

# Worldradio

Year 19, Issue 12

June 1990 • \$1.25



The Sacramento area signal searchers included (l to r) Bob Hess, WB6EUQ; Chris Grimshaw, KC6EOZ; Norm Lucas, WB6RVR; and Al Thearle, WB6RUU. (WB0WMM photo)

## Tracking elusive interference (part one)

### NORM LUCAS, WB6RVR

On or about Feb. 17, 1990, a carrier with a 1300 Hz tone appeared on 145.050 MHz. The strength of this signal was about S-3 to S-4, which was loud enough to effectively lock up the packet TNC at my home in North Sacramento, CA. (I had my packet radio connected to an omni-type antenna at a height of about 60 ft.)

During the first day I noticed the signal, I didn't think too much of it and discounted it as some local commercial interference that I hear every once in a while.

However, after hearing this signal for two consecutive days, I became curious about it. I contacted several Amateurs in the area and they advised me that they could also hear the signal.

Al Thearle, WB6RUU, and I began attempting to accurately plot the direction of the interference, using beam antennas at our home QTH. My beam heading placed the interference at 45 degrees and Al's fix was initially west (270 degrees). Intersecting lines drawn

on a city map placed the location of the signal at a local Air Force Base in North Sacramento.

On Sunday evening, Feb. 18, Al and I drove over to and around the base. Using the mobile radio and the  $\frac{5}{8}$ -wave omni-antenna in Al's car, we were able to hear the signal pretty well from some locations in and around the base. We eventually found ourselves prowling around some newly constructed warehouses that were located off base, just west of the airfield, as the signals became rather strong around those locations.

It quickly became apparent that we were getting reflected readings, and without some sort of beam antenna, we were not going to have much luck trying to pinpoint the location. As the hour was getting late, we abandoned our search for that evening.

The next morning I returned to the warehouse location with my hand-held and 4-element 2M beam. A quick check of the area revealed that the signal was coming from the direction of the air-

field. I drove around to the east side of the airbase and a reading showed that the signal was still coming from the east, away from the airfield.

I chased the signal eastward, through North Sacramento. On my way by, I picked up Chris Grimshaw, KC6EOZ, and we continued to head east to the Sacramento/Placer county line.

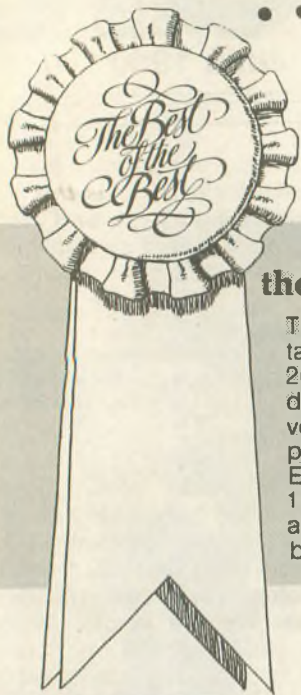
Upon reaching the Roseville city limits, we ran out of time and again had to abandon the search. While the signal was not as strong, there was a definite peak from the eastward heading.

Chris and I returned home and called Bob Stofan, W6PKU. Bob was able to pinpoint the signal as coming from the east, northeast. He was also able to accurately measure the carrier frequency and audio tone.

With this additional information, I again contacted Al and told him of our findings. He took another reading with his beam and his recalculations also put the interference at east, northeast. (please turn to page 18)

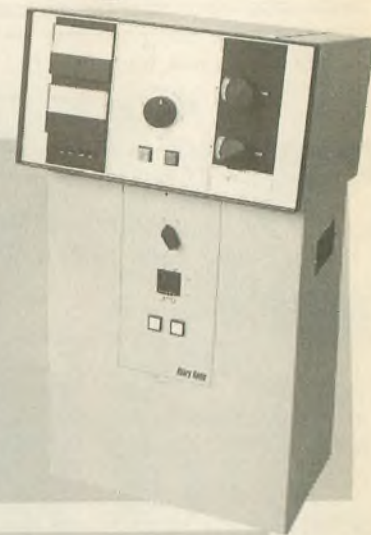
# YAESU & HENRY

## ...a winning team



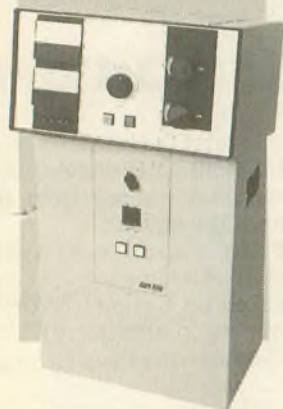
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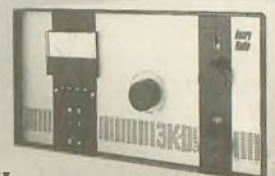
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# Dayton news flash!

Dayton, OH. April 26, 1990. Skip Tenney, W1NLB, publisher of *Ham Radio Magazine*, and Dick Ross, K2MGA, publisher of *CQ*, today jointly announced that CQ Communications Inc. has purchased *Ham Radio Magazine*, the Ham Radio Bookstore and *Ham Radio Horizons*. CQ Communications Inc. is the publisher of four monthly magazines, including *CQ* and two annuals.

Existing subscriptions to *Ham Radio Magazine* will be serviced on an issue-to-issue basis with *CQ*, effective May 1. Present subscribers to *Ham Radio Magazine* who also get *CQ* may extend their *CQ* subscriptions or opt to fulfill their *Ham Radio* subscription with another of CQ Communications titles.

Look for more details here next month. □

## Around-the-world DXpedition

From October 1989 to April 1990, we flew by commercial air around the world.

We started in California and flew to Paris France, where the weather was cold. We next went to Africa (5U7QL, Niger, and XT2KG, Burkina Faso) where many natives have no personal possessions and live on a few dollars a year.

Next we went to Bahrain (A92QL) on the Arabian Gulf. Most people in the Arab countries are Muslims and pray five times a day. Most of these countries are oil-rich, and Westerners find the cost of living very high.

In the larger cities, there are many stores selling expensive fancy dresses, but we never saw any of the Arab ladies wearing these gowns. We inquired and were told that these dresses were worn under their traditional black robes. After that, when the wind was blowing, we noticed an inch or two of them showing beneath the robes.

Our next stops were Australia and

New Zealand (VK2GDD and ZL0AKH). We found everything very clean in these two countries, and the class of living equal to, or higher than, that in Europe or the United States.

Our last stop was in French Polynesia (FO0XXL), where we lived in a grass hut on the shore of the Pacific Ocean. We were surrounded by beautiful flowers and lush vegetation.

We operated under the six calls listed above and talked to radio Amateurs in 126 to 161 different countries from each of these stops. We operated a major DXpedition around the world, with some 50,000 Amateurs contacted by two-way radio.

We were treated royally everywhere. In Australia we were made honorary members of The Wireless Institute of Australia and were interviewed by the local radio in Sydney.

Amateur Radio is a wonderful hobby, and we are all lucky to be part of such a great society. — *Lloyd and Iris, W6KG and W6QL, Colvin* □

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## Hurricane Watch seeks volunteers

JERRY MURPHY, K8YUW

*The Hurricane Watch Net, begun in 1965, has continued to grow and change over the years. Just before each season, HWN attempts to recruit and organize members for the immediate seasonal operations. During GILBERT last year it was made obvious that a new group would be required to augment the operations this year and in the near future, and that new technologies would require a different modus operandi. Net Manager Don Kay, K0IND, working with various staff members from over the years, developed a new informational letter to be sent to those who submitted inquiries. Part of that letter is paraphrased below.*

The minimum requirements for membership have changed over the years to accommodate the needs of the net and to take advantage of the technology available to us to do our job better. We are in the process of upgrading the qualifications of the net to better serve the public and the National Hurricane Center. Our experience (please turn to page 16)

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Our goal is to be a valuable resource of  
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and support the efforts of those who bring  
the flame of vitality to this avocation.

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ance of active radio amateurs concerned  
with reality, using radio as a communica-  
tions tool to develop the skill, quality and  
full potential of Amateur Radio.

We emphasize the positive aspects of  
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## PUBLISHER'S MICROPHONE

I have a file folder full of "thank you"  
letters from various hamfest chairmen  
around the country. They appreciate  
our subscription donations. Also, I  
have letters from clubs telling how  
their "club listing" in **Worldradio**  
brings new members to them.

Sadly, there are many other clubs  
that don't write in for the free hamfest  
prizes or inquire about the club listing.  
They just sit under the tree, in the  
shade, and let their eyelids lower.

But let us instead turn to the wide  
awake...

We again mention those urbane,  
erudite individuals, who, instead of  
putting money in some musty mutual  
fund, put it in something with zip and  
zing.

The latest **Worldradio** Super-  
Boosters (Lifetime Subscribers) are:  
Jay Muskar, AF2C, Putnam Valley,  
NY; Leonard Peterson, W3HFI,  
Bethlehem, PA; Michael McNamara,  
KA0SFV, Pierre, SD; Bruce Clark,  
KA2ODP, Great Falls, MT; Steve  
James, KA9NPT, Marengo, IL; Ron  
Longmoor, N7BLN, Mesa, AZ; Ken-  
neth Hunter, KB7H, Yuma, AZ; Jim  
MacRae, WB6RUV, Hesperia, CA;  
Randy Larsen, KB6PKQ, Sonoma,  
CA; and Joe Locascio, K5KT, Rancho  
Palos Verdes, CA, who came aboard in  
October but was inadvertently left out  
of the listing. Joe is a prime mover in  
the Don Wallace, W6AM, museum  
project.

And, the gremlins got to us when we  
identified Carlton Greene. His call is  
W3CQE, not W3COE.

There was some pretty strange  
behavior during a recent DXpedition.  
Do these odd folk actually have wives,  
children, friends, jobs? One could not  
really believe that they just go berserk  
when they are around a radio.

Pretty weird indeed. Best sugges-  
tion heard was (since everyone knows  
the nearby Amateurs by the sound of  
their voice) if your neighbor has gone  
off the deep end, call him (ON THE  
TELEPHONE) and ask him (very  
politely) if this behavior is in the true  
spirit of Amateur Radio.

Judging from letters and postcards,  
a popular subject here has been the CW  
test/ more technicians and engineers/  
electronic sales, etc.

We've been saying that the whole  
problem may be more economic than  
technical. For example: In the United  
States newspaper readership has not  
increased in the past 20 years. Fully 1/3  
of the population doesn't look at a  
newspaper at all. Japan has the highest  
*per capita* newspaper readership in the  
world.

Japan has roughly 1/2 the population  
of the United States, BUT their  
equivalent of *The Wall Street Journal*,  
*Nikkei*, sells half again more copies  
there than the *WSJ* sells here (2.9  
million to 1.9 million).

Also, while the transcribers, TVs,

tape recorders and the like get the  
notice, the other technical giant of the  
world, West Germany, is involved in  
non-discount store goods and is blaz-  
ing the way. West Germany has not  
lowered its standards in anything!

Oddly enough, while much is written  
about the fact that so many of the  
students in our graduate schools of  
engineering are from foreign countries,  
are they Amateurs? From China, In-  
dia, Pakistan, etc.? Most likely not.

We find ourselves in the situation  
now that most of the professors are  
from other lands. Are THEY Amateur  
Radio operators? Probably not. It may  
well be that the wrong horse is being  
beaten.

Robert Eisner, Professor of Econom-  
ics at Northwestern University says,  
"Our 13-year-olds score last in interna-  
tional tests of math and science skills.

"A third of an American generation  
is in the process of growing up illiterate  
or semi-literate."

Are we really going to try to pin this  
sorry state of affairs on the CW test?

We probably will have a no-code  
license. I base that on this: A few days  
ago the US Navy announced that its  
sailors no longer have to know how to  
swim. (This is not a joke.)

So if we can have sailors who don't  
have to be able to swim, we can have  
radio operators that don't know the  
code. The result will be the same in  
both cases.

One letter received here at the office  
said: "How about more on computers  
from square one on up. Include pro-  
grams relating to hams, packet, log-  
ging, RTTY, CW and on and on."

OK, where are the writers? I don't  
know why more people don't write for  
us. One Amateur wrote an article for us  
recently and earned enough money to  
buy a IBM computer... dust cover.

—Armond, N6WR

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# April 6-8

**JOHN MINKE, N6JM**

*Photos by Armond Noble, N6WR*

## Contest DX Forum

Contests are considered an important part of DX, often just what is needed to pick up a few new ones. Ever since the DX contests have been a popular event, they have been included in the agenda of this convention.

This year's forum began at 10 a.m. Saturday and ran for an hour longer than was scheduled, hence the dedicated contesters skipped lunch. The convention was hosted by the Southern California DX club this year, so the forum was run by Dick Norton, N6AA, one of our top DX contesters.

Marty Woll, N6VI, the Southwest-ern ARRL Division's representative to the Contest Advisory Committee, reported that those who feel strongly about items concerning contests should put it in writing and send their comments to their committee representative. Other items he discussed included seeking ways to improve log checking, establishing a beginner class to encourage newcomers to contest operating and the prohibition of soliciting contacts prior to the contest period.

A slide presentation of ZW5B, a

super contest operation of PY5EG, of Curitiba, Brazil, was shown to the attendees. This big effort was made by several known contesters, whose calls included W6KMB, N6TJ, OH2BH and N6AA.

This super station had a separate room for each band. Over 13,000 contacts were made, exceeding 35 million points.

The slides didn't just cover the contest operation. You should have seen the bathing attire the girls wear on the South American beaches.

Tom Taormina, K5RC, editor of the *National Contest Journal*, a publication covering contesting and now published by the ARRL, was invited to speak. One of Tom's concerns was that which bothers most of us, the increase of obscenities over the air. We have gone from possessing a great uniqueness, to being just another toy. The fellowship has been lost. We are losing touch with what started us on Amateur Radio.

Tom also commented that casual contesters are what make a successful contest, so he would like to see contest periods shortened. As an example he referred to Sunday afternoons of the ARRL Sweepstakes, which Tom described as the "pits."

Tom requested that if you were in the contest, to send in your logs, even if you only made 20 contacts.

Next up was Bob Dorsey, K4UVT, of the Northern California DX Club. He presented club awards to members for their outstanding participation in DX clubs, and was followed by Pete Meyer, N0AFW, of the Southern California DX Club, with awards to their members for likewise efforts.

Bob Cox, K3EST, representing CQ, presented attending DXers with awards for the Worldwide SSB Contest. The World-High, All Band effort, was won by OH2BH, operating CT9BZ. The QRP World High was presented to PY5CC, operating ZW5EG. For his efforts at YJ0RJ, OH1RY was presented with his trophy, which had first been given to him in Helsinki during the International Hamvention last August.

The DXpedition trophy for the 1988 operation of 3D2XX was accepted by W6SZN. On CW the World High was obtained by K6NA, operating at HC5M.



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Other honorees included D44BC by N6TJ, PY5EG by PY5CC and the multi-operator operation of PJ1B, accepted by K7ZZ. The DXpedition trophy was presented to AI6V for P40V.

K6ZM, of the Northern California Contest Club, presented awards for efforts in the annual California QSO Party. Although not a DX contest, many of the NCCC members also belong to both the DX and contest clubs.

Bob Cox, of CQ's Contest Committee, reported that they have an ad hoc committee that includes G3FXB, OH2BH and others. K3ZO is their Spanish coordinator. He reported that the so-called Unlimited Category was a mistake, and would now follow that of the ARRL unassisted category.

N6AA gave a short presentation of KCJ, the Keyman's Club of Japan. This is a CW contest the weekend just before the August All Asia Contest.

This contest has very unusual rules.



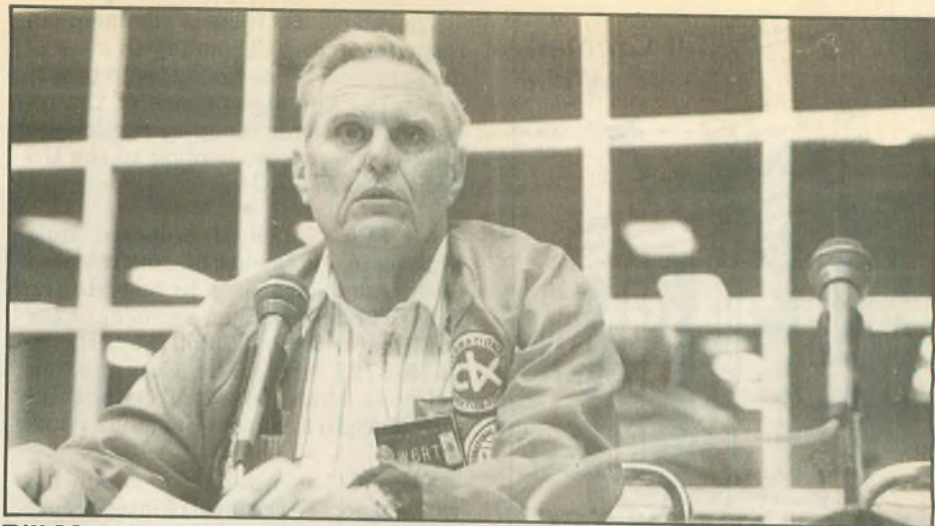
Bob Cox, K3EST, presented awards for the CQ Worldwide SSB Contest.

To get credit for the contact, both stations must have the correct information, including the time within 10 minutes. Not only that, both stations must have submitted a log. You would get no credit if the other station failed to submit an entry.

Dick said he gave it a try with 27 contacts, but got a big fat zero.

The Goodwill Games to be held in Seattle this July was also discussed. So far, there have been four US and four Soviet entries, followed by 15 other prefixes, which include HA, OK, EA, YU, I, OH, PY, G3, JA (2), VE, SM, DL and F. Calls of the Soviet teams include UA1DZ, UW3AA, UM8MO, UW0CN (of U0Y fame), UW9AR, UA9SA and many others.

Finally, the forum was opened to the floor. N5TJ proposed improving the worldwide contests by dividing into two classes. The Participant Class would be for those who don't care for paper work. They would just submit a copy of their log and not check it out for duplicate contacts. Of course, they would not be eligible for awards. The second class would be the Competitor



Bill Mauzey, W6RT, is the Southwest Division representative of DXAC.

Class, in which all entries must be complete with dupe sheets and have a tape recorded record of the operation.

K6DR expressed his feelings about the contest exchanges. He felt that more meaningful information should be exchanged in order to increase the challenge presented and skills obtained during these events.

At the end of the forum a surprise Phone Contest was held. This was none other than a version of Jim Neiger's annual CW copying event, where participants attempt to pick calls out of a jumble of characters.

### DX Forum

Later Saturday afternoon the DXers filed into the main meeting room for the DX Forum. This was the final session before gearing up for the Saturday

evening poolside cocktail hour.

Bill Mauzey, W6RT, and Jim Maxwell, W6CF, were recognized as the Southwestern and Pacific Division representatives of the DX Advisory Committee. Also recognized was Jim Rafferty, N6RJ, the past Southwestern Division representative of the DXAC. Don Search, W3AZD, the headquarters liaison, and Chuck McConnell, W6DPD, Pacific Division Director and liaison to the board of directors, were in attendance as well.

The present situations for the DXAC were discussed. The new country status for the Puyallup tribe of Indians was to be decided upon by the end of the month (April). A petition for Jarvis Island to be added to the DXCC country list is expected as soon as the DX- (please turn to page 11)

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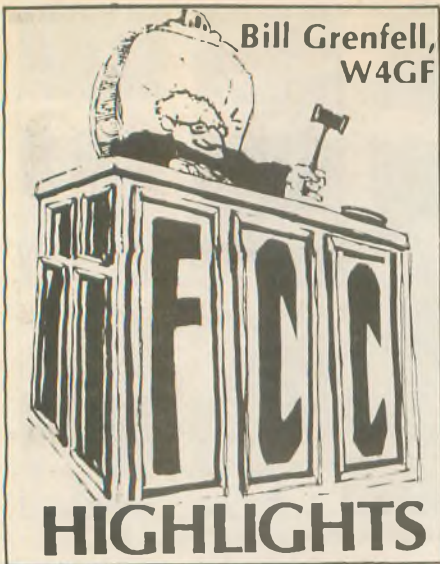
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**Bill Grenfell,  
W4GF**

The National Telecommunications and Information Administration (NTIA), which shares responsibility with the FCC for management of the radio spectrum, recently began a comprehensive policy review of the use and management of the radio frequency spectrum in the United States.

The ARRL commented, "Just as public policy requires that there be public parks and other open space for nourishment of the human spirit, so must there be 'open spaces' in the radio spectrum where the public can pursue personal, non-commercial ends . . . This is the essence of the Amateur Radio service."

After commenting on a number of related issues on frequency use and allocation, the League advised radio Amateurs to ". . . urge that those spectrum management practices which result in an artificial scarcity of spectrum be revised or replaced."

The FCC's Advisory Committee for the World Administrative Radio Conference (WARC-92) includes FCC Commissioner Sherrie Marshall, as co-chairperson, and ARRL's Executive Vice President David Sumner, as one of the 35 members. Committee members were selected to represent a diversity of telecommunications interests, and were drawn from both the business and academic communities.

The ARRL has filed its comments in response to an FCC inquiry in general docket 89-554. The League said that it recognizes the significance of the inquiry and stands ready to participate fully in the process leading to the US position at WARC-92.

An FCC Notice of proposed Rule Making in PR Docket 90-100, released on March 7, proposes to relocate the Novice and Technician segment of the 80M band from 3700-3750 kHz to 3675-3725 kHz. The Commission believes that this will reduce interference to and from Canadian Amateurs.

The FCC is asking for comments with respect to the level of interference in the current Novice and Technician segment and how the proposed frequency move would impact current Amateur operations. Amateurs may file these on or before June 15, and reply comments on or before July 13.

Responding to an ARRL proposal (RM-6512), the FCC has relocated automatic beacon operation in the 2M and 70 cm Amateur bands (PR Docket 89-65). On 2M the band segment has changed from 144.05-144.06 MHz to 144.275-144.300 MHz and on 70cm from 432.07-432.08 MHz to 432.400 MHz.

The ARRL also requested relocation of the 220 MHz beacon subband, from 220.05-220.06 MHz to 220.275-220.300 MHz; however, the FCC denied this portion of the request.

Although it continues to object to the way in which the FCC reallocated 220-222 MHz from Amateurs to commercial use, the American Red Cross in Washington has asked for four or five channels from the reallocated band for its exclusive use.

A basis for the request is that the Hurricane Hugo experience "dramatically revealed" the inability of the ARC to communicate in disasters using the current system, which is based on the single nationwide frequency of 47.42 MHz.

The FCC may believe they've made their "final" decision in Docket 87-14 to reallocate 220-222 MHz, but Amateurs around the country have kept up the fight by continuing to write letters to their representatives in Congress to complain of the FCC action. More letters are coming in every week.

On Nov. 13 the FCC issued a public notice requesting comments on an ARRL request, for issuance of a declaratory ruling of federal preemption over state and local ordinances which regulate or prohibit the possession or installation in motor vehicles of radio receivers capable of reception of police or other public safety communications. These statutes have been applied against licensed radio Amateurs to permit the seizure of FCC authorized equipment used and intended for use by Amateurs.


Comments were due May 16 and replies May 31 at Room 5322, 2025 M St. N.W., Washington, DC 20554. (please turn to page 10)

## Amateur Radio call signs

Amateur Radio operators often ask the FCC what call signs have been assigned lately. This list shows the last call sign in each group to be assigned for each district, as of April 1, 1990.

