Worldradio

Year 12, Issue 3 September 1982 • 80¢

ARRL BOD meets

Phone band expansion and removal of cable TV

The ARRL Board of Directors met 21-22 July 1982 in Cedar Rapids, Iowa. Two important issues were Docket 82-83 of the FCC, concerning phone band expansion on the high frequencies, and the ARRL petition RM-4040, requesting the removal of cable television transmissions from frequencies assigned to the Amateur Radio Service. With regard to phone band expansion, the Board recommended the following telephony allocations:

80 meters
- 3.750 to 3.775 MHz Extra Class only
- 3.775 to 3.850 MHz Extra and Advanced Class
- 3.850 to 4.000 MHz Extra, Advanced and General Class

40 meters
- No change from present allocation

20 meters

In accordance with a previous League petition,
- 14.150 to 14.175 MHz Extra Class only
- 14.175 to 14.225 MHz Extra and Advanced Class
- 14.225 to 14.350 MHz Extra, Advanced and General Class

15 meters
- 21.200 to 21.225 MHz Extra Class only
- 21.225 to 21.300 MHz Extra and Advanced Class
- 21.300 to 21.450 MHz Extra, Advanced and General Class

10 meters
- 28.300 to 29.700 MHz Extra, Advanced and General Class

With regard to cable television interference, the Board directed that vigorous action be continued to assure the existence of adequate safeguards in the form of federal regulation and enforcement so that the legitimate users of the radio spectrum are protected from the insidious and detrimental effects of RFI, both to and from cable television systems.

In another regulatory matter, the Board directed that the League petition the FCC requesting that the Commission retain control of power levels generated by all forms of transmitters, including Amateur Radio transmitters, and that the FCC adopt the American National Stan-

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Pete Holmes, K0VIZ and Rod Steen, W7RXJ operate an 80-meter station from the back of a compact pickup truck during Field Day 1982. The station was part of a five-transmitter effort put forth from Sheridan Peak, a 4,000-foot mountain in western Oregon's Coast Range. The McMinnville Amateur Radio Club worked the Field Day station under the call KA7EOG and made just over 1,000 contacts — not bad for a group that started only a year ago and was mustering its first portable operation. ***(photo by Bob Kuhn, KA7BFW, McMinnville News-Register)***

Codeless license?

At its open meeting, held 1 July, FCC instructed its staff to draft a Notice of Proposed Rulemaking (NPRM) dealing with a codeless Amateur Radio license. This NPRM will propose to simply remove the code requirement from the present Technician Class license, with access limited to frequencies above 50 MHz. The present Technician Class license requiring code and permitting access to the Novice bands would also remain in force.

However, the NPRM will also explore the possibility of a codeless digital license, similar to Canada's Digital Radio Operator Certificate, which requires knowledge of digital theory. Such a digital license could either be the only codeless license or it could be concurrent with a codeless Technician license. The NPRM will be released sometime this fall, and is a proposal only. There will be a comment period during which all interested parties will have a chance to make their views known to FCC. *(ARRL Bulletin)*

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Repeater changes

As of 29 July 1982, the effective radiated power limitations for stations in repeater operation in the 10 and 6-meter bands are changed, depending on the antenna height above average terrain. Below 32 meters, 800 watts; 32 to 160 meters, 400 watts; 160 to 320 meters, 200 watts; and above 320 meters, 100 watts.

In relaxing the ERP limits between 52 and 54 MHz, the Commission noted that this action will provide a reasonable community coverage area during mobile station operations. As for including frequencies between 29.5 and 29.7 MHz, the FCC said that the increasing popularity of 10-meter repeaters created the potential for serious co-channel interference. Therefore, ERP limits are necessary for 10-meter repeater operation. Power limitations for repeaters on other bands are unchanged. — *ARRL* □

VK third-party is now OK

Effective immediately, a third-party agreement is in effect between the United States and Australia. Amateurs of these two countries may handle messages on behalf of third parties, provided that the messages are of a nature that would not be sent via commercial channels.

For a list of the other countries with which the United States has third-party agreements, see June 1982 **QST**, page 90. — *ARRL* □

Amateurs get lots of publicity

The following article is an example of the publicity some Amateur Radio clubs got because of Field Day this year. The McMinnville Amateur Radio Club (Oregon) was formed in May 1981. Club member Bob Kuhn, KA7BFW — who also wrote the story — tells us the article ran on page 1 of their county-wide newspaper (**The News-Register**) the day before Field Day. He says the story was spread over two pages with several photos.

"We had three rigs set up in a tent and two more in a motor home nearby," writes Bob. "Pete set up this 80-meter station in the back of my Datsun pickup on a beach lawn chair and strung a long-wire across a nearby canyon. We did most of our contacting on phone, but next year, plan to get more points with more CW operation. The most important thing is that we all had fun and are anxious to do it again next year and improve on our weaknesses.

"We realize we need more antenna for a 20-meter effort. Our tribander wasn't up high enough off the ground and didn't seem to have the punch we needed to overcome the din . . . we got 20 over 9 reports, but we just couldn't be heard. We're also planning a 40-meter wire quad to string up across the nearby canyon next year."

Hams get emergency testing

Members of the McMinnville Amateur Radio Club take to the field this weekend during the 46th annual Field Day emergency preparedness test.

The local Amateur Radio group will operate from the top of 4,000-foot Sheridan Peak, using emergency power and portable antennas.

The Field Day event, sponsored by the American Radio Relay League in Newington, Connecticut, is designed to help Amateur Radio operators refine skills for use during times of disasters and emergencies. Club members will practice for times when normal channels of communication are disrupted or unavailable.

McMinnville club members will operate as many as six transmitters simultaneously on the Amateur Radio bands. They will contact as many other hams, including many club Field Day stations, as possible during a 24-hour period beginning at 10:00 a.m. Saturday.

Points will be awarded for each station contacted in the United States and Canada.

Yamhill County is a popular place for many Amateur Radio clubs during Field Day.

In past years, members of the Tektronix Employees Amateur Radio Club have set up a station on Trask Mountain, just above the Flying M Ranch. Portland Amateur Radio Club members have had a station at Bald Peak State Park, a group from Washington set up in the Eola Hills and the Chehalem Valley Club from

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September 1982 Vol. 12, No. 3

Worldradio (USPS 947000) is an international conversation. You are invited to take part. Our newspaper is written by its readers.

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 into this avocation.

Our readers are participants — an alliance of active radio amateurs who are concerned with reality, who use radio as a communications tool. We ask your cooperation in helping us develop the skill, quality and full potential of Amateur Radio.

We are positively-oriented. We print all the news of this great activity, and particularly desire an input of stories dealing with the dramatic, the personal and humanitarian uses of Amateur Radio.

Worldradio needs your help to reflect the invaluable service of Amateur Radio.

Through **Worldradio** you can make contact with other individuals who share your interests.

Worldradio is an independent newspaper. It is not affiliated with any other firm, group or organization. Its pages are open to all. Permission is hereby automatically granted to reprint from this publication. If there is something useful, we wish to share it.

Subscription rates: $9.00 per year, $17.00 for two years, $24.00 for three years and $90.00 for life; $2.00 extra per year for surface mail delivery outside the U.S. Overseas. Please remit international postal money order. IRCs and local currency will be accepted.

Second-class postage paid at Sacramento, CA.

Silent Key

Kamchai Chotikul, HS1WR passed away in mid-June from cancer of the spine and brain after a month's intensive care in a Bangkok hospital.

"Kam" was founder and president of the Radio Amateur Society of Thailand; was recently promoted to Brigadier General in the Royal Thai Army; an IARU delegate for Thailand for Region 3; a world traveler; and an excellent operator. He was to have been host to the SEAnet Convention in Bangkok this November. □

In case of trouble...

Should you experience difficulties with your C.D.E. ham rotator and need to return it for factory service, you should direct your inquiries to: Customer Service, Hy-Gain Electronics, 8601 NE Highway 6, Lincoln, NE 68505; (402-467-5321).

Be prepared to pay a rather stiff, flat rate for service ($65 for a tailtwister, $40 for the rotor box and $5.50 for shipping. Special discount for both: $95 HI!)

Pleased to say mine turned out to have a broken wire!

—Greater Toledo ARA, OH □

World's Fair station

The World's Fair Amateur Radio station, which will operate the duration of the fair through October 1982, is using the call sign WA4KFS. All QSL cards are being handled by Harvey Cross, W4PKM. More information and an operating schedule can be obtained by writing to the Tennessee Wireless Association, in care of Jerry Goodchild, K4DZR, 3701 Warner Drive, Apt. 213, Knoxville, TN 37912.

—Santa Clara County ARA, CA □

From Beverages Thru OSCAR update

Rich Rosen, K2RR

A three-year update to *From Beverages Thru OSCAR — a bibliography* is now available. The book, continuing where the first left off, consists of references to communications articles that have appeared from January 1979 through December 1981. I've listened to and appreciated all your comments on the original 620-page bibliography, maintained the same format, and have included an additional table of contents that groups similar subjects together. For example, under "Antennas," 36 categories are listed starting with Beverage and ending with Yagi.

The update is called: *From Beverages Thru OSCAR — a bibliography addendum: 1979-1981.* Number of pages: 144 (8½" × 11"), soft cover. Number of references: 6031 entries. Magazines reviewed: **QST, CQ, Ham Radio, 73** and **Radio Communication.** Pages researched: 26,160.

The price of this update is $9.95, plus $1 postage and handling. □

AMSAT-OSCAR QSL Bureau

The AMSAT-OSCAR QSL Bureau serves the users of all amateur satellites with a complete QSL service. Due to a general lack of knowledge of the bureau's existence, over 1,500 cards for over 700 stations lay unclaimed. Yours could be among them.

Stations wishing to receive cards through the bureau should send several (maximum of six) self-addressed stamped business-sized (#10, 4" × 9.5") envelopes. Stations outside the United States may, of course, send IRCs. Place *ONLY* your call in the upper left corner of each envelope. Mailings are made around the 25th of each month, and any cards you have on file on the 20th will be sent at that time. Money, in lieu of SASEs, is not acceptable, nor are envelopes of other sizes.

To send cards through the bureau, place the call of the station the card is going to on the *right rear* of each card, and put them in ascending alphabetical order. There is a charge of 5 cents for each card addressed to a station outside of North America. All other services of the bureau are free.

Upon request we will be happy to forward a complete rules sheet in your first SASE, along with the answers to any specific questions you may have. Please feel free to write any time. AMSAT-OSCAR QSL Bureau, 116 Country Farms Road, Marlton, NJ 08053. □

Free Amateur Radio Classes

Amateur Radio classes are free through Orange Coast College and Coastline College Districts in Southern California. Classes meet on Monday and Tuesday evenings, 7:00 to 10:00, beginning in September. Special Wednesday night classes are available for clubs (with fee). College credits can be earned.

The nine-week course features accelerated, non-technical instruction. The beginner class will prepare students for Novice and Technician licenses; the operating class (which starts in November) will prepare them for Novice, Technician and General. Instructor will be California-certified writer/lecturer Gordon West, WB6NOA.

For more information, contact West/Coast Amateur Radio School, 2414 College Drive, Costa Mesa, CA 92626; (714) 549-5000, Monday through Friday, 9:00 a.m. to 4:00 p.m. □

The best of SPRAT

The G-QRP Club, headquartered in the United Kingdom, has announced publication of the *G-QRP Circuit Handbook,* a collection of the best circuits published in *SPRAT,* the club's fine quarterly bulletin. The 100-page volume was printed in response to repeated requests for reprints of various articles. The price is $5, postpaid, surface mail.

Order from: Alan Lake, G4DVW, 7 Middleton Cl., Nuthall, Nottingham NG16 1BX, U.K.

—Southwest QRPer, Austin, TX □

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If you received this publication and are not a subscriber of WORLDRADIO, it was no accident. Please consider it an invitation to join. We can be very friendly.

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FEATURES

COLUMNS

FCC Chief responds to 'Government spelling' item

Dear Mr. Noble:

This is in reference to the article, published on page 2 of the July 1982 issue of **Worldradio**, under the headline "Government spelling." In this article, Dave Williams — of the Great Falls Area Amateur Radio Club, Montana — alleges that there are spelling errors in the Morse code tapes used by the FCC. He further alleges that, at a recent examination in his area, everyone who attempted to qualify for the Amateur Extra Class license failed the 20 wpm Morse code test.

These allegations are false. There are *no* misspelled words in the Morse code test tapes. Furthermore, seven of the 13 applicants (54 percent) who took the 20 wpm code test on 13 April 1982, in Helena, Montana, passed. (Examinations are conducted there by the Seattle District FCC Office periodically.)

Mr. Williams already holds an Amateur Extra Class license. He did not take the 20 wpm test on 13 April 1982. Consequently, I assume he is passing on second-hand information without realizing that it is incorrect.

The masthead in **Worldradio** states that it is "positively-oriented" and that it is written by "active radio amateurs who are concerned with reality, . . ." Unfortunately, one erroneous article in such a prominent place in your publication can unjustly make a *negative* impression of the FCC in the minds of your readers.

Sincerely,

VERNON P. WILSON
Chief, Regional Services Division
Federal Communications Commission
Washington, D.C. 20554 □

YLRL Convention '82

Ethel Smith, K4LMB

We think it was the greatest group of amateurs that ever got together! If you missed the YLRL convention in June, you missed a great affair. Even the weather man cooperated.

There were organized activities from Thursday, 17 June through Tuesday, 22 June. But this group would have had a good time if there hadn't been any activities planned for them. It was the fellowship of meeting old and new friends that was important.

They came from as far away as Bombay (India), Japan, Sweden, Holland, Germany, England and Bermuda. Our one big disappointment was that SP2FF was not able to get an exit permit from Poland. There were 178 licensed YLs registered and a total attendance — including the OMs and guests — of 251.

The convention radio station — using the call of "Liz" Zandonini, W3CDQ — was on the air at the hotel from early Thursday morning and the station quickly became the focal gathering point. Official activities got under way Thursday evening with a well-attended forum on RFI/TVI by Bip Bachman, W6BIP. Friday there was a 7:30 a.m. bus to the White House for a tour, and sightseeing along the mall or a trip to the Goddard Space Flight Center where the YLs were taken on an outstanding tour. Friday evening there was a get-acquainted party and a fascinating slide show by Jean Chittenden, WA2BGE on her recent trip to China. She was assisted by Harvey McCoy, W2IYX.

On Saturday, we shipped the OMs off to Goddard Space Flight Center, where they were given the grand tour and the YLs got down to the business of the convention. Our wonderful YLRL president — Kay Eyman, WA0WOF — conducted the forum. Much business was accomplished. The meeting was highlighted by a talk by Ellen White, W1YL.

At the Saturday luncheon, PR specialist Lenore Jensen, W6NAZ gave an outstanding talk on "ERA." Not the ERA you are thinking about, but the *E*nthusiastic *R*adio *A*mateur — energetic in the cause of building the public image of Amateur Radio. We can't sit back and "let George do it," she said. "Georgia" can do much in taking leadership roles. Following her talk, an ARRL forum was conducted by Roanoke Division Director Gay Milius, W4UG.

Our DX YLs provided the program for the Saturday afternoon session. Each one gave a talk about Amateur Radio in her country, and some of the problems they have in making contacts to qualify for the YL certificates. Usha Gulthadani, VU2UGI gave a demonstration of classical Indian dance.

Metro-Vision was there throughout the convention, making videotapes of the activities. Playbacks were displayed at various times, much to the delight of those who saw themselves on TV. And there were prizes, prizes, prizes. YL clubs and individuals sent a multitude of beautiful prizes, in addition to the clever "swaps" that were exchanged by so many. The convention committee provided the main door prize of an ICOM-2A (won by Stu Meyer, W2GHK) and a number of other attractive prizes. The special drawing for the Scholarship Fund prize of a Yaesu FT-208 was won by Ginny Akers, K4YAK.

Saturday evening was the big social

(*please turn to page 5*)

Lauren J. ("Pete") Belvin, legal assistant to the Chairman of the FCC, spoke at the evening banquet.

German calls change

Amateurs visiting the German Federal Republic will now be issued the appropriate DL, DH or DC designator preceding the amateur's own call sign rather than following it. For example, N6FPA/DL will now become DL/N6FPA. Thanks, Mitchell Wolfson, DJ0QN.

—*Laurel ARC, Annapolis Junction, MD* □

Welcome to Amateur Radio

(EDITOR'S NOTE: *This promotional piece was designed as a handout to visitors at the Field Day site. It encouraged a number of interested people to consider active membership in Florida's Tamiami Amateur Radio Club. We thought you'd be interested.)*

The 125 members of this area's Tamiami Amateur Radio Club welcome you to this annual Amateur Radio Field Day, and hope you will find the event to be both interesting and informative.

Field Day has been a national event for 50 years under the auspices of the American Amateur Radio League — an association established in 1914 as the official spokesman for Amateur Radio in the United States and Canada. It is a demonstration of simulated emergency communications, providing practice for Amateur Radio operators across the country to prepare them for operation in actual major emergency.

Amateur Radio has something to offer just about everyone. And *everyone* can become an amateur regardless of age, sex, occupation or nationality. Trained and licensed amateur operators can communicate with fellow amateurs across the nation, and with other operators in every country of every continent. A new member who undergoes instruction and acquires a Novice license issued by the Federal Communications Commission may communicate in Morse code with other amateurs, wherever located. As the Novice gains experience and qualifies for more senior licenses, he may communicate through the media of voice, radio teletype, TV, satellite — indeed, there seems to be no end to the list of sophisticated communication modes and devices available to today's ham operator.

So Amateur Radio obviously is not employed only in emergencies; it is enjoyed by some 800,000 amateurs throughout the world on a daily basis. Their time may be divided, and generally is — communicating on a "chit-chat" basis with other operators across the country and the world; designing, building and repairing equipment; experimenting with circuits and gear; and meeting with fellow amateurs to discuss ways and means of improving their knowledge and operating skills. The Amateur Radio world is indeed a busy one, and an exciting one, too, offering many diversified challenges to the dedicated Amateur Radio operator.

Again, welcome to this Field Day and to your introduction to Amateur Radio. We hope your interest has been piqued by the foregoing information and by what you see and hear today. And we sincerely hope you will seriously consider joining with us in the wonderful world of Amateur Radio.

If you desire additional information, ask any operator here, or complete the coupon below and give it to him/her. We will have a member contact you.

I would be glad to learn more about Amateur Radio, and how I may qualify as a member of the amateur fraternity.

Name

Phone

'Exempt' tower height ordinance passes in Arizona

Dale Green, K7RDG

Cochise County, Arizona is 6,256 square miles of beautiful high desert and rugged mountain country. It is larger than Rhode Island, Connecticut or Delaware, and almost as large as all the Hawaiian Islands. It is the home of some 90,000 people and the ghosts of Geronimo, Cochise, Wyatt Earp, Doc Holliday and countless other legends of the "Old West."

Despite many changes during the past 100 years, one thing has remained constant — the miles and miles of nothing which surround this area. Sierra Vista is the largest town in the county with some 35,000 people living in the metropolitan area. Five other towns in the county have a combined population of 31,000. This leaves darn few people scattered around the other 6,000 square miles — *and they wanted to impose a zoning ordinance restricting tower height.*

Existing ordinances stated that height regulations established in the ordinances would not apply to "radio, television, or other communications towers, masts, aerials, etc., except that airport limitations would apply."

The proposed ordinance would have removed the communications towers from this ordinance and would have allowed them only in areas zoned for general business.

An ordinance already in effect stated, "Any use not specifically permitted in a district, either as a permitted use or as a use permitted on appeal, is specifically prohibited from that zoning district." Obviously, the adoption of the proposed ordinance coupled with this would have prohibited towers in all except general business zones.

Bob Selman, K7YGW spotted the notice of zoning change in the legals of the local newspaper. He immediately advised members of the Eastern Arizona Amateur Radio Society (EAARS), the Cochise Amateur Radio Association (CARA), and the Desert Rats DX Club.

War councils were convened and Frank Ivey, KE7U, who is Chairman of District 1 Board of Adjustments, provided a copy of the existing and proposed ordinances. Calls went out for a show of force at the Board of Supervisors' meeting and spokespersons were selected.

The Board of Supervisors convened their meeting at 10:00 a.m. on a weekday. The Chairman of the Board opened the session by saying that he had never seen so many people at a Board meeting. Amateurs were there from all over the county.

When the proposed ordinance was introduced and comments requested, the chairman of a local homeowner's association made his presentation in favor of its passage. After that the Board listened to 10 presentations against the ordinance. These presentations covered the general public service aspects of Amateur Radio, international good will, the emergency communications capability of amateurs, the MARS services provided in message handling and overseas phone patches for members of the Armed Forces, and specifically, the emergency communications provided to law enforcement agencies in Cochise County during the Carr Canyon fires and the Miracle Valley civil disturbances.

After these presentations, the Board of Supervisors immediately tabled the proposed ordinance and appointed a special committee to meet with the Planning and Zoning Commission to draft an ordinance that would be acceptable.

During this committee meeting, it became apparent that the Homeowner's Association was attempting to block the construction of a TV tower and a microwave tower belonging to a local CATV concern. It should be noted here that the development where these homeowners live does have a covenant which bars external antennas even though the nearest TV station is 80 miles away, and the property lots in the development are over one acre in size.

A new ordinance was eventually drafted, and after two efforts it was passed. Additionally, a paragraph was added to ordinance 314 to further exempt amateur towers.

Basically, it says that amateur towers and antennas have no height restrictions except where airport airspace regulations apply and so long as the tower doesn't occupy more than 25 percent of the lot area.

We won one, thanks to the alertness and responsiveness of the members of EAARS, CARA, and The Desert Rats DX Club. The show of force, well-prepared presentations, and the emphasis on the services provided to the citizens and officials of Cochise County by the amateurs — all had a favorable impact on the Board of Supervisors.

Any lessons learned would be: be alert for proposed zoning ordinances; be active in public service activities; make your activities known to the public officials; be accurate and professional in your presentations; and make a show of force. Your presence might be the deciding factor. □

Etorre's observation — The other line moves faster.

Ten years with MARCO

This article is the first in a series of five articles on the history of MARCO (Medical Amateur Radio Council, Ltd.), as written by Joseph J. Boris, honorary member of the organization.

Prior to my entry into the world of Amateur Radio, I was employed for many years by the International College of Surgeons as Business and Advertising Manager of its official publication, the *Journal.* The January 1965 issue of the *Bulletin,* a supplementary publication, carried a copy of a letter which William L. Sprague, M.D., WA6CRN, wrote to the editor. It read, in part:

"I was very interested in reading your articles concerning physicians in Amateur Radio. There is no doubt that Amateur Radio offers a wonderful hobby and diversion for the busy practitioner."

