once during the contest. Stations in the U.S.A. and Canada send RST and their State or Province. Stations in other countries send RST and the name of their country, usually as the standard call sign prefix or an abbreviated name of their country.

A typical QSO might sound like this:

Station 1: "CQ TEST K2NJ K2NJ TEST" (Very short and to the point)

Station 2: "VE9DH" (This station replies just by sending his or her call sign once.)

Station 1: "VE9DH 5NN NJ" (K2NJ acknowledges the station to which he's responding, and sends a signal report and his or her state.)

Station 2: "R 5NN NB" (VE9DH confirms he received the information correctly, and sends a signal report and his or her province.)

Station 1: "TU K2NJ" (We always say "thank you"— contesters are known for their manners, aren't they? Hopefully someone else will now call K2NJ.)

Each contact with a station in your own country is worth two points. Contacts with stations in other countries in North America are worth five points, and with stations on other continents, ten points. If you work a shipboard station (/MM) anywhere in the world, that contact is worth five points. Be sure to try to work as many different states, provinces and DXCC countries as you can. To calculate your final score, first add up all the points from all the contacts you made, then multiply that figure by the total number of US states (51 including DC), Canadian call areas (13) and DXCC/Worked All Europe (WAE) countries you contacted during the contest.

CQ also sponsors a 160M SSB contest with identical rules on the last weekend of February.

Your log

You can obtain official entry and log forms for an SASE from *CQ* magazine, 76 North Broadway, Hicksville NY 11601. Home-made log sheets are perfectly acceptable. To be complete, your entry should include log sheets listing the date, time, call sign, exchange sent and exchange received for each station you work. As well, a "dupe sheet" is required to show that you have checked to make sure you haven't claimed multiple contacts with the same station. This dupe sheet simply lists the call signs of the stations you worked in some other order, such as by prefix. You must also include a list of the states, Canadian call areas and DXCC/WAE countries for which you are claiming multiplier credit.

As always, there is plenty of good logging software that makes submitting your entry a snap. CT by K1EA, NA by K8CC and TRLog by N6TR all handle this contest exceptionally well.

Send your entry by 28 February 1998 to David L. Thompson, K4JRB, 4166 Mill Stone Court, Norcross, GA 30092, U.S.A. The deadline for entries to the SSB contest is 31 March 1998, and your log should go to the same address.

Other January contests

If RTTY is your passion, ARRL sponsors its annual "RTTY Roundup" on the first weekend of January. You'll find Japanese amateurs in large numbers on 40, 80 and 160M in on the second weekend of January when the Japanese International DX Low-Band CW contest takes to the air. The second weekend of the month also features the North American QSO Party (NAQP) on CW sponsored by the U.S.-based National Contest Journal (NCJ). The following weekend, the SSB version of the same contest happens. These two twelve-hour contests are quite popular, and a lot of fun. If you don't have an amplifier, don't worry. All NAQP entrants are limited to 150W output.

Among the smaller contests every year, the Hungarian, French and Belgian national radio societies also sponsor contests this month. If you are 18 years old or younger, you might be interested in taking part in the "Teenager DX Contest" organized by a club in Vinnitsa, Ukraine.

73, and good luck in the contests. WR

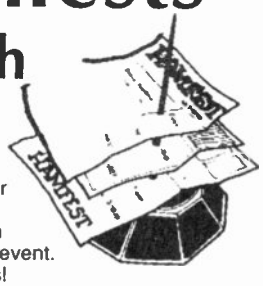
That new Form 900

The FCC's Wireless Telecommunications Bureau has consolidated eight renewal forms into one, Form 900–Application for Electronic Renewal of Wireless Radio Services Authorizations. It's an interim measure to permit all the bureau's licensees, including Amateur Radio, to renew their licenses electronically.

The form is only for electronically submitted renewals and not for license modifications. Find Form 900, at www.fcc.gov and use their search engine to locate it. — *FCC release, ARRL, others*

Hamfests

Month



Do you have a hamfest coming up? Send your information to our 28th St. office at least 2 months in advance of your event. We'll send prizes!

•CALIFORNIA•

The **Livermore Amateur Radio Klub** swap meet will be 4 January 1998, 7:00 a.m.-noon at Las Positas College, 3033 Collier Canyon Rd., Livermore, CA (Airway Blvd. exit to north of 580 highway), featuring new, used, surplus ham, computer gear, misc. electronics & testing equipment, with refreshments available. Admission/parking, free. Vendors—$10.00/space (space equals two parking places). Talk-in: 145.350 (–) PL 100 (receive and send), 147.045 (+) PL 94.8, 147.120(+) PL 100. Contact Noel Anklam, eve 510/447-3857, days 510/783-2803.

•COLORADO•

The Northern Colorado Amateur Radio Club Superfest will be 10 January 1988, 9:00 a.m.-3:00 p.m. at the Larimer County Fairgrounds, 700 Railroad Ave. Featured activities will be VE exams, commercial exhibits, computer and radio goodies, more. Reserve tables from Jeanene Gage, NØYHY, 970/351-7327; general info: 970/352-5304. Talk-in, 145.115 (–) offset, 100Hz or 146.85 (–) offset.

•FLORIDA•

The **DeSoto Amateur Radio Club, Inc.** will hold a hamfest and tailgate 24 January 1998, 9:00 a.m. until ? (tailgate will open earlier), at the DeSoto County Fair/Rodeo Grounds. Setup will be the afternoon/evening before, and the morning of the hamfest, 5:00 a.m.-9:00 a.m. FREE overnight motorhome parking for vendors. Tailgate spaces free with paid admission. Inside tables $10.00 (chairs free). Admission is $3.00 for all. ARRL VE Exams at 10:00 a.m., walk-ins welcome. Mouth-watering country breakfast available on the grounds, starting at 7:00 a.m. For more information, contact Doug Christ, KN4YT, 941/494-5070 or Harry Evers, K4LU, 941/494-4390. Talk-in 147.075 (+).