For more information about the call sign assignment in the Amateur Radio Service, see Section 97.51 of the FCC Rules, or write to the FCC, Consumer Assistance Branch, Gettysburg, PA 17326.

Radio District	Group A Am. Extra	Group B Advanced	Group C Tech./Gen.	Group D Novice
0	AA0AJ	KF0JN	N0LSP	KB0GHU
1	WE1Q	KC1UD	N1HLZ	KA1VKH
2	WX2N	KE2SX	N2KNB	KB2JUB
3	NY3Y	KD3RQ	N3HYU	KA3WAH
4	AB4UP	KN4GX	N4YOL	KC4PQR
5	AA5RC	KI5EG	N5QFT	KB5MDV
6	AA6UY	KK6IS	N6YJC	KC6JXO
7	AA7DZ	KG7CC	N7ONS	KB7KFO
8	AA8AM	KF8FF	N8MBD	KB8JMF
9	WQ9W	KE9VU	N9JLU	KB9EJF
North Mariana Is.	AH0H	AH0AF	KH0AM	WH0AAL
Guam	KH2M	AH2CG	KH2EI	WH2AMK
Johnston Is.	AH3C	AH3AD	KH3AB	WH3AAE
Midway Is.		AH4AA	KH4AD	WH4AAH
Hawaii		AH4KI	NH6WH	WH6CHD
Kure Is.			KH7AA	
American Samoa	AH8D	AH8AD	KH8AI	WH8AAZ
Wake Wilkes Peale	AH9A	AH9AD	KH9AE	WH9AAH
Alaska		AL7LY	NL7TT	WL7BXL
Virgin Is.	NP2F	KP2BT	NP2DT	WP2AHH
Puerto Rico		KP4QQ	WP4XR	WP4IVI



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

# Public service: A personal perspective

LEE ZALAZNIK, KI6OY

The most important aspect of public service for me is the ability to help out the participants and the race organizers to make an event run smoothly and safely for all concerned. I have received many "thank you's" and "we could not have done it without you" from race officials and runners.

Working out in the elements makes me aware of what to be prepared for. Let me say that two days in the sun can take its toll. I try to be prepared for the

worst and bring everything to make the stay as comfortable as possible.

Having the battery packs all charged up is a consideration, but having radio equipment working to do the job is as important. It seems that my HT always has problems going over the littlest hills. We work mostly VHF, very few HF. But HF mobile capability would be fun. Making use of different modes for events is in line with Amateur Radio's charter. Maybe the more

exotic modes, such as portable packet, ACSSB, satellite or spread spectrum could be used.

Making Amateur Radio a highly visible service that provides the local community will pay us dividends when action not favorable to Amateur Radio comes before local governments. Each one of us is a source of information on what Amateur Radio is and what it can do for the community. When I am out at a roadside check point, I make myself known and talk up Amateur Radio.

So get out of the house and from behind that rig and join the ranks of public servants. It can be fun, fulfilling and open new ideas and experimentation.

©Copyright 1988 by Lee Zalaznik KI6OY

## FCC Highlights

(continued from page 8)

The FCC advises that even though the latest print of Amateur License Application 610 Forms bear the "12/31/89" expiration date, DISREGARD THE DATE.

The FCC has fined a West Taghkanic, NY, Amateur \$1000 for operating an unlicensed radio station on 1000 kHz.

Acting on a complaint filed by the New York State Broadcasters Association, an engineer from the FCC's New York Field Office located the illegal station at the home of Frederick K. Stark, KA2LYZ. The station was said to have been rebroadcasting the US Armed Forces Radio Network while signing the call WNYS.

## And so it goes ...

Walter Cronkite, well-known retired broadcaster now living in New York City, has received his Novice class license. Listen on the bands for KB2GSD. — *Magnolia Report* □



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# INTERNATIONAL DX Convention

(continued from page 7)

pedition is activated. The DXAC is also creating subcommittees and Bill reported that he would like to see a simplification for the procedure in applying for new country status.

W6CF reported that his subcommittee is to seek wording for identifying the basis and purpose of the DXCC program. Cited as an example was the 4J1FS operation that brought the east and west together in goodwill and friendship.

Don was questioned about some of the start dates for new country status and explained that it was not his decision. One of those in question was Banaba Island (Jim Smith and his T33JS operation), that would also include contacts made when it was still referred to as Ocean Island. Some of the former VR1 calls in the Gilbert Islands may in reality have been Ocean Island. One call in particular was VR1L.

All deserving DXers sighed in relief when W6CF reported that the possible discredit of 3Y5X for DXCC was just a rumor. We all know about the activities on 14.145 MHz during the DXpedition and problems to a lesser degree on the CW bands. The Ex-



Don Search, W3AZD, is the DXCC man at ARRL HQ.

mend disqualification procedures for DXpeditions. A DXer asked if there ever had been a disqualification. The answer was yes — Don Miller several years back.

W6CF also mentioned QSL practices of the RSGB and REF with standards for ethical QSLing. Chod Harris, VP2ML, said he would have full coverage on this in the May issue of his publication, *The DX Magazine*.

Another bad situation discussed was sabotaged DXpeditions. This occurred once when an overzealous Amateur wrote letters and made telephone calls to licensing authorities urging them not to issue or to revoke licenses of certain individuals about to operate or who were already operating. It is recommended that people doing this be disqualified from the DXCC program. In regard to DXpeditions, there were some who felt only qualified DXers should go on DXpeditions.

As in the past, the DX Advisory Committee is still looking for ideas. Please submit them in writing to your division representative.

After some of the out-of-band transmissions made during the recent 3Y5X operation by careless DXers, it was the consensus that manufacturers should include inhibit circuits in transceivers to prevent transmissions in a selected bandwidth, such as 14.140 to 14.145 MHz. This would therefore prevent accidental operation with the wrong VFO.



Tom Taormina, K5RC, editor of the *National Contest Journal*, expressed concern over the increased usage of obscenities on the air.

ecutive Committee had met in Washington recently and expressed concern about the the horrifying conduct would have on WARC in 1992. But it was not their intent to disqualify 3Y5X.

The problem was not just ugly Americans. It was all over. Therefore, the DXAC was requested to recom-

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**Banquet speaker**

Following the banquet meal, the usual introduction of officers of the Southern and Northern California DX Clubs were made. The banquet attendance was 635, including 10-year-old KC6KDX, the son of Martti Laine, OH2BH, who presently resides in Madera, CA.

Rusty Epps, W6OAT, President of the Northern California DX Club, then presented the club's DXer of the Year award to Ron Patton, K6VG. Likewise, the southern club's DXer of the Year was Hugh Allen, W6MFC.

The entire Club Bouvet team was present, with Einar Enderud, LA1EE,

acting as guest speaker. Einar, many will remember, was the big Norwegian with the Peter I Island DXpedition not too long ago, and was project manager for this operation. His talk was supported by many slides shown in chronological order, from the initial planning stage through completion of the DXpedition.

In November Club Bouvet signed a contract with the owner of the *Aurora*, the ship to be used to transport them to Bouvet Island. They then loaded supplies aboard ship, which included the helicopter that would be used in the landing, the generators and 20 barrels of petrol. The team later flew to

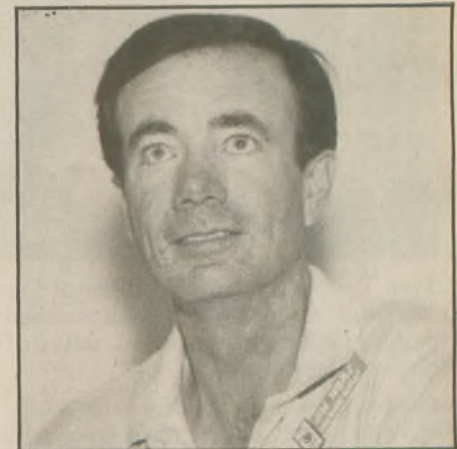


Einar Enderud, LA1EE, discussed the Bouvet DXpedition as the featured speaker at the banquet.

Montevideo, where they met the *Aurora*. This was the same vessel used in the Peter I Island DXpedition

The team included 12 members, five of them Amateur Radio operators. With them they brought along a commemorative plaque to be placed on Bouvet Island, honoring Consol Lars Christensen, who happened to be the shipowner's grandfather. And as it was the Christmas season, the team brought a tree from Uruguay.

On Christmas day they arrived at Bouvet Island, located at the very



Jim Rafferty, N6RJ, if the former DXAC representative from the Southwest Division

southern end of the mid-Atlantic ridge, with rolling waves of eight meters, much too rough to attempt a landing. By Dec. 27 conditions had begun to improve.

The operating site on the island had to be approved by the ecologist, due to the birds on the island. Einar said that the first contact on HF was made with

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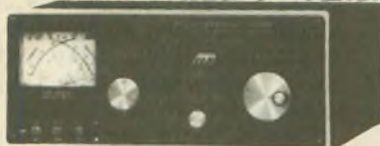
You get a new lighted peak and average reading Cross-Needle SWR/Wattmeter with a new more accurate directional coupler.

You get a giant two core balun wound with teflon wire for balanced lines and a 6-position antenna switch with extra heavy switch contacts.

Its compact 10<sup>3</sup>/<sub>4</sub>x4<sup>1</sup>/<sub>2</sub>x15 inch cabinet fits right into your station.

You get a 50 ohm 300 watt dummy load for tuning your exciter, a tilt stand for easy viewing and a 3-digit turns counter plus a spinner knob for exact inductance control. Add \$10 s/h.

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You get MFJ's new peak and average reading Cross-Needle SWR/Wattmeter with a new directional coupler for more accurate readings over a wider frequency range. It reads forward/reflected power in 200/50 and 2000/500 watt ranges. Meter lamp uses 12 VDC or 110 VAC with MFJ-1312, \$12.95.

A new current balun for balanced lines reduces feedline radiation and forces equal currents into antenna halves that are not perfectly balanced for a more concentrated, stronger signal. Add \$10 s/h.

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**MFJ-941D**  
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It matches dipoles, vees, verticals, mobile whips, random wires, balanced and coax lines.

SWR/Wattmeter reads forward/reflected power in 30 and 300 watt ranges. Antenna switch selects 2 coax lines, direct or through tuner, random wire, balanced line or tuner bypass. Efficient airwound inductor gives lower losses and more watts out. Has 4:1 balun. 1000 V capacitors. 10x3x7 inches.

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**MFJ-16010** **\$39<sup>95</sup>**

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## MFJ's Deluxe 300 Watt Tuner



**MFJ-949D**  
**\$149<sup>95</sup>** The MFJ-949D gives you lower SWR than any tuner that uses two tapped inductors. Why? Because you get two continuously variable capacitors that give you infinitely more positions than the limited number on switched coils.

This gives you the precise control you need to get your SWR down to a minimum. After all, isn't that why you need a tuner? Covers 1.8-30 MHz.

You get MFJ's new lighted 2-color peak and average reading Cross-Needle SWR/Wattmeter, dummy load, antenna switch, and 4:1 balun - all in a compact 10x3x7 inch cabinet. Meter lamp uses 12 VDC or 110 VAC with MFJ-1312, \$12.95.

With MFJ's deluxe 300 watt PEP tuner you get an MFJ tuner that has earned a reputation for being able to match just about anything - one that is highly perfected and has years of proven reliability.

## MFJ's Mobile Tuner

**MFJ-945C**  
**\$89<sup>95</sup>** Don't leave home without this mobile tuner! Have an uninterrupted trip as the MFJ-945C extends your antenna bandwidth and eliminates the need to stop, go out and adjust your mobile whip.

You can operate anywhere in a band and get low SWR. You'll get maximum power out of your solid state or tube rig and it'll run cooler and last longer.

Small 8x2x6 inches uses little room. SWR/Wattmeter and convenient placement of controls make tuning fast and easy while in motion. 300 watts PEP output, efficient airwound inductor, 1000 volt capacitors. Mobile mount, MFJ-20, \$3.00.

## 144/220 MHz VHF Tuners

**MFJ-921** **\$69<sup>95</sup>**

MFJ's new VHF tuners cover both 2 Meters and the 220 MHz bands. They handle 300 watts PEP and match a wide range of impedances for coax fed antennas. SWR/Wattmeter. 8x2<sup>1</sup>/<sub>2</sub>x3 in. MFJ-920, \$49.95. No meter. 4<sup>1</sup>/<sub>2</sub>x2<sup>1</sup>/<sub>2</sub>x3 inches.



## MFJ's Artificial RF Ground

**\$79<sup>95</sup>** MFJ-931

You can create an artificial RF ground and eliminate RF "bites",

feedback, TVI and RFI when you let the MFJ-931 resonate a random length of wire and turn it into a tuned counterpoise. The MFJ-931 also lets you electrically place a far away RF ground directly at your rig - no matter how far away it is - by tuning out the reactance of your ground connection wire.

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Jim Maxwell, W6CF, relieved many when he reported that 3Y5X would not be discredited for DXCC.

On the evening of Dec. 28, 3Y5X appeared on 14.145 MHz for about an hour or two. The team operated for 17 days on the island.

Near the end of the DXpedition, there was an increase in the amount of repeat contacts, so-called insurance contacts.

Almost 50,000 contacts were made from Bouvet Island, 42.2 percent of them with the United States. Japan accounted for 15.5 percent; Canada was in with 2.1 percent. Most of the SSB contacts were made by HB9AHL.

## The trip of a lifetime

### NORM BROOKS, K6FO

A highlight of the program at the 41st Annual DX Convention in Visalia, CA, on April 7, 1990, was a slide show and narrative of a trip to the USSR by a group of five DXers from the Western Washington DX Club. The lucky five were Doug Passey, WR7Q; Jim Hartwell, K7UDG; John Kiesel, KE7V; Jack Bock, K7ZR, and Homer Spence, K7RA.

In 1986 the WWDXC sent a letter with an interesting proposition to the Central Radio Club in Moscow. There are two Diomedes Islands in the Bering Strait between Alaska and the USSR. One is a US possession, the other Russian. The proposal was to allow the Americans to operate a DXpedition from the Russian Diomedes Island. The answer came back promptly — NYET! So much for the Central Radio Club.

So, in 1988, Randall Brink, KD7IK, representing the WWDXC, wrote to five local Amateur Radio clubs in the USSR. His proposal was for the Americans to team up with the Russian club in a DXpedition to some remote USSR-controlled place.

Three clubs answered favorably. Where would the Americans like to go? The American's, remembering the

### The "list"

Long lines of deserving DXers extended back out the door awaiting advance copies of 3Y5X QSL cards. There was no way to break the pileup. You had to get on the list! There was even a special line for non-sixes.

The Bouvet team had specially prepared log extracts on labels that needed only to be peeled off and affixed to the 3Y5X QSL card. All other calls were stored in the data base and if they were there, they too were then printed on labels.

"most wanted" surveys, answered "Armenia."


Armenia it was going to be. In the spring of 1989, the plan was for 15 American DXers, along with 15 Russian Amateurs (five from each of the three clubs) to man a huge DXpedition to Armenia.

Then disaster struck! The earthquake in December 1988 canceled everything.

The Americans thought all was lost, until they got a letter from the Zilan DX Club, which is a part of the Kazan Radio Club. The Russians expressed regret that the WWDXC had been subjected to so many disappointments. They offered, as an alternative, to host a visit by a group of five or six WWDXC members to visit DX Amateurs in Russia. Thus started the journey that we were shown in a slide show.

The first picture showed the group at the Copenhagen airport, drinking glasses of beer that cost \$9 (US) each! The itinerary took them to Moscow, Kazan and other cities along the Volga river.

Moscow is an unusual city, in that it has no suburbs as we know them. It is all "city." Huge, tall apartment buildings are everywhere. As can be ex-



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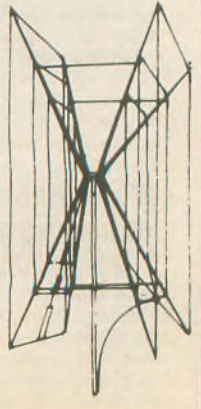
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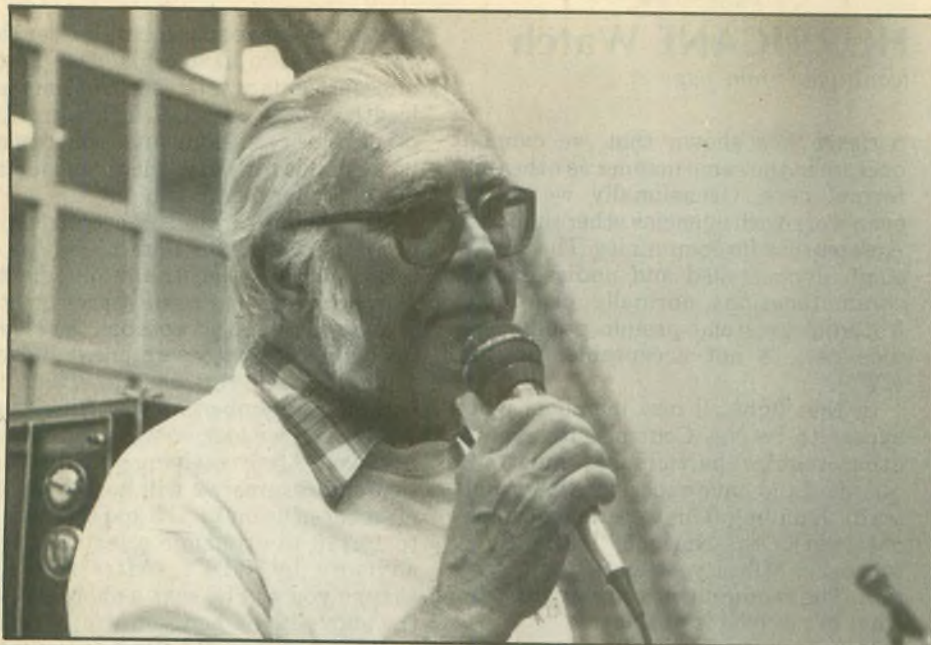
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Jack Bock, K7CK, was one of the five US Amateurs to visit Russia. Also see story in the April 1990 issue of *Worldradio*.

pected, Russian Amateur operators pulled strings to get their living quarters on the top floor of their building. Thus, the roofs of these tall buildings are often adorned with large yagi and quad antennas. Also, for HF work, wire antennas are strung be-

tween buildings, from rooftop to rooftop.

Here's the best part. With these antenna installations being so close to so many other families, the opportunity for TVI and RFI is great. The Russian Amateur needs only to remind his

neighbors that Amateur Radio is recognized by the state as an important national resource, and that it would be advisable for the neighbor not to complain!

The many pictures of the various personal stations, club stations and views around the cities gave many impressions:

- The usual personal station is crowded into a corner of a small apartment — no separate "radio shacks."

- The personal radio station has a great deal of personally-built equipment. Much of it looks very professional.

- The USSR Amateur is limited to running no more than 200W of power, and no one admits to running more than that.

- The efficiency of Russian final amplifiers must be pretty low, because the plates of the tubes in those 200W amplifiers often run orange or white hot!

- Like here in the US, surplus military radio equipment is available. Many "boat anchors" are utilized.

- Some personal and some club stations have Heath equipment. No one knows how it got there.

- Club stations do have "elbow room," and many of them are literally showplaces. The best of these is the

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Krenkel Memorial Station, UA3ADW. It is spacious and modern, with equipment in racks. It has a model of a Sputnik on display. It also has a large wall map of the world, which is autographed by visiting foreign Amateurs. Our lucky five signed it just below where Iris, W6QL, and Lloyd Colvin, W6KG, signed it on their previous visit to the station.

Everywhere the visiting WDX-ers went, beer was served. Since beer is rationed in Russia, the group concluded that their hosts must have been saving up their beer rations for quite some time.

The lucky five got to operate along with the Russian operators in the 1989 IARU Radiosport Championship. They used the specially issued call sign US4P. In the 48 hour contest, they made about 6,000 QSOs and worked 130 countries and 150 Russian oblasts.

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## HURRICANE Watch

(continued from page 3)

perience has shown that we cannot operate in the same manner as other informal nets. Occasionally we must even work with agencies other than the Amateur Radio community. The inefficient, uncontrolled and undisciplined communications normally heard on fraternal nets and pseudo public service nets is not acceptable for the HWN.

In that light all new members who expect to be Net Controls, Relays or other regular participants must be qualified and have experience in formal traffic handling. This experience can be obtained in the National Traffic System or the Military Affiliate Radio System. The requirement to relay exactly what is received is absolute.

Members must have a working knowledge of meteorological terms used in the weather advisories transmitted by the National Hurricane Center. Additionally, familiarity with the weather phenomena, characteristics and dynamics associated with tropical weather is necessary. This doesn't require you to be a meteorologist, but you should have the basic skills in recognizing the key elements in a tropical weather advisory and their importance.

The ability to plot coordinates; measure distances in statute miles, nautical miles and kilometers and be able to convert from one set of units to another is required.

Knowledge of the geography from the west coast of tropical Africa, across the Caribbean Sea to the Gulf of Mexico, is required. This includes the coastal shores, major cities and islands.

New members must demonstrate the capability to send and receive RTTY or HF Packet, in addition to SSB voice and CW.

It is assumed that all members have a working knowledge of the FCC Rules and Regulations that apply to the Amateur Radio Service.

Members must possess the ability to work under the adverse conditions of unsolicited help from unrecognized stations, with or without call signs and extreme interference, either intentional or unintentional.

Availability during net operation is

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another prime requirement. It does the net no good to have a membership of non-participants. If for reasons of health, work, personal difficulties or other priority assignments you cannot be available for duty, then you should not apply for membership.

New members will be accepted on a probationary status and initially as a relay station. If all the requirements above are met and actual performance is observed to be acceptable, the member will be assigned permanent status.

If you feel you are qualified to become a member of the Hurricane Watch Net, we look forward to hearing from you. After receiving your application and resume we will notify you to meet one of us on 14.313 and then move to 14.116 to exchange a test weather advisory by RTTY. After this exchange you will be sent a short test of the above items and you will have 30 minutes to respond on frequency. The test will include questions similar to those a Hurricane Watch Net Control station might receive from some unskilled listener, and for which we must have proper and reasonable answers; they will relate directly to the test message just sent.

For more information or to receive the application forms, please send a SASE to: Don Kay, K0IND, Hurricane Watch Net Manager, 4345 Thomas Dr. #582, Panama City Beach, FL 32407. □



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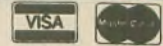


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## TRACKING interference

(continued from page 1)

Nearly a week elapsed and the interference continued. We put out packet bulletins concerning the signal and got a few responses, which were mainly speculations about what the interference could be, but not much in the way of help as far as actually locating the source.

On Friday, Feb. 23, I drove over to Al's house after he got home from work, and he and I once again took off in quest of the errant signal. Using a hand-held and the 4-element beam, we again drove around the airbase, then headed northeast, toward Roseville, stopping every so often to take readings. Just north and west of Roseville, we lost the signal completely, and reversed our course. We drove south, back "into the signal," then headed west, to Marysville, where we lost it again.

At about 8 p.m. that evening, we again had to quit the search, as I had to go to work.

