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World Radio

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Donna LaVere, KA8YTT, and sons Aaron, KA8TMO, and Garth, KB8DFX, access the packet bulletin board during the fire at Diverse Plastics in Flint, MI. For the entire story on the blaze, turn to page 6.

Codeless license report

A special committee appointed by ARRL President Larry E. Price, W4RA, has submitted a report recommending the creation of a class of Amateur Radio license not requiring a knowledge of Morse code.

The report was presented to the ARRL Executive Committee, which met on April 1. The committee did not take a position on the substance of the report, but authorized its publication in full in the May issue of *QST* and referred it to the full Board of Directors for consideration during its July 21-22 meeting. The mission of the committee was "to explore the implications of a no-code Amateur license." ARRL members, other licensed Amateurs and others interested in Amateur Radio are invited to review the report and make their views known to ARRL Division Directors.

The committee stressed that its proposal, if adopted, would not cause any licensee to lose any present privileges. It proposes a new class of Amateur Radio license, with a written examination somewhat more comprehensive than the present Technician exam, but with no requirement for a Morse code examination. Holders would be permitted to operate on all frequencies and with all privileges now available to Technicians above 30 MHz, but 2M operation would be limited to frequencies between 144.9 and 145.1 MHz and to digital modes only. Examinations would be given only by accredited Volunteer Examiners, and distinctive call signs would be assigned.

The committee carefully reviewed a wealth of input from interested individuals and Amateur Radio clubs, as well as information it had requested from IARU member societies in other countries which already have a code-free class of Amateur license. A large number of alternatives were considered by the committee in developing its recommendations.

ARRL Executive Vice President, David Sumner, K1ZZ, stressed that the committee's report does not represent (please turn to page 17)

Playing to win at Field Day

DAVE REYNOLDS, KE7QF

The top dogs in Field Day competition know one thing for sure — no matter how great the equipment might be, you can't win unless you get a signal out that will be answered. It takes equipment, operators, enthusiastic knowledge, a team effort and some cooperation from Murphy.

Top-of-the-class clubs know that SOCIAL TEAMS win Field Day. The club president and directors have to make a hard decision: "Which will benefit our type of club most, winning Field Day or having great steaks?" If placing highly wins out, read on.

The right class is determined by the number and type of operators you can muster. You need 27 continuous hours of COMPETITIVE operating, logging and dupe checking. After 3 to 4 hours, most operators get flaky, so if you're doing two stations, you have 27 time

slots to fill. No ragchewing.

Good operators have pileups wanting their QSO because no time is being wasted. If you were operating a real emergency, wouldn't you want to do traffic with a guy who was efficient? Rapid successive contacts tend to "keep a frequency," which is worlds better than tuning around and answering.

A good and fun thing for a club is to devise a pre-FD competition where the stakes and mistakes are casual. Try a competition with nearby clubs or a "Marconi Day" Certificate or just anything to create the practice situation. Do the logging and duping on the same forms you'd use for Field Day.

Equipment

Your rigs have to be reliable; Field Day is no time for experiments. It also (please turn to page 16)

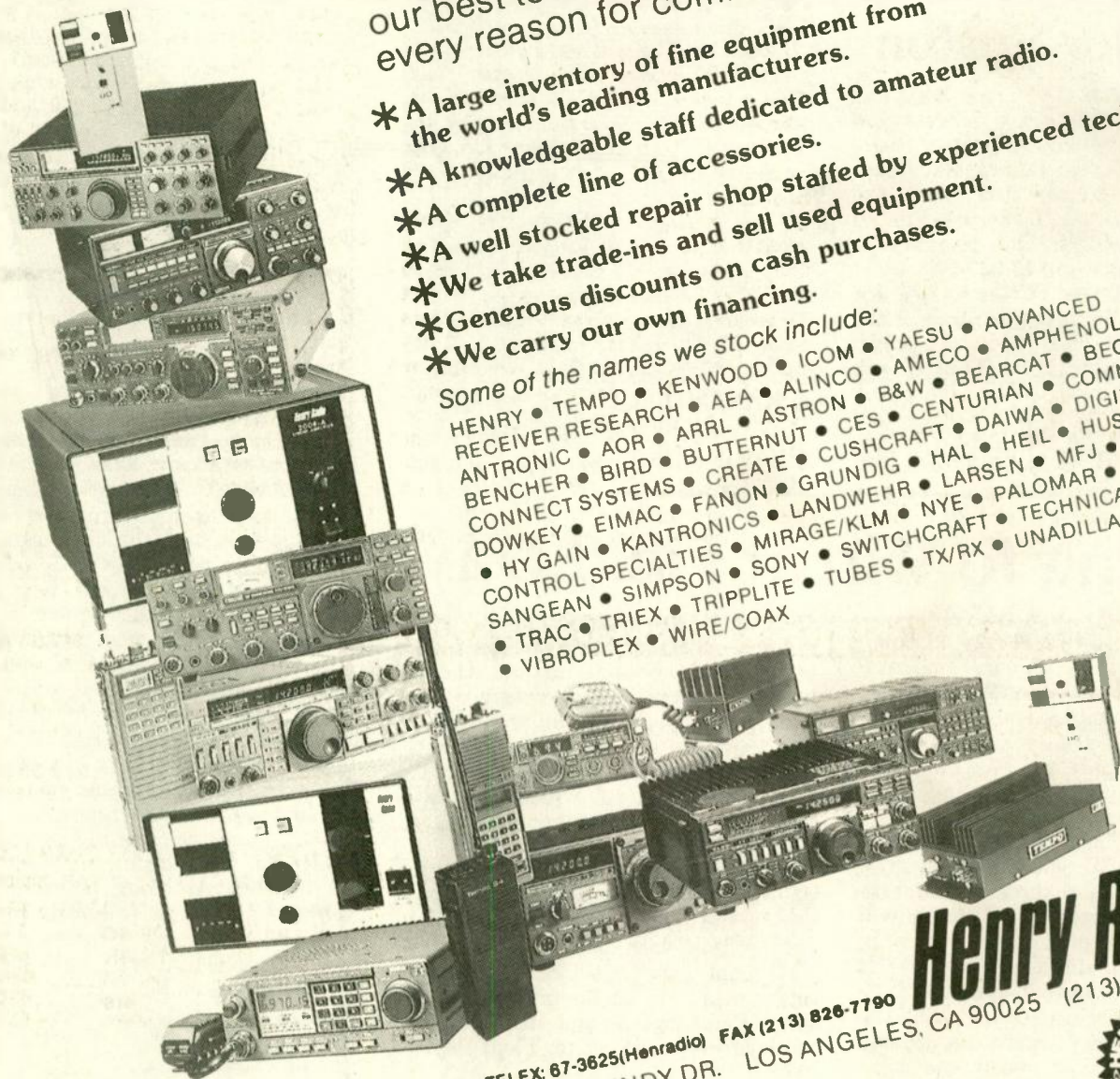
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Amateur goes way over his head

The following is a synopsis of articles which appeared in the Nov. 25, 1988 editions of the Detroit Free Press and the Columbus (OH) Dispatch.

On Nov. 17, 1988 Gordon Gunnels, KB6BUN, spoke over his radio with Vladimir Titov, U1MIR, commander aboard the Soviet space station Mir.

"His English was better than mine," Gordon said. "He asked me where I lived and told me I was sounding very strong. It was so clear it was like he was hovering right over my trailer."

Gordon, who has multiple sclerosis, said he and Vladimir had a "good chuckle" over the call sign KB6BUN. "I told him it fit me perfectly because I'm in a wheelchair and always sitting on my buns." □

ARC for Boston

The American Red Cross ARC has been formed as a general interest club for hams in and around Boston. Sponsored by the Massachusetts Bay Chapter of the American Red Cross, the organization fills a 10 year need for an ARC in Boston. The club operates the Boston repeater on 145.23 MHz.

To support the FCC mandate for Amateur Radio, a major focus of the new club is on emergency and public service communications. The club will furnish assistance to the Red Cross and other agencies when needed. Other activities will be as diverse as the members' interests in Amateur Radio.

Instruction and testing will be provided to prospective and new Amateurs who wish to obtain or upgrade

their licenses. Comprehensive fixed and mobile stations are planned to encourage member participation in a broad range of communication activities and public service. □

Oh well!?

On page 52 of the May issue, an article entitled "Interesting facts department" erroneously stated several things that lie between television chan-

Your life story on repeaters

Richard Rhodes, KH6IO

At a backyard ham picnic, a man reminded me that we had met before. "You gave the talk at the Dallas ARC a couple of years ago about security . . . about not talking so much on the repeaters concerning our personal lives. I still remember the things you said."

Goodness. The talk was two years ago and this fellow remembered what I said. That's better than a lot of preachers, whose sermons may not linger past the final hymn. "Maybe you ought to write an article for QST," he continued. Not a bad idea.

I have spent a major portion of my adult life as a U.S. Treasury agent, a CIA agent, and a writer and lecturer to citizen and police groups on the subject of security. I am more sensitive than most about locking my car and my house, and watching what I say concerning my personal comings and goings. While you may never share my total outlook, some of my observations should cause you to stop and think about some of the things you say on your local repeater.

Because repeater activity is usually

confined to talking to the same friends — to the point that we recognize each other's voices — we tend to forget how many eavesdroppers there are. With all the scanners, portable radios that tune the VHF bands, ham rigs sold at flea markets, etc., there is a vast audience out there for your casual remarks. Couple that with the fact that you are listed in the Callbook, and possibly in a local ham directory, and you are inviting problems if you talk indiscriminately.

I let my ham license expire while I was in the CIA. Getting on the air and talking about my work was not part of their master plan for me. When I returned to civilian life in Dallas, I started studying for my ticket and bought a 2-meter rig. (please turn to page 18)

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

Our goal is to be a valuable resource of ideas and experiences beneficial to the Amateur Radio Community. We publicize and support the efforts of those who bring the flame of vitality to this avocation.

You readers are participants — an alliance of active radio amateurs concerned with reality, using radio as a communications tool to develop the skill, quality and full potential of Amateur Radio.

We emphasize the positive aspects of this great activity, and desire your contributions dealing with dramatic, personal and humanitarian uses of Amateur Radio.

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PUBLISHER'S MICROPHONE

It is Standard Operating Procedure to first welcome aboard the latest bright shining lights who have become Worldradio Super-Boosters (Lifetime Subscribers):

Gerald Owens, AB3X, Corry, PA; Barry Bogart, WB3GXD, Newark, DE; Ross Merlin, WA2WDT, Potomac, MD; Clint Campbell, KB4OLM, Stuarts Draft, VA; Tim and Peggy Coucke, KE4KE and KC4AVR, Hopkinsville, KY; Skip Westrich, WB8OWM, Canton, OH; Stephen Hart, K8EJ, Troy, MI; Cecil Crider, WD8ECM, Detroit, MI; Norman Lucas, II, WB6RVR, Sacramento, CA and Lewis Sayre, N7AVK, Salem, OR.

Running neck and neck for first place in the Worldradio DXathon are Ed Blakeburn, VE1XA, and Leo Servary, W4FRL.

Was looking through one of our local newspapers and saw a page devoted to "Club Calendar." In it were meeting notices for the Sacramento Aquarium Society, beginners and non-members welcome; Machine Knitters Guild;

Amateur Movie and Video Makers; Native Plant Society; Fencing Club; Woodcarver's Association and so on. Didn't see an Amateur Radio Club in there. Do you send notice of your club meeting to your local *Daily Glonk*?

A committee of fine gentlemen met to ponder the idea of a codeless entry level Amateur Radio license. They brought to the discussion only the highest of motives. They are in favor of such and their arguments are persuasive. It is obvious that a great deal of thought went into their report.

The report is well-reasoned except for one statement: "The Committee feels that this proposal, in its own way, can help restore the technical viability of the United States."

Tragically, the problems facing the USA are of such massive nature that repair seems beyond any solution. The disaster we are experiencing has nothing to do with CW or a lack of Amateurs.

Here is the problem: About 80 percent of all applicants screened nationally by Motorola Inc. fail an entry-level exam that requires seventh-grade English and fifth-grade math. Not even the 300,000 Archie comic books touting Amateur Radio distributed by Radio Shack will solve that.

Out of 50,000 people taking the basic employment exam at New York Telephone Co., only 2,100 passed.

When 25 percent of Dallas, TX, high

school seniors cannot name the nation that borders Texas, they are hardly candidates for a hobby that proclaims "talk to the world."

A Gallup survey on geography given worldwide ranked the United States the lowest among all developed countries surveyed, including Mexico.

At American universities more foreigners receive Ph.Ds in mathematics than Americans. As Thomas Sowell puts it, "The harder the field, the fewer the Americans."

"If you wonder why you see so many foreign doctors, scientists, mathematicians and other high-level people in the United States, it is because so many Americans don't want to study this hard stuff. We now seem to be turning as soft intellectually as we are morally and physically."

Much has been made of the fact that the growth of Amateur licenses has not kept up with the growth of the population. If one goes back and charts the big growth times it will be noticed that such occurred when great masses of discharged servicemen entered civilian life. That was REAL incentive licensing. They knew that if they flunked out of radio school they would be carrying around 8.5 lbs. of gas-operated, clip-fed, semi-automatic.

There are two other factors, also. No longer, as in yesteryear, does practically every radio have "Short-Wave" where Amateurs could be heard (using AM). How many became interested that way?

And we're fast becoming a nation of couch potatoes. The oversold cables and satellites have resulted in "What will I watch?" instead of "What will I do?"

On the subways of the United States our youngsters' heads are bobbing to the Walkman's sounds. On the Japanese subways their kids are **READING!**

—Armond, N6WR

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Diverse Plastics fire

SHELBY ENNIS, W8WN

"Fires like this will occur again," John H. West, Jr., Genesee County Civil Defense Director, said. "It's just a matter of when and where . . ."

According to the *Flint (MI) Journal*, coordinating the fire became an immediate massive undertaking involving 27 fire departments from Genesee County, at least three police agencies, the Red Cross, Salvation Army, a corps of Amateur Radio operators, township officials and a number of medical personnel.

This sums up what was supposed to have been a "relaxing Tuesday night" on Nov. 29, 1988, when the Genesee County (Michigan) Amateur Radio Emergency Service Inc. got its first real taste of a toxic chemicals fire.

Hazardous situations are nothing new to the Genesee County ARES. A number of the operators have been called to provide communications from the scene of burning gasoline tankers, and most of the active members have worked their share of large fires, floods, tornado warnings and other incidents. But this emergency came closer to activating the county's disaster plan than anything else that has happened during the past 10 years.

At 1945 EST Daniel Smith, KB8-ATR, and Emergency Coordinator Jack Tosto, WD8JCN, among others, heard a "fire on the roof" call to the Diverse Plastics factory. Within ten minutes mutual aid had been requested, and at 2002 EST the County Fire Coordinators were called out. When the fire coordinators are activated, the ARES is normally requested to provide communication between the coordinators at the fire scene and those at Flint Township Fire Department Communications. This allows the mutual aid fire frequency to be used for fighting the fire while the ARES handles much of the coordination communications.

By 2009 the Fire Department had determined from papers previously filed by the company that drums of isocyanate were stored in the building. The fire department looked up "isocyanate" in their hazardous materials manuals and found four chemicals listed. The fire dispatcher requested the chemical's guide number, but no further identification could be found.

One fireman had injured his shoulder, so an ambulance and a paramedic were called, plus two additional ambulances for stand-by. By this time things were becoming very crowded both at the fire scene and at Fire Communications. Diverse Plastics Inc. was located at the end of a 50M drive on a two-lane county road, and the wind was blowing at 10-20 knots, which pushed the smoke down the driveway and on to

quickly began arriving from all areas, including the packet database (as far as we can determine, this was the first actual use of a hazardous materials database via packet).

A portable packet radio system and the hazmat database had been demonstrated to the fire coordinators a few weeks earlier. Upon hearing the information coming in during the fire, one of the Fire Coordinators requested that we continue to gather information on the chemicals, as we were having more success than they were. The chemical in question turned out to be diphenylmethylthiocyanate, and the most complete information was received from a chemist at Union Carbide who had experience with plastics.

Drums of polyol had also been discovered in the burning building. Since this is an unregulated substance, it was not listed in the database. As there were no chemists in the fire department and an available Response Team from DuPont had not been

... An occasional muffled "whump" could be heard as another drum of chemicals burst.

the road. An occasional muffled "whump" could be heard as another drum of chemicals burst.

The fire department could not seem to come up with any further information on the chemicals, so Jack suggested that the hazardous materials database available in Saginaw County be accessed via the Michigan Packet Emergency Network (George Schemm, N8JAT, had spent over 100 hours typing it in). But every packet operator in Genesee County was out that evening.

However, Edward Zajdlik, WB8-COU, heard the call and immediately returned home to access the board. Unfortunately, entries had to be located by their guide number, which was not available; therefore, Edward began reading through the entire database, which has since been modified to allow access by chemical name.

At 2032 Raymond Rising, KA8PRV, went to the telephone to try other sources, including an Amateur who worked at Chemtrek. Information

called, the fire departments were proceeding cautiously. It was still unclear whether it would be better to attack the fire or to let it burn itself out.

As still more county fire departments were sending in personnel and equipment, it became difficult to move them to the fire. A staging area was set up at the Flint Township Fire Department, and Ned Tanner, KB8BQS, was called upon to provide communications there. Meanwhile, the telephone lines to the fire department were being jammed with incoming calls, so two Amateurs were given the task of calling all the area radio and TV stations to request the public not to phone the fire department except for an emergency.

Several firemen were reporting breathing problems, so Hurley Medical Center was asked to send a triage team and physician to the scene. Don Sefcik, KA8EUV, was sent to Police Central Dispatch for liaison, where the Genesee County ARES had recently installed a Kenwood 7400 and antenna. When he arrived at 2115, they too were not fully aware of the nature of the chemicals involved in the fire.

At approximately 2040 EST the fire department ordered the evacuation of about 150 homes within a half-mile east and west and one mile north of the fire. At 2124 John West was called and informed of the fire and evacuation. He arrived at the fire department at 2145, and at 2151 advised Net Control to have someone call the Red Cross and ask them to set up a shelter for the

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evacuees. In a coordinated effort, Gordon LaVere, K8ZIS, was asked to start a computer database to list those who checked in at the shelter.

The fire chief wanted to replace the tired firefighters with fresh or rested people; but few were available, and it was taking them 20 minutes to put on their gear, get into a truck and be transported down the crowded road to the fire. Many firefighters went through five or six tanks of air before they could be relieved.

Meanwhile, the triage physician had moved the triage area to the Flint Township Fire Department because the physician wanted *everyone* who had been in the area and exposed to the fumes to be checked. It wasn't long before it was reported that about a dozen firefighters were being sent to the local hospitals with breathing difficulties and/or chest pains.

The fire chiefs from the different departments were anxious to know the condition of their firefighters, so other Amateurs were sent to the emergency rooms of four of the area hospitals and one was sent to the fire station to further assist there.

A health and welfare net was then set up on the secondary ARES repeater on 147.100 with Donna LaVere, KA8-YTT, as NCS. The operators arrived before any of the firefighters were brought in, but they soon had three or four at each hospital. Unfortunately, the emergency room personnel were not made aware and thus were not prepared for the 80 or more who would soon be arriving.

A disaster had not been declared. While it appeared to the ARES that we were handling everything very well, we did not realize that the hospitals were not aware that *everyone* on the fire scene would go through triage, and half or more would be sent to the hospitals for observation (in fact, at this time the ARES was not aware of the physician's decision). Had a disaster been declared, an inter-hospital net would have been activated precluding the problem.

The National Weather Service had been checked periodically regarding wind direction and velocity. The prediction was for a wind shift from 180° to 270° soon, so the fire chief decided at about 2245 to make an intensive effort to knock down the remaining fire in the southeast corner.

After shifting men and equipment, more water was poured on and a large column of smoke rolled down the driveway and along the road to the east. WJRT-TV's remote truck was located on the road a little west of the driveway ready for a live shot to lead off the 11 p.m. news, as this obviously

was the top story. But only seven minutes before news time they had to vacate their position because of the cloud of smoke and fumes from the renewed firefighting effort.

Several of the original ARES operators needed to be relieved because they could not afford to miss work the next day, but all available operators who had been monitoring were already in service. Amateurs from the surrounding counties were monitoring the progress of the fire on the 147.260 repeater, and ECs from six nearby counties called into the fire net offering to send operators if they were needed.

Three Amateurs from nearby counties did come to assist. Information on the fire had been put on the 75M Michigan phone net, bringing offers of assistance from three neighboring states, also. Fortunately, no other assistance was needed; but it certainly was gratifying to know that others were willing to give up their sleep and gasoline to help.

As communication requirements

... Three Amateurs from nearby counties did come to assist ... [as did] offers of assistance from three neighboring states ...

had lessened and KA8ASN was feeling fatigued, he soon requested permission to secure his position and return home. By the time he got to the triage area at the fire department, the effects of the fumes began to manifest themselves.

When he sat down to be checked out, "it felt like the chair was falling out from under me," he said, and he had trouble remembering his address. Like many of the firefighters, he was sent to the hospital for evaluation, then released after about five hours. He reported feeling extremely fatigued and with a headache the next day. Fortunately, a follow-up exam showed no lasting effects.

The fire coordinators released the ARES at about 0430, allowing those operators still working to secure.

KA8ASN had a bad day, then then the effects of the fumes wore off.

KA8OWR had a couple of bad days and had to go back to the hospital emergency room twice for check-ups. He does not seem to have suffered any lasting problems, however. I developed

a minor cough which hung on for several weeks. I thought I might also have suffered a slight memory loss, but everyone said that this was quite normal for me. Doug Tippet, N8ESW, who ordinarily would have served as net control, was one of the first firefighters on the scene, and also spent a few hours being evaluated in the hospital. Most ARES operators at the fire came later, after most of the fumes were gone, and had no problems.

About 30 Amateurs were involved in this fire, along with the 191 firefighters, many medical people and others. While this was not our largest fire or longest period of operation, in many ways it was a unique experience for us. Things went very well, but it has caused us to re-examine our current operating procedures.

Having the operator at a key location to also function as NCS made it difficult for him. Boom mike/headsets were to have been purchased for the radios at the fire, police and NWS locations, but they had not yet been in-

stalled. The police departments and ARES realized that they had almost no hazmat training and no gas masks or personal breathing apparatus available for the next time something like this happens. □

You know you are really hooked on Amateur Radio when you discover that your "Club Med" vacation stupidly falls on Field Day ... and Field Day finds you on the beach at Bimini, packing a low-band rig and a Honda generator ... surrounded by nice men in white coats helping you in a funny jacket.

— Western ARC, Cerritos, CA □

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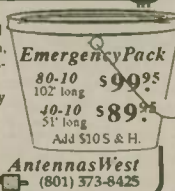
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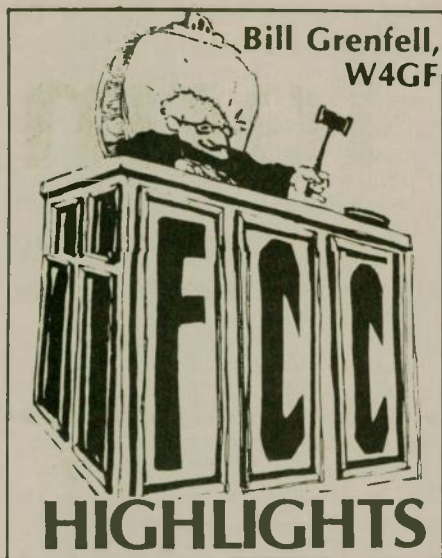
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A formal petition has been filed with the FCC requesting a class of Amateur Radio License which does not require proficiency in the International Morse Code.

Filed by WB9IVR for the Melbourne, FL, Space Coast Amateur Technical Group, this would be known as the Apprentice class and would provide for grandfathering and eventual elimination of the current Novice class license. The new license class would not offer any privileges below 30 MHz.

"The Space Coast proposal joins about 10 other personal radio petitions that the Commission has received."

The ARRL No Code Study Committee has recommended a no code license. (*W5YI Report* 03/01,04/01/89; *Westlink Report* 03/31/89; See *Why Morse Code?*, Jan '89 *QST*; W4RA; K1ZZ).

The ARRL reply comments filed with FCC in Docket 88-527 agreed with the proposed expansion of the repeater subband to encompass 51-54 MHz. The League responded to objections and concern about interference to operation in the 51.0-51.1 MHz DX window by stating that the expansion "... can be accommodated on a planned, coordinated basis within the 'Amateur Service' without relying on FCC regulatory restrictions." (*ARRL Letter*, 03/13/89; *Westlink Report*, 03/31/89).



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Contrary to earlier reports the FCC has not set the proposed allocation of 220-222 MHz to land mobile services for a hearing. The President of the Special Industrial Radio Service Association (AIRSA), which represents radio users in industries such as agriculture, petroleum, mining and construction told an audience at a recent Washington, DC mobile radio conference that SIRSA is taking a low profile on the [220-222 MHz] issue "... because I really don't want to do battle with the Amateurs."

When asked about availability of commercial equipment for 220-222 MHz, he replied "I don't know whether Motorola ... or any other manufacturers have any interest in producing a product line in only 2 MHz." (*W5YI Report*, 04/01/89).

"The FCC has denied the Petition for Rule Making (RM-6559) filed by Nicholas W. Sayer of Stockton, CA, requesting to 'Amend the Amateur Service Rules to Authorize Technician Class Operators to use Emission F1B' (Teleprinting) in segments of the 80, 40 and 15M bands." (*W5YI Report*, 04/01/89).

In reponse to an ARRL petition filed last September, the FCC has proposed, in Docket 89-65, to relocate beacon operation in the 2M and 70cm bands. The ARRL petition had requested the changes since present beacon frequencies are very close to frequencies used for Moonbounce and other weak-signal activities.

The Commission agreed with ARRL and "... followed the ARRL proposal to move beacon operation from 144.05/144.06 MHz to 144.275-144.300 MHz, and on 70cm from 432.07-432.08 MHz to 432.3-432.4 MHz." (*ARRL Letter*, 03/28/89).

"The ARRL had also requested the Commission to change the beacon subbands on 220 MHz ... But as expected, the Commission declined to propose the changes at this time, citing its decision to reallocate the bottom 2 MHz of the 220 band to the Land Mobile Service.

Comments on this proposal are due on or before June 13. (*ARRL Letter*, 03/28/89).

"The FCC commissioners have upheld their Private Radio Bureau's decision denying Anthony Sivo's (W2FJ) request to amend the Amateur rules to authorize SSB in the 30M band.

"The Commissioners agreed with the Bureau's conclusion that the need for SSB transmissions in the 30M band 'had not been established' and that there were already ample HF frequencies available for SSB emissions." (*ARRL Letter*, 03/28/89).

Concerning potential interference to Amateur operations in the 902-928, 2390-2450 and 5660-5925 MHz bands, the ARRL advises that: "... as far as the FCC is concerned, the Amateur Service, and the Amateur-Satellite Service where applicable, both have (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, 1989.

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	WS0I	KF0BV	N0KJD	KB0EFB
1	NV1Y	KC1OA	N1GKL	KA1TMF
2	WN2Z	KE2MA	N2JDT	KB2HLH
3	NU3H	KD3ME	N3GYP	KA3UJR
4	AB4NO	KM4QA	N4VHV	KC4JSH
5	AA5LA	KG5SW	N5ODB	KB5IWZ
6	AA6ND	KJ6RY	N6URD	KC6COG
7	WY7T	KF7SN	N7MMK	KB7HHI
8	WQ80	KE8XO	N8KNX	KB8GUB
9	WG9L	KE9PH	N9IHE	KB9CID
North Mariana Is.	AH0H	AH0AE	KH0AM	WH0AAL
Guam	KH2K	AH2CE	KH2DS	WH2AMA
Johnston Is.	AH3B	AH3AC	KH3AB	WH3AAC
Midway Is.		AH4AA	KH4AD	WH4AAF
Palmyra, Jarvis Is.	AH5A			
Hawaii		AH6JT	NH6ST	WH6CCJ
Kure Is.			KH7AA	
American Samoa	AH8C	AH8AD	KH8AA	WH8AAX
Wake Wilkes Peale	AH9A	AH9AD	KH9AD	WH9AAH
Alaska		AL7KY	NL7QW	WL7BUH
Virgin Is.	NP2E	KP2BO	NP2CX	WP2AGQ
Puerto Rico		KP4PY	WP4UY	WP4IHS

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FCC Highlights

(continued from page 8)

priority over the spread-spectrum systems despite our secondary status relative to a number of other services in these bands." (ARRL Letter, 03/28/89).

"Oral Argument by the ARRL before the FCC and possible open hearings brought by congressional pressure could result in a reversal of last summer's Commission decision to reallocate 220-222 MHz from Amateur to land mobile use.

"The FCC is expected to grant, if it has not already done so by the time you read this, an ARRL request to present oral arguments before the Commission in the League-initiated Petition for Reconsideration filed in the 1 1/4M transfer issue . . . Last Oct. 9 the ARRL filed what it publicly called 'a strongly worded petition [that] accuses the FCC of predetermining the outcome of the original proposal' as presented for public comment in Docket 87-14.

"... the Commission failed to address the arguments of the Amateur commenters; it extended the reply comment dates after the deadline for filing reply comments without advance notice; it accepted comments of UPS more than six months after the close of the already-extended comment dates because the record lacked support for the position the Commission had already chosen in this proceeding..." (Westlink Report, 03/17/89).

ARRL comment on the FCC's Docket 88-139 proposed rules rewrite objects to proposed Section 97.221 which reads: "The FCC may restrict operations as necessary to prevent harmful interference." ARRL comments: "... the Amateur Radio Service will under no circumstances tolerate the proposed elimination of

the procedural protection for Amateurs contained in the present Section 97.131 of the rules."

The League noted that the FCC's Field Operations Bureau has commenced a program imposing arbitrary operating restrictions on Amateurs who interfere with home electronic equipment. "The program imposes the burden of the interference resolution on the Amateur station, despite findings of no technical fault in some cases."

Other than the League, the most extensive comments were filed by a number of broadcasting groups. "The ARRL concluded that the rule changes proposed by the broadcast group are far too broad to prevent commercial exploitation of the Amateur Radio Service." (ARRL Letter, 03/13/89).

"... W2CC's request for extending the time for filing reply comments on the Part 97 Rewrite of the Amateur Radio Service Rules [until July 17] was denied by the FCC. He wanted additional time to respond to the ARRL's comments."

Besides noting that his petition was procedurally defective, "the Commission also said that 10 months had already passed since the proposal was issued and 'in the interest of administrative efficiency, it is desirable that the proceeding be moved forward.'" (W5YI Report, 03/15/89; ARRL Letter, 03/13/89).

END-OF-MONTH LICENSE TOTALS

January 1989		February 1989
47,221	Extra	47,500
99,164	Advanced	99,491
113,823	General	114,256
102,931	Technician	104,113
81,028	Novice	81,029
444,167	Totals	446,452

Amateur Radio demo

For the fourth year in a row, Walter Bastow, N4KVF, and a few others put on a demonstration of Amateur Radio in the Municipal Building in East Spencer, NC. The demonstration was held Saturday, Dec. 3, 1988, and pro-

vided visitors with a chance to send Christmas messages via the airwaves.

Domino's Pizza gave a free slice of pizza to anyone sending a message, and a whole pizza to the person who sent the most messages. The East Spencer Town Council was another supporter of this project.

Walt was assisted by his wife Suzanne, KB4QYP; John Nebosky, KB4HJO; and his XYL, who is awaiting her Novice call.

Walt encourages other Amateurs to try this too. "Clubs didn't want to help, so we do this ourselves," he said. Next year he hopes to set up a special event station too. □

Use your calculator

Do the arithmetic in the order given, then turn your calculator upside down and read the answer in the numbers.