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The **Ft. Myers Amateur Radio Club** is sponsoring a hamfest 3-4 January 1998 (Saturday 9:00 a.m.-4:00 p.m., Sunday 9:00 a.m.-2:00 p.m. Vendors,dealers,tailgating, free parking, food. Talk in, 147.345. Advance admission, $4.00 or $5.00 at the door. Tailgating $5.00. Contact: Colleeen Sammons, KQ4TR, 3667 Kelly St, Ft. Myers, FL 33901; 941/936-9431; e-mail: csammons@juno.com

•ILLINOIS•

The **Wheaton Community Radio Amateurs** will hold their Mid-winter Hamfest and Electronic Flea Market on Superbowl Sunday, 25 January 1998 at the Odeum Exposition Center in Villa Park, 8 a.m.-2 p.m. Commercial booths will be in the North Hall, reserved Flea Market tables in the South Hall, and in the Mezzanine, computers & software. Acres of parking, free bus service from free remote parking, hourly prize drawings with Grand Prize awarded at 1:30 p.m., and VEC testing.Talk-in, 145.390(–). Advance tickets, $6.00 with four prize stubs; $8.00 at the door with one prize stub. For purchase of advance tickets, send a #10 SASE to: WCRA, P.O. Box QSL, Wheaton, IL 60189.

•INDIANA•

The **Michiana Valley Hamfest Association** will hold its South Bend Hamfest & Computer Expo. Sunday, 4 January 1998, 8:00 a.m.-3:00 p.m. downtown at The Century Center, U.S. 33 North at Jefferson Boulevard. There will be a large flea market, great door prizes, manufacturers, dealers and swappers of Amateur Radio equipment and computer hardware and software.

Setup at 6:00 a.m. Sunday; Talk in: 145.290(–). For info or ordering send #10 SASE to: Michiana Valley Hamfest Association, 21970 Kern Road, South Bend, IN 46614 or call Denny, KA9WNR, M-F 7 p.m. -10 p.m. EST; 219/291-0252.

•MARYLAND•

The **Maryland Mobileers Amateur Radio Club** will sponsor the Post Holiday Hamfest 25 January 1998, 8:00 a.m.-2:00 p.m. at the Odenton Volunteer Fire Deptartment Hall, 1425 Annapolis Rd. (Rte. 175), nine miles East of I-95. Indoor Flea Market (no tailgating) and refreshments. Free VE testing (pre-register with Jerry Gavin, NU3D, 410/761-1423). Free parking. Talk-in 146.205/805. Tables in advance: contact Bill Ziegler, KA6TYY, 1307 Ashburton Dr, Millersville, MD 21108; 410/987-2384 (evenings).

•MISSOURI•

The **Missouri Valley ARC, Green-Hills ARC & Ray-Clay ARC** Northwest Missouri Winter Hamfest will be 17 January 1998, 9:00 a.m.-4:00 p.m. at the Ramada Inn in St. Joseph with special room rates for hamfest participants. Located at I-29 & Frederick Ave. (exit 47 on I-29), the motel is 47 miles north of Kansas City on I-29. Talk-in, 146.85 & 444.925. FCC exams, major exhibitors and flea market all indoors, plus free parking. Preregistration: $2.00 each or 3 for $5.00; at the door $3.00 each or 2 for $5.00. Preregistration requests received after 8 January will be held at the door. Swap tables: $9.00 each first two tables. Commercial exhibitors welcome, write for details: Northwest Missouri Winter Hamfest, c/o Gaylen Pearson, WBØW, 1210 Midyett Road, St. Joseph, MO 64506.

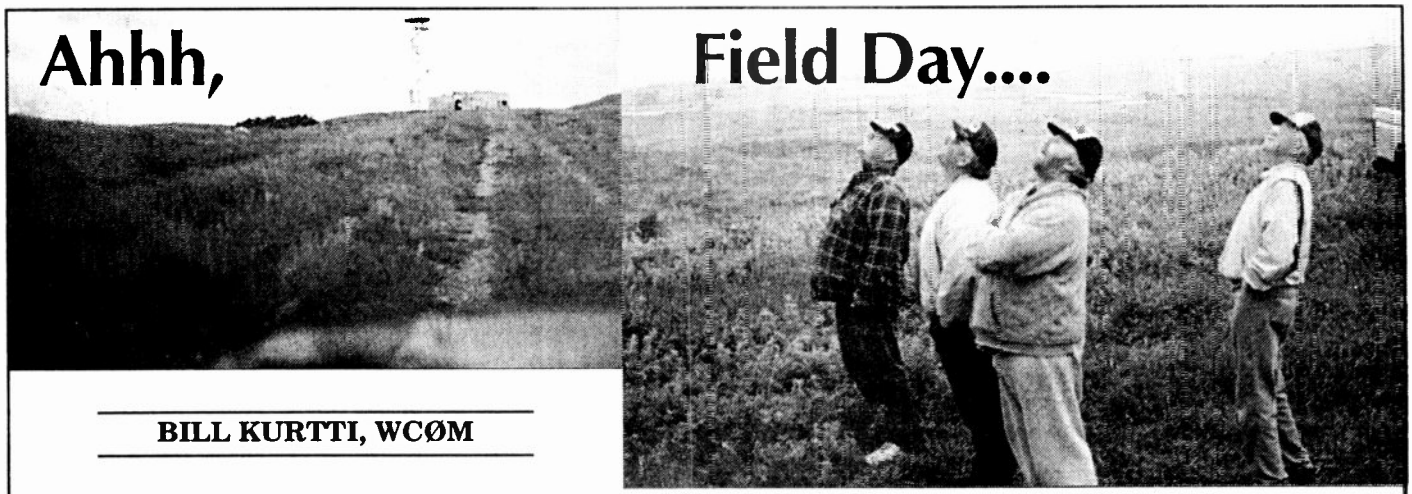
•NEW MEXICO•

The Albuquerque Winter Tailgate Swapfest will be Saturday, 31 January 1998, 8:00 a.m.-2:00 p.m. at the Del Norte High School parking lot, at the corners of Montgomery and San Mateo Blvd. in Albuquerque. Admission is FREE! This swapfest is all-dependent on the weather. For more information, please contact Tom Ellis K5TEE at 505/291-8122 or 912 Lomas Ct., NE Albuquerque, NM 87112-5515.

•NEW YORK•

The **Metro 70 cm Network** will hold an electronic flea market 18 January 1998, 9:00 a.m.-3:00 p.m. at Lincoln High School, Kneeland Avenue in Yonkers. New and used equipment for Amateur Radio operators and much more will be on sale. Unlimited free coffee will be served and food will be available for sale. Door prizes will be drawn every hour, grand prize at 1:00 p.m. Every paid entry gets a ticket for the hourly prizes and grand prize. Extra tickets for the grand prize may be purchased.

Ahhh, Field Day....



