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WORLDRADIO

Year 27, Issue 11

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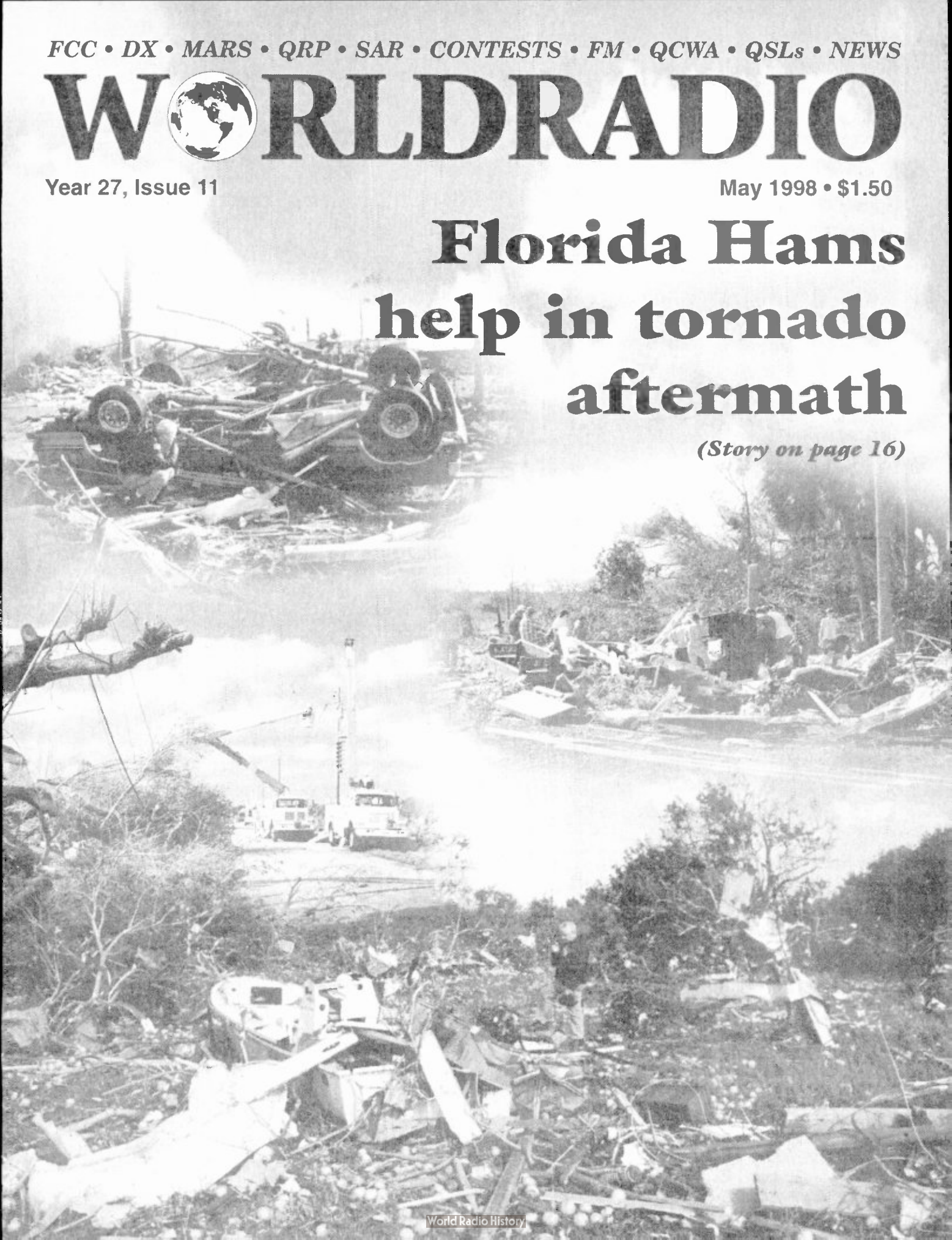
Florida Hams help in tornado aftermath

(Story on page 16)



NEWSFRONT

Worldradio

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

Falcone resigns

ARRL Great Lakes Division Director Joe Falcone, N8TI, resigned, effective 23 March. He offered no reason for his unexpected decision to step down.

An attorney from Livonia, Michigan, Falcone became a director 01 January 1998, after defeating incumbent Director George Race, WB8BGY, in balloting last November. Falcone was a member of the ARRL's Enforcement Task Force.

Great Lakes Vice Director Dave Coons, WT8W, automatically has succeeded to the office of Director, creating a vacancy in the Vice Director's position. — *ARRL Letter*

Georgia Hams rally

Hams in the Gainesville, Georgia, area responded quickly 20 March after a tornado ripped a 10-mile swath through northeastern Georgia, leaving a dozen dead and more than 100 injured. Members of LARC — the Lanierland Amateur Radio Club, and Hall County's ARES organization promptly set up a net on LARC's VHF repeater handling what Hall County Assistant EC and LARC President Terry Jones, K4FB, called "a massive amount of radio traffic." An Amateur Radio communications trailer, owned and sponsored by the Chattahoochee Baptist Association of Gainesville, also was deployed, setting up operations next to the Hall County Emergency Management Agency command post.

The tornado knocked out power, and cellular telephone systems soon became overloaded. No telephone service was available in the affected area. ARES members from Lumpkin, Gwinnett, White, Jackson, and Clark counties also helped.

Ham radio operators continue to provide logistical support for the American Red Cross in the affected area. The Red Cross dispatched Communications Officer Chet Hallberg, KØTCB, to Georgia. — *ARRL Letter*

DOVE-OSCAR 17 crash

DOVE-OSCAR-17 has stopped transmitting on 2 Meters and control op Jim White, WDØE, has been unable to reset the satellite. White expects the S-band transmitter operation to be intermittent as he works with the ROM software and loader. — *Jim White, WD0E*

VA antenna victory

Virginia may soon have the most Amateur Radio friendly antenna laws in the nation. The legislature passed SB-480 and sent it to the Governor for his signature.

SB-480 gives Virginia Hams what amounts to an inalienable right to erect an antenna system. The measure directs that all areas of the state be covered under PRB-1-like preemption language directing all communities to make reasonable accommodation for Amateur Rradio towers and antennas.

Areas of Virginia with population densities greater than 120 persons per square mile based on the 1990 Census cannot regulate antenna structures to less than 75 feet. Areas under 120 persons per square mile cannot regulate antenna structures to less than 200 feet. No area can regulate the number of support structures, meaning amateurs can put up as multiple antennas.

As to restrictions? There is only one that is of any consequence. It says that reasonable and customary engineering standards for antenna erection must be followed in all locations. But that in itself is also a positive step because it makes sound engineering a state mandate and takes away the benefit of localities having final say on engineering and structure erection.

In passing the measure, Virginia Hams defeated two of the most highly influential anti-antenna and pro local government lobbies in the state. — *WB5ITT, Newsline*

Major changes for Field Day

Some new rules go into effect this year for Field Day. The summertime operating event takes place 27-28 June.

A major change this year is the elimination of bonus-point credit for packet and VHF/UHF contacts. Field Day stations no longer will be allowed to count contacts via digipeaters, packet nodes, or similar arrangements.

Class 2A and higher Field Day stations still may operate a "free" transmitter exclusively for VHF or UHF operation (above 50 MHz) without changing their basic entry classification, but not for bonus points.

Crossband and repeater contacts other than via satellite do not count for Field Day credit. Field Day stations now can earn point credit for digital (ie, non-CW) contacts on each band. The phone, CW, and non-CW digital segments are considered separate "bands" in the Field Day rules. This means that you now may work the same station for point credit on 40 Meters three times: once on SSB, once on CW, and once on RTTY, packet, or one of the TOR modes. SSB contacts count one point, and CW and non-CW digital contacts count 2 points apiece, so adding non-CW digital capability presents a real opportunity to rack up substantial additional points.

The complete, official Field Day rules will appear in the May edition of *QST.* — *ARRL Letter*

Hamvention hotel reservation computer failure

Hams who have reservations at the Dayton Double Tree Guest Suites for Hamvention weekend had better call the hotel to reconfirm. According to a posting on the Dayton Hamvention Web Page, reservations for 14-19 May have been lost at the Double Tree Guest Suites. Those holding reservations for that weekend are being advised to telephone the hotel directly with your confirmation number to ensure your reservation is re-entered into the main reservation system. A confirmation number is required to reconfirm your reservation. The number is area code 937/436-2400 and ask for Julie. — *Dayton Hamvention, Newsline*

FCC proposes new rules, or, rules are made to be changed

In a sweeping Notice of Proposed Rulemaking the FCC has suggested several rules changes that could affect Amateur Radio, including replacement of the venerable FCC Form 610. NPRM Docket WT 98-20, "To Facilitate the Development and Use of the Universal Licensing System in the Wireless Telecommunications Services," seeks comments on proposals to replace Form 610 with FCC Form 605; to permit automatic reciprocal licensing of foreign hams wishing to operate in the U.S.; to privatize the issuance of club station licenses; and to require applicants and licensees to supply a taxpayer identification number (TIN) and to file electronically. The FCC also plans to consolidate the application procedures for all Wireless Telecommunications Services into a single set of rules. All of these proposals are part of the FCC's efforts to implement the Wireless Telecommunications Bureau's Universal Licensing System (ULS).

The new Form 605 would apply for Amateur Radio and other services "not presently required to submit extensive technical data to receive a license" The Wireless Telecommunications Bureau is trying to drastically cut down the number of forms for the various services it administers, and to include all of its services under the ULS. The FCC last November began initial collection of licensee data to populate the ULS. Using the ULS, applicants and licensees will be able to file, modify, and renew electronically. Ultimately, the FCC intends to require all applicants, as appropriate, to file all applications and notifications electronically.

The FCC says it has tentatively concluded that there is "little or no need to continue issuing the reciprocal permit" (FCC Form 610-AL) for alien amateur licensees because the license from any foreign country with which the U.S. has a reciprocal agreement would "stand as the proof that the foreign operator is qualified for the reciprocal operating authority." Reciprocal operation under the new regime would be "by rule," which means no special action is necessary on the applicant's part, and the elimination of Form 610-A.

For club station licenses, the FCC proposes to accept the services of VEC-like organizations as volunteer club station call sign administrators. Prospective organizations would have to complete a pilot autogrant batch filing project before being authorized as call sign administrators.

Under the ULS, applicants or licensees would have to supply a TIN, usually a Social Security number, or "its functional equivalent." The FCC says this is "consistent with the requirements of the Debt Collection Improvement Act of 1996." To allay fears of misuse of TINs, the FCC says the ULS would be designed so that TINs will not be available to the public and "only a small number of Commission employees would have access to TIN information in conjunction with their work." The FCC says a Privacy Act submission would be published in the Federal Register "to obtain the requisite public and Congressional comment and Office of Management and Budget approval prior to implementation of the ULS."

A text version of the entire rulemaking proposal is at http://www.fcc.gov/Bureaus/Wireless/Notices/1998/fcc98025.txt (or see the link from the FCC home page). The ARRL plans to file comments on the proposal, released 20 March. Comments are due to the FCC 30 days after publication in the Federal Register. Reference WT Docket 98-20. The FCC will not accept e-mail comments on Docket WT 98-20. — *ARRL Letter*

On the cover:

Photos taken by Mike Welch, KF4HFC, of the 22 February tornado in central Florida. Those round balls you see all over the ground are actually Florida oranges.

Congratulations to Joe Moore, WD8EKI,

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
May 1998

News & Features

Departments

Next month's columns will include 10-10, The Club Huddle, Computers & Basic Stuff, With the Handi-Hams, & YLs on the Air

Worldradio

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We emphasize the positive aspects of this great activity, and desire your contributions dealing with dramatic, personal and humanitarian uses of Amateur Radio. Articles for consideration may be submitted through the U.S. Postal Service or e-mail to n6wr@ns.net

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Publisher's Microphone

There is the eternal flame, then there is eternal fame — such has befallen the following. The latest to become *Worldradio* Superboosters (Lifetime Subscribers) are: ALL HAIL!!

- **Vincent Sarnicky, Sr., KA3GEE**
  Northampton, PA
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- **Dave Kelley, AI7R**
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- **Andrew McElhaney, N3VYK**
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- **Robert Hewitt. WBØWFI**
  Vacaville, CA
- **Dale Hunt, WB6BYU**
  Yamhill, OR

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To continue the saga of adventures in QRP, and then some other thoughts, during the ARRL DX Contest, 07-08 March 1998, I operated (using *Worldradio* Staff ARC call sign WR6WR) with that little MFJ 20-meter transceiver, which is priced at $239.95, including microphone. The size is 2-1/2 by 6-1/2 by 6 inches. Since the rules call for five Watts PEP, the microphone gain potentiometer on the rig was adjusted to barely up from the all the way closed position. The power level was checked with a Daiwa DP-810 digital SWR and power meter which reads PEP.

What can be expected with five Watts into a modest antenna? Well, the answer will be no surprise to those devoted and dedicated QRPers but it might surprise the "Life is too short for QRP" crowd.

You must first remember that the contest big guns are running 300 times the power of this tiny little rig.

In the first half hour I had eight countries then (and just think about the number of stations calling this one) ZD8Z at 0042Z and then P40W at 0044Z.

JAs at 0206, 08, 10, 11, 13, 14. As we went into the evening 9M6BG and ZL7DK among others.

In the morning the first contact was with OH5LF at 1526 and to show that wasn't a fluke the next contact was OH4KBC at 1527.

The 20M band was just red hot as I worked OH3RM, 1643; RN3QO, :45, S50K, :45, F6IFR, :46, OKM8A, :47.

Yes, of course, there'd be some long dry spells. When you're running five Watts at the peak, you're grateful for something like this: G4OJH, 1502, UA4FRV, :04, EI8GP, :06.

One is brought down to earth, however, after spending 12 minutes, to no avail, calling KL7Y. But, making up for that was, on second call, 9X0A!!!

EA3CNN said, "big signal", RA9JW said, "very nice copy, my congratulations." NEVER did I, as some do, say "QRP" after the call sign to draw, is it.....sympathy?

Some accuse QRPers of depending on the other station's good receiver, antenna, etc. to make contacts. Well, JA6UBK and JA2DLM were both also running five watts.

At the end of the contest the tally was 181 contacts in 65 countries.

Mention should be made of the truly surprising performance of the receiver section (considering the price) of that little transceiver. The selectivity was amazing!

Also, with some optional equipment the rig can be used in the CW portion of 20 Meters. MFJ has also recently introduced models for the 40- and 80-meter bands. When the sunspots are at their peak a little rig like this would be great on 10M.

Speaking of such, isn't it just amazing, when so many are crying about poor propagation conditions, (and not even bothering to turn on their rigs) that whenever there is a contest some magical force seems to turn the sunspot spigot on at exactly 0000Z and turn off that faucet at exactly 2400Z two days later?

There's another oddity of a different nature. Both CQ and the ARRL consider the QRP competition category power level for SSB to be five Watts PEP. All the QRP organizations consider ten Watts to be QRP for SSB. While we could see five Watts being the level for CW, for the same communications effectiveness the SBB level would have to be about 15 Watts, wouldn't it?

What have you been doing? What's on your mind? So, write an article and send it in.

We'd also like to see some profile stories about some great amateurs that you know. Articles like that might prove to be inspirational and move others to greater heights.

You say it's hard to get an article started? Well, start with writing the middle part and write the beginning later.

— Armond, N6WR

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†Smallest HT as of Jan. 1998

Amateur Radio loses two great ladies

Iris Colvin, W6QL

RICK McCUSKER, KO6DJ

Alongside the Interstate 80 freeway in Richmond, CA, stands a massive tower on the top of a hill, on the water side of the freeway. This was the location that the Colvins, Lloyd and Iris, called home. Door-to-door salesmen could never catch them at home. As one of the premier DX teams in the world, they spent the majority of their time on DXpeditions to every corner of the planet.

Iris Colvin, W6QL, has joined her late husband Lloyd, W6KG, on that never-ending DXpedition. She died in February at the age of 83.

She was the other half of the famous DX team that was so well known, they were named by the ARRL as "Amateur Radio Ambassadors of the Decade, 1980-90." Their trips to exotic locations around the world will surely be missed by those who had the opportunity to work them. There are over a half million amateurs who made contact with them.

Iris was licensed in 1945. She first met Lloyd while they were attending the University of California at Berkeley and their meeting was pure chance; the result of a blind date, and they married in 1938. They were married for 55 years, until Lloyd died in 1993, while they were traveling in Turkey.

When Lloyd retired in the mid-1960s, they started their DXpetion adventures. With over 140 countries from which they operated, no one has even come close to equaling their record of over 500,000 QSL cards — with almost all coming from Hams who made contact with them during a Colvin DXpedition.

In an interview for ***Worldradio*** in 1977, the Colvins were asked why they were spending so much time operating from exotic countries. The answer was, "To give amateurs around the world a chance to work a new one."

They perfected the art of planning the DXpedition. As an example of planning, Lloyd had a Hy-gain triband beam that was "improved" and could be set up in a matter of minutes. Their equipment was set up with two wheels on each large piece, for easily moving without having to lift it. This also served them well in their travels aboard various modes of transportation, from airliners to small boats.

Iris had a way of charming the local inhabitants wherever they went, and could get things done that the rest of us would find nearly impossible. In late 1991, they used their charming ways to get a "special senior discount" while using the public transportation system in Thailand. During their stay, they rode the bus system, just like the locals. The bus driver never charged them for their rides, saying that they were getting the "special" fare for seniors.

Esther Given, W6BDE

JIM WALSH, W7LVN

Esther Irwin Given,W6BDE, of Santa Rosa, California, died 13 March at her home. She was 86.

Born in Philadelphia, Esther moved with her family to Colorado, graduating in 1929 from South Denver High School. She worked eight years for Mountain States Telephone & Telegraph and 3 1/2 years as a legal secretary.

With the coming of WW II she enlisted in the Women's Army Air Corps. Following basic training she volunteered as one of the first 50 WAACs to receive training as radio operators. After 13 weeks at Midland Radio School in Kansas City, Missouri, she graduated as a high speed radio operator in the first group of three WAACs assigned in this capacity.

In late 1944 she was selected as a candidate to receive special radio operator training for maritime service aboard an Army Hospital Ship. In the spring of 1945, she was assigned to U.S. AH. S. *Chateau Thierry* as chief radio operator. Only 14 WACS ever served in this capacity.

Esther left military duty in December 1945, continuing as a civilian radio officer on the same vessel as a Lieutenant in the Army Transport Service. She was one of three former WAC radio operators hired as radio officers for that ship's complement — the only three civilian females ever employed by the U.S. Government as radio operators on a U.S.-owned and operated vessel. This "temporary" job ended in July 1946 when male replacements became available.

She received her Amateur Radio license, W6BDE, in November 1946,

and in 1948, settled in Montara, California. She retired in 1977, having been employed as 4-H secretary for San Mateo County under the University of California Cooperative Extension Service. An active Amateur Radio operator over the years, she served for seven years (1983-90) as a director of the QCWA, and during that period, was the QCWA columnist for ***Worldradio.***

There were no special fares for seniors; the bus driver had been charmed by the Colvins, so they got to ride the bus for free.

During a trip to Africa, they had planned on operating from Zaire. Unfortunately, the officials of that country frowned upon Amateur Radio operations, but Lloyd and Iris took their equipment anyway, rolling it along with them. They never did get a license to operate in Zaire, but they openly carried their Ham gear with them. Their "senior' status allowed them to do this. Anyone else carrying radio equipment in this manner would have been arrested as "spies."

Making friends all over the world certainly aided their DXpeditions. When they went to Colombia, they had an urge to get on 160 Meters. Due to the length of the antenna required, this is not easily accomplished when staying in a hotel, but they had contacts. After a couple of phone calls, they were invited to set up their station at a local cut-flower farm, with the station being located in a "chalet" on the property. The employees at the farm were more than happy to help them set up the equipment, get the antenna up in the air, and keep them supplied with food and drinks!

Wherever their travels took them, they insisted on living like the local population. While others who go on DXpeditions will stay in the finest hotel available, the Colvins would be out in the heat and humidity with the bugs and the animals operating under very primitive conditions. Sometimes those locations would involve political unrest, or be located in a "seedy" part of town where bullets flying around the neighborhood were not uncommon. While in Bogota, Iris had a prized ring stolen off her finger by one of the talented thugs while waiting for a bus. They insisted on using the same bus stop for the rest of their stay and would not be deterred from using the bus to get around.

Almost all of their travels around the world were aided by the foundation that they helped to set up in the 1960s to assist funding Amateur Radio projects. The "Yasme" foundation has helped finance DXpeditons including the Heard Island trips. The name "Yasme" comes from the name of the yacht, "Yasme" used by Danny Weil during the early days of DXpeditions in the 1950s.

They were equally well known to the "local" Hams in the Northern California area. The 4th of July and New Year's Day parties were elaborate affairs that entertained the guests for hours. Part of the fun was looking in the metal drawers for one of your QSL cards that you sent to the Colvins. They kept all the cards they received, and each one was filed in drawers that must have taken a considerable amount of time to organize.

Will there ever be another DX team equal to the Colvins? Not likely. It isn't just the financial ability to travel that is needed, but the time and the commitment to Amateur Radio DXing.

Silent Keys

MAXINE WILLIS, W6UHA

Maxine Willis, W6UHA, died 23 December 97 at her home in Grants Pass, Oregon. First licensed in 1941, she was well known on the DX bands. Maxine was a charter member of the Southern California DX Club, a member of YLRL, YLRC and QCWA.

Among many operating certificates Maxine earned was DXCC in 1949, exceeding 300 countries by 1965. Along with her husband Ed, W6TS (SK), they topped 624 countries.

During the late 40s, Maxine spent much of her operating time arranging QSOs with families of boys in the service in the Pacific.

In the late 50's, Maxine and Ed introduced Amateur Radio to me when I was recovering from polio. They provided hope, friendship and guidance. — *Johan Van Nimwegen, KO6I*

C. R. NORMAN, K6QW

Carlyle Norman, K6QW, died 18 February in Novato, California. He was a retired optometrist as well as an Amateur Radio operator known throughout the world.

His forged on-the-air friendships with Russian cosmonaut Yuri Gagarin, King Hussein of Jordan, and Senator Barry Goldwater.

During World War II, he was sent to Texas A & M University for radio training, and spent the remainder of the war as the chief radio technician aboard the USS *Tamboor* and USS *Searaven*, both submarines that patrolled the South Pacific.

After retirement in 1985, he moved to Novato. He also built an impressive DX station, and communicated with his friends around the world, often on a daily basis. — *KB6BKN*

E-mail:
w4zc@macconnect.com

WRC-97 revisited

"WRC-97, An Amateur Radio Perspective", is the title of an excellent article By Larry Price, W4RA, and Paul Rinaldo, W4RI, appearing in the February issue of *QST* Magazine. The article details the conference matters important to radio amateurs. It also explains why certain issues were or were not acted on by the worlds communications regulators.

Price and Rinaldo write from a perspective that only those attending the conference can share. Rinaldo was an actual member of the United States delegation while Price attended as Secretary of the International Amateur Radio Union. Their story is must reading for anyone truly interested in the future of Amateur Radio.

Next Ham WRC

Meantime, there seems to be a bit of confusion as to when the World Radio Conference will next consider Ham radio related issues. Most sources are saying 2002 but The Canadian Amateur newsletter says it will be in 2001. Other non-ham radio sources are indicating a later date. They are saying not to look for any Amateur Radio related matters to be discussed by WRC until 2030 or 2035 at the earliest.

Delicensing considered in Canada

The January 1998 issue of The Canadian Amateur (the Journal of RAC, Canada's national Amateur Radio society) reports that Ham radio in Canada may be changing. Industry Canada is the federal telecommunications regulatory agency in Canada. For the past four years Industry Canada and the RAC had been collaborating on an initiative that would have ultimately turned administration of Canada's Amateur Radio Service over to the RAC.

On 28 November RAC was informed by Industry Canada that the agency was terminating the joint IC/RAC collaboration and had decided to retain management of the Service. RAC believes that allowing it to administer the Service would have greatly benefited Amateur Radio in Canada. The Amateur Delegation Working Group (ADWG) is to be dissolved.

The news came as a complete shock to RAC and its officers do not know why the decision was made. It appears, however, that the Canadian Government is on a cost-cutting campaign. One way to save money would be NOT to issue individual licenses to its radio amateurs. This is confusing since Canadian Amateurs pay a licensing fee.

RAC has contributed thousands of unpaid hours to the project and said it "will be meeting further with Industry Canada concerning the summary termination and will provide further information to Canadian Radio Amateurs as it becomes available". Meanwhile, Industry Canada contracted with a commercial research firm to obtain opinions from a small sample of 300 Canadian amateurs concerning Ham radio licensing and certification (qualifications).

The sample represents less than 1% of Canada's 45,000 licensed Ham operators, only 20% of which belong to RAC. RAC does not believe that the poll could possibly be representative of their Amateur community and feels that the five questions

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 03 March 1998.
For more information about the sequential call sign system, see Fact Sheet PR5000 #206-S dated August 1996, or contact the Federal Communications Commission, Consumer Assistance Branch, 1270 Fairfield Road, Gettysburg, PA 17325-7245, toll-free 1-888/225-5322.

Radio District	Group A Am Extra	Group B Advanced	Group C Tech./Gen.	Group D Novice
Ø	ABØHH	KIØLX	++	KCØCVG
1	AA1TI	KE1JH	++	KB1CLA
2	AB2EZ	KG2NS	++	KC2DBT
3	AA3QV	KF3AZ	++	KB3CEJ
4	AF4IN	KU4PG	++	KF4VZK
5	AC5PB	KM5PI	++	KD5DLN
6	AD6EP	KQ6UU	++	KF6PQR
7	AB7XM	KK7MK	++	KD7ATP
8	AB8BZ	KI8FE	++	KC8JJU
9	AA9VN	KG9MS	++	KB9SFL
N. Mariana Is.	NHØC	AHØAY	KHØGV	WHØABI
Guam	++	AH2DF	KH2TG	WH2ANV
Hawaii	NH7G	AH6PF	KH7IQ	WH6DEN
Amer. Samoa	AH8P	AH8AH	KH8DL	WH8ABF
Alaska	ALØJ	AL7RA	KLØNM	WL7CUR
Virgin Is.	++	KP2CN	NP2JZ	WP2AIJ
Puerto Rico	NP3T	KP3BE	NP3UK	WP4NNQ

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

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If you received this copy of ***Worldradio*** and you're not a regular subscriber, this was your free sample copy. We sent it to you so you could see all the news, features and columns in ***Worldradio***.

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Thank you!

asked in the poll are worded so as to obtain a certain answer. A transcript of the IC poll wording appeared in the January 1998 *Canadian Amateur.* It was apparently conducted by telephone early in December 1997.

Tower law success: Chalk one up for Amateur Radio

Hams in Mason County, Washington, won't be encumbered by a telecommunications ordinance that would have restricted the height of ham radio towers to 70 feet and imposed other regulations. Andrew Forsberg, WV7M, of Grapeview, reports that several Hams in the largely rural Western Washington county (population approximately 30,000) cited federal preemption over local regulation of Amateur Radio activities as well as the hobby's public service dimension to get the County Board of Commissioners to exclude Ham radio from the new law last month.

Forsberg says that, as originally drafted, not only would tower heights have been limited to 70 feet, but building-mounted towers could not have been more than 20 feet tall. It also would have held the height of vertical antennas (called "whips" in the proposed regulations) to 15 feet. In addition, the proposed law would have required landscaping to hide a tower and lot setbacks equal to a tower's height — something often impossible on a small, residential lot.

Forsberg said that, at first, the drafters of the new ordinance "seemed to be unmoved by Amateur Radio considerations." In addition to federal preemption, the county hams pointed out the connection between a good antenna system and ham radio's public service contributions — in an area subject to floods, earthquakes, power outages during winter storms, and even volcanic activity). Commissioners "began to soften their position," Forsberg said.

"By the time the vote was taken, the commissioners were well-informed of our position and were commending Amateur Radio for its outstanding contributions to the community," he said.

Successful ARRL petition to NTIA

The American Radio Relay League has successfully petitioned the National Telecommunications and Information Administration in hope of gaining that agency's support for a new Ham band at 160 to 190 kilohertz. The NTIA says it has no objections to U.S. Amateur Radio operators being given access to this very low frequency band and will support its creation.

FCC plans for WRC 2000

The Federal Communications Commission hosted a World Radiocommunications Conference planning session on February 10th. Called WRC 2000, the purpose of this gathering was to establish very broad basic guidelines for U.S. participation in this upcoming frequency allocation assembly. This Washington, DC meeting was hosted by the FCC's International Bureau's Planning and Negotiations Division.

Wisconsin anti-mobile law dies in Assembly

Some good news for Hams living in Wisconsin. The threat of a new state law that would ban the mobile in motion use of two way radio equipment has ended. At least it has ended for now.

Smoke Signals newsletter editor Jim Romelfanger, K9ZZ, tells Newsline that Wisconsin Assembly Bill 754 is basically a dead issue. Romelfanger says that he spoke with one of its sponsors and learned that it has not even had a hearing let alone be reported out of committee. Jim says that with only a few days left to this years Wisconsin Assembly session, that there is no way for AB 754 to become Wisconsin state law.

AB 754 was primarily aimed at curbing automobile accidents due to inattentive cellular telephone users. Unfortunately for hams, the wording of the measure encompassed all forms of mobile radio communications. Its backers are expected to try to pass it again in the next Assembly session. Meantime hams now have a chance to build a solid opposition to it or at least demand an exemption for licensed radio amateurs.

South Africa CEPT

South African amateurs will soon be able to operate in CEPT signatory countries without the need of acquiring a guest license. This, according to SATRA, the South African Telecommunications Regulatory Authority which says that it has received Confirmation from the European Radio Communication Office, that South Africa has been accepted as a signatory to and participant in the CEPT common amateur radio license. The agreement follows several years of negotiation with both the South African Authorities and the CEPT by the South Africa Radio League, with the assistance of the IARU Common License Group.

DXCC list price change

The DXCC List has increased in price effective 1 April 1998 from $2 to $3. The new list incorporates the recent changes in DXCC rules and criteria developed by the DXCC 2000 Committee and approved by the ARRL Board of Directors. The price increase also reflects higher paper and production cost, and is necessary to maintain the production of the hard copy version of the DXCC List. The DXCC List and DXCC forms are available at http://www.arrl.org. — *ARRL Letter*

GOING VERTICAL IN JAMAICA

G. H. RUDESILL, KF6OBS

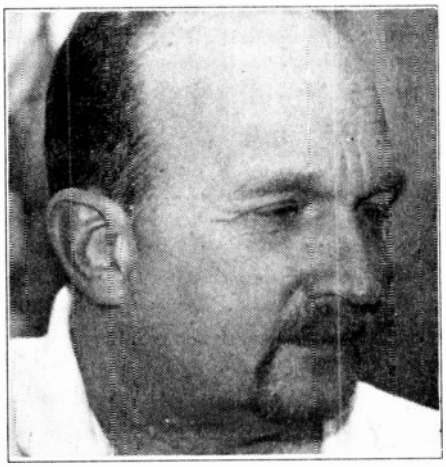
Hearing the term "DXpedition" does three things to the normal Amateur. 1. Can I convince the wife that I really, really *need* to go? 2. Can't go, but I can work them. What frequencies are they on? 3. Yes! I worked them on all the bands, and they are going to be here! Let's go!

The Mother Lode DX/Contest Club hosted a presentation of the November 1997 6Y4A crew's DXpedition to Jamaica. Highlights of the trip were presented by Ken Silverman, K2KW, Tom Schiller, N6BT, and Bob Wilson, N6TV, all members of the 6Y4A team.

The chosen spot was the on the north shore of Jamaica, between Ocho Rios and Montego Bay. The area was ideal, offering two villas and over 800 feet of beach front. In back of the villas, a 300-foot hill blocked static crashes from Caribbean thunderstorms, but it also blocked contacts to the south. But, according to team members, "...how many contacts south of the Caribbean do you make?"

Some experimentation was necessary. What antenna would offer the best advantage in a contest, yet be easy to pack and put up on a DXpedition? Three-element Yagis are the antenna of choice on a trip like this, but they are big, heavy, and on a push-up mast with a rotator, quite wobbly. Vertical antennas, on the other hand, work very well when used over salt water. A low take-off angle and high gain made the vertical antennas supplied by Force 12 the ones to use. Two quarter-wave verticals, with two radials mounted two feet off the ground, on each band 10M through 40M were used. Because they were set up as parasitic, there was no need to cut phasing lines and it reduced the amount of coaxial cable needed.

Antennas were only one part of this success story. The biggest antenna farm in the world will not give



KY4D DXpedition members, (above) Tom Schiller, N6BT, (right) Ken Silverman, K2KW.

you a win without good operators.

Team 6Y4A used two operators on each band. By using two people listening to the same frequency to copy call signs, the time per contact is shortened. As an example, the actual operator works W1AW, while the second hears and writes down W3LPL. He then passes the slip of paper to the actual operator, and that operator can send "W3LPL 599 8" without having to say "QRZ" each time. This cuts down on the time spent on each call. Wasted time costs you contacts.

Other strategies were devised to maximize the score. Multipliers were passed from band to band. The operators not only had to know their own band's propagation, but also those at adjacent rigs to know when to effectively pass the multipliers.

The 6Y4A team had outstanding operators: Ken Silverman, K2KW, Tom Schiller, N6BT, Bob Wilson, N6TV, Scott Cronin, W4SY/WS4E, David Patton, W9QA/WX3N, Fred Cady, KE7X, Toshinobu Aki, JI3ERB, and Mas, JE3MAS. Of course there were wives, children and others who helped make this such an outstanding event. A good time was had by all.

As an example of how well this team did, Hams in places such as Alaska and the Pacific reported that 6Y4A was the first signal heard from the Caribbean when the band

opened, and the last signal when the band folded. Not bad, but don't forget, this team placed 4th highest in the world in the CQWW CW Contest, as a Multi-Op, Multi-Transmitter Station. Their combined score for all bands: 14,978 QSOs, 188 zones, and 658 countries. They set a new record on 40 Meters with 3,769 QSOs, 33 zones and 126 countries!

One thing you never hear about is the cost to each person to go on a trip such as this. The cost per person was about $950.00. This included air transportation, housing and a staff to prepare the food for their ten-day stay in Jamaica. This is certainly less expensive than staying in a hotel and eating restaurant food. Regularly scheduled air service makes Jamaica an easy destination.

If you go the Visalia DX Convention, or to Dayton, plan to see the 6Y4A program, "Why Verticals?" Be sure to stop at the Force 12 booth for more information on their vertical antennas.

QST idea brings success to young Amateur

JEAN MCGROGAN, KF6ANY

"What will you make for the county fair this year?" The question arises each spring at the McGrogans' house as the time nears to submit entry forms for the Alameda County Fair in California.

David McGrogan, KE6TRF, age 13, found a fine idea in *QST*: a Regenerative Morse Code Receiver. Under the watchful eye of his dad, Steve McGrogan, KE6HDU, David carefully soldered and assembled a pile of components and parts to bring the plans to life. When finished, Steve asked a local friend, Julian Riccomini, WB6BDD, to transmit Morse Code to determine if David's machine worked. Success!!

Progress photographs and copies of the *QST* article were mounted beside the Regenerative Morse Code Receiver for a pleasant presentation for competition.

June came, and so did the county fair. David, his brother, Peter, and his parents and friends searched the huge display hall for the Regenerative Morse Code Receiver, finding it festooned with ribbons:

First Place: Best of Class, Best of Show, Eligible for State Fair Competition.

In July, the family drove to Sacramento to submit David's entry into The Best of County Fair competition with scores of other eligible entries gathered from around the state. As with the county fairs, the state fair's judges used the Danish system of judging — comparing an entry to a given list of criteria. As a result, theoretically all or none of the competitors could have received first place ribbons.

We returned to Sacramento three weeks later to again seek out David's entry. There it rested, displaying its first place seal! The official ribbon of huge dimensions was collected when we visited the state capitol yet a third time to claim David's work.

Thank you, *QST*, for a great idea for a fine fair project which yielded five ribbons in one year!!

Above: David McGrogan poses with his regenerative Morse code receiver. Left: The five ribbons that David won from the fair

..... *Armed Forces Day* .....

The Army, Air Force, Navy, Marine Corps, and Coast Guard are co-sponsoring the 49th annual Amateur Radio communications tests in celebration of Armed Forces Day. The celebration features traditional military to amateur cross band communications test and message receiving test. These tests give Amateur Radio operators and short wave listeners an opportunity to demonstrate their individual technical skills and receive recognition from the Secretary of Defense or the appropriate military radio station for their proven expertise. Special commemorative certificates will be awarded to anyone who receives and accurately copies the Armed Forces Day digital message from the Secretary of Defense. All contacts must acknowledge by QSL card or certificate to validate military interest in these operators.

Military-to-Amateur cross band contacts

Military-to-amateur cross band operations will take place from 16 May 1300UTC to 17 May 1300UTC, 1998. It will include operations in single sideband voice (SSB) and digital modes (RTTY, PACTOR and AMTOR). Some stations may not operate the entire period, depending on propagation and manning. Participating military stations will transmit on selected Military frequencies and listen for Amateur Radio stations in the Amateur bands indicated below. Frequencies assigned below are the 'Assigned Frequency.' To derive the 'Window/Dial Frequency' for Upper Side Band (USB) subtract 1.5 kHz from the 'Assigned Frequency.'