- $31 \times 11 \times 11$ and get a small island.
- $3^9 + 35,495$ and get a description of married life.
- $5,016 \times 11 + 2,542$ and get unwelcome arrivals on the first of the month.
- $1,000 + 852.8667 \times 2$ and get the bottom line on your shoes.
- $851^2 - 143,667$ and find what a man does when he loses a winning ticket worth \$100,000.
- $0 - 1,234,567 + 6,589,945$ and find what a preacher does.
- $2,101 \times 18$ and get the name of a very good book.
- $60^2 - 96$ and get a gardening tool.
- $1,234 - 463$ and find out what you'll be after eating four gallons of ice cream.
- $23^5 - 1,118,998$ and find what a woman does about her age.
- $305,644 \div 43$ and get into hot water.
- $9,999 - 8,038 \times 3$ and find what the tide does after it flows.
- $73^3 + 9$ and get a honey of an answer.
- $127^3 - 96 + 4,618,283 - 1,347,862$ and find how people occupy their spare time. —Lee DeForest Radio Club □

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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
Arizona				Maryland			
June 3	Tucson	K7OPX (602) 886-7217	w/i OK	June 3	College Park	NF3I (301) 963-4008	
California				Massachusetts			
June 1	Modesto	W6XX (209) 883-2968	w/i OK	June 16	Holyoke	William C. Sample (413) 567-7301	w/i
June 3	Burbank	W6JEP (805) 948-8493	w/i OK	June 17	Melrose	NC1V (617) 665-6061	w/i
	Concord	WW6H (408) 255-9000	w/i	June 21	Cambridge	Nick Altenbernd (617) 437-0320	2-day p/r
	Cupertino	AE6Z (408) 243-8349; or K6VIP (408) 294-3575	w/i	Michigan			
	Modesto	W6XX (209) 883-2968	w/i OK	June 3	Saginaw	KO8M (517) 793-9636	w/i OK
	Van Nuys	W1WEX (818) 702-0246	p/r pref; ltd w/i	Minnesota			
June 4	Chico	W6YKU (916) 342-1180	p/r pref; w/i OK	June 10	Bloomington	Emery Mehl (612) 529-6638	
June 10	Camarillo	N6SR (805) 484-4461	p/r; w/i	June 17	Maplewood	Mary Ketzler (612) 426-4438	
	Los Altos Hills	KG6XF (408) 255-9000	w/i	Montana			
	Ridgecrest	WA6KZV (619) 375-7245	w/i OK	June 25	Libby	WF7X (406) 293-5607	w/i
	San Pedro	N6DYZ (213) 325-2965	p/r; ltd w/i	New Jersey			
June 15	Fountain Valley	N6ISY (714) 775-6095	p/r	June 5	Sayreville	K2FD (201) 442-9215	w/i
June 17	Irvine	KD6DA (213) 691-1514	p/r; ltd w/i	June 10	Cranford	N2XJ (201) 635-7686	w/i OK
	Porterville	KG6WG (209) 539-2429	w/i	June 16	Bellmawr	WA2VQG (609) 546-7710	w/i OK
June 18	Sunnyvale	W6NLG (408) 255-9000	w/i	New York			
June 21	Eureka	KB6FIW (707) 442-9245	p/r pref by 6/18	June 11	North Babylon	KA2RGI (516) 957-5726	w/i
June 24	Chula Vista and Escondido	(619) 465-EXAM	p/r by 6/14	June 14	Farmingdale	Bert Wengler (516) 752-1312	
	Eagle Rock	KB6RXE (818) 791-1779; or AA6HE (213) 256-2904	w/i	June 26	New York City	KD2IZ (212) 838-5995	
	Orinda	N6RPF (415) 254-8895	p/r by 6/22	Ohio			
June 29	Long Beach	KA6HOQ (714) 897-6331; or NF6X (213) 434-8278	w/i	June 10	Ravenna	KJ3O (216) 274-8240	p/r pref; w/i OK
Colorado				June 17	Barberton	KA8MPH (216) 882-6387	p/r pref; w/i OK
June 10	Denver	W0IJR (303) 366-9689	p/r pref	June 20	Tiffin	WK8C (419) 396-6496	p/r pref; ltd w/i
June 12	Boulder	N0BWS (303) 530-1872	w/i	Oregon			
June 17	Westminster	N0HNR (303) 451-1231; (303) 278-4280	p/r or w/i	June 3	Portland	Randy (503) 649-5066	w/i only
Florida				June 10	Eugene	KA7C (503) 688-7448	p/r pref
June 6	New Port Rchy.	AA4FG (813) 849-1224	w/i OK	June 17	Medford	KC7WO (503) 773-4687	p/r pref 15 days prior; ltd w/i
June 17	Melbourne	AA4NP (407) 768-1954; WB9IVR (407) 724-6183	w/i	Pennsylvania			
	W. Palm Beach	W4SS (407) 967-1477; KG4U (407) 582-7617	w/i	June 3	Pittsburgh	K3LIE (412) 563-2379	p/r; no w/i
Georgia				June 10	McKeesport	KQ3W (412) 466-5204	p/r; no w/i
June 10	Augusta	N4MWR (404) 863-9143	w/i	South Carolina			
June 17	Albany	K4XA (912) 883-7910	w/i	June 17	Columbia	N4WR (803) 345-3373	
Idaho				Texas			
June 10	Boise	W7JMH (208) 343-9153		June 4	Princeton	NW5W (214) 736-2397	w/i
Illinois				June 10	Lubbock	KG5BL (806) 794-8317	p/r; w/i
June 2	Springfield	Bill Bermal (217) 529-7730			Midland	KT5G (915) 694-9450	
June 10	Oak Forest	KA9HDN (312) 247-0650	w/i		San Antonio	NS5I (512) 681-0702	w/i
June 17	Quincy	Ron Rose (217) 224-9238		Virginia			
Indiana				June 3	Virginia Beach	KA4UNC (804) 340-7697	
June 3	Indianapolis	KA9H (317) 241-1272	p/r	Washington			
	South Bend	N19Y (219) 255-4455	w/i OK	June 28	Redmond	WR7V (206) 881-1088	w/i
June 4	New Castle	Peggy Coulter (317) 288-0481		West Virginia			
June 17	Columbus	Richard Shelton (317) 763-6090		June 3	Charleston	AC8K (304) 343-7251	w/i
	Franklin	NV9K (317) 736-6320	w/i	Wisconsin			
	New Albany	Fred Klink (812) 948-8436		June 3	Racine	NW9P (414) 658-8390	w/i
Kansas							
June 17	Topeka	NQ0S (913) 273-3328	w/i OK				

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Repeater fight

A Kansas repeater system is fighting for its very life — in a court of law. The Amateur Radio Advanced Technology Association, better known as ARATA, has filed suit against the city of Bel Aire, KS to force the city to honor a long-term lease for the club's repeater, which operates from city-controlled land.

In 1984 the club contracted with the city for a site atop the Bel Aire water tower. The lease is long term with an expiration date in the year 2000. All was well until early 1988 when the new mayor of Bel Aire unilaterally decided that the site contract between ARATA and Bel Aire was null, even though the city attorney and city council had approved it when signed in 1984.

Vague accusations were made against the club, including charges of a lack of proper insurance and the failure to pay electric bills. However, the terms of the written agreement say nothing about carrying insurance and a bill for electric power was never received, even though the club had a watt-hour meter installed so they could

monitor and pay for any electricity used.

Last summer ARATA board members met with the Bel Aire City Council during several of its scheduled meetings. The club representatives discussed the purpose of the organization, its repeater and site location. During one of the meetings, the club again offered to pay for any power used. To the surprise of the club, the city council sided with the new mayor and voted 3-2 to force the club to remove its repeater from the city site.

The club then secured legal council and responded officially to the city that it had a valid contract for the repeater site. The city escalated the situation by ordering that power be disconnected from the repeater, forcing it off the air.

Shortly thereafter, ARATA filed suit against Bel Aire, charging the city with breach of contract. The club also obtained a preliminary injunction that forced the city to reconnect power to the repeater pending the outcome of the case. The case was scheduled to go to trial in early April. —*Westlink Report* □

Antenna fund

A Canadian Amateur club has come to the aid of one who already won a tower case.

The Burlington ARC of Ontario has created a fund to help Ken Mangaroo, VE3NCM.

Two years ago, hostile neighbors took Ken to court to try to prevent him from erecting a 72 ft. tower on his property. Ken contacted the CRRL, hired a lawyer and eventually won the case. The victory, however, has left Ken still \$1,000 shy of recouping his expenses.

The Burlington club hopes an appeal to the hams of the world will help raise these moneys, because Ken's victory set an important Canadian legal precedent.

Donations may be sent to the *Ken Mangaroo Tower Fund Defense Fund*, care of the Burlington ARC, P.O. Box 836, Burlington, Ontario Canada LR7-3Y7. —*Westlink Report* □

Jamming halted in some countries

The following is a compilation of three articles that appeared in the Detroit Free Press on Dec. 1, 18 and 28, 1988. They were submitted by David Taillard, KC8GP.

In late November, 1988, the Kremlin shut down thousands of broadcast jamming devices, allowing *Radio Liberty* and *Radio Free Europe* to be heard clearly across the Soviet Union and most of Eastern Europe for the first time in 38 years of operation.

The Soviet action came so unexpectedly that radio engineers were only becoming aware of it as Secretary of State George Shultz said in a United States Information Agency broadcast

to Europe that radio jamming was one area where progress was still needed with the Soviets.

Since jamming is illegal under international agreements, Charles Z. Wick, US Information Agency director, said, "[This action is] another marker in the Soviet march toward trying to be an acceptable citizen of the world community as against the pariah that they have been."

Not long after this occurrence, authorities in Czechoslovakia and Bulgaria announced that they too would stop jamming. Poland stopped in early 1987 and Hungary and Romania a few years ago. □

W6AM remembered

After almost two years of preparatory work, things are getting into full swing in the effort by the Southern California Amateur community to create a Don Wallace Museum. The new museum will be located atop the Palos Verdes peninsula overlooking both the city of Los Angeles and the Pacific Ocean.

It should not be confused with the W6AM Memorial Station being constructed about 60 miles away in Palm-dale, CA. The Don Wallace Memorial Museum will be located on, or very close to, the site of W6AM's original Radio Ranch site on 30,000 square ft. of property donated by the developer under the California State Quimby Act.

At this time a goal of \$250,000 in fund raising has been set for the next 24 months.

Anyone interested in further information or pledging funds is invited to write to the Don Wallace Radio Ranch Foundation, 30930 Hawthorne Blvd., Rancho Palos Verdes, CA 90274. —*Westlink Report* □



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Buck shows you how to successfully interconnect your transceiver, computer and packet radio controller.

He includes wiring diagrams for popular transceivers and computers and tells you how to properly configure your computer and packet radio controller.

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Here's an actual print-out of Aimee from the MFJ Order Desk. She was digitized with the MFJ-1292 and the result was printed on a 9-pin Epson compatible printer. We reduced the size to fit the ad.



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SPECIAL EVENTS

Talk to the "Apple"

The Radio Club of Junior High School 22 in New York City will operate station WB2JKJ from 1100 to 2000 UTC on June 26 in recognition of the first day of summer vacation for the school children of the Big Apple.

Only 7.238 and 21.395 MHz will be used.

For an incredible QSL send your card to "The Crew at 22," P.O. Box 1052, New York, NY 10002. □

Church commemoration

The Nazarene Amateur Radio Fellowship will operate a special event station commemorating the twenty-second General Assembly of the Church of the Nazarene June 22 to 27 from the Indianapolis Convention Center and Hoosier Dome.

Calls will be WA0HPW/9 or NQ0B/9. Suggested frequencies will be 7.275, 14.305, 21.385 and 28.383.

For a special QSL, send QSL and SASE to K9HCT, 1130 Willowdale Ave., Elkhart, IN 46514. □

A little bubbly?

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

Saturday evening operation is from 7 to 11 p.m. EDST on 7235 and 14235 kHz; on Sunday from 11 a.m. and 3 p.m. EDST 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 inch x 11 inch QSL certificate will be available from: KO8O - WINO Weekend, 10418 Briar Hill, Kirtland, OH 44094. Send a legal size SASE. □

Chaverim convention

Chaverim International, an umbrella organization for many Chaverim groups formed to promote a closer relationship among Jewish Amateur Radio operators and their friends worldwide, have set June 2nd through 5th as their schedule for the 3rd international convention to be held at the Raleigh in the Catskill mountains, NY.

Included will be three meals a day, entertainment, use of facilities, a

cocktail party and dinner dance and participation in meetings. Guaranteed will be a weekend replete with camaraderie and fun.

The Chaverim movement was founded in 1973 by silent key, Hal Crystal, K2BYB, who lived in Fords, NJ until he met his tragic death in a plane crash. Besides encouraging friendship through Amateur Radio, Chaverim groups conduct Amateur Radio classes and hamfests, handle phone patch traffic on various nets, participate in parades, festivals, field day and emergency exercises and arrange social activities. Handi-hams have also been recipients of their support.

Interested individuals desiring to attend this convention and wanting full details, should contact Sonny Gutin, WB2DXB, 42 Arrowwood Court, Deptford, NJ 08096; or call 609/853-7889. □

Flood centennial

The Conemaugh Valley ARC will operate station WA3WGN on June 3 to commemorate the centennial of the flood of 1889 in Johnstown, PA.

Operation will be on the lower General phone bands of 20 and 40M and the Novice phone portion of the 10M band.

For a commemorative QSL, send a number 10 SASE to The Conemaugh Valley ARC, 194 Barron Ave., Johnstown, PA 15906. □

Shasta Spacecon '89

The Shasta Spacecon '89, a symposium for prospective satellite users in the Sierra Cascade region, will be held from 9:30 a.m. to 3 p.m. on June 17 in the Student Center at the College of

the Siskiyou in Weed, CA.

This meeting will focus wholly on the needs of the beginner — what it will take in the way of knowledge and equipment to "get on the bird."

The Student Center features a large dining area capable of seating about 140 people. Tables will be provided and to the rear of this area is a lounge with ample room for display of items for sale, a modest equipment display and computer tracking programs in action. There will be several speakers, one of whom will be Ross Forbes, WB6GFJ, president of Project OSCAR.

There will be no admission charge, but a box lunch will be provided for those paying for one in advance. Seats will be available on a first come, first served basis.

For details prospective attendees should send a SASE to Bob Dalleske, W6AMW, AMSAT Area Coordinator, P.O. Box 220, McCloud, CA 96057. □

Washington centennial

W7LA (Washington 7 Love America) will celebrate the Washington State Centennial on field day weekend, June 24 and 25.

Suggested frequencies are 25 up from the bottom of the General band — SSB and CW.

For a special QSL send a letter size SASE to KE7PB, Herb Rode, 90 Casey St., Richland, WA 99352. □

Centennial celebration

The East Pasco Amateur Society will operate a special events station, AB4LN, from June 9 to June 11 in celebration of the centennial of Dade City, FL.

Operations will begin daily at 10 a.m. Phone band operations will be 10 MHz up inside the General 10M Novice phone band. RTTY operations will be in accordance with the band plan.

Send your confirmation QSL and business size SASE for a certificate or a 9 x 11 inch SASE for an unfolded certificate to: EPARS Centennial, AB4LN, P.O. Box 942, Dade City, FL 34297-0942. □

MARAC National Convention

The Mobile Amateur Radio Awards Club National Convention will take place July 5 through 8 at the Kiva Inn in Abilene, TX. The cutoff date for convention registrations will be June 15th.

Some of the activities will be a tour of the Dyess AFB; a barbecue at the home of W5ILR, the convention coordinator; a Buffalo Gap Village tour; a Ball Ranch barbecue and western show

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and a convention banquet. A contest will be run for all convention participants prior to their arrival at the convention. Mobilers work as many other mobilers and fixed stations as possible from as many different counties as possible. The top three entrants will receive plaques for both the CW and SSB modes of communication.

For more information check with other members on the county hunter net frequency — 14.336 in the daytime and 3.865 at night — or contact Chuck Dobbins, Secretary, 1902 Mission Creek Circle, Houston, TX 77084; or leave a message on the answering machine at 713/579-7932. □

Old Canal Days

The Joliet ARS will operate special event station W9OFR, June 17 and 18 at The Old Canal Days from 1400Z to 2200Z.

Phone frequencies will be 7265, 14265, 21365, 28365 and 146.52 MHz FM.

For a certificate, send a #10 SASE to W9RCJ, 317 E. 2nd St., Lockport, IL 60441. □

Balmoral Castle

From 1000 GMT to 2300 GMT on Saturday, June 24, to 1000 GMT to 1600 GMT Sunday, June 25, the Scottish Tourist Board Radio Amateur Expedition Group will operate special event station GB2RBC (Royal Balmoral Castle) from the castle in Crathie, Aberdeenshire. Stations will be set up in the stable block attached to the castle.

The castle and the large estate (50,000 acres) is owned by Her Majesty, The Queen. Royal permission has been obtained to operate.

Frequencies will be 3.7-7.065-14.140 and 14.240-21.250 and 28.400/600 plus or minus QRM. Modes will be CW (+ 10 kHz on all bands when used) and RTTY (21.090-14.085 when used).

For information on QSLs write to the Scottish Tourist Board Radio Amateur Expedition Group, P.O. Box 59, Hamilton, Scotland, ML3 6QB. □

Lightship Portsmouth

The Portsmouth ARC will operate station W4POX from the *Lightship Portsmouth* at the Portsmouth Seawall Festival June 3 through 5 starting at 1400Z. Frequencies will be around 7230, 14290 and 21290 MHz.

The *Portsmouth Lightship* was built in 1915 and retired from duty in 1964. The ship has been turned into a museum, exhibiting artifacts relating to lightship service, including photo-

graphs, uniforms and Coast Guard equipment.

For a special commemorative QSL, send your card and SASE to W4POX, 2836 Greenwood Rd., Chesapeake, VA 23321. For a QSL and a large commemorative certificate, send your card and 9×12 inch envelope with two units of first class postage. □

Englewood ARA Week

Donald Aronson, mayor of Englewood, NJ, has proclaimed the week of June 18-24 to be Englewood ARA Week. A similar proclamation has been issued each year since 1961.

The proclamation states that the club is so honored because it has placed first in its transmitter category throughout the United States and Canada during the field day exercises in 24 of the last 26 years and the club's results in the 1972 field day exercises surpassed all previous records since the start of field day activities in 1933.

This year the club will be participating in its 30th consecutive field day exercises. □

Amoco anniversary

The Amoco ARC will operate special event station W9GT from 1300Z, June 17, until 0100Z, June 18, to commemorate the 100th anniversary of the incorporation of Amoco Corporation (formerly Standard Oil Company of Indiana).

Operation will be on phone, CW and packet 80-10M and VHF.

For a special QSL send a SASE to Amoco ARC, Mail Code 0802, 200 E. Randolph Dr., Chicago, IL 60601. □

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Maxim Memorial Award

Now is the time to find that special young Amateur who is setting a fine example of public service, education and goodwill through his or her Amateur Radio efforts.

The Hiram Percy Maxim Memorial Award is given annually to the licensed radio Amateur under the age of 21 whose accomplishments and contributions are of the most exemplary nature within the framework of Amateur Radio activities, including, but not limited to, the following: Participation or leadership in organized affairs at the local or national level, technical achievement, operating record, recruitment and training of new Amateurs and public relations activities.

If you know of a deserving individual, please notify your Section Manager as soon as possible (SMs submit all nominations). Supporting information and endorsements by ARRL affiliated clubs will be reviewed by the award panel.

The winner will receive a cash award of \$1000, a suitably engraved plaque and travel and accommodation expenses to enable attendance at an ARRL convention at which formal presentation will be made.

The Hiram Percy Maxim Memorial Award is intended to provide a tangible reward to those deserving young Amateurs who contribute their time, skills and energies daily through their commitment to Amateur Radio.

Nominations must be received at HQ prior to June 12. There is no limit to the number of nominations that may be submitted, and the winner will be reported in an upcoming issue of *QST*. — ARRL Letter □

Short bursts

A new dial up voice space news service has just been placed on line. Called SPACHL, the Space Activities Hot Line carries the very latest news on Amateur Radio satellite operations, related radio nets and general world space activities.

The five minute recorded announcement carries details of times and frequencies. It might be a good idea to record the bulletin since it goes by pretty fast.

The number to call is 914/986-3875. SPACHL will be available 24 hours per day. Bulletins will be updated frequently to insure you get the latest scoop on what's happening. — Six Meter Club of Chicago □

Field Day

(continued from page 1)

has to be familiar to everybody who'll operate, and there should be replacement rigs standing by, tuned for the next band change. If the band's worked out or going dead, this should be known by a manager with a "spotting receiver" who already knows how many signals per 100 kHz are on the next band.

Your preliminary field trial will be able to deal with things like intermod, lossy coax, weather protection, station confusion and equipment. Have earphones at hand — NEVER put two stations at the same table. Switchable power is required. CW ops (that blessed breed) should probably bring their own keyers.

Camps

A system that works well for managing all the things which should happen is having a manager for each station, for instance "CW Camp" and "Side-band Camp." The manager is responsible for everything from planning it to tearing it down. He must ensure that all shifts are manned. He collects logsheets each hour and thereby knows how many contacts per hour are being made (and about how many are required). He answers the bystanders' questions with courtesy and sees to the comfort of his crews.

There should be a socializing place away from the stations. A blackboard is useful for posting progress, operating schedules, bulletins and messages. There whereabouts of operators in the night needs to be worked out. All sleeping bags look alike at 2 a.m.

Support

There needs to be a group who can have wake up coffee for the poor wretched 2 a.m. shift. The unscheduled drive to town for coax is as necessary as operating. Wives and kids need to be welcomed, antennas need to be repaired and a photographer is good for morale. One important objective is to keep everyone doing their best by defusing excess urgency.

Planning

This is the big one because no matter how hard you try, if you don't do intelligent planning, you cannot expect to win over those who do. In my opinion planning ought to start in September.

Settle on a class and stick with it from year to year. Otherwise, how will you know if you're improving?

Plot last year's log on a map and see where you did a good job and where you missed. If you see a big "hole," for instance in 2 land, where you didn't make many contacts, better have a talk with your antenna man. Once we put up a rhombic on 75 and really blew a hole in their front ends on the East Coast. The point is, your failures one year are controllable the next.

Antennas are everything. Give up power before you compromise antenna performance. One of the biggest compromises is to limit yourself to the ones you buy in stores. Your mainstay will probably be a couple of commercial beams on towers, but to sweep out all the contacts, you'll need to deal with radiation angles and apertures beyond the scope of commercial equipment. Start progress on some quickly erectable antennas with the object of getting on the air in 60 seconds or less. Then the antenna guys put up the mainstays, followed by the specials, like a Bobtail Curtain on 40 or whatever.

You have to have an antenna man, and I mean one who really knows them. These people are usually living a little

in the fringe area, but their talents are essential. If you don't have one, you don't win.

Send the antenna crew on a quest for the site. An example would be close to a microwave tower. Those guys don't miss many good radio locations. Big trees are pretty important for the "two day specials," but you also must be able to access the place with reasonable ease.

Have an appreciation party for the high performers last June, and start committing them for next year. Effective regimentation should be turned into group fun throughout the year.

You should know your site by January and start promoting a field activity on that site for April. Involve your emergency people in all phases of planning.

Testing

Test your equipment at the play day. Test it for ruggedness, erection methods and performance. Don't forget to test the coax. Put 50W at 30MHz in and measure what comes out. You'll be surprised how bad some of your lines are! Mark the assembly positions of antenna elements and write it down if needed. Do not rely on one person's mind to have all this information. Could you find all the equipment in an emergency?

When you place higher than you really expected, it'll give you a closeness and club pride that's really rewarding. One of the original reasons for licensing Amateurs is to have a reservoir of people who can accomplish efficient communication in field or emergency conditions. When word gets out that your group is operating Field Day with serious intent, you'll be surprised at the people who will come out of the woodwork to operate with you. Fun breeds fun. Go for it!

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Twinkle, Twinkle...

*Twinkle, Twinkle Little Star,
How I wonder what you are,
Up above us in the sky,
Are you a Satellite, drifting by?*
— Bill Plimpton, W2IXH

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Sonoma mobile communications van

On Nov. 30, 1988 Chief Bill Rettle of the Sonoma (CA) Police Department and the Valley of the Moon ARC unveiled the city of Sonoma Mobile Communications van.

The van's debut to the public occurred in a demonstration of packet radio and Amateur television to the personnel of seven Sonoma Valley fire departments. The demonstration was given by Floyd Whitfield, K6KQJ and Kermit Parker, W6JFN.

According to the *Sonoma Index Tribune*, it took 22 months and hundreds of hours of volunteer time for the members of the club to install all of the equipment purchased by the city and donated by local businesses.

The van is packet radio equipped with two channels of high speed digital communications providing hard copy and video. It also has multiple voice channels and Amateur television. It contains an internal 750W 110VAC generator and a trailer with 6500W 110VAC generator, four flood lights on 65 ft. masts and has room for six operating positions.

Kermit is credited with being the main force behind the project for the club, and he pointed out that the unit is the only one in the county that can "communicate with virtually any public safety and fire fighting agency

in the state," the *Tribune* said.

The emergency services that will be provided by the van are the forest service, the Sonoma city police, medical and ambulance services, local fire, Red Cross, California Highway Patrol and telephone.

According to the *Tribune* the van, which came from the local school district, is the best equipped and most complete communications vehicle in



the country.

"We can send this van out to any kind of major local emergency and have complete communications with any and all agencies who might be needed," Chief Rettle told the *Tribune*. "The radio club did a fantastic job and all of the people in the valley will benefit." □

ARRL Net Directory

The 1989 *ARRL Net Directory* is hot off the presses. This *Directory* is not just a list of nets. It explains the National Traffic System, how to

organize and receive messages and how to originate traffic via packet radios.

The *ARRL Net Directory*, is available for \$1 postpaid from HQ. — *The ARRL Letter* □

Codeless license report

(continued from page 1)

sent League policy at this time. The Board of Directors is the policy-making body of the organization, and as such will determine whether the report, with or without modifications, will become League policy.

Anyone reading the report and wishing to have his or her views considered is urged to write the Director of their Division sometime prior to the July Board Meeting. □

General Motors survey

General Motors is conducting a survey of Amateur Radio use in medium and heavy duty trucks. If you operate your rig in one of these, please write and describe the bands you operate on, the power output and antenna location.

Send responses to: EMC Department, General Motors Proving Ground, 40-EMC, Milford, MI 48042.

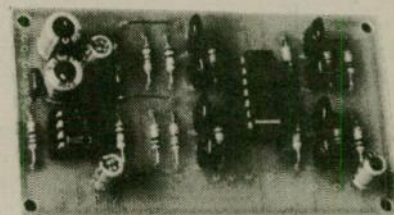
—*Westlink Report* □



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Your life story

(continued from page 3)

This was my first exposure to modern ham repeaters. I couldn't believe what I heard.

I made some profiles of people and families I heard on the repeaters and phone patches. I learned the names, addresses and phone numbers of the husbands' and wives' employers, their home addresses and phone numbers, the names and ages and the schools attended by their children. Also divulged were long lists of personal possessions, their vacation plans (with dates and places), the nights they would be out for dinner or a show, and even when they would return home. Some folks told who was left at home (elderly parent, child, baby-sitter), and where they left the spare key to the house. On and on it went.

Also heard discussions of what kind of medications people were taking, the kind of booze they drank, and the general status of marriages. "Love you a bunch," or the irate XYL who answered the phone patch call with, "You've been talking to Mary Jane!"

"How'd you know?"

"Never mind how I know."

"Can't we talk about this later?"

Is any of this the business of a stranger? Would you go on the local AM radio station and talk about these per-

sonal matters? It's little wonder that you hear so many hams remark, "Well, I don't talk on the repeater much, but I listen a lot." I should think so. It's incredible what you hear.

"Well, I'm just about to get on the plane. See you all in a week, KH6IO clear." Each time I hear something like that coming into a repeater from the airport, I cringe. Anyone listening now knows you have gone on a trip and won't be back for a week. I don't have to draw a picture for you to understand the implications of the wrong person having that information.

I make it a practice never to talk about a trip as I leave town. Anyone who really needs to know that you are leaving already knows. Don't tell the

Every city seems to have a bachelor who asks directions over the phone patch for every new YL he is dating. "It's apartment 212, upstairs on the right. My blue 280Z is parked just under my bedroom window." Most likely, W5LOVER is trying to impress everyone on the repeater that he has a new girlfriend (any girlfriend). I'm sure she would be upset if she realized he had just broadcast her location to all those listening. And now that touch tone decoders are common, it's easy to get

the phone number, too. Bad news.

Some things overheard recently on a local phone patch were: "If I go out before you get here, I'll leave the house open." And a guy talking on the patch to his YL around midnight, both agreeing that she will spend the night alone at her place. The next day the same guy was talking with her again on the patch, whole world. Wait until you've returned, and then get on the air to announce your triumphant return. Never mind that the first response may be, "Oh. You have been out of town?" Your dog probably missed you.

Then there's the phone patch. Wonderful gadget. Lots of fun. But don't turn it into a daytime soap opera with revelations of your personal life.

arranging for her to spend the night at his place. Wouldn't she be surprised to come home the next morning and find her apartment ransacked. I wouldn't.

Many times we use a repeater when direct communications would do the job. I make it a practice to use a portable transceiver on low-power simplex whenever I am giving final directions to my place. If you must talk about your personal life, at least limit the audience as much as you can. And don't do your fellow hams a disservice by talking to third parties about your friends' plans for evening outings or vacations.

Earlier, I mentioned Callbook listings and local ham directories. Think about listing a "mailing address" with the Callbook and the FCC that is different from your home address. It's not easy for some to do this, but it seems worthwhile.

You may think I'm being unrealistic and there is little left for you to talk about. Not really. Simply use common sense. Ask yourself, "Is this something I want a complete stranger to hear?"

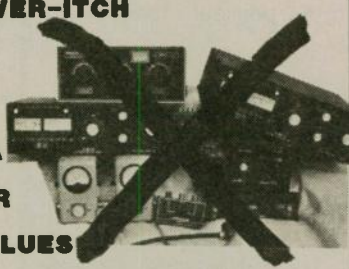
The concept of security is harder to sell than a 75-meter rhombic to an aeronautical mobile operator. A majority of customers for security products has already been victimized. Don't assume that it always happens to other

JANUARY 4, 1983

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people, or wait until something happens to you before you become conscious of your own security. Remember . . . our broadcasts don't have commercials. You'd be surprised what a crowd that can draw. Think before you punch that mike button. Someone may just be waiting for you to supply that last piece of the puzzle.

— ARNS Bulletin

Scanning World Band Radio

MATTHEW CLARKE

Are you bored while tuning the HF bands because there is no one on the air?

No action on the VHF/UHF frequencies either, so you might turn everything off and watch TV?

Well, consider adding a World Band Radio (150 kHz - 30,000 kHz) to your "shack."

You can hear long, medium and shortwave broadcasters, hurricane hunter aircraft, Coast Guard rescues, weather forecasts, time signals, various military services, marine radio telephone and so many other things.

People who listen to these broadcasts have many reasons for doing so. Personally, I like to keep up with what's going on around the world. Also, I've collected QSL cards from stations in different countries.

World-Band listening is another facet of the Amateur Radio hobby and may fit into your "shack" along with your HF and VHF/UHF equipment.

I'm not advocating that you turn off the Amateur rigs in favor of just listening to World-Band either. But to fill in the hours when the Amateur bands are inactive or you're tired of talking on the radio, try World-Band radio. A lot of people like it and maybe you will too!