BILL KURTTI, WCØM

The Club Benson County ARC chose their Field Day site about 10 miles south of Maddock, ND, on Blackhammer Hill. Pictured at right gazing at the tower during the installation of a Tri-Band Beam are Norman Haagenstad,KBØMWX, Dean Sorlie, KBØACA, Teran Hermanson, KFØHR, and Norman Haugen,NØHWT. The tower, an old Radar Dome support tower about 70 ft. tall, was abandoned by the USAF in the mid-1970's. Blackhammer Hill is about 150 high. The abandoned Air Force Dew line Radar Tower, active during the 1950s & 60s, is a great site for Field Day but gets a little spooky during thunderstorms and when the coyotes start their howling. *—photos by Mertie Kurtti, NØOJS*

All this is included with the admission fee. Admission is $6.00 for adults. Children under 12 accompanied by an adult are admitted free. Limited vendor space is still available. There are more than 110 vendors registered already. Don't miss it! For information or to register as a vendor, call 914/969-1053.

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The **Lockport Amateur Radio Assoc.** Winter Auction will be Saturday, 31 January 1998 at the Niagara County Cooperative Extension 4-H Building (at the Fairgrounds), Lake Ave. (Rte. 78) Lockport, NY. All amateurs are invited to attend and to bring their Amateur Radio-related items for auction. A small commission benefits the club. Many commercial radio equipment dealers will also attend.

Admission, $4.00. Talk-in, 146.82-W2RUI/R. Contact Floyd King, WA2ZVL, 716/434-1533. See our web page at http://www.localnet.com/~aeBt/lara/auction.html

•OHIO•

The **Tusco Amateur Club** will hold a hamfest Sunday, 25 January 1998 at the Ohio National Guard Armory located on 2800 North Wooster Ave., Dover. Exit I77 at #87 (Strasburg), south to County Road 74. Talk-in, 146.730 (–). Admission, $2.00 donation at the door (dealers admitted no charge). Tables, $8.00 each. Set-up,6:00 a.m., hamfest runs 8:00 a.m.-1 p.m. Food available on site and at restaurant next door. Contact Howard Blind, KD8KF, 6288 Echo Lake Road N.E., New Philadelphia, OH 44663, or 330/364-5258.

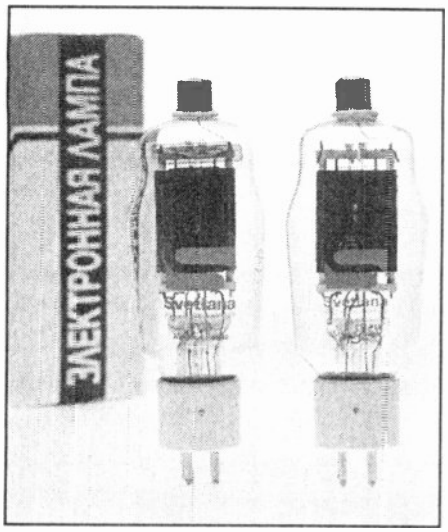
•TENNESSEE•

The **Tennessee Valley Amateur Radio Network** will hold a hamfest/computer show 24 January at the Gallatin Civic Center. Setup will be Friday, 5:00- 9:00 p.m. & Sat 5:00-8:00 a.m. Open Saturday 8:00 a.m. - 2:00 p.m.- Tables, $10; admission, $5.00; XYLs & under 16, free. Talk-in, 147.90/30 T 114.8 . Food available, free parking, handicapped-accessible, V.E. testing by preregistration only. Send 610, copy of lic. or cert. of successful completion, and SASE to Ronnie Gilley, 512 Hillside Dr., Gallatin, TN 37066. Fest info: Bill Ferrell, 1253 Woodvale Dr., Gallatin, TN 37066; 615/451-5992 and leave message. **WR**

Ham hurt in explosion

Jose Martinez, WA4VUZ, of Pembroke, Florida, was seriously injured when his motor home exploded during the Palm Beach County Hamfest 18-19 October in West Palm Beach. The *Sun Sentinel* newspaper reported the cause of the explosion was a leaky propane gas tank. "Known for their prowess in helping victims of hurricanes and other natural disasters that destroy routine communications, Martinez's fellow radio enthusiasts rushed to confront a major emergency of their own," the report by staff writer Tim Collie said. Martinez reportedly suffered burns and was helicoptered to a hospital where he was reported in satisfactory condition. Another man also was injured. The newspaper said hams at the gathering took up a collection for Martinez, a regular at the Palm Beach County Hamfest. *—Mort Eisenberg, K3DG; ARRL Letter*

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



Svetlana 812A

The original 812A and 811A tubes were developed in 1939 by RCA as a companion pair. Now Svetlana has introduced a modern version of the 812A. This new medium-mu triode is a companion to Svetlana's very popular high-mu 811A. The Svetlana 811A and 812A are identical in appearance.

Like the 811A, the Svetlana 812A is a power triode intended for use in class AB, class B, and class C RF and audio amplifiers. Both Svetlana types feature a low-loss ceramic base and a bonded-ceramic plate cap thermal insulator for high-power RF transmitting tube capability. The envelopes are fabricated from hard glass intended specifically for the high-temperature operation of transmitting tubes. Svetlana provides an excellent ceramic socket for both types, the Svetlana SK4A, as well as a ceramic plate cap connector, the Svetlana PC1A.

The Svetlana 811A and 812A are manufactured in Russia at the Electronpribor Manufacturing Corporation in Ryazan. The strict manufacturing and quality control systems at Electronpribor are similar to those at the Svetlana complex in St. Petersburg, where Svetlana ceramic power tubes and the majority of Svetlana glass power tubes are produced.

Contact Svetlana Electron Devices, Inc.: Headquarters: 8200 S. Memorial Parkway, Huntsville, AL 35802 USA, 205/882-1344, FAX 205/880-8077, E-mail: sales@svetlana.com;

Marketing and Engineering: 3000 Alpine Road, Portola Valley, CA 94028 USA, 650/233-0429, FAX 650/233- 0439, E-mail: engineering@svetlana. com

RF guideline publications available from the National Technical Information Service

The Federal Communications Commission's Office of Engineering & Technology recently released guidelines and procedures that will assist in determining whether proposed or existing FCC-regulated transmitting facilities, operations, or devices comply with limits adopted by the FCC for human exposure to radiofrequency fields. The information is a revised version of OST Bulletin 65, originally issued by FCC in 1985.