The next morning Al took the beam and headed east, to the QTH of Bob Hess, WB6EUQ, who lives in El Dorado Hills. Together, they drove to Pilot Hill, where the signal continued to give peak readings to the east. They noticed that while the peak seemed to be coming from the east, the increase in signal strength was minimal, indicating that perhaps the source was still a considerable distance away.

At about 10 p.m. both Al and Bob quit the search, and returned to Bob's. It was decided that an aircraft search of the area would be in order.

Al drove over to the airport where his Cessna 182 is tied down, and prepared it for flight. He contacted me via the local 2M repeater, as I was mobile and

returning home after working a night shift. I diverted from home to the airport, and we took off, stopping at Cameron Park air field to pick up Bob along the way.

On board we had a grand total of six hand-held VHF and UHF radios, spare batteries, rubber duck antennas and attenuators. We picked up the "scent" after taking off from Cameron Park, and headed eastward.

We quickly discovered that the best way to use the equipment on board was to hold a rubber duck antenna up against the front cockpit glass, and run a length of coax from it to a hand-held radio with an LCD type "S" meter. With the antenna oriented in this manner, the rear fuselage of the aircraft acted as a giant RF shield. By slowly turning the aircraft 360 degrees, we were able to get very pronounced peaks and nulls.

Using this method, we were soon over Lake Tahoe. With 22dB of attenuation in the antenna feedline, we were getting near full scale readings on the "S" meter. We knew we were close!

After several passes and turning maneuvers over the center of the lake, we determined that the origin of the signal was in the Tahoe City, CA, area. We could fly over Tahoe City and get full strength readings with an antenna connected to the hand-held.

At 3 p.m. Al turned the aircraft around and headed us back to Sacramento. Upon our return, contact with Tahoe area Amateurs was made on the 147.150 repeater.

*Be sure to catch next month's conclusion, when we turn the story over to John Neeley, K6YDW, and Bill Kellerhals, WA6FJS, of Tahoe City. □*

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# Amateur impressively makes his point

In last month's Publisher's Microphone, Armond promised that we'd reprint an excellent letter written by Patrick Whittle, AK6T, of Danville, CA, in response to an article in the San Ramon Times, which discussed the problems a Dublin City Amateur was having with neighbors complaining of RFI. This letter appeared in a section of the Times called Valley Viewpoint, and was printed under the title, "How to minimize radio headaches." Should the need ever arise, you might like to refer to it as an example of how to write a letter to your local newspaper editor.

A news story that appeared in the Nov. 5 Times about people in Dublin who say they have telephone interference from John Markey's, WX6G, Amateur Radio operation points up a serious and growing problem.

Millions of electronic gadgets are flooding the marketplace, and nearly all of them are susceptible to RFI. The inability to reject unwanted signals is nothing less than a design defect. Manufacturers are aware of the problem, and they know they could eliminate most RFI by adding simple filters in their circuits.

Such filters consist of two or three miniature parts — capacitors, wire coils or ferrite beads — costing a few cents. Yet manufacturers are dragging their feet because the FCC merely recommends, but does not insist upon, filtering.

This policy is understandable in today's atmosphere of deregulation, but industry's failure to respond is leading to chaos on the airwaves and rank injustice to the radio Amateur.

The FCC treats Amateur Radio transmitting rigs quite differently. Manufacturers are required to shield and filter them so thoroughly that only energy on the desired operating frequency is emitted. That is why Tom Hora, of the FCC's Livermore office, was quoted in the previous article as saying that the cause of the Dublin problems might not lie in the Amateur operator's equipment, but rather in that of his neighbors.

Many radio Amateurs have enough skill to retrofit telephones and stereo sets with filters, but modifying their neighbor's electronic gadgets can easily backfire. Anything that goes wrong with the equipment thereafter will be blamed on them.

Plug-in radio filters, available from AT&T stores at a cost of \$17.95 plus tax, are often effective in clearing up telephone interference. Ferrite beads slipped over speaker leads can eliminate RFI problems on stereo sets.

Other simple filters on power cords and coaxial cables usually work well with TV problems. As the saying goes, where there's a will, there's a way.

None of these Band-Aid measures would be needed if the FCC required proper filters to be installed at the manufacturing stage.

Another problem mentioned in the previous article was how the radio Amateur's antenna affects the appearance of the neighborhood. Beauty or ugliness is in the eye of the beholder. Ramshackle fences, weedy front lawns, peeling paintwork, oily driveways and festoons of overhead power lines could be regarded as more serious blights, all of them unnecessary.

For a radio Amateur who wishes to contact distant places, a good antenna is necessary. Restrictive covenants in planned unit developments oblige many an Amateur to make do with wires in the attic, but a rotatable beam antenna at a height of 40 to 70 ft. puts the world at his or her fingertips.

A further benefit of antennas on towers is that the energy reaching houses below them decreases geometrically with height. Thus, the possibility of RFI and health hazards is minimized.

If the Dublin City Council wants to restrict antennas, they would be well advised to consult the FCC as soon as possible. The FCC issued a memorandum opinion and order, known as PRB-1, in 1985 that directed cities to reach a reasonable accommodation between the legitimate needs of the local government and those of the radio Amateur.

The order made it clear that prohibiting outdoor Amateur antennas was out of the question. With regard to RFI, the order preempts local regulations. In other words, radio interference problems fall entirely within the province of the FCC.

Amateur Radio is not only a fascinating hobby strictly regulated by international agreement, it is an invaluable disaster communications resource.

As recently as the morning after the big earthquake, Bay Area Amateurs were handling hundreds of health and welfare messages from around the nation and the world when the telephone system was useless. □

One nice thing about being imperfect is the joy it gives to others.  
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# Computer aided learning and CW keying from MFJ

STEVE HALL, WM6P

Just when you think your Amateur shack is complete and that you have an up-to-date station, the world of micro-processors and micro-electronics delivers new capabilities to today's Amateur. I have been hamming for 26 years. I learned CW from code records and sent all my Novice CW with a hand key.

Times have changed. My 11-year-old daughter Katie, N6TYR, wouldn't recognize my first Amateur station, I'm sure. "All of today's shacks have packet don't they?", she would ask, "and at least one computer? How would you do your contest logging and duping? And how," she would no doubt ask, "would you run your propagation programs to best take advantage of the MUF? Why, you wouldn't know when the next satellite pass would be overhead."

These new station capabilities are considered just the basics to today's new generation Amateur and two examples of this revolution in Amateur Radio are the MFJ GRANDMASTER II and MFJ's Theory Tutor.

The GRANDMASTER II is the most capable electronic keyer I've seen. In addition to having programmable memories which allow storage of up to 8,000 characters (for the longest brag tapes you can imagine), it also has VEC style code practice QSOs in memory for those of you studying for your upgrade. This can be sent in either normal spacing or Farnsworth.

The unit includes a speaker and volume control. It is easy to enter messages into the memory, which includes functions to aid in message entry, such as: Add, Backup, Continue, Delete and Erase so you can change a

message. If you make a mistake, no need to start over. Just correct it. This is similar to a word processor.

All memories are backed up with a lithium battery so messages are never lost. Auto incremental serial numbering is included for the truly serious contester.

There are two items that distinguish the GRANDMASTER II from other full capability units. Gone is the keypad entry that at one time became so popular with manufacturers, but required you to get out the instruction book every time you wanted to start it up. MFJ has gone back to clearly labeled knobs that make operation self-explanatory. What a relief not to have to learn yet another keystroke programming sequence. Between my memory phone, answering machine, lawn sprinkler timer, microwave, VCR, handhelds, etc., I'm beginning to resist buying anything else that I have to dig out the user's manual to operate.

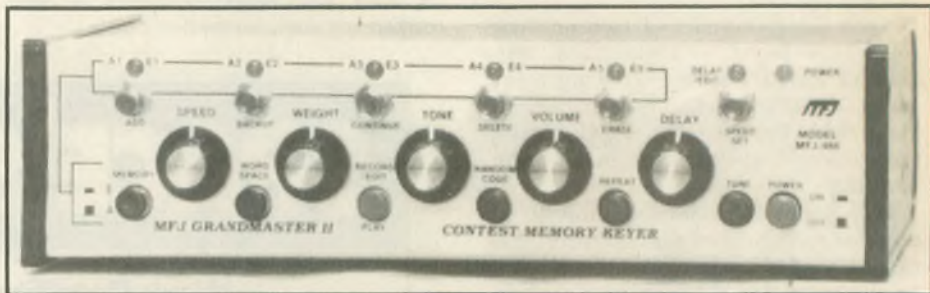


The MFJ Theory Tutor makes studying for the exam a lot of fun.

er number of questions from each element and it will grade your answers. If you get stuck, it has a help function that will give you the proper theory associated with the question asked. Or, if there is a certain element on which you need to concentrate, you can designate only those elements you wish to work on during that session.

The software is available in all classes of license. Complete installation instructions are included that allow installation on a hard disk.

Additional features include an on-screen calculator, the ability to save a test if you wish to interrupt an exam and resume it later and graphics that display block diagrams as just as they would appear on a real exam. While I



This MFJ keyer makes a user's manual practically obsolete!

The second distinguishing item is the MFJ one year unconditional guarantee. Even ham-finger-pokin' is covered. I'm confident this will be the last keyer I'll ever purchase.

The other new item we are using at my station is the MFJ Theory Tutor. This is an IBM compatible software program that is a very clever teaching aid capable of administering FCC Amateur tests with a built-in theory tutor.

Included is the full FCC question pool. The software will randomly select questions from the pool using the prop-

would recommend using this in conjunction with a license manual rather than as a replacement, it does make studying much more fun and is an excellent example of computer-aided-learning.

Sometimes I get out my first ARRL Handbook and look through the ads that show the state-of-the-art stations of the early 1960s and I am amazed and pleased with the advancements to date. What will the next generation of Amateurs have in their shacks? □

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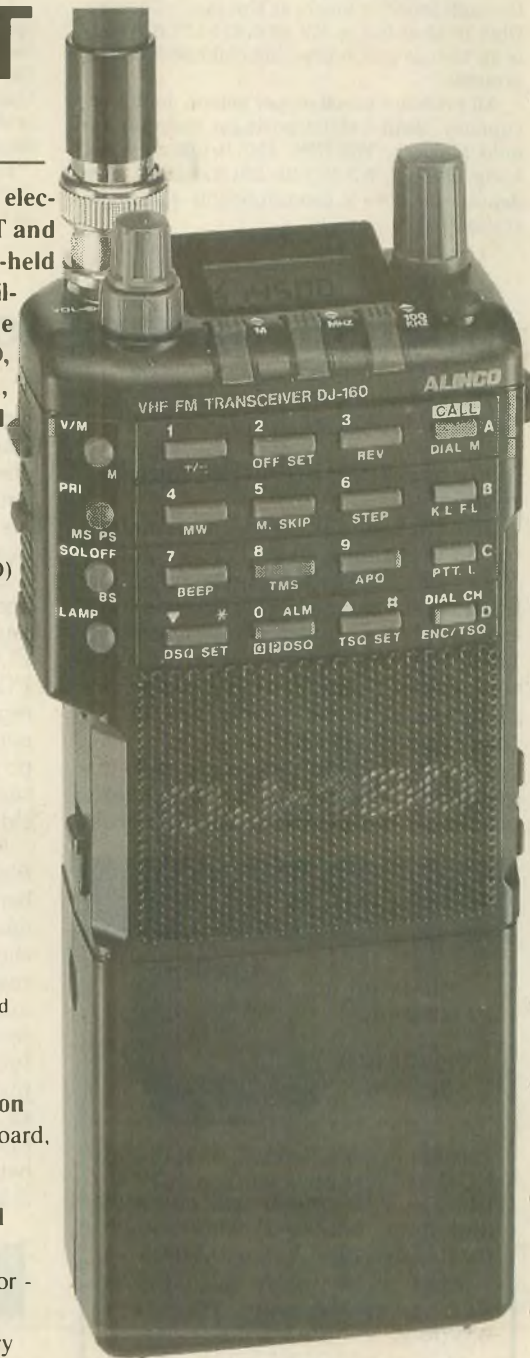


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# SPECIAL EVENTS

## A toast . . .

The Wireless Institute of Northern Ohio (WINO), an organization sponsored by the Lake County Amateur Radio Association, will be on the air with a special event station to commemorate Ohio Wine Month on Saturday, June 2, and again on Sunday, June 3.

On Saturday evening operation will be between 7 and 11 p.m. EDST (2300Z to 0300Z) on 7235 and 14235 kHz and on Sunday between 11 a.m. and 3 p.m. EDST (1500Z to 1900Z) on 14235 and 21310 kHz. The station will be located at a winery in Madison, OH, and will use the call KO8O.

A special 8½ x 11 QSL certificate will be available from: KO8O — WINO Weekend, 10418 Briar Hill, Kirtland, OH 44094. Send a legal size SASE. □

## Normandy

L'association des Radio-Amateurs de la Manche will operate special event station HY6JUN from Utah Beach in Normandy from June 2 to June 9. The operation commemorates landing day on June 6, 1944.

QSL and certificate conditions to F5AM.

*Life is uncertain . . . eat your dessert first!*



### SUPER VR-85

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For the Commodore 64

VR85 is the most popular software tracking aid in use for the C-64, and now SUPER VR-85 continues the tradition of bug-free operation, strong user support, and ongoing development. New features include graphical and tabular representation of the mutual acquisition zone, and user port output for automatic antenna steering when using an AUTO-TRAK™ board. Much of the program is now in machine code and operates with a more professional fee.

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## Chaverim convention

Chaverim International (an association of Jewish Amateurs) is sponsoring its 4th annual convention from June 15 to 18 (Friday dinner through Monday lunch) at Kutsher's Country Club in Monticello, NY (800/431-1273). There is an 18-hole golf course and clubhouse on the grounds.

All rates are based on per person double occupancy. Send a \$60 deposit per room to: Arnold Halpern, W2GDS, 450 Brighton Ave., Long Branch, NJ 07740; 201/222-3009. The deposit includes a non-refundable \$10 registration fee.

## Amateur fighting tower restriction

*The following is reprinted in part from the Tucson Ham Report.*

### Your operating privileges may be restricted!

Joe Michaels, W4DDV, an Amateur for 50 years, moved to Tucson, AZ, in May 1989. He resides in a neighborhood where the deed restrictions have expired; however, after having erected his 50 ft. tower and setting up his Amateur station, Joe began to receive complaints about the appearance of his tower and alleged RFI.

Joe supplied filters, toroids and suggestions to alleviate the neighbor's problems. Joe is experiencing NO prob-

All reservations include three kosher meals per day. There is entertainment in the nightclub, with dancing nightly and a cocktail party Saturday night. Religious services will be held; VEC testing will be featured.

For information about Chaverim, write: Sylvia Soble, W3SLF, 9357 Hoff St., Philadelphia, PA 19115; 215/676-6769. □

## Crawdad Festival

The Isleton Amateur Radio Society will operate special event station N6OGJ, from 0000Z June 16 to 2400Z June 17, to celebrate the annual Crawdad Festival in Isleton, CA. Operation will be SSB, CW, PKT and RTTY, in all lower portions of the General and Novice bands.

For a certificate send a QSL and SASE to the Isleton Amateur Radio Society, P.O. Box 801, Isleton, CA 95641. □

lems in his home. Members of the Old Pueblo Radio Club TVI Committee checked Joe's station for possible problems. The Committee also contacted his neighbor, who would not permit the Committee's help.

On September 19, 1989, FCC engineers inspected the station of W4DDV and found it to be in compliance with all FCC regulations and standards. The FCC was unable to confirm any TVI reports through inspections of several neighbors' equipment, although the primary complainant refused admittance of FCC engineers. The FCC considered the case closed.

Not feeling satisfied, Joe's neighbor filed suit in Superior Court in September 1989 claiming "... radio transmissions have caused interference with the plaintiffs' quiet enjoyment of their real property in that radio transmissions disrupt radio and television reception, . . ." etc. The Superior Court found that the FCC has exclusive jurisdiction and the case was dismissed. Joe and the local Amateur community felt that this issue had finally been resolved.

*(please turn to page 51)*

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## 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!

This month's winner is Bill Burke, NØJLT, of Hermantown, MN. I guess there's some advantage to being kept in the dark. Literally!

It all started when I made the mistake of asking the woman next door if my HF rig ever gave her any trouble with her television (TVI). It didn't surprise me when she said yes.

She told me, "I can see you on my television at night."

So I went one step further and asked if it came across as little lines or if it blanked the picture out completely. She told me, "No, I can just see you on my screen."

"What do you mean? Are you saying you can actually see me?"

Her reply was, "Yes. I can see you sitting at your radio, but I can see the man you talk to better than I can see you."

Needless to say, I just about dropped my teeth. After all, I only run SSB.

I guess the moral of the story is never to ask your neighbor if you interfere with their television, because you might get a strange answer.

Oh incidentally, I have stopped sitting in front of the radio in my shorts. Just in case. □

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## Cash prizes offered for essays

The world's first radio communications society, founded in 1909, The Radio Club of America Inc., has announced a cash prize competition for the best original essay by an undergraduate or graduate student on the life and accomplishments of the founder of FM broadcasting, the late Major Edwin H. Armstrong.

Kenneth M. Miller, K6IR, a director of the club and chairman of the Grants-In-Aid (GIA) Committee, revealed that three awards are to be made in the amounts of \$1,000, \$750 and \$500 for the three best entries as determined by the prize committee. The winning entries will be published in a special issue of *The Proceedings of the Radio Club*, to be published in November 1990, in commemoration of the centenary of Major Armstrong's birth.

Essays should not exceed 7,500 words and shall be in English. They must not have been published previously. Three copies of the entries must be received by June 1, 1990, accompanied by documentation of student status. Entries should be mailed to Dr. John Ryder, Chairman of the prize committee, at 1839 SE 12th Ave., Ocala, FL 32670.

K6IR stated that these special awards are in addition to the Radio

Club of America's ongoing Grants-In-Aid scholarship program, which has awarded several thousands of dollars to young men and women who are pursuing careers in electronics and who require financial assistance to achieve their education.

The Radio Club of America roster exceeds 1,000 members. Included in the club's current and past ranks and recipients of major achievement awards are many notables in the radio communications industry, including: (turn to next page)

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# STATION APPEARANCE

Chris Thais  
N96Q

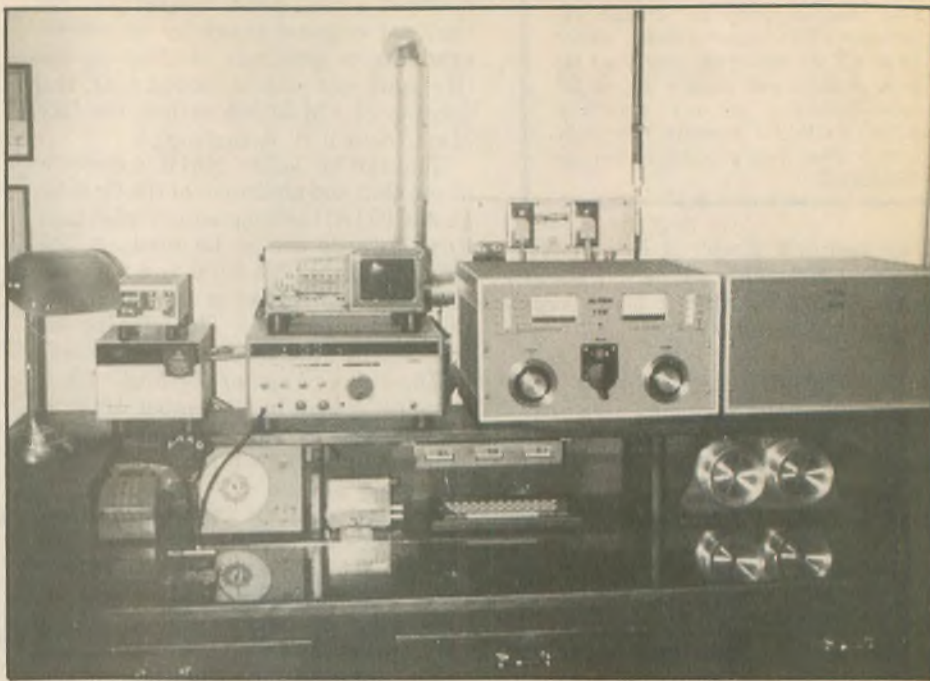
This month's winner is Chris Thais, N96Q, of Monterey, CA. Chris has been hamming since 1961, when he started with an Eico 720 and a SP 600 X Hammarlund.

Following is a description of his equipment:

The component on the far left is a Rockwell AC-10 110 volt power refinery, supplying filtered power to the component to its right, which is a Rockwell HF-380 tactical RF exciter previously belonging to the US Air Force. The instrument above it is a Halcorp 6850 marine model.

The next instrument to the right is an Ehrhorn technological operations RFG-77 cm RF generator twin tube. After that is a Dahl/Young highly condensed high voltage hypersil power supply sending voltages to the RF generator above .7kV at 2600mA.

The bulkhead on the wall is a 20 kilo-



amp .005 nanosecond spike and surge arrester with a polyphaser lightning shunt diode that will clamp to the ground upon a strike. The feedline is Andrews gas impregnated HJ5P-50

7/8 inch with a model 1930-B dehydrator.

The RF generator will maintain linearity up to an excitor input of around 75W.

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## ESSAY awards

(Continued from previous page)

William P. Lear, founder of Lear Inc. and LearJet; Arthur Collins, founder of Collins Radio; Robert Galvin, Chairman of Motorola; Dr. Harold Beverage, creator of the Beverage antenna; William W. Eitel, co-founder of EIMAC; The Honorable Barry M. Goldwater, K7UGA; Edgar F. John-

son, founder of E.F. Johnson Co.; William F. Halligan, founder of Hallcrafters Co.; and many more who, with the total membership of the past and present, have made the radio communications scene an exciting place to be. □

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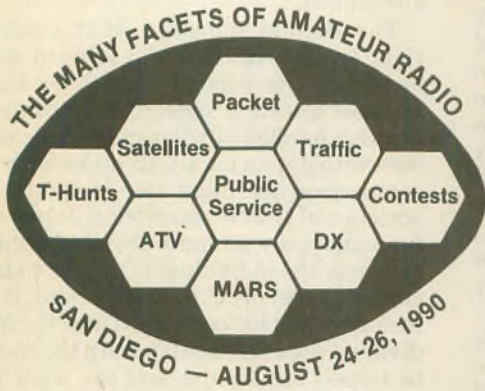
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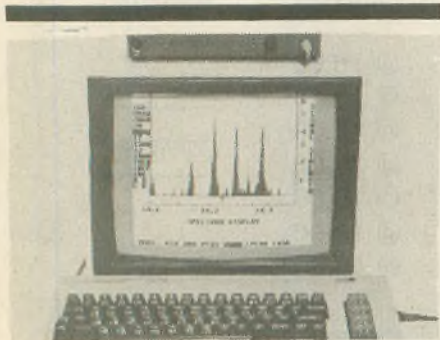
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## Take a 'WARCing' vacation

With the snow flying and icicles hanging off the tribander, it's time to think of those great Summer vacation days. You might consider doing what I did this past August, discover the WARC bands with a "WARCing" vacation.

When it came time to pack the station wagon for the 1989 edition of our annual trip to the family cabin on the shores of Lake Michigan, I decided to leave behind the 80-40-20 sloper and 10M vertical, opting for a Cushcraft AVW-3 WARC vertical for 30-17-12M. Habit being as strong as it is, I thought, "What better way to sample the WARC bands than to plop myself in the middle of nowhere with no antennas for my old friends 40 and 20M?". Let me tell you, I found some really terrific new friends!