I had separated myself from the college activities, and was on my own, as a staff member of the Hotel Astor in New York City, specializing in the setting up of meetings and functions for medical organizations.

I wrote to Doctor Sprague, suggesting that he consider holding a meeting of his ham colleagues at the Astor. We continued our correspondence through 1965 and early 1966.

Doctor Sprague, at his own expense, mailed an "exploratory" letter to fellow amateurs from his file of medically-oriented Amateur Radio operators, inviting them to attend a meeting at the Hotel Astor. The responses were favorable and I proceeded to make arrangements, booking a meeting room, accommodations and banquet facilities.

On 16 April 1966, with Charles H. Gray, M.D., WA1FMY as chairman, the founding members met at the Hotel Astor in New York City. I had invited Joseph F. Montague, M.D. (now deceased), President of the American Medical Authors and a Fellow of the International College of Surgeons to be our guest and give the welcoming address. He presented a paper entitled "The Broad Field of Medical Communications." Dr. Sprague's statement was this:

Greetings:

Since firming the plans for this meeting, nearly 100 of our colleagues have joined us as founding members of our new society, and nearly 40 have informed us that they plan to attend this meeting. Considering the limited area of mailing, this is truly a remarkable number and indicates a high degree of interest in our new organization. You are on the verge of founding a major new Amateur Radio organization.

What is to be done with this new society will be determined at today's meeting. It is vital that we all express our opinions, for this will assure us of a group that many will enjoy supporting. It is my belief that we can combine service, education and pure social enjoyment into one neat package.

So, gentlemen, let us be assured that the "Amateur Radio Medical Society" will be national and international in scope.

The name Medical Amateur Radio Council, Ltd. (MARCO) was adopted. At a later date, the Council was incorporated under the laws of the State of New York.

Doctor Gray was elected the first president of the Council for the term 1966-1967. I was voted in as an honorary member.

(Continued next month) □

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Share your knowledge with your fellow amateur and Worldradio reader . . .

YLRL Convention '82

(continued from page 3)

gathering with 230 YLs, OMs and guests attending the cocktail hour and banquet.

Keynote speaker was Lauren J. ("Pete") Belvin, legal assistant to the chairman of the FCC. Everyone went away with the conviction that Amateur Radio has a "friend" at the Commission, and that our traditions and objectives will not be lost in future accommodations to the growing personal radio service. That got her a big hand!

Sunday there were 120 people who took the cruise down the Potomac River to Mt. Vernon.

Thirty-three YLs took the walking tours on Monday. It started out with a special tour of the Pentagon and a visit to the Pentagon Amateur Radio station K4AF, lunch in a Pentagon cafeteria, and then a trip by subway to the State Department. We started with a visit to the *D*epartment *o*f *S*tate Amateur Radio club station W3DOS and then a tour of the main building. It was most interesting.

The intrepid group had dwindled by Tuesday's tours to the Voice of America studios, the U.S. Capitol Building and the FBI headquarters, but those who made it agreed that it was a memorable experience.

It was a wonderful convention. Many new friendships were formed, many schedules arranged, many plans made to attend the next YLRL convention and our 50th anniversary celebration in 1989. Start making your plans. You won't want to miss another YLRL convention. □

Among those seated at the head table during the YLRL (Young Ladies' Radio League) convention luncheon were (left to right): Ethel Smith, K4LMB, Convention Chairwoman; Ellen White, W1YL, forum speaker; Jackie van de Kamp, W6YKU, YLRL Disbursing Treasurer; and Lenore Jensen, W6NAZ, luncheon speaker.

Seated at the other half of the head table during the YLRL convention luncheon were (left to right): Irene Akers, W3RXJ, WAYLARC (Washington Area YL Amateur Radio Club) President; Kay Eyman, WA0WOF, YLRL President; Sandi Heyn, WA6WZN, YLRL Vice President; Rose Ellen Bills, N2RE, YLRL Secretary; Blanche Randles, K1IZT/W4GXZ, YLRL Pres. Advisor/speaker; Onie Woodward, W1ZEN, YLRL Parliamentarian.

Two of those who attended the YLRL convention in June are shown here. From left to right, they are: Ethel Smith, K4LMB (who co-chaired the convention with Lori Deschenes, WA4LWB); and Kay Eyman, WA0WOF, president of YLRL.

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Abe Lincoln once said: "The better part of one's life consists of his friendships." What better way to cement friendship than by joining ham friends in public service projects — you'll be richer for it.
— Lake Erie ARA, OH

Codeless

(continued from page 1)

Editorial comment

Let us not make a mockery of Amateur Radio. No one should be issued a license that says "Radio Operator" if they are unable to copy an SOS on a car horn at 5 wpm.

Contrary to what some say, CW is not a primitive mode. It is, in fact, the ultimate mode in weak-signal, marginal conditions, minimal equipment situations.

A recent letter in QST was from a person who said he would like to become an amateur but since he had already decided he would never use the code, and that was a requirement, he had decided that he would not pursue it. Good riddance.

An analogy: There are people who go into the Army to become cooks and bakers, not riflemen. However, there have been many occasions when they have been glad that they had been given rifle training.

Astronauts and Special Forces have to know the code — because they wish to communicate. Pilots of the most sophisticated military aircraft carry small pistols. Because they wish to survive.

Somehow, in the midst of an era when there is more access to information and learning than ever before, there have been bred the "whiners." They want the bar examination done away with for lawyers, and on and on.

When we see the blind, the paralyzed — and yes, even the deaf learning the code, to say that it is a barrier keeping many out is simply not true.

It is indeed more of a shield than a barrier. If it served no more purpose than to keep out that element that never wants to work for anything, that alone would be sufficient reason for its retention. But code is indeed basic communication. Today's navigators have access to equipment that reads out their position within 200 feet anywhere on earth, via the satellite. However, they still know how to use the sextant.

Let us keep some standard. — *N6WR* □

New rules on ham license plates

Bob KA5WHW reports that Amateur Radio call sign license plates may now be obtained throughout the year. Under the old rules, plates could be obtained only in February, after submitting an application in the fall or winter of the preceding year.

To obtain your call sign plates, secure an application at the tax office at the county courthouse or at the branch office on Clute's famed restaurant row (Dixie Drive). Complete the application, have it notarized, and mail it to Austin, Texas. About two weeks or so after you have mailed your application, you will receive a confirmation from Austin, which will indicate that your plates are ready at the courthouse. Bob reported that the plates take a little longer to make the trip to the courthouse than the folks in Austin say they will. The total time from mailing the application to retrieving the plates should be four to six weeks.

When you go to get your plates, you must surrender your old plates, so take a screwdriver and some pliers. Or, better still, remove your old plates at home and take them up in another vehicle. You will also need the receipt for your old plates.

By calling the courthouse, you may request that your new plates be sent to the branch office.

—Brazosport ARC Newsletter □

Praises for Sherwood speech processor

Denny Burgess, K8DB

I was supplied with a Model 7-SP Speech Processor by Sherwood Engineering for a trial. Its performance was absolutely outstanding with my Drake TR-7. Not only does it produce clean, crisp, and *narrow* RF-processed SSB, but it also provides the TR-7 with up to 16 poles of SSB crystal filtering. On receive, between the TR-7 and the 7-SP, I could select — among others — 8-pole 2.4kc; 16-pole 2.4kc; 8-pole 1.8kc; 16-pole 1.7kc. There were a few signals on 75 meters that were not copyable until I used the 16-pole 1.7kc combo-filter. The reason is due, of course, to the additional selectivity and to what that selectivity does to the signal-to-noise ratio. For any given signal that is within the passband, the smaller the effective passband, the better the signal-to-noise ratio. Thus, on very weak signals, the 7-SP will definitely help the readability.

I could not help but think how well the 7-SP would assist the contest operator when he is trying to maintain the frequency, keep out the poachers and the SSB splatter, and related RF garbage. With 16 poles of effective 1.7kc filtering (with steep and deep skirts), you could really copy those weak contest signals.

— Northern Ohio ARS □

Publicity

(continued from page 1)

Newberg has operated from Chehalem Mountain for the past two years.

Tektronix and Chehalem members have indicated they plan to use the same sites again this weekend.

Getting ready for Field Day each year requires tune-ups and equipment checks to ensure minimum equipment failure and uninterrupted operation during the 24-hour period.

In a real disaster, telephone communications could be disrupted. Extra points will be awarded for passing message traffic.

— McMinnville News-Register, OR □

Expansion

(continued from page 1)

dards Institute 1982 allowable exposure levels of radio frequency energy.

In other matters, the Board adopted new rules and regulations for the ARRL field organization implementing recommendations of the Long-Range Planning Committee; deleted the official VHF station appointment while continuing the League's commitment to promoting VHF/UHF activity; directed the general manager to proceed with the implementation of a new class of affiliated club, special service clubs, in accordance with recommendations of the Long-Range Planning Committee; adopted new policies concerning the availability of lists of ARRL members; established a commission of volunteer ARRL counsel; and made Life Membership available to members 65 years of age or over at 80 percent of the normal rate.

The Board established ad hoc committees of experts to study ways to revitalize the intruder watch; develop a plan for implementing the recommendations of the Long-Range Planning Committee with respect to developing a more continuous Washington presence for the ARRL; study possibilities of strengthening the Canadian Radio Relay League; and develop recommendations concerning steps that should be taken by ARRL to cope with the prospect of transferring monitoring and licensing activities by the FCC to the Amateur Radio Service.

The Board also approved the holding of the 1985 ARRL National Convention in Louisville, Kentucky; instructed the general manager to seek issuance of an Amateur Radio postage stamp celebrating the 75th anniversary of the League and the 25th anniversary of the first amateur satellite; and approved the publication of an ARRL newsletter.

For further details, see 'Moved and Seconded' in the September 1982 issue of QST. □

Special Events...

Burnsville Fire Muster

KNØS/ØFM will be operating at the 4th Annual Burnsville Fire Muster on Saturday, 11 September 1982, 1300Z to 2200Z. Frequencies are: **Phone** — 7.250, 14.340, 21.400 ± 5 kHz. **CW (AM)** — 7.125. **FM locally** — 146.16/.76.

For special event certificate, send business-sized SASE to: KNØS ARS, P.O. Box 23349, Richfield, MN 55423-0349. DX contacts QSL via the bureau. □

Largest living sign

The Canisteo Valley Radio Amateurs will operate WB2SQX from 1400Z to 2100Z 11 September 1982 in commemoration of the 50th anniversary of the "Canisteo Living Sign" — the world's largest living sign. Suggested frequencies: 7245, 14.285, 21.375, 28.650 MHz ± QRM. SWLs are eligible, too.

A special aerial color photo QSL of the living sign is available by sending your QSL plus a business-size SASE to John S. Babbitt, WB2SQX, Square Woods Drive, Canisteo, NY 14823. □

Northwest corner of the world

Marathon County, Wisconsin is located in north central Wisconsin. Besides being the largest county in Wisconsin (somewhat larger than the state of Rhode Island), it also contains the intersection of the 45° North parallel and the 90° West meridian. This point occurs near the city of Wausau, Wisconsin. This places Wausau exactly halfway between the North Pole and the equator, and halfway between the zero meridian at Greenwich, England and the International Dateline. It is the "Northwest Corner of the World."

The other three 45°/90° "corners" are located as follows: in the Pacific Ocean west of Chile, in the Indian Ocean southwest of Australia, and in the remote northern area of the Chinese Province of Sinkiang near the Mongolian border.

The Wisconsin Valley Radio Association will operate on the exact site of the 45° N/90° W intersection on 12 September 1982 using the club station call sign W9SM. Operation will be from 7:00 a.m. to 7:00 p.m. CDT. Frequency of operation will be dependent upon band conditions, but will be 25 kHz up from the bottom of the General phone portion of whatever band is being used.

Send an SASE for a QSL card. Send an SASE and $1 for a certificate. Mailing address is: Wisconsin Valley Radio Association, Inc., Box 363, Wausau, WI 54401. □

Cider Days

The North Iowa Amateur Radio Club of Mason City, Iowa and Kinney Pioneer Museum will operate ARS WØJUI, on 12 September, 1700Z-2300Z, on frequencies 7250, 21380 and 28750 MHz. The special event station is being operated in commemoration of Cider Days at the museum.

Special QSL for SASE to Ron Pinta, KCØCC, 609-4th Ave. NW, Hampton, IA 50441. □

Pumpkin Festival

Special event station W9EEB will operate from the Pumpkin Festival in Morton, Illinois to qualify amateurs for the Pumpkin Award. This is the second annual observance of this event. Operations will be from 2300Z to 0200Z, 15-19 September 1982. W9EEB will operate 25 kHz up from the bottom of 10, 15, 20 and 40-meter General phone bands, ± QRM.

To qualify for the Pumpkin Award, send log information and an SASE to WDØAEU, Awards Manager, 701 Columbus Ave., Morton, IL 61550. □

Syrup sopping

For a very nice certificate, look for NN4R and the Anniston Goodtime Gang on 18-19 September, operating from Waldo, Alabama during the Annual Syrup Sopping Festival. Frequencies are 3.965, 7.255, 14.385, 21.385 and 28.585 MHz from 1230 UTC till 0030 UTC each day.

Send large SASE to Terry Sims, NN4R, 1215 Crescent Ave., Anniston, AL 36201.

●●●

Pass it on . . . WORLDRADIO

California Balloon Festival

The Tulare County (California) Amateur Radio Emergency Service (ARES) group has again been asked to provide the primary communications for an exciting aeronautical event — the 1982 California Balloon Festival. Additionally, the group will sponsor a public display and special event station for the event during the last weekend of September. Contacts will be made around the world by Amateur Radio from the Visalia,

California site where nearly 75 colorful hot-air balloons are scheduled to fly during the four-day event. A special attraction will be the lift-off of more than a dozen helium-filled gas balloons for a time and distance contest over the Sierra Mountains to . . . who knows where!

A colorful certificate will be awarded for radio contacts and SWL reports during this special event. Some transmissions may even be made while HAM (Hot Air Mobile)! Listen for KB6AR or KB6CC on 7.235, 14.285, 21.360 or 28.510 MHz (±) during the 48-hour period from 0100Z, 25 September to 0100Z, 27 September. (That's 6:00 p.m. Pacific time Friday to 6:00 p.m. Pacific time Sunday.)

QSL with a business-size SASE to KB6CC at the current Callbook address for your certificate of contact. □

Ensworth School

The Ensworth School, Nashville, Tennessee will operate a special event station in celebration of the 25th anniversary of the school's founding. Ensworth is an independent, coeducational day school for children in grades P-1 through 8. The Radio Amateur Transmitting Society and The Ensworth School Amateur Radio Activity will co-sponsor this event using the call W4PQP. Dates of operation are 24-26 September 1982 1500 GMT to 2300 GMT.

The first 25 MHz of the General and Advanced portions of 10, 15, 20 and 40 meters will be used.

A two-color 8½-by-11-inch certificate is available for a large (unfolded certificate) SASE or business-size (folded certificate) SASE with at least *two units of first class postage.* The station will also operate at various times during the school year. Students in grades 6-8 participate in the radio activity.

Send QSL information to: James Wilmerding, WB2SKA, Ensworth School, Ensworth Ave., Nashville, TN 37205 *OR* to W4PQP, 321-22nd Ave. N., Nashville, TN 37203. □

Heard County

Bill Gremillion Memorial Radio Club (Georgia) will operate K4SEX Saturday, 2 October for county hunters. Frequencies: General Class portion of phone bands on 10, 15, 20, 40 and 80 meters. CW available.

Send SASE for confirmation to: Bill Gremillion Memorial Radio Club, P.O. Box 2327, Newnan, GA 30264. □

Station AX4QCG

The dates for a special event station AX4QCG have tentatively been set for 30 September through 9 October 1982. Keith VK4ANY of Brisbane, Australia tells us that nothing about the event is definite, as the Wireless Institute is having troubles with the Commonwealth Games Foundation.

"They will not allow us to have a transmitting station on site, and it looks like we will have to work through either a VHF or UHF relay. Will be working all bands, but the frequency is not yet decided. Also, times not yet decided — 24 hours or less still up in the air," writes Keith. □

Treasure Island

The Garden State Amateur Radio Association, W2GSA will hold its third annual special event — the Treasure Island DXpedition, located in the Manasquan River, Monmouth County, New Jersey. The event is in commemoration of Robert Louis Stevenson's sojourn on the island after he wrote the book by the same name.

The event will be held 2-3 October 1982 (1400 GMT, 2 October to 1400 GMT, 3 October). Frequencies will be: CW — 3.535, 14.035; SSB — 3.900, 7.235, 21.375, 28.725.

For QSL certificate, send $1 and your QSL to Lou Eloe, WA2SSH, 7 Carol Ave., Neptune, NJ 07735. No return postage necessary. □

K2AA operates aboard *Queen Elizabeth 2*

Joe Duffin, W2ORA
Submitted by Sam DeDonatis, WB2BWL

The South Jersey Radio Association operated Amateur Radio station K2AA/QE2 aboard the *Queen Elizabeth 2* cruise ship when it was in the Port of Philadelphia as part of the 300th anniversary celebration. K2AA operated three transmitters simultaneously on 40, 20 and 2 meters. Approximately 2,000 contacts were made, as K2AA operators operated on a very wet weather deck radio shack.

A total of 26 operators worked the weekend of 26-27 April. QSL cards are being prepared for confirmation of contacts.

The South Jersey Radio Association would like to express its graditude to the "Cunard" Lines for the excellent service in rendering this operation. The group also thanks the Robbinsville Repeater Group for the facilities of their 2-meter/20-meter set-up which permitted K2AA to effectively work the world. □

USQS — a free QSL bureau!

U.S. QSL Service, Inc. is known as USQS. The service is run by Laryl KM7Z. USQS is a QSL bureau that anyone may use to send their outgoing QSLs to USA amateurs. It is widely used by thousands of amateurs in the United States and in foreign countries. Incoming cards are claimed by keeping self-addressed stamped envelopes (SASEs) on file. The service is *FREE* — no charges for incoming or outgoing QSLs. The system does have expenses, and we rely on donations to keep the bureau running. Donations of stamps, envelopes or money are appreciated, and to be honest, badly needed.

The bureau is easy to use. To *send* your outgoing (to USA stations) QSLs: sort into call areas 0-9, then alphabetize each of the 10 areas separately by suffix. Package securely and send to USQS/KM7Z. To *claim* QSLs: keep SASEs on file (with call sign). **Note:** we accept any size SASE, but prefer a #10. If you wish to send $1 for four SASEs, we will provide them.

In May, USQS participated in the Fort Vancouver Hamfair in Vancouver, Washington. There were many questions answered and many amateurs put SASEs on file for future QSLs via USQS. We had the 7th call area files on hand so hamfair visitors could check their calls and see if they had unclaimed QSLs on file. *Many* who stopped to see what our booth was all about gave their calls and said they were "sure there wouldn't be any unclaimed cards on file" for them . . . *Many* did have cards waiting, and they were surprised and pleased to get them!

USQS is a much bigger system than most people realize, and many questions came from that fact. One often-asked question was, "What would happen to the unclaimed QSLs if the amateur didn't know about USQS so he could claim his cards?" Answer: as donations allow, the unclaimed cards are mailed out direct along with a flyer. Complimentary mailings get the cards delivered and get the bureau advertised.

At this time, we are receiving more cards than donations, and it is taking some time to get cards out. We work very hard to do the best we can, and as things snowball we are seeing the increase in claimed cards vs. unclaimed cards. Every day more SASEs are added to the files, and every day more flyers are sent out and responded to. We will never dispose of cards; you can QSL via USQS and be confident that cards will be held until claimed or delivered.

Some other commonly asked questions and answers are:

Question: How long has USQS been operating?

Answer: USQS was started by KM7Z (then N7BMY) in February 1980.

Q: How do amateurs find out about USQS?

A: **Worldradio** has carried an article almost every month since October 1980; flyers are sent to hamfairs across the country; club newsletters and nets are helping to spread the word.

Q: Why isn't USQS seen in advertisements in major magazines?

A: We have contacted **CQ, QST, 73,** etc. but little has been volunteered. The cost of ads is too high at this time. USQS is not supporting itself, and the amount of funds that we (KM7Z and OM-KN7B) who run it have is very limited.

Q: Why don't we use the National Traffic System (NTS) to notify amateurs of cards that need to be claimed?

A: We understand that *there are* some who take the list of calls from **Worldradio** and send messages via the NTS. With the hours of filing and work to run the bureau, *we* don't have much extra time!

The FCC rules about third-party traffic related to anyone getting anything accomplished leaves us in a position that keeps us from sending traffic related to the bureau. Personal comments from friends to friends about USQS is a different matter.

Q: Is the list of calls in **Worldradio** a complete list of unclaimed cards on file?

A: A big *NO!* **Worldradio** publishes a *very small* number of calls.

Q: Does USQS use a computer; how many amateurs have SASEs on file; how many amateurs use USQS; do we publish a list of users?

A: KM7Z and OM-KN7B have recently set up a computer of their own to help with the details of the bureau. Soon the stats on who and how many amateurs will be available. There are well over 1,000 SASEs in each of the 10 call areas at this time.

Q: Will USQS forward QSLs with notes/letters attached?

A: Yes.

Q: Will USQS *address and send* QSLs if postage is paid to forward them?

A: *YES,* we have all the latest Callbooks and updates, and we will look up addresses and forward your envelopes for you.

Q: Will USQS be listed as a QSL bureau in the bureau listings in the front of the Callbook?

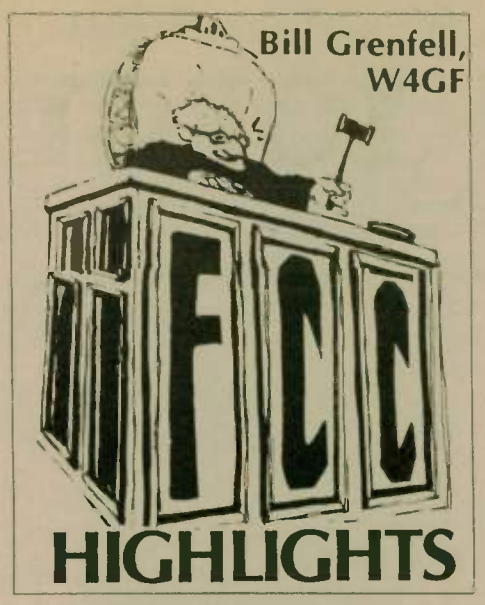
A: *YES.* In fact, USQS is listed in the summer update ('82) and will be in the big 1983 Callbook QSL bureau listings.

Q: Could USA amateurs receive DX cards through USQS?

A: Yes, many DX stations do send directly to USQS since they can send all QSLs for all 10 call areas to our one location.

Q: Is it OK to say "QSL via KM7Z" to contacted stations?