Example: 4005.0 kHz (Assigned Frequency) –1.5 kHz = 4003.5 kHz (Window/Dial Frequency)

To derive the 'Window/Dial Frequency' for Lower Side Band (LSB) add 1.5 kHz to the 'Assigned Frequency.'

Example: 4005.0 kHz (Assigned Frequency) + 1.5 kHz = 4006.5 kHz (Window/Dial Frequency)

The military operator will announce the specific amateur band frequency being monitored. Duration of each contact should be limited to 3 minutes.

Digital modes transmitting test

Digital modes message broadcast will begin at 16/2340UTC (RTTY, 100WPM, narrow shift; 17/0040UTC (PACTOR), and 17/0140UTC (AMTOR). A 10-minute call for tuning purposes will begin just before each broadcast;16/2330UTC for RTTY, 17/0030UTC for PACTOR, and 17/0130UTC for AMTOR. The Secretary's message will be transmitted from the following stations on the listed frequencies: (Note: not all stations may necessarily operate on all the frequencies listed, depending on propagation and equipment.)

Mil Station	Frequency Emission	Amateur Band
AAE ARMY HF/MARS	4030.5 kHz	LSB 80M
	7358.5 kHz	LSB 40M
	13994.5 kHz	USB 20M
	20941.5 kHz	USB 15M
	27992.5 kHz	USB 10M
Ft. Sam Houston, TX 78234-5000; POC: Mr. Ed Valdaz; DSN: 210/471-3524; Comm: 210/221-3524/3003		
AAH ARMY HF/MARS	4021.5 kHz	Various 75M
	6988.0 kHz	Various 40M
	7312.5 kHz	Various 40M
	10151.5 kHz	USB 30M
	4446.5 kHz	USB 20M
	18212.5 kHz	USB 17M
	20975.0 kHz	USB 15M
Radio Station; Bldg 3E95; Fort Lewis, WA 98433-5000; POC: Mr. Chuck Verdon; DSN & Comm: 206/357-2502/3575		
AAZ	4036.5 kHz	LSB 80M
	6908.0 kHz	USB 40M
	7422.5 kHz	LSB 40M
	13965.0 kHz	USB 20M
	21825.5 kHz	USB 15M
	27790.0 kHz	USB 10M
Hq USASC Command HF/MARS Station; Ft. Huachuca, AZ 85613-5000; POC: Sgt. Joel Boyd; DSN: 520/879-7072; Com: 520/533-7072		
AEMI	4441.5 kHz	LSB 75M
	8069.0 kHz	LSB 40M
	14510.0 kHz	USB 20M
	14663.0 kHz	USB 20M
Public Affairs Office; Memphis District USACE; Rm B-202; 167 N. Main St.; Memphis, TN 38103-1894: POC: Mr. Jim Pogue; Com: 901/544-3348		
AIR	4025.0 kHz	LSB 80M
	6896.0 kHz	USB 40M
	7315.0 kHz	LSB 40M
	13986.5 kHz	RTTY 20M
	13997.5 kHz	USB 20M
	14408.0 kHz	USB 20M
789th Comm. Squadron; Andrews Air Force Base; Washington, DC 20672; POC: Mr. Van Evans; DSN: 301/858-4746; Com: 301/619-2727		
AIR-2	4490.0 kHz	USB 80M
	6996.0 kHz	USB 40M
	6776.0 kHz	PKT 40M
	14405.0 kHz	USB 20M
SMC/61ABG/DOM (MARS); 2430 E. El Segundo Blvd.; Ste. Bsmt., El Segundo, CA 90245-4677; POC: Ssgt Mark Coon; DSN: 310/833-6019; Com: 310/363-6019		
MCL NAVMARCORMARS	4515.0 kHz	RTTY/LSB 80M
	7375.0 kHz	RTTY/USB 40M
	14480.0 kHz	RTTY/USB 20M
	24783.0 kHz	RTTY/USB 15M
Marine Corps Base, Camp Lejeune, NC 28542; POC: SGT Jones; DSN 910/484-5116; Com: 910/451-5116		
MQU NAVMARCORMARS	4005.0 kHz	RTTY/LSB 80M
	7346.5 kHz	RTTY/USB 40M
	14840.0 kHz	RTTY/USB 20M
	20988.5 kHz	RTTY/USB 15M
Radio Station; D.C.I.D. - MCCDC; Quantico, VA 22134; POC: SSGT Jones; DSN: 703/278-2455; Com: 703/640-2455		
NAV-2 NAVMARCORMARS	4015.0 kHz	RTTY/LSB 80M
	7346.5 kHz	RTTY/USB 40M
	14471.5 kHz	RTTY/USB 20M
	20680.0 kHz	RTTY/USB 15M
Radio Station,1050 Remount Rd., Bldg 3231; North Charleston, SC 29406; POC: RM2 Stephens; DSN: 803/563-0370; Com: 803/743-0370		
NAV-3 NAVCOMCORMARS	4472.0 kHz	RTTY/USB 40M
	7393.0 kHz	RTTY/USB 40M
	13975.5 kHz	RTTY/USB 20M
	20998.5 kHz	RTTY/USB 15M
Radio Station; Naval Air Station; Box 14; Dallas, TX 75211-9523; POC: RMC Sloan; DSN: 972/874-6299; Com: 972/266-6299		
NAV-4 NAVMARCORMARS	4033.5 kHz	RTTY/LSB 80M
	7372.5 kHz	RTTY/USB 40M
	14468.5 kHz	RTTY/USB 20M
	27810.0 kHz	RTTY/USB 15M
Radio Station; 615 Preble Ave.; Great Lakes, IL 60088-5705; POC: RMCS(SW) Craig Stundahl; DSN: 847/792-3783; Com: 847/688-3787		
NBL NAVMARCORMARS	4040.0 kHz	RTTY/LSB 80M
	7365.0 kHz	RTTY/USB 40M
	14393.0 kHz	RTTY/USB 20M
	20625.0 kHz	RTTY/USB 15M
Radio Station; P. O. Box 161; Naval Submarine Base; Groton, CT 06349-5161; POC: RMC(SW) Ben Thompson; DSN: 860/694-2061; Com: 860/694-2061		
NMH	4011.0 kHz	RTTY/LSB 80M
	7385.0 kHz	RTTY/USB 40M
	14385.0 kHz	RTTY/USB 20M
	20375.0 kHz	RTTY/USB 15M
USCG Telecommunication & Information Systems Command; 7323 Telegraph Rd.; Alexandria, VA 22315-3940; POC: LTJG David; Com: 703/313-5568		
NPL NAVMARCORMARS	4008.5 kHz	RTTY/LSB 80M
	7382.5 kHz	RTTY/USB 40M
	14465.0 kHz	RTTY/USB 20M
	20937.5 kHz	RTTY/USB 15M
Radio Station; 937 North Harbor Dr.; San Diego, CA 92132-5100; POC: RMC(SW) Patrick Leach; DSN: 619/522-1490; Com: 619/532-1490		
NUW NAVMARCORMARS	4826.5 kHz	RTTY/LSB 80M
	7380.0 kHz	RTTY/USB 40M
	13530.0 kHz	RTTY/USB 20M
	19956.5 kHz	RTTY/USB 15M
Radio Station; 260 W. Pioneer FSC Bldg; NAS Whidbey Island, WA 98277; POC: Mr. O'Dell; DSN: 360/820-8038; Com: 360/675-2823		
WAR ARMY HF/MARS	4018.5 kHz	LSB 80M
	6997.5 kHz	USB 40M
	7361.5 kHz	Various 40M
	13514.0 kHz	RTTY 20M
	14930.5 kHz	USB 20M
	20995.5 kHz	USB 15M
Radio Station; Fort Detrick, MD 21702-5016; POC: Mr. Ronnie Owens; DSN: 301/343-2727; Com: 301/619-2727;		

Test entry submission

Transcripts of the RTTY, PACTOR, or AMTOR receiving test should be submitted "as received." No attempt should be made to correct possible transmission errors. Provide time, frequency and call sign of the military station copied, including name, call sign, and address (including ZIP code)of individual submitting the entry. Ensure this information is placed on the paper containing the test message. Each year a large number of acceptable entries are received with insufficient information, or necessary information was attached to the transcriptions and separated, thereby precluding issuance of a certificate.

a. Stations copying AAE, AAH, AEMI or WAR send entries to: Armed Forces Day Celebration; Chief, Army MARS; U.S. Army Signal Command; ATTN: AFSN-TB (MARS); Fort Huachuca, AZ 85613-5000

b. Stations copying AIR send entries to: Armed Forces Day Celebration; 789CS/SCOJM; Alabama Ave.,SCS-3; Andrews Air Force Base, Washington, DC 20672

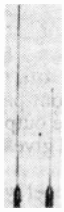
c. Stations copying AIR-2 send entries to: Armed Forces Day Celebration; SMC/61ABG/DOM (MARS); 2430 E. El Segundo Blvd Ste Bsmt; El Segundo, CA 90245-4677

d. Stations copying MCL, MQU, NAV-2, NAV-3, NAV-4, NBL, NMH, NPL, NUW, or NUW send entries to: Armed Forces Day Celebration; Chief, Navy-Marine Corps MARS; 4401 Mass. Ave. N.W.; Washington, D.C. 20394-5460

MFJ *handheld* HEADQUARTERS

. . . the world's largest assortment of HT accessories!

MFJ *Super* HT Antennas



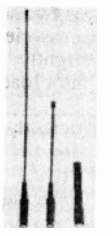
MFJ-1713/1715 *Super ThinDucks*

MFJ's new *SuperFlex™-ThinDuck* handheld *dual band* antennas don't get in the way! They're super flexible, super thin and super lightweight! You can't break them -- they'll take a beating and bounce back in shape!

MFJ-1715, $24.95. *High gain* 12½ inch dual bander gives you super halfwave gain on 440 MHz. Efficient quarter wave radiator on 2-Meters. Super performer!

MFJ-1713, $19.95. Just 5½ inches short. This super performing midget dual bander is a full quarter wave on 440 MHz. Efficient loaded quarter wave on 2-Meters.

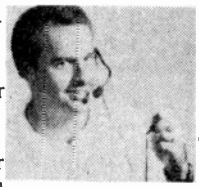
More high performance HT Antennas



MFJ-1717/1716/ 1718 *Flex Ducks*

MFJ-1710, $9.95 Pocket 3/8 wave telescopic 2 Meters.
MFJ-1712, $14.95 Dual band telescopic, 2M/440 MHz.
MFJ-1714, $16.95 *Long Ranger™*, telescopic 2M, end-fed ½wave. 40"extended, 10½"collapsed. *Super range!*
MFJ-1716, $16.95 Dual band 144/440 MHz *Flexible Duck* HT antenna. 7½ in. long. ¼wave on 2M/440 MHz.
MFJ-1717, $19.95 *MFJ's best seller!* High Gain dual band 144/440 MHz *Flexible Duck*. 15¾ inches gives you super halfwave gain on 440 MHz. It's an efficient ¼ wave on 2-Meters. Super performer! Super rugged!
MFJ-1718, $12.95 Super strong 2M 4¼" *shorty* duck.

MFJ *First-rate* Speaker Mics



MFJ-288 K/I *Deluxe* Headset with Boom Mic

MFJ-288 K/I, $24.95. MFJ's *cool* new headset with boom mic lets you QSO in private and frees your hands for more important duties. Crystal clear close-talk boom mic with foam wind shield minimizes noise pickup. Comfort pad earphone gives superb tonal quality -- stations come in loud and clear. Tiny PTT switch clips to shirt. 6 foot cord.

MFJ-295Y, $15.95. Top-quality mini speaker mic matches Yaesu FT-10R/40R/50R and VX-1R HTs. Electret mic gives excellent audio. Speaker produces loud 83 dB of clear audio. Earphone jack, PTT switch, 8 position swivel clip, 3½ foot cord.

MFJ-295Y Yaesu *Mini* Mic

More First-rate Speaker/Microphones

MFJ-284, $15.95 Compact/most HTs. 1¼x2x3".
MFJ-285, $15.95 *Mini*/most HTs. *Tiny* 2x1¼x¼".
MFJ-286, $15.95 Compact/Kenwood. 1¼x2x3".
MFJ-287, $15.95 *Mini*/Kenwood. *Tiny* 2x1¼x¼".
MFJ-292 Y/K/I, $17.95 30 gram *Featherweight™* ear bud earphone with tiny PTT lapel mic lets you carry on discrete QSOs hands free! Superb transmit/receive audio. Fits most HTs. 4 foot cord.
MFJ-291 K/I, $4.95 Earbud earphone for all HTs.

MFJ *MaxStrength™* Hi-Flux Magnet Mounts

MFJ-333BM/BS **$14.95** Add 3.5 inch s/h

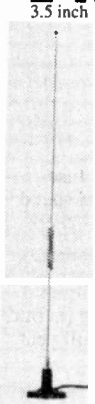
Get maximum pull strength with these MFJ super strong magnet mounts. Stays put -- won't fly off your car at high speed. *Euro-style* has black poly finish with heavy duty scratch-resistance rubber guard. 17 feet of tough RG-58 coax with PL-259 connector. Select MNO or SO-239 mount. *Low profile* 3.5 inch base, 1½ pounds: MFJ-333BM (MNO)/MFJ-333BS (SO-239), $14.95 each. *Super Powerful* 5 inch base, 2½ pounds: MFJ-335BM (MNO)/MFJ-335BS (SO-239), $19.95 each.

Jaws Gripmatic™ HT Holder for your car

MFJ-315 **$14.95** Add s/h

Adjustable foam padded jaws lock your expensive HT in place and secures it for the bumpiest rides. Protects any HT or cell phone from damage. Quick release button lets you quickly take your HT with you. Adjustable *FlexNeck™* lets you position your HT conveniently. Incredibly powerful suction cups firmly mount the *Jaws Gripmatic™* HT holder to your car window. Suction release tabs quickly release from window.

MFJ *Mobile* Antennas for 2 Meters and 440 MHz

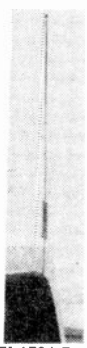


MFJ-1729 *Super Gain* Mag Mount

MFJ-1724B, $14.95. *World's best selling* dual band 2 Meter/440 MHz magnet mount mobile antenna! Short 19 inch stainless steel radiator lets you park in your garage. Powerful 3½ inch magnet, 15 foot coax with PL-259 connector. Scratch-resistance pad. Free BNC handheld adapter. Low SWR. Handles 300 Watts PEP.

MFJ-1729, $29.95. *Super*Gain™* dual band 2 Meter /440 MHz magnet mount mobile antenna is *ham radio's most powerful*. Outstanding gain on 440 MHz/2 Meters. MFJ's 27½ inch stainless steel *SlimLine Radiator™* cuts wind vibration for less SWR flutter -- gives longer range, better readability. 12 feet coax with PL-259. Low SWR lets your rig deliver full power safely. Handles 300 Watts PEP. Free BNC handheld adapter.

MFJ-1728B, $24.95. 5/8 Wave 2/6 Meter Magnet Mount antenna. On 2 Meters, it gives you the maximum possible theoretical gain of any single element antenna -- no matter how much others cost. On 6 Meters, it's a high performance full ¼ wave antenna. Free BNC handheld adapter, low SWR, handles 300 Watts PEP, heavy duty magnet mount, 12 feet coax, 48 inch stainless steel radiator.



MFJ-1734 *Dual Band* Glass Mount

MFJ-1721, $14.95. 2 Meter *UltraLite™* weighs 2 ounces and has tiny but powerful 1 1/8 inch diameter mobile magnet mount. Thin 20 inch stainless steel whip bends to fit smallest briefcase. 9 feet of thin RG-174RU mini coax with BNC.

MFJ-1722, $18.95. 144/440 MHz dual band *UltraLite™*.

MFJ-1734, $39.95. *Glass Mount* dual band antenna is easy-to-install on glass windows. 26 inch stainless steel removable radiator adjusts for angled surfaces. Handles 50 Watts. Low SWR. Has 12 feet coax, cleaning pad, mounting hardware, SWR tuning tool. Free BNC handheld adapter.

MFJ-1738, $29.95. Long range 2 Meter *Glass Mount.*

MFJ 144/440 MHz Duplexer

MFJ-916 **$29.95** Add s&h

MFJ-916 lets you use a dual band antenna with separate transceivers or separate antennas with a dual band transceiver. One SO-239, two PL-259 connectors. 50 Ohms. Handles 200 Watts PEP combined.

MFJ HT *Window Mount Clip™*

MFJ-310 **$14.95** Add s&h

Window clip mounts your HT duck antenna outside on top edge of your rolled-up car side window. Your duck radiates effectively and is firmly held in place. Works with all HTs with BNC. 10 feet flexible mini coax.

24/12 Hr. Temperature Clock

MFJ-152 **$24.95** Add s&h

Single glance gives accurate in/outdoor temperatures (F or C) and 24/12 hour time on huge 1½x2½ inch backlit LCD. Great for QSOs! Perfect for mobiling! Gives Min/Max temperatures. Batteries included.

Universal Quick/Trickle Battery Chargers for Ni-Cd/Ni-MH

MFJ-641K/Y/I **$49.95** Add s&h

MFJ *RapidBattery™* Charger charges Ni-Cd and Ni-MH batteries for HTs. Automatically switches from quick charge to trickle charge. Microprocessor prevents overcharging and prolongs battery life. Small 3½x5½x3 in.

MFJ's *universal* interchangeable charging slots make charging different HT batteries fast, simple and safe. MFJ *eliminates* installing complex battery clips and possible wrong voltage settings that could destroy your expensive battery!

MFJ-641 *RapidBattery™* Charger includes one charging slot. Extra charging slots available for other HTs, $12.95 each. Have HT make and battery type ready when ordering.

Free MFJ Catalog

Nearest dealer/Orders . . . 800-647-1800

http://www.mfjenterprises.com **FAX: (601) 323-6551**

• 1 year *No Matter What™* limited warranty • 30 day money back (less s&h) on orders from MFJ • **Add s&h**

MFJ ENTERPRISES, INC.
P.O. Box 494, Miss. State, MS 39762
(601) 323-5869; 8-4:30 CST, Mon-Fri
Technical Help: (601) 323-0549

Protected by MFJ's famous 1 year *No Matter What™* warranty

MFJ *Switching* Power Supplies

Power your HF transceiver, 2 Meter/440 MHz mobile/base and accessories with these new 25 or 45 Amp MFJ MightyLite™ Switching Power Supplies! No RF hash . . . Super lightweight . . . Super small . . . Volt/Amp Meters . . .

NEW!

MFJ-4225MV 25 Amp **$149.95** Add s/h

MFJ-4245MV 45 Amp **$199.95** Add s/h

MFJ's new adjustable voltage switching power supplies do it all! You can power your HF transceiver or 2-Meter/440 MHz mobile or base and accessories.

MFJ's *MightyLites*™ are so lightweight and small you can carry them in the palm of your hand! Take them with you anywhere.

No more picking up and hauling around heavy, bulky power supplies that can give you a painful backache, pulled muscle or hernia.

MFJ's 25 Amp *MightyLite*™ weighs just 3.7 lbs. -- that's *5 times lighter* than an equivalent conventional power supply. MFJ's 45 Amp version is even more dramatic -- *8 times lighter* and weighs just 5.5 pounds!

No RF hash!

These babies are clean . . .

Your buddies won't hear *any* RF hash on your signal! *You* won't hear any in your receiver either!

Some competing switching power supplies generate objectionable RF hash in your transmitted and received signal.

These super clean MFJ *MightyLites*™ meet all FCC Class B regulations.

Low ripple . . . Highly Regulated

Less than 35 mV peak-to-peak ripple under 25 or 45 amp full load. Load regulation is better than 1.5% under full load.

Fully Protected

You won't burn up these power supplies! They are fully protected with Over Voltage and Over Current protection circuits.

Worldwide Versatility

MFJ *MightyLites*™ can be used anywhere in the world! They have switchable AC input voltage and work from 85 to 135 VAC or 170 to 260 VAC. Easily replaceable fuse.

MightyLites™ . . . Mighty Features

MFJ *MightyLites*™ feature a front-panel voltage control. It lets you vary the output voltage from 9 to 15 Volts DC and gives you a highly regulated voltage output.

You get an easy access front-panel with five-way binding posts for heavy duty use and a cigarette lighter socket for mobile accessories. The MFJ-4245MV has two sets of quick-connects on the rear for accessories.

Large 3 inch dual meters are brightly illuminated to make it easy to monitor load voltage and current.

A *whisper quiet* internal fan efficiently cools your power supply for long life.

Two models to choose from . . .

MFJ-4225MV, $149.95. 25 Amps maximum or 22 Amps continuous. Weighs 3.7 pounds. Measures 5¾Wx4½Hx6D inches.

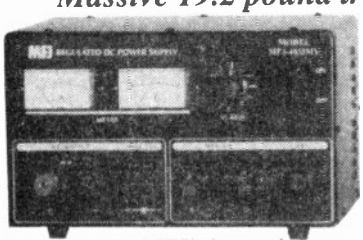
MFJ-4245MV, $199.95. 45 Amps maximum or 40 Amps continuous. Weighs 5.5 pounds. Measures 7½Wx4¾Hx9D inches.

MFJ No Matter What™ Warranty

MightyLites™ are covered by MFJ's famous *No Matter What*™ one year limited warranty. MFJ will repair or replace (at our option) your power supply for one full year.

MFJ 35/30 Amp *Adjustable* Regulated DC Power Supply

Massive 19.2 pound transformer . . . No RF hash . . . Adjustable 1 to 14 VDC . . .



NEW!

MFJ-4035MV **$149.95** Add s/h

MFJ's heavy duty conventional power supply is excellent for powering your HF or 2 Meter/440 MHz transceiver and accessories.

A massive 19.2 pound transformer makes this power supply super heavy duty! It delivers 35 amps maximum and 30 amps continuous without even flexing its muscles. Plugs into any 110 VAC wall outlet.

It's highly regulated with load regulation better than 1%. Ripple voltage is less than 30 mV. *No RF hash* -- it's super clean!

Fully protected -- has over voltage protection, fold back short circuit protection and over-temperature protection.

You get front panel adjustable voltage from 1 to 14 VDC with a convenient detent set at 13.8 VDC. A pair of front-panel meters let you monitor voltage and current.

Three sets of output terminals include a pair of heavy duty five-way binding posts for HF/VHF radios, two pairs of quick-connects for shack accessories and a covered cigarette lighter socket for mobile accessories.

A front-panel fuse holder makes fuse replacement easy. Whisper quiet fan speed increases as load current increases -- keeps components cool. 9½Wx6Hx9¾ inches.

Your MFJ-4035MV is protected by MFJ's famous *No Matter What*™ one year limited warranty. MFJ will repair or replace (at our option) your power supply for one full year.

MFJ *High Current* Multiple DC Power Outlets

Power two HF/VHF transceivers and six or more accessories from your 12 VDC power supply

MFJ-1118 **$69.95** Add s/h

MFJ-1116 **$44.95** Add s/h

MFJ-1112 **$29.95** Add s/h

MFJ-1118, $69.95. This is MFJ's most versatile and highest current *Deluxe Multiple DC Power Outlet*. It lets you power two HF and/or VHF transceivers and six or more accessories from your transceiver's main 12 VDC power supply.

Two pairs of *super* heavy duty 30 amp 5-way binding posts connect your transceivers. Each pair is fused and RF bypassed. Handles 35 Amps total. "ON" LED.

Six pairs of heavy duty, RF bypassed 5-way binding posts let you power your accessories. They handle 15 Amps total, are protected by a master fuse and have an ON/OFF switch with an "ON" LED indicator.

Built-in 0-25 VDC voltmeter.

You get 6 feet of super heavy duty eight gauge color-coded cable with ring tongue terminals. Binding posts are spaced for standard dual banana plugs.

Heavy duty aluminum construction. 12½x2¾x2½ inches.

MFJ-1116, $44.95. Similar to MFJ-1118. No 30 amp posts. Has "ON" LED and 0-25 VDC voltmeter. 15 amps total.

MFJ-1112, $29.95. Similar to MFJ-1116. No on/off switch, LED, meter, fuse.

Free MFJ Catalog

Nearest dealer/Orders . . . 800-647-1800

http://www.mfjenterprises.com **FAX: (601) 323-6551**

• 1 year *No Matter What*™ warranty • 30 day money back guarantee (less s&h) on orders from MFJ • **Add s/h**

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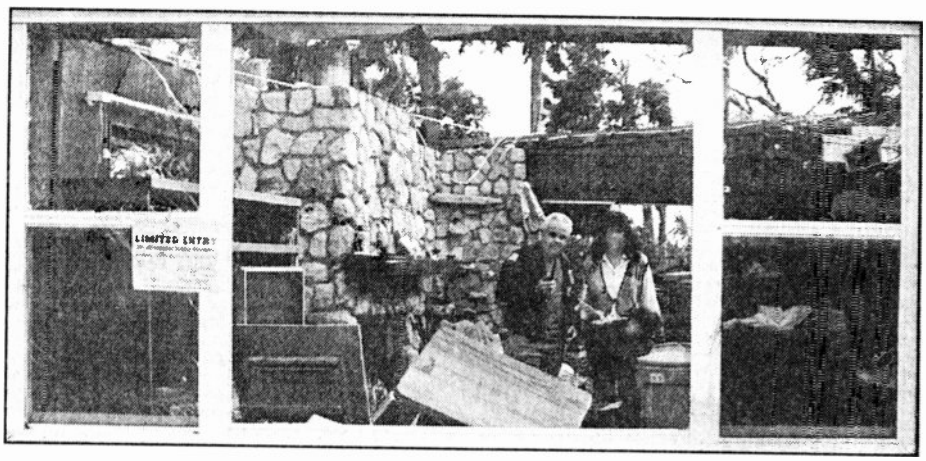
MFJ . . . the world leader in ham radio accessories

Midnight terror assaults Central Florida

ARES/RACES & Sky Warn provide vital link

MIKE WELCH, KF4HFC, NORM LAUTERETTE, A4HYJ, & DAVE FLAGG, N4BGH



Norm Lauterette, W4HYJ, assesses damage.

Around 10:00 p.m. (EST) Sunday night, 22 February, Central Florida Amateurs activated the Skywarn Net in anticipation of severe thunderstorms and possible tornadic activity spawned by a massive weather front crossing the state. Skywarn members had been advised Sunday morning by the National Weather Service in Melbourne, FL, to maintain a standby mode throughout the day.

After Skywarn activation Sunday night, the NWS came up on our emergency frequency requesting weather conditions throughout the Central Florida area. Orange County Skywarn acted as the central relay point to the NWS for data received from Skywarn teams in the surrounding counties of Seminole, Volusia, Osceola and Lake. Lake County provided early warning reports as the storms moved into the central portions of the state.

All that remains of a mobile home.

At approximately 11:00 p.m., a tornado was reported in Volusia County. Reports that followed described a strong line of tornadic activity with several reported touchdowns stretching from Osceola through Orange, Seminole and Volusia Counties. Scattered tornadic activity continued until the early morning hours. Amateur operators, the NWS and the media reported physical damage and weather conditions throughout the night.

Around 4:00 a.m. (EST) Orange County EC, Bernie Farthing, NP2CB, and Seminole County EC, Dick Fess, K4FUY, activated their EOC positions and ARES/RACES teams. Volusia County EC, Bill Crandall, KM4AE, followed according to their activation plans. The American Red Cross opened initial shelters in the affected areas and requested Amateur support. ARRL East Central District DEC, Dick Dudley, AC4PF helped coordinate early activities.

The response to the early morning call-up was overwhelming. All EOC posts and shelters were manned and amateurs spread out in the field to assess damage. Paul, KF4UTN, a new Ham not trained yet in Sky Warn procedures, got firsthand experience spotting tornadic activity and reporting, " The sky is boiling."

At first light the extent of the damage was beyond comprehension. Large areas of Osceola and Seminole Counties were devastated and Orange and Volusia Counties received heavy damage. These were not the normal Florida tornadoes that damage a few homes then disappear. These were Midwest-type tornadoes that cut a wide path of destruction 9-10 miles long. They were spawned by the El Nino effect which dropped the Jet Stream down and across the Gulf of Mexico. The storms were rated by officials as F4 (207-260 mph) and F3 (158-206 mph). 39 people were confirmed dead, more than 250 were injured and an unknown number believed missing. Near total destruction of motor homes occupied by tourists added to the count confusion.

Monday morning, 23 February, Net Controlled ARES/RACES communications supported County Emergency Management and Red Cross shelter needs, and amateurs assisted in damage assessment where their communication services were requested. ARRL Public Information Officers, Mike Welch, KF4HFC, and Norm Lauterette, WA4HYJ, assisted by Rob Frazier (no call) assessed damage in the storm zones and spoke with families who had lost everything, but felt fortunate to be alive as they described some of the tales of that deadly night.

Allen Wilson, WB7BCI, Seminole County ARES/RACES and (SAR)

Search and Rescue dog handler, and other team members responded to the call from EC Dick Fess to locate several missing persons as a result of the storm. (See related story below.)

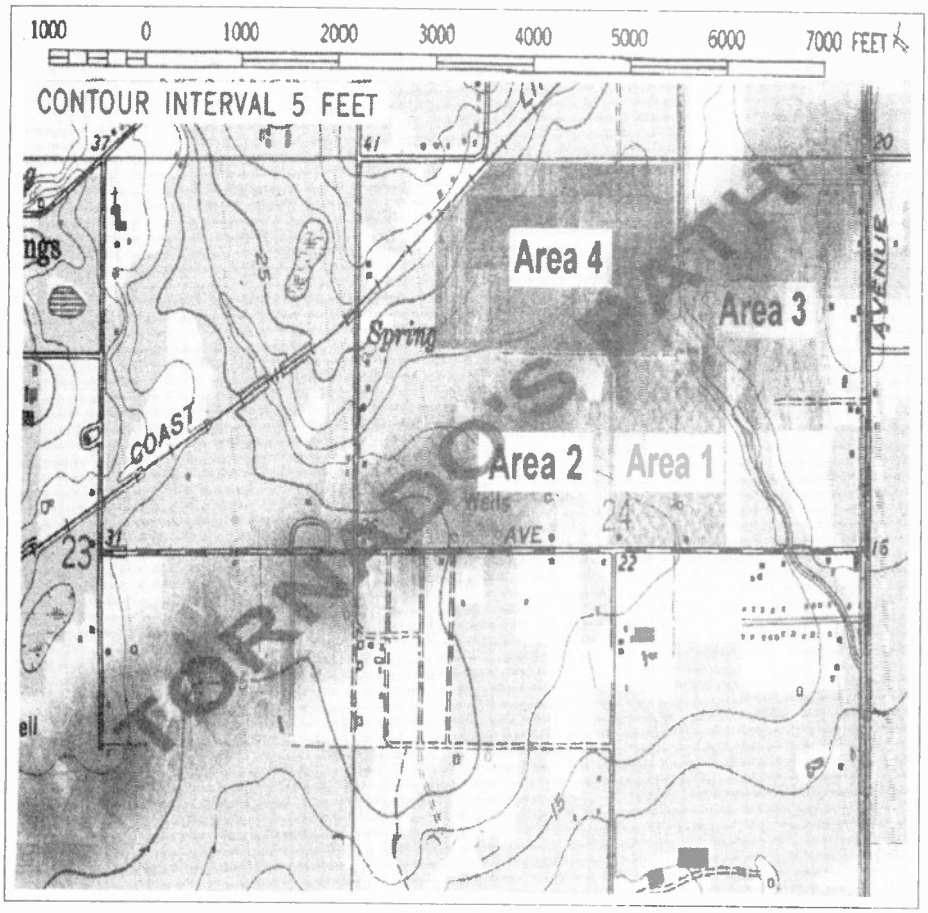
Tuesday, 24 February, amateur operators under the direction of EOC net control provided additional communications to County Field Mobile Command and supply distribution centers. Red Cross shelters remained active.

Wednesday morning, 25 February, President Clinton flew to Orlando and toured devastated areas for several hours. The President declared numerous counties federal disaster areas and in a speech, offered support and comfort to the victims of this mass destruction.

We wish to extend our thanks to all the Amateurs who participated in weather data relay and communication support for the communities affected by nature's assault on Central Florida. This is what Amateur Radio is all about. This is what generates value to our communities and served agencies.

The hard part

Now comes the hard part. The gut-wrenching task of walking through people's treasured possessions, broken pictures, muddy teddy bears... everything you see you know is an important part of someone's life. Your only salvation is knowing that you can help. Just getting a message to someone — a friend, loved one or even "your child is O.K.", or just giving directions to where someone needs help makes you walk a little taller. — *Mike Welch, KF4HFC*



SAR Dog Team in action

RICK MCCUSKER, KO6DJ

The central part of Florida was hit by a series of tornadoes the night of 22 February, with little or no warning given. Most area residents were at home and in bed at that early morning hour. As a result, there were many victims missing and unaccounted for as the sun rose on the scene of the disaster.

Allen Wilson, WB7BCI, is a volunteer search and rescue dog team handler, and has participated in several large-scale natural and tornado disasters over the past 25 years. This would be his first large-scale disaster with his own search dog.

His partner, "Duke", is a 3-year-old Weimaraner. He has been trained since he was a puppy with SAR in mind, and had been on several training exercises. This was his first disaster search.

Allen received a call shortly after 6 a.m. from the county ARES/RACES Emergency Coordinator relaying the need for dog teams to locate several missing persons. They had been trying to reach him since 4 a.m., but the telephone system was overwhelmed.

Pausing just long enough to make notification calls for other teams, Allen grabbed Duke and his prepacked bags and headed out the door. The scene was five miles from his house.

The scene was a rural, sparsely populated area of Seminole County. The tornado had cut a swath of destruction southwest to northeast direction, destroying several homes and buildings as it passed through. Due to confusion on the scene, an unknown number of people were missing.

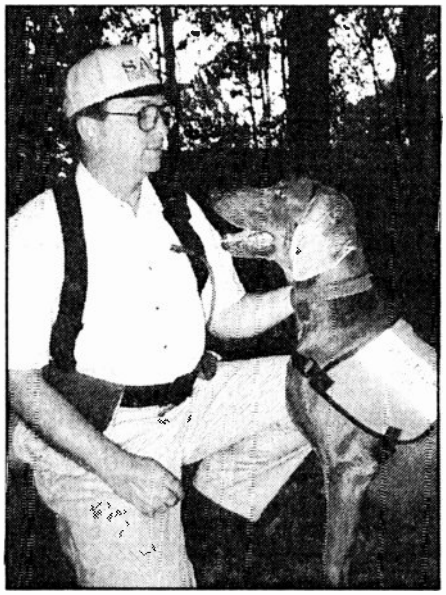
Debris consisted of destroyed houses, outbuildings, mobile homes and trees scattered by the tornado. The area was also littered by material that had been in the buildings and was now spread out over a very large area. Cars and trucks, clothing, furniture, books, and debris of every type had been deposited everywhere.

Heavy equipment, needed for debris clearing and searching for the missing, was on the way.

Relatives and friends were frantically searching for the missing, moving the piles of material by hand. Professional and volunteer searchers were converging on the scene as quickly as possible, in an effort to find the missing persons.

Because time was critical in finding survivors, Allen and Duke were immediately put to work. It was confirmed that the Area 1 had at least one confirmed missing person.

Utilizing his skills, Duke sniffed here and there, pausing to take samples of the breeze, looking for survivors. He alerted several times, but each of those alerts were false, the result of searchers in the area.



Allen Wilson, WB7BCI, and Duke.

The scene was confusing for Duke. There were several loose dogs that animal control officers were trying to capture, as well as a flock of ducks on the property. After several hours of searching with no results, they moved on to another area.

Area 2 was somewhat isolated, so communications were a concern. A firefighter with a radio was assigned as support, and the ARES/RACES Shelter Net was confirmed as backup. A GPS reading was taken at the base, and the GPS was left on to plot the track in the event that rescue aircraft were required.

Just prior to entering the Area 2, Duke alerted on a platform that appeared to be a wall laying on its side. Allen and the firefighter leveraged up the corner of the section, but no one was found. During the search of Area 2, Duke alerted once again, but the alert was another searcher on foot in the area. Duke did find several cattle and a raw, processed chicken in the area.

On the way back to the search base, Duke showed interest in the pond located in Area 3. He moved to the upwind side of the pond, and his interest shifted to the east bank of a drainage down wind of Area 2. His behavior was one that Allen had not observed before, anxiously moving up and down the bank. Because of the water depth, crossing was not an option.

While returning to the search base, Allen and Duke met another dog team. Word was passed that a victim had been located in another area. Both teams were then assigned to another area.

This area was divided into two parts. The tornado had sheared trees and dropped them in random piles, so there was no clear path of travel and the area was heavily lettered with debris. The dogs worked both high and low, checking piles that could easily conceal survivors. Again, no one was located.

As dusk approached, search efforts were suspended for the night primarily for the safety of the searchers, but also to allow water to drain from the area where heavy equipment had cleared debris to allow drainage.