—Ole Virginia Hams ARC, Manassas, VA.

Interesting facts department

ROBERT BEASLEY, K6BJH

Didju know that:

Commercial television eats up more of the radio spectrum than any other single entity? Each station gobbles up 6 MHz in order to crowd in all the information needed to make a video display (audio, video and sync pulses).

What with the VHF and UHF frequency allotments, this encompasses 414 MHz (not counting channel 71 through 82 which, I have been told, has been given over to cellular telephone).

It is my opinion that, considering the quality and content of present day television programming, the FCC could give the frequencies allotted to channels 2, 4, 5 and 6 to the radio Amateur fraternity and humanity would be no worse off for the experience (notice I left them channel 3 for the VCR inputs!). This would give us some more skip bands and maybe a band we could devote to repeat use (take some of the pressure off the 2M band, hi!).

If at first you do succeed — try to hide your astonishment.

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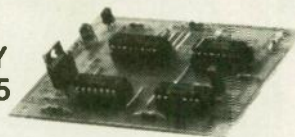
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Gratitude expressed

Following is an excerpt from a letter that Miguel Wasielewski, KB5FTU, a 13-year-old eighth grade student, received.

Dear Mr. Wasielewski:

This is in reference to your help during an impending disaster (Hurricane Gilbert) during Sep. 15, 16 and 17, 1988. Words cannot express the appreciation and gratitude that we hold for your services.

Please be informed that the Board of Trustees, upon our recommendation at the regular monthly meeting on Oct. 11, 1988, approved entering your name into the board minutes reflecting your assistance with radio communication. Therefore, on behalf of the Board of Trustees and the administration, please accept this letter as a token of appreciation for your help beyond the call of duty.

As a closing comment, allow me to say that it is gratifying to know there are still some people we can count on for help, even in times of peril.

Sincerely,
Manuel Gomez, Jr., Ed.D.
Superintendent of Schools (San Benito, TX)
—Information submitted by Fred Wasielewski, WA2VJL.

IMRA: a blessing to many

Mary Lou Hughes, KD8VX, of the Ohio unit became a licensed Amateur Radio operator in 1968. She has been involved in the ministry of radio communication at Mt. Notre Dame, Cincinnati, ever since.

Mary Lou's ministry is carried out through the International Mission Radio Association Promotion Committee (IMRA), of which she is chairperson.

IMRA was founded in Hudson, New Hampshire, in 1963 when 50 Catholic priests and brothers who were radio amateurs decided to band together and use their skills to help missionaries contact their families. In a few years they opened IMRA up to the laity and to missionaries of all denomina-

tions. Today the group comprises 800 hams scattered throughout 40 countries.

During its almost 25-year history, IMRA has been an important — sometimes the only — means of communication in times of disaster.

When an earthquake struck an area north of Lima, Peru in 1970 and killed 70,000 people, an American Jesuit IMRA member and some friends moved into a tent in a cow pasture with his radio equipment and alone directed the planes and helicopters that were bringing in emergency food and supplies.

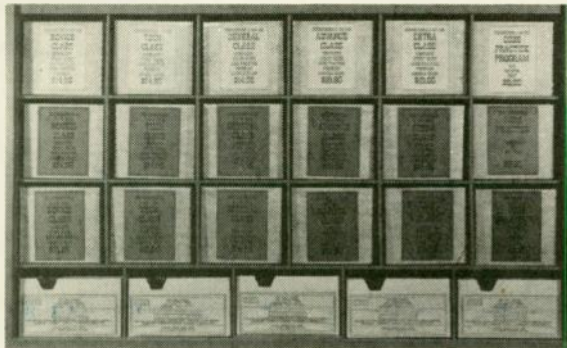
In 1972 an earthquake devastated Nicaragua, and the IMRA net handled 2,000 pieces of health and welfare traffic into and out of the United States. IMRA provided emergency communications services when hurricanes devastated Honduras in 1974 and the Dominican Republic in 1979.

In 1985, when Mexico City was shaken by an earthquake that sacrificed 7,000 lives and cut off regular communications for a week, two IMRA members there transmitted thousands of messages to and from the States.

In New York City another IMRA member put Catholic Relief Services headquarters in touch with their directors in Mexico City so that they could distribute a \$50,000 preliminary aid allotment.

As chairperson of IMRA, Mary Lou has been an instructor of new Amateur Radio operators and a resource person for setting up and exhibiting the work of the organization.

The work of Notre Dame Missions is always an important part of her



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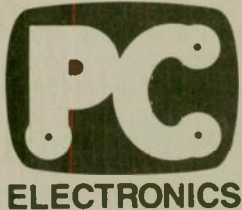
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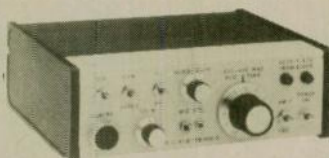
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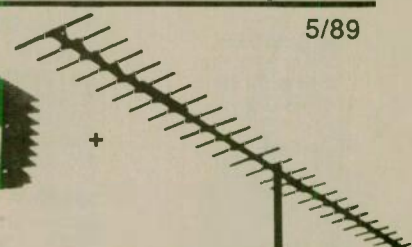


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displays. It was through an exhibit at a radio convention in Dayton, Ohio that a generous benefactor asked if he might assist Notre Dame by giving equipment for use where it might be most helpful.

Thus, when Dorothy Stang, on a home visit from Brazil, asked, "Do you have any radio equipment?" it was possible to answer "yes" and to arrange (with the help of local radio friends) to have it packaged and cleared for passage with her on her flight back to the Amazon.

Dorothy's pastor in Altamira was the intended operator of the equipment. He wrote back to the donors saying, "Today has returned Sister Dorothy and with her the radio transmitting equipment. It is my birthday — and also the Feast of the Annunciation . . ."

The pastor, Father Rodriguez, has since moved to the seminary in Belem, where, Mary Lou says, "Who knows — future missionaries may be taught to live the miracle begun by Samuel

Morse when he asked, 'What hath God wrought?'" — *Sr. Mary Louis Hughes, KD8VX; Forum — Congregational newsletter of the Sisters of Notre Dame de Namur* □

Eight day ordeal

Once again the Miami-based Spanish language Sociedad Internacional de Radio Aficionados achieved outstanding communications public service when Hurricane Joan slammed the Atlantic coast of Nicaragua with 125 mile-per-hour winds, bringing with it mudslides, flash floods and huge tidal waves.

SIRA activated its WB4ESB NCS on October 17, 1988, at 8:30 a.m. on 14.153 MHz, and remained on the air 24 hours a day through October 24, at 10:30 p.m.

Several countries participated during the eight day drama. Joan left more than 150 dead and hundreds of thousands homeless as it crossed the Caribbean. Its winds and rains caused

death and destruction in Venezuela, Columbia, Costa Rica, Nicaragua and El Salvador. Total losses are not evaluated, but it could reach billions. □

Train derailment

Amateurs were called for help when more than 70 cars of a freight train derailed near Bangor, AL, November 19th.

Evacuations were ordered after a car carrying sulphuric acid began leaking. No serious injuries were reported, but hundreds of residents had to leave their homes.

Amateurs in Blount county began assisting shortly after the accident, but later requested help when it became obvious the emergency would last all night.

Amateurs from Birmingham responded — some spent all night at shelters. — *Alabama Section News, ARRL* □

Amateur recognition

The American Red Cross has recognized 16 members of the West Alabama ARS for their efforts during a tornado that struck Tuscaloosa. The Amateurs were presented with awards in appreciation for the services they rendered in November.

Buck Medley, manager of the Tuscaloosa chapter of the Red Cross, made the presentations at a WAARS meeting in February. The Amateurs have already been presented with ARRL Public Service Awards by James Spann, WO4W, Section Manager. — *ARRL Alabama Section News* □

•••••

HAM LOAF RECIPE: Ingredients are one Amateur Radio operator, two trees and a hammock. Mix well, cover and allow to remain undisturbed for several hours. Garnish with one handi-talkie and a rubber ducky.

— *Antelope Valley ARC, CA* □

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Pocket Packet donated for use in space shuttle

Two representatives from Heath Company recently presented three HK-21 Pocket Packet TNCs to the NASA Johnson Space Center ARC in Houston for use in a proposed experiment on a future space shuttle flight.

Wayne Wilson, WB8TSO, product

The Pocket Packet allows the transmission and collection of computer data and information over radio frequencies. In this case the transmission will be to and from the shuttle orbiting in space where Amateur Radio band frequencies will be used.



Wayne Wilson (2nd from right) presents Gil Carmen, WA5NOM, Johnson Space Center ARC president, with the Heath HK-21 Pocket Packet TNC while club members Lou McFadin, W5DID (right), and Gerry Creager, N5JXS, look on.

line manager for Heath's Amateur Radio products, and Ron Linczer, manager of marketing communications, attended the Nov. 17, 1988, meeting of the Johnson Space Center ARC. At the meeting Wilson discussed the innovative products Heath has introduced over the last year and described the DXpedition that he and Heath Manager Denton Bramwell, K7OWJ, recently made to Taipei, Taiwan.

The primary purpose of the presentation was the donation of three Heath HK-21 Pocket Packet TNCs for use on the Shuttle Amateur Radio Experiment (SAREX) proposed for a flight in March 1990. If the project is approved, NASA will mount one of the Pocket Packets into the SAREX casing unit to meet the rigors of space travel and will modify it slightly for use in zero gravity.

"We enjoyed meeting the club members and were treated to an impressive tour of the center and the club's recently renovated ham shack," Ron said. "We at Heath are excited by the advances in space and see the exposure Amateur Radio receives through SAREX and OSCAR as a means of attracting new, young Amateurs." □

A lightning bolt can be as long as 20 miles. —Central Arkansas Radio Emergency Net

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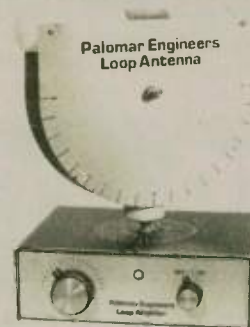


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Legal dipoles for a hostile world

MONTY WILSON, WB5NVM

Antenna regulations are a shame. Many of us don't ask that much; just a humble trap dipole or modified CB groundplane would do nicely. Restrictions against external antennas can take the form of deed covenants, laws or ordinances, and usually contain that phrase "external antennas."

A friend and I recently built a good antenna system at his house in the San Diego area. His town prohibits external antennas, so he decided to put dipoles in his attic. That's internal to the house, as far as outsiders are concerned. I had worked several people who said they were on attic dipoles, but never considered the advantages until my friend and I began our project.

Many dipole systems are already at roof level. The loss caused by moving into the attic is small. In the attic, you don't have the aging effects of weather. There are plenty of fixed objects to tie to, and your neighbors won't stare. My friend has a cedar shingle roof; I am interested to hear results from other types.

One tool you will need is a manually powered staple gun. This makes the

job much easier and faster. For radiators, you can now use smaller wire since physical strength against the wind is not necessary. Just use wire that will carry the current you intend to run. For my friend's 100W station we used 20 gauge wire. For a center insulator you can use anything that insulates; it does not need to be weather-proof.

The placement of the center insulators is determined by the size and shape of your house and by the bands you want. This house was just long enough to accommodate a 40M dipole, so we put the center insulator in the center of the house. We then soldered the radiators to the coax at the insulator and stapled the dipole in place.

As you staple wires up in your attic, remember that dipoles don't have to be perfectly straight. Also, you will be working in your attic again, so keep the wires out of the way. You can put in a staple at about every other rafter. When you staple the ends, leave at least a foot of wire hanging past the staples for tuning purposes. Then tune that dipole before going on to another.

We attached more than one dipole to each insulator, ending up with the seven bands from 80 through 10 on two insulators. His house was just wide enough for the 12M dipole at a

90° angle from the 40.

For the 80, we had to do some head scratching. His house was just long enough for the 40M dipole on the long side, so we strung the 80M radiators parallel to each other, as far apart as we could get them, with the insulator at one end of the house. We called this antenna the tuning fork, and we made it resonate in the 80M band. We probably sacrificed bandwidth vs. a dipole, and who knows what the radiation pattern is, but he is on the air.

We have a weekly schedule between San Diego and my Texas QTH on 20M RTTY. So far, his signal reports here have ranged from uncopiable to moderately strong. I understand these antennas have resulted in signal reports about par for dipoles on all bands.

If you want to have fun on the air, towers and kilowatts or not, antenna regulations are no reason to keep you off. Dipoles and other antennas are possible in your own home. Just be careful up there, and always check for TVI. Your neighbors can't come to you for help if they can't tell you are on the air.

So next time you drive through sunny California and wonder where all the hams are, fear not. They have probably been forced into the closet — or the attic. □

Who wants my opinion?

BOB SOMMER, NL7HT

There it was on page four of Worldradio's July 1988 issue. Here was the publisher inviting the whole world to express themselves within the pages of the magazine. Thoughts of a barn door being left open ran through my mind and I wondered who would be interested in my opinion anyway?

I know that in 1961 when I got my Novice license and callsign, WV6RRT, my homebrew 10W 40M crystal rig worked a far off and strange land called Nome, AK. Funny how things work out, as I live just south of Nome now. But I can assure you, back then, ABSOLUTELY NO ONE wanted my opinion.

In 1965 I was considered a DX station and operated with the callsign KM6CE from Midway Island. But even out there, no one wanted my opinion, they just wanted a QSL card.

As an enlisted man in the military, I started to form some opinions, but they didn't have anything to do with ham radio and you certainly wouldn't print what I thought of the military in a family magazine such as Worldradio.

Today I have lots of opinions, but most people still don't want to hear (please turn to page 29)

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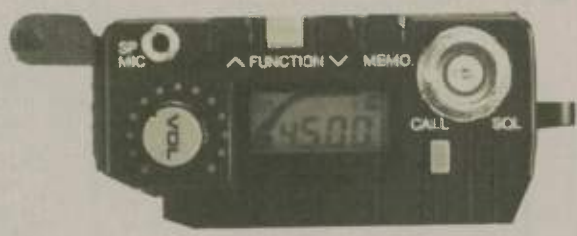
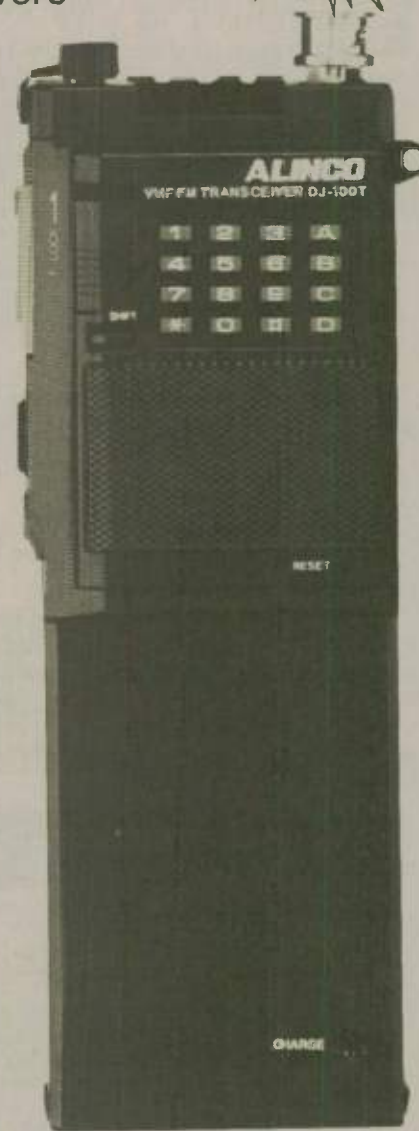
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Communications discipline

GEORGE H. KLAUS, W2CJN

The introduction of VHF transceivers in military aircraft during WWII gave a tremendous improvement in communications capabilities over the HF equipment that was used for many years before. The first VHF transceiver installed in carrier based naval aircraft was the WE-233, which had only four channels. The US Army had a similar situation with their SCR-522.

The availability of only four VHF channels for combat operations involving hundreds of aircraft with varied missions made it imperative to use the four channels efficiently and discreetly. Toward the end of WWII, newer VHF transceivers such as the AN/ARC-1 and the AN/ARC-3, which has 10 and 8 channels, became operational. This was a big improvement, but still warranted efficient and careful use of the frequencies.

Recognizing the need for more efficient use of the available frequencies, the US Navy developed a training course, "Communications Discipline," at their large Fleet Air Electronics Training Units (FAETUs). It was immediately made mandatory for all Naval Pilots and Electronics Officers that were attending the schools.

Communications Discipline was a fun course and quite popular, as it did not require any rigid prerequisites, such as math and physics and no formal study, homework or tests and only required common sense and a desire to be a better communicator.

ESTABLISH A HAM TESTING CENTER IN YOUR AREA

As of 1984, all ham radio license testing is handled by the amateur radio community itself. Teams of three Extra Class volunteer examiners (VE's) can now conduct all ham license upgrade examinations.

W5YI-VEC, the initial national VE Coordinator approved by the FCC, oversees the largest alternative (to the ARRL) testing program in the U.S. You can be a part of it by following the simple testing instructions provided.

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Let's get Amateur Radio growing again!

World traveler visits radio club



At a Nov. 1988 meeting of the Mashpee (MA) ARA, Diane J. Hoxmeier, KA1RKM, shows Robert H. Eddy, N1BQG, vice president, a model of a Micronesian canoe from the Marshall Islands. In 1976 Diane and her husband left Los Angeles in a 42 ft. sailing boat and spent a year visiting many of the well-known South Sea islands and the mainlands of New Zealand, Australia and Taiwan. (Photo courtesy of John F. Barrows, WIHCR.)

Here are some of the basic features of the FAETUs Communications Discipline course:

1. Check that you are on the right channel.
2. Before transmitting check briefly that the channel is clear and you are not interfering with another message.
3. Ask yourself "Is this transmission necessary?"
4. How can I state my message using

a minimum of words?

5. Am I speaking in a clear manner at the right speed for easy copy?

6. Avoid using meaningless expressions such as "I'll be doggone," "be that as it may," etc. Also don't laugh.

It is surprising how much more information can be passed along in a shorter time on a single channel if the above principles are practiced and used. The same principles may be readily applied to Amateur Radio, especially when using repeaters. A bit of Communications Discipline should certainly go a long way to train ourselves in the more efficient use of our crowded repeater channels.

Keeping the above Communications Disciplines in mind might allow an important emergency message to be handled on the repeater and certainly will improve our professional posture as communicators. —Larkfield ARC, Huntington, NY



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In space again soon!

An Amateur Radio station is scheduled to fly aboard the Space Shuttle in March 1990. Approval for the inclusion of the Space Shuttle Amateur Radio Experiment (SAREX) on the secondary payload list of flight STS 35 has been received from NASA Headquarters.

Ron Parise, WA4SIR, a payload Specialist for the Astro 1 payload to be carried on that flight will operate the station in the orbiting shuttle.

Representatives of ARRL and SAREX and AMSAT stated that they learned of the approval at a meeting with NASA officials held on March 14 at the Lyndon B. Johnson Space Center in Houston.

WA4SIR will communicate with Amateur operators worldwide using voice and video communications as well as packet radio. The orbit of the shuttle will allow Amateurs located between approximately 46 degrees North and 46 degrees South latitudes to communicate directly with the shuttle. The SAREX transmissions from the space shuttle will be such that a standard scanner radio can receive them.

The approval for SAREX operation is contingent on final approval by Johnson Space Center of the SAREX hardware and operations plan, as well as prioritization of secondary payloads for the STS 35 flight. — *The ARRL Letter* □

Exceptional Amateur goes to Seattle!

GORDON WEST, WB6NOA

I would like you all to get to know Gordon Gunnels, KB6BUN. Here in Southern California, we affectionately call him "Gordo" or simply "BUN." You see, this is what Gordo does all the time — he sits on his buns!

Gordo came to my Amateur class several years ago and wanted to do something with his confined life. He was severely stricken with multiple sclerosis, but had so much to offer everyone, he didn't want to let this get him down. He passed the class, is a General class operator, and offers the ham community something very special — his constant time.

He is on the air almost 24 hours a day, providing "traffic watch" for our local repeater group. He can auto-dial the Highway Patrol in seconds. He tape records incoming messages and handles the communications accurately and quickly. Best of all, he is an inspiration to everyone that hears his distinctive voice on the air.

"Has that guy been drinking?" is a comment sometimes heard on the repeater band. . . Absolutely not. While MS has slightly clouded his speech, Gordo's mind is sharp as a tack.

KB6BUN is now leaving us to go up to the Seattle area and Whidbey Island for more rest and recuperation. Gordo wants to get on the air and stay in

touch with the "locals," and possibly participate in a crossband link from VHF/UHF to HF to stay in touch with us down south. I would hope you would all give Gordo a very warm Seattle welcome, and feel the sense of security that we have down here knowing that he's always out there on the air, ready to handle any call for help.

Gordo will be a very special ham to anyone who comes in contact with him, and I hope you will all have a chance to stop in and say "Hi" — either in person or on the air. There will be hundreds of Southern California hams who will feel very good that the warmth of Seattle hams will keep Gordo going for many years to come. □

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PSC rules against Alabama hams

The Alabama Public Service Commission has ruled against the Alabama Repeater Council in a battle to obtain residential rates for telephone lines used on Amateur repeaters. ARC's president calls the vote "just the first round," and says the decision will be appealed.

On Nov. 10, 1988, the Commission's three members voted unanimously to leave South Central Bell telephone company's existing rate structure in effect, Carl Evans, the Commission's Chief Administrative Law Judge, said.

ARC representatives went before the Commission in late September to argue that South Central Bell should charge residential (instead of more costly business) rates for telephone lines tied to Amateur repeaters. Currently, SCB charges business rates for lines not in residences.

ARC maintained that, since federal law forbids Amateur frequencies from being used for business, Amateur repeater owners should not have to pay business rates.

"We're going to submit some evidence that wasn't submitted previously," Hop Hays, K4TQR, ARC President, said, referring to the appeal. "I

just want to get a clarification from them (the Commission)." He noted that telephone companies in other parts of the country, including Alabama, have decided to grant residential rates.

"Any final order can be appealed by submitting a petition for reconsideration," Judge Evans said. "Or, it can be appealed in court."

"We're extremely disappointed," James Spann, WO4W, Section Manager, said. "It's unfair to the Amateur Radio Community."

ARC mentions that Amateurs are deterred from placing their repeaters in more favorable locations because of the expense of business telephone lines.

This reduces the areas in Alabama that are covered by repeaters with phone patch capability.

ARC also disputes the PSC's finding that no reason exists to single out Amateurs from other public service-oriented agencies (that pay business rates). Other non-profit organizations can solicit funds to support their endeavors and members do not have to pay the organization's expenses out of their own pocket, Hays said.

"Amateurs cannot, under FCC regulations, solicit funds to help defray these expenses. This places an even greater burden on a person who has to pay for the right to render public service." □

American Indian AR Organization

This is directed to the attention of all Native American radio enthusiasts and others who have an interest in Native American culture and history.

Now forming is the "Little Big Horn Amateur Radio Organization," a group of American Indian Amateur Radio operators and hams of other ethnic backgrounds, who are banding together to build bridges of understanding, friendship and respect between all Native Americans and other people via Amateur Radio.

Membership in the LBH is not limited to Native Americans. Currently the LBH includes members from the Cherokee, Crow, Ojibway, Oneida, Sioux and Tlingit tribes, plus a sizable number of non-Indian Amateurs from the Atlantic to the Pacific Oceans.

Two code (CW) nets are conducted weekly for the purpose of exchanging news and interests. The nets convene each Sunday as follows:

General class operators and above

meet on 14.057 MHz at 2200 hours UTC. Code speed is kept around 15 words per minute.

For all Amateur class operators, including Novices and Technicians, the net meets on 21.150 MHz at 2230 hours UTC. This is a slow code speed net for easy copying. Listen for "CQ LBH," followed by a general announcement.

Net control stations are WB0L in Minneapolis and WA2DAC in Peru, NY. Visitors are welcome and encouraged to check into either net.

For more information about the LBH Organization, contact M. McDaniel, W6FEG, 940 Temple St., San Diego, CA 92106; or phone 619/222-3912. □

Heard on the party line

CHARLEY VORDERBERG, W0CCY

Short Shorts: Sign at the radio club door: "Enter and knock"... A live wire would be dead except for the connections... Save face — stop shooting it off... He's a ham of a few words, but he keeps repeating them... Don't wear your thoughts on your tongue... One-sided conversations originate with the invention of Amateur Radio.

—MMARC Sparks □

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We've forgotten the question!

GARY GABRICK, KB6TWP

The debate has begun to rage once again about code required versus no-code licensing, and some interesting opinions have been brought forth. With all the opinions flying back and forth, the original question has been lost in the heat of debate.

The real question is, "What can be done to bring new people into Amateur Radio?". The fact is that the average age of Amateur Radio license holders has been constantly rising, proving that young people are not coming into the folds as we would like.

The original answer was to enhance privileges for the Novice class license. That should have been enough. Today the new answer is to eliminate the Morse code requirement.

I guess the philosophy is that if we make it easy enough, eventually new people will be breaking down our doors to become hams. If we look at the world around us, easier doesn't necessarily mean better, nor does it assure success. If the ability to recruit new people was simply based on whether or not it was easy to attain membership, then many organizations wouldn't be around today. Take for example the Peace Corps, "The toughest job you'll ever love," or the Marine Corps, "we're looking for a few good men," and even the California Youth Conservation Corps, "Long hours, low pay, and hard work, and you'll love it." All of these groups are doing quite well today.

Now I'm not claiming that Amateur Radio should be marketed as an exclusive group or even advertised, "Amateur Radio, you gotta learn Morse Code, but it's worth it!". In fact I support a no-code license with VHF only privileges (very little CW up there anyway).

My point is, however, that Amateur Radio should be marketed. Novice Enhancement failed for the same reason that a no-code license will fail, A LACK OF ACTIVE RECRUITING! Simply put, the ARRL laid a lot of ink on paper praising Novice Enhancement, the W5YI Report talked about it, AMSAT lauded it, QCWA Journal covered it, and everyone sat back and waited for people to beat the proverbial path to our door trying to get into ham radio. Not one Amateur Radio organization bothered to put it in Boy's Life, Popular Electronics, or even Model Airplane Builder.

Young people today are the same as they always have been. My interests when I was 12 or 13 were in radio and electronics. Today it's satellites and computers. I don't think younger members of today's society are as in-

terested in worldwide communication on HF (as I was in 1955) as they would be in worldwide communication via an Amateur Radio satellite or getting their computer off the telephone and on the radio.

The bottom line is that Amateur Radio is one of the best kept secrets in the country, and it's up to all of us to change that. Until we do we face the continuing decline in our membership.

I want to encourage everybody who reads this article to write to your representative organizations (ARRL, AMSAT, QCWA, etc.) and encourage them to begin telling people (outside of

Who wants my opinion?

(continued from page 24)

them. However, when I saw your offer, I couldn't let it go by.

So here goes: Incentive licensing needs to be done away with. Return to the original three licenses and do away with the top two. Give license testing back to the FCC, where it should be.

Incentive licensing was formed by a few elite hams in the 1970s. They convinced the Amateur community and the FCC that this would promote the idea that hams should upgrade their license by bettering their skills as operators. Also, it must be remembered that during this time period, the Amateur ranks in the United States were shrinking. The argument here was that this would help halt the decline. Just how this was to be, I never fully understood, but they made it sound good at the time.

So now you have a small group of people with their own private set of frequencies for the Extra and Advanced class, where they could work DX without having to put up with the other riffraff.

The bottom line is that I lost a lot of

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the Amateur Radio community) about Amateur Radio today. I think young people would probably be pretty interested to find out that we have our own satellites and that they could communicate directly through them.

Tell a high school computer class about Packet Radio. The ARRL is its own biggest advertiser, write them and tell them to stop telling us about ham radio and tell the Boy Scouts (the West Coast ARC has a very successful program at the Newport Beach, CA Boy Scout Sea Base). Make sure your local candy store has material to hand out to people interested in looking into ham radio. It only has to be a sheet of paper listing the local clubs, contact people and where they might find classes. □

frequencies with only a General class license, and am still very unhappy about it.

Upgrade you say? For me to take the current license exam, I would have to take two days off from work, pay \$350 in airline travel and rent a car and hotel room. Sour grapes? I don't think so. I'm not complaining, just giving facts.

But I think it's all starting to backfire. It used to be quite an accomplishment to get an Extra or Advanced class license through an FCC office. Now everyone tells me how easy it is.

The Amateur ranks are increasing and the percentage of Extra and Advanced class hams are higher now than they have ever been, and the trend is continuing. Maybe incentive licensing really does work, or maybe it is just easier. It sure has moved many hams into the "other" portion of the band, much to my relief. Now when I hear the old elite group complaining about how crowded "their end" is getting, and how the new hams all sound like lids, I chuckle and think, just desserts.

Actually, if the truth be known, I'm rather proud of my general license. I know I got DXCC SSB and MIXED the hard way. I earned it.

There you have it. Opinions are like antennas. Most all hams have at least one. Good or bad, I have many antennas, but rarely can I give one away. Besides, I'm not real sure I really want to. I don't need the abuse of someone telling me I have a short in my coax. □

HF FLEAS: West Virginia University Agriculture and Forestry Experiment Station researchers have discovered that fleas communicate with each other by high frequency sound signals.



She's on her way

One day, a year ago, my dad bet me a \$50 bill that I couldn't pass the Amateur Radio Novice test on my first try. Well, on April 2, one month after the bet, dad said "Goodbye" to his \$50 bill as members of the Indiana County

ARC certified that I had passed my test.

In May 1988, incidentally the month of my ninth birthday, I received my license as the youngest Amateur Radio operator in Indiana County, PA. Throughout this past year, my call sign, KA3TBQ, has been heard in Honduras, England, Canada, Argentina and across the United States.

I share a radio shack with my father, WB3FXN, and mother, KA3ADE. Even though both of my parents have helped me in Amateur activities, it is my dad who has aroused my interest in DX work. Now we strive to see who can make the most contacts. Don't tell



Dad, but I'm winning. Occasionally, I work on the VHF frequencies. Here I gab with a lot of Dad's friends.

I'll be listening for a call from a lot of you. Hopefully, this summer, I'll have time to upgrade my license.

NANCY ZAGURSKIE, KA3TBQ
Homer City, PA

No-code rebuttal

The May 1989 issue of Worldradio contained a letter advocating no-code Amateur Radio licensing as a means to increase the Amateur population and form a mightier lobby against further frequency losses.

Using that logic, the writers of that letter no doubt can cite the social gains derived from the US population increase of more than 100 million during the past half-century.

We now graduate students who cannot read, write or apply simple arithmetic. Yet they are certified as proficient.

We license and re-license drivers who repeatedly pose mortal threats to those in their paths. Yet they are certified as proficient.

We print election ballots and other crucial documents in foreign tongues for those unwilling to learn the language-base of our laws and social structure. Yet they are certified as qualified citizens.

Now, in this age of "I wanna, gimme," we are told that no-code licensing will improve Amateur Radio by certifying as proficient those who lack the willingness and self-discipline to learn the Morse code.

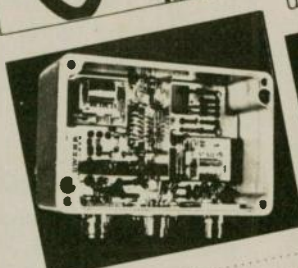
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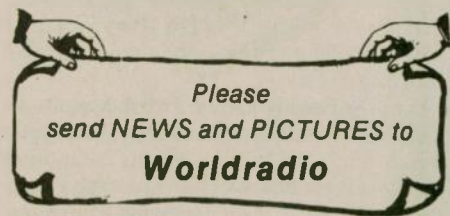
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HANDI-HAMS

JOHN L. SHOOK, N8IUM

In 1979, while working as a mechanical engineer, I started experiencing all types of bizarre reactions from exposure to industrial chemicals. In 1981 everything came crashing down, and I was finally diagnosed as having a disease called Chemically-induced Immune System Disregulation. Patients with this disease have been referred to as "allergic to the 20th century."