### AMSPEC-3

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At home in Parkersburg, WV, I'm a radio announcer and after a day behind the microphone, the CW key is my idea of fun and relaxation, so 30M is my favorite band. Honestly, after 24 years an Amateur and 20 years a broadcaster, I never thought I'd ever get excited about SSB again. Seventeen meters changed all that! I found interesting, accomplished, courteous operators who loved to ragchew. The band was (and is) uncrowded and was open most of the day and night. Best of all, I was made to feel welcome. After my first day on the air it seemed everyone knew "that guy on vacation with a vertical stuck into the sand on Lake Michigan." Twelve meter conditions weren't as spectacular as 17, but I did find the same kind of operator and worked several DX stations who were perfectly happy to sit and ragchew . . . try that on 20M! And 30M is great for impressing relatives with the early morning VKs.

My one disappointment was the lack of CW activity on 17M. However, since returning home, I'm working more and more stations on 17 CW.

My "WARCing vacation" was a real treat. In fact, in the ensuing five months it's rare that I operate anything but 30-17-12.

Why don't you try a vacation this year that incorporates a new band or a new mode? Variety is the spice of life . . . and Amateur Radio.

See you on satellite Mode A from Lake Michigan this August!

**TOM MCGUIRE, NO9S**  
Parkersburg, WV

## Where is change needed

There is a move afoot to create a class of Amateur Radio that does not require a knowledge of the Morse code. The reasons are obvious and plainly stated.

It is unfortunate that those who are pushing this action do not consider

other options or look on past experience. The most prominent reasons for such a license is to swell our ranks. In light of the increasing pressure of outside groups for our bands, this is indeed desirable.

The first question that comes to mind is, "Why not stress quality of the hobby and its roll in disasters and other public service?". Quantity would seriously degrade the present capabilities we have, at least with the numbers envisioned.

The second question that comes right on its heels is, "Will some of our bands go the way of 11M?". A formidable question indeed. Many have drawn a parallel of what might happen here with Japan (et al). To make such a comparison one must also look at the societies of the two countries. Japan is fundamentally a family-oriented society where the individual is taught to be considerate of the family and its members and his country. Thus, the individual does not need to learn the code to respect his license and the work it took him to get it. He does this by nature of his upbringing.

The United States, on the other hand, is an individual-based society, and we are brought up to go as far as we can and do what is necessary to get ahead. In the process we generally disregard the rest of the family and, by extension, the rest of society. In this respect "no code" won't work!

In all but an insignificantly small percentage of society, a proficiency of five wpm is not impossible or even difficult. It remains a skill that the prospective Amateur must master to get a license.

It is also an aspect of the personality of he who puts forth the effort to learn five wpm, not because he has to, but because he is willing to take the initiative, that he is not likely to be a flake. By the same token it is an aspect of the personality of he who is obstreperous that he is also too lazy to learn the code. Ergo, the code has and should continue to keep most of the "riff-raff" such as is on the 11M Amateur band out of Amateur Radio. Hence, we have the quality of service we enjoy today.

It will be interesting to see what will happen in Canada when they implement their no code license. We should wait until after this happens before we

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think about doing it here. Many countries who have a no code license don't have nearly the population we do nor do they have problems that we would.

Something the pundits for a no code license do not seem to be aware of is the sad lack in the general population of an interest in science, Amateur Radio included. Here is an area that we as Amateurs can jump on with both feet. What is sorely needed now is for clubs and individuals to put together programs that can be taken into our high schools and junior highs and even grade schools to promote and excite our children and our neighbor's children into the fascinating world of science and its practical application, **Amateur Radio**. How many of us got our start in our respective fields because of an interest in or encouragement by our hobby? We need lots of young people in our ranks: There they are, guys. Let's go get 'em.

We also need to advertise and get ourselves and our hobby in front of the public. One good way to do this is with PSAs (public service announcements) on radio and TV (I've got four we're going to run here in Omaha).

We have a lot of work ahead of us but, as with most things of value, they are worth working for. It is because of this that a no code license should not be an option. There are lots of other ways to swell the ranks and be more assured of quality with the desired increase in quantity.

It was observed to the FCC that the present licensing structure is exactly the reverse of what it should be. Instead of drawing in vast numbers of technically-inclined enthusiasts and letting them follow their interests to those aspects of Amateur Radio that most attract them, the service forces prospective licensees through the tiniest of filters and only then offers them the vast opportunities to be found.

The flaw in this observation is that it shows this "tiniest of filters" to be one of the biggest obstacles in the world that only the most diligent of individuals can attain. Ask any CBER who got his Amateur license if this is the case. In fact learning the code is a very small price to pay for the "vast opportunities" that Amateur Radio really has and is. It is this "small price" that should be emphasized when recruiting prospective Amateurs.

I could go on for days discussing things to do to get more new people into Amateur Radio, but I think this is sufficient to show that there are many ways to accomplish the stated objectives with a much higher quality result than a no code license. I therefore urge and plead that you *not* support the National Amateur Radio Association or

any other group that advocates such a thing.

JOHN GEBUHR, WB0CMC  
Omaha, NE

## Nets, a big plus for hams!

Nets! DX Nets, WAS Nets, YL Nets, Computer Info Nets, County Hunters Nets, Old Timer's Nets, Swap Nets, 2M Nets, Traffic Nets, etc. The bands are full of nets, it would seem.

The bands are also full of folks griping about all the nets! Also, Amateur Radio magazines are constantly printing letters from Amateurs which are

pro and con on the subject of nets.

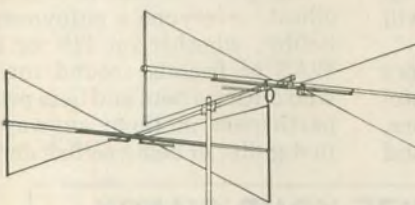
How do you feel about nets? Not only nets on HF, which have been controversial, but also 2M nets. After all, a net is a net, and some of the things they all have in common is that they exist to bring people together as well as to serve a particular purpose, get a job done and thereby facilitate the radio Amateur in his use of the spectrum.

Most of the griping I hear and read about in reference to Nets has to do with DX and, to a lesser extent, WAS Nets. DX Nets and list operations are very controversial, there are individuals like myself who are very much in favor of these, and there are some very vocal opponents.

I like DX Nets because they give the

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
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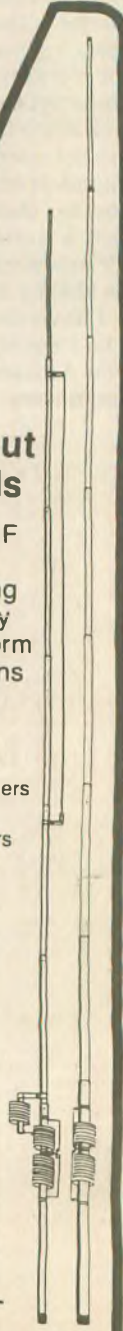
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average operator a chance to work DX stations without the need to run high power and jam the bands hollering and hooting his call over and over again trying to bang heads with the high power boys whose behavior in pileups leaves a lot to be desired. I feel that Nets encourage courteous and correct operating procedures, while preserving the challenge of DX operating because your station, equipment, antenna and operating techniques still have to be up to par to work the DX station. The only difference is that the QRM level is controlled and, hopefully, there is no malicious interference or lids on frequency, as there often are during some of the more notorious pileups.

Personally, I credit several of the DX Nets not only for many of the rare DX contacts that I have made, but also for teaching me many valuable techniques for working DX. I have always found these nets enjoyable and a challenge as well since there are still variables even in a net operation such as changing propagation and DX Net operators and, of course, there is never any guarantee that a particular station will come up for any particular net, or that you will be able to work him if he does!

I have also found that the operators who frequent DX Nets, both the state-side Amateurs and the DX operators, are a very nice group, friendly and

helpful and willing to welcome participation by all on frequency.

The same goes for the WAS Nets, in which I have also had the pleasure of participating. These are nice, friendly people who enjoy the hobby and are unselfishly helping others to enjoy it as well.

The Amateurs who gripe about the nets are a sour lot! They got the rare one by virtue of their 2kW and 70 ft. tower. They didn't care how many poor slobs they clobbered with their splatter while they QRMed half the band during the pileup. All that matters to them is that they got the contact, and they don't want you or me to get a chance to work him "cheap" via a net or list operation.

This behavior is the direct opposite of the considerate, unselfish way in which most nets and lists operate. But these same "pros" who complain about nets and lists probably don't include their own 2M local nets when they rant and rave. I say what's the difference? Aren't these 2M get-togethers also nets?

The point is that nets and lists facilitate everyone's enjoyment of the hobby, whether on HF or 2M, DX, WAS or friends around town. Those who criticize nets and lists probably all participate in them anyway and are just guilty of being selfish and not will-

ing to give the little guy a break.

Let's hope they can rise above this pettiness soon! See you soon on a DX Net!

JIM KELLY, KK3K  
Philadelphia, PA

## Magnanimous gesture

Ham radio isn't an easy "mistress" for any XYL! For that reason I was particularly proud when my XYL, Amy, made this needlepoint of my QSL card.



Now if I can only convince her to get her ticket!

ALLEN OLENDER, WA8IWK  
Birmingham, MI

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# Silent Keys

## Phil Keast, W6DD

W6DD became a silent key on Feb. 6, 1990, just after acquiring his new "950."

Phil was known as one of the best DXers in California, and could be heard most mornings talking on 14.236 MHz to ZS5WX over the long path to South Africa.

Phil became active in Amateur Radio

in 1912, and was originally known as "PK" until licensing began in 1919. He was then issued the call sign "6DD," as there were no Ws or Ks. Phil was always happy to show his radio operator's certificate signed by Marconi!

As the first operator in the Grass Valley, CA, area, he will be missed, but his many contributions to this community will always be his living gift. — *Information submitted by Carol Huckaby, N6SML* □

## Phase IV model rolled out

On May 24, 1989, a full scale model of the AMSAT NA geostationary satellite was rolled out for presentation and

a photo session at Weber State College in Ogden, UT.

(please turn to page 54)



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IC-32AT Dual Band Handheld	629.95	Call \$
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TM-621 2m/220, FM, Mobile	729.95	Call \$
TM-701A 25w, 2m/440 Mobile	599.95	Call \$
TH-75A 2m/70cm HT	TBA	Call \$
<b>UHF</b>		
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# DX WORLD

John F.W. Minke III, N6JM

6230 Rio Bonito Drive Carmichael, CA 95608

## Activities Calendar

- 02-03 June DARC National Field Day (CW)
- 16-17 June JARL All Asia DX Contest (SSB)
- 23-24 June RSGB Summer 1.8 MHz Contest (CW)
- 23-24 June ARRL Field Day (look for N6WR)

For details on contest activity, consult your favorite contest column.

## Trindade Island

The Natal DX Group announces their DXpedition to Trindade Island for TWO MONTHS of operating. The call sign will not be announced until the first day of operation, during the first week in June, the reason being to prevent the use of the call for pirate operations.

All bands will be used, 10 through 160M, CW and SSB. There will be no RTTY operation.

At this time this is a two-man DX-pedition team. PS7KM will be operating SSB, with PT7AA on CW. All QSL requests should be sent to the operator's home address. You may also use the bureau system, but this will bring a slow reply.

The Natal DX Group is requesting financial assistance. When sending funds please use registered air mail, to Natal DX Group, Caixa Postal 597, 59021 Natal, RN, Brazil, SOUTH AMERICA.

Incidentally, this is the group that put on the DXpedition to St. Peter and St. Paul Rocks last year.

## Vatican City (HV)

The Vatican is the world's smallest independent sovereign country and is located in the heart of Rome. It is the location of HV3SJ, the source of all the recent activity from this one.

Long Skip suggests checking 3.790 MHz between 0530 and 0600 UTC for HV3SJ on weekends. However, I have seen no reports for this band, and suggest putting this one off until next winter.

If you need an RTTY contact with HV3SJ, check about 14.089 MHz at 0700 UTC or 21.082 MHz at 1800 UTC. For an SSB contact listen between 21.232 and 21.253 MHz from 1700 UTC.

## Saudi Arabia (HZ)

The only presently active station in Saudi Arabia is HZ1AB. Ten meters is a good place to look for this one, and fortunately for new DXers, he has been in the Novice segment. Look for HZ1AB between 28.399 and 28.480 MHz from 1230 UTC.

He is also active on the 12M WARC band, 24.891 to 24.954 MHz, 1330 to 1630 UTC.

Other bands include 20M between 14.154 and 14.250 MHz after 1400 UTC and 15M, between 21.240 and 21.341 MHz after 1830 UTC. He has also been worked on 80 and 40M, but with summer on the way we can put off 80M for a bit. Try 7.001 MHz after 0300 UTC.

## Papua, New Guinea (P29)

Very active in island hopping was DL2GAC operating as P29VMS. On or about March 14 to 17 he was on from Misima Island in the Louisiade Archipelago (OC-117), and the week before that he operated from D'Entrecasteaux Island (OC-116), around March 8 to 11. He also operated in the

early part of March from Trobriand Island (OC-115).

Other stations reported from Papua-New Guinea include the following calls:

P29BT	14.226 MHz	1315 UTC
P29PT	14.224 MHz	1245 UTC
P29RE	28.620 MHz	2145 UTC
P29SC	14.222 MHz	0515 UTC
P29VU	21.206 MHz	1330 UTC
P29Y	14.027 MHz	0130 UTC

## Suriname (PZ)

This little South American nation was formerly known as Netherlands Guiana, and is located between Guyana (formerly British Guiana) and French Guiana. Several calls and various band activity were reported during the month of March.

Fifteen meters is a popular band to look for Suriname. Try the following:

PZ1AV	21.205 MHz	1930 UTC
PZ1DY	21.031 MHz	1345 UTC
PZ5ES	21.335 MHz	1745 UTC
PZ5JR	21.335 MHz	1715 UTC

If you desire a CW contact on 20M, try these:

PZ1DW	14.032 MHz	1000 UTC
PZ1DY	14.016 MHz	1030 UTC
PZ1EH	14.023 MHz	2230 UTC

And not to forget RTTY, try PZ1BS near 14.085 MHz around 0145 UTC.

Novices might check their 10M band for these:

PZ1AR	28.362 MHz	1300 UTC
PZ1DV	28.486 MHz	1530 UTC
PZ1DX	28.476 MHz	0100 UTC
PZ5DX	28.375 MHz	1630 UTC

PZ1AJ was reported on 40M near 7.006 MHz around 0145 UTC in mid-March, with PZ5DX on SSB near 7.045 MHz at 2130 UTC working Europeans. Finally, PZ1DV visited the 12M WARC band near 24.892 MHz at 0130.

## Dodecanese Islands (SV5)

From Rhodes SV5TS divides his time between SSB and RTTY. On RTTY look for him on 14.091 MHz at 0215 UTC or 21.090 MHz at 1600 UTC. On SSB he has shown on 14.293 MHz at 0015 UTC and 21.257 MHz at 2000 UTC.

On 20M SV5ADM has shown on the



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Friendly E.T. Net, 14.160 MHz after 0015 UTC. On the same band CW types might check out SV0CJ/5 or SV0CP/5 near 14.020 MHz after 2130 UTC.

### Crete (SV9)

SV9BAI was reported on at least five DX bands during the month of March, all on CW. Try the following for him:

3.510 MHz	2230 UTC
7.006 MHz	2345 UTC
14.026 MHz	0245 UTC
21.020 MHz	2100 UTC
28.024 MHz	1830 UTC

Also active from Crete was SV9AKI, especially near 28.538 MHz around 1400 UTC. He has been reported as a regular check-in on the 21.335 MHz Net.

Other calls reported included:

SV9ADH	21.021 MHz	2100 UTC
SV9ANK	24.905 MHz	1215 UTC
SV9BA	21.020 MHz	2100 UTC

### Mauritius (3B8)

A regular on the bands from Mauritius is 3B8CF, both CW and SSB. On 40M he shows near 7.002 MHz around 0230 UTC and for the net types he shows on 14.256 MHz around 0300 UTC.

Also on 20M he operates CW near 14.035 MHz around 0400 UTC. Fifteen meters CW activity was on 21.008 MHz around 2030 UTC.

He has put Mauritius on the WARC bands, too. These include 10.105 MHz at 0315 MHz, 18.078 MHz at 0315 UTC and 24.894 MHz at 1730 UTC.

If you miss 3B8CF, you might find these:

3B8AD	14.226 MHz	1300 UTC
3B8CA	14.226 MHz	1230 UTC
3B8DA	21.024 MHz	0315 UTC
3B8FQ	28.491 MHz	1400 UTC
3B8FV	28.462 MHz	1100 UTC
3B8PM	14.035 MHz	1530 UTC

### Guinea (3X)

A station signing 3X1SG has been fairly active, mostly on 10M. Look for this one between 28,500 and 28,533 MHz from 2200 UTC. In the Novice segment of the band he had been reported on 28,396 MHz at 1230 UTC, working Europeans, and on 28,460 MHz at 1515 UTC working the east coast.

This station has also pleased the deserving RTTY DXers. Try near 14.084 MHz around 2100 UTC.

### IOTA

Deserving DXers interested in the Islands On The Air awards program might take note of the recent activity from these islands or island groups:

AS-54	Pravada Island	4K4BDH	14.101 MHz	0700 UTC
AS-65	Kolyuchin Island	U0K/UV1POL	14.008 MHz	0945 UTC
EU-93	Plana Island	ED5PLA	14.178 MHz	2145 UTC
NA-39	Adak Island	AJ0C/KL7	14.260 MHz	1900 UTC
OC-83	Aitutaki Island	ZK1XL	14.151 MHz	0600 UTC

There has been an increase in the island activity, including island groups with no reference numbers because no activity has taken place in the past from those locations.

### Anniversaries

The following member societies of the IARU will celebrate anniversaries in 1990:

WIA	Australia	1910
CRRL	Canada	1920
PZK	Poland	Feb. 24, 1930
RCP	Peru	Dec. 6, 1930
RCB	Bolivia	Mar. 1, 1940
RSSL	Sri Lanka	Jul. 19, 1950
RSB	Bermuda	Oct. 15, 1950
FARA	Fiji	1950
RAL	Lebanon	1950
FRA	Faroe Islands	Apr. 11, 1965
ABARS	Antigua & Barbuda	1965
ARAS	Senegal	Feb. 28, 1970



Old buzzards gather at Visalia. Listening intently during one of the DX presentations at the big gathering last year (r to l) are DXers George Mc Kercher, W0MLY; John Minke, N6JM; Armond Noble, N6WR; and Pete Onnigian, W6QEU. George is the one to whom you should send your applications for the famous YASME Award.

ARAB	Bahrain	Sept. 21, 1970
ARRSM	San Marino	Apr. 15, 1980
VARS	Vanuatu	May 1980
KARS	Kuwait	Nov. 18, 1980
URA	Andorra	1980

To celebrate their 10th anniversary, the San Marino society offers the ARRSM 10th Anniversary Award for contacting at least 10 Amateur stations in San Marino from April 15, 1990, through April 14, 1991. The same station may be contacted more than once, provided the contact was made on a different band.

The fee for the award is \$10 US, with log excerpts to ARRSM, P.O. Box 77, San Marino 47031. Although it wasn't indicated, be sure to include Europe, or your application might just go to Indiana.

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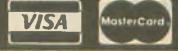
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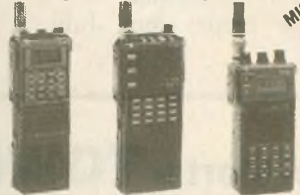
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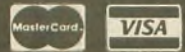
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## Worldwide licensing status

The IARU has released a listing of the worldwide Amateur Radio licensing status of member societies. The top 10, based on total stations, include the following:

1. Japan	951,937
2. United States	467,305
3. Indonesia	60,280
4. West Germany	59,931
5. United Kingdom	55,000
6. USSR	52,241
7. Spain	40,848
8. Italy	28,004
9. Brazil	26,100
10. Canada	23,703

The count for stations worldwide is 1,974,000, a good portion of whom were probably trying to work Bouvet Island.

## Canadaward

This award will be issued by the Canadian Amateur Radio Federation to any Amateur for confirming two-way contacts with all Canadian Provinces and Territories. All contacts must be on the same band. Separate awards are issued for each band on which the applicant qualifies. A mode endorsement is available if all contacts are made on the same mode.

All contacts made since July 1,

1977, will count for this award. Submit the 12 QSL cards for each award, along with a fee of \$8 (Canadian or US). Michael Turner, VE3PRW, the present awards manager, informs us that photocopies of your QSL cards will be accepted, but be sure to include both sides of the cards.

Mail your application to Awards Manager, CARF Inc., P.O. Box 356, Kingston, ON K7L 4W2, CANADA. The required fee covers processing of the award and the return of your QSL cards. I have a copy of the official application form.

## List of Canadian provinces and territories

VO1/VO2	Newfoundland and Labrador
VE1	Nova Scotia
VE1	New Brunswick
VE1/VY2	Prince Edward Island
VE2	Quebec
VE3	Ontario
VE4	Manitoba
VE5	Saskatchewan
VE6	Alberta
VE7	British Columbia
VE8	Northwest Territories
VY1	Yukon Territory

## Antique QSL department

No, this QSL card is not that of a CBer. This one dates back to 1921.

The operators of 9AZE, Joseph Coate and John McPhee, of Muncie, IN, worked 8FT, operated by Lloyd E.



Furron, of Troy, OH. They were using spark with a 1kW rig.

This little gem was provided by Bob Baird, W9NN.

Many years ago there were two separate licenses. One was an operator license and the other was the station license. This probably explains why two different operators for one call.

## QSL information

Olli Rissanen, OH0XX, reports that he was to be the operator for the entry by 4U5ITU in the recent WPX contest. All QSL cards should be mailed to Olli at Cerro del Castaño 72, 28034 Madrid, España.

Olli can also confirm contacts made with the following:

1980 OH0AM	CQ WPX SSB 14.0 MHz
1981 OH0XX/OJ0	CQ WPX SSB
1981 OH0XX	CQ Worldwide CW
1982 OH0XX	ARRL SSB
1985 C53AA	CQ Worldwide CW
1986 FY5YE	CQ Worldwide SSB
1986 FY5FE	CQ Worldwide CW
1987 FY5FE	CQ Worldwide SSB
1987 CR9BZ	CQ Worldwide CW
1988 FY5FE	CQ Worldwide SSB
1988 OH0XX	CQ Worldwide CW
1989 OH0XX/EA	CQ WPX CW 28.0 MHz
1989 OH0XX/EA9	CQ Worldwide SSB 28.0 MHz
1989 PY1RO	CQ Worldwide CW 28.0 MHz

The QSL manager for FY5YE is W5JLU, but Olli can also answer QSL requests.