On the second day, a third dog team arrived to assist in the search for survivors. Allen and Duke were assigned an area just east of an area where deceased residents had been found. The support for the day was a K-9 Deputy Sheriff.

Each of the search paths was marked with spray paint as high as possible above ground level. Duke checked piles of downed trees, and then came upon another creek. He alerted by going into the water to the elbows, pawing and biting at the surface, submerging his nose and barking. Duke had not been observed on a scent source submerged in water, but his behavior was significantly different than on other areas of the creek. He wanted to enter the water but was called back. The deputy went to the spot, probed the water with a board, and found the water was over five feet deep. This was a clue so the spot was marked. The remainder of the search was uneventful.

Additional resources including more dogs and divers were sent to the spot Duke had found. A victim was found at that spot in seven feet of water, trapped by tree limbs.

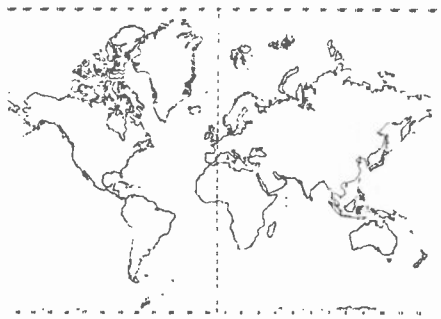
Duke was showing signs of frustration from intense searching with no direct finds. At the search base, Allen approached the Sheriff's crisis intervention representative who was with the family at the scene with three young boys. The result was the three boys and Duke releasing their pent-up emotions and unreleased energies through a half hour of playing fetch. Before Allen left the search base, a family spokesperson expressed the gratitude of all of the families for the efforts of the searchers.

When Allen returned home, a message had been left on his answering machine. The caller was a resident in the search area, and had found the leash and collar belonging to Duke. Allen had removed the items and placed them in his pocket while Duke was roaming the scene searching for survivors. She had called the veterinarian's office and located Allen and Duke from the rabies tag. She was concerned that Duke was injured or worse. Her daughter had been trapped with her under rubble at that scene, and had been taken to the hospital early that morning.

Allen wasn't alone in the tornado disasters that struck Florida this year. Judy Thigpin, KF4LON, Sarah Garfunkel, KF4LOI, and Cindy Harrison, KF4LSV, are also SAR dog team specialists who assisted searches in other Florida counties.

This story shows the need for trained personnel in a disaster of this size. There are never enough for a situation like this. Why don't you look into training to assist your community? Your neighbors will appreciate your efforts!

Awards



100 Nations Award

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

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

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

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

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

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

Rules

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

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

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

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

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

6. The application shall include the following:

a. Letter requesting W-100-N.

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

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

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

7. All applications and requests shall be addressed to:

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

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

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

What Amateur Radio means to me

Second place winner of our recent contest

JOE MEEHAN, AA1KF

Don't let anyone tell you that Ham Radio is "Just a Hobby." It's a lot more than "A Hobby"—it's a lifestyle. I can see the dyed-in-the-wool Hams out there nodding their heads in agreement — Thank you ladies and gentlemen!

I've always believed that you are what you do—and accepting that proposition, then I am a Ham. If it sounds like I'm proud of it — I am.

In some ways I feel like I got in just in time. There were still Elmers around, like mine, N1BCF, and you started out as a novice—learning CW, antennas and theory the most practical way, by doing. It took 8 years to reach Extra and I know it wouldn't have been possible without all the time to answer my questions, advise me on gear, QRS on CW, etc. All the way to the VEs who gave up their "free time" to toil over the 610 paper work for my upgrades.

But somewhere along the way a big transition happened to me. One day I found I wasn't asking the questions—I was answering them. Suddenly I was the one who was being courteous by slowing down (QRS) on CW. I was the VE giving the exams.

So, somehow I learned that at first you take help, knowledge and advice because you have to. But Hams Helping Hams is a two way street. Now by giving back, I'm enjoying the hobby even more. This is really what it's all about. Get involved—there's lots of room for help. Newcomers to the hobby need us. The public depends on the Amateur Community worldwide in emergencies. I've been involved in many public service events, and it's a great feeling to be a part of the "communications team" whether at a parade or road race or whatever.

Get involved in ARES/RACES/NTS. These days I do Net Control on Saturdays for CW traffic nets here in Maine, and I love it.

With help from other local Hams, I helped start a 2-meter practice net, and a high frequency ragchew net that have lasted for 2 years now. The latest project has been writing a monthly column for 2 club newsletters on taking the fear out of CW called Drink Charlie Whiskey.

As Vice President of the Central Area Repeater Association, I manage the weekly 2-meter net "CARA On the Air," which has weekly guests and discussions exclusively for Amateur Radio Operators.

"Just a hobby"!? Give me a break! There's life's greatest lesson to be learned—The More You Give, The More You Get!

— SPECIAL EVENTS —

CLASS COUNTY ARC 45TH ANNIVERSARY

The Class County ARC, Logansport, IN, will be operating a special event station Saturday, 09 May. The group will be using the call sign, W9V for the one-day event.

For those stations that successfully work W9V and submit a QSL card, a nice certificate or QSL card will be awarded. Send QSLs to the CCARC, P.O. Box 1092, Logansport, IN 46947.

The station is scheduled to be on the air from 0900-2100 local time (1400-0200 UTC). Frequencies: 7.255, 14.282, 28.330, and 146.520 MHz. Operation will be plus or minus 20 kHz depending upon QRM except for the 2-meter frequency.

150 ANNIVERSARY OF WISCONSIN STATEHOOD

Madison, WI: Four Lakes ARC, W9S/W9IXG, 1400Z to 0200Z 02-10 May. CW, SSB 25 kHz above lower General HF subbands; SSB 28.325, 50.175, 144.225; FM 144.55. Certificate with WI Sesquicentennial Seal: send $1 to UW Space Place, 1605 S. Park St., Madison, WI 53715. For QSL: send SASE.

U.S.S. OLYMPIA

Olympia ARC will operate WA3BAT, 2 May 1300Z-3 May 2200Z commemorating Admiral Dewey's victory at Manila Bay. Phone: 3.898.5, 7.248.5, 14.248.5, 21.368.5, 28.368.5. CW 7.030/7.110, 14.030, 21.040/21.110, 28.025. Certificate, send QSL & 9x12 SASE to Olympia ARC, Independence Seaport or Philadelphia, 211 South Columbus Blvd., Philadelphia, PA 19106

D-DAY NORMANDY INVASION

The Historical Electronics Museum ARC will hold a special events station 06-07 June to commemorate the contribution of electronics to the sucess of the D-Day Normandy invasion. The Station will be active from 1500Z-2100Z, using the call sign W3GR. Frequencies: 7.115 MHz, 7.245 MHz, 14.245 MHz, and 21.115 MHz. A commemorative certificate is available by sending a 8x11 SASE to: Historical Electronics Museum, MS 4015, W3GR, Box 746, Baltimore, MD 21203. For more information contact: Nick Yokanovich, N3YVW, 410/544-5736, n3yvw@juno.com

HURRICANE EXPO

Pasco County RACES from 4th Annual Hurricane Expo in New Port Richey, FL, special station KA1WOR 30 May, 1400-1800UTC. Phone 14.250+/-, 28.325+/-. For certificate, send QSL & 9x12 SASE to Michele L. Baker, Director, Office of Disaster Preparedness, 8744 Government Dr. New Port Richey, FL. 34654.

ROYAL GORGE MUSIC & BLOSSOM FESTIVAL

The Royal Gorge ARC, KBØTUC, Canon City, CO, will have a special event station on the air 1400-2100Z, 03 May. Look for them on the lower protions of the General bands, 15-40MHz. For a certificate, contact NCØA, Chuck Ward, 1011 Harrison Ave., Canon City, CO 81212.

LINCOLN HIGHWAY BRIDGE FESTIVAL

The Tama Amateur Radio Society will operate KCØBEE 16 May 1500-2300Z in Tama, IA (Tama County). Operation will be held in the General phone portion of 40-15 Meters, and Novice phone 10 Meters and 2 Meters. For certificate, send 9x12 SASE to: TARS/KCØBEE, P.O. Box 94, Montour, IA 50173.

SAMUEL F.B. MORSE

The Poughkeepsie, NY, ARC, W2CVT, will operate a special event station from the home of Samuel F.B. Morse, 16-17 May, 1300-2100Z. 3.680, 7.105, 10.105, 14.050. QSL/Certificate, Don Stein, 3 Little Rd., Wappingers Falls, NY. 12590

MARYLAND TEA PARTY

Kent ARS special station K3ARS to celebrate 1998 re-enactment of 1774 Chestertwon Tea Party. 1400-2100U 23 May, CW 7.040. Phone 7.240, 14.240, 28.340. For certificate send QSL & 9x12 SASE to William Rogers, N2UYW, P.O. Box 427, Chestertown, MD 21620.

CANFIELD BICENTENNIAL

The 20/9 ARC will celebrate Canfield, Ohio's 200-year Bicentennial on Memorial Day, 25 May. 40 Meter — phone 7.260 (±5), 20 Meter — phone 14.275 (±5), 1300-2200 UTC. Certificate QSL K8TKA. Please include SASE, 2895 Penny Ln., Youngstown, Ohio 44515.

MT. SUNFLOWER

The Sandhills and Trojan ARCs of western Kansas will operate KØS from 0000Z 02 May-2400Z 03 May 1998 from Mt. Sunflower, the highest point in Kansas. Activity will be near 14.285, 3.920, .040 on CW, and in the General portions of all HF bands, as well as VHF calling freqs. and RS-12.

QSL or certificate available from: Mt. Sunflower expedition, P.O. Box DX, Colby, KS 67701.

Station Appearance

*Send Worldradio a picture of your shack and the staff will choose a winner to receive a free one-year subscription to **Worldradio!***

Stations will be judged by neatness (wires tucked away, etc.) and accessibility of equipment. Monetary value of equipment is not a consideration.

KB2DLY

Amateur Radio station, KB2DLY, is squeezed into an area between a chest of drawers and a window sill that is only 26 inches wide. The stack-up arrangement works and is satisfactory.

The primary station on the lower desk level is a Kenwood TS-830 into an MFJ Tuner II, an Alliance HD-73 rotator and a Kenwood TR-7900A 2-meter radio.

The secondary equipment on the second shelf is a Kenwood TS-440S, a PS-430 power supply into a Kenwood AT-230 tuner and a Mirage B-108 80 watt 2-meter amplifier.

The third shelf has two 13.8 volt power supplies, a scanner and speaker.

The top shelf has a Heathkit SP-200 linear amplifier and an SWR/Power meter.

The station feeds into an HF5B "Butterfly" compact beam on a 35 foot tower for 20, 15, 12 and 10 Meters and a W2AU 40/80 Meter trap dipole. The 2-meter feeds a 5/8 ground plane base antenna at the top of the tower.

I have W.A.S., DXCC/176 and 72 islands along with W.A.C. confirmed. Space is not important in a station layout.

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!***

FRED PFEIFFER, N7NMY

As we approach the uphill climb in sunspot activity and hear more signals on 10 Meters every day, it reminds me of one of my earlier experiences with that band several years ago.

Living in a very small patio apartment in Las Vegas, I had just been bitten by the Ham bug and wanted to try working other contacts besides friends across town on a 2-meter repeater. However, after buying a Uniden rig, I found 10 Meters to be a constant squabble with my next door neighbor. Everytime I started to call CQ on 10 Meters my door bell would ring. My neighbor said my 25 watts was still getting into his cordless phone.

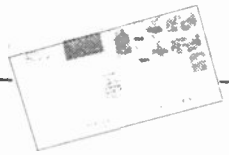
After weeks of working my rig when my neighbor was away from home, I decided to try 10-meter mobile. After all, I could talk to people and not worry about causing problems with my next door neighbor.

Wired and ready to go with my Uniden HR 2510, and a mag mount, I ventured out into the desert south of Las Vegas a couple of miles. I pulled far off the highway and stopped, away from everyone. I pulled out my log book and began to make contact after contact. Boy, this was a lot of fun, and no one cared if I talked for hours.

All of a sudden, I looked up through the front window of my car and saw two police officers with their pistols drawn and pointing directly at me!!! "Hands on the dash where we can see them," yelled another officer over his PA system. What on earth could my 25 watts have done to anyone out here in the desert, I wondered?

I was ordered slowly out of my car, hands on the hood, and frisked from top to bottom. (I didn't even get to sign with my current QSO!) About this time I also heard the rumble of a police helicopter overhead. Boy, I thought. I should have stayed home and took my chances with the neighbor and his cheap cordless telephone!

After being questioned for a short time, I learned that just an hour earlier, a man had robbed a bank and fled, driving a car that perfectly matched the description of my car. After being told I was free to go, all three officers suggested I take my hobby home, at least until the bad guy was apprehended. I never worked 10-meter mobile in the desert again, but had a blast operating mobile on trips and commutes, and I have a full log book to prove it!



Off the air

No thanks to "No Thanks"

In reference to the letter titled "No Thanks" on page 22 of the January issue; It is ridiculous that one would choose to, or not to subscribe to this magazine based on the publisher's opinion on such a trivial issue like code vs. no code. There are a lot of frequencies available on the Ham bands as well as CB for those who 'don't do' code. (I hold a General class license, but choose to keep my novice call.)

Laura Tyler de Zavalia, KD6JIP/LU
Pcia de Tucuman, Argentina

Morse won't hunt!

The QCWA article by Charles Dorian, W3JPT, in the March '98 issue of ***Worldradio*** has the old CW dog that Morse code is necessary to get through in emergencies. Well, that dog won't hunt. Look at your own magazine. When is the last time that you saw Morse making any significant contribution or any contribution for that matter to any of the reported floods, fires, tornadoes, etc.? Probably a looooooong time. Morse is not even monitored by the Coast Guard anymore, so come on, get with the almost 21st century. Do I advocate eliminating Morse code on the bands? No. It has its place along with all the other modes. Should it be a requirement for licensing? NO! It's time we advance with the rest of the communications world. When I have asked young people why they aren't more interested in Amateur Radio, the main reason they cite is the code. They just don't want to be bothered. Technical requirements are fine. So, wake up, folks, put the old saws to rest where they belong, and come into the real world.

John Frank, Jr. WB3ICL
Millersville, MD

(Ed. — On 31 December 97, just hours before the British government ended Morse code monitoring of 500 kHz at shore stations, a freighter in the North Atlantic, the Bahamian M/V Oak, a 13,000 ton freighter carrying a cargo of wood sent an "SOS" using Morse code. "SOS SOS This is Oak. Position 53 16N 24 50W Stop Engine. We need assistance." The ship was in heavy seas, and the cargo had shifted. She also lost power, and was sinking. The call was answered by a British shore station, and a Royal Air Force "Nimrod" was soon orbiting overhead. The crew abandoned the ship shortly thereafter, and was rescued .)

A pledge of support

I received your February '98 issue and found it to be excellent. The Two Two Club of Texas has 113 members. I plan to offer them an opportunity to subscribe at out February meeting and dinner gathering. I further pledge my support and the support of all our members to help N8TI in his quest to rid Amateur Radio of those who abuse such a wonderful privilege. I hold my license with great pride and when I hear this abuse I am ashamed.

Gene Morris, KC5FFH
Huffman, TX

(Ed. — What a truly wise individual! Not only for his support of N8TI, but also in encouraging subscriptions! Thanks, Gene!)

Worldradio on cassette

I've been receiving ***Worldradio*** on cassette tape for many years and enjoy it immensely. The cassette issue is read by the kind and generous Father Tom Carten of Kings College, Wilkes-Barre, PA. My husband, Tom, WB2LAH, also blind, thoroughly enjoyed the magazine also. (I lost Tom last summer, unfortunately.)

I have a new young friend, Peter Marchetto, KC2BJT, age 13. He is bright and enthusiastic about our hobby. Can you please send him a recent sample of ***Worldradio***?

Even though both blind, Tom and I raised a family of five sighted children, and have eleven grandchildren. We spent almost a quarter of a century in Amateur Radio activities, such as traffic and emergency nets, all kinds of contests, relaying phone messages, and just plain rag-chewing.

Thank you for ***Worldradio***, and for sending Peter a sample issue.

Josephine Kehoe, WA2ZNT
Garfield, NJ

(Ed. — Sample copies of **Worldradio** *are in the mail. Hope Peter enjoys the magazine as much as Mrs. Kehoe.)*

Damage

In regards to the "$10,000,000 Damage" to USS *Theodore Roosevelt*/USS *Leyte Gulf*. Morse code was not unsatisfactory, the people using it were, to say the least, incompetent. Blinker light traffic moves just a little slower than radio CW. The signalmen of the Navy and U.S. Coast Guard always prided themselves on their ability. It just goes to show you that CW is needed by both the USCG/Navy. A day will come when there is a super foul-up that could

(Continued on page 69)

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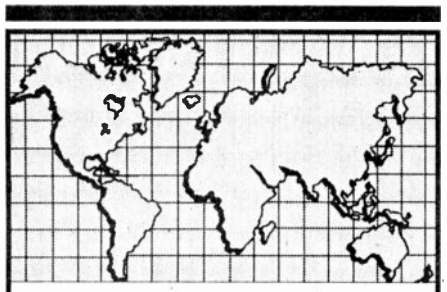


DX WORLD

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

W-100-N

The following DXers completed the necessary requirements for the world-famous ***Worldradio*** Worked 100 Nations Award:

526. Bill Hardie, VE3EFX
02 Feb. 98
527. Frederick Slipsager, KQ4WD
02 Feb 98

Bill suggests that a list of nations be published in an issue of ***Worldradio*** so there is no confusion to what counts as a nation. This has been done in the past, but a list of nations is available from headquarters and also can be used as an application form. Please provide a business size SASE and make note that it is a request for forms. Otherwise, the staff gives it to me. I then have to give it back to them as I do not have the forms.

CATZ

We have another application for the world not-so-famous CATZ award. Congratulations go to:

2. Kenn Carpenter, WA7GQC
(All CW) 02 Feb 98

Kenn worked all of his contacts with a straight key! Kenn says, "In your rules you say that contact with one's own nation does not count, and I'm sure you mean just that. By your definition of nation, per the W-100-N rules, that means U.S. stations cannot use Alaska, Hawaii, Puerto Rico, etc. for any of their time zone contacts. I think that was a good stipulation for this award because it put a bit more difficulty into it."

Good point! I asked Armond if Alaska or Hawaii could be used by U.S. stations, and got the impression we could. There really isn't much out there between 135-180 degrees west, and for that reason I thought it best to include them. Alaskan stations would have to use Hawaiian stations. The bossman is going to have to answer this as he designed the award. By the way, Kenn did not use any Hawaiian or Alaskan stations. His selection was A35RK in Tonga (180-165 W); T32Z on Christmas Island (165 -150 W); and VY1JA in Whitehorse (150-135 W).

Bob Dockery, WD4CNZ, is wondering what time zone KC4AAA would count for. As the station is located at the South Pole, Bob asks if this one could be used as a "joker" or "wild card". I don't see why not. Oh you purists, KC4AAA does not count as your own nation. Antarctica is multi-national!

(Ed. — This question has come up again this week. Here is the final word about KC4AAA. The station is located at McMurdo Station, 825 miles from the South Pole. They use the same time New Zealand uses; therefore, holders of KC4AAA cards get credit for 165-180 East zone only!)

A new one

As this issue goes to the printer, (30 March), some of you may have been lucky enough to work a new DXCC country. Temotu, located in the Santa Cruz Islands, has been activated, using the call H4ØAA. It is located more than 350 km from the Solomon Islands, and should qualify as a new DXCC country when the new rules take effect 31 March 98.

The South China Sea DX Team, (SCSDXT), has done the research on this location and has teamed with the Solomon Islands Radio Society, (SIRS), to make the application for new DXCC Status. The Solomon telecommunications authorities have agreed to assign the H4Ø prefix for future Amateur Radio operations from Temotu.

The team, consisting of operators from four continents, was scheduled to arrive 21 March and operate for about two weeks. QSL cards should be sent to OH2BN, Jarmo J. Jaakola, Kiilletie 5C30, Helsinki 00710, Finland. SIRS has requested DXers not to send cards to the H4 QSL bureau.

Annobon (3C0)

The DXpedition to Annobon (AF-039) that was scheduled in March has been postponed due to political unrest in that country.

Antarctica

Paul, EM1HO, who was very active from Galindez Island (AN-006) in the Antarctic, should be on his way home back to the Ukraine. As of the end of February he had logged some 40,000 contacts, being a new one for many a DXer on the lower HF bands. I had the pleasure of working him on 80 meters during the IARU HF championships last July. He has been very active on 160 Meters. No doubt, there will be no one to fill the void left by Paul.

Aves Island (YV0)

There have been reports of a DXpedition to Aves Island (NA-020) and activity by 4MØI recently. These apparently have been bogus operations. According to Reinaldo Leandro, YV5AMH, the president of the Radio Club Venezolano (RCV), the license of the operator in question had expired in 1992. He also says that special permission is required for landing on this island.

There is also another Aves Island, but this is an off shore island in Venezuela, and apparently there are no restrictions regarding operating from that island. That island is not the DXCC country of Aves Island.

China (BY)

Yang, BD7JA, in a recent note to the VE7TCP DX Reflector noted that there is some identification to those Chinese calls. He explained that such as call - BY7OK - would be as follows: B for China; Y for Club; 7 for the area, (in this case Hu Nan, Guang Dong, Guang Xi, and Hain Nan provinces), and O for the particular province. This would

have been Guang Dong, which covers the letters I through P. As far as Yang knows there are only five club stations in that province, those being BY7KT, BY7KQ, BY7KH, BY7KM and BY7KD. As for the example call of BY7OK, that station has been reported active recently, but is not on the list.

Also note that Yang has been active in the IOTA program visiting a few of those offshore Chinese islands.

Kuwait (9K2)

Ray McClure, W8CNL, reports 9K2ZZ is again active from Kuwait. The new operator is Bob and he should be there for at least one year. Ray says that Bob has installed a Cushcraft A3WB WARC band antenna and is looking for contacts on 12, 17 and 30 Meters.

As Ray, who is the QSL Manager for 9K2ZZ, receives logs from Bob via e-mail the turnaround on QSL requests should be less than 24 hours.

Maldives (8Q)

The Central Arizona DX Association DXpedition to the Maldive Islands (AS-013) was a rewarding experience. With four stations in operation, 8Q7AA netted some 17,903 contacts. For CW they made 8,628 contacts, with 9,075 on SSB and 200 on RTTY.

Beginning on 2 May Lorenzo, IK5MDF, will sign with 8Q7DF from Alimatha Island (AS-013) in the Maldive Islands. The Ohio/Penn DX Bulletin reports his activity is scheduled for 10 to 80 Meters through 8 May.

Mongolia (JT)

Laci, HAØHW, reports that a group of Hungarian DXers, members of the Hungarian Pannon DX Club, are working on a DXpedition to Ulan Bator in Mongolia. Set for May the group will man two to three stations on the air around the clock using all HF bands and all modes. The team members will be represented by such calls as HAØHW, HA4GDO, HA6NL, HA7SK and HA7VK. No call sign has been assigned at the moment. Look for them from 17 May through 2 June 1998.

The JT1Y activity that began on 7 April was that of a group of Italian DXers, also from Ulan Bator.

Wake Island (KH9)

Another DXpedition to Wake Island (OC-053) was scheduled for the period 26 February through 11 March. Sponsored by the Dateline DX Association, this one follows their September 1997 DXpedition to the North Cook Islands. The team includes Tom, K8XP, Bob, N2OO, N6MZ, and Bill, N2WB. All of these operators have had successful DXpeditions under their belts.

This information is rather late due to the fact that team members received the opportunity unexpectedly and did not want to pass up the chance to reactivate Wake Island.

Pacific DXpedition

Tony DePrato, WA4JQS, of the South Sandwich Island DX Group and Midway-Kure DX Foundation, reports that the recent DXpedition to the Pacific islands of Palmyra (OC-085), Baker - Howland (OC-089), and Kingman Reef (OC-096), has been dedicated to Eric Edberg, W6DU, who joined Silent Keys on 19 January. A dedicated DXer, Eric was a board member of the Northern California DX Foundation, and the last thing he did was voting in favor of NCDXF support to the DXpedition from his hospital bed.

Seborga (TOØ)

TOØRM, and other calls with the TOØ prefix have been on the bands recently stating they are in Seborga. Interesting call to work, but these are just other Italian stations. Seborga does not count for DXCC.

Spratly Islands (1S)

The DXpedition to the Spratly Islands (AS-051) as of 19 February has collected some 44,000 contacts with the call 9MØC. The group did not operate in the ARRL DX Contest and concentrated on SSB only since there would be many repeat contacts during the contest.

They operated through 23 February, with the final station on the air operating on 30 Meters. A few hours later they left the island. This operation has reduced the demand for this one greatly. Considering that there is now a resort there that encourages Amateur Radio this is a far cry from what many of us remember 25 years ago when the 1S1A DXpedition hit the bands. This was the first one, unless you count Don Miller and his friends, 1S9WNV. And, the threat of being fired upon is gone.

Tanzania (5H)

Dave Heil, K8MN, will leave Finland in July for several months in the United States before being reassigned to Tanzania. This will be Dave's last assignment prior to retiring. Dave has given many a DXer a new one from his various assignments, such as J52US, 9L1US, and A22MN. Dave hopes to receive a call with "US" or "MN" in the suffix.

Thanks to the Ohio/Penn DX Bulletin for this information.

IOTA

From Ullang Island (AS-045) HL5FUA is often on 75 Meters near 3.798 MHz. Several other interesting calls have also been found on that frequency.

The Daily DX notes that Bob Robertson, VE7ARS, and Fred Carey, VE7FYO, will be celebrating the 125th anniversary of the Royal Canadian Mounted Police during the weekend of 23 May from Trutch Island, which is part of the Estevan group (NA-181).

425 DX News reports that two Japanese DXers, JM1LJS and JE1OYE, will be active as 3D2LJ/P and 3D2TS/P, respectively, from Yasawa group (OC-156), 1 to 3 May. From there they will go over to Viti Levu (OC-016) and be active without their calls appended through 7 May.

Here is a selection of IOTA activity that was observed during the month of February. There were four IOTA types who put on South Water Cay (NA-180) who operated for a few days during the early part of the month. These included the calls V31NX, V31TR, V31UR and V31UY.

AF-066 C91LCK/P	Inhaca Island	08-14 Feb
AN-006 LU/UX1RA	Peterman Island	18 Feb
AN-006 VP8CTR	Argentine Island	03 -24 Feb
AN-006 EM1HO	Galindez Island	01-25 Feb
AN-016 R1ANZ	Antarctica	01-20 Feb
AS-XUXO	Broughton Island	23 -24 Feb
AS-005 RA1PC/Ø	Dickson Island	03-07 Feb
AS-008 7K3EOP/1	Miyake Island	02 Feb
AS-015 9M2TO	Penang Island	01-12 Feb
AS-017 JR6VDU	Okinawa Island	25 Feb
AS-017 JR6EA	Okinawa Island	20 Feb
AS-022 RKØQXY	Bear Island	15-24 Feb
AS-024 JS6PMR	Yonaguni Island	25 Feb
AS-038 UAØKCL/Ø	Ayon Island	10-11 Feb
AS-045 HL5FUA	Ullang Island	01-21 Feb
AS-052 JF1IST/7J	Okino Torishima	16-17 Feb
AS-053 HSØ/IK4MRH	Phuket Island	01-24 Feb
AS-111 7Z1IS/P	Tarut Island	01-05 Feb
AS-117 JG6URG/4	Omi Island	14 Feb
AS-117 JE6DOI/4	Sao Sato Island	14 Feb
EU-008 MM0BGQ	Isle of Skye	19 Feb
EU-009 GM3POI	Orkney Islands	07-22 Feb
EU-009 GMØHTT	Orkney Islands	08 Feb
EU-010 GM4CHX/M	Outer Hebrides	19-23 Feb
EU-011 G3RPC	Isles of Scilly	10 Feb
EU-012 GMØEFM	Shetland Islands	03 Feb
EU-012 GM4AGX	Shetland Islands	23 Feb
EU-016 9A2GF	Brac Island	01-09 Feb
EU-016 9A4RU	Brac Island	15-25 Feb
EU-031 IC8SDL	Isle of Capri	04-13 Feb
EU-032 F5SGI/P	Ile de Re	16-20 Feb
EU-036 LA8LA	Hitra Island	16 Feb
EU-037 SM7DLZ	Oland Island	02-25 Feb
EU-044 LA8NGA	Mageroy Island	02-21 Feb
EU-046 LA1CI	Ringvassoey Island	07-19 Feb
EU-046 LA5TFA	Ringvassoey Island	08 Feb
EU-049 SV8CRI	Lesvos Island	01-10 Feb
EU-049 SV8CYV	Samos Island	05 Feb
EU-052 SV8JE	Kefalonia Island	06-25 Feb
EU-060 SV1TP/P	Euboea Island	01-02 Feb
EU-067 SV8/DL7RM	Paros Island	25 Feb
EU-096 OH1LU/P	Reposaari Island	23-24 Feb
EU-123 GM3UA	Isle of Arran	19 Feb
EU-124 GWØMOI	Anglesey Island	17 Feb
EU-133 R1ASP	Kotlin Island	09-25 Feb
NA-036 VE7IM	Vancouver Island	02-22 Feb
NA-055 AK1L	Vinalhaven Island	02-25 Feb
NA-057 VE3BW/HR6	Rotan Island	03-21 Feb
NA-110 K9JWV/4	James Island	07-22 Feb
NA-113 AA8LL/C6A	Crooked Islands	02-04 Feb
OC-011 V63BR	Truk Island	02-13 Feb
OC-011 V63KU	Truk Island	06-19 Feb
OC-013 ZK1DI	Rarotonga Island	01-25 Feb
OC-022 YB9BV	Bali Island	22 Feb
OC-028 V73UX	Kwajalein Atoll	15-16 Feb
OC-042 DU3NXE	Luzon Island	01-25 Feb
OC-042 4F3CV	Luzon Island	03-16 Feb
OC-049 A35LZ	Tongatapu Island	07-10 Feb
OC-049 A35FN	Tongatapu Island	05-10 Feb
OC-059 V63AO	Kosrae Island	02-23 Feb
OC-070 YC8VIP	Ambon Island	17-19 Feb
OC-070 YC8VHU	Ambon Island	19 Feb
OC-088 9M6CT	Isle of Borneo	02-20 Feb
OC-129 DU6BG	Panay Island	11 Feb
OC-130 DU9HKD	Mindanao Island	15 Feb
OC-134 ZL3RG	South Island	04 Feb
OC-141 VK8KTC	Groote Eylandt	04-25 Feb
OC-143 YB4JIM	Sumatra Island	17 Feb
OC-154 VK8AN/6	Troughton Island	12-17 Feb
OC-169 A35RK	Haflapai Islnd	01-17 Feb
OC-210 YC8TXW	Sangihe Island	02 Feb
SA-045 PQ8MM/P	Maraca Island	22-24 Feb
SA-049 LU7XR	Isla de Los Estados	05 Feb
SA-055 LU7DW	Martin Garcia Island	14 Feb
SA-067 ZZ1Z	Frances Island	23-24 Feb

Hamad Al-Nusif, 9K2HN, says that the 9K2F DXpedition to AS-118 has been delayed for the present due to present situation in the area.

And, Franco's, I4LCK, C91LCK/C93 DXpedition to Chiloane Island in the Sofala District group mid-February was cancelled due to a cholera epidemic on the island. This would have been a brand new IOTA island.

Bob Williams, G4LVQ, says that during the past year the IOTA database has had some extensive screening, the result being that several previously accepted operations have been deleted. This was necessary as it was discovered that they did not meet the necessary criteria.

So, those of you who recently made their annual IOTA updates, be sure to check your disc when it has been returned. If your island count agrees with what they have there is no problem. The only indication of what has been changed will be the word "deleted" in place of the call sign for the IOTA reference that you had previously been credited for. Your IOTA check point may or may not inform you of this.

IOTA Contest

You might wish to plan ahead for the annual RSGB IOTA Contest, this summer, 25 and 26 July. So far, the following island groups plan activity:

EU-106 St Tudwal's Island GW0RLU/P
EU-123 Bute Island
EU-124 Anglesey Island MW8Z
NA-100 Antigua Island V26VG

DX Conventions

The annual Northwest DX Convention, sponsored this year by the Western Washington DX Club, will be held at the Double Tree Inn, at the Southcenter in Seattle, 17 to 19 July. Joe Gregory, W7QN, is the convention chairman.

Those of you who may be planning a trip to Europe this fall should consider the RSGB HF and IOTA Convention. The dates this year will be 9 and 10 October. No other information on this at the present time.

The big one at Visalia has already been discussed in a previous issue and prospective attendees are reminded that the pre-registration deadline is 15 April (forget the taxes — send the registration!). Fried and Sandi Heyn, WA6WZO and WA6WZN, are the publicity chairmen and add that the 9MØC Spratly DXpedition group will be present with their presentation. In addition, Zoro, JH1AJT, will be the speaker at the Sunday Breakfast, with a program on operating in Laos.

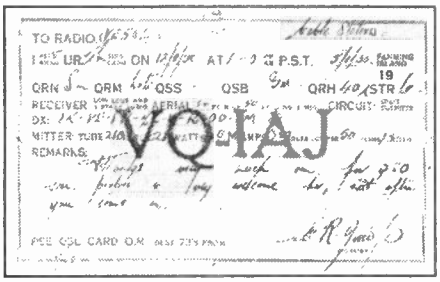
Clubs

New officers for the Southern California DX Club include: Will Angenent, KN6DV, President; Harvy Laidman, W8DX, Vice President; Jim Zimmerman, N6KZ, Secretary, and Charlotte Iseda, KB6FXS, Treasurer.

Antique QSL Department

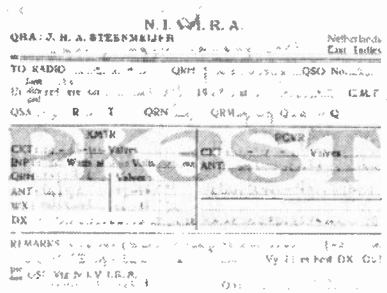
The three old-time QSL cards this month were provided by Al Miller, VE7KC, a long-time subscriber of Worldradio. These were worked by J. King Calvalsky, VE5AL, a friend

of Al, who resided in Vancouver. When the call area assignments changed he became VE7AL.



1930 was the year VE5AL connected with VQ1AJ, located on Fanning Island. Notice that two dates for 1930 were given, one in January and one in August. I'm not sure what that means, unless it is a confirmation for two contacts. The call sign allotment would eventually became VR3. Fanning Island (OC-084) now has the prefix T32 in the nation of Kiribati.

Otis Hill was the operator of K6AJA at Hilo, in the Territory of Hawaii. The card is for a 40 Meter contact back on 25 January 1935 where this station was running only 30 watts. It cost two cents to mail this card to Vancouver. The K6 call would be reassigned to the United States, where Hawaii was issued the brand new KH6 calls.



The third card is for a contact with the Netherlands East Indies, where PK3ST on the island of Java was worked. The date was 13 August 1934 for the 40 Meter CW contact. The operator was enthusiastic as indicated by all the hand-written comments. Who would bother to write all this information today? Of course, if you read carefully the operator indicated that this was his first Canadian contact.

QSL Information

Where's my bureau card? That's the kind of note Tom Wylie, GM4FDM, received very recently for the 1997 5V7A DXpedition to Togo that he manages QSL cards for. Can you believe this? The DXpedition was the latter part of the year and here Tom was getting a letter from some poor uninformed soul the following February demanding to know where his bureau card was. Any cards sent via the bureau usually take at least a year for a turnaround.

Tom also says he prefers British mint stamps placed on your SAE. This is in preference over the usual green stamp or IRC. He says, "Then all I have to do is walk to the post box at the end of my road, instead of standing in a queue in the bank to exchange dollars, francs, lira, zlotys and rubles and another queue in the post office to change IRCs." There are a couple of sources for mint foreign postage and I believe I have discussed this before.

Paul Ferguson, K5ESW, tried using the registered mail method to UA6HCW for a confirmation of his contact with EP2MKO and included two green stamps. The turnaround was about two months. Paul also informs us that the usual postal card for confirming receipt is not available to Russia.

Us seasoned DXers take QSL bureaus for granted. I received a note recently on this subject. The new DXer writes: "Please help me understand the bureau. I can't find any info about the bureau. I am a new Ham. I have made many contacts on HF. They always say send to bureau. What bureau? Any help you can offer, please help."

First of all, the bureau is a clearing house for QSL cards. It costs too much to send a QSL card direct to each DX station one works for every contact you make. So, we have a clearing house that does all this for you. This can be a two-way street. Cards can be sent via the bureau, and cards may be received via the bureau.

Secondly, it would be in your best interests to join the ARRL as the Outgoing QSL Bureau is available

DX Prediction — May 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.

CENTRAL U.S.A.