The symptoms of the disease include severe systemic reactions within seconds of exposure to all chemicals, synthetics, newsprint, books, magazines, detergents, fabric softeners, many foods and all forms of pollution (auto exhaust, smoke, lawn chemicals, etc.).

As a result of these reactions, I have had to revert to the life of a recluse, living in one room which has been stripped of synthetics, and avoiding all exposure to the modern chemical world. The only other location providing relief is out in the clean open air, upwind of anybody or anything. Oxygen must be used while riding in vehicles in an attempt to slow the rate of reaction onset.

Being a real people person, the emptiness and the isolation were nearly unbearable and really took their toll. It was as if all the things I was ever able to do no longer meant anything. I was pushed into a one room prison in my own home, cordoned off from every person, every place and everything I needed for social and intellectual contact.

A friend of mine, KD8LC, who is an electrical engineer and Amateur Radio operator, suggested Amateur Radio as a means to beat the isolation.

I had great reservations about the fumes that the radio equipment would generate since I have had to use an isolation box for other items. He

assured me that this could be done if needed, and gave me some code practice tapes to get me started.

About this time I learned of an organization called the Courage HANDI-HAM System. They provide study materials and offer an equipment loan/rental program for beginning HANDI-HAM students, Novices and Technicians. They also assist in equipment adaptation for special handicap needs such as blind, mute or deaf operators and conduct one-week radio camps to assist those who must overcome major study and testing obstacles.

With their help and three weeks of study, I was ready for the Novice test and had arranged for a special outdoor Novice test exam session where I could avoid all the exposures that would make the testing process dangerous for me. The sun was shining on me that morning, and I passed with flying colors. The one-month wait for the license seemed like eternity, but it finally arrived.

HANDI-HAMS made arrangements for the use of a Ten-Tec Century 21 CW rig. In the meantime a new acquaintance, WB8AXI, put a 40M antenna up for me. So when the Ten-Tec arrived I was ready! The all-metal construction, heavy heatsink design and cool operation of the unit allowed me to use the rig without requiring any isolation.

With the help of many VECs, and the local HANDI-HAM volunteer (and ARRL Section Manager), WB8BGY, I have been able to arrange for two more successful outdoor licensing exam sessions. The last outdoor exam (General class) was taken under cover of a makeshift tarp lean-to in 35 degree rain at the home of WD8MPO. Al's ingenuity saved the day and I can't remember being as excited about passing any test in my whole life! Again, the HANDI-HAM group was there with a Yaesu FT-757GX phone rig with a massive heatsink design and cool odor-free

operation. It was like real freedom at last with the world at my fingertips.

Amateur Radio has changed my life! No longer do I need to suffer the isolation and emptiness as before. There are thousands of people out there in radio land just waiting to chat or discuss technical ideas. I have met people from all around the world, from all walks of life and all backgrounds. Their kindness and generosity can never be repaid. I can now talk to people who are able to do most of the things that I am unable to do. They are unwittingly keeping me *reconnected to the world!*

While it is unknown if I will ever make a complete recovery, I will be forever grateful to the Amateur Radio community and the Courage HANDI-HAM System for its assistance, generosity and dedication to helping those of us who are physically disadvantaged.

As a delightful side benefit, my wife Diane, KB8DLF, and 12-year-old son Eric, KB8DLH (General class by age 11), have joined the Amateur ranks. This has allowed us to develop a common interest and an extremely close bond that most families fail to develop even when there are no handicaps involved. Who could ask for more?
—Handi-Ham World □



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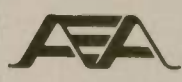
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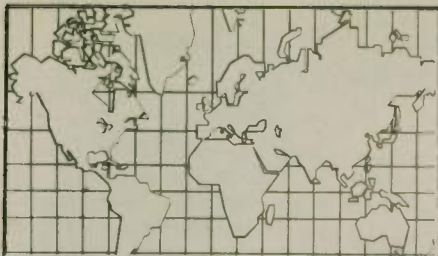
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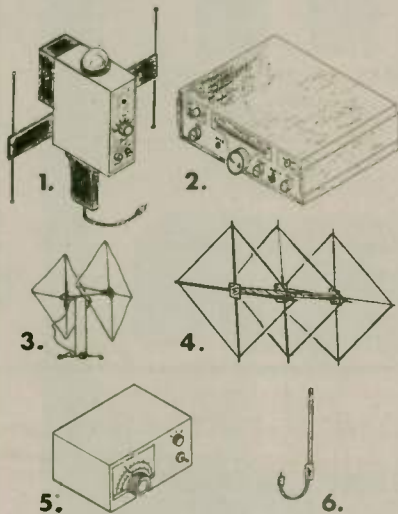
- 03-04 June DARC Field Day (CW)
- 17-18 June JARL All Asian DX Contest (SSB)
- 24-25 June ARRL Field Day
- 24-25 June RSGB Summer 1.8 MHz Contest (CW)

Ocean Island (T33)

Jim Smith, VK9NS, has been licensed by the government of Kiribati and has permission to visit Ocean Island (also known as Banaba Island). According to *The DX Bulletin* and *QRZ DX*, Jim has been assigned the call as T33JS.

This is another one of those short notice operations, as he was scheduled to begin on or about April 29. He was also on the agenda for the DX sessions

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at both Visalia and Dayton, which he will miss if he does show on the bands of T33JS.

There is a possibility that this one will count as another new one for DX-CC. If not, at least it will be a new prefix for WPX fanatics. The operation was scheduled for 10 days.

Turkey (TA)

When we decided to feature Turkey in this month's column, we were quite unaware of the amount of activity. For many years Amateur Radio was not recognized in that country, although there was activity on the bands. With it now recognized there is an increase and the need goes down. As for *The DX Bulletin's* Most Wanted List, Turkey is no longer on the list.

TA3D, appears to have been the most active and had been found on the low end of 20M CW near 14.014 MHz from 0030 to as late as 0515 UTC. He had also been worked on 21.013 MHz at 1830 UTC and on SSB near 28.535 MHz at 1600 UTC. A Minnesota DX-er reported him on RTTY at 1615 UTC on 28.095 UTC.

Also on RTTY was a station signing TA3B near the same frequency but on a different date. He was also on RTTY on 20M near 14.095 MHz at 2200 UTC. When not on RTTY this station was reported on CW near 14.010 MHz at 0300 UTC and 28.010 MHz at 1830 UTC.

TA5C has also been active with much of his time on 10M, both CW and SSB. Look for him between 1300 and 2000 UTC near 28.025 and 28.575 MHz. When not on 10M TA5C was worked on 14.023 MHz at 2030 UTC and 21.021 MHz at 1945 UTC.

TA4A made a few Canadians happy when they worked him on 7.008 MHz around 0100 UTC. Try the low end of 20M CW from 0100 UTC.

Twelve meter activity reports indicate a TA2AP between 24.954 and 24.979 MHz after 1430 UTC and a TA2B on 24.900 MHz at 1600 UTC.

Several other calls were found in the March reports, with many of them reported often. Frequency and time are in MHz and UTC.

TA1AC	28.330	1145
TA1AE	14.011	2300
TA1AZ	28.580	1230
TA2AF	14.012	1215
TA2AH	21.020	1845

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TA2BU	28.016	1615
TA2D	21.013	2045
TA2FL	14.028	0500
TA2J	28.028	1515
TA3AD	14.015	0430
TA3DR	14.013	0245
TA3F	21.345	1915
TA7A	14.009	2200
TA8D	14.011	0115



In Manama, Bahrain Ian Shepherd, G4LJF (left), visits the shack of Don Street, A92BE. We haven't seen any recent reports of Don's activity, but we worked him about a year ago on 15M SSB. (Photo courtesy of A92BE)

Georgia (UF6)

There is much activity from this Soviet republic, although most of it is usually on 20M CW. The following list of calls should give you an idea of the activity; frequency in MHz and time in UTC:

RF6FKF	1.836	2300
RF6FO	14.159	0415
RF6QAI	14.011	0445
UF6CX	14.007	0315
UF6DZ	14.034	0330
UF6FAL	7.003	0200
UF6FJ	14.212	2215
UF6VA	14.018	2315
UF6VAG	28.527	1315
UF7 FWM	14.203	1515
UF7QWW	14.020	0245

Falkland Islands (VP8)

VP8BWL has been very busy on the bands from the Falkland Islands. He has been reported on CW near 14.004 MHz around 0130 UTC, 21.029 MHz at 2245 UTC and 28.036 MHz at 2130 UTC. On SSB he was worked on 21.335 MHz at 1900 UTC and 28.518 MHz at 2230 UTC. *DX News-Sheet* says that VP8BWL, whose home call is G3NKQ, will return to England in June and will answer QSL requests at that time.

Other activity from the Falklands include VP8BGQ on 14.220 MHz at

0045 UTC and VP8ON on 28.514 MHz at 1700 UTC.

The Long Island DX Bulletin reports that several of the Falkland Islands Amateurs meet with their QSL manager on 28.403 MHz at 2000 UTC every Sunday. Such calls include VP8NJ, VP8PU, VP8QG, VP8QJ, VP8WA and VP8ZV.

South Georgia Islands (VP8)

VP8BUB can often be found near 14.250 MHz from 2300 UTC and 28.470 MHz from 1600 UTC. It has been reported that he works from lists taken on or near the frequency.

Inside DX reports that Steve checks

into the nets about once a week. Try 14.250 MHz on Thursdays at 2200 UTC or 28.470 MHz at 1700 UTC on Sundays.

South Sandwich Islands (VP8)

QRZ DX states that the calls VP8BUG through VP8BUJ were issued for a DXpedition to the South Sandwich Islands last fall that did not materialize. Unfortunately, the plans were not finalized in time for the Antarctic summer.

South Shetland Islands (VP8)

No reports of VP8 calls were seen this past period. However, HL5BDS,

on King George Island, has been very active. He has been in the lower reaches of 10 and 20M on CW from 2300 UTC. Try near 28.003 MHz between 2000 and 2400 UTC.

The Long Island DX Bulletin reports LU2ZC in the lower reaches, 35 kHz or so above the lower limit on 10, 15 and 20M, operating CW. We have also seen a report for a LU1ZC, who was worked by the Canadians on 14.252 MHz at 2215 UTC and 21.267 MHz at 0030 UTC.

Syria (YK)

Reported to be busy handing out CW contacts is YK1AO, often found

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IC-781

HF Equipment	List	Juns
IC-781 Super Deluxe HF Rig	\$5995 00	Call \$
IC-765 New, Loaded with Features	3,149 00	Call \$
IC-735 Gen Cvg Xcvr	1099 00	Call \$
IC-751A Gen Cvg Xcvr	1699 00	Call \$
IC-725 New Ultra-Compact Xcvr	949 00	Call \$
IC-575A 10m/6m Xcvr	1399 00	Call \$
Receivers		
IC-R7000 25-1300 + MHz Rcvr	1199 00	Call \$
IC-R71A 100 kHz-30 MHz Rcvr	999 00	Call \$
VHF		
IC-228A/H New 25/45w Mobiles	509/539	Call \$
IC-275A/H 50/100w All Mode Base	1299/1399	Call \$
IC-28A/H 25/45w, FM Mobiles	469/499	Call \$
IC-2GAT New 7w HT	429 95	Call \$
IC-90C Six Band Mobile	639 00	Call \$
UHF		
IC-475A/H 25/75w All Modes	1399/1599	Call \$
IC-48A FM Mobile 25w	509 00	Call \$
IC-4GAT New 6w HT	449 95	Call \$
IC-04AT FM HT	449 00	Call \$
IC-32AT Dual Band Handheld	629 95	Call \$
IC-3210 Dual Band Mobile	739 00	Call \$
220 MHz		
IC-375A All-Mode, 25w Base Sta	1399 00	Call \$
IC-38A 25w FM Xcvr	489 00	Call \$
IC-37A FM Mobile 25w	499 00	Call \$
1.2 GHz		
IC-12GAT Super HT	529 95	Call \$



TS-940S

HF Equipment	List	Juns
TS-940S/AT Gen Cvg Xcvr	\$2499 95	Call \$
TS-440S/AT Gen Cvg Xcvr	1449 95	Call \$
TS-140S Compact, Gen Cvg Xcvr	949 95	Call \$
TS-680S HF Plus 6m Xcvr	1149 95	Call \$
TL-922A HF Amp	1749 95	Call \$
Receivers		
R-5000 100 kHz-30 MHz	1049 95	Call \$
R-2000 150 kHz-30 MHz	799 95	Call \$
RZ-1 Compact Scanning Rcvr	599 95	Call \$
VHF		
TS-711A All Mode Base 25w	1059 95	Call \$
TR-751A All Mode Mobile 25w	669 95	Call \$
TM-231A Mobile 50w FM	459 95	Call \$
TH-215A, 2m HT Has It All	399 95	Call \$
TH-25AT 5w Pocket HT NEW	369 95	Call \$
TM-721A 2m/70cm, FM, Mobile	729 95	Call \$
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 \$
UHF		
TS-811A All Mode Base 25w	1,265 95	Call \$
TR-851A 25w SSB/FM	771 95	Call \$
TM-431A Compact FM 35w Mobile	469 95	Call \$
TH-45AT 5w Pocket HT NEW	389 95	Call \$
TH-55 AT 1.2 GHz HT	524 95	Call \$
TM-531A Compact 1.2 GHz Mobile	569 95	Call \$
220 MHz		
TM-3530A FM 220 MHz 25w	519 95	Call \$
TM-321A Compact 25w Mobile	469 95	Call \$
TH-315A Full Featured 2.5w HT	419 95	Call \$



FT-767GX

HF Equipment	List	Juns
FT-747 GX New Economical Performer	\$889 95	Call \$
FT-757 GX II Gen. Cvg Xcvr	1129 95	Call \$
FT-767 4 Band New	1929 00	Call \$
FL-7000 15m-160m Solid State Amp	1995 00	Call \$
Receivers		
FRG-8800 150 kHz - 30 MHz	759 95	Call \$
FRG-9600 60-905 MHz	699 95	Call \$
VHF		
FT-411 New 2m "Loaded" HT	399 95	Call \$
FT-212RH New 2m, 45w mobile	459 95	Call \$
FT-290R All Mode Portable	599 95	Call \$
FT-23 R/T/T Mini HT	344 95	Call \$
UHF		
FT-712RH, 70cm, 35w mobile	499 95	Call \$
VHF/UHF Full Duplex		
FT-736R, New All Mode, 2m/70cm	1749 95	Call \$
FEX-736-50 6m, 10w Module	259 95	Call \$
FEX-736-220 220 MHz, 25w Module	279 95	Call \$
FEX-736-1.2 1.2 GHz, 10w Module	539 95	Call \$
FT-690R MKII, 6m, All Mode, port.	569 95	Call \$
Dual Bander		
FT-4700RH, 2m/440 Mobile	889 00	Call \$
FT-470 Compact 2m/70cm Mobile	559 95	Call \$
220 MHz		
FT-312 RM, Mobile	TBA	Call \$
Repeaters		
FTR-2410 2m Repeaters	1269 95	Call \$
FTR-5410 70cm Repeaters	1289 95	Call \$

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FT-311 RM
220 Mobile, 25w
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Sale \$259.95

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around 0400 UTC near 14.018 MHz. His code speed is rather slow, so don't try to impress him with how fast you can send. If your code speed is slower than his, try 14.250 MHz for a SSB contact about an hour later.

DX Prediction

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.

JUNE 1989 WEST COAST

UTC	AFRI	ASIA	OCEA	EURO	SO AM
10	(25)	30	24	21	29
12	(28)	24	22	22	26
14	33	27	21	26	34
16	37	27	(20)	29	40
18	39	23	(20)	31	44
20	40	29	38	28	47
22	34	34	46	25	42
24	29	38	49	21	37
2	25	40	49	18	31
4	27	41	46	23	27
6	36	39	39	29	24
8	30	37	27	27	22

CENTRAL USA

UTC	AFRI	ASIA	OCEA	EURO	SO AM
8	29	25	26	21	22
10	33	21	24	21	24
12	40	24	22	26	30
14	44	28	(21)	29	37
16	48	28	(20)	32	42
18	49	24	(20)	32	46
20	40	31	37	29	47
22	33	34	45	27	43
24	29	34	48	22	35
2	25	33	48	19	30
4	27	31	46	23	26
6	36	30	38	27	24

EAST COAST

UTC	AFRI	ASIA	OCEA	EURO	SO AM
7	28	25	29	20	23
9	31	(22)	25	23	24
11	38	25	23	27	30
13	43	28	(21)	30	37
15	47	25	(20)	32	42
17	48	(20)	(20)	33	45
19	44	(23)	(25)	31	48
21	36	27	42	29	44
23	31	30	47	26	40
1	27	32	48	22	33
3	22	31	47	19	28
5	32	30	41	25	25

We also have a report for a YK1AA worked in Europe around 1000 UTC on 28.499 MHz, rather early for this side of the world.

The only other call we found was a reciprocal call YK/OE5GML, who was worked on 21.335 MHz. Look for this one after 1700 UTC.

Fiji Islands (3D2)

Several calls were reported active from Fiji recently, both SSB and CW. If your interest is SSB look for the following:

3D2AG	14.222 MHz	0630 UTC
3D2BW	14.180 MHz	0800 UTC
3D2DD	28.528 MHz	0130 UTC
3D2ER	14.234 MHz	1100 UTC
3D2EW	21.335 MHz	0745 UTC
3D2HO	14.182 MHz	0345 UTC
3D2PK	14.279 MHz	0900 UTC
3D2RP	14.204 MHz	0630 UTC

There has also been some activity on CW, such as the following:

3D2AF	14.019 MHz	1115 UTC
3D2AG	14.018 MHz	1030 UTC
3D2ER	14.028 MHz	0615 UTC
3D2EW	28.006 MHz	0015 UTC

We only saw a single report for 40M activity, that of 3D2EW, reported near 7.004 MHz at 1200 UTC on Feb. 27.

Algeria (7X)

7X3DA is a good one for 40M, and usually found near 7.006 MHz. During the month of March he was on around 0530 to 0700 UTC. With the sunrise coming earlier, I'm sure this will change. 7X3DA has also been found on 14.002 MHz at 0645 UTC and 28.020 MHz at 1900 UTC.

Another active station reported was 7X4AN, who had been reported on at least four bands. On CW he was on 3.503 MHz at 2330 UTC and 14.009 MHz at 2245 UTC on March 22; 21.025 MHz at 2245 UTC on March 11. He also works SSB as he has been found near 21.255 to 21.294 MHz from 2130 UTC and 28.505 MHz at 1700 UTC.

Other calls reported during this period include the following:

7X2AS	28.004 MHz	1700 UTC
7X2AX	28.016 MHz	1745 UTC
7X2CE	28.497 MHz	1730 UTC
7X2COA	28.400 MHz	1000 UTC

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2 " " " " " " " " " " " "	40 ft. "	" 39 "
2 " NO-TRAP DIPOLE - 160, 80, 40M	113 ft. long	\$ 79 "
2 " " " " " " " " " " " "	85 ft. "	" 62 "

9-BAND SPACE-SAVING DIPOLE - 160 thru 10M* .45ft. long \$ 93 **

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7X2DS	14.202 MHz	0500 UTC
7X5AX	28.015 MHz	1845 UTC
7X5VRK	28.447 MHz	0830 UTC

Kuwait (9K2)

At least five calls were reported on the bands from Kuwait during March. They are as follows (frequency in MHz and time in UTC):

9K2DT	14.247	1745
9K2DW	28.495	1215
9K2MJ	14.200	0300
9K2OT	14.169	2030
9K2SB	28.644	1615

The Long Island DX Bulletin reports that 9K2MJ will also go to another band upon request.

ET Net

Mac McDaniel, W3HCW, reports that due to the recent activity on the ET Net, one could have made DXCC in the last 30 days. Such prefixes that have visited on the net include TZ6, FR5, 6T2, TA4, 4S7 and many more.

Although we are not an advocate of nets, this particular net could be rewarding if some of those elusive DX-CC countries show up on frequency. The net usually meets between 2100 and 0200 UTC on 14.160 MHz.

On another subject Mac is wondering why 1Z9A, 1Z9B and 5R8JD contacts cannot be given DXCC credit. We can't answer for the 5R8JD contact, but the reason for the other two is the same as the reason your EP2DL contact doesn't count - Amateur Radio in those countries is not allowed.

Antique QSL department

Here is another one of those ZS6IF cards by Lambert Ledoux. We have shown this particular DXer's card in past issues as ZS6IF/9, DXpedition to Bechuanaland in 1960 (Feb. 1989) and ZS6IF/8, DXpedition to Basutoland in

SWAZILAND DXPEDITION

ZS6 IF/7

TO RADIO K6ICS CONFIRMING QSO AT 26 8-58
AT 1346 GMT. UR RST 599 QRG 14 Mcs
Ops ZS6IF LAMBERT LEDOUX
ZS6APQ FRANK CORRY

Tx 5763-807
Rx HRO SPECIAL *Mike Mike* 73 es DX
L-1 7079

1959 (Dec. 1988). Now our African traveler has gone to Swaziland to operate as ZS6IF/7. In this 1958 DX-pedition he was accompanied by Frank Corry, ZS6APQ.

Mike Gauthier, K6ICS, who provided us with this month's card, worked the DXpedition on 20M CW early one summer morning, California time.

QSL information

Bob Truhlar, W9LNU, a regular

contributor of QSL routes and information reports that W2SNM has the logs for 5H3JP, 9U5DP and 9U5OP for operations prior to 1970.

Barney Moffatt, W5CJZ, reports an error in one of our QSL routes in the December listing for 8Q7MT. We gave the listing as JA1DBQ, who returned the card to Barney stating that he was not the QSL manager and had received several requests for cards. We checked the W6GO/K6HHD List and found the route to be via J11DBQ. We had the wrong prefix, for which we apologize.

QSL routes

A35AR	-JL3UIX	EI7M	-EI5FT
A35CE	-DJ9ZB	EK0AH	-RA3AH
A35IC	-JL3UIX	EP2DL	-W3HCW
AH9AC	-I8YCP	FG5DX	(See Note 1)
AT0T	-W8XM	FG5EJ	-WB7RFA
AZ4F	-LU4FM	FG5R	-W7EJ
C45AP	-5B4SA	FG9DX	-WB7RFA
C48SA	-5B4SA	FK0AW	-F6BFH
C56/G3SXW	-G3SXW	FO5BI/P	-FD6HSI
C56/G3TXF	-G3TXF	FO/DK7UY	-DK7UY
CF11DX	-VE1CIT	FR0VD	-OH5VD
CN8FC	-WA4OMO	FT5XE	-F6ESH
CQ7BOH	-CT1BOH	FT5ZB	-F6ESH
CR3BM	-CT3BM	FY/F3OA	-F3OA
CR5CQK	-CT1CQK	GB8FX	-G3FXB
CT3EU	-G3PFS	HC1ATG	-K0WTM
CT3U	-G3PFS	HG7B	-HA0DU
DK6AS	-DJ8MT	HL9JG	-NJ2D
DL4MBE/H5	-DL3RK	HL9OB	-N4GNR
EA8AB	-EA5BS	HL9RH	-K13V
EA8AJ5	-Buro	HL9TF	-WB0DUL
ED4MM	-EA3MM	HT3A	-SM0KCR
ED6ESP	-Buro	IR4VEQ	-I4VEQ

IU6A	-IK6CWQ	TE5JS	-N2AU
J20RAD	-F6AJA	TE0UP	-KC7YN
J420	-SV2WT	TG9ASA	-JA2BDR
J6LSN	-KJ8G	TL8HW	-WB4LFM
JA70WD/JD1	-JH1AJT	TP40CE	(See Note 4)
JX7DFA	-LA2KD	TU2VE	-WB4UBS
JX0A	-LA5NM		(See Note 5)
JY9IU	-HB9AHA	TU4CO	-TU2KC
JY9SR	-W3FYT	TY9CR	-DJ9CR
K2SG/NP1	-N2AU		(See Note 6)
KC6SI	-JA7HMZ	TY9SI	-DJ6SI
KC6VW	-JA6BSM		(See Note 6)
L4H	-LU7HJM	TY88YL	-DJ6SI
L6D	-LU4DQ		(See Note 6)
LV3F	-LU6FAZ	UA0ZAJ	-UA9AO
LW1EZK	-LU6EF		(See Note 7)
N2EDF/NP1	-N2AU	UF6FJ	-UF6FFF
N200/SV5	-N200	V21AJ	-WB2TSL
OG3AA	-OH3AA	V31BB	-K3FEN
OR8TT	-ON7TK	V47RF	-N1FNV
P29VMS	-DL2GAC	V85AG	-JA9AG
P29VOX	-DF5UG	VP5V	(See Note 8)
P33ES	-5B4ES	VP5/W4NPX	-W4NPX
P40M	-N1CIX	VP5/WV5M	-WN5A
	(See Note 2)	VP8BWL	-G8NKQ
P40MA	-WJ7X	VP8BWT	-G4ZYR
P40P	-N1CIX	VP8HE	-K8IW
P40T	-KB2HZ	VQ9PN	-N4DQY
P40Z	-KB2HZ	VR6WU	-N29E
P40Z	(See Note 3)	V86/KB1CM	-KB1CM
PJ2J	-K1CPJ	VU2DOF	-JA4DOB
		VU2TTC	-W8XM
PJ9JT	-W1AX	VU7JX	-W2XP
PY2ZDL	-DL8NU	VU7NRO	-VU2APR
PY80C	-UW0CW	XL7SV	-VE7SV
RA3YG/		YB4ZBY	-YB4FNN
RD2N	-RA3YG	YS1OD	-WN5K
RD3K	-RA3YG	YZ3A	-YU3WE
RL9MM	-RB7GG	ZC4WK	-DL7FT
RS3X	-UZ3XW1	ZD8RP	-G0BNA
S77A	-JJ1TZK	ZF2DR	-K5RQ
S79F	-J13ERV	ZF2MJ	-K9DXO
S79M	-J13ERV	ZF2NM	-K1MD
SO7TN	-OK1TN	ZP0P	-ZP5JCY
SV0AA/5	-N200	ZS8M1	-ZS6PT
T32AF	-K7EHI	ZV4L	-PY4LJ
T33JS	-VK9NS	ZW2A	-PT2BW
T5YD	-F6AYA		(See Note 9)
TE1L	-TI2LTA	ZX1XC	-DK7UY

ZX5C	-PY5EG	5W1YL	-HB9CUY
3D2DD	-W4WET	6J2T	-XE2TCQ
3D2EW	-HB9CUY	601GG	-11MQP
4Z8UX	-4Z4UX	7S3HK	-SM3CER
5H0T	-K37W	8P6NX	-W0SA
5L9FD	-G3OCA	8Q7JJ	-JF2KOZ
5W1HP	-JRIFY5	8Q7MR	-DL3BAA
5W1HQ	-JL3UIX	9J2EF	-DJ0XL
5W1HS	-JL3UIX	9Q5DX	-KQ3S
5W1UY	-DK7UY	9Q5NW	-AL7EL

BY4RSA	-P.O. Box 538, Nanjing, People's Republic of CHINA
BY7KT	-P.O. Box 1285, Duhag, People's Republic of CHINA
EY9FAR	-P.O. Box 6093, Perm 614 000, USSR
EY9FWA	-P.O. Box 2538, Perm 614 070, USSR
FK0BJ	-Cannell Bernard, P.O. Box 8318, Noumea, NEW CALEDONIA
FO0CW/M	-French DX Foundation, P.O. Box 88, F-35170 Bruz, FRANCE
FO0EXV/M	-French DX Foundation, P.O. Box 88, F-35170 Bruz, FRANCE
HH2PJ	-P.O. Box 13146, Delmas, Port au Prince, HAITI
OE5GML/YK	-Manfred Grubauer, P.O. Box 573, Austrian UN Bln, Damascus, SYRIA
RB8M	-P.O. Box 59, Lisichansk, Ukraine 349 900, USSR
RH8AA/	
UH8Y	-P.O. Box 44, Ashkhabd 744 008, USSR
RH8AX/	
UH8Y	-P.O. Box 44, Ashkhabd 744 008, USSR
RV0YL	-P.O. Box 176, Kyzyl, Tuva, USSR
RW9AW	-P.O. Box 7056, Ufa 450 075, USSR
SU1EK	-P.O. Box 190, Maadi-Cairo, EGYPT
TE89R	-Radio Club de Costa Rica, P.O. Box 2412, San Jose, COSTA RICA
TF6MM	-P.O. Box 24, IS-780 Hoefn, ICELAND
UA0OH	-P.O. Box 3000, Ulan-Ude 670 024, USSR
UD7KWB	-P.O. Box 1, Martuni, NKAO 373 540, USSR
UH8AWA/	
UH8Y	-P.O. Box 44, Ashkhabd 744 008, USSR
UI8IAJ	-P.O. Box 71, Samarkand 703 000, Uzbek SSR USSR
UQ2GC	-P.O. Box 164, Riga 226 098, USSR

(please turn to page 56)

The 1989 Worldradio DXathon

ELIGIBILITY — All licensed Amateur Radio operators, worldwide.
DATES — Start: 0000 1 January, 1989. End: 2359 31 December, 1989.

Exceptions: No contacts made during the time frame of any DX Contest will be valid. This is to be a prestigious award program, made so by its difficulty.

BANDS — 80, 40, 20, 15, 10 meter bands, plus satellite/moonbounce frequencies.

MODES — Phone, CW, Digital (includes RTTY, AMTOR, packet), Visual (SSTV), and Satellite (includes moonbounce).

Five Bands/Five Modes equals DXathon.

CATEGORIES — There is only one category — Single Operator.

OBJECTIVE — Contact as many NATIONS on as many modes as possible. A NATION is defined as an entity with enough sovereignty to issue its own postage stamps.

VALID CONTACTS — A NATION may be worked but once, on each mode, regardless of the frequency band. This is not a five-band per mode contest.

SCORING — Final score will be the total number of NATIONS contacted on the various modes. Contact with your own NATION does not count. The highest possible score would be about 900.

SUBMISSIONS — Entries must be received by 1 February, 1990. No QSL cards need be submitted or received by the entrants. Send signed log extracts to:

WORLD RADIO
2120 - 28th Street

Sacramento, CA 95818 USA

Award winning logs will be published in Worldradio. Decisions of the DXathon committee will be final. The committee has the right to disqualify entries for violation of the letter or the spirit of the rules. By submitting an entry, the participant agrees to abide by the decision of the DXathon Committee.

AWARDS

World Champion — The World Champion will receive a trophy significant enough to honor the effort.

Gold, Silver and Bronze Medals will be awarded for the highest scores on each continent.

Certificates will be awarded for:
 A.—The highest score in each NATION.

B.—The highest score in each USA call area.

C.—The top single-band score in A. and B. above.

D.—Technician/Novice scores as warranted.

E.—High scoring 4 mode, 3 mode, 2 mode participants.

Nations with the highest participation (weighted vs. Radio Amateur population) will be honored.

In case of ties, duplicate awards will be made.

A certificate of participation will be awarded each "radio athlete."

It would be appreciated if monthly scores were sent in for publication.

RULE CHANGES — Rules may be modified over the years to reflect feedback from the participants. Please send copies of this page to your DX friends.