## QSL routes

A15AA	-DJ6SI	H73A	-SM0KCR
A15AC	-DJ6JC	H19UD	-H13AMF
A15AW	-DK2WV	HL8A	-HL11E
A61JS	-VK9NS	HR2BDC	-AA5ET
AY9F	-LU9FHF	HY0P	-F6BPH
CF25A	-VE3XN	ID1V	-11HAG
CQ7A	-CT1AHU	IE8A	-IK8DOI
CQ8A	-CT1DIZ	IL3WWF	-IV3YYK
CQ9A	-G3PFS	IQ9W	-IT9BLB
C27Z	-VE7EQL	IR2ARI	-I2HUV
ED8BVH	-EA8RA	IU3A	-I3MAU
EI4VKH	-WB1EAZ	I2W	-IK2GSN
FV10	-F6AYA	JY9MO	-WB2OQY
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LZ6Z	-LZ2KHM	TY1DX	-IK6FPHG
OG2AI	-OH2BBF	V63AZ	-JA0GZ
OH6XY/OH0	-OH6XY	V73AT	-K2CL
OH0AM	-OH2QV	V73AU	-NBZ
OQ7AR	-ON4AAQ	VP5VNX	-W4NFX
P29BT	-N4FTR	VU2NBT	-WA4FVT
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P35S	-5B4ES	XM5FX	-VE5FX
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PQ2DX	-PY5TT	YY1C	-YV1CP
PQ4OD	-PY4OD	ZK1XL	-DL3MDJ
PS2A	-PT2BW	ZK1XN	-KR0B
PT5T	-PY5TT	ZY0FX	-W9VA
PZ5DX	-K3BYV	3D2QB	-SM5BQB
PZ5JR	-K3BTV	3DA0DX	-ZS6BRZ
RX0C	-UW0CN	4148C	-NR8Y
S01EA	-EA2JG	4M1G	-YV1CLM
S21U	-JA1UT	4M5Y	-YV5LAS
SN5W	-SP5PBE	4M9X	-YV5ARV
SN6O	-SP6PAZ	4N0JRT	-YU4ERT
T32AW	-K1RH	4T4DX	-OA4OS
T32CI	-N6HYK	4U5ITU	-DF1SD
T32CK	-N6RZC		(See Note)
T32T	-KH6VP	4X8MR	-VE3MR
TA3F	-DL5YQC	5B4AAJ	-G0HTK
TA0A	-TA2BK	5H0T	-K3ZO
TE2M	-TI2YO	5T5FA	-IK3GES
TE0UP	-T10RC	5W1HM	-JH4IFF
TJ1SR	-IK2CKR	5Z4BI	-W4FRU
TM5A	-F6IFR	8P9AK	-W2CQA

IQ9A	-P.O. Box 18, Palermo 90100, ITALY
JT2AB	-P.O. Box 119, Chojalsan, MONGOLIA
JU1DX	-Mongolian DX Club, P.O. Box 676 Ulan Bator, MONGOLIA
UD70DF	-Leonid B. Malinin, P.O. Box 720, Baku 370 129, Azerbaijan USSR
SV9BAI	-P.O. Box 92, GR-73100 Chania, Crete, GREECE
YV0AA	-Radio Club Venezolano, P.O. Box 2285, Caracas 1010-A, VENEZUELA
ZS9H	-P.O. Box 1918, Walvis Bay 9190, REPUBLIC OF SOUTH AFRICA
3B8FE	-Prem Juggernaut, Major Lane Road, Piton, MAURITIUS

**Note:**  
This route applies for contacts made during the CW WPX contest and May 25 to 29 only.

Many thanks to the following contributors: N4QMK, W9NN, OH0XX, PS7KM, VE3PRW, Northern Arizona DX Association (NN7F), Kansas City DX Club (AB0X), International Amateur Radio Union (W4RA), *The DX Magazine* (VP2ML), *Long Skip* (VE3IPR), *DX News Sheet* (G4DYO), *The Long Island DX Bulletin* (W2IYX), *Inside DX* (N2AU), *QRZ DX* (W5KNE) and *The DX Bulletin* (VP2ML).

Several of the DX newsletters have reported that our ARRL directors were not pleased with the recent Bouvet Island DXpedition, and have expressed concern over what affect it will have on the next WARC meeting. Some have gone on to say they would have the entire DXpedition discredited and not valid for DXCC.

I can understand their concern, but feel that to discredit the operation

hurts everyone except those who had gone out of their way to sabotage it. If our ARRL directors vote to disallow DXCC credit for 3Y5X, they have scored a victory for the jammers, policemen, etc. Next, they will outlaw public service nets and other public welfare operations that would be subject to jamming. Enough of that.

Very 73 es gl DX de John N6JM. □

## CENTRAL USA

UTC	AFRI	ASIA	OCEA	EURO	SO AM
8	(27)	23	24	19	20
10	30	19	22	20	23
12	36	22	20	24	28
14	41	25	(19)	27	34
16	44	26	(18)	29	39
18	45	(22)	(18)	30	42
20	37	28	34	27	43
22	31	31	42	25	39
24	26	31	44	21	33
2	23	30	45	18	28
4	25	29	42	21	24
6	33	28	35	25	22

## EAST COAST

UTC	AFRI	ASIA	OCEA	EURO	SO AM
7	25	23	27	19	21
9	28	(20)	23	21	22
11	35	(23)	21	25	27
13	40	26	(20)	28	34
15	43	23	(19)	30	38
17	44	(19)	(18)	31	42
19	41	(21)	(23)	29	44
21	34	25	38	26	41
23	28	28	43	24	37
1	25	30	45	20	31
3	20	28	43	18	26
5	30	28	38	23	23

**Maximum Usable Frequency from West Coast, Central U.S., and East Coast** (courtesy of *Engineering Systems Incorporated*, Box 939, Vienna, VA 22180).

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

## WEST COAST

UTC	AFRI	ASIA	OCEA	EURO	SO AM
10	(23)	28	22	20	26
12	(26)	22	20	20	24
14	31	25	19	24	32
16	34	25	(19)	27	37
18	36	22	(18)	29	41
20	37	27	35	26	43
22	31	32	42	23	39
24	26	35	45	19	34
2	23	37	45	17	29
4	25	38	42	21	25
6	33	36	36	26	22
8	27	34	24	25	20

## Traveling tips for DXers

**BETSY D. TOWNSEND, KE7PL**  
Several months ago, my husband Jay, KE7PN, and I traveled to the Galapagos Islands to operate in the CQ Worldwide RTTY Contest. Some of the things we learned make good advice for future ham travelers.

### Documents

Get your passport and visa early. Your local county health department may be able to help you get a copy of your birth certificate. Hospital certificates are not accepted for passport application.

Get your reciprocal license early. You may need passport photos for the license.

Pack your papers in a safe place. Keep a firm hold on your bags to guard against theft. Have your papers ready when needed by the authorities and make sure that critical items about your radio operations are trans-

lated into the language of the country you are visiting. This will be a big help with Customs or other officials.

### First Aid

See your physician for stomach pills and fill any necessary prescriptions. If you are likely to need any medicine

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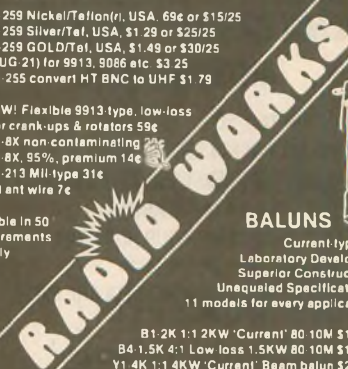
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while on the trip, take it with you.

Pack a good first aid cream because infections can be slow in healing in the tropics. If your travel books say you will need insect repellent, believe them and pack plenty.

### Packing the gear

Airlines hate boxes and won't insure them. Look for a large suitcase or plastic case. If you must pack in a cardboard box, pack items carefully and use lots of strapping tape. Carry a roll of tape in your carry-on to reseal the box after Customs. When selecting a box, be careful of boxes with printing that will confuse Customs agents, such as boxes for computers or fresh fruit.

### Packing clothing

Carefully research the DX location for climatic information to help guide your clothing selection. You probably won't need your best clothes as the dress code in many countries is quite casual.

Watch weight restrictions and leave a little room for souvenirs.

Bring along a small bottle of biodegradable soap to handwash clothing. This will allow you to pack less.

Pack a lightweight rain jacket and old shoes to work in the rain and mud. Also pack a sweater. Remember that islands have leeward and windward sides and can have both hot and cool weather within a few miles.

### Food

Try the native dishes but avoid drinking the water. Be adventurous with food. You'll probably eat all kinds of different food and will find them quite tasty. If it bothers you to know what you're eating, have the cook tell you what you ate when you are finished eating. Remember, some fruits and vegetables are washed

before eating, so avoid them. Use bottled mineral water religiously, even when brushing your teeth.

Alcohol content can be higher in other countries.

### Camera gear and photography

Check your equipment at home to make sure it works. Put in fresh batteries. Take along a tripod if you have room. Bring along plenty of film, as you probably won't be able to buy any later. Use filters on all your lenses for protection. It's cheap insurance.

Do not have your film processed out of the country. You will be taking pictures of a special trip, and you may never be back. Many countries do not have our quality of photo processing.

If you shoot slides, you will be able to put on a good slide show for the local ham group or for DX organizations to send out to clubs across the country.

Take plenty of Amateur Radio shots, such as antennas, rigs and operators in action. Hams who look at your slides/pictures will be more interested in what it was like operating than seeing endless pictures of you standing in front of statues.

Carry your film in a clear plastic ziplock freezer bag. It will help keep out humidity and is easy to give to airport security for a hand check. Film that goes through multiple x-raying runs the risk of fogging.

### Miscellaneous

Keep a journal of your trip and write entries as they happen or at least twice daily. A journal will let you spell names and calls correctly, and put the trip in proper chronological order. It will also be a great resource for your slide shows.

If the residents of your destination speak a foreign language, take the time to learn a few key phrases before you leave. Pack a small phrase book if you won't be with English-speaking people.

Consider taking along one of the

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lesser-used modes of operation, like AMTOR, satellites or RTTY to give DXers a new country. Advertise your DXpedition in the magazines and newsletters.

Plan for the unexpected, such as planes that don't arrive on time or at all. Let your boss know if there's only one flight out every three days!

Expect disagreeable insects like cockroaches and huge spiders. Some of the ugliest spiders are the best, eating all kinds of bad insects. Find out which ones are harmless and leave them alone.

Check your homeowner's insurance to see if it will cover any possible loss.

Find out what kind of money you'll need and how much. While credit cards aren't accepted everywhere, they are an excellent way to get charged the current exchange rate.

Whew! I'll bet that from all the above you think I packed everything but the kitchen sink, but actually it was quite manageable and all fit in under weight restrictions.

After your first DXpedition, you'll find a few items to add to this list. If you keep a journal you'll find it easier to plan your next trip. You'll be reminded of what went right and what went terribly wrong. □

## What's in a name?

*We received this letter from Tom Ask, AC9L, author of "Interpreting Silence," which appeared in our March and April 1990 issues.*

One of the nice things about Amateur Radio is that we are all on a first-name basis. However, this led me to get W9OPY's last name mixed up. His name is Vince West, and not Vince Clark, as I had stated. □

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Spaceport Chapter 66, in Cocoa Beach, FL, served as the launching pad for a number of QCWA awards presented at a recent meeting by QCWA treasurer, Wes Randles, W4COW.

The *John DiBlasi Award* went to Robert Baird, W9NN, QCWA charter member #52. Robert was licensed 8BTI in 1920 in Dayton, OH. Those were spark days and Dayton's residential areas were on DC.

He became friendly with the electrician when AC was installed at the church next door, and wheedled permission to "borrow" some AC routed via a twisted pair from the church to his shack. One morning, forgetting it was Sunday, he got on the air, astounding the God-fearing congregation and ending his source of AC.

W9NN, an engineering supervisor at WGN, was once directed to install a broadcast line to room 709 in the Palmer House for a convention interview to be handled by Martha Dean. On phoning the room he was informed that Miss Dean was not there.

"Who is this?" he asked.

"I'm Mrs. Barkley, the Vice President's wife."

Baird answered with a flippant, "Oh yeah?" He later discovered the lady wasn't fooling, she was the occupant of room 709, and the interviewee.

President *emeritus* Leland Smith, W5KL, established QCWA's *President's Award* to recognize individuals

who have made outstanding contributions to the Amateur Radio service and QCWA. Smith's (1989) recipient for this honor is Walt Maxwell, W2DU, acknowledged for his practical antenna theory and design.

Walt was first licensed in 1933, and has been a prolific writer, inspiring many Amateurs. Seven of his articles, entitled "Reflections," which appeared in *QST*, and others, including "SWR Magic," are now available in a book just released by the ARRL.

Southern West Virginia Chapter 97, which had been dormant for a while, was recently reinstated. In spite of extremely bad weather, 11 members turned out for the initial reactivation meeting held in South Charleston. They are conducting an active membership drive.

Golden Triangle Chapter 173 is QCWA's most recent addition, and will serve members in the Lake County, FL, community. Harold Beaver, W0LYB, who organized Colorado Chapter 58 in 1971, is credited with repeating that service 19 years later for the chartering of the new chapter, which boasts 15 members.

*Everything's up to date in Kansas City.* Oct. 12 and 13 are QCWA's convention dates for 1990. Our hosts, Mid-continent Chapter 35, guarantee delegates will be pleasantly surprised.

Kansas City is a major league metropolitan city that retains small town friendliness and offers accessible, affordable attractions. General chairman Bill McGrannahan, K0ORB, and co-chairman, Bill Cramer, W0ZL, have been working two years to make this event QCWA's biggest and best ever.

The site will be the Kansas City Marriott Plaza Hotel, which offers airport bus to hotel door service. Outstanding scientific programs, delicious meals and exciting tours are planned.

QCWA members are urged to attend



QCWA's 1989 *President's Award* was presented to Walt Maxwell, W2DU, by Wes Randles, W4COW.

this exciting event in the Heart of America. Registration forms are published in the *QCWA Journal*.

Certificates of Appreciation, enacted at QCWA's Fall 1989 board meeting, have been printed and awarded to chapters and individuals who served QCWA in a voluntary capacity last year. Recipients include members of the 1989 nominating committee; Cleveland, OH, Chapter #1 and its members, who served as QSO party tabulators; and Canton, OH, Chapter 21 and its members, who were election tellers. □

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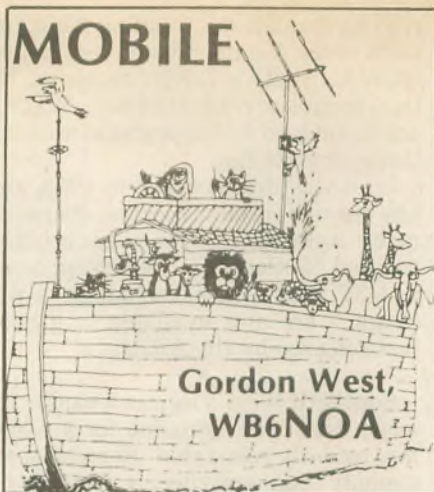
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## Mobile kW amps

Don't go out and buy a 12-volt mobile, high-frequency kilowatt amplifier until you fully understand its capability, its liability and installation requirements. The amplifiers are readily available by selected Amateur Radio dealers throughout the country, but some serious consideration should be given to whether or not you are truly a candidate for this type of 12-volt DC amplifier.

Your high-frequency transceiver puts out about 100W peak envelope power. Your HF rig operates from 10M through 160M. The 12-volt DC mobile linear amplifier will input the 100W pep and output better than 700W, from 10 to 60M.

A DC amplifier is presently available from your Amateur Radio dealer carrying the Magnus MA-1000B (Magnus, 1251 Pagni Dr., Elk Grove Village, IL 60007; 708/228-6070). Magnus does not sell direct from their factory in Illinois. Their biggest Amateur Radio dealers are Barry Electronics in New York City (ask for Jan Bridge at 212/925-7000) and Amateur Electronics Supply, Milwaukee, WI

(800/558-0411). The units sell for about \$1,200.

I have also seen a prototype amplifier from KLM/Mirage. However, I have never seen one in operation, so Magnus appears to be the only one in the country with this type of rig. The amp works off of 12-volts DC. It typically draws 75 amps! This means you need to feed it directly to the battery with welding cable-sized conductors. You supply the power cable — it easily attaches to wing-nut connection posts on the back of the amplifier. Solder lugs onto the end of your giant wires for a clean connection point.

Magnus does not offer a 110-volt AC power converter — if you want to run this rig at home, buy yourself a deep cycle automobile battery and charge the battery regularly while running your amp!

The MA-1000B linear amplifier is all solid state. It uses eight transistors (in four) push/pull amplifiers. The amp is completely broad-banded and requires no tuning or adjustments. However, you do need to switch the amplifier band switch to the particular Amateur band you wish to operate. This may be done remotely if you hide the amplifier out of the way. The broad-banded amplifier allows the amp to work also in an emergency on frequencies outside of the Amateur bands. For instance, the 20M position could also give you coverage from 12 MHz through 16 MHz, giving you two marine bands (12 MHz and 16 MHz), plus the 20M Amateur band (14 MHz). Same thing on 40M — you could also access the marine band, in an emergency, on 8 MHz.

A supplied multi-conductor cable is provided in case you wish to remote-switch the band selections. If you are going to mount the amplifier near your equipment, merely change bands off the front panel selector switch.

Ten meters is not included with the amplifier. This is due to FCC regulations. In order to achieve 10M operation, be sure to order your Amateur Radio 10M kit from the dealer from whom you order the unit. I also suggest you let the dealer put in the kit for you — it's tricky if you've never done it before, removing several toroids and capacitors and soldering in place some additional coils and caps.

The dealer will probably charge you an extra \$75 for adding the 10M kit. It's a good bargain.

Good-quality, 50 ohm coax cable interconnects the output of your transceiver to the input SO-239 of the amplifier. Use RG-213 to go from the amp to your antenna system.

The amplifier features a quick-action circuit breaker on/off switch on the front panel. This lets you switch the

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amplifier out of circuit for running 100W barefoot. Flip the switch on and your output pops up to well over 600 or 700W.

If you accidentally overdrive the amplifier, the circuit breaker snaps off and this means you need to reduce your drive power. I found that 75W of PEP output was a comfortable level to achieve a minimum of 600W output.

You can also run this amplifier on a QRP radio, such as a Radio Shack or Uniden 10M radio or some Heathkit QRP rigs. Twenty five watts in gives you about 250W out. A couple of watts in will give you about 50W out.

The amp also requires hardline switching to key the TR relay. All HF rigs offer amplifier keying on their rear DIN plugs. Read over your owner's manual for the type of rig you have for specific hook-up details. On some rigs, such as the Kenwood TS-440, you must go into the bottom of the radio and hook up a little jumper wire in order to energize the transceiver's built-in TR solid-state switching network.

The amplifier is switched on by grounding the control line. I measured 150mA of current, which all transceivers can handle. However, some transceivers may interact with "hard line" switching, requiring the use of Radio Shack 1N4001 diode pack to isolate out the amplifier's internal TR network.

That same Kenwood TS-440 will require the two diodes that are Radio Shack part #276-1101. Play around with them on the switching line until the amp goes click when you key the mike and your rig pops back to receive after you release the mike with the amplifier main switch turned on.

Massive heat sinks keep the unit cool. I have yet to get mine warm enough to get it hot to the touch. So, mount it out of the way, but do give it a little space for air circulation.

The horizontal meter indicates power out on a relative scale. If it swings all the way to the right, you're putting out over 600W.

The amp puts out so much RF power you must be extremely careful of your antenna installation. If you are running mobile whips, make absolutely sure no one can touch them on transmit.

Also doublecheck that the whips can take 600W. I prefer the big KW Hustlers, the big Spider, Mobile Mark whips and Valor whips. Anything smaller could melt!

Make sure your mobile whip doesn't contact the branches of a tree. I've smoked many a tree with this amount of power output.

If you are running into a manual tuner, make sure the manual tuner is rated for a KW. The new AEA manual

tuner works nicely.

The amplifier is too powerful for the automatic SGC tuner. You will smoke it in a minute if you try — so don't run the amplifier into any external automatic antenna tuner not capable of handling a kilowatt.

If your antenna system is a 5-band trap vertical, trap dipole, multiband beam or single band dipole, you are all set. However, if your antennas are close to your neighbor's house, expect screams of TVI. Although the amplifier puts out a nice, clean signal, this amount of power tends to get into everything.

Same thing for marine installations — running this amount of power should be done cautiously to insure your antenna doesn't melt and that everything is well-grounded. I rarely recommend this amplifier for marine applications, just because of the potential problems with this amount of RF power output. However, I run one of these amplifiers on my home station into a 3-element beam and it really gives me talk power. No tuning — just switch bands and I'm ready to go.

Same thing for my mobile — it gives me some power when I need it. The unit mounts in my trunk for the mobile operation with a remote band switch attached.

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*Life is uncertain . . . eat your dessert first!*

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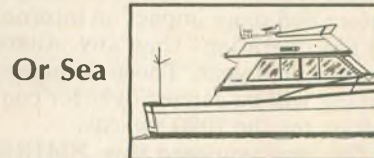
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or even at Home**



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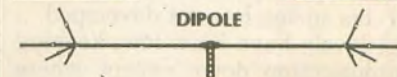


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### First ever 6M DXCC!

After careful deliberations the ARRL has determined that Lee Fish, K5FF, will be the first to earn 6M DXCC. Her husband Fred, W5FF, came in second, followed by Bob Billings, VE1YX. SMIRK will have awarded their DXCC trophy to Lee at Dayton by the time you read this.

### 6M International awards of merit

SMIRK has awarded their first International awards of merit to the following operators: *Technical Achievement* — Ed Tilton, W1HDQ; *Operating Achievement* — Bob Billings, VE1YX; *Service Achievement* — Yours truly; *Special Achievement* — Kazuo Ogasawara, JA1RJU.

There was considerable competition for these awards, and the decision was a very tough one to make. The Board of Directors of SMIRK believe these four operators had more impact on international 6M operations than any others nominated this year. Those nominees remaining will be carried over for consideration for the 1990 awards.

By the time you read this, SMIRK will have presented the awards to the recipients at Dayton. Nominations for 1990 must be tendered, in writing, to me at the address listed above.

### The DX report

Most of the DX reported during March was into South America and out into the Pacific. The widespread DX that was expected to cover much of the world this spring has not developed.

Flux levels have been low, keeping the propagation down except where the afternoon F2 moves out of Africa, across South America into the Pacific, generating considerable activity in the southern hemisphere.

There have been some excellent contacts made between operators in the

South Pacific, South and Central Americas and the Caribbean, into Europe and Africa. Some operators in the US southwest and Florida have been blessed with activity into the South Pacific, Central and South America and the Caribbean. What has been lacking is the long expected west coast to Europe and African contacts and the return of the east coast to Europe and Africa paths.

As an indicator of how well the

an adjustment period. 3. The cycle has not peaked.

In fact, it will have a double peak. We are in a lull before it hits its final peak sometime later this year or next year (take your pick).

This spring was expected by many to be even better than the last, and the fall/winter months we hoped to be better. We will have to wait and see.

Even if the various observatories and scientists proclaim the solar cycle

## SMIRK/Worldradio subscription combo

The Six Meter International Radio Klub members whose dues are current (check your address label) are eligible for a combined SMIRK membership and subscription to Worldradio magazine.

Send SMIRK \$16 (make the \$16 check out to SMIRK and send it to SMIRK, 7158 Stone Fence, San Antonio, TX 78227 to cover both your SMIRK dues and a one-year Worldradio subscription — ONLY SINGLE YEAR SUBSCRIPTIONS, PLEASE.