UTC	AFRI	ASIA	OCEA	EURO	SO AM
8	*(19)*	16	*20	*15	*16
10	23	*13	*18	15	*17
12	*29	*17	*16	*19	*22
14	*33	*20	15	*22	*27
16	*35	*19	*(15)*	*24	*31
18	*35	*(16)*	*(14)*	*23	*34
20	*29	22	28	*21	*35
22	*24	*25	*34	17	*34
24	21	*25	*36	*15	*28
2	*18	*24	*36	*12	*23
4	*19	21	*34	*18	*20
6	*25	*20	*29	*18	*18

WEST COAST

UTC	AFRI	ASIA	OCEA	EURO	SO AM
10	*(16)*	*21	*18	*(13)*	*20
12	*(20)*	*16	*17	17	18
14	25	*19	*15	*21	*25
16	27	*19	15	*23	*29
18	*29	16	*(14)*	*22	*33
20	*29	*21	*28	*20	*35
22	*24	*25	*34	*16	*33
24	21	*28	*36	14	*27
2	18	*30	*36	12	*23
4	*19	*30	*34	*18	*20
6	*24	*28	*30	*20	*18
8	20	*25	*20	*16	*16

EAST COAST

UTC	AFRI	ASIA	OCEA	EURO	SO AM
7	*21	16	*23	13	*17
9	22	*(13)*	*18	*17	*19
11	*28	*18	*17	*20	*21
13	*32	*20	*(16)*	*23	*27
15	*35	16	*(15)*	*24	*31
17	*35	*(13)*	*(14)*	*23	*33
19	*32	*(16)*	*(21)*	*22	*35
21	*26	20	31	*20	*34
23	*22	23	*35	*17	*31
1	*19	23	*36	*14	*26
3	*16	21	*35	*17	*22
5	*23	*20	*29	*16	*19

to members only. If you are a DXer and a League member you should already know this. If you are not a member you will need to find the services of those who specialize in forwarding QSL cards, which can be costly, but not as expensive as sending each card direct yourself.

Your call area has its own Incoming QSL Bureau for all cards coming to you. You do not have to be a member of the ARRL to participate. All you need to do is have envelopes on file at your QSL bureau. The usual size is 5-1/2 by 7 inches, addressed to you with your call in block letters at the upper left-hand corner. Place one first-class stamp on the envelope and send excess postage attached for additional ounces. Some bureaus will do all of this for you and all you need provide is cash to cover the cost of supplies and mailing. Actual services are by ARRL volunteers. I don't have a list of your individual QSL bureaus, but they are available from several sources. Even if you work only occasional DX you should still have envelopes on file. You would be surprised to know just how many cards are stored at the bureaus with no place to go, just because there are no envelopes to be stuffed with QSL cards. And some of these cards DXers would sell their souls for! So, please keep envelopes on file. Bureau workers just hate to have to destroy unclaimed cards. It makes them cry.

Mike Smith, VE9AA, has been receiving comments regarding CY9AA QSL cards. Mike says that these cards are being donated by Dave Farnsworth, WJ2O, who also donated the CYØAA cards for the 1996 Dxpedition. As they are being donated, he must be patient and wait for the cards to arrive, and when Dave has time to do them. Mike expects the cards to be of the same quality that Dave did for the CYØAA cards.

Mike says he is also receiving complaints about cards for CYØDX and CY9DX cards, which he had nothing to do with. Mike is away at school all week, so leave him alone and let him study!

Martin Huml, OK1FUA/OL5Y, says that if you have not received QSL cards from such calls as OL1A, OL2M, OL5Y, or OK5TOP, to resubmit another request to the new QSL manager, OK1MG. Direct or bureau cards are o.k.

Frank Smith, AHØW/OH2LVG, says the processing of QSL cards for the K7K Kure Island and the K4M Midway Island operation is well underway. The demand for these cards has been higher than expected and asks DXers to please be patient. Frank says to those of you who have not yet sent in QSL requests to please arrange to send your K7K and K4M requests separately.

Tom Harrell, K8XP, says that there has been a delay from the printer for QSL cards for the ZK1XXP DXpedition to the northern Cook Islands. Tom says to please be patient and not to send additional requests.

Bruce Richards, WD4NGB, is looking for a QSL card from HL9JV around 1981-82 when he operated from South Korea. He would like to add this one to his collection. If you can help you might contact Bruce at wd4ngb@sprynet.com

David Black, KAØVCW, reports working KH5AA during last November's CQ World Wide DX Contest and is looking for a QSL route. There is no such call in the database, so either you copied the call wrong or you were visited by Slim! The FCC isn't issuing such KH5 calls anyway.

In the January issue the QSL route for EY8/K4YT was listed as W2KT. This is an error. It should have read as W2TK, the other way around. Bob, W2TK, and Karl, K4YT, are brothers! Also, Dennis Carter, J37K/KE3TD, points out an error listing his QSL manager in the February issue. It should read via KB5IPQ. Thanks for the corrections.

Thanks go to the following contributors for this month's column: AHØW, BD7JA, EA3BT, 9K2HN, G4BUE, G4LVQ, GM4FDM, HAØHW, J37LK, OL5Y, YV5AMH, KA2AEV, VE9AA, W2KT, N2WB, K3ZO, WD4CNZ, WA4JQS, WD4NGB, K5ESW, N6KZ, WA6WZO, W8CNL, N8LN, K8XP, KAØVCW, Western Washington DX Club (WAØRJY), Northern Arizona DX Association (W7YS), Juliet Alpha Cluster (JE1OMO), WebCluster (OH2BUA), 425 DX News (I1JQJ,), DX News Letter (DJ5AV), The OPDX Bulletin (KB8NW), Internet DX Mailing List (VE7TCP), The Low Band Monitor (KØCS), Island/DX News (N5VL), The Daily DX (W3UR), QRZ DX (N4AA), and DX News Sheet (G4BUE).

I spent the end of February on another Tiger Cruise aboard the U.S.S. *Nimitz*, as my son was completing another six-month cruise with the ship. This ended at Norfolk where the ship will be laid up for a couple of years for refueling and some overhaul. I'm getting rather old to be sleeping on those hard typical navy racks. But I survived. One thing that impressed me was the flyby of a Tomcat, just a few hundred feet above, breaking the sound barrier. Hope your DX was worthwhile. 73 de John N6JM.

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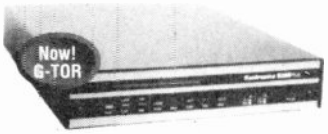

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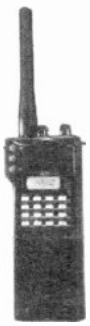

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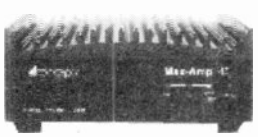

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QSL managers

QSL Routes

The following QSL routes are correct to the best of my knowledge. Please report any errors for correction.

1X1AO —UA6WAR
1X5AA —RW6PA
3A/DJ7RJ —DJ7RJ
3A/N9NC —OM2SA
3C1GS —EA5BYP
3D2KT —OKDXF (1)
3D2KY —JA3MVI
3D2LJ —JM1LJS
3D2ME —JG2EBN
3D2QB —SM3CER
3D2TN —OKDXF (1)
3D2TS —JM1LJS
3DA5A —JH7FQK
3E9CKK —HP1CKK
3V8BB —JF2EZA (3)
3W5FM —UAØFM
3W5FS —7L1MFS
3W5KDN —JR2KDN
3W5KVR —EA5KB
3W5MNB —JA2MNB
4F3CV —HB9CXZ
4G5ON —DU9RG
4J3AA —UA9AB
4K9W —DL6KVA
4L1DX —OZ1HPS
4N1N —YU1AST
4S7BRG —HB9BRM
4S7IJG —DK8ZD
4S7UB —KJ6UB
4U1WB —KK4HD
4X4BL —WA2KNC
4XØAT —4X1AT
4XØFR —4X4FR
4XØFU/SK —4Z5FF
4XØJQ/SK —ON4ON
4XØMG/SK —4Z4TL
4XØMJ/SK —4X1MJ
4XØSF/SK —4X1VF
4XØUK/SK —4X2SM
4XØZC/SK —4Z5IS
5B4ADA —9A2AJ
5B4AFU —G4MFU
5H3ES —DF9SU
5H3PW —KØOB
5N37YZC —WA1ECA
5N3CPR —SP5CPR
5N7YZC —WA1ECA
5R8EY —DJ1RL
5R8FK —NY3N
5R8FU —SMØDJZ
5T5U —JA1UT
5WØFN —HB9HFN
5WØLZ —HB9DLZ
5WØSZ —OKDXF (1)
5WØVV —OKDXF (1)
5X1T —ON5NT
5Z4RL —N2AU
6W1QV —F6FNU
6Y5DA —VE4JK
7Q7HB —GØIAS
7Q7LA —GØIAS
7Q7SB —AB4IQ
7X2RO —OM3CGN
8P9AP —K2WE/NI2C
8P9CW —WB8LFO
8P9EE —VE3IY
8P9IF —G3PJT
8P9JG —W2NY
8Q7BE —DL8NBE
8Q7BV —HB9DIF
8Q7CR —DF5JR
8Q7UO —DL5UO
8Q7VB —OH2VB
9A11ELS —9A2AA
9G1AA —PA2FAS
9G5WD —G4RWD
9G5XA —G3XAQ
9G5ZM —G3ZEM
9H3WC —ON4CCC
9J2AM —JAØJHA
9J2BO —W6ORD
9K2/G4NQO —N6LUI
9K2QQ —9K2RA
9K2ZZ —W8CNL
9MØC —G3SWH
9M2EU —JA2EJI
9M2TD —JR4PDP
9M6BG —VR2BG/VS6BG
9M6NA —JE1JKL
9M6PO —OH2YY
9M6TG —JH3GAH
9M8YY —JH3GAH
9N1CW —DL3NCW
9N1FP —RU6FP
9N1UD —K4VUD
9V1YV —AA5BT
9V1ZB —JL3WSL
9V1ZW —JA9IFF
9XØA —DL5WM
9Y4VU —W3EVW
A22EW —KB2UCO
A35FN —HB9HFN
A35KT —OKDXF (1)
A35RK —W7TSQ
A35TN —OKDXF (1)
A61AJ —W3UR
A61AP —IK7JTF
A71BY —F5PYI
AA8LL/C6A —AA8LL
AH2R —JI3ERV
AJ2U/VP9 —WB2YQH
AP2BJ —SP6ABA
AP61AP —IK7JTF
BA1CO —W3HC
BV4FH —KA6SPQ
C31LJ —VE3GEJ
C42A —DK2VW (5)
C6A/N4BP —N4BP
C6AFP —N4JQQ
C6AIE —WZ8D
C6AJR —W8GEX/WB8GEX
C91LCK —I4LCK
CE9AAP —CE2LOL
CL8VP —HI3JH
CM6DW —CO2WD
CN2IB —OM1APD
CO2WF —VE2EH
CO7KR —DL5DCA
CO8ZZ —HI3JH
CP4BT —DL8OT
CQ98BM —CT3BM
CS98NQ —CT4NQ
CS98UW —CT4UW
CT98AUO —CT1AUO
CT98BWW —CT1BWW
CT98CBI —CT1CBI
CT98EDX —CT1EDX
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DU8ARK —I2YDX
EA3/HB9LEY —JH1BSE
ED1BEY —EA1BEY
ED3VGC —EA3NI
ED5SMA —EA5URR
EK6CC —N8BGD
EM1HO —I2PJA
EP2MKO —UA6HCW
EP3GI —EA5XV
ER2DX —KD1CT
??? —
ES5Q —ES5RY
ES8ØL —ES6PZ
ES8ØR —ES7RE
EW2CR —NF2K
EW3LB —W3HNK
EY1CQ —DJ1SKO ???
EY8/K4YT —W2TK
EY8AM —DF3OL
EY8CQ —DJ1SKO
FG5FC —F6DZU
FM5BH —W3HNK
FM5DN —KU9C
FOØBRD —N6RT
FOØKEO —N7CQQ
FOØMIT —W6RW
FOØPLA —W8AEF
FOØSPE —W6KK
FO5VO —N6VO
FO8DX —KG6AR
FP5BU —F5TJP (1)
FP5BZ —F5TJP (1)
FP5EJ —K2RW
FP5EJ —K2RW
FR5VZ —F8VZ
FR5ZU —JA8FCG
FS/K7BV —K7BV
FS5PL —NØJT
FT5WG —F6APU
FT5XN —F6PEN
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HP1XVH —NØJT
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IQ4A —IK4QJH
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J28FA —F5MXH
J3/N1FVR —OE3GRU
J37LK —KB5IPQ
J41W —SV1CIB
J47XCF —SV7BVM
J52IM —KB9XN
J79EKH —KD4WW
J79GMV —KD4WW
J79UGF —KD4WW
J79WW —KD4WW
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JT1Y —IØSNY
JW9PJA —LA9PJA
JX3EX —LA3EX
JY5SK —W9XY
JY8ZW —K4ZW
JY9QJ —DL5MBY
K4AU/WH1 —K4AU
K4ZL3/HR3 —K4ZLE
K8XP/KH9 —WA4YBV
KA4IST/KH5 —AC7DX (1)
KG4AU —WV3N
KG4CQ —W4WX/WT4K
KG4GC —W4WX/WT4K
KG4NW —NW3K
KG4QD —K4QD
KG4ZK —W4ZYT
KHØS —JA1OGX
KHØU —JA1QNV
KH2D —K8NA
KH2KU —JA2TBS
KP2/WØBV —WØBV
KP2/KGØJH —KGØJH
L5ØDT —LU2DT
LU/UX1RA —DL5EBE
LU1ZC —LU6EF (1)(4)
LX8DL —LX1DA
LY6K —LY3BS
LZØA —LZ1KDP
N2KJM/VP9 —N2KJM
N2NL/KH2 —W2YC
N2OO/KH9 —WA4YBV
N2WB/KH9 —WA4YBV
N3WCN/HH2 —N1XVU
N6MZ/KH9 —WA4YBV
N9CK/VP5 —N9CK
NH7A —N2AU
OA8ADM —N8LN
OD5SK —KB5RA
OE9S —OE2GEN
OHØKMG —OH2KMG
OK5TOP —OK1MG
OL1A —OK1MG
OL2M —OK1MG
OL5T —OK1MUJ
OL5Y —OK1MG
ON5ØGTM —ON7KG
ON5ØNOK —ON4ASW
ON5ØRAM —ON4LCT
ON5ØYLC —ON4AMM
P3ØWN —5B4WN
P4/I2UIY —I2EOW
P4ØCH —WA2TTI
P4ØK —I2EOW
P43HOT —P43ARC
PA3EVJ —VE3MR
PJ8/KG8XV —JH1ROJ
PJ8A —W9NIP
PJ9/W1WEF —K1CPJ
PJ9C —K1CPJ
PJ9JT —W1AX
PJ9Q —W9QQ
PYØFF —W9VA
PYØZFO —W9VA
PY1WDS/P —PY1WDS
R1ANZ —UW1ZC
R1ASP —RA1AD
R1FJV —UA3AGS
RAØFA —WK6C
RA1PC/Ø —RK1PWA
RKØQXY —UAØKCL
RK6FJ —9K2MR
RM6A —RW6AWT (2)
S21YR —G3WZQ
S79MX —HB9MX
S92AT —NJ2D
SM7DQW/HI —SM7DQW
SPØXL —SP2PI
SU3AM —DL1FCM
T3ØJH —VK2GJH
T48RAC —VE3ESE
T88II —KJ9I
T88TT —7M1STT
T95A —K2PF
TA2IJ —DJ9ZB
TI5N —TI5KD
TJ1GB —K6SLO/WA6SLO
TJ1HP —F6FNU
TL8PL —F5LNA
TOØCW —DL3OCH
TOØRM —DL2JRM
TT8JFC —WA4ZJB/WB4MBU
TXK8DX —WB2RAJ
TZ6FIC —F6KEQ
TZ6JA —JA3EMU
UN3F —UN7FJ
UN7FK —W3HNK
USØHZ —W3HNK
US4IXQ —WB7QXU
V26A —WB3DNA
V26AK —N2TK
V26B —WT3Q
V26C —WA2C
V26DX —KU9C
V26E —AB2E
V26HL —AA1M
V26J —WXØB
V26KW —K3TEJ
V26NT —K3UA
V26OC —N3OC
V26R —KA2AEV
V26RN —N5NJ
V26T —K3MQH
V26TS —K3MM
V26U —W2UDT
V31NX —N6FH
V31TH —NØSS
V31TR —K8BK
V31UY —N6UY
V31VI —N6KZ/KG6VI
V63BR —AA4US
V73GT —WF5T
V73UB —K1UZT
V73UX —V73AX
V85TG —JH3GAH
V8EA —JH7FQK
VE3BW/HR6 —VE3BW
VI6EWT —VK6ANC
VK1FF —WB2FFY
VK6BAT —N6ZZ
VK8AN/6 —VK4FW
VK9NA —DF3VN
VP2EEI —K1LPA
VP2MDY —NW8F
VP5/N9CK —N9CK
VP5FXB —W8AV
VP5FXB —W8AB
VP8CTR —DL5EBE
VP8CXV —GØTQJ
VP9ID —K1EFI
VQ9JC —WB9IHH
VQ9PH —W2JDK
VQ9RU —KH2RU
VQ9ZZ —NS1L
VR2/OH2YY —OH2YY
VR2MM —JA3JFZ
VR2WO —KA9UQT
VR97SAR —VR2XRW (1)
VR98BG — V R 2 B G / VS6BG
VS97SAR —VR2XRW (1)
VU2MTC —VK9NS
WA4FFW/NH1 —WA4FFW
WP3A —NP4QH
XA5T —N5TU
XE1RCS —XE1KK
XE2EBE —AA6DP
XT2DM —F5RLE
XT2DP —WB2YQH
XT2OW —F5RLE
XU2FB —N4JR
XUXO —7L1MFS
XV7SV —SMØRV
XV7SW —SM5MX
YBØARA/9 —N2AU
YB52RI —YBØBEH
YI1ALW —WB3CQN
YI1FLY —KK3S
YI1HK —SM3DBU
YN6WFM —JA6VU
YN6WW —JA6VU
YN9/TI4SU —TI4SU
YS1X —OH2BU
Z2/W8FTD —W8FTD
Z31GX —DJØLZ
Z31JA —NO6X
Z32XA —NN6C
ZA1M —IK2HTW
ZA1MH —Z32KV
ZC6MPT —JA1UT
ZD7OK —N2AU
ZD9BV —W4FRU
ZF2CU —W5CU
ZF2LC —W2SM
ZF2MU —K4BI
ZF2NE —W5ASP
ZF2RA —K7AR
ZK1DI —DK1RV
ZK1KTT —OKDXF (1)
ZK1TNN —OKDXF (1)
ZK2CK —HB9BCK
ZL1BMG —W6NGW
ZL7IJK —DK7YY
ZS26BI —ZS1FJ
ZW4M —PY4MBJ
ZXØZ —PY1LVF
ZZØZ —PY1NEZ
ZZ1Z —PY1NEZ

3C5I —Alan, c/o Mobil Equatorial Guinea, P.O. Box 13908, Dallas, TX 75313
9H1FA —Mario, 79 Valley Road, Msida, MALTA
9J2DR —Richard Dandine, P.O. Box 30062, Lusaka, ZAMBIA
9M6CT —Phil Weaver, P.O. Box 7, Bangkok 10506, THAILAND
AC7DX —Ron Lago, P.O. Box 25426, Eugene, OR 97402
BG2QAR —Sun Quan Biao, 65 Yichun Bel Road, Heping, Shenyang 110005, CHINA
F5TJP —M. Ronan, P.O. Box 109, F-22700 Perros Guirec, FRANCE
FR5CC —Oliver Dijoix, 40 route Gabriel Mace, CERF la Bretagne, F-97490 Sainte-Clotilde, FRANCE
HL1TXQ—Kim, P.O. Box 24, Chung Rang 131-121, KOREA
LU6EF —GACW, P.O. Box 9, 1875 Wildo, B.A., ARGENTINA
OKDXF —OKDX Foundation, P.O. Box 73, Bradlec, 293 06 Mlada Boleslav, CZECH REPUBLIC
SV0LK —Helmut, P.O. Box 9, GR-700 14 Hersonissou, Crete. GREECE
TA2LZ —A. Deniz Kahvecioglu, P.O. Box 51, Kiziltoprak, TR-81031 Istanbul, TURKEY
VR2JK —Chow, P.O. Box 88421, Hong Kong, CHINA
VR2XRW —Logan, P.O. Box 80312, Hong Kong, CHINA
VU2KJS —K.J. Shankar, Block 7, Flat 17, Mig Flats, Kotturpuram, Madras 85, INDIA
YB4JIM —Akhmad Ferdinand Lubis, 1027, Basuki Rahmat, Paelembang 30126, INDONESIA
YC1UVV—Adi Fitrato, J1 Husada 1 No 81, Cibening, Bekasi 17412, INDONESIA
YK1AH —P.O. Box 9597, Damascus, Syria

NOTES:

1. Refer to the above address for this QSL manager.

2. This route is for QSL cards sent via the bureau. Direct cards should be sent via: 350062, P.O. Box 600, Krasnodar, RUSSIA. No name was given, but that 6-digit number may be the postal code and should be part of the city instead. No other information.

3. The normal QSL Route for 3V8BB is YT1AD, unless otherwise noted. The period 19 February through the ARRL International DX Competition goes via JF2EZA.

4. This manager requests 2 or 3 IRCs to help with costs; do not send green stamps.

5. This is a mail drop only. Do not include German mint stamps as the cards will be forwarded to Russia for processing.

FM, Repeaters & VHF

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Mandatory bandplan adherence

Strict adherence to what are now voluntary bandplans may soon be federal law. This as the ARRL Board of Directors faced the growing problem of FM incursion into what is traditionally non-FM spectrum during its first of three annual meetings held in 1998.

Last month we pointed out that weak signal and other non-FM interests on VHF and UHF are finding it all but impossible to deal with the torrent of FM simplex operators who ignore established voluntary bandplans and set up anywhere in the bands that they please. Rather than let the problem reach epidemic proportions, the Board of Directors said that the ARRL will ask the FCC to put teeth into the voluntary band plan concept. The League wants the Commission to issue a 'declatory ruling' that says any operation that conflicts with established, voluntary band plans and causes interference or adversely affects others operating in accordance with applicable band plans is not good amateur practice. As such it should be considered a rules violation.

But such a ruling would go way beyond protecting weak signal and other VHF users from being harassed by FMers. It could also be applied to problems on the high frequency bands where specialized modes tend to collide with SSB and CW. It is also a flexible plan since it does not cast any current specific set of frequencies into legalese 'concrete.' Rather, it codifies the ARRL approved bandplans for each amateur band as they are now, and as they might evolve in the future as technology advances and spectrum users adopt new modes and interests.

Whether or not the FCC is willing to issue such a ruling and how it will be enforced is unknown as this is written.

Repeaters vs. remotes vs. digipeaters

I do not think that there is any Ham alive who better understands the Part 97 rules and regulations, as they apply to FM and repeater operation, than my longtime friend Chris Boone, WB5ITT. Chris originally hails South-East Texas not far from Beaumont where he was one of the state's youngest pioneers in FM relay technology. These days you can find him in Dallas where he currently serves with the coordination arm of the Texas VHF FM Society. He is also with the Louisiana frequency coordination board — the only Texan to ever serve on the Louisiana board and serve on both councils at the same time.

Like me, he is a Broadcast Engineer, albeit he specializes in sound (as in radio) while I do pictures (as in television). Most of all, Chris is a Ham who really understands FM and repeaters and is eager to help anyone in need of information or advice.

Chris and I met many, many years ago thanks to Jim Hendershot, WA6VQP. When Jim started the original Westlink Amateur Radio News back in 1978, Chris — then barely out of his teens — was one of the first reporters. His specialty was matters dealing with FM, repeater, and repeater deregulation. Those of you around back then will remember that deregulating repeaters was a big item back then.

Over the last two and a half decades Chris and I have managed to keep in touch, albeit there have been long periods when we would not hear from one another. One of the mediums that has helped to bring us back together once again is the Repeater Owners Reflector on the Internet. When a question comes up regarding the application of FCC Amateur Service Rules to relay communications, Chris is usually among the first to respond. His answers are always clear, concise, accurate and educational to read. Such was the case when another Ham on the remailer asked for an explanation of the "legal" differences between repeaters, remote-bases and digipeters. Chris says that all of the information is in Part 97 itself"

"A repeater retransmits other amateur signals at the same time on another frequency and is bound by Part 97 to specific subband allocations." (See Section 97.3 Definitions and Section 97.205 for repeater operation.)

"A repeater is not limited to voice. Any mode can be used in repeater mode. Traditionally it is voice, but there are other modes with ATV and RTTY repeaters being the most common. The system is usually mode specific (though a similar device known as a Linear Translator is not).

"A Remote Base is not defined in the amateur rules, but a 'Remotely Controlled' station is. The term Remote Base is a Ham Radio shortened or 'hamspeak' name to describe one, but the FCC Rules do not use 'hamspeak' terms.

"A Remotely Controlled station can be controlled by wireline (telephone, etc.) or radio. If by radio, it must be controlled by an Auxiliary Station. (See Section 97.213 for Telecommand of an amateur station and Section 97.201 for an Auxiliary station.)

"A DIGIpeater is any amateur station using a specified set of digital codes that 'store' and 'forward' a message for delayed from real time delivery. (See Section 97.219 and 97.221 for rules that apply specifically to DIGIpeaters.)

"Any rules that address DIGIpeaters override other rules that may conflict. IDing is still required as there are no rules written that specifically address DIGIpeater identification.

"Frequencies of operation and forwarding of third party traffic for DIGIpeaters is covered in 97.219 and 97.221. These override any other rules which pertain to 'repeater' operation."

Chris adds that the ways the rules are written, an amateur station could be used as any of the three at any time but not at the same time. Also,restrictions on who can do what based on a given amateurs class of license do apply.

6 Meter 10 Meter intercom channel

Should the 6-meter DX alert frequency of 28.885 MHz be changed to accommodate Technician Plus hams with privileges on 10 Meters? Several Hams are pushing the idea of moving the monitoring channel down to a frequency between 28.3 and 28.5 MHz so that Tech Plus Hams can join in. They say this would permit more people to take an interest in 6 Meter DXing, act as an encouragement to the No Code Techs' to at least pass a 5 wpm code test and, hopefully, decrease the gap of hostile feelings between Technicians and higher class licensees.

While the plan has received the support of long time users of 10 Meters, it is under attack by those who would eventually benefit the most from it, these being the codefree Technician class Hams.

While this should be a discussion limited to spectrum use, it's not happening that way. Instead there have been numerous postings to "rec radio" on Usennet and the various VHF Internet remailers by people identifying themselves as codefree Techs. Most say that the plan is totally unacceptable because it still requires them to learn the Morse code. They say that this is a waste of time and they simply will not do it.

Want to link?

Don Trynor, VE9NZ, in Saint John, New Brunswick, Canada asks if there is anyone who might be interested in doing some repeater linking using the Internet. Don tells me that he currently has the VE9BSQ UHF repeater on 448.700 MHz connected to I-Phone using RptrLink. He says that he is looking to do a 24 x 7 connection with another repeater or network of repeaters. If anyone is interested in such a project, please contact him by e-mail to trynor @nbnet.nb.ca.

Timecode by radio

Ever hear of SMPTE Timecode? Unless you work in the broadcast industry this term is probably unfamiliar. For those who have never heard of Timecode, it is a method of putting frame numbers onto videotape so that a video editor knows where he is when editing a television show. The reason you have never heard it on the air is that until now nobody has ever thought to use radio to transmit it.

Now a company called Pro Source has introduced a new device called the Scriptboy. The system consists of a miniature UHF transmitter operating near 418 MHz that connects to the studio timecode source. A miniature receiver and timecode reader is attched to a clipboard. This lets a person taking production notes see the timecode numbers without being restricted to one place where there is a wireline connection.

While timecode will be a new signal for monitoring enthusiasts, it won't mean much even if you buy or build a timecode reader. All it will be is a bunch of numbers that tell the hour, minute, second and frame of a TV show as it's being taped.

VHF changes in the U.K.

A number of major changes took place in the United Kingdom's VHF and UHF allocations during the past twelve months. The main adjustment was that part of the 10-Gigahertz band, from 10.150 to 10.300Gigahertz, was withdrawn from that nation's Amateur Service.

Changes were also made to the identification requirements when operating on a repeater. In this case, the simplified U.K. identification requirements for net operation no longer apply to operation through repeaters. Rather, the call signs of all stations involved in a QSO or repeater net must be given at the start and end of communication with each station, as in normal operation in the U.K. (Via GB3RS)

RAC on spectrum usage

The Radio Amateurs Canada VHF/UHF Spectrum management committee chaired by Ontario South Director Dana Shtun, VE3DSS, has released an interim version of bandplans covering the microwave spectrum from 3 GHz to 250 GHz. According to their report, there are eight (8) amateur bands in this part of the spectrum, five of which contain allocations in which amateur radio has primary status.

RAC believes that there is strong competition from powerful industrial interests for most of the spectrum below 75 GHz, so we will not retain our primary status long unless we make good use of it. The RAC bandplans suggest how the frequencies can be (and are being) used by Canadian amateurs.

The society says that these bands represent a total of nearly 23,000 MHz of spectrum that we now have access to. Please look at the new interim band plans, and send comments to Dana Shtun at ve3dss @aracnet.net .

From the e-mail box

From: kb7aqd@heber.ampr.org
To: billwa6itf@aol.com

Bill: Thank you again for reprinting my packet bulletin about the

Wilderness Protocol back a number of issues ago in ***Worldradio***.

I've printed up some articles for the Arkansas QRP Club bulletin promoting Hams working VHF-FM DX as unique records. Your suggestions about the $20 6M AM DXer sounds great, and I will make periodic calls on 50.4 MHz AM with my newer DX70t Alinco and hope to hear some new Hams on our Magic Band. Sounds like a neat idea for a Special Event! At an antique show, bring along a 6M tube AM classic rig, and make up special QSL cards.

Read about the MFJ 6M FM and SSB rigs! Looks like a neat way for no-code Technicians to work ionospheric DX.

Ever consider an AM/FM-only VHF contest? Pick a weekend that's not used by other VHF contests... and establish awards for new grids, distances, states and even DX countries on 6M and above running these wideband modes.

Or, who will be the first 6M AM WAS winner? Or 2M AM VUCC?

I've got my AEA Halo hanging from the ceiling...and know there's gotta be some local 6M DXers! They just need to know that they need to turn on their rig and listen for band openings.

Robert Homuth, KB7AQD

Water height vs. SWR

Recently, Joe Szczech, K1IKE, posted a rather interesting question to the repeater owners remailer. Joe says that he had a conversation with a local repeater organization member. The group had mounted a 2-meter antenna on the local town water tank for a repeater installation.

It seems that the level of the water in the tank, over a course of time, varied the VSWR of the repeater antenna system, so much that they had to abandon the site.

Joe says that the tank was metal. He is curious as to how water inside a metal tank could affect the SWR of an antenna mounted on the outside of the structure. If you have any ideas, please send them to Joe via e-mail to joecheck@snet.net.

A 10-4 complaint

Has anyone heard the story about the unlicensed stations now labeled as "outbanders" complaining furiously in Spanish last December? This, following a series of openings, lit up 10, 6 and 2 Meters.

To be honest, I did not hear them personally. But several Internet postings say that these interlopers into our 10 Meter band were bent out of shape: "... over all the CW signals garbaging up 28.000 to 28.040 this past weekend." A 'loose' translation of one commenter even suggested that: "... Hams should move their CW frequencies up the band so we won't interfere with South American business operations."

Well, I have a better idea. Keep in mind that we are Hams and they are not. We have licenses and they do not. We are supposed to be there and they do not even belong on the air. So, how about we amateurs doing a lot more CW when 10 Meters is open and concentrating our signals between 28.000 to 28.040 MHz, beaming South. And that's a "Big 10-4!"

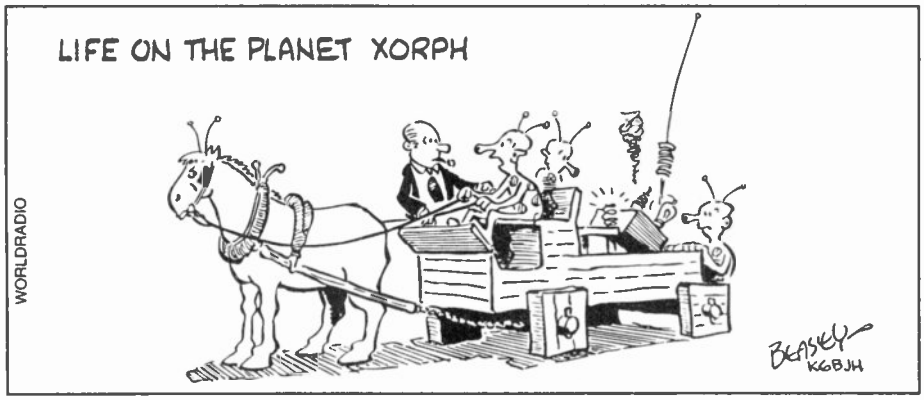
See you in Dayton and Rochester

This is another of those months when I will be living on airplanes. In addition to some business trips, the Dayton Hamvention is the weekend of May 15-16-17. As usual, my "Newsline" organization will be sharing a booth with Hap Holly, KC9RP's "Radio Amateur Information Network" and Vern Jackson WAØRCR's "160 Meter Gateway Net."

Newsline will also be hosting the 2nd Annual Hamvention Ham Radio Town Meeting. And once again this session will be carried live on the world-wide-web in RealAudio by Tuscon Amateur Packet Radio at www.tapr.org. The weekend of May 29-30-31 I will be at the Rochester Hamfest in upstate New York. Two sessions are planned for Saturday the 30th. "Dealing With the TV Broadcast Media" will take you step by step through understanding the way that various types of television new stories are built. I will also attempt to explain what a TV news crew expects from you when they show up at your front door during a time of crisis.

Later in the day we will present "This Is Newsline," — a slide and sound presentation detailing how we put a Ham Radio newscast together and deliver the latest information to the Amateur Radio public.

There are two things I'm hoping for. The first are flights that are'nt tight as a can of sardines. More important, I hope to meet or QSO many of you along the way.



MOBILE RADIO AIN'T GONNA WORK--- THE RADIO KEEPS BOUNCIN' OFF THE MOUNTS

Search And Rescue Communications

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

Let's talk about a critical component of a communicator's role while operating in support of any public safety incident in keeping a radio log. When I brought this topic up during an informal gathering of Amateur Radio folk, their first image was that of the "standard" QSL type of log. You know, the log where you write the date, time, frequency, call sign, signal report sent and received, and perhaps the other station operators' name and location. Then there's the column for QSL card sent and received.

Some of those at our informal gathering had never seen the standard Amateur Radio log. Their operating had been done on frequencies covered by their Technician license, and they knew what QSL cards were, but had none printed, kept no operating log, and were unclear on the concept.

I must confess that in a quick review of many past columns, I could not find any mention of the importance of, and the techniques of, keeping a formal written radio log. Yet it's critical to your effectiveness, especially if you're at an emergency operations center (EOC), net control station (NCS), or at any other critical station (read that as usually at a fixed location).

Let's talk logs. Public safety (police, sheriff, fire, etc.) generally use a multi-channel tape system. This is often a slow-speed tape recording system that has multiple recording channels that include telephones, radio channels, and perhaps an office microphone. Along with the audio channels, an accurate clock is digitally recorded as well. If the need arises and the dispatch logs are to be checked (usually for internal investigations and court cases) the audio tracks are often transcribed. You'll see this type of "log" in almost every major aircraft accident report done by the National Transportation Safety Board (NTSB). The NTSB report often includes transcriptions from the tower, air traffic control center, and from the aircraft cockpit voice recorder.

The Written Word

But Amateur Radio operators seldom have this level of logging sophistication, yet radio logs are just as important so we're looking primarily at a written log of some type. This written log should be detailed enough to be used in a procedural investigation and to allow possible reconstruction of events in the case of an accident investigation (an accident involving some element dispatched through your station). I use a custom printed form with columns for time, frequency, call sign, and comments. At the top of the log there is a space for my call sign, the tactical call sign, the mission or incident number, the date, a place to put the page number, and a place for the operator name.

There are several levels of logging. The basic level would include the date, time, station contacted, and the type of traffic passed. I've seen listed under the "traffic passed" column such entries as "informal status report," "coordinates transmitted," and other such brief entries. A more complex log would include times of operation (when the station was on the air), who was operating the station (sign in please), frequencies used, and a synopsis of what was transmitted or received.

In the more advanced type of log, a summary of the 'informal' traffic would be listed, such as "search team is breaking for lunch," or "search team reports clear weather and normal operations." Each entry is easily interpreted by anyone reading through the log and, essentially, the log is a complete stand-alone documentation of the complete station activity.

I prefer the latter type of log and "memo" and record notes related to the mission at hand. This could include items such as "emergency power tested," "station ground connection verified," "atmospheric noise heavy from nearby thunderstorm," or any other information you, as the operator, feel would be valuable if an investigator read through the log.

Another important item to include are the "negative" contacts and the "monitored" contacts. If your search teams are expected to check in every 30 minutes, it is important for the base station operator to note any missed scheduled contacts. The station is often the ONLY contact for a field team in a very hazardous duty. If a team (ground or air) encounters trouble, the communications room will be the first to realize something has happened, and the only link to getting the team assistance. So my log would show that I attempted contact with a field unit and that no response was received.