10-10 INTERNATIONAL News

Chuck Imsande, W6YLJ
10-10 19636

Pitcairn Island

During the recent 10-10 QSO Party, many 10-10ers were pleased to hear a new 10-10 number and country on the air making numerous contacts. VR6MW, Meralda Warren on Pitcairn Island, is the first 10-10 member from VR6-land. Meralda received her 10-10 number, #50434, in Dec. 1988 and has been active on 10M recently with her Yaesu FT-707.

Because the island depends on two electric power generators that usually run only six to eight hours per day, Meralda powers her transceiver by a 12-volt storage battery. The antenna consists of a 40 to 10M loaded dipole. Due to the recent propagation improvements on 10M, it has become the "band of choice" between the United States and Pitcairn of late.

Meralda is the sixth generation of Pitcairn descendants from the original *Bounty* mutineers who landed on the island back in 1790, after seizing the ship from Captain Bligh in April of 1789. Meralda is a full-time resident of Pitcairn although she has spent some time in the "outside world" pursuing further education, work experience and travel enrichment.

Back at home on the one mile by two

mile island, with its 50 current (Pitcairn, Oeno, Ducie and Henderson), but Pitcairn is the only one that is inhabited.

residents, Meralda is part of the Island Council, Treasurer of the Co-Op Store (the only store on the island) and helps out at the island school. She also does quite a bit of fishing with her father, Jacob, and brother, Jay; tends the garden with her mother, Mavis; helps to keep the family home in top-notch shape and still finds some time to spend with her new found love, Amateur Radio!

Meralda has had her license only about one year, but managed to score over 350 contacts during the Party and has had well over 1600 contacts in her Amateur Radio career.

Pitcairn Island is located in a rather remote part of the South Pacific about 3000 miles west of South America and east of New Zealand and about 3000 miles north of Antarctica. The Pitcairn Group consists of four islands

The island is primarily hilly terrain, having been originally formed by volcanic activity in the region. The soil is very fertile and the climate very moderate all year round, so gardening on Pitcairn is quite successful. The surrounding seas are abundant with fish of various species. The most obvious problem for the island is its isolation, with only two or three "scheduled" supply ships per year to bring mail and other needed supplies from the outside world.

Pitcairn Island today is becoming more and more dependent upon the technology and convenience of the 20th century. Everyday life on the island is still self-sufficient, but modern ideas and hardware are well accepted among most of the 50 inhabitants. There is no full-time medical doctor, but doctors are encouraged to spend a few months on the island as a combination holiday/practice when possible.

All transport to and from the island is by longboat, as there is no safe harbor. Visiting ships hold 2-5 miles off the island, and all shuttling of people and supplies takes place in the long-boats.

All fuel must be brought to the island in 55 gallon drums via the long-boats. 12-volt battery power is popular, with the batteries being

charged when the diesel generators are running. No off-the-air TV reception is possible in this part of the South Pacific, however, home video tapes are a popular form of entertainment.

The greatest source of income to the island itself is the worldwide sale of Pitcairn Island's stamps to collectors and dealers. Pitcairn has its own post office and cancels the stamps on the island. Personal income is derived from the sale of hand made curios, wood-carvings, paintings and woven baskets. The islanders also make various clothing items which are silk screen imprinted with *H.M.S. BOUNTY* and *Pitcairn Island* for sale to the shipping trade and to customers in other parts of the world by mail-order.

If you should be lucky enough to make contact with Meralda, you can send your QSL card to Dave Miller, NZ9E, 7462 W. Lawler Ave., Niles, IL 60648. Please include your SASE for return of your VR6MW card.

If you would like, you may write directly to Meralda at P.O. Box 27, Pitcairn Island, South Pacific. Remember, "scheduled" supply ships only stop at Pitcairn a few times a year so any answer from Meralda may be a while in coming.

Finally

Latest information from records manager Lee Pasewalk, WB6MGM, shows that 461 new members were accepted into 10-10 during the month of March. Of this total 52 were DX members. The highest number issued through March was 52424, issued to KA1THL.

As you can see not only has Lee been busy with all these new records, but each of the district managers have been busy accepting and checking applications and sending their reports of new members to Gerry Gross, WA6POZ, 10-10 treasurer. We all owe a "thank you" to these volunteers.

One more "thank you" to Dave Miller, NZ9E, 10-10 #39877, who furnished us with the information on VR6MW and Pitcairn Island.

If you are not a member of 10-10 and would like information on how you can receive your own 10-10 number, send me a "green stamp" (\$1) along with your address label (if you do not have an address label, it's OK) to 18130 Bromley St., Tarzana, CA 91356-1701. You will receive an information pack along with the latest copy of the official *10-10 International News*.

If you have forgotten your 10-10 number or who your district manager is and you need to renew your dues, I can send you that information also for a #10 SASE.

73 es cu next month.

ANTENNA ANALYSIS

The new MN program will analyze almost any antenna made of wire or tubing. Compute forward gain, F/B, beam width, sidelobes, current, impedance, SWR, near-fields, and far-fields, in free space or over realistically-modeled earth. Plot antenna radiation patterns on your graphics screen. MN can compute the interaction among several nearby antennas. The 5-1/4" MN disk contains over 100 files, including libraries of antenna and plot files, a file editor, and extensive documentation. MN is an enhanced, easy-to-use version of MININEC for IBM-PC. \$75 (\$90 CA & foreign).

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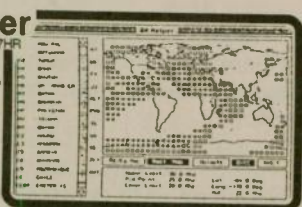
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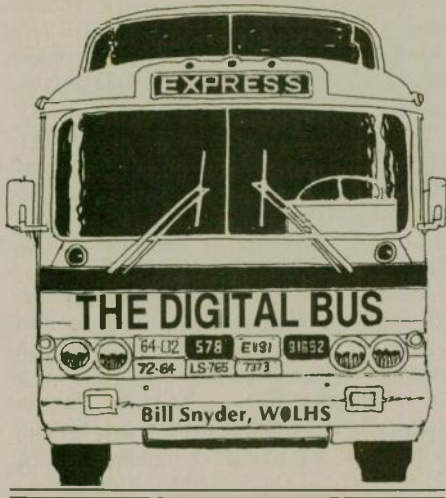
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See band openings on the map before they happen!





The sport of chasing DX on RTTY is turning into a bigger jungle every day. The "long call method" for snagging a DX station working simplex is becoming more prevalent with each rare station popping up on our bands. It seems to me, the rarer the DX station is, the longer the stateside operators call in an effort to catch him. Nobody wants to listen, they just blast away calling.

In response I have joined the "Don't let anyone have a chance to listen, just keep on calling" squadron of RTTY DXers. I've lost too many rare ones by making short calls and listening; now I am blasting away with many, many repetitions of my call sign. And, by golly, it works!

I'm a genuine DX HOG and I would like recognition as such. Won't someone give me a certificate spelling out my qualifications? There must be a registered organization for RTTY DX HOGGS (the double G should make it distinctive and thus trademarkable) somewhere out there in DX land that could produce certificates, plaques and banners for display in real DX Hog shacks. If so there are a bunch of greedy pigs out there in RTTY-land that I would like to nominate for membership.

Here are a few of the membership levels and qualifications I would like to see put into place:

1. Basic RTTY DX HOGG. When calling rare DX sends his call at least 20 times without listening. Then listens for two seconds and repeats the QRM (this is a two "G" HOGG).

2. Advanced DX HOGGG (a three-G critter). In addition to the call signs, prefaces his "de" call sign with the following:

A. Ten or more RYRYs as attention getters.

B. The called station's call letters at least twice, but preferably 10 times, before signing his own call.

3. Senior DX HOGGGG (a four-G

lousy operator). In addition to the RYs and the wanted station's call letters many times, he adds juicy morsels like name and QTH as an incentive to the foreign op to come back to him. Example: "CHARLES IN CLEVELAND, OHIO, LAND OF THE CLEVELAND INDIAN BASEBALL TEAM, LOOKING FOR A NEW COUNTRY. PSE KKKKKKKKKKKK."

4. Master DX HOGGGGG (five-G pain in the rump). In addition to ALL of the above, he tunes his California Kilowatt up right smack on the DX station's frequency and then calls CQ without listening to see if the frequency is in use. Or, as an alternative in his excitement to get the rare one, pushes the wrong button on his computer and sends a line of CQDX on the frequency.

So, fellow RTTY fans, if you see W0LHS in the Hog-piles, and I am doing any of the above, you'll know it's done on purpose. I have had to forgo calling three or four times and then listening. I find it's much more fun to contribute to the QRM, and it does get results. For example: after 45 minutes of calling TY9JC using short bursts of my call letters, I resorted to long strings to make it through the pile, and dammit, it worked! I've changed my ways!

More DX yarns

This spring has been fairly good for DX RTTY. I picked up BY9GA, VU7JX, J52US, UC1AWW, KH6JEB/KH7 and BV2B. When VU7JX appeared during the BARTG contest, I thought sure I would catch him without too much difficulty. However, my XYL buys season tickets to about every cultural event that appears in Fargo and this year's BARTG contest weekend was loaded with heavy-duty culture. When Evie has tickets she expects me to come up out

of the basement ham shack and accompany her in rain, wind and even blizzards. And, to keep the peace, I do. Without audible complaints, too.

BARTG weekend "cultural events" in Fargo featured an award-winning college band concert on Friday night, an "Afternoon with Jazz" plus a touring Broadway musical show on Saturday and the local Fargo-Moorhead Symphony on Sunday afternoon. Then, after the symphony concert, Evie insisted on eating at a local spaghetti joint because we had invited company to enjoy the music with us. It's hard as hell to contest with competition like that.

If you DXers will recall, J. Shrinivasan, VU2JX, was contesting that weekend from VU7JX in the Laccadives, a really rare and needed DX location. A good operator, JS worked split with his transmitting frequency parked 80 up from the bottom of each band. He was listening down 2 to 10. This choice of QRG put him right on the upper edge of the AMTOR sub-band.

Now, I think split operation is the way to go for DXpedition stations as it does give us pile-up denizens a fighting chance to hear who the rare one comes back to — not the guessing game in the simplex QRM pile. The long calling HOGGs are no problem; I don't care if they run three lines of RYs in the process, or list their "working conditions."

So, in between musical moments with the XYL, I did get a chance to hear JS working the contest. I joined the split frequency crowd pack and called "down" in the AMTOR spread. No luck.

After the symphony concert of Gustav Mahler music and the spaghetti feed, during which I ate hurriedly, I managed to arrive at rig-side with 20 minutes of contest time left. I swept the bands looking for the rare one. He was not on the 80 up from the band



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edge as previously, so I called a DX friend, W0ML, on the phone and asked if he had made the grade. "Sure," Marlowe said. "And JS is on 14085 working simplex right now. You'd better hurry, as the contest is nearly over."

I looked on the frequency Marlowe had mentioned. Nothing. So I tuned around and on 14082 there was the badly needed station calling QRZ. A short call and Bingo, JS comes back with, "Hello Bill. You are number 608." My day was saved! I felt like that basketball player who sunk the winning bucket in the last second of play by tossing the round ball from the mid-court line in desperation. My mood went from frustration to elation. Who says DXing on RTTY ain't fun!

JS was apparently changing frequency often during those last hours of the test. That idea might work to the DX station's advantage. When the pile-up gets too big, switch frequencies unannounced. Keep the HOGG pile guessing. It might be fun!

Update on Miniprop

In my notes on computer program Miniprop 3 in a recent issue, I mentioned that the computer program did not take into consideration absorption predictions in its calculations. Sheldon Shallon, W6EL, the author of the propagation program, writes: "The program assumes an undisturbed ionosphere (A=0 and K=0). It is only the excess absorption associated with solar flares and ionospheric storms that are not included in Miniprop. The reason for this is that I do not know of any reliable method for taking the A or K index into account. It is usually assumed that high A or K indices are bad, but this is not always the case."

During a recent week when the A index was as high as 175, long path propagation between W6 and ZS on 20M was superb. Also, propagation was very good on 6M to Central and South America. I do not know how to quantify this kind of performance."

Sour RTTY stuff

I recently watched a station check into a 20M MSO using the word "condom" in place of a call sign. After it signed off it did the same thing with "queer" and some other equally insulting words. Now, I don't think there

is any place for such goings on our ham bands. I called Bob Stanek, W0HAH, on the phone and we both watched that display of crude humor and unsportsmanlike conduct continue. T'ain't funny, kiddies.

Chain link antenna

Andy MacAllister, the AMSAT columnist in 73, questions an "antenna is..." "Eavesdropping" in a recent issue with this simple query: "A half wave chain link fence?" Gee, Andy, I've been wondering about it myself. How do you feed it, what is the radiation angle, and will any cows be electrocuted? Will a match box work on it?

EAVESDROPPINGS

"YOUR SIGNAL SOUNDS GREAT ON THIS END, TOO BAD I CAN'T READ IT...I CERTAINLY ENJOY BREAKING DX PILE-UPS WITH ONLY FIVE WATTS...HOW ABOUT MY WORKING A VE7 ON RTTY WITH ONLY 125 MILLI-WATTS IN THE SKYWIRE...MY WIFE'S SISTER ALSO HAS A SISTER WHO IS A HAM...MY ANTENNA AT THE MOMENT IS ONLY FOUR INCHES OFF THE GROUND...I'LL LET YOU WINDER DOWN AFTER ALL THIS LONG-WINDING...DO YOU THINK YOU HAVE PROBLEMS, I JUST FOUND OUT MY COMPUTER HAS ALZHIEMER'S DISEASE...YOU ARE RUNNING UPSIDE DOWN AND INVERTED - PLEASE CORRECT IT AND QUIT QRMING THE STATION I AM IN THE PROCESS OF WORKING...I WORK RTTY 101 PERCENT OF THE TIME...RTTY HAS ROOM FOR RAG TALKERS AND LOUD SQUAWKERS, EVEN CONTESTERS NOW AND THEN...IT'S GOING TO TAKE ME SOME TIME TO FIND OUT WHICH END IS UP ON THIS NEW CARTRIDGE RTTY GEAR...TIME TO QRT AND REFILL THE BODY WITH FOOD AND

FLUID...THAT FREAK IS FREEZING UP THE FREQ...DON'T USE GLASSES FOR ANYTHING, READING, DRIVING OR DRINKING...USING A MODEL 12 TELETYPE BUT HOPING TO MOVE UP TO A MODEL 33 WHICH IS IN THE BACK ROOM...YOUR SIGNAL IS SO STRONG HERE I THINK I WILL TURN OFF THE DEATH RAY AND RUN BAREFOOT."

Thanks to W0HAH, W7VFR, N7GGM/0, KD30 and all those on whom I eavesdropped during the month. Write me: Bill Snyder, 1514 So. 12th St., Fargo, ND 58103. My packet address is: W0LHS @ W0LHS.ND.U.S.A.N.A. 73 and DIT DIT. □

HANDI-HAM member in Senate

Congratulations to HANDI-HAM member David Cruz, KP4KN, who was elected to the Puerto Rico Senate.

David assumed his Senate seat on Jan. 3. He is the first disabled or blind person to serve as an elected public official in Puerto Rico. —Handi-Ham World □

Ham's best friend

Two Amateur operators lost in the Alps were found by a Saint Bernard equipped with the usual cask of brandy. The first ham to see the dog approach grasped his fellow ham by the arm: "Look! At last! Man's best friend!"

"Yea, and look," cried the other, "a dog is carrying it." —L'anse Creuse ARC, Utica, MI □

Days are short in winter and long in summer because cold contracts and heat expands — very simple. —Arrowhead RAC, Duluth, MN

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ALABAMA

Montgomery Amateur Radio Club (W4AP). Alabama State Trooper Dist. Office. Intersection of Coliseum Blvd. & Federal Dr. Randy Smith, N4LZK, (205) 832-4598. Meets 3rd Monday/monthly, 7:00 p.m.

ALASKA

Arctic Amateur Radio Club. Geophysical Institute West Ridge U of A, P.O. Box 81389, College, AK 99708. 1st Friday/monthly, 7:30 p.m.

ARIZONA

Arizona Amateur Radio Club. Meets: 2nd Thursday/monthly, 7:30 p.m., 1510 E. Flower St., Phoenix, AZ. Club info on W7WGWIR 147.88/147.28 Rptr.

Old Pueblo Radio Club. Meets: 2nd Wednesday/monthly, 7:30 p.m. Location: Franklin Bldg., University of Arizona. N.E. corner of 5th St. & Park.

Tucson Repeater Assoc. P.O. Box 40371, Tucson, AZ 85717-0371. 2nd Sat./monthly, 7:30 p.m., Pima Co. Communications Bldg., 2545 E. Ajo. Net Thurs. 7:30 p.m. 146.28/88 (146.22/82, 147.68/08, 147.70/10-PKT).

Western Arizona Radio Club. 2nd & 4th Thurs./monthly, 7:30 p.m., at the fire station, Hancock Rd., Bullhead City, AZ. Local net on 147.12 Tues. eve., 7 p.m. (local rptr.).

CALIFORNIA

Amador County Amateur Radio Club. P.O. Box 1094, Pine Grove, CA 95665. Senior Citizens Center, Jackson, CA. Meets: first Thursday/monthly, 7:30 p.m. WA6WYI Rptr., 146.835, 146.235. Net Tues. 7:30 p.m.

Associated Radio Amateurs of Long Beach, W6RO. P.O. Box 7493, Long Beach, CA 90807. Meets: 1st Friday/monthly, 7:30 p.m. Signal Hill Recreation Hall, 1708 E. Hill St., Signal Hill, CA.

Butte Amateur Radio Club. Meets: 3rd Thursday/monthly, 8 p.m., Chico Community Hosp. Conf. Center on Rio Lindo off Cohasset Rd. Net: 28.330 Wednesdays, 8:30 p.m. For info: 893-5208, KEBEP or KB6COH.

Caltrans RACES Club. Meets: 1st Mon./monthly, 8:30 a.m., State Transportation Bldg., 1120 N Street, Rm. 4123, Sacramento, CA. Info, Jim West, (916) 445-1757.

Citrus Belt Amateur Radio Club. 777 East Rialto Ave., San Bernardino, CA. P.O. Box 3788, Zip - 92413-3788. Meets: 1st Friday/monthly, 7:00 p.m.

Clairemont Repeater Assn. P.O. Box 7675, Huntington Beach, CA 92615. Meets for breakfast 3rd Sat., 8 a.m. odd months. W5YI Broadcast Sundays 2000. Net last Tuesday 2000. WB6HUR 145.220-1A PL.

Contra Costa Communications Club WD6EZR. P.O. Box 661, San Pablo, CA 94806. Meets 2nd Sunday at 9:00 a.m. Hickory Post Restaurant/Lucky Lanes. For info call Don K6DPQ, (415) 222-2449.

East Bay Amateur Radio Club. P.O. Box 1393, El Cerrito, CA 94530. Meets: 2nd Fri./monthly 8 p.m., Salvation Army, 4600 Appian Way, El Sobrante. Nets: Slow CW, Wed., 8 p.m. & SSB Net, Wed., 9 p.m., 21.395. Info, Bob Fields, KC6AOH, 415/237-3761.

Fullerton Radio Club, Inc. W6ULI. P.O. Box 545, Fullerton, CA 92632. Meets: 3rd Wed./monthly, 7:30 p.m., Sr. Citizens Center, 340 W. Common Wealth, Fullerton. Net: ea. Tues., 8 p.m. 147.495 simplex. Info, Gracie Hastings, N6FSL (714) 990-9203.

Gabilan Amateur Radio Club GARC. P.O. Box 2178, Gilroy, CA 95020-2178. Meets: South Valley Jr High School, 385 I.O.O.F. Ave., Gilroy. 2nd Thurs./monthly. 7:30 p.m. Talk-in 145.47/144.87.

Golden Empire Amateur Radio Society (VEC). P.O. Box 508, Chico, CA 95927. Club call W6RHC, Repeater 146.25/85. Meets: 3rd Friday/monthly, 8 p.m. at 1528 Esplanade, Room 110B, Chico.

Hilltop Amateur Mastertie System (HAMS). Informal mtgs. weekly/Mon. 5 p.m. at Shakey's Pizza, 12924 Washington Blvd., Mar Vista, CA. Meets 3rd Mon./monthly at Bicycle Shop Cafe, 12217 W. Wilshire Blvd., W. LA. Info, N6FD 213/823-0767.

Kern River Valley Amateur Radio Club. P.O. Box 2611, Lake Isabella, CA 93240. Meets 4th Sat./monthly at 4 p.m. (Pot Luck). Veteran's Hall, Lake Isabella WA6UYW Rptrs. 146.085/146.685 224.22/Down 1.6 WB6ODZ Rptr.-224.58 Down 1.6 Low-Level.

Livermore Amateur Radio Klub (LARK). First Presbyterian Church, 5th & L St. Bill Richards, WD6J, (415) 829-5229. Net Mondays 1900 on 147.12 +. Meets 3rd Saturdays/monthly, 9:30 a.m.

Marin Amateur Radio Club (MARC) W6SG. Box 1231, San Rafael, CA 94901. Meets 1st Fri./8 p.m.; MARC Clubhouse Bldg. 549, HAFB, Novato, CA (415) 883-9789 (Summer exceptions; contact Pete N6IYU, 924-1578). Sunday AM Club at Red Cross, San Rafael.

Moreno Valley Amateur Radio Assoc. P.O. Box 7642, Moreno Valley, CA 92302. Meets: 4th Monday/monthly, 7 p.m., Moreno Valley Unified Sch. Dist. offices, 13911 Perris Blvd., Moreno Valley. Net Tuesdays, 8 p.m. 146.655/055

Mount Diablo Amateur Radio Club. P.O. Box 23222, Pleasant Hill, CA 94523. Meets: 3rd Fri./monthly, 8 p.m., Grace Presbyterian Church, 2100 Tice Valley Blvd., Walnut Creek, CA. Net Thurs., 7:30 p.m. 147.06 +. Info, Vicki, (415) 458-4527.

North Hills Radio Club. P.O. Box 41635, Sacramento, CA 95841. 3rd Tuesday/monthly, 7:30 p.m., Carmichael Elks Lodge, 5631 Cypress Ave., Carmichael, CA. Net 145.19 Thur. at 8:00 p.m.

North Shores ARC. (619-275-1495) So. Clairemont Recreation Center, 3605 Clairemont Dr., San Diego, CA. 1st Tuesday/monthly, 7:30 p.m. Club net each Monday, 7:00 p.m. 28.485 MHz.

River City A.R.C.S. Meets: 1st Tuesday/monthly, 7 p.m. SMUD Bldg., Room B & C, Elkhorn & Don Julio, Sacramento, CA. For info: (916) 483-3293.

Riverside County Amateur Radio Assoc. c/o County Emergency Services Div., 4080 Lemon St., Ste. 8, Riverside, CA 92501. Meets: 2nd Thur./monthly, 7:30 p.m., bsmnt., County Adm. Bldg., 4080 Lemon St., Riverside. Nets: Mon., 7:15 p.m., 222.860/224.460 and 7:30 p.m., 146.28/88; Tues.—YL Net, 7:30 p.m. 224.460. Bkfst., 3rd Sat., By You Bob's Rest., Riverside.

Sacramento Amateur Radio Club. Contact: Gary Bryant, KB6KZZ, (916) 646-1171. Meets Sacramento Blood Bank, 32nd St. & Stockton Blvd., Sacramento, CA, 2nd Wednesday/monthly, 7 p.m.

Sacramento "Old Timers" Ham Radio Brkfst Club. Meets 2nd Wednesday/monthly, 8 a.m., Carrows Restaurant near Watt Ave. and Hwy 80 exit. For info contact Paul Wolf, W6RLP (916) 331-1830.

San Fernando Area Radio Club, W6SD. P.O. Box 3151, Van Nuys, CA 91401. Meets: 3rd Fri./monthly, 7 p.m., Red Cross Van Nuys, 14717 Van Nuys Blvd., Van Nuys, CA 91401.

San Gabriel Valley ARC. Bowling Green Clubhouse, 405 S. Santa Anita Ave., Arcadia, CA 91006. Meets: 1st Tuesday/monthly, 7:30 p.m., except Dec. W6QFK, Repeater 147.165/765.

San Mateo Radio Club. Beresford Park Recreation Center, 28th Ave. and Alameda de las Pulgas, San Mateo, CA 94403. 3rd Friday/monthly, 7:30 p.m.

Santa Clara County Amateur Radio Assoc. (SCCARA) W6UW. P.O. Box 6, San Jose, CA 95103. (408) 249-6909. Meets: 2nd Mondays/monthly, 7:30 p.m. Net other Mondays, 7:30 p.m. W6UU 146.385 + /442-425 +

Santa Clara Valley Rptr. Society (SCVRS). P.O. Box 2085, Sunnyvale, CA 94087. (408) 247-2877. 146.76 (-600 kHz), 224.26 (-1.6 MHz), 444.60 (+5 MHz). 2 meter/220 net Mon. 9 p.m. Mtgs.-3rd Fridays.

Shasta Cascade Amateur Radio Society (SCARS) P.O. Box 664, Anderson, CA 96007. Meets: 3rd Wed./monthly, 7 p.m. at the C.D.F. Conf. Rm., Grape St., near Parkview Ave., Redding, CA. Net 146.64 Wed., 8 p.m.

Sierra Foothills Amateur Radio Club. P.O. Box 3262, Auburn, CA 95604. Meets: 2nd Friday/monthly at Auburn Fire Station, 226 Sacramento St., Auburn, CA. Nets 7:30 p.m. Tues. 28.443 MHz, Thurs. 145.43 MHz link with 223.86 MHz.

Simi Settlers Amateur Radio Club. P.O. Box 3035, Simi Valley, CA 93063. Meets: 2nd Thurs./monthly, 7:30 p.m., at Seventh-Day Adventist Church, 1636 Sinaloa, Simi Valley. Rptr. 147.93/33

Solano County Amateur Radio Society. P.O. Box 457, Fairfield, CA 94533. Meets: 3rd Wed. 7 p.m., Vanden High School. 441.150 + 5 (Remote 145.69 simplex) PL 77Hz, (707) 448-1461.

Southern California Six Meter Club. P.O. Box 448, Cypress, CA 90630. USB Net Tues., 8 p.m., 50.150 and 8:30 p.m., 28.400. FM Rpt. Net Wed., 7 p.m., 52.18/98 and Thurs., 8 p.m., 52.28/88. FM Smpix call freq. 50.300.

Stanislaus Amateur Radio Assoc. (SARA). P.O. Box 4601, Modesto, CA 95352. Stanislaus Co. Administration Bldg., 12th & H Streets, 3rd Tues./monthly, 7:30 p.m. 145.39 MHz WD6EJF, 223.68 MHz.

Stockton-Delta Amateur Radio Club. Meets: 2nd Thurs./monthly 7:30 p.m., Red Cross Bldg., 747 N. Pershing, Stockton, CA (Hwy 5, Pershing off-ramp). Net 28.450 SSB 8 p.m. Wed. Visitors welcome. Club Rptr. W6SF receives 147.165 MHz.

The Trinity County ARC. P.O. Box 2283, Weaverville, CA 96093. Meets 2nd Wednesday/monthly, at the CD Hall in Weaverville, 7:30 p.m. WD6FHX Rptr. 146.1373.

Tri-County Amateur Radio Assoc. P.O. Box 142, Pomona, CA 91769. Meets: 2nd Monday/monthly, 7:30 p.m. Pomona First Federal S&L, (basement), 399 N. Garey, Pomona, CA.

United Radio Amateur Club K6AA. L.A. Maritime Museum, Berth 84. Foot of 6th St., San Pedro, CA 90731. Meets: 3rd Friday/monthly except Dec., 8:00 p.m. Talk-in 145.655 Simplex.

Victor Valley Amateur Radio Club. P.O. Box 869, Victorville, CA 92392. Meets: Victor School Board Room, 6th & "A". 2nd Tuesday/monthly, 7:30 p.m. WA6EFW Rptr. 146.34/146.94.

West Coast Amateur Radio Club. Fountain Valley School. Talbert/Bushard. Fountain Valley, CA. Meets 3rd Thursday/monthly. 145.44-4Z.

Western Amateur Radio Assoc. Cerritos Park East, 166th St. and Carmenita Ave., Cerritos, CA. Meets: 1st Tuesday/monthly, 7 p.m. Rptr., N6ME 145.40/224.18 MHz.

West Valley Amateur Radio Assoc. 18011 Saratoga — Los Gatos Road, Los Gatos, CA 95030. Meets: 3rd Wednesday/monthly, 7:30 p.m. W6PIY/R. Net Tuesday, 8:30 p.m., 147.39 +, 223.96.

Yojo Amateur Radio Society. Meets: 1st Thursday/monthly, 7:30 p.m. 1207 Sycamore Lane, Davis, CA 95616.

FLORIDA

Indian River ARC, Inc. (IRARC). 597 Capri Rd., Cocoa Beach, FL 32931. Martin Andersen Senior Center, 1025 S. Florida Ave., Rockledge, FL. Meets: 1st Thurs./monthly, 7:30 p.m.

Platinum Coast Amateur Radio Society, Inc. (PCARS). P.O. Box 1004, Melbourne, FL 32902. Meets: American Red Cross Bldg., 1150 S. Hickory St., 2nd Monday/monthly, 7:30 p.m. Talk-in on 146.850 rptr.

Sarasota Amateur Radio Ass'n, Inc. Meets: 3rd Tues./monthly, 8 p.m. on the 6th floor (board rm.) of the County Admin. Bldg., corner of 301 & Ringling Blvd. Club Rptr. W4IE, freq. 146.91/31, open to all. Phone patch *Up #Down. Welcome.

South Brevard Amateur Radio Club. P.O. Box 2205, Melbourne, FL 32902. Meets 1st Tuesday/monthly, 7 p.m., Melbourne Library, 2275 S. Babcock St., Melbourne, FL.

West Palm Beach Amateur Radio Club, Inc. P.O. Box 6834, Southboro Station, W. Palm Beach, FL 33405. Meets: 2nd Tues./monthly, 7:30 p.m., Palm Beach Emergency Op. Cntr., 3723 Belevedere Rd., W. Palm Beach. Info: H. Felton, 655-4632 or H. Logan, 848-0513.

HAWAII
Big Island Amateur Radio Club. P.O. Box 1938, Hilo, HI 96721-1938. Meets: 2nd Tuesday/monthly, 7:00 p.m., Helco Auditorium, 1200 Kilauea, Hilo. Talk-in on 146.76(-).

ILLINOIS
Amateur Cross Link Repeater. 10, 6, 2 mtrs., 220, 440, 900, 1.2 MHz, ATV. Meets: 1st Sat./monthly, 7:30 p.m. Info: net Sundays, 8 p.m., 147.225 MHz. KD9FA Rptr./Chicago.

Bolingbrook Amateur Radio Society. Meets: 3rd Mon./monthly, 7:30 p.m., Annerino Rec. Cntr., Recreation Dr., Bolingbrook, IL. Info net Thursdays, 8 p.m., WA9DIP/R 224.54/222.94 and WD9AKO/R 147.33/147.93.

Chicago Suburban Radio Assoc. (CSRA). P.O. Box 88, Lyons, IL 60534. 447-HAMS. Meets: 2nd Wed./monthly, 8 p.m., Clyde Bldg., 7222 W. Cermak, N. Riverside, IL. Net Mondays at 8 p.m., 147.225+ and 29.68.

Dupage Amateur Radio Club W9DUP. Mid-America Savings & Loan, 55th & Holmes (55th St. near RT 83), Clarendon Hill, IL. 4th Monday/monthly, 7:30 p.m. Club rptr. 145.250 — 600 kHz.

Elgin Amateur Radio Society. P.O. Box 1351, Elgin, IL 60120. Meets in EOC Rm. of Elgin Municipal Bldg. 2nd Friday/monthly, 8:00 p.m.