The new guidelines incorporate two tiers of exposure limits: exposure occurring in an occupational or "controlled" situation, and exposure occurring to the general population in an "uncontrolled" situation. Also included are guidelines for evaluating fixed transmitters, the adopted new limits for evaluating exposure from mobile and portable devices such as cellular telephones and personal communication devices

Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields includes sections pertaining to:

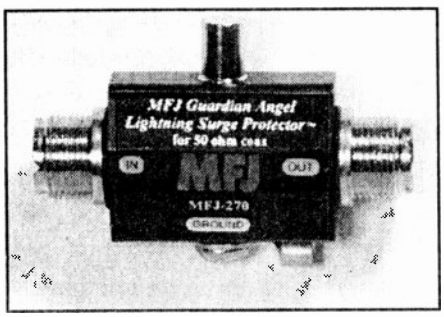
- Definitions and Glossary
- Measuring RF Fields
- Background Information
- Controlling Exposure to RF Fields
- Prediction Methods

Also available from NTIS is *Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields (Supplement A). Supplement A* provides specific information for use in evaluating compliance for radio and television broadcast stations and is available as a separate document.

Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields is available from NTIS, 800/553-NTIS (6847), for $25 plus $4 handling fee per total order, no additional charge for shipping; quote order number PB97- 199632KLF. *Supplement A* is available for $21.50 plus $4 handling fee per total order, no additional charge for shipping; quote order number PB97-199640KLF. Most major credit cards accepted. Order via e-mail: orders@ntis.fedworld.gov. Fax order to: 703/321-8547.

Access information on more than 500,000 government information products on the new NTIS Web site: http://www.ntis.gov. Find related products on *OrderNowTV,* our ordering system on the World Wide Web—http://www.ntis.gov/ordernow/

NTIS is the central resource for government-sponsored U.S. and worldwide scientific, technical, engineering, and business- related information. As a self-sustaining agency of the U.S. Department of Commerce's Technology Administration, NTIS covers its business and operating expenses with the sale of its products and services.



GuardianAngel Lightning Surge Protector

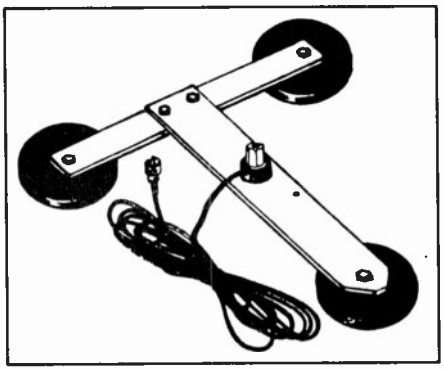
MFJ proudly announces the MFJ-270 *GuardianAngel Lightning Surge Protector* for 50 Ohm Coax. MFJ- 270 will help protect your expensive Amateur Radio equipment for only $29.95!

Safeguard your expensive radio equipment from lightning induced surges! Countless hams have watched their precious radio equipment destroyed by lightning induced surges traveling on their coax feedlines. *Don't be the next victim!*

Let the MFJ-270 *GuardianAngel Lightning Surge Protector* safeguard your expensive radio equipment from damaging static electricity and lightning induced surges. MFJ's *ultra-fast* gas discharge tube safely shunts up to 5000 amps of peak impulse current harmlessly to an independent ground connection.

The MFJ-270 presents a constant 50-ohm impedance to your transmission line. It has an SWR less than 1.1:1 and an insertion loss of less than 0.1 dB. The MFJ-270 can be used up to 1000 MHz and handles up to 400 Watts PEP.

Your new *GuardianAngel Lightning Surge Protector* has S0-239 connectors and works with all types of coax fed antennas, and is made of heavy duty steel with quality connectors and components. The *ultra-fast* gas discharge tube is replaceable. MFJ-270 comes with MFJ's famous *"No Matter What"* one-year limited warranty. MFJ will repair or replace (at their option) your MFJ-270 *no matter what* for one complete year. Order today and protect your investment with the MFJ-270 *GuardianAngel Lightning Surge Protector.* The MFJ- 270 does not protect against a direct lightning hit. For your nearest dealer or to order, call toll-free 800/647-1800, fax 601/323-6551 or write to MFJ Enterprises, Inc., 300 Industrial Park Road, Starkville, MS 39759. *Visit us on the Web! http://www.mfjenterprises.com.*



Tri-Magnetic Mount

Lakeview Company, Inc., "The Hamstick People," is proud to announce that the Tri-Magnetic Mount, Catalog Number 375, now comes with all-stainless steel hardware. The 375 is one of our most popular mounts for mobile HF antennas. This mount holds all Hamstick antennas and many others with three black powder-coated magnets that have over 400 pounds of holding power. The 375 comes with standard 3/8 inch by 24 thread mounting and fifteen feet of RG-58 coax with a PL-259 installed. The mount has a 12 inch by 14 inch footprint. The aluminum construction and stainless steel hardware will eliminate rust. The cost is only $39.95. The mount is also available with an NMO and S0-239 configuration for an additional $5.00. To order call 864/226-6990 or fax 864/225-4565. Monday through Friday, 8 a.m. to 4:30 p.m. EST or visit your local Lakeview Dealer or our Website at www.hamstick.com. Mail orders should be sent to Lakeview Co., Inc., 3620-9 Whitehall Road, Anderson, SC 29626; e-mail at hamstick@hamstick.com. Add $7.00 shipping and handling.

THE BIG DK-DX
Don Johnson, W6AAQ's
3.5 — 30 MHz mobile antenna,
manufactured by:
H. Stewart Designs
P.O. Box 643 • Oregon City, OR 97045
(503) 654-3350
See ***Worldradio,*** Oct. 1994 issue.

G4ZPY Miniature Twin Paddle Iambic Combo

NEW from G4ZPY Paddle Keys International. A miniature Twin Paddle Iambic Combo. This little gem has been long awaited by QRPers, back packers, and mobile operators.

Using our miniature "3 in 1" Twin Paddle Iambic Key, we have now combined it with the New Micro miniature "TICK-2" Iambic Electronic Keyer made by Embedded Research of America. This self-contained miniature Combo Unit far excels any other miniature in the world. It can be purchased with either rubber feet, or magnetic mount.

Considerable thought has gone into the design in both parts of this piece of equipment, until finally perfection has been achieved. The unit has been designed so that if required, both parts can be used individually.