I also include items of mission importance that I monitor off the air. This could include transmissions between search units, from radios tuned to frequencies used by other participating agencies, and even public media broadcasts. Again, any source of communications that I, the communications operator, feel is important to the mission should be logged.

Telephone Calls Too

The final item to mention are telephone calls. Under "frequency" I would just write "phone" and in the "call sign" column, I list the number called or a number that would reach the caller. Sometimes the radio room handles telephone overflow

and you may handle a critical lead for the search mission. You may not know what information the incident commander requires, so always get a telephone number so the caller can be recontacted.

Some of you are going to ask whether or not I endorse handwriting, typewriter, or computer. Here's my method for keeping a log, developed many years ago as a Highway Patrol dispatcher and Civil Air Patrol mission operator. (I must clarify that my handwriting is almost unreadable. I've used a typewriter for so long that the skill of writing by hand is almost non-existent.)

I keep a pad of clean white note pads to use. These pads are half the size (8 by 5) of a regular sheet of paper. There's no lines on the paper and I orient the paper the "long" way. In the upper right hand corner, I begin to sequentially number the sheets, thus when I first get on the air, the first sheet is number one. I circle the number so I know it's a page number. I also date the first sheet and note the time I've opened the station.

As I write my "log" I keep track of time (I prefer local time, by the way, because it's easier to record by looking at my watch without not needing to add or subtract hours), frequency, call sign of contacted stations, and then the transmission contents. I find that a long transmission just about fills up one sheet of paper with my large scribble. This tends to limit my transmission to way under the long-winded category. I can put a whole number of short transmissions on a single page, drawing a horizontal line between transmissions.

Although I cannot write for others to read, I have developed my own version of abbreviations and short notations that I can read. So during calm periods in the communications room, I transcribe my log onto formal radio log forms with a typewriter or into a computer logging program. Either method works for me as long as I do it while the information is fresh. If I wait a week or so to do the log, I have a difficult time decoding my written notes. I should note that when I finish transcribing each written page, I put a large diagonal line down each page, top right hand corner where the page number is, to the bottom left hand side. This is my indicator that I've completed transcribing the page. I don't usually keep my written log once the transcribed version is done.

I have tried to type the log (typewriter or computer) in real time, but more often than not, get behind or record the wrong information (time or call sign primarily). If you can do the on-the-air job and type at the same time, great. It just doesn't work for me. I might also note that I affix my signature to the beginning and end of the log I keep, not so much as a legal requirement but as a personal statement that I've placed my name on it to attest to its accuracy.

Over the years I've also developed a love for yellow sticky notes. I use these to track field units, one color for aircraft, another color for ground teams, etc. I put the unit's call sign on the note and then keep track of the half-hour checkins. I move the notes from one side of the console to the other as they check in. I set my watch timer to ring every 30 minutes to remind me in case it gets busy. In this way, I can assure the incident commander that every field team is accounted for on a regular basis. If the team forgets, I give them a call. When the team returns to base, I remove the sticky note from the console and that helps me keep track of resources that are on the front line and often doing hazardous duty.

Another "gee whiz" item I built is an identification timer. This runs almost forever with a 9-volt battery and every 10 minutes either momentarily lights a lamp or beeps a tone to remind me to give my call sign. In the excitement (or boredom) of public safety operations, I often forget to legally identify. We often use tactical calls (such as State EOC, or mission base, etc.) and it's easy to forget the FCC's ID requirement. I note that once one station gives an ID, others follow suit so it's a good example to set.

Stay Healthy

About three weeks ago I got hit with THE flu. For a couple of days I was looking for the grim reaper to knock at the door. What an awful experience. I'm told that being tired, not eating right, not exercising regularly, experiencing stress, and not getting enough regular sleep all contribute to our bodies being susceptible to illness.

In the case of a virus-caused flu, the only cure is time and lots of rest. I also learned that if you catch the flu and don't rest, the complications can be fatal. It took two full weeks for me to lose the respiratory flu and then the stomach flu (talk about a one-two punch). I attribute the severe bout to my non-attention to exercise, assorted self-induced stress, lack of sleep, etc. In other words, it was my own darn fault.

While I was sick I missed a swap meet, an ARES meeting, and a demonstration of the AT&T disaster response exercise. I've also learned the wisdom of getting a flu shot and a pneumonia shot. I would encourage all of you to do likewise. (And eat right, sleep well, get some exercise on a regular basis, and de-stress!) Keep healthy! We cannot be of service if we can hardly move.

Until next month, stay healthy, get involved in public service, and enjoy Amateur Radio!

Agalega & St. Brandon

4Z4DX and others will be active from Agalega and St. Brandon in May. Callsigns will be 3B7AZ and 3B7/HB9JAI. — *DX News Sheet, Newsline*

The Youth Forum

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

Join the League of Young Amateurs!

The League of Young Radio Amateurs (LYRA) is a brand-new national club for all young Amateur Radio operators to meet each other on the air, participate in special events, and exchange ideas! The club was created on America Online in late December 1997 after many AOL members became interested in forming a youth club on the Radio Communications Forum bulletin board (Keyword "Ham") because there was no well-known national club for young Amateurs at the time. The interest seemed extremely high among several of the Amateurs who responded when it was first announced!

As of the time this column was written (late February), the club had not been completely formed. A national membership drive was planned to occur in mid-March. There are approximately 30 members in the LYRA — 25 of whom are licensed Hams — who live in Alabama, California, Florida, Illinois, Ohio, New Mexico, New York, Rhode Island, Texas and Wisconsin.

The primary officers are: President (co-founder): Christopher Arthur, KT4XA, kt4xa@qsl.net; Vice President: Brian Kiepura, KC8ESL, kc8esl@aol.com; Executive Vice President: Chris Gootee, KB9JKS, webmaster7@webtv.com; and Treasurer (co-founder): Tony Olivero, N9ZWM, n9zwm@aol.com.

Meetings of the national officers occur on the Internet, and meeting minutes are distributed via e-mail to all members who have e-mail accounts. Local groups and sections may coordinate their own meetings so that they may plan local events or recruit other young Amateurs into the club.

For those of you wondering if there are any club nets, several are in the works! The national net will be held on the 20-meter band, on a frequency, date and time that will be decided soon. There is also a VHF net in the works for the Chicago-Milwaukee area by Bryan, KB9QVT. The club will be split into sections (much like the American Radio Relay League is) and the individual sections and local groups may establish their own nets, which are coordinated through the YARL President, Chris, KT4XA. Please e-mail or write Chris if you have any questions regarding national or local nets! His addresses can be found elsewhere in this column.

If you, or anybody you may know, are interested in joining the League of Young Radio Amateurs, please contact the Executive Vice President, Chris Gootee, KB9JKS. His e-mail address is webmaster7@webtv.com, and his postal address is 7532 Van Buren Ave., Hammond, IN 46324. The only criterion to join is that you must be age 19 or under. There is no need to be licensed, but it is suggested that you are or that you are studying to become an Amateur Radio operator! If you wish to obtain club information, or want to contact any of the officers, please write to Christopher Arthur, KT4XA, 606 Underwood Road, Russellville, AL 35654-8123.

W7ASC — Teaching youth about Amateur Radio!

The Center for Amateur Radio Learning (CARL) is one of the many exciting exhibits of the new Arizona Science Center, located in Phoenix, AZ. Their goal is to expose the thousands of visitors who come through the Arizona Science Center each year to Amateur Radio by answering any questions they may have, and even letting them experience Amateur Radio firsthand at the on-site station, under the guidance of licensed volunteer operators operating under the call sign W7ASC! The Arizona Science Center is a facility dedicated to exposing children and adults to science and technology in a friendly "hands on" manner. Approximately 500,000 visitors are expected to pass through the science center each year, half of those being children. Technology has become an essential part of our society and exposing children to radio communications and electronics can lead to a lifelong interest in science. This is an opportunity not only to recruit new Amateur Radio operators, but also a project which can lead young people to a career in technology-related fields.

Amateur Radio station W7ASC includes a Kenwood TS-790 which has been donated by Kenwood Communications, a Yaesu FT-990 donated by the West Valley Amateur Radio Club and the CARL is using a $5,000 grant from the American Radio Relay League Foundation to help fully equip the station. In the initial phase of operation they are operating on HF, VHF, UHF, and packet radio. The CARL project celebrated its First Anniversary at the Arizona Science Center 12 April 1998. The station has been on the air daily 10:00-5:00. Over 70 volunteers from the Phoenix area have been working in shifts to keep both

the HF and VHF/UHF radios on the air! In the future the CARL hopes to employ as many modes of Amateur Radio operation as possible including satellite communications and ATV.

If you are ever in the Phoenix area, you may visit the Arizona Science Center Amateur Radio station, W7ASC, daily from 10:00 a.m. - 5:00 p.m. For questions relating to the Arizona Science Center, please call 602/716-2000. If you are looking for information regarding the W7ASC radio station you may call 602/716-2082.

For those of you active on the Internet, head over the W7ASC's home page at http://www.w7asc.org! There you will find information about the station, and you may also sign up as a volunteer if you live in the Phoenix area.

The Center for Amateur Radio Learning is actively seeking help from within the Amateur Radio community to keep the station staffed every day, Monday though Friday 9 a.m. - 6 p.m., as well as Saturday and Sunday from 10 a.m. - 6 p.m. If you live in the Phoenix area, please consider volunteering some of your time to this important project. This is a great opportunity to expose Amateur Radio to a new generation and to keep Amateur Radio moving into the 21st century!

Wow! Two great opportunities for young people to join our ranks as Amateur Radio operators! Keep up the great work! As always, if you have any topics I can write about or just want to say hello, I can be contacted via any of the addresses at the top of this column. Keep those letters and e-mails coming as I enjoy hearing from all of you.

Don't forget about the ever-so-popular ARRL Field Day which takes place on the weekend 27 June! Be sure to participate with your local Amateur Radio club or group, and invite your friends to operate as well. Anybody interested in this awesome hobby will definitely be hooked once they pick up the mike and make a few contacts this particular weekend!

Until next time, 73, de Brian, N5ZGT

Be sure to take in the Youth Forum at Dayton Hamvention!

Quarter Century Wireless Association, Inc.

John G. Troster, W6ISQ

Sunspots & Solar Flares

LEO WITKOWSKI, K1QPJ

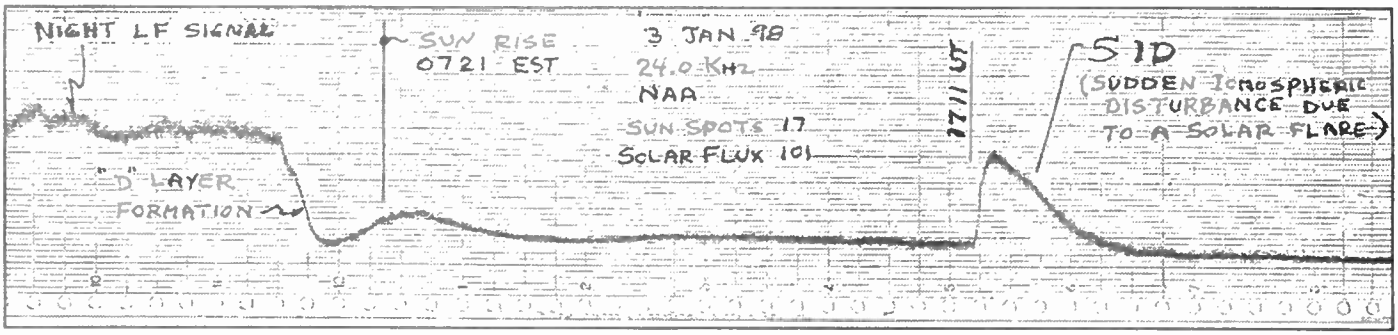
Portions of this article are reprinted from the QCWA Journal, Winter,1997. *If you are inclined to think that you could be doing more in Amateur Radio, you may find the following interesting.*

Most Hams are communicators, I think. They use CW or phone to send messages to one another. Others use RTTY, Slow Scan TV, Packet radio and Satellites. Then there those who take pleasure, not in communicating, but in building and experimenting with radio gear, circuits and antennas. I guess, there other activities pursued, a bit out of the mainstream of Amateur Radio. As with many activities we undertake, over time, our interest in it waxes and wanes. My story of another activity, a facet that is much related to Amateur Radio follows.

Early 1989, my 3.5 inch Questar telescope sat in the corner of our den, unused because I disliked the bone chilling New England nights, when I wanted to be observing the planets and other night sky objects, until I read in the *Sky & Telescope* magazine of an invitation to join a group of sunspot observers with the American Association of Variable Star Observers (AAVSO). I signed on, thinking I could now use my telescope for some meaningful daytime astronomy — the temperatures would be more to my liking and the object of my observation would not be hard to find.

After studying the AAVSO material on sunspots and several weeks of practice, I began a daily task each morning, of taking the telescope out and looking at the sun and recording the number of sunspot groups as well as the total number of spots. At the end of the month, I would send to the chairman of the Solar Division a report of my daily counts. The report, combined with about 60 others, is then sent to the National Geophysical Data Center and other institutions that request them. With time, it becomes clear to see the connection between the changing sunspot count and changes in HF propagation.

Toward the end of 1989, I signed on to do monitoring for solar flares for the AAVSO. Solar flares are detected indirectly by monitoring the signal level of a VLF CW station (I monitor NAA on 24.0 kHz, Cutler Maine). They occur in and around large sunspots, which are highly dis-



turbed magnetic areas on the surface of the sun. Flares release in a short period of time a large amount of UV light and X-rays. About eight minutes after the occurrence of a flare, the increased radiation reaches the Earth's Ionosphere causing an increase in Ionization especially in the "D" layer. This in turn causes an increase in absorption of HF and lower frequency radio signals lasting from a few minutes to several hours. As the ionized gases recombine, signal levels return to normal.

The first Sudden Ionospheric Disturbance (SID) receiver I built was a three-transistor, two-inductor type designed by Arthur Stokes, N8BN. The antenna is a tuned loop type, made of 75 turns of #26 copper wire. The output of the receiver is fed to a Rustrak milliamp strip chart recorder. Later a second SID receiver, a gyrator-tuned type designed by N8BN, was built because of its sharper selectivity. And still later, an asymmetric integrator circuit designed by Casper Hossfield, ex-W2DNX, and yours truly, was placed between the SID receiver and the chart recorder. This helped to eliminate the scatter in the trace of the recorder caused by electrical storms, producing a sharper trace.

The SID receiver and recorder run continuously. Each morning, with the help of my wife, Lorraine, WA1EDR, I analyze the previous day's chart and record my finding. At the end of the month, I e-mail my findings to a SID-receive person, KB9RFZ, at the University of Indiana. He, in turn, submits a combined report from all SID stations (only 23 worldwide — 19 in the U.S., 1 in UK, 1 in Spain, 1 in South Africa and 1 in Switzerland) to the National Geophysical Data Center in Colorado. This data is compared to the data from the X-ray satellites and helps to confirm the occurrence of the solar flare events.

On 18 September my station, with two other stations recorded three very small SIDs. The flares that caused these small SIDs were rated C-1.5 and C-1.6 by the National Geophysical Data Center, near the limit of sensitivity of X-ray satellites. This indicates that the sensitivity of the SID receivers is about equal to that of X-ray satellites. The interesting part is that we each have spent about $200 to build our SID stations, which can detect solar flare events to about the same degree as the National Geophysical Data Center, with its X-ray satellites costing many millions of dollars.

Solar flare events and other solar activities are of interest and concern to many in the electrical distribution, communications, air transportation and other services because of the impact these events have on the ionosphere and the Earth's magnetic field.

Sunspot and solar flare reporting is a very interesting and rewarding activity, one that will allow you to learn some of the physics behind propagation and radio in general. If you want to do something for science, join our group. For technical details, write to Arthur Stokes, P.O. Box 398, Hudson, OH 44236. His e-mail address is astokes@gwis.com

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., Tucson Med. Cntr., Grant & Beverly St. in the AZ Rm. of the Volunteer's Bldg. (1st bldg. on the left going north off Grant). 2/99

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

CALIFORNIA

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

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

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

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

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

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

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. 1/99

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

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

South Bay ARC. P.O. Box 536, Torrance, CA 90508. Meets 3rd Thurs./monthly, 7:30 p.m., Torrance Memorial Hosp., 3330 Lomita Blvd., Torrance, CA. Talk-in on WB6MYD rpt. 244.38(-). Info: (310) 328-0817. 7/98

This month ... Southern Sierra Amateur Radio Society, from Tehachapi, 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.

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

Mount Diablo Amateur Radio Club. P.O. Box 23222, Pleasant Hill, CA 94523. Meets 3rd Fri./monthly, 8 p.m., Our Savior's Lutheran Church, 1035 Carol 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. E-mail: ac6hf@juno.com or http://www.ns.net/~NHRC 3/99

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

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

River City A.R.C.S. Meets 1st Tues./monthly, 7 p.m., SMUD Bldg., Don Julio at Elkhorn, Sacramento, CA. License classes offered. For info 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. 2/99

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

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

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

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

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. Gerald Grossardt, (707) 447-0869. 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(-). 2/99

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

Westside Amateur Radio Club. P.O. Box 11092, Marina del Rey, CA 90295. Meets 4th Tues./monthly, 7:30 p.m., West Dist. Red Cross Bldg., 11355 Ohio Ave., W. Los Angeles, CA (VA Cntr. grounds). Net every Tues., 8 p.m. 146.67(-) except mtg. night. Website: http://www.qsl.net/warc Voice mail: (310) 917-1100. 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. 2/99

COLORADO

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

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

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

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

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

GEORGIA

Dalton Amateur Radio Club, Inc., (DARC). P.O. Box 143, Dalton, GA 30722-0143. Meets 4th Mon./monthly, 7:30 p.m., Magistrate Court Bldg., corner of Waugh St. & Thornton Ave., Dalton, GA. Info: Harold Jones, N4OTC, 706/673-2291. 4/99

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

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

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. 1/99

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

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

The Starved Rock Radio Club, W9MKS. P.O. Box 198, Tabor St., Leonore, IL 61332. Meets 1st Mon./monthly, 7:30 p.m. Rptr. net 7 p.m. Wed./wkly., 147.12(+). 1/99

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-Lynnfield Methodist Church, Vernon St., Wakefield. Info: Jim Chamberlain, N1AKG, (781) 944-5098. 3/99

MICHIGAN

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

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

MINNESOTA

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

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

MISSISSIPPI

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

NEVADA

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

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. 5/99

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

NEW HAMPSHIRE

Great Bay Radio Association, WB1CAG. P.O. Box 911, Dover, NH 03820. (603) 749-2970/332-9107. Meets 2nd Mon./monthly, 7 p.m., Rochester Community Ctr. Talk-in: 147.57. 1/99

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

Hall of Science Amateur Radio Club. P.O. Box 150131, Kew Gardens, NY 11415. Meets 2nd Tue./monthly, Hall of Science Bldg., 47-01 111 St., Flushing Meadow Park, 7:30 p.m. Info: Arnie, WB2YXB, (718)343-0172. 2/99

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

The Radio Club of J.H.S. 22, N.Y.C., Inc. WB2JKJ. P.O. Box 1052, New York, NY 10002. 24-hr. hotline: (516) 674-4072. Fax: (516) 674-9600. Non-profit org. using Ham Radio to enhance the education of youngsters, nationwide. Join us — "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. Info: W.S. Black, KB2YAP, (516) 289-5587. 4/99

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

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

NORTH CAROLINA

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

Stanly County Amateur Radio Club. Stanfield, NC. Meets 4th Thurs./monthly, 7 p.m. Talk-in 146.985(-) for location. Wed. net 9 p.m. 146.985(-). Fri. tech net 9 p.m. 147.390(+). Phone: (704) 888-4815. 5/99

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, 7:30 p.m., Municipal Bldg., Clyde, OH 43410. NF8E rptr. 145.35(-) and 442.625(+) MHz. Net Sun. 9 p.m. Info: E. Remaley, KA8CAS. 3/99

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

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

Toledo Mobile Radio Association. P.O. Box 273, Toledo, OH 43697; (419) 243-3836. Meets 2nd Wed./monthly, 7:30 p.m., Luke's Bam, Lucas County Rec. Ctr., 2901 Key St., Maumee, OH. 147.270(+) Net every Sun. 8:30 p.m. 2/99

Van Wert Amateur Radio Club, Inc. P.O. Box 602, 1220 Lincoln Hwy., Van Wert, OH 45891. Meets 1st & 3rd Sat./monthly, 8 p.m. Call-in: 146.85(-). 2/99

Western Reserve Radio Assoc. P.O. Box 81252, Cleveland, OH 44181-0252. Meets 2nd Wed./monthly, 7:30 p.m., Jenkins Communications Cntr., Main St., Olmsted Falls, OH. Info: B. Beckman, N8LXY, Pres., 146.73(-), 444.900(+) MHz. 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 breakfast at Lovejoy's/Pier Point Inn. Net Wed. 7 p.m., 146.80(-). Info: 997-2323 or 997-4074. 1/99

Central Oregon Radio Amateurs, (CORA). P.O. Box 723, Bend, OR 97709. Meets last Thurs./monthly, 7 p.m., Bend Sr. Ctr., 1036 NE 5th, Bend, OR. 147.06(+) MHz. Info: (541) 389-7194. 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(+) K7ENO. For info: Tom Hamilton, WD6EAW, Tel./FAX: (541) 883-2736. wd6eaw@cdsnet.net 11/98

Umpqua Valley Amateur Radio Club, Inc. P.O. Box 925, Roseburg, OR 97470. Meets 3rd Thurs./monthly, 7:30 p.m., Douglas County 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. 3/99

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(+). 4/99

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: (757) 898-8031, W4RTZ. 2/99

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

WASHINGTON

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

WEST VIRGINIA

Jackson County Amateur Radio Club. Meets 1st Thurs./monthly, 7:30 p.m., 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. 5/99

COUNTY HUNTER

Ace Jansen, N3AHA
42857 Hollywood Park Place
Ashburn, VA 20147
e-mail: sjansen@aol.com

Last time, in March, I challenged my faithful readership to creatively propose a 4th definition of county hunting. I can happily say that I got one response: a 100% ratio of readership to responses. No, that can't be true! I know more of you read the March column, it's just that I didn't mention a prize, so you didn't feel compelled to respond. Yeh, that's it! So this month's prize winner is Dexter Anderson, W4KM, of Westerly, RI. Dex sent in county hunter definition #4 and hence wins the grand prize — his name AND call sign printed in this month's column. Way to go Dex!

County Hunter Definition #4

Well, if you were a careful reader, like Dexter Anderson, W4KM, you would have realized that county hunter definition #4 was subliminally revealed in my last column. Dex calls his award the "USA County Hunters - Plus Award," and it's for making Amateur Radio contacts to or from all 3,142 plus counties. Let's review: county hunter definition #1 was defined by Allen Zondlak, who travelled to all counties, parishes, independent cities, and the boroughs and census areas of Alaska; a total of 3,142. Amateur county hunters only count 3,076 counties for *CQ* Magazine's USA-county award (USA-CA) which affirms Allen as the only true, professional county hunter.

So, why is it that we amateur county hunters only hunt 3,076 counties? Why is it we count Louisiana parishes as counties, but hunt only 4 Alaskan judicial districts instead of boroughs and census areas? According to faithful reader (the other one) Craig Bledsoe, K4TXK, of Anchorage, Alaska, there's a "bit of misinformation about the 49th state." Hopefully this article will shed some light on the subject of ...

Alaskan "Counties"

It was creepy how many events transpired to inspire me to write this column. First, fellow ***Worldradio*** columnist, Norm Brooks, K6FO, wrote me an e-mail and gave the idea. He wondered why the counties of Alaska were so confusing. His logging program refers to Alaskan counties as the four judicial districts: Central (4th), Northwestern (2nd), South Central (3rd) and Southeastern (1st); however when he looked a call sign up in the Buckmaster CD ROM, it showed the county as Fairbanks North Star!

It was less than a week later when I pulled up the county hunters web page and saw a picture of Les Buchholz, KL7J, holding a fictitious book, Judicial Districts for Dummies and pointing county hunters to his home page, www.alaska.net/~buchholz/ak-judicl.jpg which included a map of judicial districts and ...~buchholz/cntyindx.html for converting callbook county listings to Alaskan Judicial Districts.

Then Dexter Anderson, W4KM, sent his county hunter definition #4 as I began exchanging several e-mails with Laura Walters, a very helpful research analyst from the State of Alaska Department of Community & Regional Affairs (www.ComRegAf.state.ak.us.).

Defining Boroughs

Laura admits the forms of government in Alaska can be confusing. In her words, "Alaskan boroughs are equivalent to counties; however, over half of the area of Alaska does not have a borough form of government. These areas have been divided into Census Areas for demographic and statistical purposes." You can print your own copy of a borough and census area map by viewing www.census.gov/datamap/www/02.html.

Should Alaskan boroughs be considered equivalent to counties for the USA-CA? The American Heritage Dictionary has something to say about Alaskan boroughs. Look up boroughs and you'll find information about self-governing incorporated towns in states like New Jersey, New York City's five administrative units, and "a civil division of the state of Alaska that is the equivalent of a county in most other U.S. States."

Grolier Encyclopedia says "Alaska is not divided into counties but rather into organized boroughs and the so-called unorganized borough. Organized boroughs are similar to counties, and each is supervised by a small assembly. While most of Alaska's area is in the unorganized borough, the major populated regions are incorporated cities or organized boroughs." Grolier also lists in its facts about Alaska, 25 county equivalents (this does not reflect the

changes in 1991 and 1992...see below).

Boroughs and Census Areas

Here's a list of Alaska's 16 boroughs and 11 census areas.

Aleutians East Borough
Aleutians West Census Area
Municipality of Anchorage (Borough)
Bethel Census Area
Bristol Bay Borough
Denali Borough (new Borough in 1991; this was in the Yukon-Koyukuk Census Area in 1990)
Dillingham Census Area
Fairbanks North Star Borough
Haines Borough
City & Borough of Juneau
Kenai Peninsula Borough
Ketchikan Gateway Borough
Kodiak Island Borough
Lake & Peninsula Borough
Matanuska-Susitna Borough
Nome Census Area
North Slope Borough
Northwest Arctic Borough
Prince of Wales-Outer Ketchikan Census Area City & Borough of Sitka
Skagway-Hoonah-Angoon Census Area
Southeast Fairbanks Census Area
Valdez-Cordova Census Area
Wade Hampton Census Area
Wrangell-Petersburg Census Area
City & Borough of Yakutat (new Borough in 1992; this was in the Skagway-Hoonah-Angoon Census Area in 1990)
Yukon-Koyukuk Census Area

Judicial District vs Boroughs

The four Judicial Districts have been around since before Alaska became a state. They are used by the court system and as you're already aware, for the amateur county award. As long as boroughs are not counted for the USA-CA, amateurs will still need to determine which boroughs are in which district.

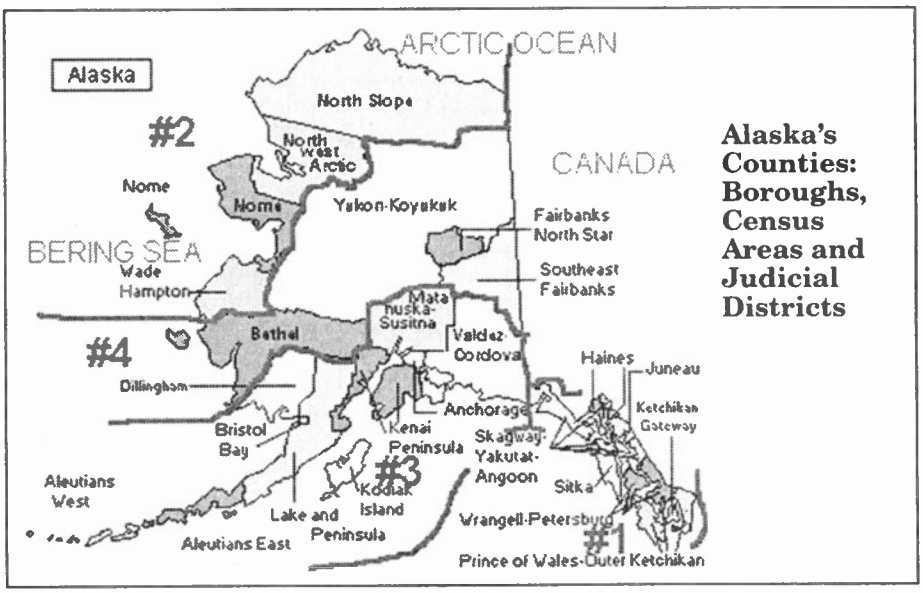
Here's a decoder ring to help you determine which boroughs and census areas are in which judicial district. This helps those of you who look up Alaskan addresses in the amateur callboook and find the borough or census area listed as the county.

1st Judicial District, Southeastern
Haines Borough
Juneau (City & Borough of)
Ketchikan Gateway Borough
Prince of Wales Census Area
Sitka (City & Borough of)
Skagway/Angoon Census Area
Wrangell/Petersburg Census Area
Yakutat (City & Borough formerly of Skagway/Angoon Census Area)

2nd Judicial District, Northwest
Nome Census Area
North Slope Borough
Northwest Arctic Borough
Wade Hampton Census Area
St Lawrence Island (Listed as a county in callbooks)

3rd Judicial District, South Central
Aleutians East Borough
Aleutians West Census Area
Municipality of Anchorage (Borough)
Bristol Bay Borough
Dillingham Census Area
Kenai Peninsula Borough
Kodiak Island Borough
Lake & Peninsula Borough
Matanuska-Susitna Borough
Valdez/Cordova Census Area
Pribilof Islands (listed as a county in the callbook)

4th Judicial District, Central
Bethel Census Area
Denali Borough (formerly of Yukon Koyukuk Census Area) Fairbanks North Star Borough
Southeast Fairbanks Census Area
Yukon Koyukuk Census Area
Nunivak Island
Saint Matthew Island (listed in callbook as county)



Alaska's Counties: Boroughs, Census Areas and Judicial Districts

If you have a city name, but not the borough or census area name, the following list will help you convert that city into a judicial district. The largest cities in each district are more likely to have Amateur Radio operators.

1: Southeastern — Juneau, Sitka, Ketchikan
2: Northwestern — Barrow, Kotzebue, Nome
3: South Central — Anchorage, Kenai, Kodiak
4: Central — Fairbanks, Bethel

Gee whiz commercial!

This has nothing to do with the flow of this article, so consider this a commercial for the Alaska Tourism Department. For some gee whiz geographic thrills, check out the relative size of Alaska compared to the contiguous United States.

www.comregaf.state.ak.us/ak_on_us.htm overlays a map of Alaska on the lower 48. At 615,233 square miles, Alaska is as wide as the lower 48 states and larger than Texas, California, and Montana combined. Okay, back to our regularly scheduled program...

U.S. Census Bureau

The Census Bureau web page www.census.gov/datamap/www/maptxt.html lists county profiles for the entire U.S. with county maps for each state (Source: U.S. Bureau of the Census, USA Counties 1996 CD-ROM tallying "3,141 counties or county equivalents"). Are they hung up on the names of "counties"? Not at all! They list detailed statistics for "counties" in every state. Alaskan county profiles include 16 boroughs and 11 census areas for a total of 27 "Alaskan counties." Virginia's county profiles include 95 counties and 41 independent cities (South Boston Independent City became part of Halifax County in June 1995...now only 40 independent cities). Nevada profiles includes 16 counties and 1 independent city. The District of Columbia, St Louis city, Missouri, and Baltimore city, Maryland are all counted as county equivalents for the county profiles. Oh, and 64 parishes are included as counties also.

I also learned from viewing these web pages that there was no longer a Sargent County, North Dakota, and the Census Bureau counts Yellowstone National Park, Montana, as a county equivalent. I totalled up every county equivalent and came up with 3,142 counties. When I called Wanda Cevis at the U.S. Bureau of the Census she was

quite amused by my interest in knowing the exact number of county equivalents. After I explained my interest, she said, "To capture the entire USA land area, you must count all the independent cities, boroughs and census areas." She also said a challenge to county hunters is the fact that Alaska adds a new borough every few years.

USA-CA

Okay, I think I've made the case that, at the very least, Alaskan boroughs should be considered county equivalents. What are we to do about our amateur county hunting pursuits? Should we advocate for becoming professionals and hunting equivalent counties, whatever they're called? If so, should we look to the U.S. Census Bureau for help? It sure seems that we should apply the same rules regardless of the name. For example, St Louis City and Baltimore City are counted as counties for USA-CA, but not the independent cities in Virginia and Nevada. Virginia and Nevada independent cities today do not count for anything for the USA-CA. What's the bottom line? My opinion: Independent cities, boroughs, census areas, parishes and Yellowstone National Park should all be counted as counties for the USA-CA. Amateurs should be contacting 3,142 counties to successfully achieve USA-CA.

I know some of you might be snickering, thinking, "That's easy for you to say, you already have USA-CA, you,re just making it more difficult for the rest of us." Yes, I may be advocating something that makes the award more difficult, and yes, I already have the award. But I have to believe this is the right thing to do. It brings more integrity and consistency to the award and doesn't alienate any of the states.

Virginians living in independent cities are wondering what they should do (they can't say they live in a county) and I'm sure Alaskans just play along and wonder when they'll be recognized as a state with "counties." Dxers are always looking for a new county to contact. We should apply the rules consistently across the states and feel happy and challenged that we have another county to contact. Nuff said!

By the way, this article is dedicated to Dexter Anderson, W4KM. Until July, happy hunting! 73, Ace, N3 aha!

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

This month will give everyone who can attend the Dayton Hamvention (15-17 May) an opportunity to visit the Joint MARS booth and to attend the general meeting, the MARS Forum, usually held during the Saturday morning session. This meeting is open to everyone and is most informative. The host of the MARS activities at the Dayton Hamvention rotates among the three services. This year's MARS host is Army MARS. The MARS Forum has featured excellent keynote speakers in the past and this year should be no exception. Stop by and meet the MARS chiefs in person. Find out more about the fine MARS programs which will only get better as new operational protocols are adopted.

Armed Forces Day 1997 also occurs this month during the Dayton Hamvention (Saturday, 16 May). While most of the stations that participated last year will be on hand, there are certain to be new facets to this great day. This is the day during which we honor all the fine men and women in our Armed Forces. This is the day when military stations interact in crossband activities with civilian Amateur operators all over the country. A highlight has always been the special message from the Secretary of Defense honoring not only the military personnel but also the Amateur Radio community and all that these fine people accomplish. Since CW is no longer used on MARS frequencies other digital modes will take its place to broadcast the Secretary of Defense message for a special certificate. Let's tune up our radios and find out what happens next.

Such crossband activities and other challenges on this day have very practical applications to the primary mission of Army MARS — emergency communications support whenever and wherever needed. Army MARS operates cooperatively with such agencies as the Directorate of Military Support (DOMS), the Federal Emergency Management Administration (FEMA), the National Communications System Shared Resources (SHARES) and other emergency relief agencies that may request our services.

In considering the interest that Army MARS members show in attending federally and locally sponsored seminars and conferences which focus on disaster preparedness, I need to emphasize that COMMUNICATIONS IS OUR BUSINESS — OUR ONLY BUSINESS.

Effective communications operation requires much practice on the part of each Army MARS member. Skills in accuracy of sending and receiving messages are basic. Originating emergency traffic is another special skill which can be quite different from sending and receiving

messages generated by other people.

One of the emergency focus programs attended by Army MARS members was the "Domestic Preparedness" seminar and table-top exercise help in Kansas City, Missouri. The program is the result of Federal legislation designed to help the country plan, prepare, and respond to a WMD (Weapons of Mass Destruction) event, such as the Oklahoma City bombing, the World Trade Center bombing, or the Tokyo Subway gas attack. The program is currently being conducted in 120 cities under a contract which was built using the assets of numerous federal agencies and funded with the Department of the Army as the "lead" agency.

Marshall "Mac" McClure, AAA7MO, the Army MARS State Director for Missouri, attended the sessions and came away most impressed with the attendant threats that we all face and the responses that are being developed. He feels that the natural disasters which have been so evident this year and last are no longer the only threats to all of our well-being. Much practice has been given to support communications to those natural disasters. This is a whole new area of concern.

He says in his report to me, "Strikes me as important, but that's just my opinion. Seems to me of all the national security threats, terrorism stands at the top of the list. ... Terrorism in some form is what we will experience next most likely. Seems to me that MARS has a serious role."

As I was reading this report, word came on my own local radio news that two men were arrested in Henderson, NV, for having in their possession a large vial of anthrax which is one of the bacteriological agents of choice for germ warfare. They were allegedly headed toward the desert of Northern Arizona. That's really close to home for this reporter. Suddenly the ease of a terrorist event really made an appropriate impression for me. This area of potential does exist.

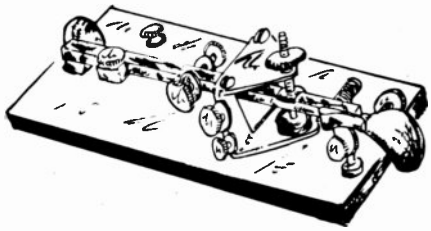
In the latest report on the above incident, the grade of anthrax was "not weapon quality." The fact still remains, however, that a terrorist event is no longer a remote possibility. We all need to be aware of the ease of such an event to be planned and carried out.