Fox River Radio League. Valley National Bank, Lower Level, Northgate Shopping Ctr. & RT. 31, Aurora, IL. (312) 584-4925 for more info. Meets: 2nd Tuesday/monthly, 7:30 p.m.

North Shore Radio Club. Meets: 2nd Monday/monthly. Net 8 p.m. Tues. Karger Center, 1850 Green Bay, Highland Pk, IL. WB9FRM Rptr. 147.345 + 600 (PL 1B). Info: NSRC, P.O. Box 1066, Highland Pk., IL 60035.

Northwest ARC/W9LM. Meets: 2nd and 4th Tuesday/monthly, 7:00 p.m., Oehler Funeral Home downstairs community room, Lee & Perry Street, Des Plaines, Illinois.

Schaumburg ARC (SARC). Meets: Schaumburg Park District Community Rec. Cntr. at Bode and Springinguth Roads, Schaumburg, Illinois. Third Thursday/monthly, 7:30 p.m. Net 28.350 8:00 p.m. Thursdays.

Six Meter Club of Chicago K9ONA. Bank of Lyons, Lower Level, 8601 West Ogden Ave., Lyons, IL. 2nd Friday/monthly, 7:30 p.m. Club Rptrs: 146.371/97, 448.30/444.30.

York Radio Club. Meets: 3rd Fridays/monthly, 8 p.m., Elmhurst College (Science Bldg.), Elmhurst, IL. Net Mondays, 8 p.m. W9PCS/147.42 simplex.

KANSAS
Kansas City Heart of America Radio Club. Red Cross Building, 211 West Armour Blvd. Meets: 3rd Tuesdays/monthly, 7:30 p.m.

MARYLAND
The Peninsula Radio Operators Society (PROS). Family oriented activities, training and exams held throughout the year. PROS Rptrs. 146.925 and 146.625. PROS, P.O. Box 2315, Salisbury, MD 21801.

MASSACHUSETTS
Mohawk Amateur Radio Club. Meets: 4 Wed./monthly, 7:30 p.m., American Legion Hall, 325 Pequog Ave., Athol, MA. (One block north of downtown traffic lights, past the bridge)

MICHIGAN
Hazel Park Amateur Radio Club. Hoover Elementary School-Hazel Park, P.O. Box 368, Hazel Park, MI 48030. 2nd Wed./monthly, 7:30 p.m. Sept. thru May. 147.51 Simplex Call-in.

Oak Park Amateur Radio Club. Oak Park Community Center, 14300 Oak Park Blvd. (same as 9 1/2 Mile Rd., west of Coolidge). Oak Park, MI 48237. 2nd Monday/monthly, 7:45 p.m. Talk-in on our 224.36 MHz or 146.64 MHz.

South Eastern Michigan A.R.C. Meets: 1st Friday/monthly, 7:30 p.m. Grosse Pointe North High School, Bldg. C, Cafeteria Commons. For info contact: AK8I (313) 372-1252. W8FWC Rptr. 146.740/146.140.

MISSOURI
PHD Amateur Radio Assn. Inc. P.O. Box 11, Liberty, MO 64068. Meets last Tuesday/monthly, 7 p.m. Red Cross Bldg. (816) 781-7313, Volunteer Examiner Coordinator.

NEBRASKA
Pioneer Amateur Radio Club (PARC). P.O. Box 445, Fremont, NE 68025. Meets: 4th Friday/monthly, 7:30 p.m. at Keene Memorial Library, 1030 North Broad. Wed. ARES net 146.67 19:30 CDT/19:00 CST.

NEVADA
Frontier Amateur Radio Society (FARS). Meets: 3rd Monday/monthly, 7 p.m., Denny's Restaurant across from Nevada Palace, 5318 Boulder Hwy. Net Mondays 7:30 p.m., 145.39 rptr. on Black Mountain. Club info, Jim Frye, NW70, 456-5396.

Las Vegas Radio Amateur Club (LVRAC). Meets: 2nd Tuesday/monthly at 7 p.m., Nevada Power Building, Wengert Rm., 6226 W. Sahara Ave. (Near Jones). Net Tuesdays 8:00 p.m. on 146.94 MHz. Info: Call Jeff at 363-9013.

Nevada Amateur Radio Assoc. (NARA) 2333 Rodney Cir., Reno, NV 89509. Meets: 3rd Tuesday/monthly, 7:00 p.m. at First Federal Savings & Loan Bldg., 2330 So. Virginia St., Reno, NV.

Sierra Intermountain Emergency Radio Assoc. (SIERA). P.O. Box 2348, Minden, NV 89423. (702) 782-8266. Meets: 2nd Tuesdays/monthly, 7:30 p.m., Douglas County Lib., Minden, NV. Talk-in: 147.270 +.

NEW HAMPSHIRE
Great Bay Radio Assn., WB1CAG. P.O. Box 911, Dover NH 03820. (603) 742-0130/755-2600. 2nd Sunday/monthly, 7:00 p.m. Dover Dist. Court. Talk-in 147.57.

NEW JERSEY
Bayonne Emergency Mgt. ARC (BEMARC). 16th St. & Ave. A Firehouse, Bayonne, New Jersey 07002. Rptrs: 145.430 & 224-280. Meets: 2nd Tuesday/monthly, 7:30 p.m.

Delaware Valley Radio Assoc. (DVRA). Our Lady of Good Counsel Church, 137 W. Upper Ferry Rd., West Trenton, NJ 08628. Meets: 2nd Wednesday/monthly, 8:00 p.m.

Gloucester County Amateur Radio Club (GCARC). Woodbury V.F.W. 1st Wednesday/monthly, 8:00 p.m., Woodbury, NJ. Talk-in 147-1878. For info call K2JF (609) 589-2318.

South Jersey Radio Assoc. (SJRA). Pennsauken Sr. Hi Sch. at Hylton Rd. & Remington Ave., Pennsauken, NJ 08109. Jan.-Oct. 4th Wed./monthly, 7:30 p.m. Nov.-Dec. 3rd Wed. due to Thanksgiving and Christmas. Talk-in 145.290 rptr. Club call K2AA.

NEW YORK
Communications Club of New Rochelle, NY. Harrison Street Firehouse. Bill McCarren, K2LV, (914) 738-0768. Meets: 1st Monday/monthly, 8 p.m.

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

Hall of Science Amateur Radio Club. P.O. Box 131, Jamaica, NY 11415. HOSARC, 2nd Tuesday/monthly, Hall of Science Bldg., 47-01 111 St., Flushing Meadow Park at 7:30 p.m. The tristes' only 3-band linked rptr. system 144.300 S/223.600 — 1445.225 —.

Orleans Amateur Radio Club (WA2DQL). Meets: Office of Disaster Preparedness (CD), West County House Rd., Albion, NY 14411, 4th Wednesday/monthly, 7:30 p.m., 147.527-WA2DQL.

PROS, Pioneer Radio Operators Society. Meets: 1st Wed./monthly (except July/Aug.), 7 p.m., Masonic Temple, Rt. 78, Java Village, NY. Other Wednesdays, 8 p.m. 145.170/144.57-. Repeater KC2JY.

The Radio Club of J.H.S. 22, N.Y.C., Inc. WB2JKJ, P.O. Box 1052, New York, NY 10002. 24-hr. hotline, (516) 674-4072. Non-profit org. uses Amateur Radio to enhance education of young people, nationwide. Join us — "Classroom Net", 7.238 MHz, 7 a.m. E.S.T. PSE QSL!

Suffolk County Radio Club. 3rd Tues./monthly, 8 p.m., Bohemia Rec. Ctr., Ruzicka Wy. W2DQ/R 144.610/145.210, 223.080/224.680 rptr. Info Call Jim Heacock (516) 473-7529.

Westchester Amateur Radio Assoc. (WARA). Scarsdale Village Hall, Scarsdale, New York. Meets: 1st Wednesday/monthly, 8:00 p.m. For info call Dan Gabel, N2FLR, Pres., (914) 723-8625.

Westchester Emergency Communications Assn. (WECA) 147.66/147.06, 222.80/224.40, 447.475/442.475. Meets: 2nd Mon./monthly, 7:30 p.m., Westchester County Ctr., White Plains, NY. Info: P.O. Box 831, N. Tarrytown, NY 10591. (914) 631-7424.

NORTH CAROLINA
Raleigh Amateur Radio Society, Inc. P.O. Box 17124, Raleigh, NC 27619. Club net nightly, 8 p.m., W4DW, 04/64. Meets: 1st Wednesdays/monthly, 7:30 p.m., YMCA. 18th Annual Hamfest, April 9, 1990.

OHIO
Ashtabula County ARC. Ken Stenback, A18S (964-7316). County Justice Center, Jefferson, OH. 3rd Tuesday/monthly, 7:30 p.m. County Rptr., 146.715.

Clyde Amature Radio Society (C.A.R.S.). Meets: 2nd Tuesday/monthly, 7:30 p.m., Municipal Bldg., Clyde, OH 44811. NF8E Repeater 144.75/145.35. Net Sunday 9 p.m.

Dayton Amateur Radio Assoc. P.O. Box 44, Dayton, OH 45401. Meets 1st & 3rd Fri./monthly (Sept. thru June) 8 p.m., Career Academy on River Corridor Dr. Info on WB8I 146.34/94 & 222.34/223.94.

PENNSYLVANIA
Butler County Amateur Radio Assoc. Meets: 1st Tuesday/monthly, 7:30 p.m. at Red Cross Bldg., 312 Mercer St., Butler, PA 16001. Call-in 147.96/36

Merger County Amateur Radio Club W3LIF. P.O. Box 996, Sharon, PA 16146. Meets: 4th Tuesday/monthly at 7:30 p.m. at Shenango Valley Medical Center, Farrell, PA. Net, Thursdays 8:45 p.m. on 147.75/15 W3LIF/R.

Warminster Amateur Radio Club. Meets: 1st Wednesday/monthly 8 p.m., St. John's Lutheran Church, York Rd., Hatboro, PA. Nets: WA3DFU/R info. Net Wed. 8:30, 147.09/147.69.

RADIO CLUB *continued*

CONNECTICUT

Tri-City ARC. Groton Public Library, Route 117, P.O. Box 686, Groton, CT 06340.
Meets: 2nd Tuesdays/monthly, 7:30 p.m.

VIRGINIA

Southern Peninsula Amateur Radio Klub (SPARK). Meets: 1st and 3rd Tuesdays, Salvation Army Community Bldg., Hampton, VA. Operates 148/13 146.13 /73 Rptr., VEC Information (804) 851-5573.

Virginia Beach Amateur Radio Club (VBARC). Open Door Chapel, 3177 Virginia Beach Blvd., Va. Beach, VA. Meets First Thursday/monthly, 7:30 p.m. For info (804) 497-1235.

WEST VIRGINIA

Jackson County Amateur Radio Club. D. Geneal Bailey, NK8P, Sec.-Treas. 113 Winters Dr., Ripley, WV 25271. First National Bank of Ripley. Meets: 1st Thursday/monthly, 7:30 p.m.

Tri-state Amateur Radio Assn. Meets: 3rd Tues./monthly, 7 p.m., Green Valley Vol. Fire Dept., Norwood Rd. & 16th Street Rd., Huntington, WV. ARES net Thurs. 9 p.m. on 146.76/16 W8VA/R. Info N8IKP 523-5264.

WASHINGTON

Mike & Key Amateur Radio Club. 3rd Sat./monthly, 10 a.m., Tukwila Com. Ctr., 4101 So. 131st St., Seattle, WA. Net. Wed. eve., 7:30 p.m. 146.22/146.82 rptr.

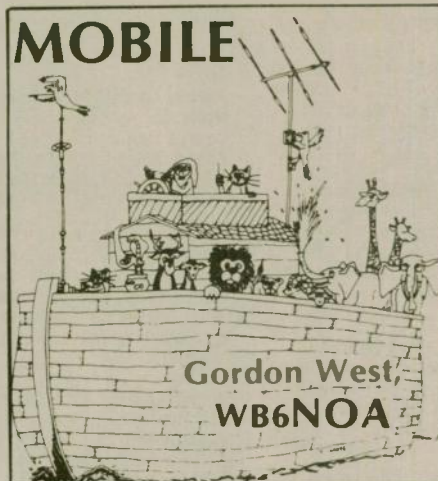
North Seattle Amateur Radio Club (NSARC). Meets: 3rd Tuesday, 7:30 p.m., (except Jul. & Aug.) at the First Interstate Bank, 30th Ave. NE and NE 125th St. (Lake City) in basement. Info: Mike Jr., W7WHT, (206) 282-1438 or P.O. Box 20279, Seattle, WA 98102.

WYOMING

University ARC. 146.01/61 Meets: 1st Tues., 7:30 p.m. Sept.-May. U.W. Physical Plant Bldg., 15th & Lewis St., P.O. Box 3625, Laramie, WY 82070. June-Aug: Bernie Club picnics Wednesdays.

WEST GERMANY

Wiesbaden Amateur Radio Club (WIESARC), DA1WA. Meets 2nd Tuesday/monthly at Stadion Restaurant, Wiesbaden. Steve Hutchins, DA2HS, Box 4205, APO NY 09633. PH: (011) (49)-6725-3462. American and German members.



Mobile use of manual antenna tuners

Manual antenna tuners are great for tuning up random lengths of wire, stainless steel mobile whips or just about anything else that is ungrounded and metallic.

For boats manual tunes work nicely on power boat 23 ft. SSB whips and on sailboat insulated backstays or insulated long wires.

In mobile units the manual tuner

works nicely to tune out residual SWR on almost any type of mobile whip antenna system. It works dandy for aeronautical mobile use, too, with a trailing wire. The manual tuner can also tune a mobile 15M whip to the new 18 MHz band.

For home use and portable, manual tuners will easily resonate almost any type of long wire, inverted vee, dipole and sloper.

The manual antenna tuner resonates your antenna system. It lets your transceiver see a 50 Ohm match and creates an antenna system where your transmitted energy is placed on the long wire, where you want it. Resonating your system requires careful manipulation of inductance and capacitance settings. Most tuners usually have a variable inductance rotary switch that clocks into position and two transmitter and antenna variable capacitance adjustments.

On the MFJ-941 and 949 tuners, here is the approximate setting of the inductance knob with capacitance knobs straight up and down.

10M = A	26-30 MHz
15M = B	16-26 MHz
20M = C or D	10-16 MHz
40M = F, G or H	6-10 MHz
75M = M, N or O	2-6 MHz

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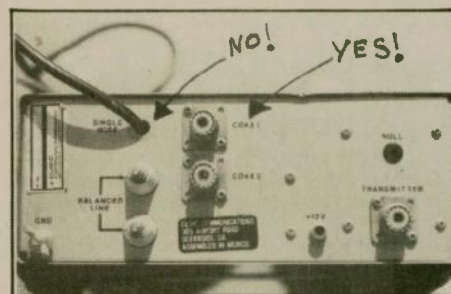
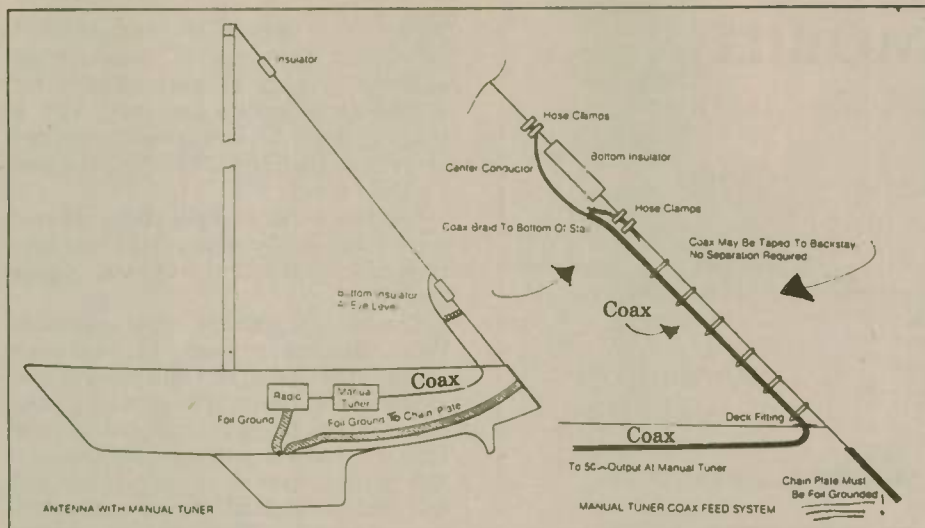
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Don't use single wire on manual tuners.

pedance. If you don't ground the braid, or only use a tiny wire to ground the braid, the entire length of coax will "ring," and you now have the same problem as if you fed it with the single-wire output.

Run copper foil or copper plumber's tape up to the feedpoint and ground the braid this way. This provides a low impedance and low reactance ground path. It also isolates any RF flowing back down the feedline.

If you use the tuner settings I gave you earlier in this article, you should find a sharp point where noise picks up dramatically at the proper LC settings. Then go to TX on AM (constant power out), tune for a dip in the tuner's SWR meter while simultaneously watching your transceiver's power output meter, and you are on the air with signal that literally jumps onto your random wire far away from your transmitter and tuner station set-up.

Stay off the long wire output, and you will have an excellent distortion-free mobile signal perfectly resonated for minimum SWR and maximum power output, all from an inexpensive manual antenna tuner. □

Finding the proper values of L and C requires precise experimentation by listening to a peak in background noise on the band of your choice. When you twiddle the knobs and receive a peak in maximum noise, chances are you are close to resonance. Going to low power AM transmit and then watching for a dip in SWR usually drops you right in.

I like to simultaneously watch a dip in the tuner's SWR meter while also looking at the transceiver's power output. One swings left, the other right, and this indicates resonance on the manual tuner.

No on "Long Wire" output. You would think that your antenna system would hook directly up to "long wire" output on the back of the tuner — that exposed bolt and nut, surrounded by the high voltage porcelain insulator. For almost all mobile marine, mobile home and portable home installations, STAY OFF THE LONG WIRE OUTPUT!

Hooking a random wire up to this post puts RF right in your face. It also puts RF back into the ham rig because of close proximity. This causes your signal to garble because the mike is so

close to the tuner output.

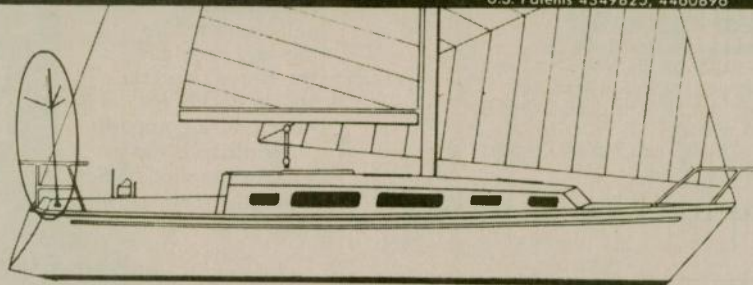
In marine installations hooking up to the long wire output post puts RF onto all of the wiring associated with your ship. This could cause instant SAT-NAV and Loran burnouts if you aren't careful. STAY OFF OF LONG WIRE OUTPUT.

Feed your mobile antenna system, from your tuner, using the 50 Ohm output coaxial cable plug. Run coax to your mobile antenna system. The coax braid keeps all the energy inside the coax tube until you get to the base of your antenna feedpoint, in the clear. Center conductor goes to the active antenna wire or whip AND BRAID GOES TO GROUND.

It's imperative that the braid be grounded to a good RF ground at the feedpoint. This makes your system look a little bit more like 50 Ohms im-

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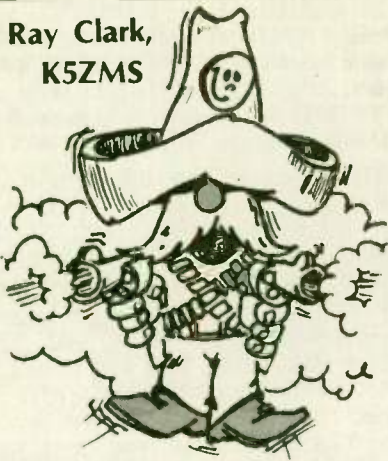
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It has been brought to my attention that the last week of Dec. 1988 DX report was missing from the March issue. Here it is!

DX news

All times UTC. Dec. 25, Flux = 220: 1330, WB0WAO/8 heard TI2HL. 1440, heard huge pile-up on P43AS and couldn't get through. 1400, NEUS gets PAs, J73, CT4, ZD8MB/B and other Caribbean countries. 1455, KP2A in here followed by VP2MJ at 1502. KG4SM in Guantanamo, Cuba, works PAs. K8EFS reports Gs work PZ1AP, TI2s, J73, P43AS, KP2A, J73PD and CX, some of which were heard in his state. 2040-2130, VE6BCC reports HH7PV in 59+40! He worked him at 2044. From 2100-2200, J52US is in here on CW from S3 to 59+60 into Texas. At 2120 I work him after Pat, WA5IYX. I was eating Christmas dinner. Wonderful Christmas present! WB5QBV, N5TX, W5OZI and ND2X/5 also work him. I am told he was also worked in NM and GA and by Steve, WA8LLY/6. Steve worked him at 2145, after having him in for only a few minutes. J52US is reported to have worked 30 stations during this opening.

26th, Flux = 201: VK4PU hears H44 beacon. 0010, WA6BYA hears ZL TV audio weakly. 1400, VP2MJ works W5s. I am told that 9Q5NW is on CW now! 1518-1647, ZD8MB/B into W1s. 1746, J52US is working the US. 1830, FM3AG into VE and MN. 1840, KG4SM is worked by W7FN. 1856, J52US being worked by K7ICW. 1940, ZS3E worked by VE3s. 2000, N7DB works KG4SM.

Dec. 27, Flux = 212: 1430, K1IKN hears HC5K. 1531, K1IKN worked 10-15 Gs. 1715, ZD8MB/B into K1JRW. 1800-1840, very strong KH6s worked by So. W6s. KG4SM being

heard also. 28th, Flux = 209: 0000-0200, HP3XUH works many PYs, LUs and CEs. 1412-1452, Gs working VE1, W1, 2 and 3s. HB9QQ hears US signals. 1530, VE1YX reports working 75-100 QSOs to EI, Gs, PA and F. 1730, VE1YX works W5-NM, W6 and AZ.

29th, Flux = 202: 0138, HP3XUH and KG4SM work each other for new countries! 1509, W9s heard by Gs. 30th, Flux = 180: 0400-0600, KH6IAA works all VK call districts except 7 and 0 for best opening since peak of last cycle! 1845, KH6IAA QSOs W6s and AZ. 2105, KL7NO hears NOLL/B for over half an hour. Fred, W5FF, NM, QSOed KL7NO.

31st, Flux = 182: 0100-0252, VK1s, 2s, 3s, 4s and 5s worked from So. and No. W6s to OR and WA by many operators. VK3AUI called to say he had worked N7BLS and W7JXU, OR. WAVHW says he worked VK3AMZ at 0109. At 0130Z, W7HAH, MT, heard FK1TS and VKs, but did not get any contacts. Signals ranged from 5/5-5/9+. W6BJI said he had VK1s, 2s and 5s in Fresno. W5FF is reported to have also worked VKs and ZLs during this period. The smoothed flux for the month of December is said to be 204.8. Nice big gain!

On Dec. 21, 1988, during a big Sporadic Es event covering the W4', 5, 6, 7, 8, 9 and 0 areas, Japan showed up on Six! Mel, KC7IJ, Idaho, suddenly heard several weak JA CW signals. At 2252Z he heard a weak SSB signal on 50.110 from Kazuo, JA8ISU, and promptly called him. He quickly completed the QSO and tried to work other JAs, but to no avail. What happened next is very noteworthy. Steve Adams, WS4F, in Cornelia, GA, was listening on the same frequency. As soon as the QSO with Mel was completed, Steve called Kazuo and promptly made contact with him! Kazuo asked that they QSY off the frequency and they went to 50.114. At 2258Z Steve logged the QSO with Kazuo as completed. Steve had his antenna pointed at 330 degrees and was not running a lot of power. After completing the QSO Kazuo mov-

ed to 50.115 and CQed for 10-15 minutes. The JAs report these as the only contacts made.

This contact is thought to be F2 to Sporadic Es linkage. It may be a first, or at least the first time in many years that a JA has been worked in Georgia. Congratulations Steve and Kazuo!
Now, back to the current report!

Worldwide 6M contacts continue!

Many firsts have been set on this band over the past few weeks, as many unprecedented contacts take place. The recent flare activity during the equinox really stirred up the band.

All times UTC. On Mar. 1, 1989, Flux = 170: from 0000 on, VKs and FKs were into W6s. At 0200, WA0JYJ was in here on Es. JAs were into ZL and VK. 1830, a LU1 was in here.

2nd, Flux = 177: 0010, W3XO/5 and W5OZI both QSO ZLs. ZL2CD and ZL3AAU were involved. 0030, LU7DZ heard JA8RC, while Arnie, CO2KK, continues to work people on a 40M dipole! He got LU2WM, AA5AM and K5SW. 1513, W5FF heard a PJ.

3rd, Flux = 173: 1950, W5FF, W7FN, W6s and I have LUs (very weak here). 2228, W6UXN and W6s have good ZL opening.

4th, Flux = 166: With a low flux, this day is probably the best day for So. American and Hawaiian activity across the US so far this cycle! 0200, JAs QSO V85. 1730, LUs and CXs into E. Coast and Ohio. 1800, LUs and CXs in here. 1820, W6QUV has HC2FG/B. 1835, HCs in here and HC2FG QSOs KH6IAA. F2 BS also in here. 1920, HP3XUH QSOs KH6HI. OA8ABT into E. US and here. KH6IAA QSOs KG4SM for new country. CO2KK works W7s and LUs. 2000, HP3XUH into W6s. 2100, KH6IAA worked here. LU1VK also in! KX6DX QSOs San Diego W6s. W6s say there are wall-to-wall KH6s into them! 2152, G3JVL/EA8 heard ZL .740 TV audio! 2351, FK, ZLs and LUs into W6UXN. TR8CA QSOed more than 100 operators in G and PA land.

5th, Flux = 185: 0100, HC, LU and PYs QSO KH6IAA with the heaviest TE Flutter A1 has ever heard. 0300, JAs work into So. America. KH6HI QSOes XX9KA and 8 VS6s! 1520, 9Y4VU in here, with HC2FG in weak to Ea. Coast. LU7DZ on CW. Signals

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don't last long and are very weak. 1525, G3JVL/EA8 heard 9Y4VW and 8R1AH. 1725, KP2A/KP5 into W6XJ and AZ. About 1930 KG6JDX/6 QSOs CX8BE. 1958, WA8LLY/6 QSOed HC5K; 2001, TI2NA; 2005, HP3XUH; 2006, HC2FG; 2012, OA8ABT; 2016, LU1VK (who runs 3W); 2101, LU8YYO and 2305, KH6IJ. 2120, G3JVL/EA8 thinks he heard N6CW. He hears ZL TV audio again. W7KNT, MT, hears JAs working LUs. 2255, VK4DDG has JAs in.

On March 6, at 1405 UTC, a major flare occurred that Boulder classified as an X20! It is the largest flare to occur since 1972. It ran off their scale on the monitor! WA8LLY/6 QSOs 1737, LU5EZT/MM (51S 16W); 1837,

CX8BE; 1915, LU7DX and 1956, OA8ABT. 2350, ZLs into W6.

7th, Flux = 210: 0000, big KH6 to W9 opening. 0140, G3JVL/EA8 QSOs J52US, hears ZL TV audio again. 1357, ZS to Europe. Strong ZS signals heard. 1439, ZS3E into WB2MAI. 1800, LU2WM says he worked CT1DTQ.

8th, Flux = 206: 1200, 9H1, J52US and ZD8MB all get JA QSOs via long path! 1353, ZS3s work W1s. 1600, J52US QSOs VA, WI, GA and No. IL. 2230, KA2RDO has aurora on 6 and 2M.

9th, Flux = 230: 0040, Pac. NW has aurora as do W0s. Much solar flare activity going on. 1816, LUs in here weakly. 2150, ZLs work W6s. 10th, Flux = 216: 0200, ZD8VHF/B, OA8

and HC heard by KH6FOO, who QSOed A35IC at 0745. 1310, ZS3E/B heard briefly by K1JRW. 1630, EA4s heard ZS6s. 2113, LUs into W6s and W8s. 2315, W/s and W9s in here on Es for several hours.

11th, Flux = 246: 0000, short JA opening to San Diego W6s. 1700, W0s and AZ working W6s. 1900, ZL TV audio into W6s, followed by ZLs at 2040. 12th, Flux = 249: 1000-1600, VK3OT reports one of the biggest openings in many years, with V85, VS6s, HLs, JR6s, JAs and others in. The MUF was up to 56 MHz, with TV video from Malaysia, Europe, USSR and Thailand! Steve said there were stations clear to 52 MHz with JAs being heard up there. The band was completely loaded with activity.

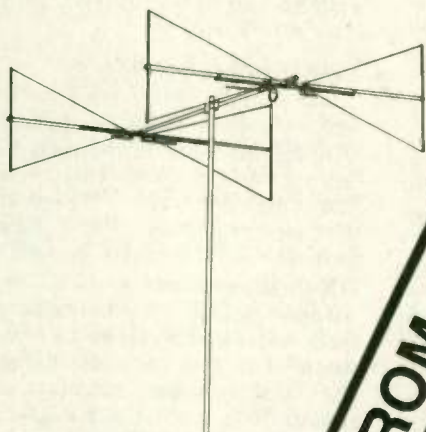
March 13/14, Flux = 155 (175 at the Fredricksburg, VA, monitoring facility!): The K Index has been jumping between 7s and 9s. 0700, VK4s into KH6s. This is a big opening, says KH6FOO. The biggest auroral event in the memory of many who have been active on 6M for 30-40 years or more, occurred this date. For some, it started around 0300 UTC, for others much later in the day. Almost, if not all, parts of the country were affected. Stations deep in the heart of Florida, Texas and California were affected with aurorally propagated signals for the first time ever.

Here in San Antonio, from 13/2300 to 14/0130 UTC, we had many stations in from No. W5, W9 and W0, with almost unintelligible signals to signals not affected by auroral indications, apparently being propagated via auroral Es. Old timer Pat Patterson, W5VY, who has lived here and been active on 6M for 40 years, says he has never heard anything like this before. AT 0100 UTC citizens of South Texas start reporting a visual sighting of a red aurora to the north from west to east. Stations in New England report the same auroral activity to the south of them. CO2KK reports aurora observed at 11 p.m. local time from Havana to Guantanamo Bay, Cuba. V31PC reports aurora observed in Belize! ZL2KT reports visual aurora into No. New Zealand, the No. Cook Islands, and No. Queensland, Australia! In Europe visual aurora is reported along the southern edges of the European continent. This means that only the areas on both sides of the equator to the 15th parallels did not experience visual aurora.

At 0054 WA8LLY/6 QSOed TI2KD. N7ML reports three pages of logs of 6M aurora contacts throughout the western half of the country. San Diego W6s report unprecedented auroral contacts. One W6 worked a TI2 on ap-

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parent aurora Es. A Nebraska operator was reported to have been working aurora since 13/0600 UTC continuously! Some were operating for nearly 24 hours straight! This will probably go down in history as the greatest 6M auroral activity ever seen.

15th, Flux = 268: 2109, KH6IAA hears a W4. 2204, ZL3AAU QSOed by W5FF. 2230, we have a good ZL opening here until about 0050. Numerous contacts made. 16th, Flux not available: 0050, ZL opening ends. 0525, KH6IAA QSOs YS1ECB and TI2KD. 1230, VE1YX heard Zimbabwe TV.