The key components are finished in very highly polished brass, and the electronic components are mounted in a plastic RF-shielded box underneath.

The TICK-2 incorporates the following features, and each one can be accessed by the touch of a button.

- Supports both Iambic Modes A & B.
- Tune function.
- 3:1 weighting.
- Simple 1-button interface.
- User-selectable Peizo Sounder Sidetone On/Off.
- Paddle select — no more turning the Paddles upside down to change the Dit/Dah.
- Low current consumption (~3uA, 5V, sleep mode)

•Requires only 3-5V DC, and is powered by a small 9-volt battery fitted inside.

•Unique Speed Control Via Paddles — no bulky or expensive Potentiometer required.

•The Tick-2 has a 20-character memory!

•The PCB measures only 20 x 22 mm.

•Approximate weight of the Combo (less battery) 9 oz or 250 gms.

The cost for this magnificent Gem is £125 (approx $200 American). The personalizing of this key is not included, but can be acquired for the additional sum of £5 (approx $8 American.) Post and packing extra.

This combo is not cheap, but the best quality hand crafting never is.

In addition to this, we can offer the Tick-2 Iambic Electronic Keyer as a separate unit, price £45, plus postage.

The Assembled PCB is also available for those who wish to install it within their QRP tcvrs. Full instructions are issued with every unit.

G4ZPY Paddle Keys is now officially the sole British and European agent for ready assembled Tick-2 Iambic PBCs made by Embedded Research of America.

Enquiries must be accompanied with an SASE. (UK) or $1 or an IRC from overseas. to G4ZPY Paddle Keys International, 41 Mill Dam Lane, Burscough, Ormskirk L40 7TG England. e-mail: g4zpy@aol.com

1998-99 calendars

•CQ Amateur Radio Calendar: 15-month 1998/99 calendar, with beautiful color photos of stations, antennas, and well-known Amateur Radio personalities. Calendar detail includes notable contests, phases of the moon (and perigees/apogees), meteor showers, and holidays. ARRL Order #6516 $9.95, plus $3 shipping (UPS).

•CQ Radio Classics Calendar: The rigs of yesteryear are remembered on the pages of this 15-month 1998/99 calendar. Beautifully photographed vintage ham equipment introduces each new month. Calendar detail includes notable contests, phases of the moon (and perigees/apogees), meteor showers, and holidays. ARRL Order #6532 $9.95, plus $3 shipping (UPS). These calendars and other new products can be quickly ordered via ARRL's New Products Web page, http://www.arrl. org/catalog/new.html or call toll-free 888/277-5289, M-F, 8 a.m.-9 p.m. EST. —*ARRL Letter*

Bogus bulbs?

Merit Arnold, W6NQ, of RF Parts in San Marcos, California, asks if anyone has encountered counterfeit high-power transmitting tubes (eg, 3-500Z, 3-500ZG, 4-400 series) at flea markets or through overseas suppliers. He says since Eimac left the glass tube business, he's learned of instances where Eimac and Amperex logos and cleverly copied markings or labels have been applied to tubes manufactured in China which are then packaged in yellow Eimac-style or Amperex boxes. Arnold says recent-issue Eimac 3-500Z/ZG tubes will have the Eimac logo imprinted on the grid shroud.

Eimac tubes usually have the serial number engraved with a vibrating pencil on the shroud, while the counterfeit overseas tubes have the date code and serial number stamped along the edge or on top of shroud (first two digits indicating year of manufacture). Counterfeit 4-400 series "Amperex" tubes use a "slip-on" anode terminal with a set screw. Genuine Amperex tubes have the terminal fused through the glass. W6NQ would like to hear from anyone who has run into these bogus tubes. E-mail him at rfp@rfparts.com. —*Marv Gonsior, W6FR; ARRL Letter*

VE exam schedules

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

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

State	City	Contact	Notes
Arkansas			
2/21/98	Gassville	Phil, AB5ZU 870/425-7406	p/r pref.
California			
2/26/98	Colton	Harold, AB6RN 909/825-7136 days, 909/685-6073 eves	p/r pref.
2/01/98	Concord	Gene, WW6H 510/254-5090	w/i
2/07/98	Culver City	Clive, AA6TZ 310/827-2538	w/i pref.
2/28/98	Escondido	Harry, WA6YOO 760/743-4212	p/r
2/03/98	Fremont	Dennis, K6DF 510/791-0954	w/i
2/14/98	Harbor City	Elvin, N6DYZ 310/325-2965	p/r
2/23/98	Montclair	Steve 909/597-2249	w/i pref.
2/08/98	Sacramento	Dick, N6DK 916/383-2113	p/r
2/21/98	Stockton	Mark, W6DKI 209/465-7496	w/i
2/14/98	Sunnyvale	John, KG6XF or Gordon, W6NW 408/255-9000	w/i
2/21/98	Redwood City	Joe, KB6OWG 408/255-9000	w/i
2/28/98	Upland	Warburg, WA6HNC 909/949-0059	p/r
Florida			
2/21/98	Melbourne	Bill, WB9IVR 407/724-6183	p/r pref.
Idaho			
2/14/98	Boise	Lem, W7JMH 208/343-9153	w/i pref.
Illinois			
2/14/98	Oak Forest	David, NF9N 708/448-0580	p/r pref.
Indiana			
2/01/98	Terre Haute	Fred, K9EBK 812/466-2122	p/r pref.
Massachusetts			
2/21/98	Melrose	Scott, WB1F 617/665-7654	p/r pref.
New Jersey			
2/19/98	Bellmawr	Diane, N2LCQ 609/227-6281	w/i
2/14/98	Cranford	24-hour hotline 973/377-4790	w/i pref.
New York			
2/01/98	Yonkers	Emily, AC2V 914/237-5589	w/i ok
2/10/98	Bethpage	Bob W2ILP 516/499-2214	w/i
Ohio			
2/07/98	Cincinnati	Herb, WA8PBW 513/891-7556	w/i pref.
2/28/98	Van Wert	Robert, KA8IAF 419/795-5763	
Pennsylvania			
2/05/98	Philadelphia	Dusty, ND3Q 215/879-0505 215/482-0386, 215/448-1139 (tape)	p/r pref.
Rhode Island			
2/12/98	Providence	Judy, KC1RI 401/231-9156 Al, NN1U 401/454-6848	w/i pref.
Texas			
2/21/98	Austin	Jim, AB5EK 512/327-6184	w/i pref.
2/10/98	Houston	Harold, ND5F 713/464-9044	p/r pref.
Virginia			
2/12/98	Chesapeake	Pat, KE4URC 421-9598	p/rf
2/07/98	Portsmouth	Art, AA4AT 804/484-2857	p/r pref.