Should such an event occur and I was an aware MARS station, I would be expected to report the event to DOMS and to MARS HQ. Without any foreknowledge of such events, however, I would have difficulty drafting a concise and intelligent message for use in the emergency communications networks that would be opened as a result and operating in support of the emergency. This is why I feel that when Army MARS members have the opportunity to attend seminars dealing with any of the potential emergencies, natural or man-made, they should do so. We, in Army MARS, are not expected to deploy or to take any role on site; however, we must be knowledgeable in order to give intelligent emergency communications support.

I take this opportunity to thank Mac McClure for attending this seminar and exercise and sharing it with Army MARS members through this report and through the Missouri Army MARS newsletter. He also mentioned the "Rapid Teams" which are being set up to be the Army National Guard for service in these eventualities.

Army MARS continued its widespread support for FEMA in participating in FEMA's quarterly test of its National Emergency Communications Network. The inclusion of zip codes for each Army MARS member checking into the exercise net gives FEMA and Army MARS an accurate picture of exactly which geographic areas are manned and where there might be gaps in national coverage. In this way, both agencies know where recruiting efforts can be focused and both agencies can also know and plan for these gaps until they are closed.

Army MARS operates for every citizen of this great country and continues ... Proud, Professional, and Ready.



Positively CW

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It's probably an understatement to say that we spend a lot of time in our shacks. No matter what mode we're using, our shack is a haven, a place to put on headphones and get away from the distractions of our everyday lives. Morse operators have the added advantage of being able to communicate without even talking. I work as a merchandising representative and have to talk with people all day long. I look forward to getting home and turning on the rig, especially after I've had one of "those days." Tuning across the dial, I am transported to wherever the bands are open. I can fantasize about being on that beach in Hawaii...think about what it must be like to be watching the sunrise in Australia...hear about life in places I'll probably never be fortunate enough to visit.

Since our shack is our own special place, it should reflect our Ham personality. Traditionally a Ham shack is a rat's nest of wires, radios, keys and papers. A shack is supposed to be messy. That adds to the ambiance and shows that it is indeed our space. It doesn't have to be ready for white gloved inspections like the rest of the house. If a Ham stops by, he's welcome. Out of habit, I may tell them to "please excuse the mess," but I know the other Ham understands the clutter because his shack is the same way. If a non-Ham should come over, I just close the door to the shack.

Unfortunately, members of our household don't appreciate the esthetics of our shacks, so we are usually relegated to the most undesirable location in the house. You may have seen QSL cards with a sketch of an outhouse with an antenna. This is sometimes not that much of an exaggeration! Whether you are

banished to an outbuilding, have a corner in a basement, or the luxury of a whole room, you can still give your shack an atmosphere I call "shackness." Shackness is that feeling you get when you lean back in your chair and survey your domain.

The best way to accomplish this feeling is with wallpaper, or certificates. Just as the wallpaper in the rest of the house reflects the personality of the person who decorated it, your shack wallpaper reflects your Ham personality and accomplishments. You can't buy this type of wallpaper; you must earn it.

A new Ham will probably start out by using QSL cards as wallpaper. QSL card holders, which are available at hamfests or from the advertising section in the back of Ham magazines, are the most practical way to do this. QSL holders are clear plastic sheets with slots to display twenty or so cards without having to poke pin holes in the cards or the walls. These holders are also available for certificates.

CW related wallpaper is harder to come by than SSB wallpaper, but this makes it that much more impressive and appreciated. One piece of CW wallpaper you will want to display is the ARRL Code Proficiency Award.

W1AW plays Qualifying Runs at five wpm speed increments. Once you earn your basic certificate by proving one minute solid copy, you may earn higher speed level endorsement stickers to put on the certificate. The ARRL broadcasts the East Coast Runs on the same frequencies as the regularly scheduled Morse practices. West Coast Qualifying Runs are on 3.950. Check QST for the time schedule.

Special Events are an excellent source of wallpaper and enhance your shackness with their originality. They also give non-Hams who visit your shack something to relate to, since Special Events often celebrate diverse non-Ham related topics such as the Olympics or local celebrations around the country.

Working Special Events are a challenge for CW operators. Hams putting on the Special Events tend to concentrate more on SSB operation, but you will be able to gather quite an impressive array of certificates to display if you tune around the CW bands on weekends. If your club is planning a Special Event, volunteer to put the event on CW. Once you're discovered on CW, you will be like rare DX and have a pileup of operators trying to make contact with you! ***Worldradio*** has a column devoted to Special Events each month. When my issue arrives, I go through the listings with a highlighter and mark the Events which list Morse code operation. That gives me an easy reference guide to increase my chances of finding them on the air.

Along with Special Event stations, there are also permanent stations that will send you a certificate if you contact them using Morse code. A particularly nice certificate is available from NJ6VT, USS *Pampanito* SS-383, a submarine. NJ6VT is a very special call for the *Pampanito*. The USS *Pampanito's* WWII radio call sign was NJVT. The Pampanito ARC is very proud to put that call sign back on the airwaves in the form of an Amateur Radio call sign. Listen for them on 7.144, 14.058, and 21.150 MHz every Wednesday and Sunday, 1600Z to 2000Z.

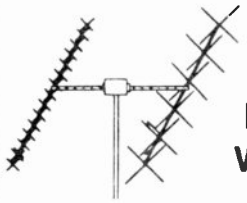
Dennis Franklin, K6DF, Lee Williams, K6IME, Dick Thomas, AB6TJ, and Hal Strunk, WA6JNZ, are the members of the Pampanito Amateur Radio Club who operate CW from the submarine. Stan, K6WG, also operates CW as a guest occasionally. Stan's call back home in the Ukraine is UU5JZ.

The station on the USS *Pampanito* is a Yaesu FT-890, 100 watts, to a 115 foot longwire from the portside of the conning tower to the stern of the boat. It gets out like gangbusters! They also use 2 Meters and 450 MHz from a Yaesu FT-5100 dual band radio to a Diamond dual-band whip mounted on top of and between the periscope shears. The radio room is a bit crowded as it is cluttered with the old W.W.II radio gear. Most of the old radio equipment works and has been used on the Amateur Radio bands. I've heard that there is enough room for about 2 operators in the radio room. Any more than that and you have to take turns breathing! For more information on the submarine, see their web page on www.wco.com/~k6df.

Individual Hams also offer special certificates for those who work them. Lynn Burlingame, N7CFO, owns the WFA Morse straight key used during the first Byrd Antarctic expedition by radio operator Howard Mason. If you have a QSO with Lynn, he'll send you an attractive certificate, a sketch of the WFA Key, and information about this key and its original owner.

These are just a couple of the many opportunities to add to your wallpaper collection. Tune around the CW bands and see what you can find! If your local Ham club needs a little life pumped into it, suggest a Special Event station for a celebration your town is having this summer — maybe the 4th of July parade or a Harvest Festival. It doesn't have to be a historic event. Sometimes the offbeat ones are the most interesting. Do you have a lot of Hams in your family? I've heard of families with multiple Ham members awarding certificates for working all the Hams in their family. Create your own certificate! There are plenty of "paper chasers," people who specialize in collecting certificates, who would be thrilled to add yours to their collection. You might get hooked on paper chasing yourself. It all contributes to the fun and challenge of operating CW, as well as adding to the shackness of your radio room. Once you are on your way with your own wallpaper collection, invite some new Hams over for a visit. When they see the impressive array of awards and certificates you have earned using Morse code, it might give them that extra nudge they need to try it for themselves.

Amateur Satellites



Terry Douds, WB8CKI

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Hello everyone! Things are moving along in space communications as we continue to wait for word on the Phase 3D launch. Quite a few events have occurred since the last article, so let's get started.

MIR has been in the news — with U.S./Australian Astronaut Andy Thomas, KD5CHF/VK5MIR, spending a great deal of time on the air! According to the AMSAT News Service, Mike Seguin, N1JEZ, reported that he had the pleasure of briefly speaking with Thomas on 15 February 1998. Mike says Andy was using the RRØDL 70-cm QSO frequencies. Allen Emer, N2YAC, also reported a QSO with Andy on the 70-cm QSO channels. Both stations said that Andy seemed to be in very good spirits, was looking forward to more "air time" in the near future, and that he enjoyed ragchewing with earth bound Hams. Tony Hutchison, VK5ZAI, had a six minute chat with Andy on 22 February at 14:25 UTC. Unlike the American stations, Tony worked Thomas on the 2 Meter MIR frequency of 145.985 MHz, also noting that Thomas was using his VK5MIR call sign.

Tony reported that Andy had informed him that things have now settled down and the MIR station is quite comfortable at the moment. He also mentioned that he has some great views of Earth!

There is a new modem aboard MIR — a KPC-9612 Plus, Revision 8.1. The command set for this TNC is different than the previous MIR TNCs. MIREX suggests a copy of the KPC-9612 manual may help in understanding the changes. For those of you who have never attempted to contact MIR via packet, its PMS, or Personal Message System (packet BBS) is on 145.985 MHz FM, 1200 Baud AFSK (also known as normal, everyday, 1200 Baud packet). It's very easy to hear as it passes overhead, and basically anyone who operates regular VHF packet radio can copy the vessel as it passes by.

Since Andy will be the last U.S. Astronaut aboard MIR (as far as we know at the present time — he'll be there until June), many of you may be attempting to work him. The MIR QSO Mode is a bit tricky, and I thought that I should go over the techniques here.

For those unfamiliar with the MIR QSO mode, MIREX lists the initial uplink frequency as 435.725 MHz, transmitted with a subaudible tone of 151.4 Hz, and the initial downlink frequency as 437.925 MHz, followed by doppler correction. Earth bound Amateur Radio stations must correct for doppler changes in order to communicate with MIR.

For more information on all of this, here's a listing from the AMSAT Weekly Bulletins on the systems on MIR:

MIR/SAFEX

SAFEX II 70 cm Repeater

(Uplink 435.750 MHz FM w/ subaudible tone 141.3 Hz Downlink 437.950 MHz FM)

QSO Mode (Uplink 435.725 MHz FM w/subaudible tone 151.4 Hz, Downlink 437.925 MHz FM)

MIR/SAFEX

PMS (145.985 MHz FM, 1200 Baud AFSK)

MIREX has created an Internet Web page containing information regarding MIR and the various Ham Radio experiments taking place from the space station.

Please check out the pages for pending and proposed projects. URLs are:

http://www.ik1sld.org/mirex.htm

http://www.geocities.com/~ik1sld/mirex.htm

After almost a year of interruptions to MIR School Contacts (due to the various crisis situations aboard the space station), they returned on Monday, 23 February. Three schools in the U.S., in California, Colorado and South Carolina, enjoyed successful two way Amateur Radio contacts with Andy Thomas aboard MIR.

AMSAT announced a new version of the venerable old standard, The Satellite Handbook, authored by Dr. Martin Davidoff, K2UBC. This brand new edition contains valuable information on satellite operating, types of antennas including "how to" articles on building your own, software, satellite Internet sites, profiles of all the current active satellites and much more. This new edition is over 375 pages in length and is filled with information, including how to prepare for the new Phase 3D satellite. This book is a must have for all satellite operators, novice or expert alike! It is a reference manual that you will refer to for many many years. The new Satellite Handbook is available from AMSAT headquarters; contact AMSAT-NA secretary Martha Saragovitz for more information.

An exciting announcement for the U.S. was that Senator John Glenn would be returning to space aboard STS-95. As an Ohioan myself, it was especially interesting to hear that one of my senators would be going aloft again. I know when the initial rumors were flying around no one could believe it, but it's true. An exciting addition to this news was that STS-95 will be a SAREX flight! Information from Matt Bordelon, KC5BTL, confirmed the SAREX payload would be aboard STS-95 as it flies in October carrying Glenn, the 77-year-old space pioneer who was the first U.S. astronaut to orbit the Earth.

NASA also confirmed that two Hams, astronaut Scott Parazynski, KC5RSY, and European Space Agency astronaut Pedro Duque, KC5RGG, of Spain, will be among the international crew aboard the STS-95 shuttle flight. Other members of the STS-95 crew will include Japanese astronaut and cardiologist Chiaki Mukai, and Americans Steve Lindsey and Steve Robinson. Commanding STS-95 will be shuttle veteran Curt Brown.

Senator Glenn, who will be 77 years old when he goes into space again, has begun his astronaut training according to NASA. He has successfully completed extensive medical tests and recently spent

time in a centrifuge, for the first time in decades. It will be an interesting flight for us all to watch for many reasons, and hopefully with the significance of the flight there will be many opportunities for us to "work" the shuttle! It's not known if Senator Glenn plans to get his Ham ticket before his return to space.

Wayne Grove, K9SLQ, of Bluffton, Indiana, has started a digital "photo album" of many of the active satellite operators on his Internet Web site. Wayne, who has an extensive background in SSTV, already had an established Internet site when he first thought about adding more satellite information. With his love for slow scan television, adding digital pictures of satellite operators was something K9SLQ felt very comfortable in doing.

All operators are invited to view the photo Web site using the URL: http://www.parlorcity.com/k9slq

In addition, he invites all satellite operators to submit a .GIF (or) .JPEG format photo via e-mail to K9SLQ at the e-mail address: k9slq@parlorcity.com

Wayne reports if stations do not have the means to capture a computer graphic file, they can send a snap shot print to K9SLQ and he will scan the image. He asks all operators who send electronic or regular mail to him to please include name, call sign and e-mail address. If mailed photographs are to be returned, please include sufficient return postage.

Mail your photograph to: Wayne Grove, K9SLQ, 1025 W. Lancaster St., Bluffton, Indiana 46714.

I'm rapidly running out of room for this month, so I'd better bring things to a close. If you happen to make it to Dayton in May, don't forget to stop by at the AMSAT booth for current information on P3D. I'll be there the entire weekend, so stop by and say hello. Keep working those LEOs and AO-10, and keep your fingers crossed for some exciting information concerning P3D's launch!

50 years of practice

Fifty years ago, Bart Bartlett, W6OWP, began the West Coast code practice and qualifying runs. The first official announcement appeared in the June 1948 edition of *QST*. Congratulations, Bart, and thanks! — *ARRL Letter*

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.*

Unfinished drama

LENORE JENSEN, W6NAZ

"It was a Saturday morning and I was riding alone in my little Honda, listening in on a Ham Radio conversation between two women," recalls Carl Nelson, NJ6K, of Whittier, California.

"The only reason I took notice of the conversation was that I realized I had heard one of the women before and recognized her voice. The previous time she had mentioned she was blind and I was struck by her cheery voice. But this time her voice was different; it carried a definite tone of weariness and sadness.

"I heard her say to her friend, 'I'm really upset and worried sick. My son went to the Colorado River for the weekend to water ski. A boat ran over him and almost cut off his legs.' Then she paused and said slowly, 'He may lose his legs.'

"'That's awful,' said her friend. 'Where is he now?'

"'In a hospital in Parker, Arizona, and there's nothing I can do to help him. I can't even be there with him.'"

Carl continues, "They talked for a few minutes, discussing details of the accident, the mother speaking wistfully, her friend trying to comfort her. And then — a new voice said, 'Break.'

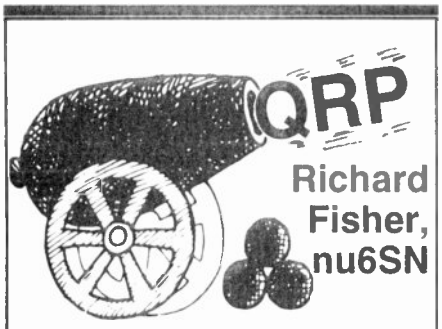
"A man's voice came through the speaker. He said, 'I've been listening to your conversation. I'm a doctor. Can you tell me about it?'

"The mother relayed the information as best she could and the physician replied, 'He's in danger of losing his legs because of a lack of circulation.' There was a long pause as she made no comment. He continued, 'We have to get him out of that hospital and into the one at Loma Linda, California (about 200 miles away), because they have a machine that will keep his circulation going.

Carl continues, "The mother sounded desperate as she said she couldn't do anything about getting him to Loma Linda. But the physician came back and said, 'No, you can't but I can. I have a good friend who operates a medical helicopter service. Please give me your phone number and I'll call you.' She did, they signed their call letters and my loudspeaker went silent.

"I don't know the name of the mother, nor any of the call signs. I was driving and couldn't write. But I have never been able to erase that conversation from my mind.

"Was the injured man taken to the other hospital? Did the machine increase his circulation so the medical team could save his legs? I'll never know. I do know that for sheer drama, that was a morning to remember. At that time, I recall being grateful for Amateur Radio, and thankful for people who care."



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Tuning up a QRP battle plan

As any QRPer who's taken part in the ARRL's Field Day knows, the low power operators making the best showing each June don't go blindly into battle.

Like military strategists, they wrestle with the detail ahead of time to make the most of the gear they tote and the propagation they're dealt.

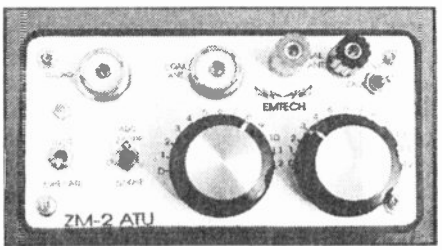
If flexibility isn't built into their game plan, even the finest radios and operating skills won't save them. They've got to be able to move their QRP firepower to where the action is — a critical consideration when preparing for next month's "mother of all weekend contests."

Say, for example, conditions are lousy on 15 Meters. Then it's time to try 10. If 10's no good, join the fray on 20. When 20 folds, move to 40 or 80 Meters. You get the idea, and so have those successful QRP field generals.

It all looks good on paper, but how do you implement the plan when you're out there in the sticks with just one wire in the trees? To twist a phrase from another campaign (this one political, not military): "It's the tuner, stupid."

While the catalog of high quality, versatile, lightweight, rugged and efficient QRP antenna tuners is pretty thin, Roy Gregson, W6EMT, head of Bremerton, Washington-based EMTECH, has produced a Z-match ATU (antenna tuning unit) kit that meets all the requirements, and a whole lot more.

The ZM-2 is a simple, but very flexible tuner featuring a single coil L-network capable of handling up to 15 watts. It's a contemporary design inspired by circuits written about and popularized in the 1950s. The Z-match has more recently gotten favorable press in articles by Charles Lofgren, W6JJZ ("QRP Quarterly," July 1995), and Bill Orr, W6SAI ("CQ," August 1993).



A view of the front panel of EMTECH's ZM-2 antenna tuning unit gives a hint of the Z-match's versatility.

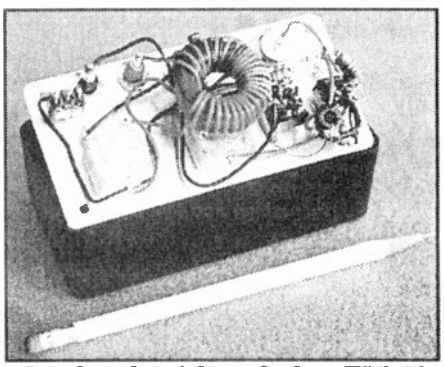
Gregson's ZM-2 takes the single-coil L-network, adds a simple but innovative SWR bridge designed by Dan Tayloe, N7VE (with improvements by Lofgren and James Hossack, W7LS), and puts them into a Radio Shack project box about 5 inches wide, 2.5 inches high and 1.5 inches deep.

This little wonder won't take up much space in your backpack, and could make a world of difference in your Field Day score.

The tuner has two dual-section plastic variable capacitors with 266 pF per section. In the kit's L-network design, one of the capacitors does the series tuning while the other works in concert with a toroidal tank coil to form the parallel leg of the network.

In both theory and practice, the ZM-2 can tune just about anything from random end-fed wires and dipoles fed with balanced feeders to coaxial-fed dipoles, Vs, loops and beyond. Gregson says field reports have boasted of the ZM-2's success in loading gutters, window frames, swing sets and bed springs. I believe it.

At the input of the tuner is a resistive SWR bridge which uses a small, red LED as a match indicator. The LED glows brightly when a mismatch is sensed. As a match is approached, the LED grows dimmer and dimmer. When you're at 1:1, it's lights-out.



The back side of the ZM-2's front panel serves as the kit's construction plane.

Behind the SWR bridge is the series tuning element of the ATU: C1, the first of the two dual-gang tuning capacitors. Gregson gives the

operator several options in selecting capacitance at this point, contributing to the tremendous flexibility of the ZM-2. Use one of C1's 266 pF sections, both 266 pF sections, or both 266pF sections plus a 500 pF fixed capacitor. Since these capacitances are in parallel, by simply throwing a three-position toggle switch on the front panel, the operator can alter the capacitance range from a maximum 266 pF, to 532 pF to 1,302 pF at the input.

On the parallel side of the circuit, the second variable capacitor, C2, tunes a tapped T130-2 toroidal core (T1), simultaneously matching two frequency ranges: 3.5 to 11 MHz and 12 to 30 MHz. Between the capacitance options offered at C1 and the dual output links at T1, the tuning range of the ZM-2 is very broad.

For a good tutorial on theory of Z-match operation, read Lofgren's July 1995 "QRP Quarterly" article "The Z-Match: An Update." It is concise and thorough and features a Z-match circuit much like the ZM-2's.

EMTECH's ZM-2 kit includes all the parts for the circuit, the enclosure, a handsome front panel decal and comprehensive, well-written six-page instruction manual.

The aluminum bottom plate of the Radio Shack blue plastic project box serves as the front panel and construction plane of the ZM-2. While the manual provides large pictorials for mounting parts for the SWR bridge and the Z-match tuner, there is plenty of room to customize parts placement to the builder's liking. There's no circuit board — the kit is put together using a method affectionately known as "ugly construction." Parts are soldered to the panel-mounted components and tack-soldered to each other in areas away from the panel.

Here at nu6SN, one evening was spent drilling and preparing the aluminum front panel. The manual includes a drilling template, with hole sizes clearly marked. Even for beginning builders, there's little left to the imagination. While panel-mounted parts placement is not critical, if you want them to fall into place as shown on the decal, it's best to take your time and frequently check and re-check your bearings before drilling.

After all the holes are drilled and de-burred, the self-adhesive front panel decal is carefully set in place and burnished to the panel. Some builders may want to consider covering the front side of the decal with plastic or some non-invasive sealant, as it is prone to dirt marks and smudges.

When panel preparation is completed, it's time to mount the fixed components: two standard coax connectors (one for transceiver or transmitter input; the other for coax antenna output), red and black balanced antenna output terminals, LED SWR indicator, SWR bridge in/out switch, three-position toggle switch to add capacitance at C1, ground switch for using single wire antennas, and C1 and C2 — which have tuning shafts of generous length. The front panel decal is smartly lettered, and the area around each tuning capacitor shaft is graduated (0 to 12) so settings can be recorded for future reference.

The manual has large diagrams showing how the T130-2 tank circuit toroid is wound. Although it's a tapped inductor, Gregson has made winding it a snap by using separate color-coded wires for each portion of the coil. He's also included more than enough wire to finish the job.

A second tapped inductor, T2, is a FT37-43 toroid used in the SWR bridge. Again, Gregson has simplified the chore by featuring a winding diagram in the manual and by providing No. 28 enameled wire that can be stripped of its insulation by simply heating with your soldering iron.

The SWR bridge includes six 100-ohm 2-watt resistors (three pairs of two resistors soldered in parallel), the FT37-43 toroid, a 1N4148 diode, the LED and the in/out toggle switch.

The tuner consists of the aforementioned fixed and variable capacitance, the T130-2 tapped toroidal inductor, coax connectors, binding posts and toggle switches.

Wiring the SWR bridge and Z-match tuner took a little more than an hour at nu6SN. Large pictorial wiring diagrams, step-by-step instructions and a crisp schematic make the job quite easy. Those more experienced in "ugly construction" certainly could finish the wiring much sooner than I did.

I used a hot glue gun to affix the toroids to other securely-mounted components, keeping the coils from flopping around in the cavity of the plastic enclosure. Some builders have carefully "packed" the box with soft foam rubber or soft foam packing material to anchor the interior parts. If you do this, however, be very careful not to induce shorts to the metal panel.

Gregson encourages the builder to make the ZM-2 how he or she wants it, cautioning only to keep leads short in some places to prevent problems from stray RF.

Putting the ZM-2 on the air is a snap. Connect your transceiver or transmitter to the coax connector marked "RADIO" on the front panel,

attach your antenna to either the coax connector marked "COAX ANT" or the red and black terminals marked "BAL. ANT" (balanced antenna), and you're ready to roll.

First listen. Tune the ZM-2's C1 and C2 for maximum band noise or loudest signals. This will put you in the ballpark of a matched antenna. Next switch the SWR toggle to "TUNE" and key the radio. Chances are very good that the LED will glow brightly. Key down again and begin adjusting C1 and C2 either alternately or simultaneously to reduce the brilliance of the LED. You'll notice that very, very fine adjustments will result in the light getting dimmer or more brilliant. When you've put out the LED, your SWR is 1:1.

If you're unable to dim the LED completely, try adding capacitance at C1 using the panel-mounted three-position toggle switch marked "ADD 250PF," "0" and "500PF." First try the 250 pF setting. If that doesn't do the trick, switch to 500 pF. Chances are good that exercising one of these options will result in a good match.

When you're tuned to satisfaction, it's time to switch the SWR bridge from "TUNE" to "OPERATE." Since the ZM-2 utilizes a resistive bridge, it is used only to indicate SWR during tune-up. Leaving it in line will result in a significant loss of power output, and could burn out the bridge's resistor network, which is designed to dissipate power for only very short periods — which your tuning time should certainly be. Having the bridge in line during receive will also result in a loss of incoming signal strength.

At nu6SN, the inaugural run of the ZM-2 was on 40 Meters late one Friday evening. It quickly and easily tuned a G5RV dipole fed with 450-ohm ladder line. At first, the sharp tuning of the ZM-2 took a bit of getting used to. Nearly imperceptible adjustments of C1 and C2 made the difference between the appearance of a high SWR and a perfect match.

There wasn't a lot of band activity during the tuner's maiden voyage — most of the east coast crowd had already gone to bed. There didn't seem to be much propagation to the Pacific. A few western and midwestern signals were coming through to Southern California. I heard Si Spisak, NØDPF, in Hartford, SD, signing with another station and decided to give him a call. He came right back to my 1-watt signal, and we carried on for more than a half hour. I got a 559. His 5-watt signal was peaking 589, indicating that while the ZM-2 was doing great service on the transmitting side, it wasn't presenting much in the way of loss on receive either.

I've since tuned the G5RV on all bands using the ZM-2, and the ATU has proven to be a solid, well behaved performer. I've also tuned random wires and coax-fed dipoles. The SWR indicator works nicely even at higher frequencies, and the tuning capacitors run smoothly and firmly.

Operators who like their tuner's front panel uncluttered might find the ZM-2 a bit challenging at first. With the many controls and switches nestled along with the coax input cable from the transceiver or transmitter and the output jacks to the antenna, it can get a bit crowded. Angling the coax input with an elbow connector helps reduce the natural tension from the input cable, and keeps the tuner from twisting awkwardly on the operating table.

Once the kit is in hand, there's nothing to prevent the builder from modifying the layout to his or her liking. Put the input and output jacks on the back side of the plastic enclosure. Or put the whole thing in a completely different box, saving the Radio Shack enclosure for another project. It's up to you.

The ZM-2 ATU with visual SWR indicator is $50, which includes shipping in the continental U.S. To order, or for more information, write: EMTECH, 3641A Preble St., Bremerton, WA 98312. Tel: 360/415-0804. E-mail: roygregson@aol.com or visit EMTECH's web site: http://pages.prodigy.net/roygregson/.

If your Field Day gear line-up does not yet include an antenna tuner, EMTECH's is a great one to consider. When weighing versatility, cost, quality and performance, the ZM-2 is a winner.

QRP Calling

The Maryland Milliwatt Club has been granted WQ3RP, according to veteran QRPer and call trustee Danny Gingell, K3TKS, adding to a growing list of QRP organizations nationwide garnering distinctive call letters.

Among them: Knightlites QRP Club, WQ4RP; Hawaii QRP Club, NQ6RP; Southern California QRP Society, WQ6RP; Arizona ScQRPion QRP Club, NQ7RP; Michigan QRP Club, WQ8RP; Indiana QRP Club, WQ9RP; Columbus QRP Club, K8QR; Minnesota QRP Club, WQØRP; Colorado QRP Club, WØCQC; and Zuni Loop Mountain Expeditionary Force, K6ZNI.

Other club presidents promise there are more to come. We'll keep you posted.

Upcoming Traffic

May - Mother's Day
June - Father's Day

Send a unique message via Amateur Radio to the mother and/or father of your choice. You can call, write letters send cards, and/or email also. You are not limited to one mode of contact on these special occasions. Be creative, or just ARL Sixty will do. Send a message/s.

QSK

Break in (QSK) is neat; whether rag chewing, or sending traffic, it's very handy. My Kenwood 930 has it and it's about 15 years old. Many amateurs now have it; most traffic handlers use it. I read in 'Traffic Call,' the excellent newsletter of the Hit and Bounce Net, that instead of announcing you have QSK on Hit & Bounce, you now only advise when you don't have it. That doesn't always work. Just last week I clearly heard the station who was going to send traffic to me announce QSK. Conditions were not good and at the first fade, I tried breaking him. When trying to break someone, it's not rational to keep trying and trying and trying. If they don't hear a short series of dits and stop sending, they most probably aren't using QSK. To keep trying is just wasting both of your time (his because he'll have to resend all that you miss while trying to break). Once, long ago, a station actually asked me to send the entire message again, saying he couldn't break me.

Well, in this case, the station had announced he had QSK, so I did try several times. When done, I needed several fills. Then, I couldn't resist asking why he had announced QSK and didn't exercise it. His reply was that he had said, "No QSK." The "no" was the first casualty.

My Kenwood linear, bought to match the radio, turned out to have a flaw. It didn't have QSK. I've been told that for a certain amount of money, I can modify this situation. Being a frugal sort, I decided to just skip QSK when running the linear. I'm sure that's frustrating to those that try to break in.

The bottom line is that most times stations don't announce anything, and announcements aren't necessary if you know how to use it. An alert, sensible station will try a short series of dits (missing at most one word), and if that doesn't work out, will just ask for fills as needed, when the message is done.

Repeating

Has anyone else noticed that an awful lot of stations repeat everything? Like: WA WA, or, WB WB. Why is that? It seems to have taken the place of the habit some folks used to have of sending a series of dits to indicate they were alive and well, but unable to figure out just what to say. I call it the 'thinking' syndrome. Does anyone remember the really old computers that used to flash the word 'thinking' on screen, when computing at their very slow speed? Personally, I would prefer a few seconds of quiet while the station is 'thinking', and/or looking for the fill they need. When I hear WA WA, I wonder if the station thinks I can't copy WA and thus need to hear it several times. All these little things add up to make, or break, a good session of traffic handling.

Newsletters

Those of you in Michigan not on the QMN (Michigan Net) are missing a good traffic newsletter. When we travelled through the U.S.A. last year, I noticed that many nets add the letter 'Q' before their title. QMN is the net that sends new stations a complete information package — including a tape on how to send traffic. Their last newsletter had information on the history of morse, telegraphy, QST, and the Titanic, plus all the usual stuff, like reminding folks what QRK, QTB, and QSG mean.

'The Networks,' the newsletter of the EMRI (East Mass/Rhode Island), and edited by Jim, WA1TBY, is also a great read. Jim always has excellent training tips. Jim developed a distinguished NTS badge a few years back. Hopefully it's still available. He reminds us in the newsletter that the NTS logo is: Pride, Service, Tradition and Innovation. 'Pride: We are proud to do something for others. Service: We put back something into Amateur Radio, and at the same time, perform a public service. Tradition: We carry the torch for those who have gone before us, the pioneers of the NTS. Innovation: We sometimes go to extremes to make sure we get the message delivered.'

Certificates

Once you get a bunch of certificates, you become rather blase about getting more. But as Mark, WB4EAG, says, in 'Traffic Call,' "It's like getting a pat on the back. They are rewards for what we do." Net managers should be diligent about presentation of certificates; and, Section Traffic Managers, alerted to stations deserving ORS (Official Relay Station) appointments and certificates. "As Section Traffic Manager of Virginia, I find that it's hard to keep track of just who gets what — like a certificate for Originating Traffic, BPL (Brass Pounder League), etc. I appreciate reminders." Certificates take a big envelope which causes additional postage. Thus, it's a win-win situation when they can be handed out at a club meeting, or a Hamfest. "At our last traffic handlers meeting here in Virginia, we agreed that an endorsement sticker would be fine for those of us who had certificates." But, as Mark points out, a certificate is a must for those who don't have one.

Counting

How many words is a typical telephone message in the text of a message? EX: 804 275 9004. Most people count it as three. I often hear folks who need a telephone fill ask: "Last four digits of phone." The proper request of course would be: WA 275.

It's not just that it takes much less time to get fills the correct way; it's that we are also disciplining our minds.

N1OTC

After many years of outstanding traffic handling, Jack, N1OTC, has decided to give up traffic handling and take a breather. He set a record for consecutive months of earning the coveted BPL award 126 months in a row. When I needed help on the ARN, I asked Jack. His reply was, "Help is on the way." There is no doubt that he will be sorely missed. Traffic handlers everywhere wish Jack well.

Buzz words

K5DL, John, agrees that 'TP' (see last article), is just 'KN' sent poorly, rather than an obscure telegraphy prosign.

HXE

In the preamble, adding HXE means, "Please reply." How well does that work? K4DOR says 9 out of 10 of his HXE messages did reply.

EAN CW Slow Speed Traffic NETS

CSN (NC/SC)	6:00 p.m.	3715 D
FSN (FL)	8:00 p.m.	3715 D
MSN (MD)	7:30 p.m.	3717 D
EMRI (MA/RI)	9:00 p.m.	3715 C
MSSN (ME)	6/10 p.m.	3685 D
CSN (NC/SC)	6:00 p.m.	3715 D
NJSN (NJ)	6:30 p.m.	3515 D
ESS (NY)	6:00 p.m.	3590 D
OSN (OH)	6:10 p.m.	3708 D
PTTN (PA)	6:30 p.m.	3610 D

Local times. Let me know of any slow speed traffic nets in your area. There are now so many listings (hurrah), that only one Area per article is given.

propagation

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

Here in Ft. Wayne, the local multi-operator contest station belongs to K9UWA. He lives about five miles away from me, so that makes it very convenient to run over there and help out in the contests. Operating in a contest is always fun, and sometimes neat things happen that keep things interesting.

One such example was the *CQ* World Wide Phone DX Contest in October 1996. A bunch of us were doing a multi-operator effort, and my second operating shift started early Sunday morning on the multiplier station. With the run station on 20 Meters, I began looking for multipliers on 15. There was a fair amount of European activity on 15, so I had hopes that 10 Meters would at least open to South America.

Due to numerous 10-meter spots on the local Packet Cluster node, I moved to 10 around 1400Z (9AM local) and started picking off South Americans and farther out Caribbean stations. Then around 1520Z I saw a spot for CT4NH. I swung the antenna to the northeast, and I was able to make the QSO at 1525Z. It certainly wasn't armchair copy, but it was good enough for a new multiplier on 10.

I then moved the antenna back to the southeast to work more Caribbean and South American stations. Around 1535Z another European spot showed up — this one for EA7EZ. I swung the antenna back to the northeast, but I couldn't hear him very well. On a hunch, I swung the antenna back to the southeast, and there he was — not strong, but again good enough to make a QSO at 1538Z.

What happened here? Did something happen to the 10 Meter antenna after the CT4 QSO to cause the pattern to distort 90 degrees? Nope — what actually happened was a scatter mechanism.

In October of 1996, the smoothed sunspot number hovered around 15 — it doesn't get much lower than that. It was obvious from the very weak signal from the CT4 that the true short path to the northeast from Ft. Wayne to Western Europe was very marginal.

Figure 1 shows the 3000km MUF (maximum usable frequency for a hop distance of 3000km) for October 1996. Three paths are included on the figure — the short path from Ft. Wayne to CT4 and EA7 (CT4 and EA7 are very close to each other), the short path from CT4/EA7 to the Caribbean, and the short path from Ft. Wayne to the Caribbean.