(*please turn to page 11*)



Instead of the usual format and sources I have been using for past 'Highlights,' I am, for most of this issue, reporting on the remarks made by several key FCC officials at the 16 June 1982 Amateur Radio luncheon at the annual convention of the Armed Forces Communications and Electronics Association (AFCEA) at Washington, D.C. I have tried to report the essence of their remarks as accurately as is possible from my notes taken at the affair.

Office of Science and Technology (OST), Michael Marcus, Acting Chief, Technical Analysis Division:

Spread Spectrum — The ARRL indicates amateurs oppose it because they are concerned about interference to weak signal communications, such as moonbounce. The potential interference is very small. One must be very near the transmitter to get interference. The ARRL has submitted very good comments.

H.R. 5008 (A U.S. Congress bill to amend the Communications Act of 1934) — The bill may have slowed the progress of OST's RFI Inquiry. They are currently analyzing comments in response to the Inquiry. Amateurs are strong for mandatory RFI standards. Adoption of a standard is a long, lengthy process (for example, the standards for TV). A standard will not resolve all interference problems. Compliance with standards is likely to be used by manufacturers as a defense against providing a greater degree of resistance to RFI. A standard can make things harder instead of easier.

The 10-18-24 MHz bands — Availability is some considerable time away for the 18 and 24 MHz bands. At present, they don't have a redistribution (of frequency space) position for the services sharing the bands. Expect no change until WARC ('79) is ratified. There are changes in the ratification process. Giving the space to amateurs requires finding other frequency space for the services now using that space.

VHF and UHF amateur bands will have no change in sharing with other services until after WARC is ratified.

Chief, Field Operations Bureau, Richard M. Smith: Each Field Office now has a Public Service staff, which leaves the technical staff free to do their technical job. The enforcement process consists of: 1) assessment of forfeitures of fines; 2) revocation or suspension of station and/or operator license; and 3) criminal proceedings.

During the past two months (April-May '82), fines and forfeitures resulting from FCC enforcement actions have totaled $25,000. One example was a $2,000 fine for operation of an illegal broadcasting station in the amateur 40-meter band. Leonard Boucher, K4MME and Gerard Morin, W1GM had their station and operator licenses revoked and suspended. After getting the U.S. Attorney to issue a warrant for search and seizure, criminal proceedings against Richard Burton, ex-WB6JAC were begun. The potential maximum to which he was susceptible was eight years in jail and a $10,000 fine. Burton continued to operate his station after his amateur station and operator licenses were revoked and suspended.

While the Commission has a policy of deregulation (that is, elimination of unnecessary rules), what are left "are to be complied with."

Adoption of H.R. 5008 will provide for the use by FCC of volunteers for monitoring radio transmissions for rule violations, and remove any cloak of secrecy which an interpretation of the meaning of the present wording of Section 605 of the Communications Act (of 1934) might imply is applicable to the transmissions of Amateur Radio stations. Provision for forfeiture of equipment might serve as a useful punishment for violation of FCC's rules.

One of the enforcement problems is the assaults made on FCC inspectors. No Field Office closures are planned for Fiscal Year 1983 (which begins 1 October 1982). Offices which have been closed in the past year or two are: Beaumont, Texas; Cincinnati; Ohio; Hyattsville, Maryland; Pittsburgh, Pennsylvania; and Mobile, Alabama.

Chief, Private Radio Bureau, James C. McKinney: Why the amateurs may not have the 10 MHz band now is not understood. There is a very "healthy" debate on the matter. H.R. 5008 provides that examinations for amateur operator licenses may be "developed and conducted" by volunteers. The amateurs have a "sterling record" in their conduct of the Novice operator license examinations. The 900 MHz mobile communications (CB) service equipment will probably cost about $400 per unit. There is "clearly an open question" as to which other services will be sharing the 420-450 MHz band with the Amateur Service. Sharing in the 220-225 MHz band should remain "as is." Results of the rule-making proposing expansion of the 20-meter phone band should be available by September or October of 1982.

A judgment as to whether the code should continue to be required of all amateur operators, regardless of their interest being confined to non-telegraphy use of the UHF-and-above amateur bands, will not be made at the present time. Anticipating your questions as to the future, the answer is: "Perhaps yes, maybe no."

In any event, the WARC limitation of requiring a knowledge of the code for operation below 30 MHz will be adhered to. At the present time, no recommendation is being made as to whether new amateur operator examinations be made more or less difficult. Amateur license statistics indicate the average is steadily increasing. It is apparent that the "Youth of America" are becoming increasingly interested in computers, etc. "If it takes that to interest them in Amateur Radio, I am in favor" (of a less difficult examination).

Managing Director, Edward Minkle. There is a slight hope that the amateur station call letter request problem can eventually be taken care of by the computer. (A basic reason for denying petitions for rules permitting a choice of call signs is the extra workload man-hours needed to process such requests, and the FCC budget has been significantly reduced.) End of AFCEA notes.

•

On 28 June, former amateur licensee Richard A. Burton was sentenced to a total of eight years in jail for violations of the Communications Act. This was the total of: one year each for four misdemeanor counts and two years each for two felony counts. Seven-and-a-half years were suspended. He must serve the remaining six months in jail. He will be on probation for five years and must contribute 1,500 hours to community service.

Burton's amateur station license, WB6JAC, was revoked and his General Class operator license was suspended for the remainder of the license term, by the FCC, effective 11 September 1981. This revocation and the suspension was based upon Burton's violation of FCC's rules: Section 97.84(a)(station identification requirements); 97.85(d)(one-way communications); 97.85(e)(station control); 97.91 (one-way communications); 08113 [broadcasting prohibited); 97.125 (malicious interference) and 97.119 (transmission of obscene, indecent or profane words, language or meaning).

As I reported in last month's 'Highlights,' he was indicted by a Federal Grand Jury on seven counts of operating an amateur station without a license and transmitting obscene, indecent and profane language. The indictment was for operation subsequent to the revocation and suspension of his licenses.

•

Amateurs retransmitting the space shuttle communications were in violation of FCC's rules.

Section 97.91 of the Amateur Radio Service Rules, "One-way communications," permits certain one-way communications addressed to amateur stations: (a) "Emergency communications, including . . . drill practice . . . ; (b) Information bulletins consisting solely of subject matter having direct interest to the Amateur Radio service as such; (c) Round-table discussions or net type operations . . . ; and (d) Code practice transmissions . . ."

Section 97.113, "Broadcasting prohibited," provides — in part — that: "Subject to the provisions of section 97.91, an amateur station shall not be used to engage in any form of broadcasting, that is, the dissemination of radio communications intended to be received by the public directly or by the intermediary of relay stations, nor for the retransmission by automatic means of programs or signals emanating from any class of station other than amateur . . . ."

Several VHF amateur repeaters were used to broadcast or repeat the shuttle communications. One scanner manufacturer even advertised this amateur activity in its scanner sales brochure! It has since been corrected. □

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 1 June 1982.

Radio District	Group A	Group B	Group C	Group D
0	KT0I	KC0TC	N0DWA	KA0OFT
1	KJ1O	KB1BM	N1CDG	KA1IYQ
2	KV2N	KC2QD	N2DNH	KA2PQQ
3	KJ3I	KC3BG	N3CWA	KA3JLI
4	NZ4U	KE4VJ	N4HCH	KB4AXJ
5	KZ5C	KD5NI	N5EVG	KA5OJI
6	NK6F	KE6XD	N6GSX	KA6UUN
7	KT7J	KC7VQ	N7EBA	KA7NQL
8	KV8V	KC8WR	N8EAU	KA8PYH
9	KN9Y	KC9RC	N9DGG	KA9NPY
N. Mariana Islands	AH0A	AH0AA	KH0AD	WH0AAF
Canton Island	AH1A			
Guam	AH2O	AH2AP	KH2AW	WH2ADJ
Johnston Island	AH3A	AH3AC	KH3AB	WH3AAC
Midway Islands		AH4AA	KH4AD	WH4AAF
Hawaii	NH6U	AH6EH	KH6SR	WH6ATV
American Samoa	AH8B	AH8AB	KH8AC	WH8AAN
Wake Wilkes Peale			KH9AA	WH9AAA
Alaska	WL7O	AL7EA	KL7VP	WL7AWD
Virgin Islands	KP2H	KP2AN	NP2AP	WP2ACZ
Puerto Rico	NP4O	KP4FL	NP4FM	WP4CIN

For more information about call sign assignment in the Amateur Radio Service, see Section 97.51 of FCC rules, or write to the FCC, Consumer Assistance Branch, Gettysburg, PA 17325. □

Americans and Germans share

Submitted by Jim Gundry, W4JM

Charles Chapman, W4SVB is a member of three communication networks and is the organizer of a once-weekly hookup with fellow amateurs in Germany.

Charles Chapman, W4SVB

Last September, after more than 60 years in Amateur Radio, the retired engineer arranged the American-German meetings because of an article he read in a QCWA newsletter about German members of Chapter 106 having trouble making contact with American stations. Since the Central Florida chapter (of which Charles is a member) is number 107, Charles decided to communicate.

The weekly hour-long on-the-air meetings took two days of frequency searching to set up. Now they take place Thursdays at 1400Z on 21,380 kHz.

Charles has said that club members around the world are starting to listen in since the meeting time and frequency have been published in the club newsletter.

There are about 156 members in the German club and about 15 in the Florida chapter. All have been licensed 25 years or more.

— Information from the Lakeland Ledger, FL; article by Susan Barbosa □

10-year-old KA6UDK studies for General

Joining the ranks of Live Oak, California ham operators is Tammy Manford, KA6UDK, 10 years old. She is part of a ham family. Her mom, Jan N6DDO is an Assistant Director of ARRL and her dad, Jerry N6DDP is ARRL's Official Bulletin Station for the Yuba-Sutter area.

Tammy is in the 5th grade, is an honor roll member at school, and was the runner-up in the school spelling bee this year. She attended classes given by the Yuba-Sutter Amateur Radio Club in January and received her license in May.

She planned to attend the next General Class license class and upgrade by the end of summer. She is a member of the Y-S ARC and the YLRL, and if you happen to contact her on 40-meter CW in the evenings, she will gladly send you her QSL card with her own drawing on it. □

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_____

_____

USQS

(continued from page 9)

A: Yes. Keep SASEs on file and say via KM7Z. Simple, right?

Q: Can ham members of a family or of a club all receive QSLs in one envelope?

A: Yes, we can cross-reference whatever calls you wish to have included in one SASE. No need for each member to have separate SASEs. Ideal for clubs; just send SASEs under one call (president or trustee) and give us a list of calls.

Q: Does USQS handle QSLs for special event stations?

A: Yes. Recently, N7DF/VY1; KH6RS in Kalawao County. Both incoming and outgoing cards can be handled, so if your club or group of friends wishes to run a contest or special station, just say "QSL via KM7Z" (or via USQS).

We hope this has been an informative article. Our purpose is to provide a way that amateurs can exchange cards within the USA and not have to spend a lot on postage. The bureau is still growing and developing, and sometimes it may take awhile to get cards out, but as we grow the flow of QSLs increases.

We would like to thank everyone for the support and help we have received. We are counting on your continued help in getting a super system going. USQS is a non-profit corporation and is made possible by many hours of work. Our only reward is your thanks and appreciation. All donations received are used to purchase flyers, postage and envelopes, and do any advertising we can. Please help spread the word. Use USQS and let us know if there is anything we can do for you. The ham shack here at KM7Z is ready for any band, any time, so hope to see you on the air. We love to visit and welcome any skeds anyone may wish to set up.

Until next time, 73/88 Laryl Berry, P.O. 814, Mulino, OR 97042; phone (503) 829-6797. □

AMATEUR RADIO IN PUBLIC SERVICE

IMRA members know how to give

A little more than 18 years ago, about 40 amateurs held a meeting in Hudson, New Hampshire. Their purpose was to form an organization to make it possible for missionaries to call home from their outposts via two-way radio. Out of that meeting came IMRA, the International Mission Radio Association, Inc. Today it has more than 450 members living in about 30 countries.

The 2nd District, made up of New Jersey and New York, and the 4th, in the South — which covers a huge geographic area — have the largest membership enrollments. Warren Mulhall of Manasquan is president of IMRA.

IMRA is non-denominational and a non-profit organization. Daily, it establishes radio communications not only for the missioners, but for anyone needing contact with missions. It also helps to provide radio equipment for church workers who would not otherwise be able to get it. And its volunteers are ready in the event of an emergency or a disaster.

IMRA operates a net Monday through Saturday on 14.280 from 1900Z to 2000Z, with a time change to 1800Z to 1900Z when Daylight Saving Time is in effect.

To understand the magnitude of the IMRA radio operation, you need only glance at the statistics. In an average year, more than 10,000 check-ins are recorded and about 5,000 pieces of traffic handled. Most of the traffic is from or to missionaries in the field.

Most of the traffic handled involves Mexico, Central and South America and the Caribbean Islands. There are good reasons for this. Communications between the Americas is usually possible with good north-south propagation, even during solar cycle minima. And if phone-patching is involved, the United States has agreements with practically all of Latin America, none with Europe and few elsewhere.

Members are kept informed through a bimonthly newsletter, edited by the Rev. Michael Mullen, C.M., of St. John's University, Jamaica, New York. Father Mullen is an amateur himself — WA2KUX. He is public relations chairman of IMRA and Chairman of Humanities and Professor of Theology at St. John's.

The best way to learn how IMRA operates is to tune in to the net and, if you are impressed by the importance of the work being done, to consider membership.

Complete information on how to become a member may be obtained by writing to Br. Bernard Frey, O.F.M. CAP, Trinity Retreat, 1 Pryer Manor Road, Larchmont, NY 10538.

— *The Home News, NJ* □

Shrine Radio Club helps crippled kids

Hal Flory, N6AIZ

Yes, amateurs did it again. On 22 through 25 June 1982, over 35 amateurs from the newly formed Al Malaikah Shrine Radio Club in Los Angeles, California handled the communications for the annual Shrine Circus for Crippled Children. A total of 700 hours of air time were donated by this group over the four-day period.

You might wonder just what a group of amateurs could do at a circus. First, let me state that this is a genuine circus — complete with lions, tigers, horses and high-wire trapeze acts. The Shrine Temple is large enough to seat 5600 persons with a stage that is 150 feet wide, 50 feet in depth, and 75 feet in height. Adjoining the Shrine Temple is the Exhibition Hall, which is used as the circus midway.

The control operator was located in an office on the second floor of the Temple, which was isolated from all of the activity of the circus. All traffic from the operators was channeled through the control operator. Operators were assigned to various stations throughout the entire area of both buildings. Five operators were assigned to follow administrative personnel that were running the circus.

Our duties consisted of helping with security, locating lost children (and sometimes lost parents), requesting maintenance where needed, and come what may. This steady flow of 2-meter communications went on from eight to 10 hours each day.

At the end of the fourth day, all of the eight amateurs went home dog-tired, but happy in the thought that they had been involved in making thousands of handicapped children happy. The smile on the faces of these kids — many who had never seen a live clown, much less a circus — was more than worth the long hours of bone-wearying labor. It might be added that the performing circus professionals were the only ones paid for their efforts. All the rest were Shriners, donating their time. □

Accident victims aided by amateurs

Dave Schneider, WD0ENR

Amateur Radio was used to report a personal injury traffic accident in southeast Iowa on 18 June, according to Dave Luckman, K0HYH, Emergency Coordinator for Jefferson County.

Larry Newby, WB0BHF was traveling on a rural county road 12 miles southeast of Fairfield when he came upon a two-truck collision that had just occurred. The two trucks were turned crosswise in the road, one front end badly damaged. Debris was strewn all over the road. Two passengers in one vehicle were dazed. One person was lying on the road bleeding from the nose and mouth.

Larry instructed others to place a blanket on the downed victim and not to move him. Then he called CQ Emergency on the Fairfield repeater K0BPR/R, 147.33, and Lowell Knapp, K0LK answered. Larry reported the situation and requested assistance. A phone call was made to the Fairfield Law Center, and emergency vehicles were dispatched within one minute after receiving the call.

Fortunately, no one involved in the accident suffered any serious injury and all recovered. □

Tornado victims helped by 'glorified CB'

Tania Miller, WB9TKC

On 29 May, severe storms and tornadoes ravaged a cluster of many small towns in southern Illinois. The worst tornado touched down along the most populated section of Marion, Illinois. In its wake, it left 12 people dead (one as young as 11 years old), over 100 injured and 300 homeless. It leveled shopping centers and truck stops. It knocked out telephone lines, electric power and damaged their water supply within a matter of minutes. The local hospital quickly overflowed with victims and sent many to medical facilities in nearby towns.

Amateur Radio operators were on the scene immediately. So many people volunteered their help that officials found more of a supply than the demand called for. Bob Heil, K9EID, 1982 Dayton Convention "Ham of the Year" and the Marissa Amateur Radio Club (MARC) president, brought up the 147.81/21 intertie through the MARC's sophisticated 2-meter repeater system, and tied it into the Carbondale (very near Marion) 146.04/64 repeater where an emergency net was activated.

Charlie Harpole, K4VUD handled traffic from Saturday about 4:00 p.m. (the tornado hit about 3:30 p.m.) until the following Monday through the 81/21 intertie. He only quit when there was no

(*please turn to page 14*)

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Service

(*continued from page 12*)

more health and welfare traffic. The Williams Hill Repeater Group had activated another net in the disaster area on 28/88. Dave Lattan, WD9EBQ, ARES officer, worked handling traffic on 2 meters in Carbondale.

John Martin, KB0EA, District Emergency Coordinator for the ARRL, worked at the American Red Cross headquarters in St. Louis, Missouri — over 100 miles from the disaster — from Saturday until Sunday afternoon.

Midcars on 40 meters (7.258) was used extensively as people went to the Amateur Radio operators to check on their families from all over the country. For awhile, 75 meters was also used.

Over the years, many Amateur Radio operators have snidely commented that 2 meters is nothing more than glorified CB. When getting people together was most vitally important, 2 meters was activated, using technology to accomplish such a mission, linking St. Louis, Missouri into the heart of the disaster area in southern Illinois, over 100 miles away. Through the MARC's intertie, amateurs closed this distance — some with just a few watts and emergency power. □

Savannah area hams celebrate May Day

Richard Smith, WB4APG

While everyone else was dancing around the maypole to celebrate May Day, 50 members of the Coastal Touring Club — a family-oriented bicycling club — thought it would be good to observe May Day and the first day of National Bicycling Month with a leisurely 100-mile ride from Savannah, Georgia to Darien, Georgia and back again. Darien is 50 miles south of Savannah on coastal highway U.S. 17.

The Savannah Area Amateur Radio Emergency Service members were called on to furnish a radio safety net for the Coastal Touring Club, "Century Ride." The group, under the direction of Tom Langenfeld, KA4RKX, had amateurs stationed at each rest/refreshment stop to provide communications for the organizers. Those working at the rest/refreshment stops were Richard Smith, WB4APG; Joe White, WA4GFC; Demetria White, N4EXD; Wilson Roberts III, WD4DIE: and Dave McLean, K4KVR. A helpful ham from St. Simon, Georgia who joined us to help by anchoring the Darien end of the network. Greg Dickerson, N4DBS rode the repair/supply truck and Harry Kennedy, WB4SKU rode with the WWSA radio van to help furnish progress information to the friends and family of the riders in the listening audience. While Tom KA4RKX acted as a moving mobile to handle unexpected needs, Lee Torriente, KA4CHN and Becky Langenfeld, KA4VSC took turns holding down the start/finish line.

The group used the Coastal Area Repeater Society, 146.10/70 repeater. There were no emergencies during the event which started at 7:00 a.m. and ended at 5:00 p.m.

Several of the amateurs involved decided to use hand-held units on internal batteries connected to mobile antennas to get practical experience on communicating with limited power and battery capacity. This proved to be a worthwhile experiment. Of course, the 800-foot height of the repeater antenna helped.

Simple job turns into big project

Ken Tolliver, NQ4P, EC

It started out as a simple public service communications job for Amateur Radio operators and turned out to be a complex, crucial project.

The amateurs were asked by the March of Dimes fund-raisers in Lake County (Florida) to provide communications for the annual county-wide March for Life Walkathon, to be held 24 April. The amateurs were told that about 300 people would be walking a 20-mile course with 10 checkpoints and communications would be needed between checkpoints.

The amateurs, using the excellent 2-meter repeater of the Lake Repeater Association, expected a real no-sweat Saturday of public service. But that's not what they got.

Twenty-one amateurs volunteered their services, and assignments were made before the 8:30 a.m. start of the march. John Mullan, W4OQF was designated net control and the rest were given various posts. The police and Highway Patrol advised the event's organizers that they

SUBSCRIBE TO WORLDRADIO; see page 11

would not be providing police or patrol escorts. Most of the places where the walkers would cross major highways had stoplights, didn't they?

Saturday dawned with a promise of scattered showers that kept the number of walkers to below 200 and by the time they started their hike, light rain was falling.

Under the rules of the walk, no participant could leave the route without returning to the starting line to be checked out. In addition, walkers were instructed not to accept rides or directions from anyone but a walkathon official.

The director of the walk rode with the county Emergency Coordinator and was impressed with the ease she could remain in touch with the various checkpoints and the status of the marchers.

The scattered showers rapidly became heavy continuous showers and then upgraded into heavy rainstorms. This meant reduced visibility along the highway route and slippery roads. In addition, the cold rain meant misery for the walkers, many of whom were youngsters under 12 years of age.

Soon it was apparent the route should be drastically shortened from the planned 20 miles. The walkathon director asked the amateurs to set up new checkpoints, roadblocks and make certain all the walkers understood the changes. The participants were scattered over several miles, some jogging rapidly, others straggling. But the amateurs managed to get the messages passed and the route changes made.

As the rain got worse, some of the marchers became ill and had to be rescued by those patrolling the route. About three hours after the walk began, it became obvious it would have to be called off for safety and health reasons and the walkers picked up. The problem was that the participants were scattered over an eight-mile course.

Within 10 minutes, the amateurs had not only stopped the head of the march, they had arranged to use sheltered pickup points and rounded up the walkers as they arrived under amateur escort.

Stations participating were Ken NQ4P and Judith Tolliver, NS4C; John Mullan, W4OQF; George Hawkins, WA4YWA; Bill MacIvor, K3AQY; KE4QD; Richard Raustad, W4FBS; Ken Golding, KA4HWD; John Fletcher, KA4GXZ; Bob Dennen, KA4GIK; Clayton Grice, W8BCQ; Milton Hoornstra, K4OLU; Bill Rahenkamp, WA4TLG; Paul Branch, K3NON; Carl Werner, N4EKN; Lloyd Proebsting, K4ISH; Bill Richardson, K4YNI; John Ciganek, W4GYP; KA4YMH; Reid Martin, W4BP; and Ralph Kron, KH6WB. □

Florida amateurs assist during storms

In what officials term the worst weather disaster ever to hit west central Florida, Marion County Amateur Radio operators played an important part in providing emergency communications and assisting Civil Defense (CD) in many tasks.