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EDITING A CLUB PAPER? Need one for your club? Interested in Amateur Radio public relations? Need some help? Amateur Radio News Service would like to hear from you. For info write SUSAN BIGGS, 9708 Skillman #107, Dallas, TX 75243. F398

AUTO-CALL MAGAZINE, official journal of the Foundation For Amateur Radio, a federation of over 80 clubs in the greater Baltimore/Washington DC area. Great coverage of FCC, ARRL, VEC, Public Service and club activities in the area. A must for those even passing through the area. For a sample copy write FOUNDATION FOR AMATEUR RADIO, P.O. Box 7612, Falls Church, VA 22046-7612. F198

WANTED REPLY COUPONS of all types, IRCs & others. Buy, sell, trade. JIM NOLL, P.O. Box 3410, Escondido, CA 92033. 497-498

FREE HAM GOSPEL TRACTS. SASE, N3FTT, 5133 Gramercy, Clifton Heights, PA 19018. 1197-1198

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QSL SAMPLES — 50¢ SAMCARDS, 48 Monte Carlo Dr., Pittsburgh, PA 15239. 197-198

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WANTED FOR MUSEUM: Apple-1 and other pre-1980 micro-computers, also early-micro-computer journals, newsletters and advertising literature. KK4WW, P.O. Box 341, Floyd, VA 24091, 703/231-6478 or 703/763-2321. 297-298

CHAVERIM-WESTERN USA AND MEXICO CHAPTER. Jewish amateurs and friends interested in our chapter or the Chaverim, contact KA6BJO, 24055 Paseo Del Lago West T1, #1006, Laguna Hills, CA 92653. 797-798

WANTED: ELECTRON TUBES, ICs, semiconductors. ASTRAL, P.O. Box 707WM, Linden, NJ 07036. Call 800/666-8467. 297-298

ELECTRON TUBES: Transmitting, receiving, military obsolete...all types. Large inventory. Fast delivery. DAILY ELECTRONICS, 10914 N.E. 39th St., Ste. B-6, Vancouver, WA 98682; 360/896-8856, 800/346-6667, fax 360/896-5476. 597-598

FREE! HAM and IBM Shareware disk catalog. High quality, newer, virus free programs. Specify disk size. MOM 'N' POP'S SOFTWARE, P.O. Box 15003-HF, Springhill, FL 34609-0111; 352/688-9108. momnpop@gate.net 1197-0298

100 QSL CARDS $8.50 Postpaid. Stamp for sample. We print mini cards too. ARTIST, P.O. Box 148652, Nashville, TN 37214. 198

MARCO: MEDICAL AMATEUR RADIO COUNCIL, operates daily and Sunday nets. Medically-oriented amateurs (physicians, dentists, veterinarians, nurses, therapists, etc.) invited to join. For information write: MARCO, Box 73, Acme, PA 15610. 697-698

WANTED: HAM EQUIPMENT AND RELATED ITEMS Donate your excess gear or related items, new, old, in any condition, to the Radio Club of Junior High School 22, the Nation's only full time non-profit organization working since 1980 to get Ham Radio into schools around the country as a teaching tool using our EDUCOM – Education Thru Communication. Send your radio to school. Your donated material will be picked up anywhere or shipping arranged and this means a tax deduction to the full extent of the law for you as we are an IRS 501(c)(3) charity in our 17th year of service. It is always easier to donate and usually more financially rewarding, but most important, your gift will mean a whole new world of educational opportunity for children nationwide. Radios you can right off, kids you can't. Make 1997 the year to help a child and yourself. Write, phone or Fax the WB2JKJ "22 CREW" today: The RC of JHS 22, P.O. Box 1052, New York, NY 10002. 24 hours Call 516/674-4072, Fax 516/674-9600, e-mail: crew@wb2jkj.org internet: www.wb2jkj.org Join us on the WB2JKJ Classroom Net, 7.238 MHz. 1100-1230 UTC daily and 21.395 MHz. 1400 to 2000 UTC. Meet us at the Miami Hamvention. 198

WANTED: COLLINS RADIOS, any condition for my collection. FRED, W6YM, 17890 Sharon Ct., Pine Grove, CA 95665; fhonnold@juno.com 897-598

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COAX CONNECTORS PL259, S0239, silver-plated, $1.00 each plus $1.00 s/h. LC ELECTRONICS, 1023 Shiloh Circle, Bartonville, TX 76226 1297-0198

HAM GOODIES! Free Shack Attack catalog: SHACK ATTACK, P.O. Box 91, Enterprise, UT 84725. 801/878-2760; kb7vrd@aol.com, http://www.vcnet.com/sa 1197-0498

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1998 CALLBOOK CD-ROM: $39.95. 1997 Callbook Final Edition – $32.95/ea. ARRL Handbooks: 1998 – $30.95; 1997 – $25.95. Postpaid. (CA residents: add 7.75%). DUANE HEISE, AA6EE, 16832 Whirlwind/W1, Ramona, CA 92065. 760/789-3674, aa6ee@amsat.org 198

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SPECIALIZED RADIO REPAIR: We have 18 years full-time experience repairing only Kenwood, ICOM, Yaesu, Atlas, Azden equipment, including lightning-damage repair. Optimized alignments, enhancements, modifications (including installed narrow crystal filters) available. INTERNATIONAL RADIO, 1118 Raymond Ave., Ft. Pierce, FL 34950; 561/489-6302. 198

Silent Keys

(continued from page 20)

MIKE VESTAL, WØYZS

It is with great regret I report to you that Mike Vestal, WØYZS, VR2WV, ex-SVØFE & currently known as XU6WV died in Cambodia the evening of 27 October.

Mike, to me, was the personification of a "real" ham — having been serious about VHF/UHF (WØYZS achieved 432 MHz WAS #1), DXing, contesting, 160, antennas & the like for longer than I've been alive.

His professional life was equally multifaceted & his technical knowledge was not only extensive, but based on the hands-on, soldering iron in one hand & 'scope probe in the other approach — unlike those who couldn't engineer their way out of a wet paper bag if their life depended on it.