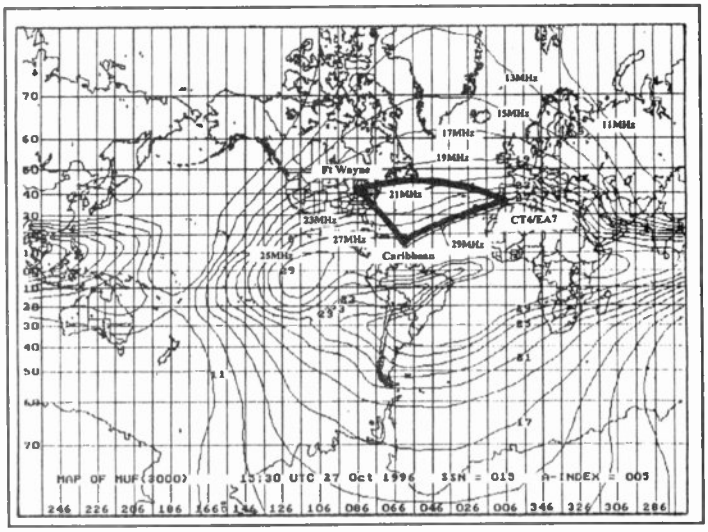


Figure 1. Contours of 3000km MUF for October 1996 at 1530 UTC

Note that the MUF along the Ft. Wayne to CT4/EA7 path is about 21 MHz. Of course that's too low to support 10 Meter propagation on a regular basis. The only reason the CT4 QSO along this path was made was because 21 MHz is a median value, and it actually could be high enough at times to support 10 Meters. Compare this 21 MHz median MUF to the median MUF for

the Ft. Wayne to Caribbean path (about 23 MHz) and the Caribbean to CT4/EA7 path (about 27 MHz) — the median MUFs for these two paths are certainly higher. They're higher because they get into the equatorial region.

What this suggests is that 10 Meter energy has a better chance of getting from Ft. Wayne to CT4/EA7 via the Caribbean than from Ft. Wayne to CT4/EA7 via the true short path. All that's needed is some mechanism for the energy to scatter in the Caribbean area.

This generally can happen by three mechanisms — scatter from irregular land surface, scatter from rough sea surface, or scatter from ionospheric irregularities. I checked the magnetic field activity on the specific October 1996 weekend, and found it to be quiet. This probably rules out scatter from the ionosphere. I'd love to find out what the sea conditions in the Caribbean were at that time (I bet that information is somewhere on the world wide web — any help out there?). Not knowing that still leaves the two possibilities — scatter from irregular land surface or scatter from rough sea surface. I guess it doesn't matter which one was responsible, as long as it happened!

Another good example of scatter on 10 Meters is working JA during a sunspot minimum with the antenna pointed southwest. The MUFs along the short path to the northwest to JA are not high enough, but the MUFs to the Pacific and then from the Pacific to JA are much higher. I've seen Packet Cluster spots from the Southwest and West taking advantage of this mode, and N8NR in the Dayton area (N9AG operating) and several other Midwest stations worked JA7OWD around 2200Z with their antennas pointed southwest during the Phone weekend of last year's *CQ* World Wide DX Contest. With a little help from scatter out in the Pacific, QSOs can be made that normally wouldn't be there via the great circle short path.

If you're interested in some technical research on this subject, I have an IEEE Transactions on Antennas and Propagation article discussing an experiment with a 500w transmitter at KH6 and receivers at W6, KL7, and JA. By using a slowly rotating Yagi at KH6 to transmit and faster rotating Yagis at the receiving sites, the general area where scattering was taking place could be plotted on a map. This was done at 12 MHz, 18 MHz, and 30 MHz. It's interesting to see where the area of scatter was and its movement.

So keep your eyes and ears open for these scatter paths. By thinking "turn the antenna toward the equator," you may be able to take advantage of something that your buddies aren't even aware of.

"CQ DL" celebrates 50 years

The Deutscher Amateur Radio Club magazine "CQ DL" this month celebrates 50 years of publication. The magazine was begun in 1948 in the wake of World War II — a time when Ham radio operation had not yet been reauthorized for hams in Germany (although illegal transmitting was rather widespread). "CQ DL" boasts 60,000 readers, and the current issue includes a reprint of the March 1948 issue. — *ARRL Letter.*

Franklin Institute remains on the air

Thanks to the efforts of the Philmont Mobile Radio Club, the Franklin Institute station in Philadelphia will remain on the air. According to Club President Russ Stafford, W3CH, discussions have been taking place and the station will be available to visitors at the science museum.

The upper floor currently has the astronomy and Ham radio display. Visitors from around the world have visited the station. Earlier reports had the station becoming an inactive exhibit. The most recent meetings with Institute officials indicate the station will remain an active exhibit.

Originally licensed in 1952 as W3TKQ, this continuously active exhibit has demonstrated to countless thousands of visistors, young and old, the exciting modes of radio communications available to licensed Amateur Radio operators.

Following its total renovation in 1991, the station was rededicated to its educational purpose by the late Mrs. Gioia Marconi Braga, the daughter of Guglielmo Marconi, "the father of radio."

A team of volunteers from the Club keep the station on the air during Museum hours. For further information on the station, you can check out W3AA's web site at http://www.fi.edu/tfi/exhibits/w3aa.html.

Another receiver on WWW

There is another remotely controllable shortwave receiver on the world wide web. This one is a Drake R 8 located in Reston Virginia at www.chilton.com/scripts/radio/R8-receiver. — *VE3FFK, Newsline*

Wires & Pliers

Kit building: Do it yourself!

MATT MINNEY, N8PGI

Amateur Radio operators have had a reputation for building their own equipment since the beginning of the hobby. In the early days, building your own gear was a virtual necessity. Many people could not afford manufactured gear so one had to be creative. Today, it's not a necessity to build equipment, but that does not mean that the days of building kits or working on your own equipment are over. Quite the opposite; there are several reasons to start building a kit.

One major reason to get involved in kit building is to learn more about radio. As the kit builder works, he picks up information on how electronic equipment is assembled and learns electronic theory. Depending on the kit that is selected, the final product itself may be the best reason to build the kit.

It's possible to add a station accessory, neat household gizmo,or even another transceiver to your Ham station. There is also the feeling of accomplishment that this device was built with your hands and your ability.

Many people would look at the previous reasons and declare that they could not possibly assemble a kit. The usual concerns are that building a kit is too hard, one would have to be an engineer to understand all the modern technology, and they are too expensive. If the kit builder spends time choosing a good "first project" when starting out, kit building will not be too hard and with good instructions, can be quite simple. The idea is to gradually move to more challenging projects as one becomes ready for them.

The second concern will be taken care of along with the first in most cases. A kit builder will learn the symbols and terms as he goes along. If the kit instructions do not include a listing of electronic symbols, acquiring an old copy of the ARRL Handbook would be a good idea. Having some type of reference material would also be a good long term step for building your station as well.

The third major concern is that the kits are too expensive. The best way to refute this is to look at kit prices in a Ham magazine. Most are cheaper than their factory made cousins, but this fact will obviously vary.

Once an amateur has decided to build a kit, a few tools need to be acquired. These basic tools are also useful in fundamental repair and replacing of coax connectors.

The first basic tool is a soldering iron. An iron that uses 15 to 25 watts will suffice for most jobs. Along with the iron, a roll of rosin core solder is a must for most projects. Some type of multimeter is the basic piece of test equipment, which will be needed for most jobs. At this point, purchasing expensive test equipment is not necessary and not recommended.

Another necessary tool is some type of small wire cutters. A wirestripper is a nice addition, but this is not essential if a pocket knife is handy. Another necessity is a pair of needlenose pliers. These pliers are very handy and will prove to be invaluable on every project. Other things around the house you will need include electrical tape, screwdrivers, and a jar of spare nuts and bolts. If these items are not in your possession, a trip to the local electronics store will help to complete the list. A local hardware store might also have these items.

A final consideration on materials required to build a kit, is where to do the construction. A suitable place to build a kit should be a flat solid surface that is well lit. An area without distractions will also help make the experience more enjoyable, while preventing mistakes. When selecting your construction site, remember that one should have proper ventilation while using the soldering iron to prevent the inhalation of solder vapors.

Generally, a project will not need power until complete, but a 12 volt DC supply is a good addition to your construction bench. Often an Amateur Radio operator already has a 12VDC power supply attached to a 2-meter radio, which could be pressed into service if needed.

Once the preparations are made, it is time do decide on a first kit to build. It's a good idea to choose a kit that is not extremely difficult to construct, to allow for some practice before engaging in a larger project choice. Catalogs are available from the major kit producers for your first project. Companies such as T-Kit, Ramsey, or others that advertise in some of the electronics hobby magazines would be excellent choices for your first project.Take some time and choose carefully, to avoid making your first kit experience a bad one. A receiver of some type has been a traditional first kit in many cases, but the builder is the best judge of what that kit should be.

Once the new kit has arrived, it's now time to get to work. Check the parts list to make sure that all the parts listed are indeed present. This step should not be overlooked. If something is missing, which can and will happen, it is best to find out

early and call to obtain the lost part.

After the inventory is taken, browse through the instructions or manual that came with the kit. The time spent learning about the upcoming steps will prevent mistakes later. Note any changes to the included instructions made at the last minute. A final check of the list of required tools should be the same as the list discussed earlier, but a quick check may save time later.

The construction is a matter of following the instruction manual, but there are a few things to keep in mind during this phase as well; the foremost of these is not to rush. It is a great temptation to rush through the steps to see a finished product, but skipping even one step can prevent the kit from working. The kit may even be destroyed, so care must be taken.

Another consideration is the method of soldering. Soldering is an acquired art, so do not be disappointed if the technique is not perfect on the first try. With practice anyone will improve. The main things that can be done are watching for solder bridges between two parts of a circuit board, and making a good electrical connection.

A solder bridge can be found by periodically checking for solder that runs across the board's traces, or solder anywhere not on your diagrams. If this occurs, carefully reheat the connection that caused the bridge. If the solder doesn't move then, take a flat screwdriver or knife and carefully separate the traces.

To make a good electrical connection, make sure the iron will easily melt the solder. A dull connection may be another sign of a poor connection. Reheat the connection if it is suspected to not be conducting. Solder problems are a common reason for a kit not working properly.

As the kit is being completed, some instruction manuals will contain periodic checks to see if the most recently completed steps are working correctly. This and other tests are usually optional, but can point out a mistake in construction before the problem becomes difficult to correct. If a problem does arise, go back through the steps of the last section and double check your work. A second check is a good rule even when everything works properly.

Depending upon the kit purchased, there may or may not be a case provided with the kit. If there is no case, there are two options. One is to purchase a case from the kit manufacturer or an electronics store, or buy some materials at the hardware store and make your own. The best idea for the first kit is to buy a kit with the case included.

At the end of the construction steps, a final check should be completed before testing out the new equipment. Then the new kit is complete and ready for whatever use for which it was intended.

After finishing the first kit, it is very possible that kit building and electronics in general will become the kit builder's new hobby. There are several directions in which a new builder can go. The obvious and best is to continue to build more kits. This will allow the builder to continue to obtain new skills and new knowledge as the kits become more complex. More opportunities will become available later on.

One of these would be to repair and refurbish old receivers and other "boat anchors," which is a general term for old tube type radios. Working on this type of equipment would require a few more tools, specifically a tube-tester, but rebuilding old equipment can be just as much fun as building new kits.

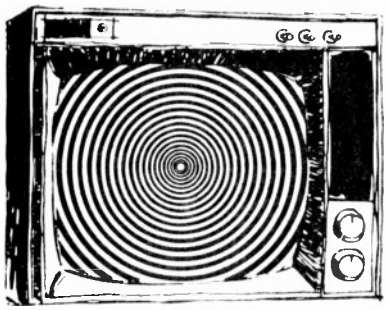
Another option is to begin building things yourself. This does not need to be as difficult as it might appear. Start with a simple construction article from an Amateur Radio magazine and slowly build toward more complex plans, perhaps even modifications to your own radios. With practice, the repair of anything pertaining to the Ham station will become possible. At the least, the experience gained from kit building will be helpful in identification of a problem when it comes. With more practice, a novice kit builder can become very proficient in electronics.

The basic introduction to building a kit in this article cannot fully explain the feeling of satisfaction associated with the ability to make equipment or complete projects related to Amateur Radio. Many people say that kit building is obsolete or unnecessary, but the best way to really experience this part of our hobby is to start a project.

The information here is intended to introduce you to the basic requirements and pass along basic hints related to building a kit. In many ways, constructing a kit not only builds equipment, but also furthers the builder's ability and improves the Ham operator's experience and knowledge of his hobby.

IPARN reflector

Canadian Hams who are members of IPARN, the Inter Provincial Amateur Radio Network, now have a new unofficial remailer to get answers. To join the I-PARN mailing list, send a message to majordomo @qth.net. Leave the subject line blank. In the text of he message type "subscribe iparn." —*RAC, Newsline*



RFI & you

JACK ALTHOUSE, K6NY

RF interference to most home appliances is caused by RF pickup on long wires connected to them. Examples are telephone wiring, power wiring, long speaker wires on stereo systems and coaxial cable shields on TV antenna leads.

To get rid of the interference we have been recommending ferrite beads and toroids placed on the wires just as they enter the affected appliance. They present an impedance to RF and thus reduce the amount of signal getting into the appliance.

There are other effective methods such as by-pass capacitors and shielding but they are more difficult to use and, in the case of capacitors, require soldering and working on the innards of the appliance. This is definitely not recommended if it is your neighbor's appliance.

Ferrite beads just slip over the wires and are easy to install and to remove. Also it's easy to move them around to different wires when you're not sure just where the RF is getting in.

Ferrites come in different "mixes" or formulations that are frequency sensitive. Some mixes work well as RFI suppressors in the shortwave spectrum; others don't work well at all. So you need to know what mix of ferrites you are using. And you should be careful using those unmarked flea market cores. They might not even be ferrite. Toroid cores are made of many different materials for different purposes. Unlike resistors there is no standard marking or color code; each manufacturer does it his own way.

Test them

So, if you have a box of unmarked toroids, how do you tell if they will work for RFI suppression? One way is to try them by putting them on the cable and seeing if they work. The problem with this approach is that, if they don't work, you don't know whether it's because the toroids are no good, you didn't use enough, the RF is coming in another wire, or what.

It's better to know if the toroids are good or not before you start. If you have, or can borrow, a Palomar noise bridge or an Autek RF analyst you can test them easily.

Just put a one turn loop of wire through the toroid and measure the RF impedance, Z, at the frequency of the RF you want to suppress. The noise bridge gives you the components of Z: resistance, R, and reactance, X. To calculate Z just square the values of R and X, add them together then take the square root. The analyst gives the combination, Z, directly.

What should you expect in the way of impedance? Table I gives measurement results for three commonly used RFI suppressors, the Radio Shack "Snap-On Choke" (Cat. No. 273-104), and the Palomar FSB-1/4 and FSB-1/2 "split beads." The chokes have a .4" x .9" rectangular hole. FSB-1/4 has a 1/4" diameter round hole, for power cords and RG-58U coax. FSB-1/2 has a 1/2" hole for RG-8U and similar cables. Your toroid should have an impedance in the same ballpark as these.

TABLE I

Impedance (ohms) for a one turn coil

Frequency, MHz	1 turn on "Snap-On"	1 turn on FSB-1/4	1 turn on FSB-1/2
1.8	2	29	22
3.5	9	50	40
7	16	85	69
14	26	140	121
28	43	234	200

The higher the impedance of the bead the better the RFI suppression. The Snap-On doesn't look too good in the table but you can increase the impedance by running the cable through the bead more than once. The Snap-On has a large hole just for this purpose. With five turns on this core the impedance on 80 Meters increases to 125 ohms.

Of course you can do this with any core; the more turns the higher the impedance. The practical limit for this is at around ten turns because the capacitance between turns reduces the impedance at the higher frequencies.

Sometimes you can't make more than one turn through the core because there isn't enough extra wire length or you are working with cable that can't be bent into a small turn. In this event just add more beads. Two are twice as good as one; three are three times as good, etc.

A good example of this is the original W2DU balun (QST March 1983 p.38-40). In this article Walt Maxwell describes a balun made by placing 50 ferrite beads over coaxial cable. He used FB-24-77 beads. These measure about 25 ohms on 80 Meters when the wire goes through just once. But with 50 of them over the cable the total impedance is over 1200 ohms. Note: Older literature calls for 73 type ferrite. This is no longer manufactured and has been replaced by type 77 ferrite which has the same permeability.

So you have two methods you can use to increase the RF impedance: Wind several turns through the bead or use more beads. Use whichever method suits your particular application. Maybe you can use them both.

But before you start, measure your beads to see if they are going to work. You'll save time in the long run and you'll have the confidence you need to dig in and solve the problem.

AERIALS

Lil Paddle

To let all know that it is indeed the urbane and erudite who appreciate the monthly elucidation occurring here, we present this missive from John Amos, KC6TVM, of San Jose, California.

"I have been a faithful reader of your column in ***Worldradio*** for quite some time and I admire your perspicacity and perseverance greatly. I'm an engineer, though not specifically in RF, and to put it simply, you make technical sense. Even the old-timers who are not just appliance operators don't always get the theory right. Your antenna specs are the best technical articles since I lost track of 'The Journal of Irreproducible Results.'

"Not to gush, but I want to make sure you keep writing that column. In that line, I am enclosing the munificent sum of $10.62 (as a suffering 6) to join and receive a White Hat. I can guarantee you that it will be worn with all the technical pride that I can support, which is a variable since I have been doing electronic QA for thirty years, based on a four-year degree in Asian history. I figure neither of us is cynical, merely realistic."

Mr. Amos then said, "I do a lot of operation on foot for things like a 10K run a couple of weeks ago and RACES and such-like. I usually carry my HT on my belt, and I am getting increasingly tired of looking over my shoulder and getting the rubber-ducky-replacement whip in my eye or up my nose. I have cooked up a gadget that will clamp on my web-belt suspenders and hold a BNC connector more or less upright. I figure that right around my shoulder blades would be a good spot for it, with something like an MFJ 1/4-wave whip connected to it, then a foot or two of cable to my HT wherever I want to carry it. Question is, would I gain anything significant by adding the other half of a dipole as a wire hanging down from this mount? I realize the HT is not looking into anything like 50 ohms with the whip, but I figure I ought to gain something from the counterpoise. Make sense?"

Answer is: Yes, indeed! Some years back Kurt suggested that very thing in this column. It was quickly seized upon by a manufacturer and is prominently displayed in their catalog. There has not been even a farthing or a sou in royalties. Nor has been proffered a small word of thanks.

The addition of the correctly adjudged "missing half of the dipole" will definitely, with significance, improve the signal.

Here is a little trick for VHF. To extend the range set your walkie-talkie on the roof of an automobile. The chassis of the WT will capacitively couple to the mass of metal below.

It is indeed gratifying to have heard from so many who promise to be wearing their Kurt White Cap at 11:30 a.m. on Saturday (at Dayton) and be standing in front of the "Granite Antenna Co." booth chanting "Ohm, Ohm."

Possibly, the genuine solution to a particular problem, for you or someone you know, is an unconventional one.

Previously, in this series, an antenna was described that should have sent the soggy old dipole to its deserved place in the history books and to its final resting place. Oddly, dipoles are still being erected willy-nilly with nary a thought that there really is a far simpler, and better method. I'm not surprised.

With this episode, however, we'll try to send to the briny deep another orthodox antenna. We're talking about ground mounted 1/4 WL vertical. The amateur level books and articles all speak about the low-angle radiation of the vertical. However, they neglect to point out a salient fact that is found elsewhere. Without a quality ground screen the vaunted low angle does not exist.

The definition of the optimum radial system that is bandied about is 120 radials with each of them being 0.4 of a wavelength long. I've even

seen it phrased that "anything less is a compromise," which is, if any amount of logic is applied, obviously pure poppycock.

But, in a practical matter, there would be an unmeasurable difference in signal strength at the antipodes if the ground system were instead 64 radials, each 0.3 WL long. But, as we realize, even that is impractical for most. Another drawback of the antenna that must be in a hundred thousand, or more, back yards is that the immediate surroundings tend to smother that wave as it is taking off from a position right next to the ground.

So let's solve the two vertical dilemmas with a system that will also be (by the unwashed masses), ignored. That is the usual fate for something that is new or different. It is much easier and reassuring to cling to what has been, instead of trying something new.

Let's start by looking at the garden (no pun intended) variety vertical. The formula is 234/F-MHz. So for the frequency of 14.200 MHz the length would be 16.48 feet. That's for a wire, with an antenna of aluminum tubing (actually copper is preferable) being slightly shorter.

The first key to solving the problem of all that RF (as Kurt puts it) wallowing about on the ground and being slurped up is: We're going to get the antenna up off the ground!

But first allow me to digress. With a 1/4 WL vertical the high current point is right there at the feedpoint.

Let's get that feedpoint up in the air so the current-created radiation will have a fighting chance to go skyward, instead of into the automobile in your garage, the washing machine, dryer and whatever else there may be.

Let's get the feedpoint of that vertical up in the air a quarter-wave above the ground. Unless you have 33-foot wooden pole that you can attach a wire to, we'll have to do something else. Using telescoping tubing one could build a 1/4 wave vertical. It could be attached, with a four-foot overlap, to a wooden pole.

Here we've already solved one perplexing problem of the normal vertical. The antenna's efficiency is now not so dependent on an extensive ground system. In fact, in this new situation, four radials, each a quarter-wave would suffice nicely, but another problem still exists.

The radius of the remaining four radials is 33 feet for a circumference of about 104 feet. This would present quite a sight and bring the blush of victory to the cheeks of the neighborhood antenna snoopers. Also, the ends of each of the four wires must somehow be attached to supporting structures.

So, here's solution number two. Just drop the four insulated wires vertically. Yes, let them drape down, enveloping the support pole and the coax feed. I would try to keep each of the four ends at least a foot off the ground.

This antenna will handily outperform its ground-mounted counterpart utilizing the average (and better) ground system. And in reality, only three downward radials are needed. Probably only two. Maybe even only one. That possibility you will have to solve for yourself using a Field Strength Meter.

Will thousands of amateurs replace their inefficient, TVI creating, down-on-the-deck verticals with something vastly superior? Of course not. Will even hundreds of sterling signal seekers sally forth into uncharted (for them) waters? Doubtful.

But, for the infinitesimally small number that are open to new ideas, we'll continue. You've seen how we've taken the ground-plane antenna (usually seen at V and UHF) and adapted it for use on the HF frequencies. Continuing in that vein let's look at another antenna that is usually found at U and VHF — the ubiquitous J-pole.

Here's how we'll scale it up for 20M. First take 146 MHz (which the J-Pole is probably cut for) and divide that by the new frequency, which will be 14.2 MHz. The answer is 10.282 times, which means that if you multiply the dimensions of your 2M J-pole by 10.282 you will have the dimensions for a 20M J-Pole. The advantages of the 20M J-Pole will be whatever virtues the J-Pole seems to bring to its advocates and a lack of ground dependency for proper operation.

Outstanding performance from a simple antenna! You may ask why this hasn't been done before. The answer is that there is a lack of imagination out there.

However, the ambitious, realizing what this antenna has to offer, will be erecting them for 80 Meters. And can you just imagine the fine signal that would come from the ones that will be erected for 160 Meters? I do hope that those who put them up on Top Band will write and tell us about the great signal reports they received from DX stations.

Since we will be thrilled to hear about your results and can hardly wait, we're breaking our vows of anonymity and giving you our email address (keep it a secret please):

"Kurt&Lil@DelRioTX://wrwr.468/F-MHz/~XL=6.28FL/XL=XC/6U8-5763-2E26-6146/KDKA.1:1/BC-610/14.200/X.R.Z./HRO-50/ARC-3/AUH2O/9913/OA-TA-GO-OS-UR-4 SHURE?"

Some readers have complained that our name clues for the various antenna companies are too obtuse. To assist your quest I'll suggest that in your almanac you look up the slogans for the various U.S. states. Then you will see which is the company that must be using for their dB claims, not dBd but rather dBpods. That is: dB over a Piece Of Dry String.

(How can you, in good conscience, sit there and read this knowing that you have not yet ordered a Kurt White Cap?)

Contests

Dave Goodwin
VE2ZP/VE9CB

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

Internet Resources for Contesters

Many contesters have taken to the Internet with alacrity. You can find almost countless web pages displaying contesters' stations, others acting as a virtual meeting place for contest clubs, yet others compiling contest rules from around the world, advertising for contest-related products and mailing lists where contesters talk about contesting, most of the time.

There are a few sites that are ideal "hubs" from which to look for other contest-related sites. One particularly good site is that run by Bill, W4AN, on www.contesting.com. Bill and a number of helpers have set up a dizzying array of links to other sites, and he hosts several contest-oriented mailing lists. This month,I would like to encourage you to examine this site, and use it as a starting point for your contest-oriented travels on the Internet. Let's look first at the mailing lists.

What is a mailing list?

Mailing lists, or "reflectors" are E-mail addresses to which you can send messages to share with others. Any message you send to a central mailing address will be forwarded by the reflector to every other person who is a member of the list.

There are at least six contest-oriented mailing lists at W4AN's site: "CQ-Contest" moderated by Trey, N5KO, is a place for general discussion of contesting. "3830" is a place to report your claimed score immediately after a contest. "Topband," moderated by Bill, W4ZV, is a place to discuss happenings on 160M. There are three separate reflectors for discussion of the three most popular contest logging programs in the USA: "ct-user" for K1EA's CT, "na-user" for K8CC's NA and "tr-user" for N6TR's TR-Log. To send a message to any of these, address it to the name of the reflector @contesting.com. To join any of these, send a message to the name of the reflector followed by request@contesting.com (ie. cq-contest-request@contesting.com) with the word "subscribe" in the body of the message. A mail robot will confirm your subscription request and your mailbox will quickly fill with messages.

If you would like to read the messages that are posted on these reflectors without subscribing, you can browse the web. All these reflectors are archived and easy to find. Set your browser to www.contesting .com/_listname/yearmonth. For example, if you want to see what was discussed on the CT-User reflector in March 1998, try www.contesting .com/_ct-user/9803. Take a look and find out in advance if these reflectors have anything to offer you.

From W4AN's web page, there are numerous links to other sites. Contest-oriented magazines, such as ARRL's "National Contest Journal" (NCJ) and *CQ* magazine's "CQ Contest" maintain web sites that inform you of the contents of current and past issues. Contest clubs and organizations are well-represented with pages that you can access through W4AN's site. Among these are the well-known Yankee Clipper Contest Club in New England, the Frankford Radio Club in Pennsylvania and New Jersey, the Potomac Valley Radio Club in the Washington, D.C. area, the Northern California Contest Club and the Texas DX Society, to name but a few of the larger clubs. Taking a look at these pages reveals a wealth of information, and may be the first step you take to join one of these fine groups.

Beyond the magazines and club sites, many individual contesters have web pages that you can access through W4AN's site. The hardware some of these folks have is very impressive, and you can see many photos of some extremely well-organized and equipped stations. One of my favorite sites is that of PI4COM in the Netherlands. This is a club station, and one of the most active Dutch stations in DX and 160M contests. They have a site where you can find a series of pictures showing step-by-step how they raised their full-size quarter-wave vertical for 160M. If you take a look at the web site of the VE9DH team, you can even see a picture of your humble scribe in action in the CQ WW SSB contest in 1996. See www.inetmarket.com/ve9dh.

Another useful set of links is to the contest calendars maintained by SM3CER and LA9HW. These contesters have dedicated a great deal of time to collecting complete rules and results for many contests from around the world. If you want the full details on any contest anywhere, or if you want to double-check the info you see in ***Worldradio's*** contest calendar, see these sites. I use these sites, among others, to collect and confirm the information you see each month in ***Worldradio***. Press deadlines being what they are, I strongly suggest you check the web just before a contest in case a change didn't make press time.

Contest of the Month - CQ WPX CW

0000 UTC Saturday 30 May to 2359 UTC Sunday 31 May 1998.

(PDT: 5pm Friday 29 May to 5pm Sunday)

(EDT: 8pm Friday 29 May to 8pm Sunday)

CQ magazines' WPX CW Contest is the CW version of the WPX SSB contest that was featured in the March issue of ***Worldradio***. Of the four biggest DX Contests, the WPX CW ranks as the smallest for one principal reason — propagation is generally poor in May. The WPX CW is quite young — the first running was in 1979. By that time all the good weekends were already occupied by old and established contests, including several sponsored by *CQ*.

Despite the predictably crummy propagation, the WPX CW offers a lot of fun and excitement. There's plenty of DX to work, ions permitting, and for many serious contesters, it is a "can't miss" event.

A typical QSO might sound like this:

Station 1: "CQ TEST VK2APK VK2APK TEST" (Quite short and to the point)

Station 2: "GIØKOW" (This station replies just by sending his or her

Contest	Date/Time	Bands	QSO points	Multipliers	Exchange	Entry Catagories	Entries
Massachusetts QSO Party (USA)	1600Z 2 May 0400Z 3 May	All bands	1pt/Phone QSO 2pt/CW QSO Wrk MA stns only	MA counties (14) on each band	RST Prov	Single operator only	8 Jun FARA P.O. Box 3005 Framingham MA 01701 USA
AR DX (Italy)	2000Z 2 May 2000Z 3 May	160-10M CW, SSB and RTTY	0pt/VE 1pt/NA 3pt/DX 10pt/Italy	Italian provs (103)+DXCC on each band Is will send a 2-letter prov abrev.	RST Ser#	Single op: All modes, single mode Multi-op, single tx SWL	1mo. Box 14 27043 Brian (PU) Italy
A. Volta RTTY (Italy)	1200Z 9 May 1200Z 10 May	80-10M RTTY		DXCC+call areas in Canada, Australia and USA	RST Ser# CQ Zone	Single op: All bands, single band Multi-op single tx SWL	31 Jul Box 55 22003 Carafin
CQ-M Int'l DX Contest (Russia)	2100Z 9 May 2100Z 10 May	160-10M + satellites CW, SSB and SSTV	1pt/own country 2pt/other NA 2pt/DX	DXCC countries + Russian ??????? Arctic islands, Crimea(UU), 4U1WIC (see full rules)	RST Ser#	Single op Single band: Mixed mode, CW only, SSB only, Satellites Single op All bands: Mixed mode, CW only, SSB only, QRP Multi-op single tx SWL World War II veterans SSTV only	1 July CQ-M Cite Box 88 Moscow Russia or e-mail to: cqm98@mail.ru
European Spring Sprint SSB	1500Z 16 May 1859Z 16 May	80-20M SSB	1pt/QSO	None	your call, other stns call, Ser#, name	Single operator only	15 days DL6RAI
Baltic Contest (Lithuania)	2100Z 16 May 0200Z 17 May	80M CW & SSB	2pt/QSO Work ES LY YL only	None	RST Ser#	Single op: Both or single mode Multi-op, single tx SWL	1 Jul Box 210 Kaunas, LT
ARRL 6M Sprint	2300Z 16 May 0300Z 17 May	6M	1pt/QSO	Grid squares	Grid square	Single op only	24 Jun ARRL
CQ WPX CW	0000Z 30 May 2359Z 31 May	160-10M CW	0pt/VE 2pt/NA 3pt/DX x2 on 160,80,40M	Total of prefixes worked, regardless of band	RST Ser #	Single op: All bands, Single band, assisted, low power QRP Multi-op: single or Multi-tx	1 mo. CQ Mag

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

call sign once.)

Station 1: "GIØKOW 5NN634" (VK2APK acknowledges the station to which he's responding, and sends a signal report and a serial number indicating that GIØKOW is his 634th contact.)

Station 2: "R 5NN 587" (GIØKOW responds in kind — VK2APK is his 587th QSO.)

Station 1: "TU VK2APK" (VK2APK thanks GIØKOW for the contact, and is standing by for other stations to call him. If he gets no response, he'll call CQ again.)

The rules are identical to those of the SSB contest, and to avoid repeating myself, I urge you to re-read that article.

Your Log

There is excellent software that handles scoring the WPX contests perfectly — CT by K1EA, NA by K8CC and TRLog by N6TR are well worth the investment. SuperDuper by EI5DI is also quite good.

If you prefer to log on paper, you can obtain official entry and log forms for a self-addressed, stamped envelope (SASE) from *CQ* magazine, 76 North Broadway, Hicksville NY 11801. Be sure to include a "dupe sheet" (a separate list of all the stations you worked on each band — used to detect duplicate contacts) and a "check sheet" listing the prefixes you claim as multipliers.

That address is also the address for entries. Get your logs in within a month of the contest. The results for the WPX SSB contest usually appear in the March issue of *CQ*; the WPX CW results appear in May.

Other contests in May

In addition to the WPX CW contest, May features the 41st "CQ-M" contest. Sponsored by one of the two national organizations of Radio Amateurs in Russia, the CQ-M (the "M" stands for "mir," the Russian word for both "peace" and "world") is organized as a DX contest, where everyone works everyone. The contest is really most popular among Russians, and enjoys quite a following among Amateurs throughout the former Soviet Union and eastern Europe. This contest is a great opportunity to find new Russian oblasts (provinces) if you collect those.

In May, one will also find the Italian DX Contest, one of the biggest "national" contests in Europe, an Italian RTTY contest. As well, there are two very short contests, the European Spring Sprint and the Baltic Contest. The latter focuses on Estonia, Latvia and Lithuania, and takes place on 80M CW only. If you would like to try something closer to home, you can give the Massachusetts QSO Party a go.

Oops!

In the March issue, I suggested that there "may be" a very few circumstances where one could call a station using only a fragment of your call sign. I think it's a bad practice, and I think I argued a practical case for not doing it. Dick McKercher, WØMLY, of Rippey, IA, wrote to point out that under FCC rules, you are obliged to do it the right way, and he admonishes you all to call stations with your complete call sign every time.

Also in March, I made a silly, thoughtless error when I cited May dates for the WPX SSB, March's "contest of the month." I got the dates right, but the month wrong. As penance, I spent that contest at VE6JY in northern Alberta, admiring the aurora and listening to people on the east coast working Europeans I could not hear. 73, and good luck in the contests.

Indiana QSO Party

The Land O' Lakes Amateur Radio Club is sponsoring the Indiana QSO Party from 1400U 9 May-2300U 10 May. Classes are Single operator, Multi-op, club station, VHF/UHF. Any class can be fixed and/or mobile. Exchange will be signal report and country for Indiana stations, signal report and state or country for others. Work stations once per band and mode, work mobiles in each county. Scoring: SSB and AM contacts count 2 points, all other modes count 3 points. Multipliers: In-

diana stations multiply QSO points by total of Indiana Counties, States and Countries worked. Out of state stations multiply QSO points by the number of Indiana counties worked (max 92). No repeater QSOs.

Frequencies will be: CW: 1.810, 3.539, 3.739, 7.035, 7.115, 14.035, 21.120, 28.040; Phone: 1.860, 3.890, 7.280, 14.285, 21.385, 28.585, 50.14, 144.215.

Awards for each class and for every station making at least twenty Indiana stations. Send logs and info requests to Sharon Brown, 905 W. Parkway Drive, Pleasant Lake, N 46779 or e-mail: wnbrown@dmci. net. Submit logs and SASE for award to the above address by 12 June 1998.

Nevada QSO Party

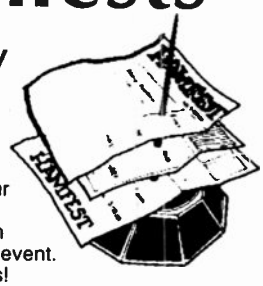
The 1998 Nevada QSO party will be held 09 May-0600Z-10 May on 6-160 Meters, SSB/CW/RTTY. CW 15 up; SSB 25 up from bottom of general band. Novice/Tech/Tech plus 15-25 up bottom of band. Exchange: Nevada county+RST. Others state-province-country+RST. QSO pts=1 pt SSB, 2 pt CW/RTTY. Multiply NV counties x QSO pts. NV Stations QSO pts x states-province-DXCC countries. Mail logs to Jim Frye NW7O, 4120 Oakhill Ave., Las Vegas, NV 89121-6319 by june 15 1998. E-mail nw7o@tcd.net; tel. 456-5396

Connecticut QSO Party

2000Z 02 May-2000Z 03 May, rest period 0400-1200Z. CW up 40KHz from band edge. Novice 25KHz up from end. Phone 1.860, 3.915, 7.280, 14.280, 21.380, 28.380. 6 Mtr - 50.150. RTTY on normal bands. No WARC bands. Single op, fixed/mobile, Novice, QRP (5W), multi-single, multi-multi and CT. club. CT stations exchange RST + Cnty, others RST + state/country/province. Non CT stations work CT stations only. 1pt phone, 2pts CW or RTTY. QSO with W1QI, or W1AW = 5pts. CT stations multiply-x-states/prov/CT stations/CT counties DX only one multiplier; others multiply-x-CT counties worked. Plaques/certif. (100 pt minimum). Certificate for all 8 CT counties. Entry/SASE by 03 June to CARA, P.O. Box 3441, Danbury, CT 06813-3441.

Hamfests

May



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** will hold the Los Positas College Swap meet on Sunday, 3 May, rain or shine. Featuring: Ham gear, CB, and other commercial radio equipment computers, monitors, motherboards, slot cards, vintage electronics, test equipment, software, antennas.

Admittance to sellers (and buyers) is 7 a.m. parking space is $10, 4 - $20, 6-$30. Parking is FREE! Food and restrooms are available on the campus of Los Positas College. Spaces are on a first come first served basis and the sellers line usually forms on Saturday night.

LARK Repeaters are: 147.12 -100 Hz PL (+) 145.35 -lO0 Hz PL(–), 147.54 simplex.