Operations began on the afternoon of 8 April, as severe weather moved into the area around Ocala and Dunnellon. For the next three days, (Easter weekend), extremely heavy rainfall was recorded. Tornados along with severe windstorms caused extensive property damage in Marion County. Roads were damaged and flooding was widespread.

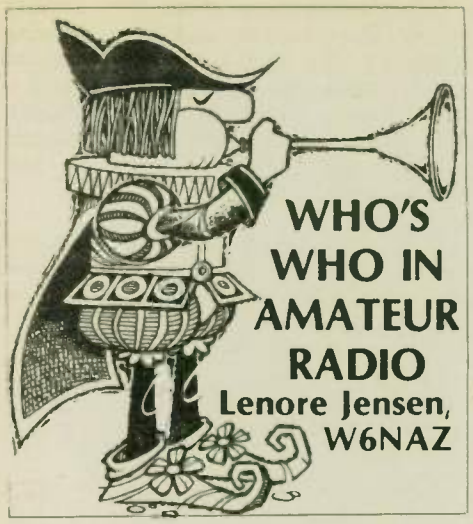
District Emergency Coordinator (DEC) Cameron Magnon, W4UEA headed up operations and reported that 31 local members of the ARRL Amateur Radio Emergency Service (ARES) and the Silver Springs Radio Club ran 23 reconnaissance missions at the request of CD authorities.

DEC Magnon adds that Amateur Radio operators staffed the Emergency Operations Center at CD HQ and Red Cross shelters to provide 24-hour communications assistance over the Easter weekend.

It was nearly 11:00 p.m. on Easter Sunday when the Marion County ARES Net was secured. In a statement to the Ocala Star-Banner, DEC Magnon commented on his ham volunteers. "They are ordinary citizens — your neighbors — engaging in every kind of vocation, but who make Amateur Radio their avocation, who join together in times of disaster and contribute time and talent in the spirit of public service way beyond the call of duty."

Congratulations to W4UEA and the Marion County ARES for the assistance and for performing in such a manner as to bring credit to all Florida Amateur Radio operators.

— North Florida ARS, Jacksonville, FL □



When Sheila Gabriel obtained the call of G3HCQ in 1949, there were no rigs to buy so she built her own of parts stripped from war surplus gear. "Then I bent the aluminium," she recalls, "drilled the holes and put it all together."

This was no particular problem to the woman who now advises the United Kingdom's 4,000 hospitals on their use of textiles and flammability. Those who enjoyed meeting her at the YLRL Convention in Washington, D.C. were impressed. This handsome lady is obviously remarkably capable.

Sheila was born in the Channel Islands but taken to England when the Nazis invaded her homeland. In London she could see many buildings constructed by her great grandfather, Sir Thomas Gabriel, in the 1840s. He also served as Lord Mayor of London.

She joined the Women's Royal Air Force in 1942 "and went to wireless school, copying code *all day* every day until qualified for 18 wpm." Her technical training would later make the amateur exam a cinch.

The ham bug bit when she attended meetings of the other operators who were also amateurs, but some time was to pass before she got around to her own license. After operating for the service in England, she volunteered for the Middle East Air Headquarters in Cairo.

There, Sheila met and married a diplomat — he was Greek, which is why she is fluent in his language. Eventually they returned to England and she finished college. At last she had the opportunity to take the test (for her, no study necessary).

Working alone from books, she built a transmitter (6V6 and 6L6) and a receiver (6SL7, 6SN7), scrounged for wire and ended up with a station running almost 25 watts.

"For CW only, of course," she remembers. "At that time, we all had to work code for a year — and to *prove* that we had."

By then, Sheila had had her first baby and could find time to call CQs only late at night. Countless CQs went out; she was getting desperate when finally an OM came back. "I remember distinctly, with the greatest elation of any contact since, that he gave me a 579!" Her handmade aerial out the kitchen window of the flat had finally produced results. It was the start of a stream of contacts to come.

YLs were rare in those days in Great Britain. "I believe there were perhaps five girls before me," she says. "The very first was probably a Mrs. Ingrahms who ran a wireless school, around 1912. Then, in the mid-'20s, came 6YL (later G6YL), G2YL, G8YL and G3ACC, who joined up just before I did.

"I was happily surprised to find there had been so many YLs in the United States from that period; it picked me up considerably!" During the last six or seven years, British YL ranks have grown to about 200.

When Sheila finally got her station working to her satisfaction, she was highly enthusiastic and worked lots of DX, "but not competitively."

However, she was to see much DX land in person. From 1957-79 she became an SWL as she traveled with her husband to Capetown, Cairo, Athens, Paris, Algiers, Tunisia, Milan, Ankara, etc. "But I kept up on Amateur Radio through magazines all the while."

Finally back home, "I once again got my own call, G3HCQ; you see, our government does not reassign them." She was required to take the code test once more, but not the technical.

Sheila took on a full-time job and soon became involved in her current vital work: fire advisor to the hospitals. Today she is considered an authority, not only to the medical side but to consumers as well. She "looks after the wholly technical and designer aspects of all textiles and also from the safety point of view." It's a most important field, concerning the prevention of fire and the spread of infection, with heavy emphasis on aspects of safety.

Sheila Gabriel, G3HCQ ***(photo by Bob Jensen, W6VGQ)***

The comfort of patients is also high on the list.

Sheila was the advisor to a committee studying the situation, inquiring of NASA about the seating arrangements in space capsules where astronauts were required to sit for a long time. The Ford Motor Company was also questioned about tests they had conducted.

"Now, we use polyurethane foam with a flame-retardant cover to protect it. The study has saved us much money and comfort."

She has a full-scale laboratory and uses the services of other research institutions, universities, etc. in many parts of her country. "I also cooperate with large manufacturers in the United States as well as the United Kingdom. We're all trying to find a better support. We're now working on a new one with alternative pressure pads which change under the body by use of a little motor."

The aesthetics of textile selection for hospitals can greatly affect recovery by patients, so she uses color-coordinated floral-printed sheets, drapes and the curtains which are pulled around for privacy; all are 100 percent flame-retardant. Hotels, not yet legislated for fire safety in textiles, have taken the cue and benefitted by her research.

With all this responsibility, G3HCQ is still a very active call. Driving from her office (near the British Museum) to the various hospitals, she now enjoys 2 meters, having finally broken down and obtained a commercial rig.

"But I'd like to see us all return to some construction. There is a trend in the United Kingdom for this with a lot of new hams beginning to build. I've made myself a frequency meter and a 2-meter linear."

She's such an elegant-appearing lady, it's hard to imagine her other interest. Laughing, she tells us, "I creep about under my motor car because I like to clean the plugs and change the motor oil, which necessitates undoing the plug underneath the sump (oil pan). It has defied me a few times, but I keep on trying."

The key to her character comes when she says, "Of course it has been quite a challenge to make my own gear, from aerials through transmitters to receivers, but I found if I broke enough fingernails, I could. If you *try* anything enough, you will do it!"

Sheila once built her communications receiver, all by herself, from the 1952 ARRL Handbook. For a microphone, she obtained a crystal insert and put it between a tea strainer (in front) and half of a bicycle bell (in back) — all mounted on a reading-lamp base.

"Our maximum power is 160 watts DC input," she explains. "No third-party traffic nor operation is allowed." And yes, they have a no-code license with a

(*please turn to page 40*)

Senegal and the Gambia remain separate

In the June 1982 issue (page 5), I saw reference to a future merger of Senegal and The Gambia. The tone of the article was such as to suggest, to me at least, that the two countries would disappear as separate entities and would not count separately for Amateur Radio purposes. We became curious and did some checking.

The negotiations leading up to confederation of Senegal and The Gambia have not to date included reference to a possible merger of the C5 and 6W8 call areas. There has been an insistence on the part of both Senegal and The Gambia that each country would maintain absolute sovereignty and international identity. So long as this concept holds, and there is no reason to believe otherwise, DXers can rest assured that there will be no unified call area for Senegambia in the foreseeable future.

73,
DEXTER ANDERSON, W4KM
President, Dept. of State ARC
Washington, D.C. □

Vote NO on no-code licenses

Let's all get together and vote NO! loud and clear on the so-called code-free Amateur Radio license. I studied very hard to learn code, I think that if anyone wants to be an amateur bad enough he or she will learn the code.

I don't want Amateur Radio to get like CB. Everyone should pass a code test of some kind.

Yours truly,
DAVID L. SPIGHT, KA8PGA
Flint, Michigan □

Help needed for Amcomm radios

I have three radios that are Amcomm S225, made by Amcomm, 730 West McNab Road, Fort Lauderdale, FL 33309. I wrote them a letter about parts and service and they seem to be out of business. Do you know of the company, if someone took over their parts and is selling them, and if anyone is servicing these radios?

JIM TOUSSAINT, WA0AAO
Box 135
Ellsworth, IA 50075 □

He thanks JPL

In response to KE6CZ's comment concerning W6VIO (July **Worldradio**, page 14), my QSL arrived two weeks ago (late June). I believe we should compliment the JPL Amateur Club for their time and efforts in making such a program available to the ham community. My hat is off to them.

JOHN CAPPADOCCIA, KA2JFR
Jersey City, New Jersey □

Another query about W6VIO

I read in your July 1982 issue, in the Off the Air section (page 14), a letter from KE6CZ concerning a QSL from W6VIO. I also contacted this station and have sent two QSLs plus SASEs with no results. The contact was on 23 August 1981, 20-meter SSB, and the operator was George.

The same day, I had a QSO with KX6BU, operator Dave. Again, 20-meter SSB. So far, I have sent *three* QSLs plus SASEs. I have been sent to N6BSD and to the Callbook. I, likewise, hope to hear from both of them. Like Gary Payne, KE6CZ, I hope someone can help.

Yours truly,
TED WHITE, KI8B
P.O. Box 67
Hamilton, OH 45012 □

2M repeater on Montserrat works well

I am pleased to report that after almost a year of continual operation, our 2-meter repeater is giving our island excellent coverage on a daily basis with very little down time.

The Montserrat Amateur Radio Society would like to commend the following members who were instrumental in the procurement and setting up of this fine equipment: Errol Martin, VP2MO; Konrad Hollatz, VP2MF; Perry Brittian, VP2MR; Victor James, VP2MQ; and Mike Gundy, VP2MBO.

A special thanks to all the members and others who have made and will continue to make our radio club and repeater the success that it is. (Montserrat's station, VP2M/R, operates on 146.37/.97.)

73,
ALEX KASEVICH, VP2MM
Montserrat, WEST INDIES □

Rebuttal to Jordan's letter

To: Mr. H. Frank Jordan, W5EDX (Advanced Class)
San Antonio, Texas

Dear Sir:

Your letter published in **Worldradio**, August, page 38, titled: "Speaking out on 20-meter stretch" is uncalled for. After reading your article, I came to the conclusion that if you had to sit down now and try to copy 13 wpm the requirements for General Class. I doubt seriously that you could even pass it. I am willing to bet money on that. Who are you to ride on my coattail and have the same privileges as I have? It took me seven months, my friend, before I could trot down to the FCC to pass this 20 wpm, and it is through persistence that I made it. That, my friend, is an accomplishment in itself. I am sure many Extra Class like myself will agree that you either knew it or you didn't.

Evidently, my friend, you don't have what it takes to be able to copy 20 wpm. If you did, you wouldn't be making these stupid remarks.

I read through the lines — many people like yourself are lobbying to do away with CW requirements in order that people like yourself could get a free ride to the top. I hope that with the help of ARRL, we will never see the day they will have to do away with CW. They should leave it as a prerequisite to reach and accomplish what the rest of us radio amateurs strived for for so many years.

Can you just imagine the QRM on the amateur bands if they let CW out of the exams? The amateur bands would let people like you get us QRM that much more; it would be like a bunch of CBs. Have you ever listened to the CB band, Mr. Jordan?

I am 66 years old and have been licensed over a quarter of a century. I was a conditional for 28 years — nothing to be proud of, because I was in the rut like you are, but I got hold of my boot straps and was determined to study to reach the top, and you come along because you can't pass it, saying they should give you the same privileges as I have.

In closing, Mr. Jordan, W5EDX, I want you and the rest of your Advanced compatriots to read page 67 of the June QST, the middle column under: "Expand subband now." Read it carefully, all of you Advanced Class, and if you read it enough, maybe you will get the message, and maybe it will sink in a little.

Sincerely,
EDOUARD COURNOYER,
W4UMO (Extra Class)
Atlanta, Georgia □

Repeater activity in West Virginia

I try to keep up with all the repeater and 2-meter activity in my area of the state. I wish we had a gateway repeater to the northern end of the state so I could gather information from that area for inclusion. A gateway does not exist now, but with increased linking activity, a time may come when we in southern West Virginia can talk across the entire state.

I suppose this next item should be written by a North Carolina amateur, since I have only reports from others to go by. But if you haven't received anything from there, let me pass along what we've been hearing about a new 2-meter repeater on Mount Mitchell — the highest peak in the eastern United States.

As this is written in early July, the repeater isn't in the final location or at full power. But early reports indicate the 144.59/145.19 repeater will be a giant.

A Kanawha-Fayette-Clay Amateur Radio Association member — Larry Green, WD8RHL — worked it while returning from a seashore vacation on 1 July. Larry reported the machine was still at ground level and not at full power. But they held a midnight check-in session to see just how many amateurs would check in at that hour of the night. Larry said there were more than 200 who did so, checking in from northern Georgia, central Tennessee, North and South Carolina, Virginia, Kentucky, and Cincinnati, Ohio. Larry was disappointed that no one from West Virginia checked in that night. Maybe the word hadn't yet reached here.

TED WOLFE, WD4KHL
Cabin Creek, West Virginia □

Her efforts helped China station to become a reality

I have found so much pleasure in the hobby of radio, and have had experiences I had never dreamed of before as a result of my hobby. Perhaps one of the most important times of my life was the original ham trip to China in company with Don Wallace, W6AM and Irvin Emig, W6GC when we met with the government officials in Peking and emphasized the importance to the radio world of their coming back into the fold.

I know we did a great deal toward making today's BY1PK operation a reality. We had two sessions with the officials, and at that time they promised they would do all possible to put China back into the DX world — and they have kept their promise.

I have been a ham since 1975 (a comparative newcomer), but I always get a thrill working a new country or renewing a contact with an amateur not heard for some time. And of course, having eye-to-eye contact at the various conventions across the country is something I look forward to and remember long afterward.

This fall, I will be aboard the *Oriano* with a group of hams headed by the Clarks (Gene W6DQH and Jean WA6GUA) when we leave Sydney, Australia for New Zealand, Fiji, Vanuatu and New Caledonia for a ham cruise. Do look for our signals coming up from "down under" during the middle of October.

This year I have attended the Visalia DX Convention, the Dayton Hamvention, and the YLRL and YLISSB conventions. Those who attended had the opportunity to see the slides taken in China. I have given over 300 slide-lectures to many radio clubs and conventions, and always enjoy sharing my experiences with them. Harvey McCoy, W2IYX, of the *LIDX Bulletin*, helps moderate the lecture and gives the "ham's eye view" of the trip.

Sincerely,
JEAN CHITTENDEN, WA2BGE
Extra Class
Syosset, New York □

●●●

The arm of Amateur Radio reaches around the world; **Worldradio** is out to reach you.

American Radio Relay League

J.A. "Doc" Gmelin, W6ZRJ
Past Director, Pacific Division
ARRL Honorary Vice-President

There is a saying in Amateur Radio that "If we don't use our amateur frequencies, we will lose them."

The saying may have come from the early 1960s, when we amateurs "lost" our 11-meter amateur band to the citizens radio service, now known as "CB". Actually, we amateurs only lost the use of the band as amateurs, since we can obtain a CB license if we wish. In reality, the 11-meter band has always been a shared band.

When I first became an amateur, we shared the 11-meter band with something called diathermy, which was at that time a popular medical treatment for certain bone and muscle conditions. The many diathermy machines of that day caused strong, wide-band signals on 11 meters.

There were also other radio services using the 11-meter band when CB was opened up on the 27 MHz frequencies. But a major cause of the loss of this band was because it was not used by amateurs to any great extent.

At times, this may appear to be the case on our amateur 10-meter band, where even when the band is open, there are often wide frequencies not being used. When skip conditions are not present, the band is often almost completely unused.

This makes one wonder why there is any pressure at all to expand the phone segment of 10 meters, especially when the ratio of phone to CW is 1200 kHz for phone and 500 kHz for CW — better than 2:1 for phone operators.

When one considers which frequencies are available for each class of license on 10 meters and finds that the entire phone band is open to General Class amateurs and above, one might ask why there is a push to even more phone band on 10 meters. QRM does not appear to be the problem on 10 meters because most often there are wide open phone frequencies above 29 MHz.

In actuality, QRM is often a problem on 10 meters, as it is on any band where one can work DX, but only in certain segments.

On 10 meters, phone stations are often crowded between 28.5 and 28.65 or 28.7 MHz, when the band is open for DX. Why? Because many stations are trying to work foreign phone stations who are operating just below the "U.S. phone band," which has a lower limit of 28.5 kHz. In recent years, this has not been as much of a problem as it was in the days of mostly AM amateur phone operation.

The universal use of SSB transceivers has changed the operating habits of amateurs worldwide; we often hear foreign phone above 28.5 MHz. But the fact remains that, as on all the amateur bands below 30 MHz — not counting the *new* amateur bands — foreign stations are generally not restricted to specific phone bands and can operate on phone outside the U.S. phone bands.

These foreign phone amateurs, including Canadian amateurs, operate outside the U.S. phone bands because they say that at times they have to escape U.S. amateurs in order to operate other DX stations.

As on the other HF amateur bands, on 10 meters there is an "unofficial" amateur foreign phone band which runs from just above the 10-meter Novice band at 28.2 MHz to the low end of the U.S. phone band at 28.5 MHz.

From all appearances and in actual practice, U.S. amateurs do not use these 200 kHz at all. CW operation is generally found below 28.2 MHz in the United States. (Note that 100 kHz of the segment 28.0 to 28.2 MHz is used for Novice CW, leaving only 100 kHz for general use by U.S. CW operators.) Thus, when one considers the use of 10 meters in the United States and finds 200 kHz of unused amateur space, there is pressure to assign the space to other radio services. In the United States, there has been pressure to assign some 10-meter frequencies to the CB service.

When one remembers the old saying, "Use it or lose it," one can see why there might be pressure to move the phone band down to a 28.3 MHz lower limit.

Of course, one question faced by the ARRL Board of Directors in considering a request for such a change is what the effect might be to U.S. CW operation. Many other amateur societies have informed the League that if there is any expansion of U.S. phone bands, they (other countries) will move their phone operation down to escape the U.S. phone operators — for at least part of the time.

For instance, I have been told in the past that Canada will move its phone band down kHz for kHz, so that they will always have 50 kHz phone below each of the U.S. phone bands. Thus, phone band expansion on 10 meters might move foreign down onto the U.S. 10-meter Novice band, depending on how much phone band expansion occurs.

One suggestion is to open a new phone band segment to only Extra Class licensees, in the hope that foreign phone would not find enough QRM to move down further.

Since it is highly desirable to work DX stations inside what is now considered the "foreign" phone band, the incentive for U.S. amateurs to upgrade might increase. Whether or not this will happen is speculative, as is the possible move of foreign phone down into the U.S. Novice band at 10 meters.

On the amateur 15-meter band, we have much the same condition, but since the band is more limited, there are few unused frequencies when the band is open.

In the case of 15 meters, there appear to be more CW frequencies assigned to U.S. amateurs than phone. But when one considers that 100 kHz of this allotment is for a Novice band, which runs from 21.1 to 21.2 MHz, there is really only 150 kHz for general U.S. CW operation.

Again, however, the segment 21.2 to 21.25 MHz is not generally used for U.S. CW operation. Here we find, as on the other amateur HF bands, another "foreign" phone band not by regulation, but by usage. When one considers that 15 meters is subdivided by license class in the United States, it is obvious that the League's Board of Directors does face a problem in trying to determine what to do about phone band expansion on 10 and 15 meters.

If the U.S. phone band is expanded to, say, 21.2 as a lower limit, foreign amateurs say they will move down onto the U.S. Novice band in order to escape U.S. phone operators — at least some of the time. It's kind of a "catch-22" situation.

From our discussion of the various phone bands below 30 MHz and the possible results of U.S. phone band expansion, we see that the problem is more complex than at first glance. Even though some of my friends at ARRL Headquarters feel that the old "phone vs. CW battle" is now a dead issue, we see that it is certainly a part of the problem of phone band expansion.

In fact, the whole question of the place of CW in Amateur Radio is now facing the ARRL Board of Directors as the FCC makes new proposals.

Phone vs. CW is still very much alive in Amateur Radio, and we will discuss this in our next article in this series. □

Same call, same name — almost

Wesley E. Rader, WB0UVN

After reading "The Incredible Dept.", page 25 of the August 1982 issue, I felt I needed to relate my contact with WB6UVN, by myself — WB0UVN. *Both* are *Wesley E.*

To join or not to join — the ARRL

Fred Kahn, KK2T

How many of you belong to the ARRL? Please raise your hands. Now, how many of you participate in any of the local traffic nets? Ah, less hands, but the same where they're raised. Well, how many of you take part in presenting Amateur Radio with good public relations, or prepare for emergency communications needs? Well, I see the same hands once again!

Amateur Radio and the luxurious privileges we enjoy from our government need ever-constant nuturing — especially from its constituents, you and me, the amateurs. There are many ways for us to earn our right to be an amateur. Some check in regularly with the local National Traffic System (NTS) affiliate or independent net. Others keep their stations (and themselves) prepared for emergencies. Others help preserve and strengthen the image of Amateur Radio with good public relations.

One of the most important ways, however, to make sure that we will always be able to enjoy our hobby is to be sure we are well-represented at all levels of government. This, to me, is a vital role of the ARRL. Sure, **QST** is good, the guidebooks are great, and all the contests and free code practice sessions are terrific. But these, like other things the League does, are just extras to me. I look at my membership in the League in several different ways.

First, and most important to me, the League represents Amateur Radio (and me) in Washington and to governments around the world through the IARU. This means less chance of losing the privileges I worked so hard to get. Also, as demonstrated in the last WARC, it may even mean the possibility of gaining additional operating privileges. With today's tightening economy, it becomes even more important to keep Washington from tightening *my* belt.

Second, and important as well, there's the important coordinating tasks that the League undertakes with the NTS, the IARU, the volunteer instructor program, the contest, Field Day, the ARES and much more.

Third is the magazine, **QST**. While technically it's gotten a bit high-level lately, it manages to keep me informed of the latest technological breakthroughs. It also informs me of political and functional happenings involving the hobby and carries notices of upcoming contests, flea markets and conventions. Equipment tests and other articles are informative and beneficial.