Mike was simply one of those no-nonsense, one-of-a-kind guys and one of my best friends here in my adopted home. I can think of few who will miss him more. Condolences can be sent to me for QSPing to his wife.
— *Brett Graham, VR2BG* WR

QRP supplies — H, I, J, K, L

WAYNE REED, K9NE

Listed below are suppliers who deal with QRP-related supplies. This list will be published piecemeal in ***Worldradio*** *as space permits.*

•HANDS ELECTRONICS, Tygryn, Llanfymach, Dyfed, ENGLAND SA35 BL; 011-44-1239-698427; Fax: 011-44-1239-831390. **Kits for RF constructors, catalog 2 IRCs.**

•C. M. HOWES COMMUNICATIONS, Eydon, Daventry Northants ENGLAND NN11 6PT; 011-44-327-60178. **Kits, audio filters, receivers, transmitters, transceivers, catalog.**

•HW-8 HANDBOOK, Mike Bryce, WB8VGE, 2225 Mayflower N.W., Massilon, OH 44646; 216/832-3114.

•IDIOM PRESS, Box 1025, Geyerville, CA 95441; **Super cmos keyer, no catalog.**

•INDEX LABORATORIES, 9318 Randall Dr. NW, Gig Harbor, WA 98323; 206/851-5725; **QRP plus transceiver, catalog.**

•INTERNATIONAL RADIO & COMPUTERS, 13620 Tyee Rd.,Umpqua, OR 97486; 541/459-5623, Fax; 541/459-5632; **Modification kits, crystal filters, catalog.**

•JPS COMMUNICATIONS,INC., 5720M Capital Blvd., Raleigh, NC 27604; 800/533-3819, Fax: 919/790-1048; **Noise reduction products, catalog.**

•JADE PRODUCTS,INC., Box 368, E. Hampstead, NH 03826-0368; 800/JADE-PRO; 603/329-6995; Fax 603/329-4499; **Kits, wire antennas, components, catalog.**

•JAN CRYSTALS, P.O. Box 60017, Fort Myers, FL 33906; 800/JAN-XTAL; Fax: 813/936-3750.

•JZO RESEARCH, 757 North Caribbean Ave., Tucson, AZ 85748; 602/721-1969.

•K6LMN KITS, c/o Roger Wagner, 1045 S. Manning Ave., Los Angeles, CA 90024; 310/474-2447; **Amateur Radio kits, parts, circuit boards, crystals, catalog–SASE**

•KA7QJY COMPONENTS, PO Box 7970, Jackson, WY 83001; **Small parts.**

•KB 1T RADIO SPECIALTIES, P.O. Box 1015-C, Amherst, NH 03031; 603/673-4100: **Yearly ham photo calendar.**

•KANGA (UK) PRODUCTS, Seaview House, Crete Rd., East Folkestone, ENGLAND CT18 7EG; 011-0303-891106; **Amateur Radio kits.**

•KANGA KITS, U.S. Representative, Bill Kelesy, N8ET, 3521 Spring Lake Dr., Findlay, OH 45840; 419/423-5643; **Receiver, transmitter, transceiver.**

•R.A. KENT (ENGINEERS), P.O. Box 809, Mount Ida, AR 71957-0809; 501/867-4550; **Kent Morse keys, catalog.**

•KEPRO CIRCUIT SYSTEMS, INC., 630 Axminster Dr., Fenton, MO 63026-2992; 800/325-3878; Fax: 314/343-0668; **Circuit board materials, catalog.**

•KEYSOLAR SYSTEMS, 4 Glanmor Crescent, Newport, Gwent, ENGLAND NP9 8AX; 011-633-280958; **Small scale solar & wind power equipment, catalog (6x9 env w 38p UK postage).**

•LAKE ELECTRONICS, 7 Middleton Close, Nuthall, Nottingham, ENGLAND NG16 1BX; **QRP kits, catalog.**

•LECTRO KIT, 401 Bogart Rd., Sandusky, OH 44870; **QRP kits, catalog.**

— Continued next month —

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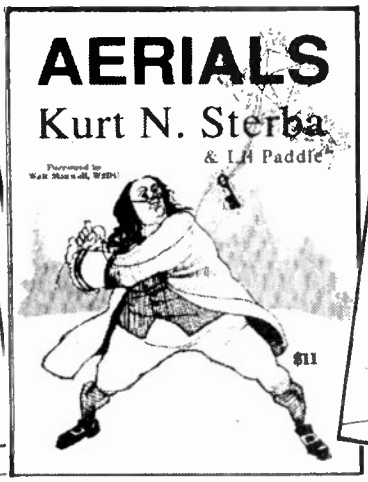

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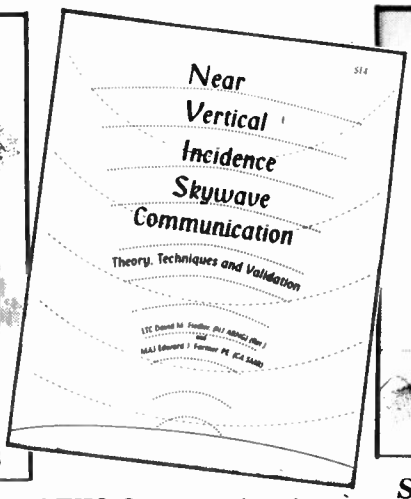

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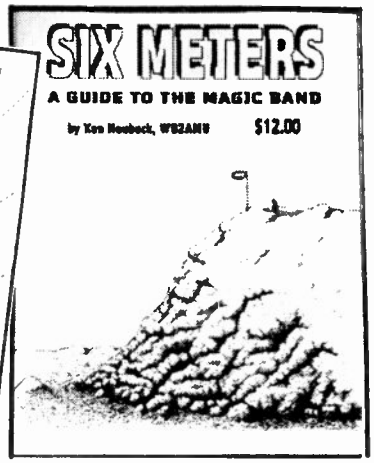

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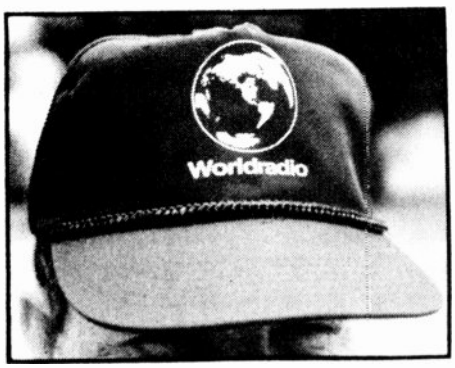