17th, Flux = 242: 1400, ZLs report hearing a 4W4-Yemen station working JAs! 2300, VKs and ZLs QSO West Coast. It is reported that W5FF QSOed VK9NS! 18th, Flux = 237: 2300, VK and ZLs into the West Coast.

19th, Flux = 230: 0238, W5OZI QSOs PE1MVJ/MM off Baja, CA. The operator said he only had 6M gear with him! This was, apparently, an Es opening off the West Coast of lower California, which later led to a possible Es linkage to FK1TS and VK2QF when W5EU worked both around 0316 (9:16 p.m. CST!). At 0405 (10:05 p.m. CST!) W5OZI, who had fallen asleep over a book he was reading, was brought out of his sleep by VK2KFJ. Pat worked him quickly before he faded out. 2100, short ZL to W6 opening. During the day HC5K and LUs were into Central TX. At 2400 it is reported that BY4RB worked JAs.

20th, Flux = 210: 0846, after getting word to the Gs about the considerable recent European TV being watched down under, G4FJK showed up and promptly worked VK6KXW and heard VK6YU. 1415, J52US/B into East Coast for over two hours. 1530, VE1YX QSOs TI2HL. 1618, Ohio has HK FM repeaters and J52US/B. 2031, I work several ZLs in here. 2105, ZL2KT hears the VP5D beacon.

21st, Flux = 220: 0013-0031, 8R1AH QSOed CX8BE, PYs and LUs. 1523, FY7/B in here. 2108-0030, GM4DMA/VE8 and GM1ILL/VE8 again receive LA or SM TV signals! Altered Europe to possible contacts. 2207, XE2GBO and XE2UZL being chased by VKs and ZLs. W6s into ZLs.

22nd, Flux = 220: 0700, KH6IAA has ZK1XH, 5W1HS/B, FK, FO5, FO0AQ and VKs all in. 1737, ZS6s back into Gs. 1751, LUs into W5s and W6s. 2038, W5FF has many strong ZLs. 2300, ZLs in here and still into W6s strong. They have had very strong signals the past two days. W6s have been wallowing in VKs and ZLs recently (thnx W6BJI!!)

23rd, Flux = 216: 0840, FK1TS QSOs BY4RB! 2030, N16E/KH6 and KH6IAA in here. ZL audio also. ZLs

are also into CO W0s. 2204, K6QXY and WA6BYA get Fred for a new country.

24th, Flux = 217: 0310, YB0ARA QSOed VKs. 1308-1409, VE1YX QSOed ZS6LN, ZS6BMS, ZS6XJ, ZS6WB, ZS6XL, ZS4TO, ZS4NS, FY5DG, FY5AU, LUs and PZ1AP! 1400, YB0ARA QSOs VQ9QM, who has worked a lot of JAs so far. YB0ARA has worked the 4S7s. 1445, K1JRW QSOed ZS3AT. 1530, WD5K QSOed CE3BFX. 1915, OA8ABT in here. 2006, ZLs into W6. 2245, TR8CA hears a W0? 9H1 into LUs. TR8CA gets PYs. 2330, KH6IAA has LUs and CXs.

25th, Flux = 189: The strong VK and ZL opening to W6s continues until 0130. At 0100, QD8MB QSOs VK4s via long path! 0950, 9H1BT QSOed SZ1DH. 1000-1700 daily for past 10 days, the PAs have been working into ZS3, ZS6 and a few ZS2 and ZS5. ZS3 gets N4EJV, N4EJW and W4WHK — all FLA. 1434, No. East has ZS3/B. 1418, 9Y4VW QSOed YB0ARA! 1520, ZS3VHF/B into VA. 1628, No. East gets FY5s. American stations into the No. East. 1753, 8R1AH in strong on SSB. We have W4/W5s on F2 BS. 1819, W5UWB gets LUs. HC5K in here. 1958, LUs back in here. 2015, HC2FG/B was in here for several hours. 2123, LU1VK in here again, working W4, 5, 6, 7 and 8s. 2157, W6s work VK2s.

26th, Flux = 168: 0235, FK1TS in here weak on SSB and I work him, then call the rest. He gets about six contacts in Central Texas. 1402, JAs into KP4 for a very short time! KP4EOR is said to have worked several. 1449, K8MMM has ZS3VHF/B in. 1915, LUs in here. 2055, LUs work W4, 5 and 6s, while HP3XUH QSOs VKs and FO0AQ QSO two W5s and W6s. 2141,

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PY2/B into VK2. VK3OT got 3D2ER. PJ4/B into VK. 2259, HP3XUH QSOed VK4RO on 52MHz! 2350, W6s into VK4s.

27th, Flux = 164: 1645-1800, PZ1AP, LUs, HCs, FY5AU, 9Y4VU and VP5D all in here. S79 worked Z23JO! 2100, ZLs in here while CO2KK is working FLA on BS. 28th, Flux = 158: 0127-0412, band was open big time to ZLs, VKs and JAs on BS from No. and So. W6s. N6AMG got 20 JAs on BS. WA6BYA got 40. 1839, FO5DR worked into W3s and W4CKD/8! 2130, LUs in here, as is ZL TV audio but no ZLs.

29th, Flux = 158: 0002, WA6BYA gets T30DJ. 0100, BY4RB (new SMIRK member!) QSOs VKs. 2000, ZLs in here. 2300, LUs in here. T30DJ has VKs. XE1MD into W6s, as are HC2/B and KH6s. 2326, W5OZI may have worked CO2KK.

30th, Flux = 160: 1530, HC2s in here. 2223, VKs into FLA again. P43AS QSOed FK1TS, FK8EB, FK8EM and FO4NK. 31st, Flux = 170: 0129, JAs gets CXs and LUs. 2049, Many ZLs, VKs, FK1, T30, VK9NS and FOs into W6s. T30DJ got W6s W5FF/K5FF.

Future 6M DXpeditions

Tim Kirby, G4VXE/CT3, is scheduled from May 31 for 14 days. QSL via 19 Sidney St., Cheltenham, Glos. GL52 6DJ, England. AH6IO/KH6 is planning a one week Christmas Island trip later in the year, probably during the peak of the F2 activity in the Fall.

DXpedition results

John Ackley, KP2A/KP5, reports their 6M results. Evening TE to So. America on 3/3, 3/4, 3/5, 3/6 and 3/7. USA/No. American openings, 3/4 from 1653-1927Z, over 100 contacts, with W5, W6 and W7s. 3/5, 1720-1734Z. 3/8, 1256-1314Z, East Coast W1 and W3.

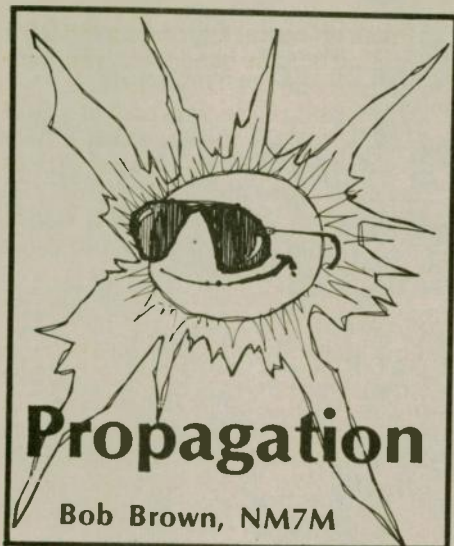
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If you've been following solar activity recently, you've seen some wild variations in the solar flux and the A-index.

Propagation has gone on a roller coaster ride as well — some terrific DX openings on the 10M band when the solar flux peaked. But it's had a down side as well, the bands being reduced to something like an electromagnetic shambles when the A-index got up to 150. Amazing!

And would you believe there are humorous aspects to propagation? The one that amused me a few months earlier happened when I was listening to WWV and it was all but wiped out by a solar flare in progress; that was a classic case of a sudden ionospheric disturbance (SID) caught right in the act by a passing observer or vice versa.

As for propagation those "ups and downs" arise from two things — the activity of new regions developing on the sun as well as older, active regions

returning to the solar disk as the sun rotates once every 27 days. Earlier, near solar minimum, the same features were there but regions were far less active then, with flux values from 75 to 100 and the regions long-lasting, for as many as six rotations.

Now when you stop and think about it the parameters we're using to help us with propagation are the sort of things with which we'd be stuck if we were living on a planet shrouded in clouds, like Venus. Put it another way, by using just the 10cm flux and geomagnetic variations, we're trying to deal with questions of propagation without ever coming to grips, indeed face to face, with the source of the effects, the sun. We're "flying blind"!

So we have to add another dimension to our database, one founded on optical observations of the sun. But we're hardly equipped for that ourselves so we must turn to NOAA again, through their PBBS or weekly publication, the *Preliminary Report and Forecast of Solar Geophysical Data*. Both of those sources give highlights of recent solar and geomagnetic activity as well as forecasts of things to come.

Now if you have a computer and a modem, you've probably checked on the NOAA PBBS already and down loaded some of their data. As you can imagine the weekly report is more than seven times as long as a daily report; moreover, it gets into more detail about what the sun has been doing.

But before you reach for a SASE and write NOAA asking to be put on their mailing list, let me say that there's a catch. The weekly report is no longer sent gratis to interested parties; it now costs \$26 per year. So you really have to be a dedicated DXer or a science/engineer type to want to get into that database, but if you do, let me say it's worth it, absolutely!

And what are those reports going to tell you that you don't already know? The answer to that is fairly simple:

when you first get into them, they serve to explain recent history — which regions, "hot" or "cold," went across the solar disk and when they manifested "solar activity" and in what form, say flares, X-ray or radio noise bursts.

Now that active regions on the sun are associated or identified with sunspots on the solar disk and with a worldwide network of optical observatories tracking the sun, it is possible to follow the growth and decay of the sunspots as they transit the solar disk. By simply measuring their size or area, one aspect of growth can be obtained; then, by watching for any optical activity or sudden energy release, solar flares, further estimates of the potential of regions can be developed, whether toward further growth or decay.

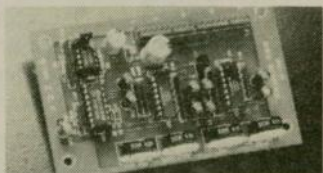
It's on that basis that the NOAA forecasters can use current solar data to look into their crystal ball and give a forecast or outlook as to the 10cm flux or A-index for a 27-day period. Such information is invaluable if you're preparing for a DX contest or planning a DXpedition; moreover, it is far superior to "canned forecasts" based on old data from a couple of solar rotations earlier.

But as I said in the last article, making predictions on the basis of a limited number of variables, say solar flux and A-index or even using the size of sunspot groups, has its uncertainties. One can speak about probable scenarios but must always be prepared for surprises. That sudden ionospheric disturbance (SID) mentioned earlier is a good example. Thus, solar physicists can talk of active regions, their growth, configuration and such, but predicting if and when a flare outburst will develop and its size and energy output is still a "Black Art."

Surprises can happen, with bursts of energy reaching the earth in one form or another, and the ionosphere changed from a quiet state to a disturbed one. But once a flare is seen in optical emissions or heard by the radio noise it generates, the questions then become almost journalistic in nature: when will the energy reach the earth, will the disturbance be localized or not, how intense will it be and how long will it last?

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seconds to travel from the sun to the earth. While solar radio noise in the HF and VHF portions of the spectrum serves to alert us to flares in progress, the energy of those radio waves is far too low to affect our ionosphere. On the other hand, X-rays from flares may be energetic enough to penetrate deep into the ionosphere, down to the D-region where radio waves are absorbed. Thus, if a solar flare sends an intense burst of energetic X-rays toward the earth, the sunlit hemisphere will show the effects, radio waves passing through the D-region being attenuated, sometimes down to "black out" conditions.

From that brief description you can see that solar X-ray effects are restricted to the sunlit side of the earth. The time scales of the disturbances are usually limited too, essentially to the duration of the flare processes plus some time for the ionosphere to recover and return to the pre-flare condition. As for the mechanisms involved, solar X-rays increase the level of ionization in the D-region. Once the flare has ended and the source of the additional ionization is removed, the excess electrons and positive ions recombine by the usual processes at those altitudes.

Deep with the atmosphere, below the 100 km level, those processes are relatively fast, SID effects lasting no more than 10-15 minutes after a flare has ceased.

Now solar physicists classify flares according to their energy output in the X-ray range. The actual numbers need not concern us at the moment, only that there is a hierarchy, the flare classification going through the sequence A, B, C, M and X as the X-ray energy flux increases by a factor of 10 with each step.

To put all this in perspective, the quiet X-ray background of the sun is at the class A level during solar minimum and reaches class M around solar maximum. In any event those X-ray bursts that reach class X are quite intense, causing SIDs like the one mentioned at the beginning of this article. And, obviously, flare events with less energy output cause less disturbance of the ionosphere. However, a statement like that doesn't really go to the question as to what kind of threat X-ray flares would be to those prowling the HF bands. To get a feeling for the degree of the threat, we should look to how often such events occur, first in a solar cycle

and then on a shorter basis.

As for the rate of these events, NOAA reports there were 172 class X flare events in Cycle 21. While you might expect that the events were clustered around the time of solar maximum, the data shows the peak was over a year later, with 43 events in 1980 and a peak of 16 events in April 1981.

For Cycle 22, the statistics show fewer events for the time into the new cycle as compared to a similar interval during Cycle 21. Thus, a comparison of cycles into the 28th month shows Cycle 22 with only 13 X-events where Cycle 21 had 19.

But when it comes to solar activity, that comparison of one cycle against another can change drastically in a very brief time. In short, surprises can and do happen and the solar activity in early March is a case in point. Thus, a new region rotated onto the solar disk and almost before the solar physicists had time to assign it a region number (#5395) produced the largest flare in five years, the X-ray event saturating NOAA's satellite-borne detectors.

And it just kept going on, more big X-ray events in the days that followed as well as a huge magnetic storm and solar proton events, one after the other!

So having dealt with the journalistic imperative, "what, when, where, why and how," we can step back to take stock of SIDs and the threat they pose to our efforts on the HF bands.

I think it is clear from the statistics cited above that the number of solar flares in a solar cycle which give rise to intense SIDs is not all that large. Thus, in the last five years during all the time I spend on the bands, I can only recall a few flare events that produced a "radio blackout." More often the signature of a solar flare that I was made aware of was the "whooshing" sound of solar radio noise bursts.

Of course that is not to say that a SID cannot "spoil your day," serving

to break off contact during a good QSO or wiping out the band when you were in hot pursuit of a DXpedition.

But for all the promptness of a SID in conveying the message that a flare has occurred, it's the delayed effects from solar flares that really disrupt HF propagation; they set in late, say in hours or a day or two, can be worldwide in extent and last several days.

With those remarks I think you can appreciate that SIDs are more like minor annoyances that we have to cope with when plying the HF bands. While they do represent "disturbances," if you listened to the bands in March, you know what real DISTURBANCES are like — empty bands with only weak signals and nothing in the way of DX coming through.

For all the interest in those events, their sporadic occurrence takes place against a background of more regular changes, with the time of day and seasons as well as the phases of a solar cycle. Thus an understanding of how the undisturbed ionosphere behaves is something that is more important in the scheme of things.

We'll turn to that next time. In the meantime for questions/comments send a SASE to 504 Channel View Dr., Anacortes, WA 98221. □

New rule proposed

The FCC has proposed (in PR Docket 88-507) prohibiting the use of VHF maritime transmitters capable of being programmed by users outside the maritime bands.

The method of controlling this activity would be by excluding type-acceptance of radios with that ability.

If certified by the Commission, this rule would prevent the importation or manufacture of these radios within the United States one year after adoption and would prohibit the sale or installation at the end of two years. — *Westlink Report* □

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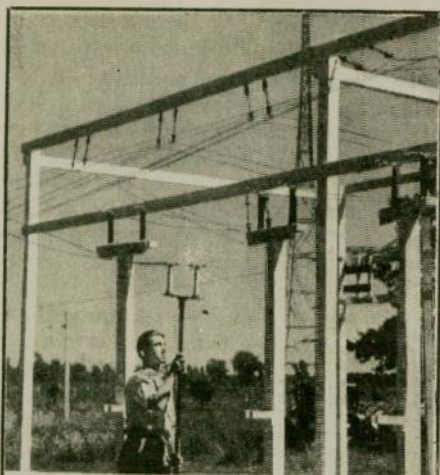
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AERIALS

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No, I don't expect anyone to dash up to the top of his 90 ft. tower, yank down the MLK/8 Ultimate Band-smasher and replace it with my HC-4.

But for those who don't have a high tower, possibly this high chair (with four legs) will help illustrate a point. How to work DX with an \$8 antenna is not the real point, however.

Yes, the high chair costs \$3 at a thrift store, which also had a 2x3 sheet of copper for \$5.

Armed with my trusty Budwig connector, the center conductor went to the high chair and the shield side went to the copper plate, which was separated from the chair by a rubber mat. Talk about a clandestine antenna! Who would suspect that this innocuous, unobtrusive little high chair is truly a transducer?

Those with swimming pools could lean a 16 ft. pole (with net used to clean the pool) against the cabana and no snooty neighbor would suspect a quarterwave vertical on 20. And more about that later.

A Manhattan cliff dweller could put

a child's high chair on the balcony of his condo, load it up and no one would be the wiser.

Testing ground: CQ Magazine's 1989 Worldwide Prefix Contest, March 25.

Obviously, with an antenna only three ft. tall, the place to go is 10M. Hello Japan! Then I potted about the band picking up various US prefixes. Someone says, "You're not very strong." Well, how strong is 100W into a high chair supposed to be? It was strong enough for him to hear.

Oops, almost forgot to mention, this was done with the MFJ 949C Deluxe Versa Tuner II. Without the tuner in the line, the circuit breaker in the rig flipped right off.

I just knew you would be saying, "Sure, sure, when 10 is hot anything is possible." So I went to 15M.

All around the US and Canada, Mexico and Alaska, and (think about this) for KP2A to run up the score like he did, just how many stations are there calling him at once? He heard me.

OK, now I'm going to step into the ring with the real heavyweights — 14 MHz. Hawaii and VE1. A VO and a HK. I'm working DX on first call. CE and HC. I wonder, will Newington endorse my DXCC, all with a high chair?

I just sit there, with my tiny antenna, one hand turning the pages of Kraus and the other turning the dial. Don't cry for me, I just got Argentina!

Thought I could improve things a bit, so I put that MFJ Mobile Matcher at the base of the high chair. On 15 three continents in seven minutes.

Actually there is a bit of gloating when working DX on a high chair. What next? Well, I'm building up a supply of coffee cans.

I started doing ridiculous things, like working 15M with a 20M Yagi.

But then, as those who were in the contest know, Saturday night the conditions were absolutely spectacular! All over the world at once. Greed raised its ugly head and I abandoned my high chair and flipped the switches on the amplifier. It's not often we hear the likes of that night.

Sunday morning, being ashamed of myself I went back to doing things the hard way.

Now, we're going to replicate the pole by your swimming pool. Anyone can run a 20M antenna on 20M (what does that take?), so I'm going to run it on 10M. F-HG-HA-OK in seven minutes (100W). Try 15. UP-OH.

The message in all this is: Don't despair if you can't get up in the air. You can still have fun with a 16 ft. pole.

I'm looking at my log and something dawns on me. Could it be possible? I got serious and really started looking in earnest. There's what I need — South Africa. He came back! Worked All Continents on 10M. Later, Tanzania made WAC on 15 for me. Lil says my cigars smell. But I light one up after :31,:33,:35,:36,:37, all DX. I'm pleased with a :12,:13,:14. And some of this was on my ancient 50W rig.

(KNS goes by his nom de electron so he can peacefully go to meetings of his radio club and not be met with, "What next, a ski pole?") □

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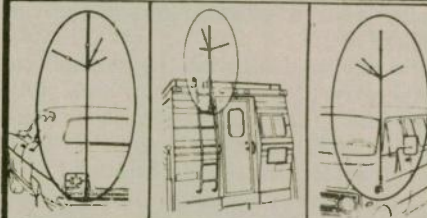
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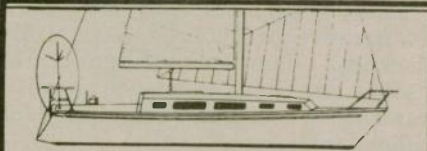
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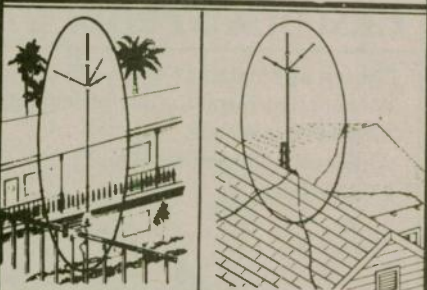
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Spring has sprung and it's antenna time again! So grab your tool belt and let's take a close look at a dynamic duo of antennas from Don Newcomb and Butternut Electronics of Lockhart, TX.

Those of you who have followed this column for the last two years (that's right, we are starting our 3rd year as QRP editor of *Worldradio*) will remember that I have, in the past, classified trapped vertical antennas as "vertically polarized, omni-directional, air cooled dummy loads." For the most part, the way the majority of Amateurs who obtain and try to use a vertical antenna, this is a true statement. While a quarterwave vertical can be a tremendous DX antenna and a welcome addition to an antenna farm, few are installed or used correctly.

Unlike any of the trapped verticals I'd used in the past, the Butternut HF-2V (80/40M) and the HF6-VX (80-10M) are very different. First, neither antenna uses traps of any sort to achieve resonance. This is a major breakthrough since traps are lossy and nasty devices at best. Since QRPers do not need any added handicaps when operating, the idea of a vertical antenna that uses no traps is very attractive. Second, both antennas are HUGE! The HF2-V is a full quarterwave on 40M, measuring 32 ft. in length! The HF6-VX stands 26 ft. tall. Compare this to the standard 5BTV or 14AVQ trapped vertical and you can see that the size difference and increased performance potential are substantial.

So how does Don Newcomb do it! What kind of magic does he use to get these two antennas to perform! Sorry to say, there is no magic. Just sound antenna theory put into practice.

Both antennas use loading coils (L/C resonant circuits) to insure proper impedance matching. Conventional vertical antennas use traps as RF chokes to restrict RF current flow in the upper portions of the antenna on all but the lowest frequency bands. This means that on 10M a conventional trapped vertical has only 8 ft. of active element length, compared to 26 ft. on the HF6-VX. We are talking gain here, fellow QRPers. The ONLY band on which a trapped vertical can perform roughly the same as the HF2-V or

HF6-VX is 40M, where the entire length of the trapped vertical (about 19 ft.) is utilized. Compare this to 32 ft. for the HF2-V and 26 ft. for the HF6-VX, and you can see that the Butternut antennas have much more active element length. This equates to better efficiency and more gain.

Probably the most important piece of the vertical antenna equation is the ground radial system that you MUST use in order to make ANY quarterwave vertical antenna work properly. Never mind what you've read in the various manufacturer's instructions about only needing to drive a 4 to 8 ft. ground rod. Pooie...! The ONLY way to make a quarterwave vertical antenna system work (be it multi-band trapped vertical or one of the Butternut antennas) is to ensure that the antenna has adequate RF counterpoise. The ONLY way to reach this goal is to lay out as many radials as possible at your individual location. Half a dozen 4 ft. ground rods or grounding to a nearby chain link fence WILL NOT SUFFICE.



Here's why: RF currents are present in the vertical radiating section as well as in the vicinity of the base of the antenna, where they radiate out like concentric circles. A ground rod (or two or three) will only serve to place the base of the antenna at DC ground potential. The ground rod(s) will not act as an RF counterpoise and capture the RF currents present at the base of the antenna. The ONLY effective way to make an RF counterpoise is to place as many ground radials as possible out from the base of the antenna, like spokes in a wheel.

If the antenna is ground mounted, the length of the individual radials is really unimportant. Two dozen 10 ft. radials are vastly superior to six 30 ft. radials. The reason is that with the height of the base of the antenna at 10 ft. or less above ground level, the surface of the Earth detunes the radials dramatically. This is true whether using bare or insulated wire. Rather than worry about the individual length of each radial, put down as many radials as possible. This will ensure that the maximum amount of RF will be captured by the radial system. The overall effect will be an increase in radiation resistance and efficiency in the entire antenna system.

If you are going to roof mount or tower mount the vertical antenna, then, by all means, use tuned radials. Four to eight resonant lengths of wire (per band), all suspended from the roof or away from the tower, will do a fine job. Butternut also offers an optional tuned radial kit for these types of installation.

Let's take a close look at both of these vertical antennas. The HF2-V is an 80-40M 1/4 wavelength vertical antenna which can be used on 160M by adding the optional loading coil kit (Model TBR-160S). Bandwidth on 160 is about 20 kHz, but that is a small tradeoff for the ability to get on this terrific QRP band.

The HF2-V can be modified to operate on 30 and 20M by adding the appropriate optional resonator kits. Height of the HF2-V is a TALL 32 ft.! It will withstand 60 mph winds and can be guyed to increase its wind survivability. In order to increase the 160 and 80M bandwidth, there is an optional top-loading package that connects four 25 ft. wires to the top portion of the antenna using nylon cord. The antenna

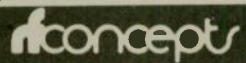



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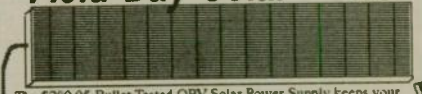
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will withstand full legal power. *NOTE:* The Model TBR-160S, 160M base resonator is rated at only 500W CW or 1.2kW PEP on SSB.

Set up time for the HF2-V (from popping the box open to actually connecting the coax) is about two hours. Actual antenna construction is quite simple and Don provides some very good instructions with the antenna. My installation has the HF2-V ground mounted in soil (no concrete) with two four ft. ground rods driven into the soil near the base of the antenna. I have 16 radials per ground rod, buried just under the sod. All ground rods are bonded together using old coaxial shield braid. The braid is then bonded to the base section of the HF2-V.

The HF6-VX (the X stands for Xport version) contains much more hardware than the HF2-V. Therefore, it takes somewhat longer to assemble and erect. Care should be taken to follow Don's excellent instructions TO THE LETTER. Don has related stories of Amateurs who have not paid attention, only to find that their antennas not only looked weird, but didn't work as advertised!

The HF6-VX obtained for this product review was given to WB3FAA to wring out on 160-10M (I provided Bob with the 160M conversion kit since he

had 160M capabilities and I didn't). Bob had the HF6-VX assembled and erected on his roof in short order.

His results were encouraging. He used the antenna in the January 160M contest with great results. Bob thinks that the HF6-VX is a welcome addition to his HF antenna farm.

Do they work? Need you ask? Both antennas don't just work, they work GREAT! Comparing the HF2-V with my wire antennas shows the HF2-V to be a real low band DX antenna. Having used a HF6-V at Langley AFB, VA, for almost two years confirmed that this antenna is also a real DX-getter!

Parts on both antennas are very high quality and built to give years of trouble-free performance. No QRPer should be without a good vertical antenna. The enhancement offered to the overall antenna system by adding a vertical is well worth the effort. For further information and prices on the fine line of Butternut antennas, write to Don Newcomb, c/o Butternut Electronics, Lockhart, TX.

QRP ARC International

The QRP ARC International will sponsor a technical forum, hold its annual board of directors meeting and have its annual awards banquet in conjunction with the ARRL 75th Anniver-

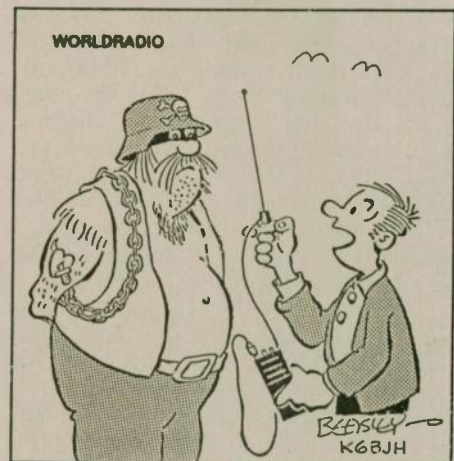
sary Convention the weekend of June 2-4 in Arlington, TX.

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Arlington is half way between Dallas and Fort Worth and is the home of the famous Six Flags Over Texas amusement park and is not far from the stadium where the Texas Rangers baseball team plays.

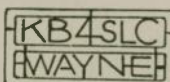
For further details contact Fred Bonavita, W5QJM, P.O. Box 420321, Houston, TX 77242-0321.

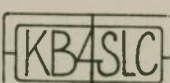
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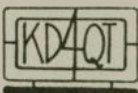
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The ETG

One of the best kept secrets of WW II was not Radar or the Bomb. It was the Electronics Training Group. Beginning in early 1941, the US Army recruited radio Amateurs and other experts in "electronics" (then a brand new word) to study radar, initially in the United Kingdom.

By the time of Pearl Harbor, several hundred brand new 2nd Lieutenants, led by a few Reserve 1st Lieutenants, were in England attending British Radar schools. Officially, they were "Military Observers" attached to the American Embassy. After training they were actually serving with the RAF and the British Army. It was a daring proposal, because it was the Lend-Lease of warm bodies!

After Pearl Harbor many returned to the States for assignments to schools and labs or to overseas theater. There were at least 10 ETG groups, possibly as many as 19. Many of the later groups skipped UK and trained in the US — MIT, Harvard, Camp Murphy, etc.

A large percentage of the ETG members were Amateur Radio operators. What better place to recruit "elec-

tronics experts" in 1941?

A search is on to find as many of the ETG members as possible. Plans are being made for a 50th Anniversary reunion in 1991. If you are an ETG member, or know of one, please get word to the Reunion Committee: Lou Goetz, ETG 1, K5WK, 1611 South Missouri, Roswell, NM 88201; 505/623-7645, or Jerry Stover, ETG 2, W5AE, 4025 Druid Lane, Dallas, TX 75205; 214/522-0227, or Harry Moore, ETG 5, W2JGS, 260 Millard Ave., North Terrytown, NY 10591; 914/631-3693. □



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AUCTION

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Auction Includes: Various collectable vacuum tube radios of the 1940's and 50' by Minerva, Air Klong, Automatic Radio Manufacturing, Tomboy, and Belmont. Most are brand new, some still in boxes. *Western Mfg. NOVICE mod. BA80-40, 80m/40m amateur radios.* (3) Tom Thumb camera/radios by Automatic Radio Mfg. (3) Dewald E157 radios, circa 1940, new, in box. New crystal sets by Western Manufacturing sold under the name of Tiny Tone, Tiny Mite, and Ti-Nee. Approximately 100 new and operable. (4) Kraftone model 351 phonographs. *Test equipment from the late 1930's, 40's and 50's from Hammerlund, National, Collins, Hewlett Packard, McCauley Silver and Collins. Some are new and still in boxes.*

Small Inventory Includes: (40) Walkie Talkie Kits; (225) carbon ear phones; (36) micro switches; (50) shortwave radio adapters; (50) short-wave radio kits; (60) trap antennas, 10-160 meter bands; (32) 1/25hp Redman motors; (32) 2 hp 24V 90A Diehl motors; (100) ea. new, RCA 1626, 3Q4, 1U4, and Raytheon 3A5 vacuum tubes; (20,000) 1/2 watt resistors, various values; (360) spools AWG 44 Formex magnet wire #34-#40; (20,000) disc capacitors, 5%, 10%, 20%, various values; (45) 55 watt soldering irons; (1,000) 3A 250V DPST switches; (10,000) iron cores, 1" x 1/4" to 1/4" x 5/8"; (288) RK211 transformers; (2,000) Philco T1504 transistors.

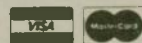
This is a very brief list of the items available. There are nearly 3,000 lines of items to be sold at auction. Complete catalog, \$3. Western Manufacturing was engaged primarily in the production and assemblage of radio-related equipment since the mid 1920's. The company manufactured for government contracts during WWII and conducted an extensive mail order business for nearly 60 years. Most items are old, new stock.