The cost? Well, it's expensive. Twenty-five dollars is a lot of money. But if you look at what you get, it's got to be the best buy around. To help keep long-range costs down, I just signed up for life membership. One thing is for sure: I can't afford to be *without* the League!

— Metroplex Newsletter, Leonia, NJ □

If a foreign amateur visits your area, do a picture story for Worldradio

STATION APPEARANCE

Our Station Appearance winner for September is George H. O'Reilly, EI0CY of Dublin, Ireland.

"I have been interested in radio since my school days, when I started building crystal sets," George stated, according to an article printed in his office's staff newsletter — *PagusT.* George is a Higher Executive Officer in the Buildings Branch in the G.P.O. (Government Post Office).

Following is part of a letter EI0CY sent to us, describing in detail the contents of his station.

"The rig is the Yaesu FT-101Z with a KW antenna tuning unit modified by the addition of a second meter so that forward and relfected power can be read at the same time. The accu-keyer is homebrew, with memory facilities. The Morse typewriter is also homebrew, from a circuit in the ARRL Handbook. It is portable — the rechargeable batteries came from some junked battery hedge trimmers!

George O'Reilly, EI0CY shows off his station.

"The computer shown is a Compukit — a variation of the American Superboard. I have now replaced this with a Radio Shack Tandy TRS-80 Model 1 with level 2 basic. (Anybody with a few cassette-based programs that they would like to pass on?!)

"The aerials consist of dipoles for 10 and 15 meters and a homebrew ground-plane for 20, 40 and 80 meters. It's about 33 feet high. The country score stands at 223 with 210 confirmed.

"I am a public servant by 'trade' in the Dept. of Posts & Telegraphs, so radio is a hobby only."

You've done a fine job of fixing up your station, George, and we thank you for sharing it with us. You'll be receiving a free year's extension of your subscription.

Technical tips

Mickey McDaniel, W6FGE

Here are a few technical tips which I have used to good advantage. Perhaps they may help you.

Double shielded coax — as close as your kitchen cabinet. Aluminum foil, of course! Does a good job on inside runs — between units, back of equipment. Fasten it on with Scotch tape. Ground it.

Ignition noise suppression — same stuff! Tape the aluminum foil tight — the engine fan tends to drag it off the wiring otherwise. Works great with electronic ignition system interconnect wires. Ground it.

Coax fitting weather proofing — Instead of the expensive spread, use heat shrink tubing.

Mobile operation — Having trouble hearing words from your hand-held or other rig using small diameter speakers? Plug in an outdoor-type speaker. I use a plastic folded exponential unit (Electro Voice PA30A) "garage sale special" on the passenger side floor, firing up at me. It turns my rice box into a Magnavox!

Home station operations — This same horn makes a big improvement in the audio (listening) performance of my TEN-TEC OMNI. □

New products

Lyn Rowland Jr., W3NSI

220 MHz to 450 MHz scan converter, CVR 216: Hamtronics has available a converter that will convert the 216-225 MHz range to receive on a UHF scanner covering 468-477 MHz. It would be possible to pick out the simplex and repeater channels and program the corresponding frequencies on the UHF receiver. Since there are no scanners that cover the 220 MHz band, this is one way to avoid buying a bunch of crystals. Ten crystals would cost the same as this converter as a kit. Cost $50 kit, $80 factory-wired. This model is available through Grove Enterprises, Brasstown, NC 28902.

2-meter high power amp: Tokyo Hy-Power Labs has a 160-watt amplifier that can be driven by a 3-12 watt signal. The HL 160V features all-mode operation and a built-in receive preamp. Power meter is mounted right on unit, along with switches for all functions. Price $350. Encomm, Inc., 2000 Avenue G, Suite 800, Plano, TX 75074.

—Mt. Airy VHF RC, PA □

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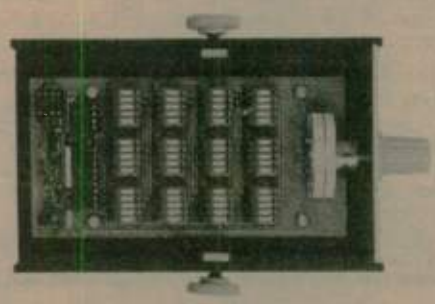

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77.0 XB	94.8 ZA	114.8 2A	141.3 4A	173.8 6A	
79.7 SP	97.4 ZB	118.8 2B	146.2 4B	179.9 6B	
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DX WORLD

John F.W. Minke III, N6JM
6230 Rio Bonito Drive Carmichael, CA 95608

Activities Calendar

28-29 August	JARL All Asian Contest (CW)
11-12 September	DARC European DX Contest (SSB)
18-19 September	Scandinavian Activities Contest (CW)
25-26 September	Scandinavian Activities Contest (SSB)
02-03 October	VK/ZL Oceania Contest (SSB)
09-10 October	VK/ZL Oceania Contest (CW)
30-31 October	CQ World Wide DX Contest (SSB)
13-14 November	DARC European DX Contest (RTTY)
27-28 November	CQ World Wide DX Contest (CW)

Refer to the Contest Calendar column by Frank Anzalone, W1WY in the latest issue of CQ for details on the above events.

W-100-N

Worldradio's Worked 100 Nations certificates have been awarded to the following two amateurs:

183. NT4W David L. Sargent
184. KC4YY Edgar A. Stalder

David used three different calls while working toward this award from his location in Pauline, South Carolina — those being KA4OBX, KC4PY and his present call of NT4W. Edgar KC4YY used to sign WD4IIU from Springfield, Virginia.

China (BY)

With the training period over, BY1PK is back on the air. Look for BY1BC, a second station to appear soon. This station is that of the University of China, Beijing. Incidentally, unlike the Soviets, IRCs are good in China.

Due to TVI, BY1PK has reduced power from 1kW to 400 watts. They have a good antenna, so there will be no problem hearing them when they are on.

Mount Athos (SV/A)

There are no plans in the immediate future for the DXpedition to Mount Athos, and anything you have read concerning such a DXpedition was incorrect. As was stated in the last issue, there was doubt to this to begin with as Mount Athos is a haven for Greek monks who don't care to have the outside world disturbing their meditation.

Mozambique (C9)

OH2BNL/C9 was reported to be in Mozambique through August. He had been reported on 15 meters operating SSB. If you were one of the lucky ones to work him, send your QSL card via OH2BH.

Prior to independence being granted, there was much activity from this country with stations signing with the CR7 prefix. It is the newer DXer who needs this one or who is working on CW DXCC.

Burma (XZ)

Cards from XZ5A and XZ9A are now being accepted for the awards program sponsored by CQ. They are still not being accepted by the DXCC desk in Newington, and that includes DF8MP/XZ.

Mellish Reef (VK9ZR)

Back in May, a group of DXers made a DXpedition to Mellish Reef to put out a new one for many of the deserving. The team consisted of Fernando Martin, EA8AK; Franz Langner, DJ9ZB; Harry Mead, VK2BJL; Bruce VK3DHT and Jack Binder, KB7NW, skipper of the sailing yacht *Banyandah* which transported the hearty group to the reef. This was truly an international DXpedition with representation from four continents! Within a few days of each other, Fernando EA8AK and Frank DJ9ZB sent in photos of their recent trip. As in most DXpeditions, the operators always QRX for a picture — this one in front of one of their tents.

Left to right: Fernando EA8AK, Frank DJ9ZB, Harry VK2BJL, Bruce VK3DHT and Jack KB7NW. ***(Photo courtesy of EA8AK)***

The Mellish Hilton on that tropical paradise. Notice lack of trees to interfere with antennas and a good suntan. ***(Photo courtesy of EA8AK)***

After four days of operation, the antennas come down. One of the operators continues to give out contacts to the deserving while Harry VK2BJL breaks camp. ***(Photo courtesy of DJ9ZB)***

From Mellish Reef, the team continued on to Willis Island to give out CW contacts to those needing that one on CW. The call VK9ZR was also used on Willis Island, but at the location used by Tony VK9ZH.

Here the crew poses with Tony VK9ZH, the resident amateur in the center. On the left is Bruce VK3DHT and Harry VK2BJL, with Fernando EA8AK and Frank DJ9ZB. ***(Photo courtesy of EA8AK)***

Frank DJ9ZB operating VK9ZR at the station of Tony VK9ZH. ***(DJ9ZB photo)***

Albania (ZA)

Fernando F. Martin, EA8AK sent word for the DX fraternity to listen during the early part of August. No definite advance warning can be given for the hopeful Albanian DXpedition, so — if it shows on schedule — you have missed it if this is the first you have heard about it. Most likely, things will eventually be rosy for Albanian operations.

Svalbard (JW)

As the weather in the northern reaches becomes milder during the summer, increased activity is to be found from those points. Well above the Arctic Circle is Svalbard with much Amateur Radio activity recently.

Andy JW0P was due to depart Svalbard mid-August to return to his home in Poland. When the Poles return to the air, look for him as SP2BHZ. With Andy gone, the little country will be represented by such calls as JW6ZW, who can be found operating CW on the lower portions of the band on 15 and 20 meters from 1500 UTC. About the same time, look for JW5OD, who has been found on the low end of 15 meters.

Matt Bjerrang, JW5NM and his XYL, JW8KT are expected to be on Svalbard for two to three years. Operating times were not given, perhaps as he is busy with QSL chores for many of the stations on island. Matt's home call is LA5NM. All stations on Svalbard have the same suffix when they are home in Norway, with the exception of Andy JW0P, of course.

Another active call from Svalbard is JW6MY, who has been reported on 14.020 MHz at 0630 UTC and 7.003 MHz at 2220 UTC.

On Bear Island, about 200 miles south of Svalbard, look for JW5IJ or JW7FD. The latter expects to be on the island until November and can be found near 14.205 or 21.305 MHz after 1100 UTC. Bear Island counts as Svalbard for DXCC purposes.

Gibraltar (ZB2)

John Bautista, ZB2EO has been reported on 160 meters for the top-banders. Look for him on 1.843 MHz (1843 kHz) at 0400 to 0500 UTC, operating CW. John operates there on weekends only. ZB2EO has also been worked on 20 meters near 14.005 MHz around 2300 UTC.

Solomon Islands (H44)

Joyce Stone, H44KR has been reported on 20 meters operating SSB in the 14.220 to 14.230 MHz slot. Look for him daily after 1000 UTC. Along with H44KR, two additional stations have been reported active. H44FE has been reported on the upper reaches of 20-meter SSB around 1100 UTC, and H44SH has been reported near 14.225 MHz after 1200 UTC. You are going to modify your sleeping habits to work one of these.

Pitcairn Island (VR6)

Kari Young, VR6KY — formerly LA2GW — and her husband Brian, have been visiting her family in Norway, where she gave birth to her second child, a girl. They are now returning to Pitcairn Island with their two children aboard the *Stolt Integrity*. The chief engineer is Bertil Bivenaes, EL0AZ, who has been maintaining contact with Tom Christian, VR6TC since 5 July.

Kari has a new FT-707 transceiver and will be returning to the air sometime around mid-August as VR6KY. Most likely, her contacts will be with other YLs and Norwegians.

Ken Brown, a nephew of Tom Christian, is due to return from radio school in New Zealand, where he was signing ZL2ADR. He will be bringing his Kenwood 511 with him and has been assigned the call VR6KB for his Pitcairn operations.

Ralph Cabanillas, W6IL — who provided the above information — wonders if, with all that increased activity from the little island, they will be able to work out operating arrangements so as not to QRM each other.

French Oceania (FO8)

The O'Briens — Jay W6GO and Jan K6HHD — are planning a trip to French Oceania this October, which will include the World Wide DX Contest. Jay and Jan have been issued the calls FO0OJ and FO0JO, respectively.

During mid-July, much activity from Tahiti — which coincides with French Bastille Day — was available to the deserving DXer. Unfortunately, I received this information only a few days prior to the event. In fact, there wasn't even enough time for the weekly DX newsletter. But if you worked FO8 or FO0 stations during the period 15-21 July, you may have qualified for the SPECIAL TIRAE '82 certificate. You must have contacted at least three stations on at least two different bands. Only SSB contacts count. QSL cards are not required, but there is a fee of 12 IRCs for this award, which is rather expensive. Those interested may send their log extract to: SPECIAL TIRAE '82 AWARD, c/o FO8HL, B.P. 5006, Pirae, Island of Tahiti, FRENCH OCEANIA, South Pacific Island.

If you missed the July activity and still need this one, take a listen for FO8HL who has been reported near 28.640 MHz at 0145 UTC, FO8FR near 21.020 MHz from 0700 UTC, or FO8IR on 14.020 MHz around 0400 UTC. Also reported on 15 meters SSB is FO8GW on 21.300 MHz at 0300 UTC and FO8HG on 21.333 MHz at 2400 UTC.

Morocco (CN8)

Hans Dankerl, CN8AT submits his operating times as follows: Monday through Friday at 0700 to 0745 UTC on 14.305 MHz SSB, daily at 1930 to 2200 UTC on 14.090 MHz RTTY. Hans will schedule any amateur desiring a contact with him. His station consists of a Kenwood TS-830 with a Henry 2K linear amplifier. His antenna is a TH3 Mark 3 at 25 meters.

Also active from Morocco is CN8CU. This station checks into the Foreign Service Net on 21.415 MHz at 1530 UTC, Sundays.

Other reports of active CN8 stations include CN8AD, found near the low end of 80 and 40 meters on CW between 0400 and 0530 UTC, and on 10 meters near 28.022 MHz from 1700 to 1800 UTC. CN8CO is busy on 75 meters on 3.795 MHz around 0600 UTC.

Sjoerd Quast, CN2AQ is found often on 7.006 MHz after 0400, to hand out the CN2 to prefix hunters. European stations should check 7.002 MHz after 2130 UTC.

North Cook Islands (ZK1)

Victor Revera, ZK1CG came out on the short end of the stick on his recent DX-pedition to the North Cook Islands. The cost of the trip was about $2,000 plus the loss of equipment due to the high seas. The following little item is from the Cook Islands News, dated Wednesday, 2 June 1982.

DX in Manihiki

Enthusiastic American Amateur Radio operator Victor Revera, 32, did not think highly of his first trip to the Northern group and Manihiki on the Mataeora.

Not only did his $1,500 little emergency radio fall from the deck and get washed over with salt water (and is not operating), but he also fell from one of the reef boats into the very dangerous and rough Tauhunu passage waters.

So instead of the standard island greetings of "hello" or "good morning," Victor would receive a greeting of "Aren't you the guy that fell off the boat the other day?"

And Victor, more than he would like to remember, would slightly admit he was.

Victor is in Manihiki to work on behalf of other DXers — radio listeners who would like to make contact with another station in a rare part of the world.

Said Victor: "I would like to thank all the people here, especially Fiva and Teira and Metuakore Papai for their kind and generous hospitality and help.

"So far, I have contacted the four corners of the world. So now Manihiki is known fairly well throughout the world."

Victor added that he hopes to return one day to the beautiful island — but of course with a smoother passage there.

Victor's IC—701 that went overboard wasn't all that was lost. His losses amounted to about $3,000, due to salt water damage. Many of the deserving now have the North Cook Islands confirmed due to Victor's efforts. He has sent out about 3,700 cards direct and has run out of cards and is waiting for more to be printed. It would be nice if one of the big DX foundations would come to the rescue to help Victor out as he has sold his remaining rig to meet expenses. Victor, a member of the Western Washington DX Club, signs KA7HRK when stateside.

South Orkney Islands (VP8)

Since the Faulkland Island crisis is over, amateur activity has resumed in the area. On the South Orkneys look for VP8AOE and VP8AOH who are new operators that frequent 15 meters in the 21.295 to 21.345 MHz segment after 1900 UTC. VP8AOH has also been reported on 3.800 MHz at 0145 MHz working Europeans. VP8AOB is a third station that has been reported on 21.329 MHz around 1845 UTC.

Prefixes

Robin DU9RG reports that Philippine amateurs can use the special prefix 4D for the DU in their calls until 27 November 1982 to celebrate the 50th anniversary of the Philippine Amateur Radio Association (PARA). Therefore, if you work 4D9RG you have worked DU9RG.

If you worked a station with the CJ5 prefix during the period of 20 June through 3 July, you worked a VE5 in

Saskatoon, Saskatchewan. The Canadians often appear with different prefixes, other than the standard VE, VO and VY prefixes.

The Soviet Union has put out a few special prefixes recently. R4ADP was on to commemorate the 40th anniversary for the Battle of Stalingrad. This was one of the turning points in the Second World War where Hitler had underestimated the strength of the Russian troops and had not issued his troops winter clothing. The call EK9F was operated from Soviet Oblast 154. QSL cards for this one go to UK9FEA via Box 88 in Moscow.

African tour

Karl Renz, K4YT is out on another one of his African business trips which is to last for four months and be on the air from a dozen countries. The prefixes for these countries include a week each at 5N, 5N9, TJ, TL8, TN8, TR8, 9Q5, 5Z4, 5X5, ET3, S79 and 7P8. QSL cards for all of Karl's operations should be sent via his brother, Bob W2TK.

Annobon (3C0)

Carl Henson, WB4ZNH reports that Joseph Sheppherd, an archaeologist, left Los Angeles on 22 June for his home in Malabo, Equitorial Guinea. With him he took a TS-820S with remote VFO and a TH3Jr donated by Martha and Carl.

He is hopeful that he will be able to secure operating permission from both Malabo and Annobon. He has almost no operating experience, but intends to handle the situation in the same fashion as the Hensons. That means no lists.

If he can secure permission to operate, Joseph will not be on long, as he is scheduled to travel to England in October to begin his classroom studies at Cambridge University in preparation for his doctorate. All QSL cards and correspondence to Joseph should go through his QSL manager, Robert Smith, K4PHE.

WPX Contest update

One of the more popular DX contests is the WPX Contest, sponsored by CQ. Bernie Welch, W8IMZ has resigned as the WPX Contest Director. He has held this position for many years from when it was a contest of only a few hundred entries to where it now rivals CQ's World Wide DX Contests. As this has become almost a full-time job, Bernie is stepping down to spend more time with his family and to be able to operate more.

Alan Dorhoffer, K2EEK, editor of this fine magazine, announces the appointment of Steve Bolia, N8BJQ to replace Bernie. Steve has been Bernie's assistant for several years and was responsible for automating the contest scoring. Bernie will continue in an advisory capacity for two to three years so there will be a smooth transition.

CQ sponsors several DX contests throughout the year and has been doing so for a long time. Until recently, the WPX Contest was a single annual event on SSB only. Now there are two per year — the SSB affair in March and the new CW fling in May, although this is not as popular as the SSB version. CQ is a Radio Amateur's Journal, and always has been since the birth of the magazine in 1945. Somewhere along the road, the former owners seemed to take on the "don't give a damn" attitude. Maybe they were more interested in their sister publication, S9. The magazine started to go downhill, whereupon the concerned staff bought the publication and moved it out to Hicksville. Next time you are in your local radio store, pick up a copy. Read the DX column. The columnist is Hugh "Cass" Cassidy, WA6AUD.

Credit where due

In the July issue, the article "DX in the Early Thirties," by Yardley Beers, W0JF, was credited to *The Totem Tabloid* of the Western Washington DX Club, where the article was printed.

The original source of the article was the November 1981 *Mile Hi DX Newsletter* published by Ron Stockton, N0RR and the president of the Mile Hi DX Association. It is distressing that another organization is receiving recognition for work that originated with the MHDXA, writes OM Yardley, the author. Therefore, newsletter editors should give credit for their sources when reprinting an article.

Silent Keys

Recently, several DXers have joined the ranks of Silent Keys. Jesse Bieberman, W3KT, ARRL Atlantic Division Director, died recently. Jesse was the QSL manager for the 3rd U.S. call district for many years and also operated an outgoing QSL bureau. The bureau is to be phased out by his widow.

Dr. James Lawson, W2PV, retired from General Electric, also passed on. W2PV was always on top of the list during those multi-multi stations in the DX contests.

In June, Kamchai Chotikui, HS1WR, succumbed to cancer. (See page 2.)

Other calls reported as Silent Keys include JY1AU, TU2AU, 6O1AU, 4S7YL (ex-8Q7AC/VS9YL), UA3CA, UA3DV and HC1EB.

Charlie O'Brien, W2EQS/FP8AS/W9NFC became a Silent Key on 13 June. This amateur was the organizer of the CQ World Wide 160-Meter Contest and was an avid 160-meter DX fan.

Comment

Bill Wiggins, WA4TWS, editor of *DXpeditions International* expresses a point well taken. Bill writes:

"Recent ventures across the bands have resulted in hearing many DX operators go QRT due to the inability to control the pileups. This is the result of many eager operators who think the only way to be heard is to be the last station to make the call in the pileup; thus, the calling goes on and on and on and on . . . . The net result is that the DX station can't work anyone until the calling subsides, thus fewer stations are worked and eventually the DX operator tires of this and will go QRT or QSY to another band.

"This style of operating by the DX Chasers must be curtailed or eliminated if we are to expect the rarer DX operators to venture into the authorized phone bands or to answer our CW calls. This is also happening to the DXpedition stations and they are working fewer than the optimum number of callers. *What is the end?*"

DXpeditions International is published weekly and is devoted to bringing news to the active DXer. Subscriptions are $28 to North America and $40 elsewhere. All funds are in U.S. dollars and are yearly rates. Send your requests to 999 Wildwood Road, Waycross, GA 31501.

Clubs

The Delta DX Association recently elected a new slate of officers. Chip Tilton, K5RSG is the new president, with Milton Fingerman, N5NO as vice president; Audrey Collins, WA5YFQ, treasurer; and Abel Lovas, WB5UIH, Secretary. DXers interested in membership should contact the DDXA at P.O. Box 73, Metairie, LA 70004.

During their June meeting, the Northern California DX club decided on their new officers. Elected president was Eric Edberg, W6DU, with Ron Panton, W6VG as vice president; Josephine Clarke, WB6ZUC as secretary; and Chuck Patterson, K6RK as treasurer. The club no longer has an associate membership. To become a member of this club, you must either hold DXCC, WAZ or show proof that you have worked at least 100 countries. Contact the NCDXC at P.O. Box 608, Menlo Park, CA 94025. Annual dues are $12.50, payable in July.

Awards

Here are the requirements for that Buffalo Award mentioned in the last issue. The award is offered to all DX stations outside the continental United States. DX stations must work at least 20 Amateur Radio stations in the state of Kansas, plus five additional stations which must be members of the Kansas DX Association. All contacts must have been made since 1 September 1980. To apply for this award, submit a certified list of contacts with a fee of $2 U.S., (or 4 IRCs), to the Kansas DX Association, P.O. Box 454, Salina, KS 67401 USA. A current KDXA membership list is available upon receipt of an SASE and 1 IRC. Many members are using new QSL cards with the Buffalo logo, which will be an aid in spotting KDXA members when the cards from Kansas arrive.