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The **North Hills Radio Club of Sacramento**, CA will hold a swapmeet at Bella Vista High School, 8301 Madison Ave., Fair Oaks, CA. (Exit I-80 east on Madison Ave. Bella Vista H.S. is approx. 5.8 mi. east of I-80. H.S. is 1/2 mi. east of Fair Oaks Blvd. on left. From Hwy 50, take Hazel Ave. 1.5 mi. north to Madison, turn left on Madison Ave for approx. 1 mi. H.S. is on right.) Open 6 a.m. to 12 p.m., 31 May 1998. Seller spaces $10; Buyers free, refreshments available and lots of parking. Featuring new, used, surplus ham, computer gear, misc. electronics & testing equipment. Talk-in on 145.190 MHz and 224.400 MHz (pl is 162.2 Hz). Information: Bob Naylor, AC6HF, 916/966-3654, e-mail: ac6hf@juno.com

•COLORADO•

The **Northern Colorado ARC** will be holding its Superfest Swapmeet on 30 May at Larimer County Fairgrounds, 700 S. Railroad. Set-up 6 a.m., public 8 a.m.-3 p.m. Free parking, commercial exhibitors, refreshments, VE session. TI: 145.115-lOOHz, 146.52. Adm: $3. Tables $8 each (Jeanene Gage, NØYHY, 970/351-7327). General Info: Michael Robinson, N7MR, 970/282-1167.

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The **Pikes Peak Radio Amateur Association** will hold its annual Swapfest on 2 May from 8 a.m.-2 p.m. (setup at 6 a.m. and VE Testing at 10 a.m.) at Doherty High School, 4515 Bames Rd., Colorado Springs, CO. Admission is $4/person (under 18 free), Tables: 1st is $12 with additional tables $10. Talk In 146.970 (l00Hz pl) or 146.520 simplex. For more information call Phil Pearsall, KC5LXC 719/531-5319 or e-mail pearsall@msn.com

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The **Western Colorado ARC** is holding their Hamfest & Computer Fair on Saturday, 09 May from 8 a.m.-2 p.m. at the National Guard Armory (482 28 Rd., Grand Jct., CO). Admission $3, Vendor tables $10. VE testing. Talk-in 146.94.

•ILLINOIS•

Chicago ARC will hold the annual Hamfest on Sunday, 24 May, 8 a.m.-3 p.m., set up 6 a.m., at DeVry Institute of Technology, 3300 N. Campbell, Chicago. Tickets at gate $5, advance $4. Indoor tables $1.50/ft. Outdoor swapfest space and parking free. Prizes. Refreshments. For information and reservations write to CARC PO:Box 410535, Chicago, IL 60641-0535 or write to CARC 5631 W. Irving Pk. Rd., Chicago, IL 60634 or call George 773/545-3622 or Dean 708/331-7764."

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The De Kalb Hamfest sponsored by **KARC** will be held on Sunday 03 May from 8 a.m.-1 p.m. at the Sandwich Fairgrounds (intersection of Suydam

and Gletty roads) Sandwich, IL. Talk-in: KARC repeater 146.730(–) or 146.52 simplex. For information contact: Bob Yurs, K9ZNA, Tel: 815/895-3219, e-mail: N9ZNA@aol.com, packet: N9VJQ@WB9SLE.IL.USA. KARCHamfest webpage: http://tbcnet.com/~jleonard/hamfest.htm

•LOUISIANA•

The Baton Rouge ARC is sponsoring the Baton Rouge Hamfest and Computer Show at The Great Hall of the Belmont Hotel (Hwy 61 in Baton Rouge) on 01-02 May. Open Friday from 5-9 p.m. and Saturday 8 a.m.-4 p.m. Set up is Friday at 8 a.m. Admission $5 at the door and $4 in advance. Forums and VE testing. For info e-mail the club at: W5GIX @aol.com or visit them at http://members.aol.com/w5gix/index.html

•MARYLAND•

The **Antietam Radio Association** is sponsoring the Hagerstown Hamfest and Computer Show on Sunday 03 May at the Hagerstown Junior College Athletic and Recreation Community Center from 8 a.m.-3 p.m. Admission $5, children 12 and under free. Tailgating $5. $10 per table, setup Saturday 6-9 p.m. VE exams (preregistration requested). For info on testing call Leo Patterson, KQ8E 304/289-3576 or Gay Rembold, W3DFW 301/724-0674. Talk-in 147.090(+) ARA club repeater W3CWC. For Information contact: Don Jones, KB8WHW 304/728-7769 or Bob Long, KD3JK 301/824-5132; Club fax: 301/791-3010.

•MASSACHUSETTS•

The **MIT Electronics Research Society**, the **MIT Radio Society** and the **Harvard Wireless Club** Flea Market will be Sunday, 17 May, 9 a.m.-2 p.m., Albany and Main St., Cambridge MA. Admission $4. Free off-street parking for 1000 buyers. Fully handicapped accessible. Tailgate room for 600 sellers, Sellers $10 per space at the gate, $9 in advance — includes 1 admission, setup 7 a.m. For space reservations or further info call 617/253 3776. Mail advance reservations before the 5th to W1GSL, P.O. Box 397082, MIT BR., Cambridge MA 02139-7082. RAIN or SHINE — covered tailgate area available for all sellers! Talk-in 146.52 & 449.725/444.725 – pl 2A – W1XM/R.

•MICHIGAN•

The **Wexaukee ARC** will hold their annual Hamfest on Saturday, 02 May 1998 from 8 a.m.-1 p.m. at the Cadillac Middle School in Cadillac, Michigan. Cash Prize drawings, and refreshments available. VE Exams for all classes at 1 p.m. Admission, $5, 8 foot table $6. Set-up at 6 a.m. table holders only. Talk-in 146.98 repeater. Contact, Dan, KE8KU, Wexaukee ARC., P O Box 163, Cadillac, MI 49601, 616/775-0998, ke8kudan @juno.com

•MISSOURI•

The **Jackson County ARC** will hold its fourth annual Hamfest 22-23 May in the Pascagoula Civic Center, located on the Jackson County Fairground. This is an ARRL sanctioned event. Talk-in will be on the W5WA repeater, 145.110(–), alternate 143.880(–). Hours are 1700-2100 22 May and 0800-1500 23 May. Entrance tickets are $2.50 for 12 and over, under 12 free. Dealer donated prizes every hour, with main prize drawings at 2030 Friday and 1430 Saturday. Bring a copy of your license to be eligible to win a transmitter. Table rental is $8/8-foot table. RV parking available on site. Nearby hotels and motels at reasonable rates. ARRL VE testing will be available at 1200 Saturday 23 May. Bring your original license or CSCE plus a copy, a picture ID and $6.35. Novice test is free. For futher info on hamfest or VE testing, contact: "Kim" Charles F. Kimmerly, N5XGI, Hamfest Chairman, 19000 Busby Road, Vancleave, MS 39565; 228/ 826-5811

•NEBRASKA•

The **Ak-Sar-Ben ARC** will be holding their annual Ham Radio Auction on 03 May at Millard Social Hall, 10508 S. 144th St., on Hwy 50 just south of I-80. Talk-in on 146.94 KØUSA. Check-in 7:30-10:30 a.m., auction begins 9:30 a.m. For more information contact Ed Edwards, KØIL, 402/552-5425; e-mail: k0usa@qsl.net; www.qsl.net/k0usa

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The ARRL Midwest/Dakota Division Convention with Hamboree 20 will be sponsored by the **3900 Club** and the **Sooland Amateur Radio Association** on 29-30 May at the Marina Inn, South Sioux City, Nebraska. 2-9 p.m., 29 May; 8-4:15 p.m., 30 May. General admission: $6 for both days. Flea market price: $10 per table, general area; $15 per table, perimeter; free electricity Friday night. Dinner/Entertainment: $9 Saturday Night Banquet: $14. Highlights include: 150+ table flea market; Full line dealers; License exams; MARS forum; QCWA luncheon; DX card checking; Wouff Hong; Ladies activities and programs; ARRL forum; QRP programs; Technical forums; Left foot keying contest. Handicap accessible — Free parking. Campground 2 blocks. Special call sign, W2O. Talk-In Frequency 146.31/91. For info contact: Mike Nickolaus, NFØN, 316 East 32nd Street South Sioux City, NE 68776. Tel. 402/494-6070 email: nføn@avalon.net

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The **Metro 70CM Network** will hold an Electronic Flea Market on 03 May at Lincoln High School, Yonkers from 9 a.m.-3 p.m. Vendors - 7-9 a.m. Free coffee, door prizes, a grand prize drawing at 1 p.m., VE exams, and free parking. For vendor or buyers information contact Otto J. Supliski, WB2SLQ at 914/969-1053.

•NEW YORK•

The **Binghamton Amateur Radio Association, Inc.** is sponsoring the 1998 Owego Hamfest on 02 May at Marvin Park Fairgrounds, Route 17C, Owego, NY. Time: 8 a.m.-4 p.m Features: VE testing, ARRL forum, Vendors' exhibits, Indoor and outdoor flea market, Refreshments. Talk-in 146.16/.76 or 146.52 Admission: $5, Tailgating $2, Tables $15. For information contact. BARA, P.O. Box 853, Binghamton, NY 13902; E-mail: owego98@ibm.net; www.wtsn.binghamton.edu/bara

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The **Orange County ARC** is sponsoring the Spring Hamfest on Saturday, 09 May from 8 a.m.-2 p.m. at the John S. Burke Catholic High School, Fletcher Street (Exit 122A on Route 17) Goshen, NY. Admission $5 for buyers (spouses & kids free), tailgating $6, indoor tables $10 we supply table, $7 you supply table. Features Skywarn training, ARES/RACES intro to emergency service, KJI Electronics, Free parking, FCC exams, New & used rigs, Components & parts, Door prizes, Refreshments. For Info & reservations contact: Edward J. Moskowitz, N2XJI, 123 Harold Ave., Cornwall, NY 12518; Tel: 914/534-3492

•RHODE ISLAND•

The **Rhode Island Amateur FM Repeater Service, Inc.** will hold their annual Spring Auction and Flea Market at the VFW Post 6342, Main Street, Forestdale (No. Smithfield), RI on Saturday, May 16, 1998. Take the Forestdale exit off Route 146 in No. Smithfield, take a left at the end of the ramp and go six tenths of a mile to the Post on your right just before the Village Haven Restaurant.

Flea Market opens at about 8 a.m. and spaces are $5 each. Some spaces are available under the pavilion on a first come first served basis. Auction begins at 11 a.m. continuing until about 3 p.m. Coffee, donuts, food and beverages are all available. Talk-in on 146.76. For further information contact Rick Fairweather, K1KYI, 106 Chaplin Street, Pawtucket, RI 02861 or call 401/725-7507 between 7-8 p.m.

•SOUTH CAROLINA•

The **Blue Ridge Amateur Radio Society** is having its 1998 Upstate SC Hamfest on 09 May from 8 a.m.-5 p.m. at the Anderson County Fair Grounds in Anderson, SC. Talk-in frequency will be 146.01/146.61 primary and 146.22/146.82 backup. Walk-in VE exams and door prizes.

•TEXAS•

The **Key City ARC** will sponsor a Hamfest at the Abilene Civic Center from 8 a.m-5 p.m. Sat., and from 9 a.m.-2 p.m. Sun. Free Parking. VE Exams. Wheelchair access. Tables $6 each. Pre-registration $7 (must be received by 28 April), $8 at the door. Talk-in on 146.160/760. For reservations and info: Peg Richard KA4UPA, 1442 Lakeside Drive, Abilene, TX 79602 or call Peg at 915/672-8889.

•WISCONSIN•

The **Mancorad RC** is sponsoring the 1998 Hamfest and Computer Swapfest on 09 May at Manitowoc County Expo Ctr (intersection of Hwys 42-151 and I-43 on Co. R.) from 8 a.m-noon. Flea market (amateur, computer, electronic), VE Exams, Refreshments, Camping (920/683-4378). Talk-in: 146.01/61. Admission: Advance $3, door $4. Dealer Info: Friday night set-up till 10:00 or early Sat.morning, 8' tables $6, electric outlet $5.00. Contact: SASE to Mancorad RC, PO Box 204, Manitowoc WI 54221-0204 or call Red 920/684-9097 days or Glenn 920/684-7096 day or evening.

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On 02 May 1998 the **Ozaukee Radio Club** will sponsor its 20th Annual Cedarburg Swapfest, 8 a.m.-1 p.m. at the Circle-B Recreation Center, Highway 60 and County I (located 20 miles north of Milwaukee, west of Grafton). Admission is $4, both in advance and at the door. 4-foot tables are $5 (Limited power available on request). Food and refreshments available. Sellers setup 6:30 a.m. License exams start at 9 a.m. Talk-in on 146.37/.97 and 146.52. For admission tickets, table reservations, maps, or additional information, send an SASE to ORC Swapfest Chairman, W58 N985 Essex Drive, Cedarburg Wl 53012-1439. Tel. 414/377-2784 or 414/284-3271.

•WYOMING•

The **Carbon County Amateur Radio Society** is sponsoring the Wyoming Hamfest 1998 on 23-24 May at the Jeffrey Center, Rawlins, WY. Forums, Door prizes, Social activities, Banquet, New equipment, Vendors, Swap tables. Tours and many more fun things for the entire family. Admission: $7 at the door, $5 pre-registration. Banquet $15. Swap table $8.

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

New Hamtronics catalog

Hamtronics, Inc. recently published a new 1998 catalog. Several new frequency synthesized transmitter and receiver products have been added to the usual lineup of high-quality VHF & UHF products.

Hamtronics has also announced that they are now able to stock 2 meter and 220 repeaters for next day shipment, since there is no delay waiting for channel crystals.

Write to Hamtronics, Inc., 65-F Moul Rd, Hilton, NY 14468-9535, call 716/392-9430, fax 716-392-9420, or email jv@hamtronics.com. While you are at it, ask for a complete catalog, which also includes all their VHF/UHF transmitters, receivers, repeaters, converters, preamps, and accessories. Please tell them where you saw this announcement. You can also view the entire catalog at their web site www.hamtronics.com

Keys, paddles & bugs from Tokyo Hi-Mound

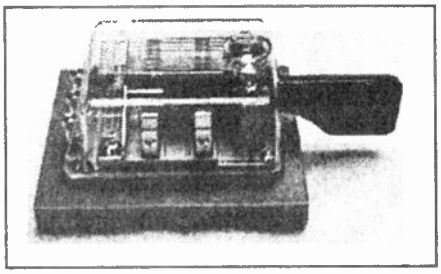
Milestone Technologies has announced that the Hi-Mound range of Morse Keys, paddles, and bugs is once again available from Japan.

The line includes a complete range of keying equipment, from the simple and inexpensive to the "work of art," all at prices comparable to or better than products available in the U.S.

Milestone has expanded its import operation to carry several models of straight keys, paddles, and the BK-100 semiautomatic "bug" key. Any Hi-Mound product that Milestone does not ordinarily stock can be special-ordered from Japan.

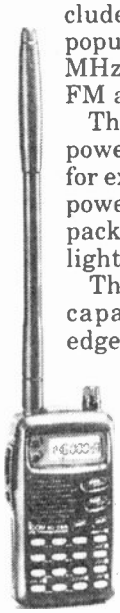
The MK-706 dual paddle is a good example of the Hi-Mound line priced at $89.95. Credit card orders can be placed by calling Milestone Technologies toll free on 800/238-8205. For further information about Hi-Mound Morse equipment or Milestone's other products, contact Marshall on 303/752-3382 or write to him at Milestone Technologies, 3140 S. Peoria St. Unit K-156, Aurora, CO 80014-3155.

E-mail can be addressed to Marshall at nlfn@mtechnologies.com. Milestone also has a site www.mtechnologies.com



World's smallest tri-band handheld

ICOM announces the world's smallest tri-band handheld, and the only one with 50 MHz coverage - the ICOM T8A. Weighing only 9.9 oz., the T8A covers the 6-meter, 2-meter, and 440 MHz amateur bands. This includes receive coverage of the popular aircraft, 150 and 450 MHz public safety bands, and FM and TV broadcast.



The T8A's transmitter output power is 5 watts on all bands for excellent range. The T8A is powered by an Ni-MH battery pack, which is a powerful, yet lightweight, source of power.

The T8A has a 123 memory capacity, including 10 scan edges and 1 call channel per band. A variety of scanning methods are included, accommodated by 10 groups of 20 channels each.

The T8A is water resistant and features a die-cast aluminum chassis for durability and reliability.

Tone squelch, pocket beep, and auto-squelch are standard features of the T8A as well as auto-power saver, electronically controlled volume and direct keypad input. A guide function allows display of the selected set mode item in the T8A's display window for setup convenience.

The ICOM IC-T8A is supported by a complete line of ICOM accessories. For more information on the ICOM IC-T8A contact your ICOM dealer, or ICOM America, 2380 116th Avenue NE, Bellevue WA 98004 or see us at www.icomamerica.com

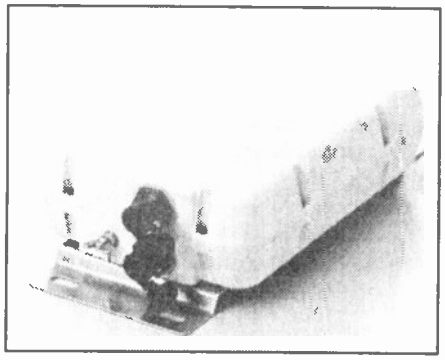
Contact East catalog

Contact East introduces its largest catalog ever! Its 284 pages are filled with hundreds of new test instruments and tools for engineers, managers, technicians, and hobbyists. Featured are quality products from brand-name manufacturers for testing, repairing, and assembling electronic equipment. Also included are our popular lines of: communication test equipment, ESD protection products, ozone safe cleaners, magnifiers, inspection equipment, workbenches, tool cases and more. All products are fully guaranteed.

SAME DAY SHIPPING provided. To receive a FREE copy, call (978)682-2000; fax (978)688-7829; request on-line at www.contacteast.com or write to: Contact East,Inc., 335 Willow St., North Andover, MA 01845

ICOM's new automatic antenna tuner

ICOM announces a new automatic antenna tuner - the AH-4. Compact in size, the AH-4 is weather-resistant, including rubber gasket seals. The AH-4 will tune a 23' long wire on the



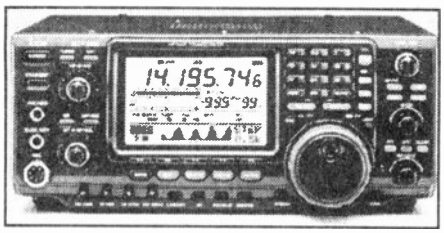
Ham bands from 3.5 through 54 MHz.

When used with the optional AH-2G mobile antenna element, the AH-4 will tune from 7 through 54 MHz.

The AH-4 stores SWR minimum setting and tuning information in 45 memories for quick returning - average tuning time is 2.5 seconds or less. It is capable of handling up to 120 watts of transmitter power, yet only emits 300 mW during tune up.

Powered by 13.8V DC, the connections are simple. A control cable connects the tuner to a compatible ICOM transceiver, such as the IC-706MKII and IC-756 models.

For more information contact your ICOM dealer, or ICOM America, 2380 116th Avenue NE, Bellevue, WA 98004. Visit us on the web at www.icomamerica.com



The IC-746

ICOM announces its newest HF through 2 Meter all-mode transceiver - the IC-746. The IC-746 is a DSP, high performance radio in a compact package.

Featuring all-mode performance, including true FSK (RTTY) on all bands, HF through 2 Meters, the IC-746 is ideal for portable, mobile or fixed (base) operation.

The receiver has a host of interference-fighting features, including twin passband tuning, auto notch and audio peak filtering. Digital noise reduction is variable, and a noise blanker is also featured. Three additional (optional) IF filters can be accommodated for maximum selectivity. A band scope is included on the large, easily read display window to monitor band activity. Weak signal reception is enhanced by the IC-746's IF DSP features and its two stage preamplifier (single-stage on 2 Meters).

The IC-746 features 100 watts of output on all modes and all bands, including 2 Meters. A full featured memory keyer, including serial number generator for contesting and adjustable weight control is standard.

Three antenna inputs are available on the IC-746. An auto-tuner for 160-6 Meter operation has memories for tuner settings every 100 kHz for quick, efficient antenna tuning.

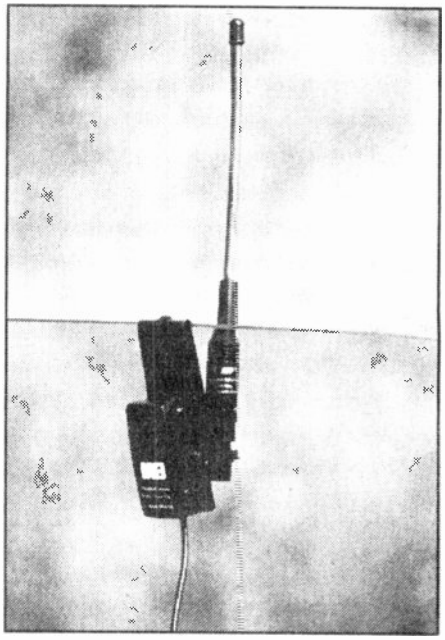
A triple band stacking register and 100 memories (with alphanumeric tagging capability) provides maximum operation capability.

The IC-746 is supported by a complete line of accessories. For more information, contact your ICOM dealer or ICOM America, 2380 116th Avenue NE, Bellevue, WA 98004. Visit us on the web at www.icomamerica.com

MFJ-3 10 HT Antenna Window Mount Clip

Your HT and rubber duck radiate poorly inside in your car. The shielding effect of your roof gives you a very short range of QSO power.

The window mount clip with BNC connector holds your antenna securely on the outside of your car's window where it can radiate freely. It's quick and easy to install and can be tucked away discreetly in your



car's glove compartment to eliminate theft problems.

The MFJ-3 10 HT Window Mount Clip comes with ten feet of flexible low cost mini-coaxial cable.

Extend your QSO range! Talk further, longer and clearer with MFJ's new HT window clip for mobile operation!

To order or for your nearest dealer, call 800/647-1800, Fax 601/323-6551; e-mail mfj@mfjenterprises.com; or check out our web site: www. mfjenterprises.com

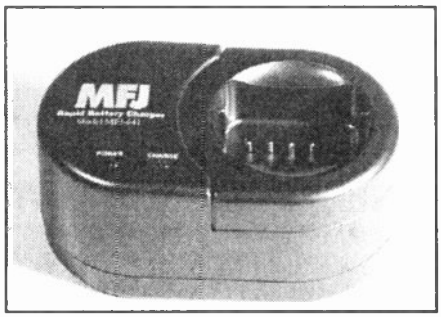
MFJ-641 RapidBattery Universal Chargers

The MFJ-641 RapidBattery Charger is a battery charger with both quick and trickle cycles and will charge Ni-Cd or Ni-MH battery packs.

MFJ's battery chargers use MFJ's exclusive RapidBattery technology to examine whether the battery is fully charged, thus overcharging can be avoided and the lifespan of the battery can be prolonged.

MFJ's battery chargers use universal interchangeable charging slots for fast, simple drop-in charging. MFJ's battery chargers are supplied with one charger slot (select model from chart in catalog). You can buy extra charging slots for your different radios and drop them in for fast and simple drop-in charging. Extra slots are $12.95 each.

Charging status LED indicators tell when your battery is fully charged. An automatic switch from quick to



trickle charge is available when needed. Compact 3 1/2 x 5 1/2 x 3 inches.

To order or for your nearest dealer, call 800/647-1800; Fax 601/323-6551; e-mail: mfj@mfjenterprises .com; or check out dealer and ordering information on our web site: www.mfjenterprises.com

MFJ-295Y Mini YAESU SpeakerMic

MFJ's new Mini YAESU SpeakerMic uses a high-quality non-directional Electret condenser microphone to give your Yaesu handheld radio superb crystal-clear audio.

A built-in earphone jack lets you plug in an external earphone for private listening — you won't bother anyone! The PTT thumb switch is perfect for heavy use — it'll withstand even the most talkative Hams!

An 8-position swivel lapel clip lets you position and secure the microphone to your shirt or coat comfortably. 3 1/2 feet of durable, stretchable cord has extra molded plastic insulation around the bend points. This high quality microphone is the perfect companion to your YAESU FT-10R, FT-40R, FT-50R or VX-1R handheld transceiver.

MFJ's mini mic uses a 1/4 inch speaker to produce 83 dB of crystal-

clear audio. Impedance is 8 Ohms. The non-directional electret condenser microphone has –53 dB sensitivity and 1 k Ohm impedance.

To order or for your nearest dealer, call 800/647-1800, Fax 601/323-6551; e-mail: mfj@mfjenterprises.com, or check out dealer and ordering information on our web site: www.mfjenterprises.com

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
Alabama			
6/13/98	Rainbow City	Gene, KC4TFF 205/492-8194 or Lloyd 205/547-0358	w/i
Arizona			
6/13/98	Tucson	Joe, K7OPX 520/886-7217	w/i
Arkansas			
6/13/98	Forrest City	Tom, KK5YN 501/633-4207 or Preston, NØHNQ 501/630-1168	w/i
6/21/98	Gassville	Phil, AB5ZU 870/425-7406	p/r pref.
California			
6/13/98	Anderson	Al, 530/357-4834, N6BJ	p/r pref.
6/09/98	Arcadia	Denny, W6VRK 818/358-1480	p/r pref.
6/07/98	Chico	Jackie, W6YKU 916/342-1180	p/r pref.
6/07/98	Concord	Gene, WW6H 510/254-5090	w/i only
6/27/98	Culver City	Scott, K6PYP 310/459-0337 or Dave N3BKV 818/559-2572	w/i
6/06/98	Culver City	Clive, AA6TZ 310/827-2538	w/i pref.
6/27/98	Escondido	Harry, WA6YOO 760/743-4212	p/r
6/02/98	Fremont	Dennis, K6DF 510/791-0914	w/i only
6/13/98	Harbor City	Elvin, N6DYZ 310/325-2965	p/r
6/27/98	Lake Isabella	Ham HOTLINE 760/379-2947	p/r pref.
6/29/98	Montclair	Steve, 909/597-2249	w/i pref.
6/20/98	Redwood City	Joe, KB6OWG 408/255-9000	w/i only
6/14/98	Sacramento	Dick, N6DK 916/383-2113	p/r
6/13/98	San Pedro	Elvin, N6DYZ 310/325-2965	p/r pref.
6/06/98	San Rafael	Steve, AJ6Y 415/898-8123	p/r pref.
6/20/98	Stockton	Mark, W6DKI 209/465-7496	w/i
6/13/98	Sunnyvale	John, KG6XF or Gordon, W6NW 408/255-9000	w/i only
6/27/98	Upland	Warburg, WA6HNC 909/949-0059	p/r
Colorado			
6/13/98	Denver	Glenn, WØIJR 303/366-0155	w/i pref.
Florida			
6/20/98	Melbourne	Bill, WB9IVR 407/724-6183	p/r pref.
Georgia			
6/27/98	Dalton	Bert, N4BZJ 702/259-5625 or Harold, N4BD 706/673-2291	w/i
6/06/98	Ellijay	Hugh, AD4E or Dorothy, N4DTC 706/276-6660	w/i
6/07/98	Gainsville	Terry, K4FB 770/967-6364	
Idaho			
6/13/98	Boise	Lem, W7JMH 208/343-9153	w/i pref.
6/24/98	Grangeville	Larry AB7GY 208/983-2163	w/i pref.
Illinois			
6/13/98	Oak Forest	David, NF9N 708/448-0580	p/r pref.
Indiana			
6/20/98	New Albany	Dick, K9RT 812/246-6377	w/i
6/07/98	Terre Haute	Fred, K9EBK 812/466-2122	p/r pref.
Iowa			
6/20/98	Council Bluffs	Lorraine, AAØBS 712/322-1454	p/r pref.
Kentucky			
6/09/98	Hopkinsville	Steve, Kt4MT 502/885-1652	
6/13/98	Radcliff	Rick, AD4SM 502/352-2361 or Harold, AI4HB 502/352-0825	
6/20/98	W. Cm College	Off Hwy 6, E. side of Council Bluffs	
Maryland			
6/18/98	Towson	Bill, N3WD 410/HAM-TALK	p/r pref
Massachusetts			
6/20/98	Melrose	Scott, WB1F 617/665-7654	p/r pref.
Michigan			
6/13/98	Marquette	Richard, N8GBA 906/249-3837	p/r pref.
Missouri			
6/13/98	St. Louis	Ron, KBØDIY 314/510-3223	p/r
New Jersey			
6/18/98	Bellmawr	Diane, N2LCQ 609/227-6281	w/i
6/13/98	Cranford	24-hour hotline 973/377-4790	w/i pref.
New York			
6/09/98	Bethpage	Bob, W2ILP 516/499-2214	w/i pref.
6/13/98	Long Island	Al, W2QZ, 516/623-6449	w/i
6/07/98	Yonkers	Emily, AC2V 914/237-5589	w/i ok
North Carolina			
tba	Brevard	Harrison, KO4RV 704/877-4757 or 704/883-9096	
6/27/98	Hendersonville	Lewis, AC4WI 704/684-3424	w/i
6/13/98	Leicester	Larry, WB4PLA 704/683-1400	w/i
Ohio			
6/06/98	Cincinnati	Herb, WA8PBW 513/891-7556	w/i pref
Oregon			
6/12/98	Grants Pass	Clyde, AA7WC 541/474-0205 or Gary, KB7CFI 541/474-7974	p/r pref.
6/20/98	Medford	Paul, KE7VO 541/878-3433 or Rick, KG7PX 541/779-3404	p/r pref.
6/10/98	Roseburg	Mel, AB7DC 541/672-5884	p/r pref.
Pennsylvania			
6/06/98	Erie	Norma, W3CG 814/665-9124	w/i only
6/04/98	Philadelphia	Dusty, ND3Q 215/879-0505, 215/482-0386, 215/448-1139(tape)	p/r pref.
6/15/98	Telford	Joe, W3PNL 215/723-6697	p/r pref
Rhode Island			
6/11/98	Providence	Judy, KC1RI 401/231-9156; Al, NN1U 401/454-6848	w/i pref.
South Carolina			
6/20/98	Columbia	Ray, N4WR 803/345-3373	w/i ok
6/06/98	Greenville	Sue, N4ENX 864/967-0001	w/i ok
6/09/98	Spartanburg	Peter, KI4KN 803/576-5566 day or 803/585-4919 eve	
Tennessee			
6/16/98	Cleveland	Vince, K4JC 423/473-7618	p/r pref.
6/08/98	Blount County	Carroll, W4PCA 423/982-5839	w/i ok
6/20/98	Henry County	Mackie, W4MG 901/247-5489	
6/18/98	Jasper	Edgar, KF4CJ 205/597-3863	
6/20/98	Johnson City	Jim, AE4DA 423/282-2490	
6/14/98	Knoxville	Ray, W4CPA 423/687-5410	
6/20,27/98	Memphis	Stan, AC4CQ 901/758-0661	
Texas			
6/20/98	Austin	Jim, AB5EK 512/327-6184	w/i pref.
6/04/98	Harlingen	George, K5MRT 210/797-1762	w/i ok
6/09/98	Houston	Harold, ND5F 713/464-9044	p/r pref.
Virginia			
6/11/98	Chesapeake	Pat, KE4URC 421-9598	p/rf
6/13/98	Virg. Bch	Judy, KD4JMA 804/468-9166	p/r pref.
West Virginia			
6/13/98	Huntington	Garry Ritchie 304/733-1300	p/r pref.

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Off the Air

(Continued from page 22)

have been avoided by back-up CW. I'd sure like to check out what happened between the two ships.

Otto Freytag, K4QFM, CWO3, USCG, Retired
Riviera Beach, FL

Oops!

With the usual glee, I started reading the April issue of ***Worldradio*** as soon as it came in the mail.

I did want to point out one error. In the "Publisher's Microphone," listing of new SuperBoosters, the call sign for Nathan Peterson was incorrec. His call is KE6SQO (someone dropped the "S").

I know this is a little thing, but you know how sensitive we are about our call signs. Besides, Nathan just celebrated his 14th birthday, so he's one of our younger Hams. He also has the distinction of being one of the youngest Hams (when he was just 11 and had his license just a short time) of talking live with Norm Thagard on MIR via the Santa Rosa Junior College SAREX Telebridge.

Bill Hillendahl, KH6GJV
Santa Rosa, CA

(Ed.— We at **Worldradio** *consider this a grevious error, and are more than happy to correct it. Besides,* I *didn't do it!)*

Subscribe — see p. 9

Georgia Hams expand role in floods

Hams called out in the wake of recent flooding in Georgia have shifted gears from assisting with emergency shelter communication to aiding long-term recovery efforts. Dougherty County EC Arthur Shipley, N4GPJ, in Albany, Georgia, reports that members of the ARES team in his area had been providing communication for a feeding center operated by Georgia's Baptist Relief and for cleanup crews, FEMA, and the Red Cross.

The Hams' role has shifted from emergency response to long-term cleanup and care as many ARES members had to return to their jobs this week. 500 houses were damaged in Dougherty County; 200 in Lee County. Approximately 11,000 residents were evacuated in Dougherty County alone.

As many as 50 Hams were directly involved in emergency response, flood relief, damage assessment, and recovery efforts. — *ARRL Letter*

El Nino ERI '98

The 1998 ACS California Emergency Response Institute scheduled for 02/03 May, has been canceled for this year by ERI Incident Commander Ben Green. This is because most of the ERI Staff continues to do battle with the statewide flooding in California caused by the El Nino weather system.

According to Dave Larton, the Office of Emergency Services has been strained to the limit in its disaster response, the current plan is to have the Emergency Response Institute back on track for the Spring of 1999. Hams and others looking for registration refunds should contact Les Ballinger at lballinger@juno.com — *ACS/ERI, Newsline*

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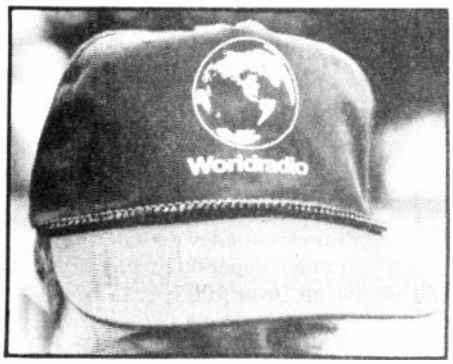

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WB2FXN — Dayton's Ham of the Year

"Excited, still numb, shocked," were the words Andrew J. Feldman, WB2FXN, used to describe his reaction to being named the Dayton Hamvention's 1998 Amateur of the Year. Feldman, of Coram, New York, is being recognized for his lifelong dedication to public service through his activities in ARES and RACES. Feldman has been active in public service since he was first licensed in 1962. He's served as Suffolk County (NY) ARES District Emergency Coordinator and as Suffolk County's American Red Cross chapter disaster communications chairman. Recently, he became Director of Communications for the New York Wing, Civil Air Patrol. He's also an active SKYWARN member. Feldman was in the forefront of Ham radio support activity following the TWA Flight 800 disaster in July 1996, and during an outbreak of fires on Long Island in the summer of 1995.

The Technical Excellence Award winner is Bob Bruninga, WB4APR, the "father of APRS." In making the announcement, the Hamvention called APRS "an internationally recognized achievement." Bruninga, who lives in Glen Burnie, MD, is being honored for creating and developing the Automatic Packet Reporting System, which became available in 1993.

This year's Dayton Hamvention Special Achievement Award goes to ARRL Dakota Division Vice Director John B. Bellows Jr, KØQB, who said the award was completely unexpected. Bellows, of St Paul, Minnesota, is being honored for his work promoting the limited federal preemption, PRB-1, which requires municipalities to reasonably accommodate Amateur Radio antenna requirements. In particular, Bellows gained exposure through his "pro bono" legal work in the Pentel v Mendota Heights, Minnesota, case, which reaffirmed the original intent of PRB-1 and imposed an affirmative obligation on the city to accommodate Ham radio with the "minimum necessary regulation to accomplish its legitimate purposes."

All three awards are made annually by the Dayton Amateur Radio Association, which sponsors the Hamvention. They will be presented 16 May at the Dayton Hamvention banquet. — *ARRL Letter*

North Carolina Hams make Skywarn count

Hams in North Carolina activated a Skywarn net 20 March to track severe storms that crossed the state and provide up-to-the-second reports to the National Weather Service. Early on the evening of 20 March, Hams reported several funnel clouds and tornado touchdowns across southern and eastern Wake County. Another tornado was spotted later near Raleigh-Durham Airport, and a funnel cloud was seen in Granville County.

Tornadoes caused considerable damage in Rockingham County and knocked out communication there. North Carolina Emergency Management called on Hams to bridge the gap by linking the county with the state Emergency Operations Center in Raleigh. — *ARRL Letter*

Ham gets Carnegie Medal

Elton Twork, KC8BZD, of Wyoming, Michigan, has been honored by the Carnegie Hero Fund Commission. Nearly 18 months ago, Twork pulled two men from a car just moments before it was demolished by an oncoming train. Twork, was one of 17 people across the country similarly honored. He witnessed the car, piloted by a drunk driver, as it crashed a barrier and landed on the tracks with a train bearing down on it. John Wittman, WK8X, of Grand Rapids, says the local sheriff hauled what was left of the car to Twork's award ceremony. Twork received a medal and a $3000 check, which will be applied toward his pursuit of an MA. — *John Wittmann, WK8X, ARRL Letter*

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