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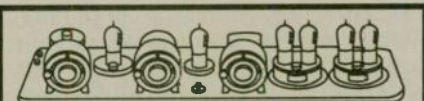
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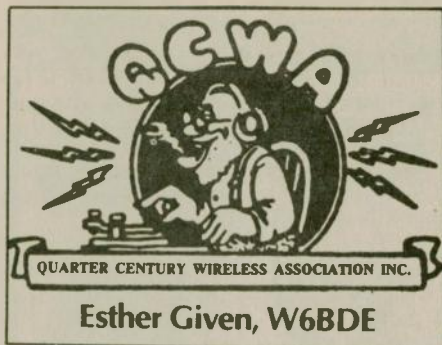
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QCWA secretary and presidential candidate, Jim Walsh, W7LVN, reports a rewarding experience with QCWA member Don Johnson, W6AAQ, which warrants sharing with readers of this column. Way back in 1948 Walsh and Johnson had a contact on the air, at which time they discussed 75M antennas. Forty years later Walsh read a book entitled *40 Years of Mobilizing* by Don Johnson, W6AAU, and, being interested in the subject, he dropped the author a line.

In the ensuing correspondence Johnson enclosed a picture of a PBY Black Cat, noting he had spent his WWII years in the Navy as radioman on such an aircraft. Walsh responded that he, too, was ex-Navy and had been a hospital corpsman attached to a Black Cat squadron on an island called

Samarai just off Milne Bay in New Guinea. Johnson replied that he had been at the same base at the same time and had frequently checked into sick bay because of a problem with ear wax buildup.

Walsh immediately recalled a radioman whom he had treated for this problem on several occasions. Overwhelmed by this coincidence, Walsh placed a land-line call to Johnson and it was established they were indeed in touch again 45 years later.

The following week Walsh received a package of videotapes from Johnson and, wonder of wonders, it contained footage of the PBY base on Samarai which included Walsh and other corpsmen removing an injured pilot from a PBY which had returned safely after engaging the enemy. Walsh had known the movie was being made at the time but never expected to view it.

Thanks to Johnson's expertise in writing a book and Walsh's interest upon reading it, Amateur Radio can be credited with another miracle — two Navy veterans whose paths crossed on a tiny Pacific island 45 years ago have been reunited.

Sacramento Valley Chapter 169 is



Marin-Sonoma Chapter president, Walt Donohue, W6ITU, presents QCWA meritorious award to Hugh Turner, W6SCV.

now officially organized and announces it will hold breakfast meetings at 8 a.m. on the second Wednesday of each month at Carrow's Restaurant, Watt Avenue near I-80, in North Highlands, CA.

Officers of the new chapter are: president, Glenn Koropp, W6YFW; vice-president, Paul Wolf, W6RLP, and

secretary/treasurer, Bill Hendrick, NS6D.

QCWA members (or eligible Amateurs with 25 or more years since first



QCWA director, El Charlton, W5MD, presents QCWA's 75 year plaque to Ernest McNeil, W5MI, licensed in 1914.

ham license) residing in the Sacramento area are encouraged to contact Paul Wolf at 916/331-1830 or attend a meeting. Charter membership in the new chapter may be available for a short time.

QCWA salutes another 75 year licensee, Ernest McNeil, W5MI, who was honored by Baton Rouge Chapter 109 and presented with QCWA's 75 year plaque.

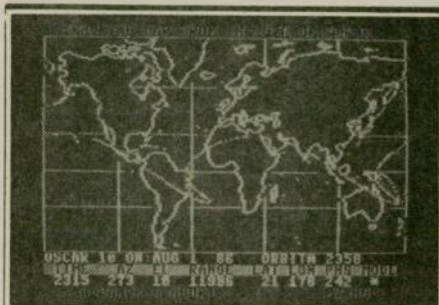
McNeil started operating a spark transmitter in New Orleans in 1912, before licenses were required, and worked ships at sea and land-based Amateurs using old style Morse code. In 1914 he applied for a license and was issued 5AW.

At 94 "Mac" still operates CW on occasion and is a charter member of Baton Rouge QCWA Chapter.

Speaking of Baton Rouge Chapter 109, they will host the 1989 QCWA Convention at the Baton Rouge Hilton on Oct. 20-22.

General chairman is El Charlton, W5MD, whose committee is planning an outstanding occasion of southern hospitality guaranteeing QCWA members the joys of sharing the Magnolia state's many attractions. Their invitation says "Y'all come and pass a good time in Le Cajun Capitol!"

Marin-Sonoma Chapter 161 held its second anniversary with a brunch in Novato on March 13. A highlight of the celebration was the presentation of the QCWA Meritorious Award to Hugh Turner, W6SCV. Turner was highly active in establishing the new chapter in 1987 and was its first president. □



SUPER VR-85

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HAMFESTS



California

The annual Santa Maria Radio Swapfest will be held on Sunday, June 18, at the Union Oil Company Newlove Picnic Grounds just south of Santa Maria.

This event will feature swap tables, prize drawings, games and a Santa Maria style Bar-B-Q. Grand prize will be a HF transceiver, second prize is a mobile 2M rig and third prize is a 220 MHz HT. There will be lots of other prizes.

This annual Fathers' Day Swapfest is the largest such event on the Central California Coast. All proceeds are used in support of programs of the SATELLITE ARC.

Gates will open at 9 a.m. and the Bar-B-Q will be served at 1 p.m.

The talk-in frequency is 146.94 (down), WB6IYY/R.

For further information contact Hank Korkzak, W6PME, 917 W. Anthony Way, Lompoc, CA 93436; 805/736-1761. □

Colorado

Superfest XI will take place Saturday, June 10, from 8 a.m. to 4 p.m. at the Larimer County Fairgrounds in Loveland.

Children under 14 enter free. Regular admission price is \$3. A \$7 table includes an admission.

Featured will be exhibits, forums, demonstrations for non-Amateurs on just about every aspect of Amateur Radio, license testing, a fox hunt, RV parking, concessions, live music, an evening pot luck supper and guest speakers from the ARRL and the Colorado Council of ARCs. Commercial exhibitors are welcome.

Talk-in on 144.515/5.115, 146.25/85 and 147.795/195. □

Georgia

The 1989 ARRL Georgia state convention will begin Friday, June 16, from 5 p.m. to 9 p.m., and continue on Saturday, June 17, from 8 a.m. to 4 p.m. in Albany at the Heritage House Motel & Convention Center.

Awards, forums, exams, an indoor flea market and commercial exhibits will be some of the features.

Admission is \$3; parking is free.

Talk-in on 146.82 MHz, 444.5 MHz and 29.68 MHz.

For information and reservations write: Albany ARC, P.O. Box 1205, Albany, GA 31702; or phone 912/883-7910. □

Indiana

The 42nd annual TRI-STATE ARS hamfest is from 6 a.m. to 3 p.m. on Sunday, June 4, at the 4-H Center in Evansville.

Admission is \$4 in advance, \$5 at the gate. Dealer tables are \$15 and others are \$5.

Juice, coffee, doughnuts and lunch are available. Prizes offered are an Icom IC-735 or

\$500 cash and a color TV or \$100 cash.

Talk-in on 147.75/15 and 146.19/79.

For advance registrations or information, contact Martin Hensley, KA9PCT, 1506 S. Parker Dr., Evansville, IN 47714; 812/479-5741. Listen for information bulletins locally on 147.150 and regionally on 145.250 and 145.150. □

Maine

The PINE STATE ARC is sponsoring their 3rd annual outdoor hamfest at the Hammond Street Campground in Bangor on June 10. Doors are open dawn to 5 p.m.

Admission fee is \$2 per person (children 12 or under free).

Overnight camping with power and water is available June 9 to 11 (\$8.50 per night charged by campground management).

Food, bathrooms, showers, a small store and ample parking are available on the premises.

The PSARC annual meeting and election of officers, prizes, swapfest space (bring tables and chairs) and more are all available free with admission. VE exams will be given at a nearby school.

Talk-in on 146.34/94.

A 24-hour special event station will start June 9 at 2200 UTC.

For more information contact Ed Richardson, NQ1L, RFD 2 Box 627, Orrington, ME 04474; 207/825-4417. □

Maryland

The FREDERICK ARC will hold its annual hamfest on Fathers' Day, June 18, at the Frederick County Fairgrounds in Frederick.



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Hours are 8 a.m. to 4 p.m.

Admission is \$4, tailgaters \$5 for each 10 ft. space. Wives and children are free with one paid admission. Exhibitor indoor tables are \$10.

For additional information write: Dave Durkovic, N3BKD, 7128 Limestone Lane, Middletown, MD 21769. □

Michigan

The Monroe Hamfest, sponsored by the MONROE COUNTY RADIO COMMUNICATIONS ASSOCIATION, will take place on June 18th at the Monroe County Fairgrounds.

Vendor exhibits, a flea market and FCC exams will be some of the activities.

Talk-in on 146.12/72 and 223.18/224.78.

Handicapped parking will be provided inside the grounds.

Tickets are \$3 in advance and \$4 at the gate.

For more information write to Larry Lindner, KB8AIZ, 2001 Ida-Maybe Rd., Monroe, MI 48161; or phone 313/587-3663. □

The STRAITS AREA ARC will sponsor its 14th annual Swap Shop from 8 a.m. to 1 p.m. Saturday, June 17, at the 4-H building on the Fairgrounds in Petoskey.

Tickets are \$2.50 at the door. Tables are \$3 for 8 ft. Splits are allowed.

There will be one door prize and small prizes each quarter hour. Separate VCR raffle tickets are available on site.

Talk-in on 146.08-68 or 52.

Self-contained RV parking is provided on the grounds.

For more information contact Irene, N8HBT, at 616/539-8986 or Clark, KA8TIL, at 616/582-6455. □

Minnesota

Amateur Fair '89, the upper midwest's largest swapfest and exposition for Amateur Radio operators, will be Friday and Saturday, June 16 and 17 at the Aldrich Arena in Maplewood.

Exhibits, commercial dealers, giant outdoor and indoor flea market and prizes are some of the features. Amateur license exams will also be given.

Admission is \$4 in advance, \$5 at the Fair.


For more information, dealer inquiries and ticket orders, write: Amateur Fair '89, P.O. Box 290131 Brooklyn Center, MN 55429; or call 612/653-9999. □



Call Sign Mugs

Your amateur radio call sign on a distinctive 10 oz. ceramic coffee mug or a 15 oz. beer mug, with the ARRL or QCWA logo on the flip side. Get one for the shack and one for the office. Mug pairs can have the same or different call signs. Coffee mugs are \$5.95 each, or two for \$10.95. Beer mugs are \$7.95 each, two for \$14.95. S/H \$1.50 for one, plus \$0.50 for each additional mug. NC residents add 5% sales tax. State your logo choice.

CALL SIGN CUPS
P. O. Box 17062
Raleigh, NC 27619



New York

The HALL OF SCIENCE ARC Hamfest will be held at the New York Hall of Science parking lot, Flushing Meadow Park, in Queens. Doors will open at 9 a.m.; setup after 7:30 a.m.

An Amateur Radio exhibit station, tune up clinic and films will be some of the features.

Donation is \$3 for buyers. Sellers pay \$5 per space.

Talk-in on 144.300 simplex link, 223.600 repeat and 445.225 repeat.

For further information call (at night) Steve Greenbaum, WB2KDG, at 718/898-5599, or Arnie Schiffman, WB2YXB, 718/343-0172. □

Oregon

SEA-PAC, the Northwest's largest Amateur convention, will take place June 2 to 4 at the Seaside Convention Center in Seaside. Exhibitor and flea market setup will begin at 11 a.m. on Friday, the 2nd, and the convention hours are 9 a.m. to 4:30 p.m. on Saturday and 9:30 to 1:30 p.m. on Sunday.

Featured will be a banquet and program, seminars, no-host breakfast, repeater owners' forum, 100+ flea market tables, Ladies Luncheon and activities, manufacturers, awards, dealer exhibits, VE testing, QCWA meeting, Friday Social Casino Night and much more.

Registrations are \$5 each, \$7 at the door. Teens convention registrations are \$2 each, children under 12 are free. The halibut dinner (Saturday banquet) is \$15 each, the prime rib dinner is \$15 each (400 person limit). Flea market tables are \$10 per table per day or \$15

per table for two days. The Sunday sit-down breakfast is \$5 each (400 person limit) and the QCWA and Ladies' luncheons are \$7 each. The Casino Night is \$10 each (300 person limit).

For early booth reservations respond via OTVARC, P.O. Box 219142, Portland, OR 97221; or call Randy, KZ7T, at 503/297-1175 any time or Jim, KB7ADH, at 503/245-2518 in the evenings. For motel assistance in Oregon call 1-800-452-6740; or in other areas 1-503-738-6391. □

Pennsylvania

The HARRISBURG RAC is sponsoring the Firecracker Hamfest on July 4th at the Bressler Picnic Grounds in Harrisburg beginning at 8 a.m. Vendors may arrive at 6 a.m.

Admission is \$3, tailgating is \$2 and tables are \$5 in advance and \$6 at the site.

Food is available. There will be no overnight camping allowed.

Talk-in on 147.30/90 or 52/52.

For more information contact Dave Dormer, KC3MG, at 717/939-4957. □

DX World

(continued from page 37)

VS6WS	—P.O. Box 541, HONG KONG
ZK3YY	—P.O. Box 1625, Apia, WESTERN SAMOA
ZL7TZ	—N. Rio, Tuku Road, Waitangi, Chatham Islands, NEW ZEALAND
3B8DA	—Alex Mootoo, 41 Brown Squard Ave., Vacoas, MAURITIUS
5H3BL	—P.O. Box 4094, Darassalaam, TANZANIA

5NOSKO —P.O. Box 1832, Lagos, NIGERIA

Notes:

1. Applies for contacts made during the ET Net only.
2. Oct. 1987 only; all other contacts via KB9AW.
3. 1987 SSB contacts via KB2TB; 1989 to NV6Z.
4. SSB contacts to F6FOK; CW contacts to F6FSQ.
5. Only contacts since April 1, 1989.
6. Please include \$2 US for Air Mail return.
7. Please no calls on the envelope.
8. 1988 contacts to W0AR; 1989 contacts to WD4JNS.
9. Direct only.

Many thanks to the following contributors: A92BE, W3HCW, K6ICS, W5CJZ, N4EVS, W9LNQ, WB4UBS, WD4JNS, Western Washington DX Club (K7ZR), Southern California DX Club (WB6PSY), Salt City DX Association (KB2G), Long Skip (VE3IPR), DX News-Sheet (G4DYO), The Long Island DX Bulletin (W2IYX), Inside DX (N2AU), QRZ DX (W5KNE) and The DX Bulletin (VP2ML).

So far 1989 has been an interesting year. In addition to one or two new ones, we gained a grandson - our first. This gets me thinking back to my early days when I was first licensed 35 years ago. I was even graced with DX within my first time on the air, although out of the American phone band. But, that is another story.

Spring has arrived. Be sure to check over your antennas for winter damage and correct it before the summer heat sets in. GL DX es 73, de John N6JM.



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- 2 Models: 30 watt PEP output: Sale Priced \$299.95
- 125 watt PEP output: Sale Priced \$399.95
- Clear Channel Corporation manufactures the Ranger AR-3500 in Japan and performs final assembly and quality checks in the U.S. No Extra Charge for C.O.D. or VISA MC Orders

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Smirk Party contest

Contest #14 is on for 0000 UTC June 18 to 2400 UTC June 19. Please note, there was a type error in the Smirk newsletter and the contest will be held at the usual time, beginning Friday night at 1900 CDT. Anyone who pays their 1989 Smirk dues is eligible.

Exchange: Call, Smirk# and grid square. No x-band, multi-op or partials. No check logs or dupe sheets are required.

Scoring: 2 pts. for Smirk and 1 pt. per non-Smirk contact. Total Smirk score plus total non-Smirk score times total number of different grid squares worked equals the claimed score.

Frequencies: All contacts between the contiguous 48 states should take place below 50.125. This will help eliminate any interference from our contest to overseas DX stations.

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

Logs: The SPCL 10/1/86 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, put your prefecture. If Australia/New Zealand, put your state. If UK, put your shire/country/Scottish region, etc. If none of the above, put your country. Use UTC.

Send contest entries postmarked no later than July 6 to Lisa Lowell, KA0NNO, P.O. Box 547, Hugo, CO 80821. Failure to provide your name, call sign and Smirk# on your log will result in disqualification. □

All Asian DX Contest

The Ministry of Posts and Telecommunications of Japan is supporting the 30th All Asian DX Contest. The purpose of this contest is to enhance the activity of radio Amateurs in Asia and to establish as many contacts as possible during the contest periods between Asian and non-Asian stations.

Contest period: Phone 48 hours from 0000 UTC the third Saturday of June (17th) to 2400 UTC the next day. CW—48 hours from 0000 UTC the fourth Saturday of August (26th) to 2400 UTC the next day.

Band: Amateur bands under 30 MHz.

Entry classifications: *Single operator*—1.9 MHz band (CW only), 3.5 MHz (including 3.8 MHz and so forth), 7 MHz, 14 MHz, 21 MHz, 28 MHz and *Multi-band*. *Multi-operator*—Multi-band.

Contest Call: For Asian stations—*Phone*... "CQ contest," *CW*... "CQ test." For non-Asian stations:—*Phone*... "CQ Asia," *CW*... "CQ AA."

Exchange: For OM stations—RS(T) report

plus two figures denoting operator's age. For YL stations—RS(T) report plus two figures "00."

Points and Multipliers: 1. Contacts among Asian stations and among non-Asian stations will neither count as a point nor a multiplier. 2. For Asian stations—Perfect contact with non-Asian stations will be scored as follows: 1.9 MHz—3 pts., 3.5 MHz—2 pts., other bands—1 pt. The number of different countries in the world worked on each band will act as a multiplier. 3. For non-Asian stations—Perfect contact with Asian (excluding US auxiliary military radio stations in the Far East, Japan) will be counted as follows: 1.9 MHz—3 pts. 3.5 MHz—2 pts., other bands—1 pt. The number of different Asian Prefixes worked on each band, according to the WPX Contest rules will act as multiplier. Example: JS1ABC/7 will count for prefix JS7. 4. JD1 stations—JD1 stations on Ogasawara (Bonin and Volcano) Islands belong to Asia. JD1 stations on Minamitori Shima (Marcus) Island belong to Oceania.

Restrictions: 1. No contact on cross band. 2. For participants of single operator's entry: Transmitting two signals or more at the same time including cases of different bands is not permitted. 3. For participants of multi-operator's entry: Transmitting two signals or more at the same time within the same band, except in case of different bands, is not permitted.

Awards: 1. For both phone and CW, certificates will be awarded to those having the highest score in each entry in proportion to the number of participants from each country and also those from each call area in the United States. a. The number of participants under 10... award only to the highest scorer. b. From 11 to 21... award up to the runner-up. c. From 21 to 30... award to the top third. d. From 31 or more... award to the top fifth. 2. The highest scorer in each continent of the single operator multi-band entry will receive a medal from JARL and certificate from the Minister of Posts and Telecommunications of Japan. 3. The highest scorer of the multi-operator multi-band entry in each continent will receive a medal from JARL.

Summary and Log sheet: On the summary sheet write in your declaration and signature to give evidence of following the rules, together with your DXCC country, call sign, entry class, multiplier by band, point by band

and total score. On the log sheet use a separate sheet for each band, keep all times in UTC and fill in the blanks of "multiplier" by countries by or prefixes, only the first time on each band. Submit a summary sheet and logs of only one classification. The phone should be post-marked by July 30 and the CW by Sep. 30. They should be sent to JARL, All Asia DX Contest, P.O. Box 377, Tokyo Central, Japan. Indicate phone or CW on the envelope. The phone results will be announced around Feb. 1990 and CW around April 1990. □

Yet another IVB

In our June 1983 issue, we ran an article entitled "Another IVB." It described how Irvin Hosford, KA0IVB, from South St. Paul, MN, worked another IVB station on 40M.

Now Irvin writes to tell us that on Nov. 10, 1988, he was called by another IVB. This one was on 20M from zero land.

The station was K0IVB, in Paola, KS. Irvin notes that the odds of working a station in the same call area with the same suffix must be quite rare. □

BE ALERT AND IMAGINATIVE. Before you or the XYL toss out an item after its useful household life, look it over. Does it have rubber or plastic feet, knobs, or useful metal parts like brackets, nuts, bolts, washers or screws? Why throw these away and then go to the hardware store at a later date and buy them? —Bob Lasater, KA9SEO; Sterling-Rock Falls ARS, IL



Only one person in the world has your call... YOU!

Shirt letter style is "Ivy Open", & cap "Sportswear."

You can wear & display your call, name & club name on a high-quality T-shirt — \$12.00. Name & ARRL logo (if desired), printed on shirt front with club name printed on shirt back. Shirts (S,M,L,XL) available in light blue, light yellow, beige (tan) or white. Red ARRL logo comes in 2 1/4" x 5" or 1 3/4" x 3" sizes. Lettering comes in two styles, Ivy Open or Sportswear, & the following colors: black, royal blue, maroon, brown, green, red or orange. For individual orders please add \$1.75 each item for shipping & handling.

Cap printed with your call & name has foam front, mesh back, adjusts for size & costs \$6.50 ea. + \$1.75 s/h each.

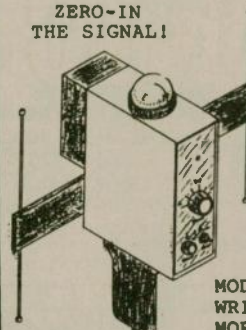
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NEW PRODUCTS

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

N7CTY Amateur program

This program is aimed at the DXer who needs direct access to prefix, beam heading and QSL information while on the air. There are four versions of this program, all using the same data.

Version One is for a C64 with one 1541 disk drive. This program uses both sides of a single disk. Side "A" has the main program and the prefix-beam heading information and side "B" has over 10,000 calls and their QSL information.

Version Two uses a C64 with two 1541 disk drives, device 8 has the main program and prefix-beam heading information and device 9 has all the QSL information. Version Two also has a short program so you can change the device number.

Version Three is for a C128 with One 1571 disk drive, with this program all the information is on one disk. Version 4 is for the IBM and IBM clones (XT).

All the Versions offer these options:

- A. Get QSL information (you type in the stations call and get address or manager),
- B. add to QSL information (you can add to the list),
- C. change QSL information (you can change or update existing information),
- D. read QSL file (you can read the file and see all the information on it),
- E. DX-prefix-beam heading (you enter a prefix e.g. 4X4, 4X, A2, A22; and you get

beam heading (long and short path), dist. in stat miles, country/city, continent, ITU zone, CQ zone),

F. prefix allocation (you can get prefix allocation by country),

G. DX by continent (you can get countries by continent),

H. DX by ITU zone (you can get all countries in any zone, e.g. zone 1, 12),

I. DX by CQ zone (same as above for CQ zones),

J. read prefix file (you can read the prefix allocation file),

K. state beam heading (you can get a beam heading for any state) and

L. beam heading for any location (you enter a latitude and longitude and get a beam heading from your location).

For more information write to N7CTY Ham Program, P.O. Box 738, Cornelius, OR 97113. □

Repeater identification

Time Domain Systems introduces the Voice-ID™, a customizable radio station and/or repeater identification annunciator that can store and reproduce voice messages and CW in any logical combination with various delays.

The Voice-ID™ is a perfect add on for repeaters and Amateur Radio stations. The high quality non-robotic voice reproduction is achieved through proprietary voice compression algorithms encoded in a non-volatile eeprom. Messages will not have to be re-recorded as with most other volatile station identification devices after a power loss.

You may supply your voice messages on high quality cassette tape or a written script. CW messages require script only.

For more information contact Time Domain Systems, 5003 Cowell Blvd., Davis, CA 95616; 916/75-VOICE (916/758-6423.). □

SSB guide

SGC Inc., a leading manufacturer of high frequency SSB radiotelephone equipment, has just published their third edition of the popular *Marine SSB Factbook*.

The book is a comprehensive guide to SSB — including installation information, a

worldwide listing of all ITU and AMVER frequencies, propagation characteristics and tips on choosing a radiotelephone suitable for your needs. It is filled with charts, imaginative cartoons and illustrations which the reader will refer to often.

SGC's first edition of the *Marine SSB Factbook* was published in 1974; since then, more than 100,000 readers have benefited from the information presented. The third edition has been completely rewritten to include the latest in technological achievements in the field of radiotelephone communications.

The *Marine SSB Factbook* is available from SGC, P.O. Box 3526, Bellevue, WA 98009.

Manuals

Kantronics Inc. announces the release of its new manual set. The three manuals included in the set are an Installation Manual, Operation Manual and a Command Manual.

This set includes instructions for KAM, KPC-4, KPC-2, KPC-2400 and KPC-4.

For more information on these products write to Kantronics Inc., 1202 E. 23rd St., Lawrence, KS 66046. □

OSCAR-13 Handbook

Edited by Richard Limebear,
G3RWL


AMSAT-DL and AMSAT-UK

AMSAT-UK, in association with AMSAT-DL, announces the arrival of the *OSCAR-13 Handbook*. Nearly 60 pages telling you almost everything you want to know about the satellite; its completeness is the reason it has taken so long to publish.

Here are (most of) the sections from the book: History of OSCAR 13, The Ariane rocket; Launch and positioning; Operations: Scheduling, Communication, Doppler shift, Time delay, Typical session, Band plan, Operating events, General, User station requirements, Transmitting system, Modulation modes, Receiving system, Antennas and polarization, Typical stations; Orbital predictions and tracking; Home computers and Demodulators; Satellite hardware: Transponders, Attitude control, Beacons, Mode B, Modes L and JL, Mode S, RUDAK, Frequen-

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The initial release of the *OSCAR-13 Handbook* is available in North America through Project OSCAR. For a donation of \$12.00 to Project OSCAR, you can obtain a copy of the *Handbook*. Send your donation to: *OSCAR-13 Handbook*, Project OSCAR Inc., P.O. Box 1136, Los Altos, CA 94023-1136.

Stations outside of North America can order their copy directly from AMSAT-UK. □

Improved signal intensifiers

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For additional information contact the Sales Department, Electron Processing Inc., P.O. Box 708, Medford, NY 11763; or phone 516/764-9798. □

Products catalog

A new and expanded full-time catalog of Amateur Radio products has been released by The Antenna Specialists Co.

The new 12-page catalog, #HM-1001, includes over 30 models of conventional and disguise mobile antennas, base antennas, power dividers and RF power amplifiers specifically designed for Amateur applications.

Included are the company's patented DURA-FLEX® neoprene elastomer shock spring models which drastically reduce "whip sway" and noise associated with steel shock springs and On-Glass® window mount mobile antennas.

A copy of the catalog is available on request from: The Antenna Specialists Co., 30500 Bruce Industrial Parkway, Cleveland, OH 44139-3996, 216/349-8400. □

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A patent has been applied for.

For information write Valor Enterprises Inc., 185 W. Hamilton St., West Milton, OH 45383; or phone 513/698-4194. □

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Ron Stange, WA4PYF, has written the Amateur Radio Operating System, a modular software system for IBM-PC and PC compatible computers.

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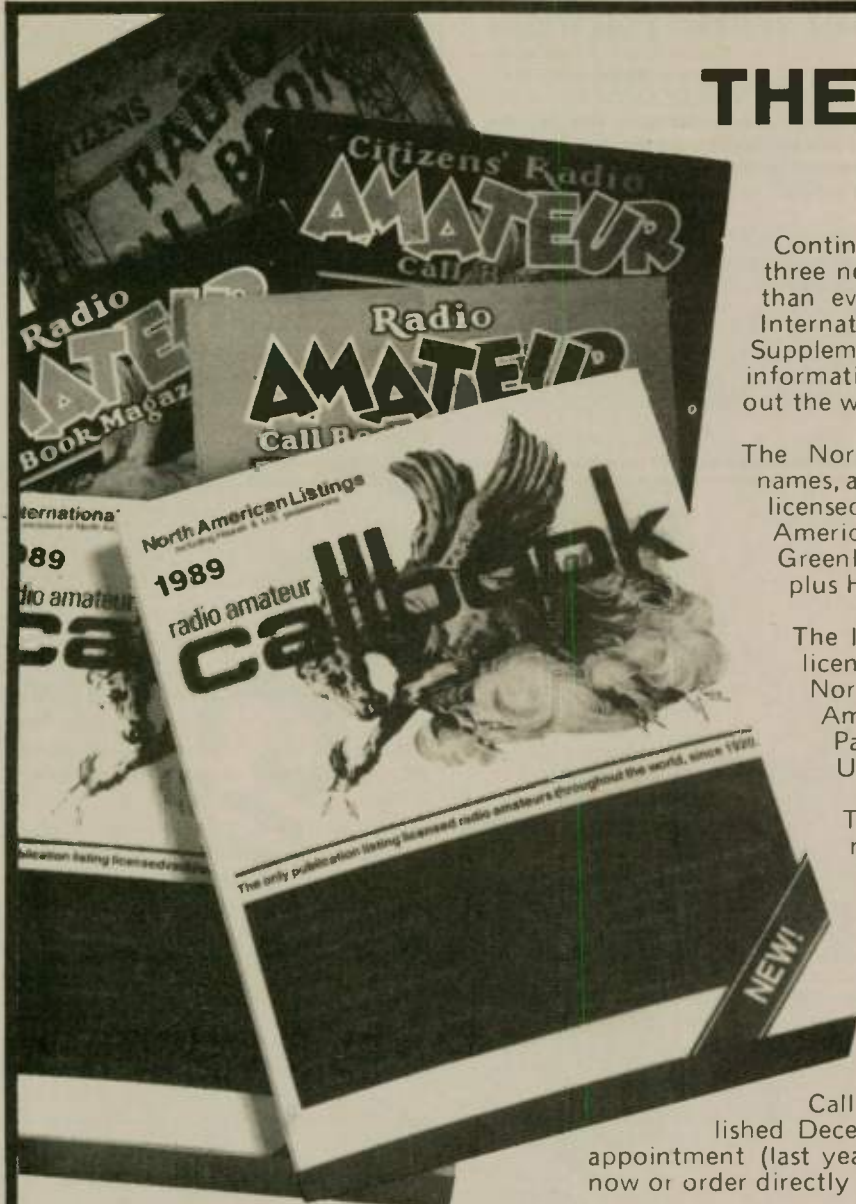
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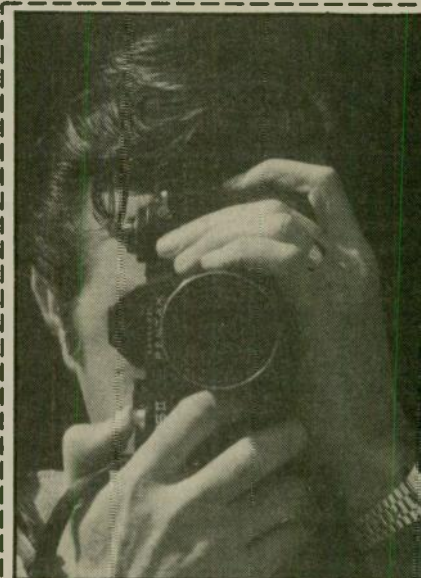
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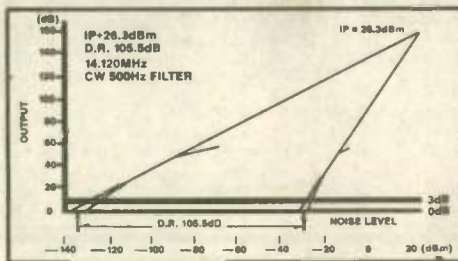
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