The Canal Zone Amateur Radio Association offers the Balboa Award to any licensed radio amateur for contacting at least five members. Applications should show log extracts that include the times, frequencies, modes and call signs of the stations worked. Send your application, along with 60 cents U.S. postage or appropriate IRCs, to: Peg Richard, HP1XRA, P.O. Box 4039, APO Miami, FL 34001.

Antique QSL Department

Last issue we printed a letter to Robert Baird, W9NN from the Department of Commerce that was written back in 1928, instructing all continental U.S. amateurs to begin using the "W" prefix. Prior to that there were no official prefixes and no one knew what country was what. Following are some examples to show this dilemma.

The 8PL QSL card was submitted by Frank Tukey, KA2EIO. The date was 16 March 1925, when Frank was signing 2CGB. Now, by looking at the call one would believe this to be the 8th call area in the United States. Look again. It's France. The operator at 8PL was an L. Poilpot, whose best DX was the USA and Mesopotamia. The particular card here was printed with blue call letters.

Propagation

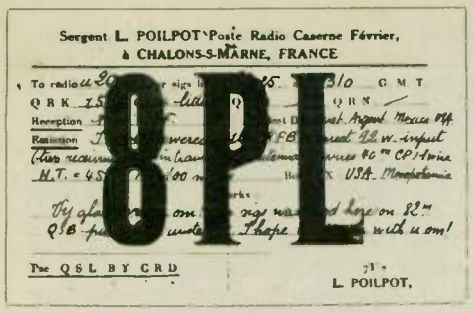
Maximum Usable Frequency from Burbank, CA
(courtesy of W6LS)

The numbers listed in each column are the Maximum Usable Frequency (in MegaHertz) for contacting five major areas of the world (Nairobi, Tokyo, Melbourne, Frankfurt, Rio de Janeiro) for low fire angle antennas.

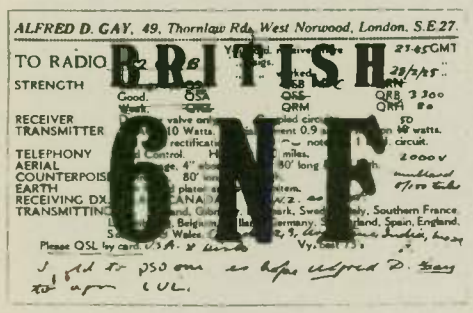
You can get a free *complete* set of these predictions for both high and low angle antennas, Maximum Usable Freqency (MUF) and Frequency of Optimum Transmission (FOT). Requests should be sent to W6LS, 2814 Empire, Burbank, CA 91504. Each request should be accompanied by a self-addressed stamped (28¢) envelope at least 9" × 11½".

OCTOBER 1982

UTC	AFRI	ASIA	OCEA	EURO	SOAM
0100	25.6	33.6	34.1	14.2	27.5
0200	19.8	29.5	34.3	13.3	23.8
0300	17.1	25.4	31.2	11.7	20.9
0400	16.0	21.8	27.5	10.3	19.0
0500	14.3	18.7	24.7	10.5	18.0
0600	13.7	16.4	22.8	12.6	17.9
0700	13.4	15.0	21.4	12.8	18.2
0800	12.8	14.1	20.0	12.9	18.4
0900	11.9	14.0	18.6	12.7	18.1
1000	10.9	14.7	18.0	13.0	16.3
1100	10.2	15.3	17.6	12.0	14.4
1200	11.2	14.6	16.2	12.0	15.1
1300	14.5	13.6	14.5	14.4	19.9
1400	18.9	14.7	15.8	17.8	26.4
1500	22.6	16.4	21.7	22.2	31.3
1600	25.0	15.9	20.0	25.3	33.3
1700	27.0	15.4	18.5	25.8	33.8
1800	29.1	15.8	19.0	23.2	34.6
1900	30.8	17.9	22.3	20.0	35.5
2000	32.1	22.4	26.7	16.9	34.5
2100	33.0	28.7	29.9	15.9	32.4
2200	33.2	34.6	31.3	14.8	30.3
2300	31.9	36.3	32.0	14.4	28.3
2400	29.1	36.0	33.0	14.3	27.1



Frank also submitted a British QSL card without the prefix, this one for 6NF, for a contact date of 28 February 1925. The operator was Alfred D. Gay and his QSL card sported gold call letters.



The third QSL card has been in our files for a long time, and I am sorry to say that I forgot who submitted it. The call 6OR was worked by 9DWD. The card bore a postmark of 1 February 1927. That 6OR call was none other than good old USA, Los Angeles no less.

Back in those days before prefixes became official, many DX-orientated amateurs became aware of the need of some sort of identification of calls. One practice was to use two letters, the first for the continent and the second for country. In such cases, NU was used for the United States, which is obvious. Often, American amateurs used just plain "U". In the early 1920s, Canadian amateurs were using the "C" prefix, (April 1980 'Antique QSL Department'). Some of the British amateurs were using the "G" prefix as early as 1925.

Remember the AC3PT QSL that was run a few months back? A reader questioned if the operator at the Royal Palace wasn't really Gus Browning, W4BPD, who was running around the world DXing. Dave Kennedy, N4SU, who submitted the card, claims it was definitely Gus. The year was 1963 with the cards handled by W4ECI of ACK Radio Supply, Birmingham, Alabama.

Country without a bureau

Alex Kasevich, VP2MM writes to inform us that Montserrat does not have a QSL bureau. They have many cards there to be claimed — in fact, quite a large amount for 36 different calls. The cards cannot be forwarded as they lack the funds to do so, and no address to send them to.

Most of the Montserrat stations that you hear on the bands are not necessarily natives, but visiting amateurs on vacation that applied for Montserrat calls. Most of these stations always give a QSL manager — often the operator's own home call. But then, there are many amateurs who send their cards via the bureaus, not realizing that this country has no bureau.

Therefore, if you have operated from Montserrat in the past and want the cards, write to the Montserrat Amateur Radio Society, P.O. Box 448, Plymouth, Montserrat, WEST INDIES (Leewards). It should be noted in your letter what arrangements can be made to accommodate the required amount for postage fees. It is also suggested that you write to them if you don't want the cards, so they can dispose of them.

QSL information

Jack DelPorte, K4EEB reports receiving a QSL card from a DX station for 9Q5FL, claiming Jack as QSL manager. Card stated "I copy you 100 percent (QSO with help of DF8VV)." Jack wonders if this could have been another "List Master" operation. A check with the W6GO/K6HHD List indicates that the QSL manager for 9Q5FL is Tava Franklin, K4AEB.

John McGee, W4UY reports an error in the July QSL listings. The QSL manager for VP5UXY should read W4UY, and not W4UXY. John also handles QSL cards for ZF2GC, FG0BLO/FS7 and W4UY/PJ7. He will be in the November World Wide DX Contest as W4UY/PJ7, with a short trip to St. Martin.

Larrie Tennant, KJ7N is now QSL manager for his son, KK7K/I7. He should be there until July of next year.

QSL routes

A6XDB	—G3LEW	HL1UZ	—JH2QFI
AH3AC	—KB2RV	HL1WD	—JR1RTK
AH6DY/KH9	—KW6HF (*See Note 1*)	HP1XDQ	—N8CWX
		HR1JSH	—WB6WOD
AM3BLB	—EA3BIC	I0YKN/IG9	—I0SSW
AM8ABG	—EA8HD	IK3ACI	—I3EJ
C5AJ	—HB9AYP	IQ5ARI	—I5HCH
C31WG	—DL0OI	IR0ARI	—IS0LLJ
C31YA	—DL0OI	J6LKZ	—KA1JP
C31YC	—DL0OI	J88AG	—AD0S
C31YD	—DL0OI	JA1DNG/YI	—JA1CJF
C53CL	—EA8ZZ	JH2NDK/YI	—JH2NDK
CN8AD	—F8JL	JW5IJ	—LA5NM
CN8AT	—OE3NH	JW5NM	—LA5NM
CN8CO	—WB3CGY	JW5VAA	—LA7JO
CO7AM	—WB6QPG	JW6MY	—LA6MY
CT2DW	—WB3IFD	JW7FD	—LA5NM
CZ3PCA	—VE2DZE	JW8KT	—LA5NM
DF8MP/XZ	—DL2KAO	JX1CY	—LA7JO
DJ5GI/EA6	—DJ5GI	JY8JP	—K1JPQ
DL3MBH/		K5YY/J6	—K5YY
HB0	—DL3MBH	K6LPL/VP9	—W6ORD
EK9F	—UK9FEA	KA5MDB/	
F6IPA/3A	—F6FQK	HC1	—W5ZPJ
F6KGU/J28	—F6KGU	KA7HRK/	
FG0BLO/FS7	—W4UY	KH8	—ZK1CG
FK8DZ	—F6BFH	KJ8R/V2A	—W9SWM
FK0VU	—DB9CI	KK7K/I7	—KJ7N
FO0EHH	—K8VIR	LA5EBA/OH0	—LA6URE
FO0WA	—W6SZN	LZ0GDD	—LZ2KKZ
FP0HBL	—AE1W	LZ0GDP	—LZ2VP
FW8CCK	—W3HNK	LZ0GDS	—LZ1KWS
GW5DQY	—K8MR	N2CBU/C6A	—N2CBU
H44WF	—VK2KMM	N5RM/C6A	—N5RM
OA4ABK	—W6NWS	YB0AC	—WA4RRB
OD5LX	—SM0DJZ	YJ8KM	—VK3OT
OH2BJK/OH0	—OH2BJK	YQ0A	—YO3KAA
OH2BNL/C9	—OH2BH	YS9HH	—WB5GUV
OX3GH	—WA2TTI	YZ0N	—YU7APV
OY5AQC	—SM5AQC	ZB2EO	—W3HNK
OY5BTX	—SM5BTX	ZF2AF	—W0GI
OY5ENX	—SM5ENX	ZF2BN	—W4HET
OY5FUG	—SM5FUG	ZF2CB	—N2JJ
OY5IB	—SM5IB	ZF2GC	—W4UY
OY5KMU	—SM5KMU	ZK1XG	—DB9CH (*See Note 4*)
OY7WI	—SM7WI		
P29FQ	—VE3FQ	ZK2JK	—KB6JK
P29JP	—WD4PEQ	ZK2WW	—WB6EXW
PZ5JR	—K3BYV	ZL1BSJ/C	—ZL1AMO
R4ADP	—UK4ABZ	ZL0AFU	—N5TX
S79ARB	—WB5JJD	ZM7AG	—SM3CXS
S83HI	—F6AFO	ZY3YCX	—PY3AA
ST2SI	—JH3DPU	ZY4DD	—PY4AA
SV0AW	—WB5WRY	3A2GX	—I2YAE
T32AF	—WH6AIF	3B8ZV	—N6ZV
T32AG	—KE0A	3B8ZZ	—W2TK
T32AH	—KE0A	3B9ZV	—N6ZV
T32AI	—KE0A	4K1J	—UA0QWJ
VE1ASJ	—VE3EUP (*See Note 2*)	4K0A	—UA1ADQ
		4N4MW	—YU4LL
VE1CER	—VE3EUP (*See Note 2*)	4N4NF	—YU4LL
		4N4SA	—YU4LL
VE1SPI	—VE3EUP	4N7ARG	—YU7AJW
VE7BBC/5N1	—VE7LB	4N9OLY	—YU4EXA
VK0AU	—VK2BNY	4N9WG	—YU4GYZ
VP2MFZ	—AK8W	4N9YU	—YU4YA
VP2V1J	—W5JM	4S7MX	—SM3KXS
VP5JEX	—W4DR	4S7XSG	—DL7XS
VP5RAC	—KA5BPE	4U7ITU	—EA2CRX
VP5UXY	—W4UY	5N2AHQ	—WB4ICF
VP8AOE	—K0JW	5N2RTE	—DK3IF
VP8AOH	—K0JW	5N9FDR	—DF2YA
VQ9CI	—KA4UMB (*See Note 3*)	5W1DL	—WB6EXW
		5W1DM	—KB6JK
VQ9IB	—G6IJB	5Z4CW	—W8GXB
VQ9SB	—WA6IJZ	5Z4CX	—G3ZVK
VQ9SM	—VQ9CI (*See Note 3*)	8P6GG	—N4CTC
		8P6JQ	—N8DCJ
VQ9XX	—N6BFA	8P6NC	—N4CTC
W4UY/PJ7	—W4UY	8Q7BQ	—K9AJ
W6TEX/CT3	—W6TEX	8Q7CC	—DJ6QT
W8RKL/V2A	—W9SWM	9J2BO	—W6ORD
W9SWM/V2A	—W9SWM	9J2TS	—JA2LZY
WB8ZJW/		9K2DX	—N6TR
HP1	—WB8ZJW	9M8PW	—G4DXC
WB0MKR/		9X5MB	—ON5CM
KH3	—KB2RV	9Y4DK	—N4BPP
XP1AB	—WA2TTI	9Y4IH	—WB3AKI
YB2DI	—JH2QFI		

FK0AK	—P.O. Box 38, Noumea, NEW CALEDONIA
OE5BS/5N7	—P.O. Box 0135, Bauchi, NIGERIA
YB8VN	—P.O. Box 115, Ambon, Ceram, INDONESIA
ZS3BWK	—P.O. Box 53, Swakopmund 9000, NAMIBIA
3B8FK	—P.O. Box 1080, Port Louis, MAURITIUS
5T5AP	—Aroldo Porto Fonseca, BP 1256, Nouakchott, MAURITANIA
5V7HL	—P.O. Box 8062, Tokoin, Lome, TOGO
9L1AC	—P.O. Box 10, Freetown, SIERRA LEONE
9L1MS	—P.O. Box 1292, Freetown, SIERRA LEONE

Notes:

1. AH6DY/KH9 also has a direct QSL address of P.O. Box 335, Wake Island, APO San Francisco, CA 96798.
2. VE3EUP handles QSL cards for these stations for the St. Paul Island DXpedition only. Another source has given the QSL route for VE1CER as AK4L.
3. This applies for operator Phil at VQ9CI only. As VQ9CI is the QSL route for VQ9SM and KA4UMB is the QSL route for VQ9CI, we haven't figured that one out.
4. If DB9CH is not in your Callbook, try via H. Klinner, IM Kranzer 17, D-8171 Gaissach, WEST GERMANY.

Thanks to the editors of *The Long Island DX Bulletin, DXpeditions International, DX News Sheet* and *The DX Bulletin* for this month's input. In addition to those publications, I would like to thank the many amateurs who contributed to this issue, whose calls include: N8CWX, W9NN, EA8AK, DJ9ZB, K4EEB, W4UY, KJ7N, CN8AT, DU9RG, ZK1CG, K2EEK, W6IL, WB6GFJ, WB4ZNH, W0JF, VP2MM, KA2EIO, W6GO and N4SU. DX clubs are also a source of material which include the newsletters of the Northern California DX Club, the Delta DX Association and the Kansas DX Association.

Last month's issue of **Worldradio** had my picture on the front page. Actually, I am prettier than what Armond's camera saw. Hope your DX has been good this month — 73 de John, N6JM. □

Amateur Radio Call Centre

Ronald De Willers, N7CRN

The Amateur Radio Call Centre is a central place to receive updated call and address information on ham operators worldwide, as well as information on QSL managers and DXpeditions.

This service is in effect as of 1 September 1982 for U.S. calls (including Alaska, Hawaii, Puerto Rico, and U.S. Virgin Islands). Foreign calls will start 30 to 90 days later.

The Centre is run by Amateur Radio operators. All call information is brought up to date as it is received from the FCC, which is once a week.

To get information from the Centre, call an 800 toll free telephone number (which you receive as a subscriber), give your identification number (assigned to you as a subscriber), and ask for the call information you are requesting. To reach the toll free 800 number, you may use your dial telephone, your touch-tone telephone, or your computer.

Registrations for the service are being taken now. It takes several weeks for the Centre to assign identification numbers from their computer and to mail out the ID numbers and the correct toll free 800 numbers that amateurs are to use. You must have your ID and toll free number before you can call and receive information from the Centre. The use of someone else's ID or toll free 800 number will not work in this system.

The yearly rates are: U.S. calls (only) — $4.95 per year; foreign calls (only) — $7.95 per year; both U.S. and foreign calls — $9 per year (save $3.90). Additional amateurs from the same household who wish their own ID numbers pay $2 each.

Telephone call hours are (Eastern, Central, Mountain) — Weekdays, including holidays: 5:00 p.m. — 12:00 midnight; Weekends: 11:00 a.m. to 8:00 p.m. (Pacific) — Weekdays, including holidays: 2:00 p.m. to 9:00 p.m.; Weekends: 8:00 a.m. to 5:00 p.m. Make checks or money orders (no cash) payable to Amateur Radio Call Centre and mail to P.O. Box 712, Leavenworth, WA 98826-0712. Please write your call sign on your check.

'Good people'

Cliff Zeyen, WB0YEH

I asked Paul Kachelmyer, WB0ZUQ what he liked about Amateur Radio, and he replied, "The joy of association with a lot of good people."

— Mankato ARC, No. Mankato, MN □

See you in *Worldradio*

If you participated in or know of an interesting event involving Amateur Radio, send in the story to **Worldradio.** Pictures are especially welcome and will be returned. ***Worldradio, 2120-28th St., Sacramento, CA 95818.*** □

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All stated specifications are approximate and subject to change without notice or obligation. All ICOM radios significantly exceed FCC regulations limiting spurious emissions.

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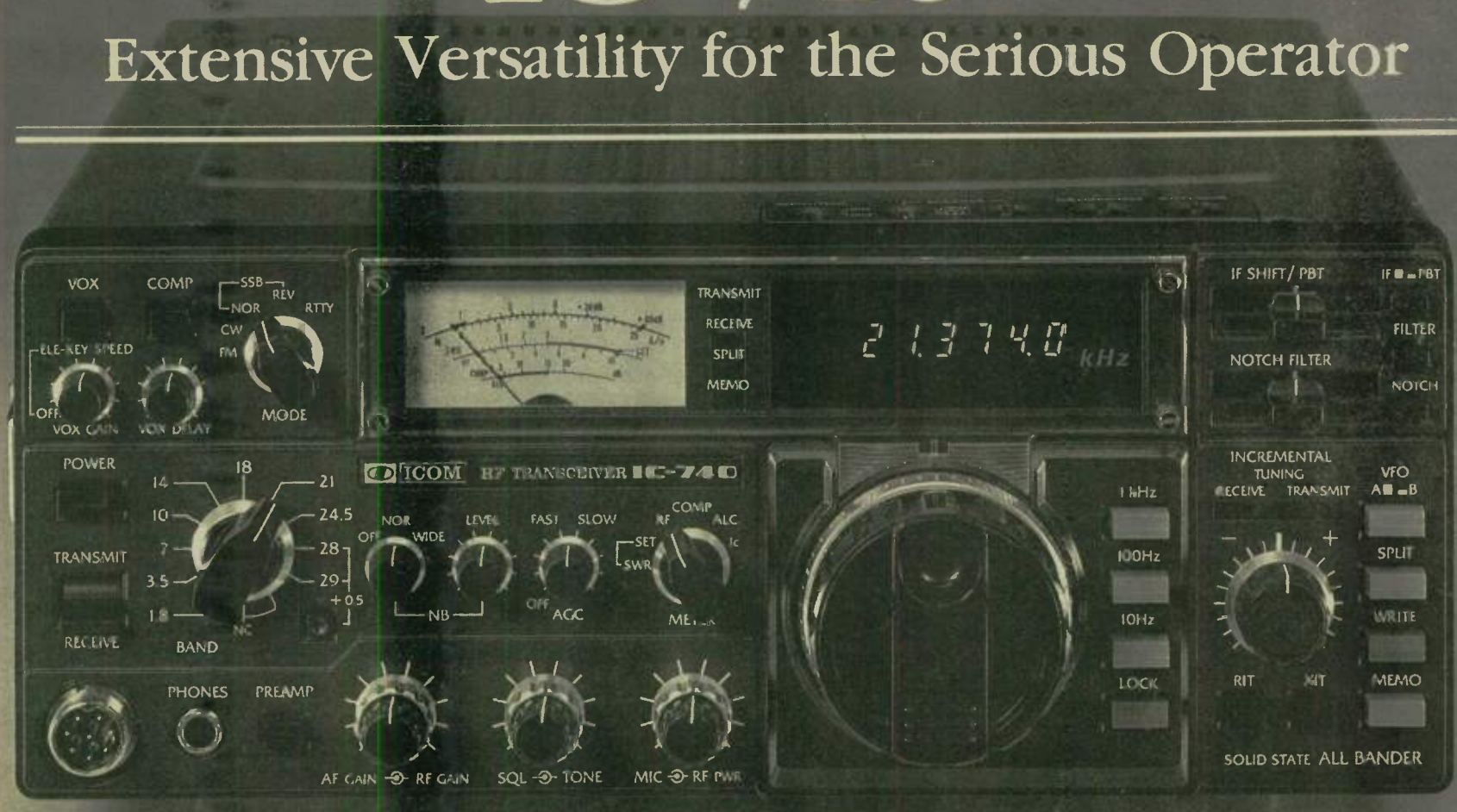


The IC-740 from ICOM contains all of the most asked-for features, in the most advanced solidstate HF base station on the amateur market...performing to the delight of the most discerning operator.

Study the front panel controls of the ICOM IC-740. You will see that it has all of the functions to give maximum versatility to tailor the receiver and transmitter performance to each individual operator's requirements.

Features of the IC-740 receiver include variable width and continuously adjustable noise blanker, continuous, adjustable speed AGC, adjustable IF shift and variable passband tuning built in. In addition, an adjustable notch filter for maximum receiver performance, along with switchable receiver preamp, and a selection of SSB and CW filters. Squelch on SSB Receive and all mode capability, including optional FM mode. Split frequency operation with two built-in VFOs for the serious DX'er.

The IC-740 allows maximum transmit flexiblility with front panel adjustment of VOX gain and VOX delay along with ICOM's unique synthesized three speed tuning system and rock solid stability with electronic frequency lock. Maximum versatility with 2 VFO's built in as standard, plus 9 memories of frequency selection, one per band, including the new WARC bands.

With 10 independent receiver and 6 transmitter front panel adjustments, the IC-740 operator has full control of his station's operating requirements.

See and operate the versatile and full featured IC-740 at your authorized ICOM dealer.