Current Worldradio subscribers RENEW THROUGH SMIRK. Although your combination renewal notice will come from Worldradio, your \$16 check should be made out to SMIRK and sent in the envelope provided to the SMIRK address. Be sure your name, callsign, SMIRK number, current address, and Worldradio subscriber number are included with your renewal.

Put the \$3 savings in your piggy bank for that new rig!

southwestern tier of the United States has been doing, both K5FF and W5FF have built their DXCC totals from 103 for Lee and 102 for Fred to 113 countries apiece during the March and first week of April period. Pitcairn, Easter, Wallis, Western Samoa and Lord Howe Islands have provided a lot of excitement.

### Has the solar cycle peaked?

Some observatories and scientists are now saying that the current solar cycle may have peaked in the summer of 1989 or during the October/November period. It is still too early to tell.

What has many concerned is the drop in solar flux levels during the past several months. The flux has dropped down each month, then risen to above 250 levels for a few days of each month, only to fall again.

I have heard three different theories advanced: 1. The cycle has peaked. 2. The cycle has not peaked, but we are in

to have peaked, do not make the sad mistake many made during the last solar cycle peak. As soon as it was determined that the cycle had peaked last time, many hundreds (thousands?) of operators sold off their equipment or mothballed it until the next cycle. By so doing, they lost out on some of the rarest of DX, even by HF standards.

We did not work the Gambia or Liberia until November 1981. Our Japanese contacts did not come until November 1980. We have already had super openings to Japan in 1989, compared to the last cycle. Contacts with the Galapagos, Guam and the Netherlands did not come until November 1981. Contacts with Brazil, Tahiti, Tonga, Revillagigedo Island and Saipan did not come until 1982. It wasn't until 1984, long after the November 1979 peak, that we got some of the rarest of DX in Australia, Kermadecs, Vanuatu and one or two others I missed.

So you see, even if we have peaked (and we don't know that yet) it isn't over yet. It won't be over until the bottom of the cycle. So don't go away. The fun is just beginning!

### Scatter shooting

Bert Ingalls, KH6HI, has received an SWL QSL from a Soviet Latvian station, saying he had copied KH6HI on March 4, 1989, at 1921Z! Bert was on and working Panama and Ecuador at that time.

CO2KK has an Amateur Radio show on Radio Havana, called *DXers Unlimited*. It is broadcast on 5.965, 11.760 and 11.820, at 0035Z, 0235Z and 0435Z. He sometimes features 6M DX!

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It is possible Monaco might get 6M operating permission. It depends on both the Monaco and Italian governments, since the country is so close to France and Italy. If it comes about, it will probably be only 3 to 10W ERP.

Both West and East Germany expect to be on 6M, with limitations, by the time you read this. Bulgarians, Romanians and Hungarians are amongst other European countries asking for permission to operate 6M.

### Who's on Six!

I was shocked and pleased to hear that PA3ECR has received a 6M permit to operate the band in the Gaza Strip! SMIRK had tried for some time to gain 6M operating permission from Egypt, to no avail.

He should be on now with 10W and a dipole antenna. He will operate there until September.

Italians are on 6M as of March 10. They are restricted to 50.151 to 50.163.5! I believe they have 24 hour use of the band, with 10W of output or ERP, I am not sure which.

Art Hubert, N2QU, has shipped a Heathkit SB-110 to EL2CX, who has a 5-element yagi to put up!

Kevin Szot, KB6SL/CE3, has been very active from Chile recently. He seems to be in an excellent location. He has been working DX all around the world in recent weeks.

Kevin asked me to tell you Americans to keep listening late at night and stay up late some nights to see what you can work! Kevin is running about 150W to a 6-element yagi at 180 ft.! He is on most weekends and after 2200Z daily. He stays up late when conditions look good.

Kevin has worked several hundred JAs recently. He is helping SMIRK ship an antenna to a couple in the Falkland Islands. They have equipment, but no antenna.

Kevin can be QSLd to KB6SL via CBA or c/o City Bank, Ahumada 40, Piso 2, Santiago, CHILE. US stations can send an SASE with US postage.

Fernando de Naronha operators have received the SMIRK supplied equipment (an FTV-707 transverter with 6M module) for use with an FT-757. They have a 5-element yagi which should be up by now.

It is my understanding that this rig will stay on the island for future use. It was provided by Bill Smith.

Six meters is authorized only in southern Corsica with ERP maximum of 3 or 10W, depending on location. From Bonifacio on the island's southern tip to Ajaccio (south-central Corsica), you can use 10W ERP. From Ajaccio to Bastia, you're limited to 3W ERP, with no 6M operation allowed above Bastia.

### Technical info

I am sending several TS-680S mods to KA0NNO for the technical file. One is the mod to add all mode squelch to the rig, one is the power output increase adjustment and the other is a broadcast sensitivity mod. You can get them from KA0NNO. An SASE and a green stamp would help speed things up.

Check out the new TE Systems 10W input/400W output 6M amps! The Model 0550 (no preamp) sells for about \$431, the Model 0550G (with GaAsfet preamp) sells for about \$455. The Model 0552 25W input (no preamp) sells for about \$381 and the Model 0552G (with GaAsfet preamp) 25W input sells for about \$405.

For more details check with your local distributor or write TE Systems, P.O. Box 25845, Los Angeles, CA 90025; 213/478-0591. Ask for Dave Anderson. He is a SMIRK member and speaks 6M.

Having trouble with telephone interference problems? Write Richard Measures, AG6K, for information on his telephone interference kits. They contain complete instructions and enough molded chokes and capacitors to filter four telephones. They are \$6 (first-class mail delivery included). Additional filters are available for \$1 each.

Write Richard Measures, AG6K, 6455 La Cumbre Rd., Somis, CA 93066; 805/482-3034.

The recent interest in the big M2 antennas reminds me that there is another manufacturer out there that builds big, excellent, high quality 6M antennas. You hardly ever hear about them, but they have been making quality antennas for this band for many years.

Check out Telrex Laboratories 6- and 11-element 6M yagis. Their 6M624C and 6M624 6-element models give you 15dBd gain, FB ratio of 23dB, 24 ft. booms and a 14 ft. turning radius. Their 11-element model gives you 18dBd gain, FB ratio of 23dB, a 36 ft. boom and a 20 ft. turning radius. The 6M624C is \$250; the 6M624 is listed at \$395; and the 6M1136 lists at \$595.

Write to Telrex Laboratories, P.O. Box 879, Asbury Park, NJ 07712; 201/775-7252.

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## Code Matters



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### Preparing for the code exam

Having a plan of action in preparing for the code exam will help you reach your goal quickly. There are many steps you can take to develop a plan.

As a student, know ahead of time the VE group with whom you will be testing. There are different styles of tests with greater variation in more populated areas. Important factors to consider are:

1. Character speed
2. Style of 10 question test
3. Grading criteria

*These factors are important because knowing them in advance will assist you in preparing for your exam.* Most code tests use either a character speed of 15 or 18 wpm, spaced to 5 and 13 wpm for the Novice and General exams. ARRL tests at these two levels

are a character speed of 18 wpm and W5YI tests are a 15 wpm character speed. The two combinations produce a different rhythm that might affect your test performance if you are not used to copying at that character speed! Check with your local examiners! Your goal is to simulate exam conditions as closely as possible before the exam for the very best exam preparation.

There are different types of 10 question tests. Most are fill-in-the-blanks-style. There are a few that are multiple choice or a combination of fill-in and multiple choice.

You can help yourself prepare for the fill-ins by the way you check your copy at home. Always work through your copy and identify each potential "bit" of information that could be a test question. Do this before you check your answers on the tapes or look at your computer screen.

Make yourself some 10 question tests that you can use each time you practice a sample test QSO. This will strengthen your skills in locating answers and transferring them correctly to your answer sheet.

Most examiners use two criteria for grading the tests. You can pass with seven out of 10 on the 10 question test. If you do not have that, many will

check for a minute of perfect copy. Check each sample test you do at home for areas where you have a minute of perfect copy. Checking your work carefully at home helps you to identify areas that still need work and "fine tunes" your skills for the test.

OK, if you've been thinking about upgrading, go ahead and start planning your program. Good luck! □



YOU IDIOT, THAT WASN'T THE DANCE TO BRING BACK THE GREAT FLOCKS OF WILD DUCKS -- YOU'VE BROUGHT US A PLAGUE OF RUBBER DUCKS!

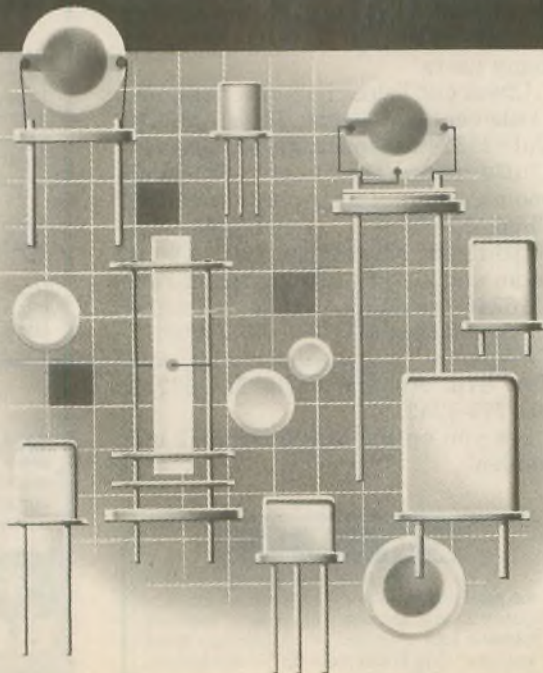
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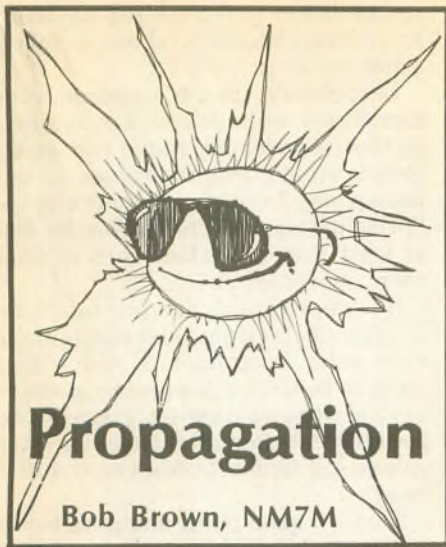


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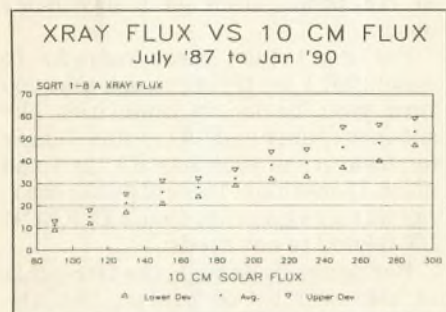


Here we sit atop the craggy pinnacle of Cycle 22. The solar wind sends gusts by us from time to time and we sense the effects of bright eruptions off in the distance, flares that are taking place on the sun.

But in spite of all that going on around us, it's still not clear just where we sit on the peak, at the very crest or off to one side or the other, with more climbing or descending still ahead of us.

In contemplating this situation, we can look back over previous experience and savor the moment for what it's worth. On the other hand, we could take a different view of things and look a bit deeper into the experience we've been through or that which is still ahead of us.

The low-tech approach to doing that would be to go back over the situation, as to sunspot counts and past and present cycles. I say "low-tech," as the idea of counting sunspots started back in the year 1610, just after the optical telescope was invented.



X-ray flux in arbitrary units

A more modern approach would be based on solar radio astronomy, using observations of the 10cm solar noise flux, whose recordings began at Ottawa after WW II. But if one wants a high-tech approach to the phases of the present solar cycle, we need results that go beyond the visible or micro-

wave part of the sun's electromagnetic spectrum: Observations of solar x-ray fluxes taken at satellite altitudes. Now that's the kind of radiation that really affects the ionosphere.

With those different ways of looking at solar activity, let's spend some time discussing each of them, beginning with sunspot counts. There, it'll probably take some time to sort out where we are in Cycle 22, as the people who watch sunspot numbers average 13 months of data in coming up with a smoothed sunspot number, six months before and after a given month.

That averaging process accounts for some of the delay in NOAA's September 1987 announcement that the last minimum was back in September 1986. Of course, the problem was made more difficult in that the minimum was rather broad. As for the peak of Cycle 22, its date may come to us sooner than a year after its passing, the peak of a solar cycle being somewhat more pronounced than a minimum.

When it comes to the 10 cm solar flux, the same averaging process is followed, yielding smoothed figures to show the course of a cycle. But before going beyond these more classical measures of the status of solar cycles, say to the high-tech approach with solar x-rays, let's look at the range of their magnitudes from solar minimum to maximum, as well as their day-to-day variability.

At solar minimum, smoothed sunspot numbers can be as low as 2-12 in a month and, even in this century, there were occasions when the sun was without any spots on its surface. And back in the 19th century, the smoothed sunspot count was ZERO for the entire year of 1810! As for the 10 cm flux, that has only been recorded since after WW

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II, and in that time the flux hovered around 70 flux units at solar minimum.

At solar maximum, smoothed sunspot numbers have ranged from 60 to 200 in this century and the largest values ever recorded were obtained in February 1958 during Cycle 19. Now Cycle 22 has been challenging that record; the final story is not out yet, but we should know before the end of 1990.

And going to the 10 cm flux, smoothed values have ranged from 150 flux units at the peak of Cycle 20 to 250 flux units at the peak of Cycle 19. Again, with Cycle 22 the peak value is yet to be determined.

Smoothed values are one thing and the daily values used in the averaging process are something else. Indeed, the daily values show very significant fluctuations even within a month, to say nothing of over a 13-month averaging period.

Just to give you a feeling of the possible daily variations, consider times of low and high solar activity. Thus, back around the last solar minimum, the daily sunspot values were as low as 5 and as high as 100, while the 10 cm flux ranged from 65 to 100 flux units, all in one month.

Now, near solar maximum it's another story, the sunspot count ranging from 149 to 401 during the active period during June 1989, while the solar flux went from 170 to 325 over the same interval. So those quantities which describe the present moment in Cycle 22 are quite variable.

Okay, low-tech has had its say; what about high-tech now, x-ray observations from satellite altitude? There, we have to talk first about the spectral range under consideration, then the observations and their variability.

As for the spectral range, NOAA monitors the daily background flux of

x-rays in the 1-8 Angstrom range. Just for "calibration purposes" in this article, one Angstrom is a hundred-millionth of a centimeter. Thus, the 10 cm flux also could be described as the solar noise flux at one billion (!) Angstroms wavelength. In any event, 10 cm radiation is not going to ionize anything in our ionosphere.

But x-rays will do just that, along with some solar UV radiation. Thus, by monitoring x-rays in the 1-8 Angstrom range, NOAA's GOES satellite is providing data on real ionizing radiation. So, with all due respect to other eminent observers, I have to think the x-ray data is more relevant in this day and age in discussing our solar cycle, at least for day-to-day work involving ionospheric radio propagation.

So, having said that, let's see just what we have for solar x-ray data, its magnitudes and fluctuations. Back around solar minimum, the x-ray background was described as A 1.0. There, the A corresponds to 1/100,000,000W per square meter and the 1.0 is a multiplier. There are other categories, B and C, each being a factor of 10 more intense than the previous one.

Okay, with that lesson, please note that at solar minimum the daily values of the x-ray flux were around A 1.0 and rather quiet, without major fluctuations. Come solar maximum, at least near the peak, solar flux values are up around C 1.0, a factor of 100 higher than at solar minimum! And moreover, it is quite variable; thus, in June 1989, daily values of the solar x-ray flux ranged from B 9.0 to C 4.1.

Okay, after going from low-tech to high-tech, where do we stand in Cycle 22? For low-tech, the sunspot number increased by about 400, from solar minimum to near solar maximum. Now comes an unkind cut; a sunspot number never ionized anything in the ionosphere, as it's a descriptive quantity devised and maintained by a committee.

Let's try again: In Cycle 22 the 10 cm flux increased by a factor of about 4.6 from solar minimum to near solar maximum. Again, a derogatory remark: 10

cm radiation never ionized anything, as its wavelength is about a million times too long.

Last chance, the 1-8 Angstrom x-ray flux. There, we have a winner, as x-rays in that wavelength range can surely ionize atoms and molecules in our ionosphere. True, they may not be the "principal players" in the F-region, but at least they're within reach of what we're interested in.

But what a great change in intensity, a factor of 100 from solar minimum to near solar maximum. Doesn't that seem to be too large a swing, perhaps beyond what we'd expect, given our experience in terms of changes in MUF values, say famine to feast on the 10M band?

That's a good point and goes to the heart of the problem, the fact that we're interested not just in changes in ionizing radiation, but also how it affects the number density of ionospheric electrons. There, the ionospheric physicists would say that the ionizing flux is related to the production rate of electrons. That's fine, but they go on to add that in quasi-equilibrium the number density goes as the square-root of the production rate from the x-ray or UV fluxes.

Okay, that makes more sense in terms of our experience, as it cuts the change in x-ray effects to a factor of 10 from solar minimum to maximum. But those numbers refer to daily values; average values, say month by month, would show a smaller swing or range in flux values and bring the changes within our experience.

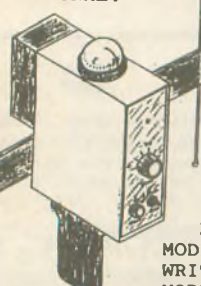
So take heart; in the x-ray flux we now have a quantity that is relevant to ionizing processes. If we follow the square root of the x-ray flux, we should be able to get a handle on the electron density in the F-region, and that's directly related to critical frequencies or HF propagation on a day-to-day basis.

But don't take these remarks to mean that I am trying to ask that you turn your backs on quantities like sunspot counts and 10 cm flux values; far from it, as each has its time and place. If anything, I would praise the x-ray flux as a quantity that's DIRECTLY related to our needs.

But curiously enough, the 10 cm flux is also worthy of praise, but INDIRECTLY, through a statistical relationship. To see what I mean, look at the figure. It shows averages from 30 months of x-ray and 10 cm data, starting July 1, 1987. The vertical axis is for the square root of the x-ray flux, while the horizontal axis is for the 10 cm flux. The 915 days of data were sorted according to intervals of the 10 cm flux, say values from 80 to 100, etc., and (please turn to page 60)

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# 10-10 INTERNATIONAL News

Chuck Imsande, W6YLJ  
10-10 19636

## Meet our new 1000 Bar Manager

Ed Neal, N5EAB, received his Amateur license in 1971 and joined 10-10 in 1979, receiving 10-10 #26638. Ed is married and has two children. His daughter is also an Amateur.

The station at N5EAB consists of a TS430 and a TH6DX antenna. Ed spends about three hours each week on the radio and has his 10-10 1500 Bar and has 45 countries to his credit, along with Worked all States (WAS).

He is Chapter Head and Net Control for the Boomtown Chapter of 10-10. In addition to Amateur Radio, Ed is into Model Railroading and is an official for the US Cycle Federation.

What does Ed like about 10-10?

"10-10 is more relaxed. I find myself in a ragchew in the middle of a contest. Real fun!"

For you 10-10 members requesting 1000 Bars and above, send your applications to Ed at 1414 Hiawatha Lane, Burkbunett, TX 76354. We welcome Ed to the group of volunteers who are the backbone of the 10-10 organization.

## 10-10's new editor

We welcome the new editor of our quarterly magazine, *The 10-10 International News*. Bob Arnold, N2JEU, 10-10 #53887, will be taking over the editorial duties effective with the Summer 1990 issue. He has some new and exciting ideas for making the *News* an interesting publication for 10-10 members.

A new feature will be a 10-10 DX column, which will be written by 10-10's DX champ, Mike Davidson, KC5CP, 10-10 #24949. Mike's first column will appear in the Spring 1990 issue. This will be an valuable asset to the *News*, not only as a matter of interesting reading, but also for DX hounds looking for new 10-10 countries. If you have any DX information, send it to Mike at 3518 Bellefontaine, Houston, TX 77025.

Bob may be reached in one of many ways: *US mail* — RR5 Box 32, Canastota, NY 13032; *phone* — 315/697-7478, between 7 p.m. and 11 p.m. EST (0000 to 0400 UTC); *packet* — via N2JEU at the WA2TVE packet BBS; *CompuServe* — send electronic

mail to 70310,255; and last, but not least, on 10M each Sunday afternoon between 3 p.m. and 5 p.m. (2000 to 2200 UTC) on or near 28.325 MHz. One thing about Bob is that he should be accessible!

If you have any information for the *News* or any stories or pictures, don't hesitate to send them to Bob.

## 10-10 election

During the month of June, all paid-up 10-10 members should receive their ballot for the first election of officers by the general membership. This election is the result of a complete revision of the bylaws as a result of a select committee effort a couple of years ago. The purpose was to provide for the membership at large to be responsible for the election of the officers and directors.

In the past the officers were more or less selected from the group of Southern California 10-10ers that were active in the organization.

The spring issue of the *10-10 News* has a list of all candidates and a resume of their background and reasons for wanting to serve 10-10. There are multiple candidates for all officers except vice-president and treasurer.

Paid-up members will receive an envelope with a ballot and a self-addressed return envelope. Please note the due date for the return of your ballot, as those received after the deadline date will not be counted.

This is our first general election. Please select the candidate of your choice, as the end result will affect all of us.

## Finally

If you are not a member of 10-10 and are interested in finding out more about it and how you can become a member and have your own unique 10-10 number, a SASE (#10 business size) to me at 18130 Bromley St., Tazana, CA 91304-1701, will get you an

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Ed Neal, N5EAB, 10-10 #26638

information package. If you would like a sample copy of the latest issue of the *10-10 International News*, send me a "green stamp" (\$1) and you will get both the info pack and the *News*. An address label would be appreciated. No SASE required when you send a buck.

If you have lost your 10-10 number, I can find it for you. Just send me your call, including all previously issued calls, with an SASE, and you can get back into 10-10 easily. Remember, once a number is issued, it is yours forever. Numbers are never reassigned.

73 es cu next month. □

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9130	30 meters	9110	10 meters
9120	20 meters	9106	6 meters
9117	17 meters		

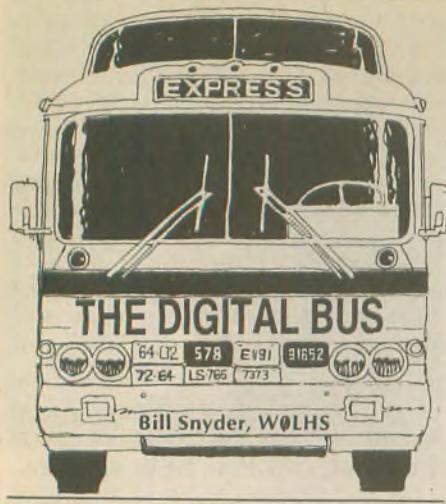
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If you follow RTTY DXing, you have probably seen the RTTY DX report that originates in the shack of Syd Molen, VK2SG. It is available each Friday from a number of mailbox sources. TG9VT in Guatemala distributes it with his AMTOR mailbox, on 14.074.

The author/compiler of the weekly report was the first person to demonstrate AMTOR to me, and that was many years ago. We were chatting on RTTY one day when Syd said, "Hey, Bill, see if you can copy this." With that he switched to the FEC mode and sent a string of what became jibberish

on my Robot screen. I punched the speed and reverse buttons, trying all the combinations, but nothing cleared up the mess of letters, numbers and symbols.