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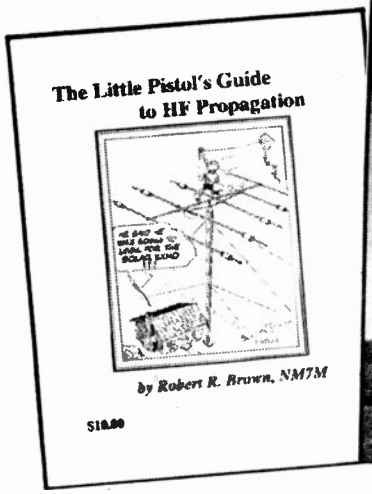

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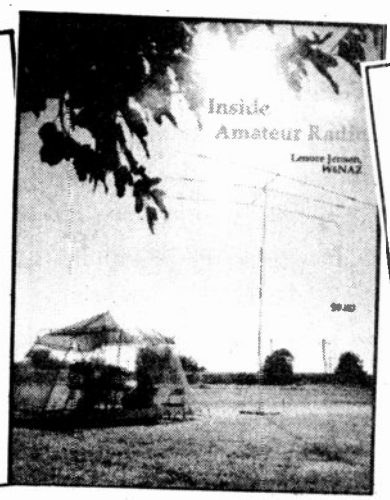

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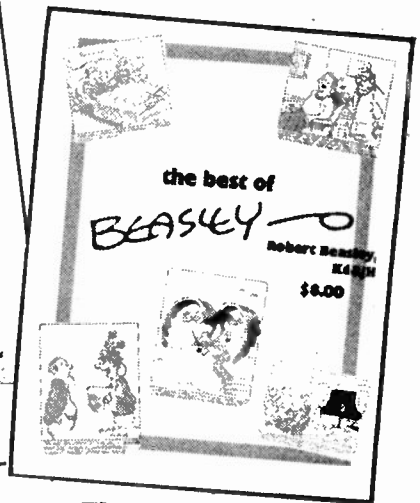

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•**WHEN THE BIG ONE HITS...***A Survival Guide for Amateur Radio Operators, by Jerry Boyd,KG6LF & Jay Boyd, KN6BP*

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•**SIX METERS**, *A Guide to the Magic Band, by Ken Neubeck, WB2AMU*

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•**INSIDE AMATEUR RADIO**, *by Lenore Jensen, W6NAZ*

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WRC-97wraps up

The 1997 World Radiocommunication Conference concluded 21 November in Geneva, Switzerland. Amateur Radio survived WRC-97 largely unscathed, but the stage has been set for renewed spectrum battles at WRC-99.

The Little LEOs (non-voice, non-geostationary mobile satellite interests) were unable to muster much support for new allocations at WRC-97 but came away with up to 3 MHz of additional spectrum on a regional basis between 454-460 MHz. The Little LEOs also got a resolution calling for urgent studies in preparation for WRC-99 — what some at the conference called "a hunting license" for additional VHF/UHF spectrum. A second issue that will recur at WRC-99 is finding a place in the 420-470 MHz frequency range for the Earth Exploration Satellite Service (EESS). Synthetic aperture radars (SARs) using frequencies in this range are said to be capable of penetrating the rain forest for mapping purposes.

Two Amateur Radio-related issues failed to make the cut for consideration at WRC-99. For budgetary reasons, the WRC-97 delegates had to limit the WRC-99 agenda only to the most urgent issues. Pushed back to the tentative agenda for WRC-2001 were the possible realignment of the 40M band to resolve a conflict between hams and broadcasters in part of the band (along with possible expansion of broadcasting bands between 4-10 MHz), and Article S25 of the international radio regulations. Article S25 contains the international regulations specific to the Amateur and Amateur Satellite Services, including the Morse code requirement for operation below 30 MHz.

WRC-97 delegates approved a resolution encouraging administrations to facilitate the use of Amateur Radio and other "decentralized means of communications" for disaster mitigation and relief operations. This resolution eliminated the need for Resolution 640, which defined how certain ham bands could be used for international disaster communications by non-amateur stations, so Resolution 640 was suppressed.

WRC-97 delegates did agree to upgrade the Earth Exploration Satellite Service from secondary to primary at 1215-1300 MHz, which should have only minimal impact on amateur use of 1240-1300 MHz. The presence of EESS there also reduces the possibility that other, less-compatible services might later be introduced into this band.

In other allocations decisions, amateur satellite segments were not included among allocations for wind profiler radars. Except for a worldwide primary allocation at 1270-1295 MHz, the only specific allocations for wind profiler radars are in Region 1. Region 2 administrations were urged to implement wind profilers in radiolocation bands at 440-450 MHz, 904-928 MHz (protecting the lower, weak-signal segment), 1270-1295 MHz (protecting amateur satellite and weak-signal), and 1300-1375 MHz.

The delegates agreed that the bands 420-435 MHz or 438-440 MHz could be considered for use in situations where there was incompatibility between wind profiler radars and other radio applications at 440-450 MHz or 470-494 MHz (only in some Region 1 countries). In this case, too, the amateur-satellite segment is protected.

Several Region 1 (primarily European) countries deleted exceptions to the international table of allocations in the 1810-1830 kHz range, expanding 160M usability for Amateur Radio. —*ARLB072*

Division Directors' election results

The ARRL Committee of Tellers for the election of directors and vice directors for the 01 January 1998-31 December 1999 term met 21 November at ARRL Headquarters to count ballots, and announced the following results. —*ARLB071*

	Director		Vice Director
Great Lakes Division	Joe Falcone, N8TI*	4,477	Dave Coones, WT8W**
	George Race, WB8BGY	2,531	
Delta Division	Rick Roderick, K5UR*	2,106	Henry Leggett, WD4Q**
	Malcolm Keown, W5XX	1,330	
Atlantic Division	Kay Craigie, WT3P*	4,918	Bernie Fuller, N3EFN**
	Jim Carson, WK2K	1,573	
Dakota Division	Tod Olson, KØTO**		John "Jay" Bellows, KØQB**
Midwest Division	Lew Gordon, K4VX**		Bruce Frahm, KØBJ**
Pacific Division	Brad Wyatt, K6WR**		Jim Maxwell, W6CF**
Southeastern Division	Frank Butler, W4RH**		Evelyn Gauzens, W4WYR**

*denotes winner **unopposed

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