Options include:
- FM Module
- Marker Module
- Electronic Keyer
- 2 - 9MHz IF Filters for CW
- 3 - 455KHz Filters for CW
- Internal AC Power Supply

Accessories.
- SM5 Desk Microphone
- UP/DWN Microphone
- Linear Amplifier
- Autobandswitching Mobile Antenna
- Headphones
- External Speaker
- Memory Backup Supply
- Automatic Antenna Tuner

ICOM

The World System

ICOM America, Inc., 2112-116th Ave NE, Bellevue, WA 98004 (206) 454-8155 / 3331 Towerwood Drive, Suite 307, Dallas, TX 75234 (214) 620-2780.

The ART of Contesting

George Leone, K6SG

By now, if you have been practicing reading and remembering call signs so that you don't have to use scratch paper, you should have it made in spades!

If you're using a single-sided check sheet, it's a good idea to stick it down with scotch or masking tape so that you don't have to use both hands when you're making an entry. If it's a double-sided check sheet, I usually stick two copies to a piece of thin cardboard, the front showing in one side and the back on the other.

This gives it some rigidity and makes it easier to flip back and forth. As for the log sheet, I make a "pocket" out of a thin piece of cardboard about ⅜ inch wide and 1 inch longer than the width of the log sheet and tape it down. I slip the bottom of the log sheet onto the pocket and presto — I can make log entries with one hand free for tuning the receiver, smoking a cigarctte or taking a sip of coffee.

Oh yes, if the contest requires exchange of serial numbers, write your serial numbers in the log sheets before the contest begins. Also, write in any other fixed information at this time.

Develop a pattern of logging and duping that is comfortable to you. Always hold the pencil in your hand, even while sending. If a station calls you, shift your eyes and left forefinger to the proper location on the check sheet to see if you have worked him before. If not, keep your finger on the dupe sheet location, answer his call and give him the required exchange. When he replies, enter his call and exchange in the log and his suffix on the check sheet. Your finger is already on the right spot. You might decide a different pattern is better for you, but do develop one so that it's kind of an automatic procedure after a short while.

It's a good idea to have a 24-hour digital clock directly in front of you at eye level so you can see it without moving your head up and down or sideways. If you have to move your head, you're going to have a sore neck after awhile. Have you ever figured out how many times you looked at a clock during a contest or how many times you would lay down and pick up that pencil if you didn't keep it in hand? I'm making these points because it is important to eliminate or reduce fatigue-causing factors to a minimum.

This might be a good time to talk about some other fatigue factors you should consider. A good comfortable chair is a must. It should be well padded (if you're not) and at the right height. Whether it swivels or not depends upon your preference. Your day-to-day operating chair in which you spend an hour or so may or may not be suitable for long-term sitting. A good chair is a good investment. Lighting in your shack should be good but not excessively bright, and it's best if there are no shadows cast at the operating position. Proper air conditioning (heat and cooling) is most desirable, as you well know. If you don't have air conditioning in the shack, a good fan will help.

The personal or human factors are also related to fatigue. First and foremost, the serious contester should not indulge in alcoholic beverages before or during the contest. There is ample time for this when the contesting is done. Try to get some sleep during the contest period, even if it's just a few hours. You'll be surprised at the rejuvenating effect of a few hours sleep. The best time to sleep is when the activity is at a minimum, at noon or at 1:00 a.m. If you do manage to get a few hours sleep, a shower upon arising and even a shave will make you (and the XYL) feel a lot better — or should I say (and the OM).

During the contest, you may want to take some short breaks — five minutes or so. I find these short breaks very relieving. Depending upon your participation in the contest, you might even consider going for a short walk or jog to freshen up a bit. And what you eat is important also. Avoid all sweets and hard-to-digest foods such as red meats and most dairy products, including cheese. Good for you are cooked fruit and vegetables, whole wheat breads and baked goods, and black coffee with your meal. Avoid junk foods and lots of soft drinks. These things are for the serious contester.

If you're into it for just a few hours; eat, drink and be merry, for tomorrow you may have to go to work!

Hope you will be with me for the next chapter in this saga of the contester. 73 es cul. George K6SG □

Help Pitcairn

Pitcairn Islanders appreciate the fuel funds many of you have donated over the years. (Fuel shipped from New Zealand costs $130 per barrel, which lasts 4-6 weeks.) With your contributions, you help Tom Christian, VR6TC keep longer hours on the air, providing a new country for thousands who have not yet contacted the island. If you're interested in donating to the fuel fund, contact Dr. Charles "Mert" Moser, W6HS, 10861 Langdon Ave., Mission Hills, CA 91345.

• People reaching People •
Amateur Radio is what Worldradio is all about.

AWARDS

Scott R. Douglas Jr., KB7SB
P.O. Box IARS
Glendale, CA 91206-7609

To start off this month, let's take a look at some 10-meter FM awards offered by the NWIRA (North Whidbey Island Repeater Association) and their awards manager Bill Gosney, KE7C (the 73 Magazine Awards Editor).

First the basics: All of the awards below are sponsored by the NWIRA. Only contacts made after 1 January 1981 are considered valid and creditable toward these awards. *NO* crossmode contacts. All contacts must be made on 10-meter FM only. Special endorsements include All Mobile, All Simplex, Single Frequency and Same Day, Week, Month, Year.

Worked All Districts Awards (10-meter FM)

To qualify, applicants must work one station in each of the 10 U.S. call districts.

Worked All States Award (10-meter FM)

To qualify, applicants must work one station in each of the 50 states.

Centurion Award

This award requires the applicant to work at least 100 different stations using 10-meter FM.

DX Decade Award

To qualify for this one, the applicant must work at least 10 different DX stations outside the 50 states and Canada via 10-meter FM.

North American Award

To qualify, applicants must work all 10 USA call districts, at least six different Canadian provinces and/or territories along with at least four different DX countries located within the North American continent (other than the USA and Canada).

To apply for the above, send a log extract showing the date, time and frequency of each QSO claimed as credit along with the award fee of $4 for each application to: NWIRA, Bill Gosney, KE7C, 2665 North Busby Road, Oak Harbor, WA 98277.

Should you be interested in contacting members of NWIRA, try 29.600 MHz.

Since we are already into specialized communications awards, let us now go to SSTV and the awards offered by the amateur television magazine, A5.

All "A5 ATV" awards require the information contained on your A5 magazine label, if you are a subscriber, along with your signed log extract and $1.50 ($1 for the award plus 50¢ postage). Send all applications to: A5 ATV Magazine, P.O. Box H, Lowden, IA 52255-0408. All successful applicants are listed in their publication.

Fast Scan ATV

This certificate recognizes your first ATV two-way contact. All that is required is that you prove two-way ATV communications with one station. Endorsements for mileage and color ATV are available upon request.

Master Scanner Award

This award is issued for two-way SSTV contacts in various levels. The basic entry level award is available for at least 100 different contacts. Endorsements for 500, 1000, 1500, 2000, etc. Special endorsement for color SSTV can also be added.

Specialized Communications Achievement Award

This award recognizes accomplishments in ATV-MSTV, NBTV, SSTV, FAX, RTTY, EME, and satellite. Entry levels are contacts over 50 miles on ATV, over 25 DX countries on SSTV, 10 DX countries on EME, 10 two-way contacts via satellite, or 25 DX countries via RTTY.

Worked All States SSTV

Issued for contact with all of the 50 states via SSTV.

Now on to our last entry from the CHC.

Sparks Award

This award is issued for contact with at least 25 members of the QCWA via CW. Send your log extract along with $3 to: Certificate Hunters Club, P.O. Box IARS, Glendale, CA 91206-7609.

Till next month, 73s and good hunting . . . Scott □

Hong Kong awards

The following awards are offered by the Hong Kong Amateur Radio Transmitting Society (HARTS). HARTS meets every Tuesday at 1700 local time, excluding public holidays, at the China Fleet Club, Arsenal Street, Wanchai, Hong Kong Island.

Nine Dragons Award

Requirements — One contact with a country in each of the following nine zones: 18, 19, 24-30. Contact for zone 24 must be a VS6. Stations within the nine zones require two contacts in each zone, with two VS6 contacts. Only contacts made after 1 January 1979 are valid.

Fee is $3 (U.S.) or 25 IRCs.

Firecracker Award

Requirements — Six contacts with different VS6 stations. Stations in zones 18, 19 and 24-28 require 10 contacts with different VS6 stations. Only contacts made after 1 January 1964 are valid.

Fee is $2 (U.S.) or 10 IRCs.

Certified log extracts, only, are to be submitted; no QSL cards required. Do not send bank drafts. Postal orders are to be left blank. Send log extracts to Awards Manager, HARTS, GPO Box 541, HONG KONG. □

W0BK receives US-CHA award

Art Jablonsky, W0BK has received the first US-CHA award for activating counties. Art has been on the air from 2,826 of the 3,075 U.S. counties. (Perhaps he is collecting oil station invoices from the various counties, too!) Paul Schuett, KE6RN is the US-CHA custodian. (He's listed in the Callbook as WA6CPP.) □

Rhinelander award

The Northwoods Amateur Radio Club (NARC) is helping to celebrate the centennial of the city of Rhinelander, Wisconsin. Work any NARC station on CW or phone.

Send QSL card and SASE to receive award to: Awards Manager Diane Hamman, KA9BHK, Rt. 5 Box 668, Tomahawk, WI 54487.

Balloon spotting award

Amateur Radio's ARES (Amateur Radio Emergency Service) organization has been called on to provide communications for the 1982 California Balloon Festival. In addition to the scheduled flights of nearly 75 colorful hot-air balloons from the Visalia, California launch site during the four-day event, there will be over a dozen helium-filled gas balloons competing in a time and distance race over the California Sierra-Nevadas to . . . who knows where.

A special function of the Amateur Radio group will be the awarding of a special certificate for the spotting of any of the giant balloons participating in the trans-Sierra race. The following are guidelines for balloon spotters:

1) The spotting report must state the *time, location* and *description* of the sighting of any of the balloons.

2) Reports must be sent to KB6AR or KB6CC via the NTS (National Traffic System) within six hours of sighting, or *direct* on one of the special event operating frequencies.*

3) Sightings within a 25-mile radius of the Visalia airport are *not* eligible.

4) Reports will be verified by checking with the balloons' known track after the event.

5) A certificate will be mailed confirming verified sightings.

** 7.235, 14.285, 21.360 or 28.510 MHz ± OR 146.25/85 MHz, K6OGX/R* □

Radio, Texas-style?

Sam Caputo, W2RSL

I was talking the other day to a W5 in Texas who gave me a rundown on his equipment. He had a kilowatt rig for every band and three 100-foot oil derricks for towers, with a multi-band 6-element cubicle quad on each tower.

I told him that we in New York also do things in a big way, telling him that I was using a long-wire antenna — 1,400 feet — for all bands from 160 to 10, and that I had worked over 100 countries in less than two months.

The W5 came back and said, "Oh, that's nothing; my neighbor — just 10 miles from here — was using an abandoned telephone line five miles long for an antenna and he worked DX like crazy."

I noticed that he was talking in the past tense, so I asked him if his friend still was using the telephone line.

He said, "No, lightning struck the antenna and killed him."

I guess that's Amateur Radio, Texas-style. □

AMSAT OSCAR

Dr. Norman L. Chalfin, K6PGX

AMSAT BOD action summary

The AMSAT Board of Directors met the weekend of 3-4 April. The following is the briefest of summaries of the meeting.

AMSAT officials attending included: H. Yoneda, JA1ANG; Bill Brown, K9LF; Gordon Hardman, KE3D; Leon Scaldeferri, N3ADZ; John Browning, W6SP; Dr. Tom Clark, W3IWI; John Michael Henry, VE2VQ; Richard Zwirko, K1HTV; Jan King, W3GEY; P.J.A. Gowen, G3IOR; Bill Tynan, W3XO; Robert Myers, W1XT; and Vern Riportella, WA2LQQ. Special guests of the Board were Martin Davidoff, K2UBC; Jack Colson, W3OZ; Perry Klein, W3PK; and Allen Dayton, KA4JFO.

Beginning on Saturday, the Board reviewed negotiating postures vis a vis American Satellite Corporation (ASC) with regard to licensing the trademarked AMSAT name for use by ASC. The matter was discussed further on Sunday when W6SP was authorized to negotiate on behalf of AMSAT.

Next, W3GEY presented a Phase IIIB status report. In summarizing, he said that our systems are coming together very well but that we faced a minimum two-month launch delay consequent to problems with MARECS-A. He said we should know more in a few weeks.

The Board authorized President W3IWI to commence at once a search for a salaried General Manager for AMSAT. A preliminary job description was discussed and several candidate employes were mentioned.

A proposal authored by W2FPY to pursue a liaison with a university engineering department for the purpose of cooperative efforts was read into the minutes. The Board thought it a worthy proposal and authorized a more detailed proposal and initial contacts be established. Similarly the Board believes that cooperation with the Independent Space Research Group (ISRG) be pursued with vigor.

G3IOR proposed a fund-raising effort based on sponsoring satellite operations time. K9LF announced his plans for renewed fund-raising.

The Board heard a report on the AMSAT Publications activity from WA2LQQ and W1XT.

On Sunday, G3IOR reported on the project under way by KQ5S to work for AMSAT fund-raising through Rotary International. The Board authorized a booth at the Rotary Convention in Dallas this June and recommended the officers seek out AMSAT members who are rotarians to assist in this and later projects.

The Board endorsed the concept of AMSAT members exchanging their member numbers over the air as a way of encouraging membership and perhaps also for an occasional award. The idea of using this as the basis of a "contest" was rebuffed, however.

W6SP led a discussion on the benefits of participating in Armed Forces Communications-Electronics Association (AFCEA) activities. The Board authorized W6SP to lead an effort to obtain an AMSAT booth at the AFCEA National Convention this 15-17 June in Washington, D.C.

G3JOR read a report on UoSAT he had hand-carried to the meeting from M.N. Sweeting, G3YJO. The spacecraft prognosis is now excellent with all major problems having been remedied, or nearly so. The single exception is the 40 KeV geiger tube, which is inoperative and appears to

have been damaged at launch. All other equipment has been tested and found to be in good working order.

The Board directed that nominations for Director be opened promptly so that the nominations could be obtained from as many potential areas as possible. The Board voted down a motion to increase their number from 7 (present) to 9.

W3GEY will head an ad hoc committee to develop "ways and means" to recruit new AMSAT managers.

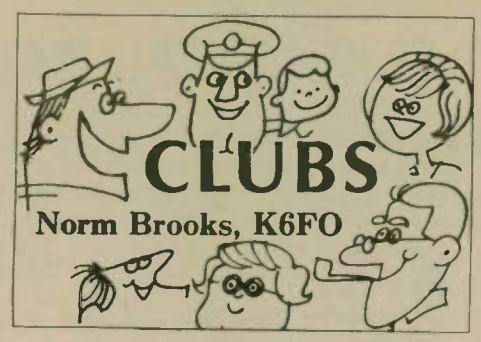
KA4JFO made an invited presentation to the Board on the plans for a National Science Center for Communications and Electronics. This facility is being sponsored by, among others, AFCEA. The Board enthusiastically endorsed the objectives of the Partnership for the Development of National Engineering Resources and directed that efforts commence immediately to investigate how closer ties might be fostered.

WA2LQQ will present a plan this autumn for restructuring the organization to respond to expected changes attending the Phase IIIB launch. — *ORBIT*

Listen for those calls!

Linwood (Lin) Mergist, N5CAS of Abbeville, Louisiana has had two experiences with working similar call signs. As KA5BQC, he once worked KA6BQC (Bambi of Big Bear Lake, California). More recently, as N5CAS, Lin has QSO'ed with N7CAS (Phil of Hamilton, Montana). Lin reports that Phil's QSL card said Phil had worked N6CAS (George of San Jose, California) about an hour after he had worked Lin.

"He told N6CAS about me and that I was looking for him," wrote Lin. "I'm still looking HI HI." (Are you reading this, George?) Lin works 20-meter CW early mornings and joins the YL ISSB System on 14.332 during the days. □



We get letters

Let's start with this month's top letter.

Dear Norm:

"We are *HERE*. We are new!" How's that for a start, Norm? My name is Tom Stratton, WD8PCG. QTH: Canton, Ohio. Present occupation (non-profit) is Public Relations and Membership Officer of a newly-founded group called "Stark DX Association." Presently, we are very small, but we are a dedicated group of "DX Hounds." We are organized to help each other and promote good DX operations on the airwaves.

Each member relays worked and heard, general DX information, quotes, information from other DX bulletins, and miscellaneous ideas to our editor. This is then compiled and published once a month and sent to each member. We also use a 2-meter simplex frequency to key each other to DX on the air that someone may need.

I am certain the general idea is not new to the ham community at large; but for us serious DXers in the Stark County, Ohio area, I believe it to be the first at an organized effort.

I am hopeful this tidbit of information is noteworthy in the next Worldradio publication. Enclosed is a copy of our first bulletin and a membership form (just in case you know of someone who wishes to join, hi hi) for any suggestions you may have for us.

Sincerely yours and 73's,
Tom WD8PCG

Thanks, Tom, and we wish success to you and your new club. Your newsletter is excellent — it has a lot of good information in it. John Minke, N6JM — our DX Editor — and I would be very pleased if we could be put on your mailing list.

What the clubs are doing

Wellesley Amateur Radio Society, Wellesley, MA:

Sunday, 2 May was a very busy day for the public service arm of the Wellesley Amateur Radio Society. Two events — the Wellesley Teacher's Association bike-a-thon, and the Charles River Run road race were held simultaneously and were both provided communications support by groups of WARS hams.

Dick Paret, WA1ZLQ was — as usual — in charge of organizing the bike-a-thon. The day went relatively smoothly with little more than minor repairs of bikes necessary. Participants who aided in patrolling the 10-mile route or in manning checkpoints were WA1ZLQ; Nels Anderson, K1UR; N1BZU; George Beaupre, N1BNI; John MacLeod, WA1IGL; Horace Schermerhorn Jr., W1TTY; and Cecil Boates, WA1UEH.

The Charles River Run required communications for three checkpoints, a medical station and the finish line. This event was also organized by Dick Paret, WA1ZLQ, but since even Dick can't be in two places at once, the actual operation was led by club president David Curry, K1TK. Others who participated were Charles McDonald Jr., WB1BUM; Jonathan Kanter, AF1M; Bill Downing, WA1PQY; Dave Goldman, W1YSW; and Dave Kent, N2AWG.

The following weekend, on 9 May, yet another public service event was operated by WARS amateurs. The Hunnewell estate antique car race was provided communications over the race course as it has been for several years. Times of the participants and safety information was relayed for race officials.

The race is sponsored by the same car club that runs the race up Mt. Equinox which WARS also helps out with during the June VHF contest weekend. — *Nels Anderson, K1UR*

Worthington Amateur Radio Club, Worthington, MN:

On 27 May, three Worthington amateurs were in Lakefield, Minnesota demonstrating Amateur Radio to the Pleasant View Elementary School students. Harry Benjamin, WB0OQP supplied a Kenwood 120, a tuner and his van to use as a mobile unit. Ed Nordell, WA0OUY erected an 80-meter dipole and John Lehmann, KB0YA furnished an ICOM 255A 2-meter rig and a QSL display.

At 10:00 a.m., the first group of students arrived at the station, which was set up in the school parking lot. Each of the six grades were allotted 30 minutes to hear the hams talk about Amateur Radio and to get first-hand experience talking on the radios.

The club's repeater did not give the signal quality needed for a good demonstration, so the Spirit Lake 146.01/.61 repeater was used with excellent results. The HF rig was tuned up on 80 meters.

Our special thanks to Lynn Wallace, WB0WOE; Elaine Wigen, WB0EJA; Lennie, N0DKN; Al Groff, K0WKT; Wes Lynn, WA0YFQ; and Ron Houghtaling, WB0IAX. These people really made the day. Thanks to the Spirit Lake Club for the use of their repeater. You helped make a "day to remember" for a real fine bunch of kids. Thanks to Charlene WB0OQP's XYL for the chicken dinner lunch.

73, John KB0YA

(This is a good example of what can be done to interest young persons in Amateur Radio. Perhaps we could get one or two grades here in Worthington to do the same thing some time. I know the principal at Lakefield is interested in Amateur Radio and has had OSCAR demonstrations in the past.
ED. *Arnold WB0OPZ*)

Lockheed Employees Recreation Club, Burbank, CA:

At a board meeting of the club, Activities Manager Bob Creiman, AB6V reported that the following items were

discussed for membership participation: a family picnic to be combined with the operations of Field Day; chartered bus trips to both Goldstone and the Palmdale traffic communications centers; auction and prize-fest; the W6LS emergency net; a QRQ net; an intermediate speed net; a slow net; homebrewing; constructing a keyboard, keyer or 2-meter quad antennas (as club projects); organizing an Elmer group to help handicapped or new amateurs set up or even obtain equipment for them; a Novice contest that would include all Novices, not just club members.

Sheboygan County Amateur Radio Club, Sheboygan, WI:

The club ran a survey to obtain membership opinion. Here are some of the questions:

What are your thoughts about our club? List some good points about our club. List some bad points about our club. What do you think about the leadership of our club? What direction do you think the club should follow? Do you feel you are a leader or a follower?

What can be done to get more participation from our members? Would you serve on a committee of the club? If not, why not? What do you think of the club newsletter? Did you ever have an article in it? If not, why not? How may the newsletter be improved? What do you think of this survey?

Lincoln Amateur Radio Club, Lincoln NE:

The club had a QSL contest, based on QSLs received. Members voted for the best in the following categories:

Received from the furthest, using QRP. Rarest country QSL. Best looking QSL. Ugliest QSL. Oldest QSL.

Delaware Valley Radio Association, Trenton, NJ:

The club made a survey of members in business for themselves. They list the members in the club newsletter so that other members who may need their services can get in touch with them. The list includes an attorney, automotive preventative maintenance, dressmaker, jeweler, oral surgeon, printing, security systems, speaker reconing, and trailer and RV sales and service. (What, no TV repair?) We think this is a *great* idea.

Logan County Amateur Radio Club, Logan, OH:

How many clubs have an alternate meeting time in addition to their regular one? The Logan County ARC meets regularly at 7:00 p.m. on the first and third Monday of each month at the Appalachian Power Company Maintenance building in Logan. In addition, an afternoon meeting to accommodate those on shift work or who otherwise cannot attend at night is held at 2:00 p.m. at the same location on the fifth Sunday of any month with five Sundays. That's at least several times a year. □

SWOT invites new members

Side Winders On Two (SWOT) Amateur Radio Club has some 2,500 members in all 50 states and several countries. The club encourages activity on the low end of 2 meters through nets, DXing and exchanging SWOT numbers. Amateurs interested in operating SSB and CW are invited to join the club.

Types of membership: 1) full-active — work two SWOT members and $10; 2) associated-active — haven't worked two members yet, also $10; 3) inactive — receive lifetime SWOT number but no subscription to bulletin, $5.