When I went back and told him I couldn't copy, I'm sure he was laughing at me. Then Syd explained that it was the "wave of future" for Amateur digital communications. He then explained a little bit to me about the mode.

When the FCC authorized AMTOR for Amateur use, I got an AEA unit and started chirping with the few who were on the mode. One of those was the father of AMTOR for Amateur use, G3PLX.

He only used an indoor antenna, so his signals were not the world's best. But he was automated on both 14 and 21 MHz; so to see if the path to Europe was open, I would hook up with his mailbox. Worked great!

One time I was chirping with a CE in Chile. Suddenly he started to turn his power down in fairly large increments.

"I've got a good power meter here," said the South American, "so let's see how low we can go."

We were still locked together at 10W. I turned mine down as low as it would go (7W). We stayed in sync.

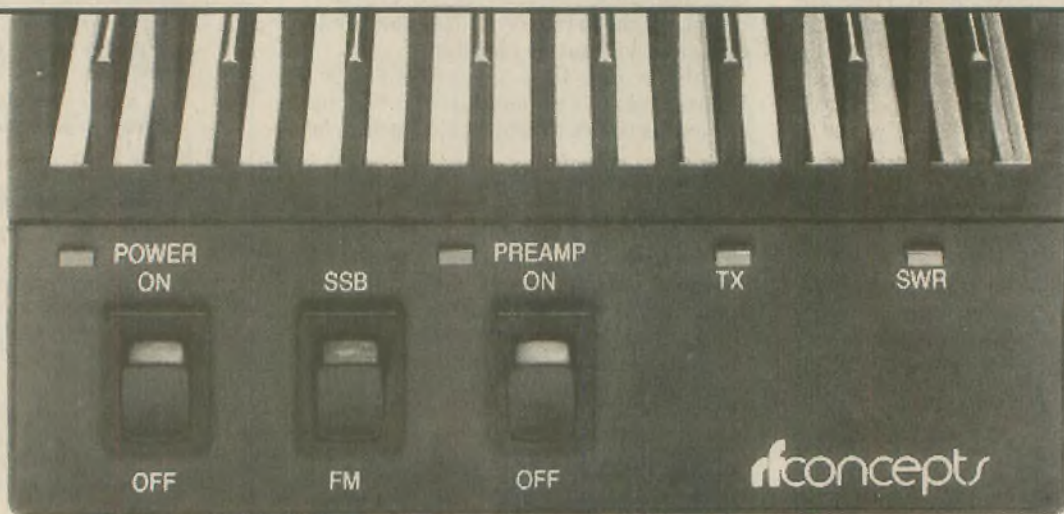
The Chilean kept turning his down until, believe it or not, he was down to

1W! At that point we dropped out of phase. When he cranked up the juice a bit, back in sync we went. That sold me on AMTOR as the best way to communicate over long distances.

Back to Syd's RTTY bulletin: It's a combination of Chod Harris' fine *DX Bulletin* and the ARRL weekly DX broadcast. It usually starts with Syd's comments, then lists stations heard and concludes with QSL information and notes of interest.

Here's one of Syd's comments that tickles me: "... ON CW I FOUND A BIG DOGPILE, NO CALL SIGNS FOR OVER AN HOUR, BUT EVERYONE WAS GIVEN (CALL SIGN) 5NN. THOUGHT I MIGHT AS WELL JOIN IN ... GOT 5NN THREE TIMES. I'M NOT SURE WHO I WORKED, BUT MUCH LATER I DID SEE THAT A15, A61 AND ANOTHER STATION (A51 OR ZK1) WERE ON THE SAME FREQUENCY. SO MAYBE I'LL SEND THEM ALL A CARD AND SEE WHO REFUSES ME. IT SURE IS A GOOD WAY TO DX, YOU DON'T HAVE TO KNOW WHO YOU HAVE WORKED."

My week is not complete until I read Syd's bulletin. I want to salute him and all those who contribute to his handy-dandy DX bulletin for their efforts. It's Amateur Radio at its best!



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### 220 MHz Amps

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 RFC 3-211, 2W in=110 out  
 RFC 3-112, 10W in=120 out  
 RFC 3-312, 30W in=120 out

### 440 MHz Amps

RFC 4-32, 3W in= 20 out  
 RFC 4-310, 30W in=100 out  
 RFC 4-110, 10W in=100 out



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## Silent Key

Ernie Anderson, WØRRW, recently became a silent key. He and I had been friends for over 50 years. I received my Amateur ticket a few months before he got his. I was W9LHS and Ernie was W9RRW. In those days North Dakota and Minnesota were in the ninth call area. In about 1940 the district was split and we became zero calls.

An electrical engineer, Ernie worked for Collins in Iowa before he became a teacher in the EE department of North Dakota State University, in Fargo. He spent the rest of his life guiding dedicated students into the wonderful world of electronics. At the time of his death he was the chairman of the department.

Ernie will be remembered as a member of the EYE Bank Net — that's the group that aids in finding corneas for transplant purposes. If the statistics are correct, the Eye Bank Net has found over 11,000 corneas for surgical implantation in the years it's been in existence.

Ernie was the anchorman in the Hjemkomst Viking ship network that maintained daily radio contact with the replica Viking ship that sailed from Duluth, MN, to Oslo, Norway, in 1982. He organized the 20M SSB net that supplied daily communications with the open boat that plowed through a couple of North Atlantic storms to reach the European area. It was pretty exciting, to say the least.

Ernie's professional credits include managing a back-scatter propagation experiment that brought to light a number of facts about that mode of transmission; setting up a medical electronic engineering course at the university; and working the late Dr. Duane Nagle, also an Amateur, in doing surgical research in Nagle's otology specialty.

Ernie operated a 2M repeater in his house. I used to smile when I saw it, because it was in a constant state of change. Wires were everywhere. Some of his EE students were trying out circuits on it, so it was the state of the art at most times — even a little ahead of the state.

I bring all this up because Amateur Radio has its heroes, many of them unsung. I nominate Ernie Anderson, WØRRW, who in his quiet way contributed many things to our hobby and

to the world at large. To me he was a hero. We will miss him.

## QSL manager

My days as the QSL manager for the Viking ship net were quite interesting. The mailman would bundle the incoming cards with a rubber band and complain to me that I didn't have a large enough mailbox.

As the operator on the Hjemkomst Viking ship held the logs until he got back home, all I could do was file the cards until the trip was over. So I opened each envelope, checked the contents and then wrote the date and time on the back of the envelope. I filed the cards by date and time.

Did I say time? What time? I got cards with Eastern time, Central time, Mountain time, Pacific time, 12 hour time and Zulu time. Some operators didn't bother to indicate which time zone they were listing. This didn't bother me until I actually started to fill out the thousands of cards that were to be sent out. It was then that the problem of time reared its ugly fist.

Some people didn't understand that Universal Coordinated Time also controls the date. I would get cards with the date in Eastern daylight time and the time in UCT. That way I had to look through a whole string of calls and

times to find the actual QSO listing.

And the Viking ship logs were made in less than perfect conditions, so they were sometimes hard to read — well, you get the idea.

The upshot of all this is to say, be sure of your date and time when you solicit QSL cards from a foreign station. It is terribly frustrating to have to look a call sign, especially when there are hundreds of them to search through. Keep your logs in UCT, and likewise with the date.

## Eavesdroppings

"MY DISK PLAYER DIDN'T WORK, SO I LOOKED AT IT, AND NOW IT WORKS... GOOD PROPAGATION TODAY BUT TOO MANY STATIONS PROPAGATING... BETTER GET OUT OF THE RACE AND JOIN THE MICE-MOVEMENT ON SOCIAL SECURITY... I GUESS I HAD BETTER WARP THIS QSO UP NOW... I CLARIFIED YOUR SIGNAL BUT IT STILL GARBLES... QSL HERE IS 000/100 SURE... NOTHING NEW HERE EXCEPT MY WIFE AND SHE IS 62... NEVER WIND UP IN A WIND... THE BEST TO YOU AND MY FAMILY... I ONLY KNOW ENOUGH ENGLISH TO (please turn to page 59)

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### Mission Fever

(*Supermania Emotionalis Profundo*)

#### Symptoms:

1. Increased pulse rate, accelerated high-pitched speech, overtones of excitement, excessive bravado

2. Delayed thought processes in favor of any immediate action

3. Loss of memory of Federal Aviation Administration and Civil Air Patrol regulations and common sense

4. "Tunnel vision" toward objective, exclusive of safety considerations, staff input or comments from any other than the "in" crowd

#### Incidence:

Cases frequently observed in Utah Wing Civil Air Patrol. Afflicts mission coordinators and mission pilots with greatest virulence. Staff and support personnel are subsequently infected.

#### Treatment:

1. (Extreme cases) Muzzling, immo-

bilization and isolation for the duration of the mission; this limits contagion.

2. (Mild cases) Assignment to a reserve ground team.

#### Prophylaxis (prevention):

1. Limit exposure and contagion by restricting radio access to cool, calm, unflappable individuals.

2. Make mandatory a planning interval of at least five minutes, for intensive thought and consultation, before committing resources. Teach forethought, contingency plans.

3. Convince all personnel that death or injury to search personnel does not automatically canonize either the searcher or the searchee.

4. Impose basic minimums of discipline; neutralize those personnel having repeated bouts of "Mission Fever."

The above definition of "Mission Fever" was written by KB7JWT, and appeared in a local CAP newsletter. I appreciate his keen insights!

Has this fever struck you? Or have you ever heard someone on the air so afflicted? Can you prepare against being the fever's next victim?

Take note that the first prevention is to limit radio access to cool, calm, unflappable individuals. What a critical observation! Nothing spreads as fast as "Mission Fever." Once you get someone on the radio making conflicting or confusing statements, your mission efficiency drops.

Developing an immunity to this fever involves experience, wisdom, knowledge and preparation. While none of us can ever be completely immune from the fever, you can build an immunity system that will limit severity.

It is OK to feel some excitement in responding to an emergency. To what degree we control this excitement is what limits the severity of mission fever.

You can pick out the "new" public safety dispatchers. They're green, they're eager, they've decided they are already experts and every call is their chance to effect dramatic, "TV-style" rescues. Amateur Radio operators and other volunteer operators are no different.

Yet after 20 or 30 calls, that new dispatcher begins to learn and observe (if he/she is to be a good dispatcher), and an immunity to mission fever takes root. After six months to a year, mission fever is under control.

While the public safety dispatcher has the benefit of many daily learning experiences, we, as volunteers, operate under a severe handicap — our emergencies don't happen everyday, and it takes serious effort to limit mission fever. Our greatest defense is in learning — well-prepared drills, on-the-air discussion, equipment development and preparation and listening to the seasoned operators.

The Amateur/volunteer's greatest block to fever immunity is that "I know it all" attitude. This person's demeanor indicates that there is nothing that he/she cannot handle and nothing he/she does not know. If something goes wrong, it is always a "difficult mission" or "equipment failure" or "my darn commander's fault." Trying to encourage learning often results in severe rebukes.

Once in a while, those having mission fever will look at the seasoned, experienced folks as "the enemy," and effect all kinds of ways to kick them out of the group. "They're not team players," is an oft-used dig. The best operators/volunteers/SAR coordinators listen and learn. Their attitude is one of gathering knowledge and perpetuating a continual learning experience. Their mistakes become learning tools, and were made in the first place because they are eager to try new things and learn.

Preparation is one big factor in combating mission fever. Develop a communications checklist for your station. List the items you would need to take with you.

If you needed to stay overnight, your checklist would be different. Having a checklist allows you to calmly gather needed equipment and feel good when you react, knowing you've not left out anything.

Another preparation "tool" is a mission communications plan. Often we think of a plan as a many-page document covering every contingency. This type of planning document may be han-

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dy before missions happen, but when the emergency call comes, you (and the other SAR volunteers you support) don't have time to take an hour or so to read through a gigantic report (that is supposing you could even generate one quickly enough to support the mission).

Some years ago I put together a single page mission communications plan for the local CAP. It was developed after talking to coordinators, ground teams, pilots and observers (and even a sheriff's deputy or two). They asked for a simple means of knowing what frequency to use, what the call sign of the mission headquarters was, maybe what state frequencies would be used, what call sign to use or who might be a forward control point.

The plan must be easy to understand and easy to prepare. There should be no reason to delay SAR response because you're still writing the mission communications plan. The one I use has most frequency/call sign combinations and (based on experience) resources relating to communications. Each option has a check-off box allowing the mission communications officer to quickly check those options applicable to the mission. The plan is then copied and distributed. (In the field I use carbon paper and do several copies at a time.) It takes about a minute to prepare the mission communications plan.

This could be applied to your Amateur Radio response team, your ARES group or to your personal station. I've seen where it would be handy during public service events such as walk-a-thons and bike races.

Planning and preparation is something you do now, not while you are responding. The SAR goal is to save lives ("That Others May Live"). An extra 30 minutes may just mean life or death to a plane crash survivor or missing person. Keep in mind that the person you work for on a mission is the victim — someone counting on YOU to do what you do very well and save his or her life!

Being a SAR communicator or SAR leader means your goal is saving lives — not being cool with your radios clutched to your belt and your lights and siren blaring.

It's neat to be a part of a team effort when a life is saved. Doing it because you have the need to be the macho commando causes mission fever outbreaks. Take your time. Become an expert and keep learning!

If you're interested in a suitable-for-framing copy of "Mission Fever," a copy of my single page mission communications plan or my own communications check-lists, please send

me an SASE (the address is below). I'd also appreciate hearing your comments, ideas and suggestions.

If you send me a copy of your local training manual and forms, I'll trade you for a copy of my *SAR Mission Coordinator Reference Handbook* (it's about 50 pages). I've got quite a collection of SAR and communications documents, but I'm eager to expand it. The ideas and forms you have developed may be just the thing for improving how Amateurs can better respond during emergencies.

### Say what?

In a National Transportation Safety

## TOWER restriction

(continued from page 22)

In January 1990 Joe was informed by his lawyer that an appeal of the Superior Courts ruling had been filed.

It is this committee's opinion that it is not interference that is on trial, but the aesthetics of the tower. If there is a court decision in favor of the complainant, it could encourage an outbreak of complaints initiated primarily due to the appearance of our towers.

We cannot permit our Amateur privileges to be jeopardized for this reason. As much as we hate to admit it, not everyone understands or appreciates the need for Amateur Radio and, therefore, may view a tower or antenna assembly as an "eyesore." We feel very strongly that if this case is not resolved in Joe's favor, many of us may be faced with a suit based on the appearance of our Amateur equipment.

The results of cases tried in the appellate courts are used in like cases nationwide. Therefore, if the decision at the appellate level results against Joe, we, as Amateurs, will be open to law suits in civil court labeling our radio equipment as a nuisance. This means that each and every one of us in this country could be a target for the

Board report (AAR-89/01) on a Trans-Colorado Airlines crash near Bayfield, CO, the following (honest) was written on page 15 under Survival Aspects:

"The Civil Air Patrol was notified but, because the airplane's location was not known, a search was not initiated."

I kinda thought that's what the CAP did — locate lost planes. I think the report writer probably misread the investigators' notes.

Please contact me with your comments and suggestions: P.O. Box 11445, Salt Lake City, UT 84147. □

same sort of harassment and high personal financial burden Joe is facing.

To this point, this case has cost approximately \$7,500. Lawyers feel that the appeal process costs will be double or triple that already spent. In order to protect our future rights as Amateurs, we need your support to insure a positive outcome in this case. The bottom line: Your money is needed to provide the best defense possible to insure our hobby as we now enjoy it.

Please send your contribution and QSL card to: Tower Defense Fund, P.O. Box 42601, Tucson, AZ 85733. — Information submitted by Gail Peterson, N7BXX, Chairman □

•••••

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# AERIALS

## KURT N. STERBA

This discussion is for those who, for one reason or another, cannot have any antenna showing at all.

But, as the question goes, can an antenna that can't be seen, be heard?

This one will be invisible to your neighbors and . . . Work All Continents! And, at wire prices at the local hamfest, put you on three bands for but \$1 (not counting coax).

First, a dipole so low to the ground as to not be seen will radiate (what is remaining after ground losses) straight UP. That isn't very good at all.

A vertical (with low-angle radiation) needs at least four radials to be real.

So, we pondered: how to build a short vertical that won't need radials!

Starting out with the Budwig connector right at ground level, the wire connected to the coax center conductor goes vertical, supported by a six foot fence. Then a 90 degree turn, and the wire goes out a bit and then another 90 degree turn and it goes back to the ground, (down the six foot fence) and then another 90 degree turn and it goes back to the Budwig connector and connects to the coax shield.

Yes, it is a rectangle. If this were a square loop, cut for 14.200 MHz, it would be a total length of 70.774 ft. or

17.675 on a side. Since the fence is six feet tall, that accounts for 12 ft., leaving 58.774 ft., divided into the top and bottom runs of 29.367 ft. each.

There will most likely have to be trimming done at your location, and all locations being different, the length will have to be tailored for your local conditions. A noise bridge helps.

For 21.3 MHz you can start with a loop of wire 47.183 ft. in total length. For 28.4 MHz the total loop is 35.387 ft. But, if you put up the 20M loop, it will also work just fine on 10M.

Trimming and adding brought the 20 and 15 wires very close to a perfect match. On 10M a tuner was needed. The 20M loop was on a fence running

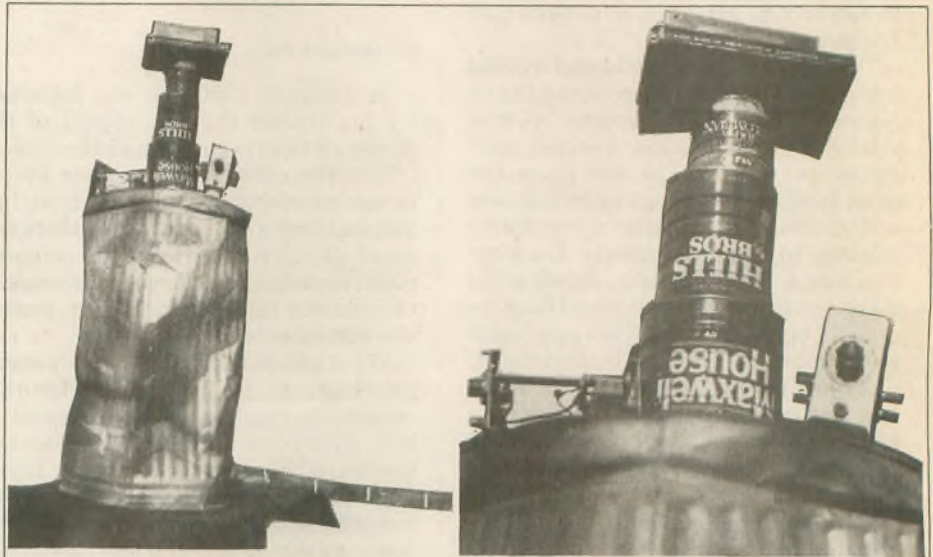
North-South and the 15 loop on an East-West fence.

Let's see now. I have an antenna that I can wad up and put in my pocket, which cost all of \$1; whereas my worthy competitors in the CQ WPX Contest on March 24 had antenna systems that cost \$1,000 and more.

Did they get 1,000 times the contacts that I did? Did they get 100 times the contacts I did? Did they even get 10 times the contacts I did?

Let's see how this game stacks up. I did not use an amplifier, so there were stations running 15 times the power I did. I didn't have a Yagi's gain. I didn't have a giant tower. How did I fare?

Hunting up and down the band, I got



Noting the obvious relish of Amateurs to divest themselves of \$300+ for little bits of hula-hoop-shaped aluminum called antennas, I, Kurt N. Sterba, have decided to go into the antenna manufacturing business. My prototype is pictured above.

The astute technical types will immediately recognize the main radiating element as a garbage can, fed with open-wire, of course. There is also a capacitor (not hooked up to anything), and since I am going to call this the VODOO antenna, there are icons attached.

A 3525 kc. XTAL is there, an old Heath Impedance Bridge and a 1946 ARRL Handbook (I never throw anything away). On top of it all, since we don't want any TVI, is a Drake TVI filter.

VOODOO stands for Vector Octave Omni-Directional Octagon O cost. There will be no attempt to bamboozle non-technical types by claiming this will be as good as a dipole.

However, we can claim, without fear of contradiction, that the production model will have all the gain and directivity of a garbage can turned over and fed with ladder line. Selecting the band in use is done by adding or subtracting the number of coffee cans.

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contacts at :15, :16, :17, :18, :19, :20, :21. This was too easy and had lost all of its challenge.

Three continents and a report of "big signal." Contacts at :44 and :45, and then another two in one minute means it's time to change bands.

I stopped and listened to the spectacular PT5T. That PJ4A talks faster than I could think. I picked up country after country. All this on a wire nailed to a fence?

So let's try 20M. Getting in the pileups for EL and P40V taught me humility, but then, I was butting heads with the best.

Three DX contacts in three minutes. Then it's a YV here and a CE there. LU and LA.

HU, YL, UZ, OH, OK, DL, G, F, LY, LZ. I stopped and listened to a discussion on antennas. It was good for a laugh. The confused preaching and spreading the confusion.

I was getting DX stations on first call. I heard a big pileup on a DX station and called and was as surprised as could be when he snapped back with my call right then, first thing!

I don't take contests as seriously as I once did. Lil' and I put on our finery and went to dinner both nights, I had lunch with friends Saturday and Sunday and took a nap.

I stopped and listened to the good operators like T32T. ZX5C was outstanding.

Even then, though, it got to the point as I went up and down the bands that I had worked every DX station I was hearing.

I got a good night's sleep both nights and stopped and read a magazine.

No US station got 10 times my contacts.

*Worked All Continents* with a \$1 antenna. Can I get that as an endorsement?

The configuration deserves some more work. I think it might work better if it were triangular in shape, thus getting one wire (bottom) up away from the ground.

Of course it would work better if the top wire were higher, but remember that in the exercise the goal was an antenna that would not be seen as an antenna at all. Obviously it succeeded.

There were times I got sand kicked in my face, but to run up a score like I did with no amplifier, no yagi, no tower, only means one thing: I am one of the great contest operators.

*(The modest Kurt N. Sterba goes by his cover name because he firmly believes that the meek shall inherit and he doesn't want moochers coming up to him for dimes.)* □

# Flashback



Helen H. Schmock, W8GJX, recently found this picture of her first station (circa 1929) — a 15W homebrewed Hartley. Helen told us that at the yearly banquet meeting of the QCWA in May, she was eligible for her "60" year endorsement tab on her Golden Anniversary Award.



Helen was a CAP instructor after the war.



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## Club meets

The Middlesex Amateur Radio Society meets each Tuesday evening at the Portland Methodist at 7 p.m. in Portland, CT. Formal business meetings are held on the last Tuesday of each month, with the remaining meetings being informal affairs.

MARS holds a phone net each Thursday on 28.350 MHz at 8 p.m. local time. They also maintain W1EDH/R on 147.69/147.09 MHz. □

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## Georgia

The 1990 ARRL Georgia State Convention and Southeast Packet Conference will take place Friday, June 1, from 5 p.m. to 9 p.m., and Saturday, June 2, from 8 a.m. to 4 p.m., at the Heritage House Motel and Convention Center in Albany. Admission is \$3; tables are \$8 for both days. Free parking will be available.

Featured will be awards, forums, exams, an indoor flea market and commercial exhibitors. Talk-in on 146.82 and 444.5 MHz.

All rooms at the motel are \$39. For reservations call 800/476-5193. For information write or call Albany ARC, P.O. Box 1205, Albany, GA 31702; 912/883-7910 (Monday through Friday, 9 a.m. to 5 p.m.).

## Illinois

The DuPAGE AMATEUR RADIO CLUB is sponsoring its 8th annual ARRL approved Hamfest-Computer Mart on Sunday, July 8, at the American Legion Post 80 in Downers

Grove. Gates will open at 8 a.m.; sellers setup will begin at 6 a.m.

Featured will be indoor tables and an outside swappers row. VE license tests will be given for all classes; bring a copy of your license. There will be free parking and handicap facilities on the premises. Food and drink will be available.

Talk-in on 145.25 -600.

Tickets will be \$2 in advance; \$3 at the gate. For tickets or table reservations send an SASE to: Hamfest Chairman, DuPage ARC, P.O. Box 71, Clarendon Hills, IL 60514. For more information call 708/985-0527, 708/964-5529 or 708/495-1253.

## Indiana

The LAKE COUNTY AMATEUR RADIO CLUB will sponsor its annual Fathers' Day hamfest on Sunday, June 17, in the Industrial Building of the Lake County Fairgrounds in Crown Point.

A limited number of tables will be available, at \$5 each. General admission is \$3.50. There will be free parking available.

Setup will begin at 6 a.m. Hamfest hours are from 8 a.m. to 2 p.m.

VE testing will be done, with Novices free and walk-ins welcome. ARRL and ARES information and food and refreshments will be available. Overnight accommodations are close by.

Talk-in on the Lake County ARC repeater, 147.00 or 146.52 simplex.

For further information contact Ken Brown, KE9TC, 918 Chippewa, Crown Point, IN 46307; 219/663-5035.

## Maine

The PINE STATE AMATEUR RADIO CLUB is sponsoring a hamfest from 8 a.m. to 2 p.m. June 2 at the Hermon Elementary School in Hermon. Admission is \$2.

Features will include a flea market (dealers welcome), VE exams, an A-5 exhibit and door prizes, the grand prize being a 1-2M HT. Free parking will be available. Talk-in on 146.34/94.

For information contact Roger W. Dole, KA1TKS, R.R. #2 Box 730, Bangor, ME; 207/848-3846.

## Maryland

The FREDERICK AMATEUR RADIO CLUB will hold its annual hamfest on Father's Day, June 17, at the Frederick County Fairgrounds. Hours will be from 8 a.m. to 4 p.m. Admission is \$4; tailgaters pay \$5 for each 10 ft. space. Wives and children enter free with one paid admission.

Exhibitor indoor tables are \$10.

For additional information write: Ernie Hansen, K3VVV, P.O. Box 589, Mt. Airy, MD 21771.

## Michigan

The 1990 Monroe Hamfest, sponsored by the MONROE COUNTY RADIO COMMUNICATIONS ASSOCIATION, will be June 17 at the Monroe County Fairgrounds in Monroe. Tickets are \$3 in advance and \$4 at the gate.

Features will include vendor exhibits, a flea market, FCC exams and more. Talk-in on

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146.12/72 and 223.18/224.78.

Handicapped parking will be available inside the grounds and the exhibits are wheelchair accessible.

For information contact Fred Lux, WD8ITZ, P.O. Box 982, Monroe, MI 48161; 313/243-1053. □

## North Carolina

On June 9 the FORSYTH AMATEUR RADIO CLUB presents its 3rd Annual Hamfest, Computer & Electronics Fair at the Benton Convention Center in downtown Winston-Salem.

Flea market setup will be from 6 a.m. to 9 a.m. and doors will open to the public at 10 a.m. Advance tickets are \$4, at the door \$5; flea market tables are \$10 per 8 foot table.

Talk-in on 146.64/04.

For information send an SASE to Jim Rodgers, N1DRI, W-S Hamfest, P.O. Box 11361, Winston-Salem, NC 27116; 919/760-2493 (9 a.m. to 10 p.m.). □

## Pennsylvania

On Wednesday, July 4, the HARRISBURG RAC is sponsoring the Firecracker Hamfest beginning at 8 a.m. at the Bressler picnic grounds. Setup will begin at 6 a.m. Admission and tailgating fee is \$3. Tables in the pavillion are \$10 in advance; \$12 at the site.

Talk-in on 146.30/90 or 52/52 simplex. Food is available at the site. No overnight camping is allowed! Police security will be provided all day.

For more information or reservations, contact: Dave Dormer, KC3MG, at 717/939-4957.

## Wisconsin

The CENTRAL WISCONSIN RADIO AMATEURS LTD. is holding its annual swapfest on Father's Day, June 17, at the University Center on the University of Wisconsin-Stevens Point campus in Stevens Point. The facility features plenty of well-lit, air conditioned space with food and restrooms on site. Parking is free and the site is accessible to the handicapped.

Two ARRL VEC testing sessions (morning AND afternoon) will be offered. Programs are being organized to encourage spouse participation and educational seminars pertaining to Amateur Radio will be offered.

Tables and electrical power will be available for commercial vendors. Groups and clubs dedicated to Amateur Radio are invited to request space for meetings, reunions, educational seminars, demonstrations or other Amateur-related activities. Facilities will be assigned on a first-come-first-served basis.

To register (or to receive additional information) please contact: Art Wysocki, N9BCA, CWRA Swapfest Chairman, 3356 April Lane, Stevens Point, WI 54481; 715/344-2984. □

## Wyoming

The SHY-WY ARC will host the Wyoming Hamfest Saturday and Sunday, June 9 and 10, at the Holiday Inn in Cheyenne.

Festivities will include dealer exhibits, indoor swap tables, forums and seminars and VE exams. Talk-in on 146.175/775 or 146.22/82.

For information contact Fred Dumire, N7JPR, P.O. Box 6262, Cheyenne, WY 82003.



## Smirk Party

This contest will take place the weekend of June 15 to 17. It will begin on the 15th at 0001, and continue through the 17th at 2400.

Operations: All contacts between the contiguous 48 states must take place above 50.125. Only contacts with stations outside the 48 states should take place below. This will help to eliminate any interference from this

contest to overseas DX stations.

Exchange: Smirk number and grid square. No x-band, multi-op or partials.

Scoring: Two points for Smirk and one point for non-Smirk contact. Total Smirk score plus total non-Smirk score times total number of different grid squares equals claimed score.

Logs: The SPCL 10/01/86 log must be used (business sized SASE to KA0NNO for a copy). Where logs ask for your section/state/country or major political subdivision, if W or VE station, put your ARRL section; if Japan, your prefecture; if Australia/New Zealand, your state; if UK, your shire/county/Scottish region, etc. If none of the above, put your country. No check logs or dupe sheets are required. Failure to provide your name, call and Smirk number on your log will bring about disqualification.

Awards: Certificates will be issued for high score in each geographical division.

Send contest entries postmarked no later than July 6 to Lisa Lowell, KA0NNO, P.O. Box 307, Hatfield, AR 71945. □

## PHASE IV

(continued from page 29)

The AMSAT NA Board of Directors voted to accept a "statement of work" presented by WSC last November to build this "mock up" of the Phase IV satellite as part of an engineering project for students enrolled in the WSC Center for Aerospace Technology.

Present for the "roll out" was AMSAT NA's Chief Engineer, Dick Jansson, WD4FAB. Upon seeing the completed model for the first time, Dick pointed out that the size of this Phase IV spacecraft is "awesome."

The satellite is 12 sided, 30 inches high and eight ft. in diameter. Dick added: "This has to be the largest satellite AMSAT has ever designed."

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• GGTE, P.O. Box 3405, Dept. MW, Newport Beach, CA 92659

After the photo session the Phase IV model was put into a special crate and trucked to Dallas for the HAMCOM/ARRL National Convention in Arlington, TX, where it was displayed in the main lobby of the HAMCOM convention center.

After HAMCOM the Phase IV model was returned to WSC, where it will be used as a "test bed" for future work on the Phase IV concept. —The ARRL Letter □

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5. O'SCOPE RANGE EXT'N'D R	\$79.95
6. 2MTR PORTABLE J ANT.	\$29.95

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**NEW PRODUCTS**

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

## Russian Phrases for Amateur Radio

This is a new 20-page syllabus compiled by W6HJK to help Amateurs better communicate with their Soviet colleagues. A 90 minute audio cassette has been added to help with pronunciation. You need not be an expert in Russian, only interested in "trying."

The booklet provides 1. English words and phrases for QSOs, accompanied by 2. the Russian translation and 3. the English transliteration, to assist you in pronouncing the Russian.

The syllabus follows the natural sequence of a QSO. There are additional sections on the Russian alphabet, phonetics, CW characters, numerals and given names. Suggestions are made for addressing mail to the Soviet Union.

The author undertook this project out of a personal interest in improving the quality of his QSOs with Soviet Amateurs and to enhance US/USSR relations. A nominal cost of \$5 (\$7 international) for the booklet and \$6 (\$8 international) for the audio cassette are payable to the Beyond War Foundation, the original sponsor and an educational endeavor to build global dialogue and cooperation.

Requests should be sent to: Russian Phrases For Amateur Radio, Len Traubman, W6HJK, 1448 Cedarwood Dr., San Mateo, CA 94403. □

## Radio frequency finder

Optoelectronics Inc. offers the model 2210-A Personal Frequency Finder/Counter, one of the most advanced such instruments on the market.

It fits in a toolbox or in the palm of your hand, but despite its small size, model 2210-A specifies an incredible operating range, from 10 Hz to 2.4 GHz, and is useful to 2.8 GHz.

It measures 4.0 X 3.5 X 1.0 inches (14 cubic inches), and weighs only 9 ounces. It detects and displays two overlapping frequency ranges, from 10 Hz to 12 MHz, and from 10 MHz to 2.4 GHz; resolution is 1 Hz and 100 Hz respectively. Accuracy is  $\pm 1$  PPM.

Priced at \$219, model 2210-A easily outperforms classical instruments costing 10 to 20 times more.

Front panel features include an eight-place LED display, range select switch, power select switch (external 9 to 12VDC or four rechargeable NiCad batteries) and a gate-control switch and indicator LED for long or short sampling times. The single input BNC connector feeds through a microwave relay according to the range selected, and automatically sets input impedance at either 1 Mohm, for the low-frequency input range or 50 ohms, for the high range.

Model 2210-A is encased in a high-impact aluminum housing for maximum emi/RFI shielding and rugged field use. It is manufactured domestically and carries a unique full year warranty.

Available options include a selection of five different antennas for use at select frequency bands, a laboratory-use probe for printed circuit work and a high-accuracy time base for better than  $\pm 1$  PPM accuracy.

Dealer inquiries are invited. For more information on this and other personal RF instrumentation, contact: Linda O. Huft, Op-



The Personal Frequency Counter measures sub-audio to 2.4 GHz.

toelectronics Inc., 5821 NE 14th Ave., Fort Lauderdale, FL 33334; 800/327-5912 or 305/771-2050; FAX 305/771-2052. □

## Dual-band quad antenna

Custom Antenna Systems is now manufacturing a dual-band 2M/70cm quad antenna with the new dual-band radios in mind.

This compact, lightweight, high performance beam has five elements for 2M and 9-elements for 70 centimeters. It is broad banded and offers an impressive 12.5dB forward gain on 2M and a respectable 10.5dB on 70 centimeters. The beam also offers excellent front to back ratio of 20dB.

The Model DB2/70 is only five feet long and takes a mast size of 1 inch to 1 1/2 inches. This antenna is end-mounted, making it easy to install with only a light rotor needed. The match system provides low SWR, with a 50 ohm feed and a standard PL-259 connector. This beam needs only one feed line, however you may feed both bands separately with a second feed line.

Detailed instructions and precision manufactured components make assembly quick and easy. The boom is constructed of heavy wall 3/4 inch rigid square tubing and the element spreaders are 1/4 inch solid fiberglass rods. The antenna weighs approximately 3 1/2 pounds and will handle a wind load of 90+ mph.

The Model DB2/70 dual-band quad is ver-

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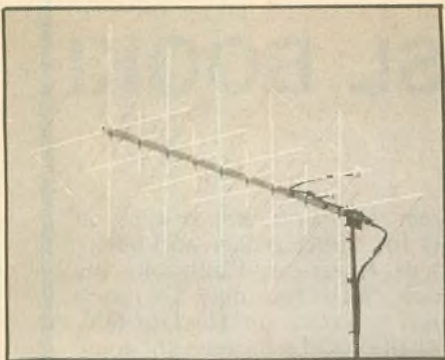
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## UHF portable

Midland Land Mobile Radio has introduced a compact UHF portable specifically designed to provide rugged, basic portable radio communications at an economical cost.

The Model 70-243 Midland portable has a one-piece die-cast chassis and stainless steel front and back. RF output is 5W, tunable to 2W. The new UHF models provide up to four crystal-controlled channels in the range 450 to 470 MHz.

With the standard twist-off 600 mAh battery pack, the unit is only about 5 x 2½ x 1½ and weighs approximately 22 ounces without the antenna. A 1000 mAh battery pack is also available. Options include CTCSS, external speaker/microphone with lapel clip, a backplate with belt-clip, carrying cases and battery chargers.

For more information contact Midland LMR, Marketing Department, 1690 N. Topping, Kansas City, MO 64120; 800/643-5263, ext. 1690. □

## No-ground radial vertical

The new R5 from the Cushcraft Corporation is a third generation development of the highly successful 1/2 wavelength no-ground radial vertical antenna.

The R5 has optimum current distribution for low angle radiation and excellent DX. The antenna is only 15 ft. total height. It can be utilized for either portable or fixed operation and weighs only nine pounds.

Automatic frequency selection of all five bands is accomplished through high Q traps and a broadband solid state impedance matching network that accepts 50 ohm input through a PL259 connector.

By incorporating a unique counterpoise ground system, utilizing four 48 inch long stainless steel rods, the antenna offers ex-

cellent RF decoupling for mounting in any location from ground level to rooftop.

The R5 is ideal for limited space applications like apartments, condominiums and small lots. It is easily transported for portable or motorhome operation.

The R5 is available through Amateur dealers worldwide. For more information contact Cushcraft, P.O. Box 4680, 48 Perimeter Rd., Manchester, NH, 03108; 603/627-7877. □

## Computer Morse system

Microsystems Software Inc. offers a software TSR product for MS-DOS called HandyCODE AR.

HandyCODE AR provides a path to IBM PC, Pc-Jr, XT, AT, PS/2 and compatibles (including '386 PCs) by interpreting Morse code input and converting it into keyboard data. The standard Morse code assignments have been extended to include the extra keys on the PC's keyboard, plus defined and user-defined commands. These commands are provided by a powerful macro facility.

HandyCODE's macros are shortcuts for frequently used keystrokes, such as loading your application programs or inserting a frequently used sentence or a list of names into your word processor. With the macro capability any series of keystrokes can be automated.

HandyCODE provides a comprehensive practice code utility and on-screen help facility. The user can configure iambic, dot memory and letter/word spacing and select speeds from 1 to 99 words per minute.

HandyCODE has built-in 1-key, keyer or bug mode operation. You can configure the software for either Auto-Space or Manual-Space (---) modes.

HandyCODE is compatible with most popular software and networks. It can help you learn or improve your CW skills while you run virtually any popular PC software.

HandyCODE takes approximately 30K of resident memory when configured for "on-line" HELP and 4K of macro memory.

Using some ingenuity, you could connect a PC to your rig and do off-the-air copy or keyboard-to-CW control, or even set up an unattended CW bulletin board. The standard interface is through a provided 25-pin connector to the PC's LPT port.

The LPT port also provides eight TTL compatible outputs. Bit 7 is activated concurrent with the speaker tone and therefore can be

used to key your transmitter. The remaining seven bits are controlled by your software and may be used for rotators, XMT/RCV, lights, etc. For off-the-air copy, you need to convert the BFO tone from your receiver into a TTL signal and "OR" this with your paddle or key.

If you don't require the external "RIG" control, you may connect your keyer paddle via the COM: (25 or 9) or GAME ports. Just tell them at time of order and the company will supply the proper connector.

MSI also includes a software program called PLAYFILE, which allows you to play any ASCII file in "perfect" Morse.

HandyCODE is available with connector for \$149 or \$89 without "rig" control capabilities. A rehabilitation version is also available for \$295, which provides speech output capability. To order call 508/626-8511, or write MSI, 600 Worcester Rd., Suite B-2, Framingham, MA 01701. Mastercard and VISA accepted. Thirty day money-back guarantee!

Try the MSI BBS at 508/875-8009. □



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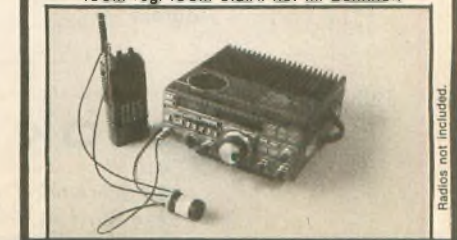
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# VE exam schedules

As a service to our readers, Worldradio presents a feature listing those VE exams, times and locations which are sent to us. Please remember that our deadline for publication is two months in advance. For example, if your VE group is scheduling an exam for September, please have the information to us by mid July.

Worldradio, 2120 28th St., Sacramento, CA 95818.

Please mark the envelope "VE Exams."

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

p/r = pre-register

w/i = walk-in

Date	City	Contact	Notes	Date	City	Contact	Notes
<b>Alabama</b>				<b>Indiana</b>			
June 30	Montgomery	Leroy Bell Jr. (205) 269-4201	w/i	June 2	South Bend	NI9Y (219) 255-4455	w/i OK
<b>Arizona</b>				June 3	Terre Haute	K9EBK (812) 466-2122	w/i
June 2	Tucson	K7OPX (602) 886-7217	w/i OK	<b>Maryland</b>			
<b>California</b>				June 23	Laurel	(301) 572-5124	ltd w/i
June 2	Burbank	KE6AR (818) 349-0927	w/i OK	<b>Missouri</b>			
	Riverside	(714) 780-2680	p/r 7 days	June 2	Antonia	WD0GDY (314) 671-4243	no w/i
	South San Francisco	WO6F (415) 333-1916	prior; ltd w/i	<b>New Jersey</b>			
June 3	Chico	W6YKU (916) 342-1180	p/r pref;	June 9	Cranford	N2XJ (201) 635-7686	
June 7	Modesto	W6XK (209) 883-2968	w/i OK	June 11	Hopatcong	WK2R or WS2D (201) 347-7723	w/i
June 9	Camarillo	N6SR (805) 484-4461	p/r pref;	June 13	Fort Monmouth	KZ2P (201) 905-3146 or (201) 370-8055	w/i
	Novato	N6AQY (415) 897-8950	ltd w/i	June 16	Bayonne	WA2QYX (201) 451-9471	w/i OK
	San Pedro	N6DYZ (213) 322-2965	w/i	June 21	Bellmawr	WA2VQG (609) 546-7710	no p/r
	Stockton	AA6NO (916) 662-0801	w/i	<b>New York</b>			
June 16	Downey	KA3DSE (213) 923-5598	w/i	June 15	Verona	KA2NIL (315) 363-4297	w/i
June 20	Eureka	KB6FIW (707) 442-9243	p/r pref by 6/18	<b>North Carolina</b>			
June 21	Fountain Valley	KI6WK (714) 846-6984		June 9	Yadkinville	N4AAD (919) 679-8059;	
June 28	Long Beach	KA6HOQ (714) 897-6331;				N4UAN (919) 679-8954	p/r; w/i
		NF6X (213) 434-8278	w/i	<b>Ohio</b>			
<b>Colorado</b>				June 30	Norton	KA8MPH (216) 882-6387	p/r pref; w/i OK
June 9	Pueblo	(719) 948-2291	p/r; w/i	<b>Pennsylvania</b>			
June 16	Westminster	N0HNR (303) 451-1231;		June 2	Erie	W3CG (814) 665-9124	w/i OK
		(303) 278-4280	p/r or w/i	June 16	McKeesport	KQ3W (412) 466-5204	2 day p/r
<b>Connecticut</b>				<b>Texas</b>			
June 3	Newington	KM1O (203) 666-1615	p/r	June 2	Lubbock	KG5BL (806) 794-8317	p/r; w/i
June 24	Milford	NB1M (203) 933-5125;		June 9	Eddy	N5KZD (817) 859-5374	w/i
		WA1YQE (203) 874-1014	w/i		Midland	KT5G (915) 694-9450	
<b>Florida</b>				June 19	San Antonio	AA5HG (512) 680-2371	w/i
June 16	W. Palm Beach	W4SS (407) 967-1477;			Sherman	AA5MF (214) 786-3847	w/i OK
		KG4U (407) 582-7617	w/i	<b>Washington</b>			
<b>Georgia</b>				June 6	Spokane	WA7IIR (509) 467-1208;	
June 24	Atlanta	KC4MJ (404) 449-3340	w/i			KM7U (509) 326-4833	p/r pref; ltd w/i
<b>Idaho</b>				<b>Wisconsin</b>			
June 9	Boise	W7JMH (208) 343-9153		June 2	Racine	NE9P (414) 658-8390	w/i
<b>Illinois</b>							
June 9	Oak Forest	KA9HDN (312) 247-0650	w/i				
June 16	Loves Park	W9SS (815) 877-6768	p/r; w/i				

## Digital Bus

(continued from page 49)

CAUSE TROUBLE... EXCUSE MY TYPING SPEED BECAUSE I NEVER BEFORE HAVE TASTED RTTY... I TYPE FASTER WITH ONE FINGER ON EACH HAND... THE HUM ON MY SIGNAL IS CAUSED BY TOO MUCH MIKE GAIN ON THE SCOPE... OUR CLUB IS THINKING OF SPONSORING A CONTEST WHERE EVERYBODY HAS TO CALL CQ AND NOT ANSWER OTHERS... TRYING TO FIND HIM ON SSB IS LIKE TRYING TO FIND AN ANGLE WORM IN A BATHTUB FULL OF RATTLE-

SNAKES... SORRY TO HEAR YOUR 10 MONTH OLD DAUGHTER DOESN'T HAVE HER LICENSE YET... DO YOU WANT ME TO FEEL SORRY FOR YOU BECAUSE IT IS TOO HOT TO JUMP IN THE SWIMMING POOL?... I CAN TYPE REAL FAST BUT THINK REAL SLOW... I HAVE 20 BANANA TREES BUT LIKE THE PASION FRUIT BEST... I PAID MY TAXES TODAY. I PAID TWO A HALF TIMES AS MUCH AS I THOUGHT I WOULD HAVE TO EARN TO MAKE ME RICH THE DAY I GRADUATED FROM COL-

LEGE!... WHY DON'T YOU GO AND WATCH TV AND GIVE THE WEST COAST BOYS A CHANCE TO READ HIS CALL SIGN."

Thanks to W1DA, W0HAH, K5ROV, W7VRF, K4HXM, W0ML and a batch of those we eavesdropped upon. My packet address: W0LHS @ W0LHS.ND.U.S.A.N.A or write me, Bill Synder, 1514 S. 12th St., Fargo, ND 58103. 73 and DIT DIT. □

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