Send a check payable to SWOT along with your name, call, address, city, state, zip and telephone number to: George Bretz, KB5SV, Treasurer, 3530 Livingston, Ft. Worth, TX 76110. □

Bishop Mule Days honored

The 13th annual Mule Days festivities during Memorial Day weekend brought the Bishop Amateur Radio Club out for a special event station. Bishop, California is becoming known as the mule capital of the world due to its numerous pack stations along the High Sierra chain of mountains. During Mule Days over 1,000 mules are engaged in various competitive events such as: world champion braying contest, racing, mule shoeing, box and diamond hitch contests, steer stopping, roping and a parade of over 200 entries.

Special Event Day was 31 May, and club members operated on 3905, 7240, 14295 and 2 meters from the bandstand in Bishop City Park. Over 273 contacts were logged in 32 states and two countries — Cuba and Canada. A Mule Days certificate is being sent to all amateurs contacted who submit SASE. Renowned mule artist Ernest G. Kinney has designed a cartoon sketch of a mule talking into a microphone and wearing a T-shirt emblazoned with BARC.

In addition to normal special event operating, the club set up a table with code practice oscillators and had a "Mule Radio License" available for anyone who tapped out MULE DAYS in Morse Code. The "Mule Radio License" had the appropriate dots and dashes drawn underneath the words and letters, so nobody flunked. This activity caused a great deal of interest and brought the club 12 Novice candidates. Approximately 150 certificates were handed out.

Manning the code oscillator table during Bishop, California special event day honoring the Mule Days festivities are (left to right): Mary Turner, KA6RCM; Russ Adams, NJ6V; Tony Yamin, WD6EBN. ***(photo by Cal Turner, WB6YZY)***

The club members participating were: Tony Yamin, WD6EBN; Mike Franz, KA6HII; Bob Wirth, KA6AMT; Russ Adams, NJ6V; Bill Milligan, W6DQR; Jack Jackson, WA6JGF; Charles Specht, W6VOO; Cal Turner, WB6YZY; Mary Turner, KA6RCM; Aubrey Sawler, KA6TCB; and Tina Stanfill, 10 years old and waiting for her ticket from the FCC.

The members were so enthusiastic about this year's operation, plans are being laid for next year. □

YOUR LOCAL RADIO CLUB

ALASKA

Borealis Amateur Radio Club
Eielson AFB, Alaska 99702
North Pole Jr./Sr. High School
3rd Friday/monthly - 7:00 p.m.

ARIZONA

Metropolitan Amateur Radio Club
J.C. Penny Restaurant, El Con
Tucson, AZ 85726
Call in on 34/94 K7CC/R
Every Saturday morning — 8:00 a.m.

Tucson Repeater Association
P.O. Box 40371, Tucson, AZ 85719
2nd Sat/monthly — 7:30 p.m., Pima Co. Bldg.
Net Thurs 7:30 p.m. 146.22/82 (146.28/88 & 147.69/09)
(602) 747-8903 or 899-4776

CALIFORNIA

ARALB (Assoc. Radio Amateurs of Long Beach)
1708 E Hill St. Signal Hill, CA 90806
Meets: Signal Hill Comm. Center
1st Friday/monthly

East Bay Amateur Radio Club
P.O. Box 6017, Albany CA 94706
Salvation Army Bldg., 36th & Rheem,
Richmond (415) 525-6200
2nd Friday/monthly — 7:30 p.m.

Fresno Amateur Radio Club, Inc.
P.O. Box 783, Fresno, CA 93712
Meets: 2nd Friday/monthly — 8:00 p.m.
Wawoha Middle School; 4524 N.
Thorne; Fresno. W6TO/R 146.34/94

Mt. Diablo Amateur Radio Club (MDARC)
Grace Presbyterian Church
2100 Tice Valley Road
Walnut Creek, CA 94598
3rd Friday/monthly - 8:00 p.m.

North Hills Radio Club
P.O. Box 41635, Sacramento, CA 95841
Meets: Gethsemane Lutheran Church
4706 Arden Way, Carmichael, CA 95608
3rd Tuesday/monthly

San Gabriel Valley ARC
Bowling Green Clubhouse
405 S. Santa Anita Avenue
Arcadia, CA 91006
1st Tuesday/monthly - 7:30 p.m.

Santa Cruz County ARC
PO Box 238, Santa Cruz, CA 95061
Last Friday/monthly — 8:00 p.m.
San Fran. Fed. Savings, 1995 41st Ave., Capitola
K6BJ repeater 146.19/146.79

Satellite ARC, Inc.
Bldg. 21160
Vandenberg AFB, CA 93437
1st Thursday/monthly — 8:00 p.m.

S.C.A.T.S./WB6LRU
S. CA Amateur Transmitting Society
P.O. Box 1770, Covina, CA 91722
Vine School
1st Monday/monthly — 6:30 p.m.

Sierra Foothills ARC
PO Box 3262, Auburn, CA 95604
Office of Education Bldg.
360 Nevada St., Auburn CA 95603
2nd Thursday/monthly - 1930

Silverado Amateur Radio Society - (SARS)
Silverado Jr. High School
1133 Coombsville Rd., Napa, CA 94558
Bill Williams, N6EIH - (707) 255-7600
1st Tuesday/monthly - 7:30 p.m.

Sonoma County Radio Amateurs, Inc.
Box 116, Santa Rosa, CA 95402
Hank Davis, W6DTV (707) 823-7885
County Office of Emergency Service
1st Wednesday/monthly — 8 p.m. rpter 146.13/73

Stockton Amateur Radio Club
U. of Pacific, Rm. 122
Kensington & Mendocino Sts.
2nd Wednesday / monthly — 7:30 p.m.
Rptr. roll call: Wed. 8 p.m. — 147.165/765

Tri-County Amateur Radio Association
Pomona First Federal Savings and Loan
399 N. Garey Ave., Pomona
Talk-in 146.625/025 For info. call (714) 985-8184
2nd Monday/monthly — 7:30 p.m.

Ventura County Amateur Radio Club
Oxnard Community Center
Camarillo Room
900 Hobson Way, Oxnard, CA
2nd Friday — 7:30 p.m.

West Coast Amateur Radio Club
Fun Meetings — No Business
Fountain Valley Recreation Center
Visitors welcome — call in 144.330 simplex
Call KA6RRR (714) 636-8661 for dates

CONNECTICUT

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

FLORIDA

Greater Titusville Amateur Radio Club
c/o W.R. Young, N4DQT, 3845 Catalina St.
Titusville, FL 32780 • Repeater 146.31/91
3rd Monday/monthly - 7:30 p.m.
Chamber of Commerce Bldg.

Indian River Amateur Radio Club
P.O. Box Five, Cocoa, FL 32922
1st National Bank, Merritt Island
Cor. SR 3 and SR 520, Merritt Island
4th Tuesday/monthly — 7:30 p.m.

Sarasota Amateur Radio Assoc., Inc.
Sarasota Junior High School Rm. A-9
Shade Avenue & Hatton Street
President: "O.W." Lander N4FCF
3rd Tuesday/monthly - 8:00 p.m.

GEORGIA

Gwinnett Amateur Radio Society
Red Cross Center
Hi Hope Road, Lawrenceville, GA
147.87/27 for Talkin/Info.
3rd Thursday/monthly — 7:30 p.m.

HAWAII

Big Island Amateur Radio Club
Helco Auditorium
1200 Kilaueau Avenue, Hilo
Call-in 146.28/88
2nd Tuesday/monthly — 7:30 p.m.

ILLINOIS

Chicago Suburban Radio Association (CSRA)
Clyde Federal Savings & Loan Assn.
7222 West Cermak Road
North Riverside, IL 60546
2nd Wednesday/monthly — 8:00 p.m.

Fox River Radio League
McCullough Park Dist. Bldg. Rm. 101
Rt. 31 & Illinois Ave., Aurora, IL
(312) 898-2779 for more information
2nd Tuesday/monthly — 7:30 p.m.

Tri-Town Radio Amateur Club
P.O. Box 302, Hazelcrest, IL 60429
Above Hazelcrest Police Station
1st & 3rd Friday/monthly — 8 p.m. (except July & Aug)
Net every Wed. 8 p.m./146.49 MHz

Wheaton Community Radio Amateurs (WCRA)
College of DuPage, Room 2061
Glen Ellyn, IL. 60137
1st Friday/monthly — 7:30 p.m.

INDIANA

Allen Co. Amateur Radio Tech'l Society, Inc.
P.O. Box 10342, Ft. Wayne, IN 46851
Allen-Wells Chapter House • Amer. Red Cross
1212 E. California Rd., Ft. Wayne, IN 46825
3rd Tuesday/monthly — 7:30 p.m.

Fort Wayne Radio Club
Ron Koczor, K9TUS
P.O. Box 15127, Fort Wayne, IN 46885
The Salem Church
3rd Friday/monthly — 7:30 p.m.

SUBSCRIBE TO WORLDRADIO; see page 11

For information on how to get your club listed in this column, plus receive many other benefits, write to Dave Tykol, WA6RVZ, Club Liaison, Worldradio, 2120-28th Street, Sacramento, CA 95818.

IOWA

Muscatine Amateur Radio Club
Info: Bruce Dagel, WB0GAG (319) 264-3320
Meets: Basement Meet. Rm., Public Safety Bldg.
Muscatine, IA
1st Monday/monthly — 7:30 p.m.

RSCB (Radio Society of Council Bluffs)
Richard Swig, WA0ZQG, Secretary
104A Jennings Road
Council Bluffs, IA 51501
2nd Tuesday/monthly — 7:30 p.m.

MARYLAND

Frederick Amateur Radio Club
Frederick Electronics
Vernon Simmons, KA3CVD
(301) 371-5735 after 1800 except Thur.
2nd Tuesday/monthly — 2000

MASSACHUSETTS

Billerica Amateur Radio Society (BARS)
Honeywell Systems Division
300 Concord Road
Billerica, MA 01821
1st Wednesday / monthly — 7:30 p.m.

Q.R.A. (Quannapowitt Radio Assoc.)
Masonic Hall — Salem Street
Wakefield, MA 01880
2nd Friday/monthly — 8:00 p.m.

MICHIGAN

The Eastern Mich. ARC (EMARC)
St. Clair County Comm. College
Student Center Building (Cafeteria)
Port Huron, MI (313) 364-9640
1st Tuesday/monthly — 7:30 p.m.

MISSOURI

Heart of America Radio Club
3521 Broadway
Kansas City, MO
3rd Tuesday/monthly

NEW JERSEY

Gloucester County ARC, W2MMD
PO Box 370, Pitman, NJ 08071
American Legion Post
Delsea Dr., Rt. 47, Clayton, NJ
1st Wednesday/monthly — 8:00 p.m.

Old Bridge Radio Assoc. (OBRA)
Cheesequake Firehouse — Route 34
Old Bridge Township, NJ
Daily 8 p.m. Net on 147.72/.12 MHz
3rd Thursday/alternate (odd) months 8 p.m.

NEW YORK

Amateur Radio Assoc. of the Tonawandas
City Hall, Community Room
200 Niagara Street
City of Tonawanda, NY 14150
3rd Tuesday/monthly — 8:00 p.m.

Genesee Radio Amateurs, Inc. (GRAM)
PO Box 572, Batavia, NY 14020
State Civil Defense Center, Batavia
(behind NYS School for the Blind)
3rd Friday/monthly — 7:30 p.m.

Hall of Science Amateur Radio Club, Inc.
PO Box 131, Jamaica, NY 11415
Queens County Dental Society Bldg.
86-90 188th St., Jamaica, NY
2nd Tuesday/monthly - 7:30 p.m.

Long Island Mobile Amateur Radio Club (LIMARC)
146.25/85, 147.975/375, 223.22/.224/.82, 444.125/449.125
Membership: Jerry Kamen, K2QXH, 44 Robin Lane, Levittown, 11756 Net every Mon. 8:30 p.m. 146.25/85
Meets 1st Tues / 8 p.m., H.B. Thompson, JHS, Syosset

NEW HAMPSHIRE

Great Bay Amateur Radio Assoc.
Airex — Tel. 742-3703
Route #16, Dover, NH 03820
2nd Sunday/monthly — 7:00 p.m.

NORTH CAROLINA

Wayne County Amateur Radio Assoc., K4CYP
Morrison's Cafeteria
Berkeley Blvd. — P.O. Box 1578
Goldsboro, NC 27530
3rd Saturday/monthly — 8:00 a.m.

OHIO

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

C.A.R.S. (The Clyde Amateur Radio Society)
Ervin Remaley, KA8CAS, Secretary
2nd Tuesday/monthly - 7:30 p.m.
Community Rm., City Building, Clyde, OH
Repeater 144.75/145.35

Champaign-Logan A.R.C., W8EBG/R
Joe Palmer, KS8M, President
2 Meter Net, 147.60-100, Tuesdays, 8:30 p.m.
Dinner Meeting, 1st Thursday / monthly
Dajolees Restaurant, West Liberty, OH, 7 p.m.

Findlay Radio Club
1333 W. Sandusky St./Box 587
Findlay, OH 45840
Repeater 147.75/15
1st and 3rd Thursdays/monthly — 7:30 p.m.

NOARS (Northern Ohio ARS, Inc.)
P.O. Box 354, Lorain, OH 44052
K8US (216) 988-2345/near OH T.P. Exit 8
3rd Monday/monthly — 7:30 p.m.
K8KRG/R 146.10/70 -144.55/145.15-449.8/444.8

OREGON

Clatskanie Amateur Radio Club
Route 2, Box 553
Clatskanie, OR 97016
Clatskanie Grade School Library
2nd Tuesday/monthly — 7:00 p.m.

Oregon Tualatin Valley ARC
Portland General Electric Auditorium
14655 S.W. Old Scholls Ferry Road
Beaverton, OR 97005
3rd Wednesday/monthly — 7:00 p.m.

SOUTH CAROLINA

Keowee-Toxaway A.R.C. (Seneca/Walhalla)
147.87/147.27 WA4JRJ/R
Seneca Police Dept. Bldg.
Call Hum Walker, S/T, KD4WL (803/882-0471)
3rd. Tuesday/monthly — 7:30 p.m.

TENNESSEE

Radio Amateur Club of Knoxville (RACK)
PO Box 124, Knoxville, 137901
Fire Training Center
Prosser Road, Talk in 147.90/30
3rd Thursday/monthly — 7:30 p.m.

TEXAS

Garland Amateur Radio Club (GARC)
146.775/146.175 K5QHD/R (info Net Mon. 7:30 p.m.)
Garland Women's Activity Building
713 Austin Street, Garland
4th Monday/monthly — 7:30 p.m.

Houston Amateur Radio Club, W5DPA
7011 Lozier Street
Houston, TX 77021
(713) 747-5073
Fridays/weekly — 7:30 p.m.

UTAH

Utah Amateur Radio Club (UARC)
Room 161, Murray High Sch., 5300 S. State
Gordon R. Smith, K7HFV
582-2438/talk-in 16/76
1st Thursday/monthly - 7:30 p.m.

VIRGINIA

Southern Peninsula Amateur Radio Klub (SPARK)
Repeater 146.13/146.73 — WR4ALW
VEPCO Bldg. (Pembroke Ave. & G St.)
Hampton, VA
1st and 3rd Wednesday/monthly - 7:30 p.m.

WISCONSIN

Racine Megacycle Club
Red Cross Building
4521 Taylor Avenue
Racine, WI 53405
2nd Monday/monthly — 7:30 p.m.

WEST VIRGINIA

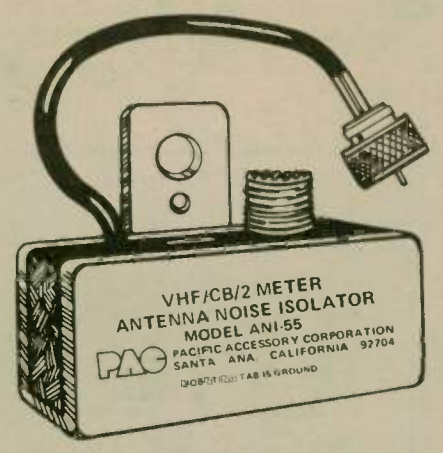
Jackson County Amateur Radio Club, Inc.
First National Bank of Ripley, WV
1st Thursday/monthly — 7:30 p.m.

The volume of mail that this column generates has prompted me to talk about some of the most commonly asked questions everyone seems to have. Let's take a look at some interesting questions and answers that apply to maritime mobile installations.

Noise

Electrical noise will most affect your high frequency ham set. Electrical noise will also severely impair your Loran, Omega and RDF reception. There are a variety of electrical noise sources that will interfere with your reception.

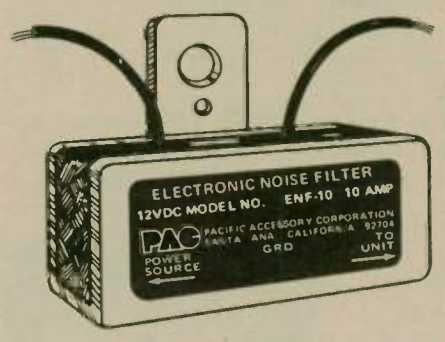
A very common electrical noise source on HF is that caused by your neon lights. Neon light noise is a transient type of noise that starts low in frequency and rapidly progresses up the band. It will wander throughout the radio spectrum all the way up to 100 MHz. The best way to eliminate this noise is to simply turn off the neon light source!



Another source of electrical noise that will cover up almost all high frequency amateur communications is the computer noise from your Omega or Satellite Navigation receiver. You may identify this noise by a steady oscillation that changes pitch when you key-enter commands on your Sat-Nav receiver. Intense grounding of both your ham equipment and Sat-Nav receiver may help eliminate or reduce this common interference source.

I'm sure I don't need to tell you what alternator noise sounds like in any type of radio equipment — it's that singing sound that changes in pitch as you rev up the engine. It will pass many times through your receiver and to the speaker, even when your volume control is all the way down. Special alternator filters will easily cure this noice source that is transmitted through your power leads.

Voltage regulators of the older mechanical type can really generate some horrendous noise in your HF system. It sounds a little bit like frying eggs and is somewhat erratic. Special filters are available that attach directly to the regulator frame that will pass this noise to ground.



Electronic tachometers and engine synchronizers that are often used on diesel and gasoline-powered vessels also produce radio interference. Much of the noise is connected into the distributor side of the ignition coil and across the breaker points. The long wires running from these points to the tachometer act like an antenna and pass the noise on to every marine receiver aboard! Tachometer filters consisting of a low-pass RC design will help control this type of ignition noise leakage down through the frequency bands used for amateur and Loran C.

Gasoline engines will create considerable interference depending on where your antenna is mounted. There are specialized filters for gasoline engines, too.

Now let's talk about who makes these filters and what type of filters will work best for Amateur Radio installation.

There are passive filters and active filters. Passive filters are suppression devices that do not have their own power supply. They act upon the current and voltage in a power lead in a passive manner.

An active noise filter must have its own supply of power to act and react upon the power lead.

You first have to find the noise source before it may be cured; this device traces noise where it originates.

Filters

Noise conducted on a power lead and amplified by your HF rig is generated from variances in current and voltage. Smoothing these variances out is what is accomplished by both suppressors and filters. The effectiveness of the smoothing versus cost and size is the practical difference between suppressors and active filters.

A manufacturer could build a very large inductive choke and add a 200,000mF capacitor and have a current and voltage variance "smoother" as effective as a 5 or 10 amp electronic noise filter. The size of such a device may make it impractical for many installations.

Two companies are actively pursuing noise problems for marine installations. Both companies publish radio noise fact books that you may wish to write for.

Marine Technology, 2722 Temple Avenue, Long Beach, CA 90806; phone (213) 595-6521. They have a nice set of noise elimination fact sheets.

Pacific Accessory Corporation (PAC), 3613 West Mac Arthur Boulevard, #603, Santa Ana, CA 92704; phone (714) 957-1434, also produces a comprehensive catalog and noise filter guide for your review.

Both companies will be more than happy to supply you with their material, free, providing you tell them you read it here in **Worldradio** by Gordon West.

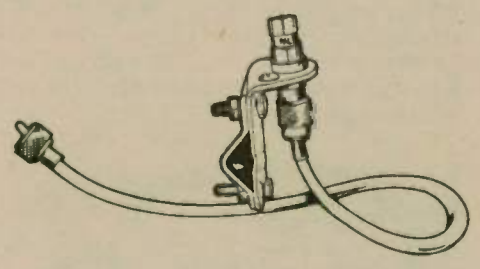
The Spider Antenna

The folks at Spider Antenna, 7131 Owensmouth Avenue - Suite 63C, Canoga Park, CA 91303, have been inundated with orders for their maritime mobile multi-band antenna. They wanted me to thank everyone for their interest, and they indicate that they are more than happy to work with mariners wishing to place this antenna aboard their sail or powerboats. The marine version of the antenna is $165 versus the regular mobile version of $80. Remember, you supply your own mount.

Antenna mounts

Speaking of mounts for whip antennas for marine and vehicle installations, a well-known personal communications company produces more mounts than you can shake a cleat at! The mounts they produce are heavy-duty type and won't fall to pieces in the salt air.

Firestik Antenna Company, 2614 East Adams, Phoenix, AZ 85034; phone (602) 273-7151, has a complete catalog of "PAL" antenna mounts suitable for marine installations. If you have been looking for a special mount that will put your antenna at a special angle, this company has it! Write them for a catalog.



A special mount is their specialty!

Incidentally, the Firestik Antenna Company is also producing some excellent quality 2-meter antennas, as well as a new model 2M-VHT 2-meter antenna assembly that will mount on a cabin top or just about anywhere.

The incredible number of mounts this company manufactures makes mounting whips a breeze!

Seven Seas Cruising Association (SSCA)

This group is one of the most exclusive sailing/cruising groups in the world. In the past, membership has been limited to Commodores nominated by a membership selection process, who live aboard and cruise sailing yachts. The organization indicates they are not a political lobby. They also indicate they are not primarily a group of radio amateurs who are cruising sailors.

Seven Seas Cruising Assn., Inc.
P.O. Box 38
Placida, FL 33946

"We are, first, sailors who meet the requirements for membership in SSCA, and who meet the requirements for licensing and radio, who use the radio as a means of communication along with many other improvements and conveniences available to the small boat sailor, whether it be wind vanes, electricity, efficient refrigeration or radio. We do not endorse any illegal operation of transmitters abcard cruising craft. The SSCA Amateur Radio call sign book was published for the cruising sailor to not only provide the call signs, etc., but also to give the frequencies and times for receipt of information via the radio nets. We are in constant communication with the net controllers all over the world and value their inputs," comments Ginny-Lea Osterholt, editor of the SSCA bulletin.

If you have in interest in cruising in small boats, you may wish to join SSCA today as an associate member by sending $15 (foreign $17) to SSCA, Box 38, Placida, FL 33946. Their monthly bulletins contain a wealth of good Amateur Radio information for the cruising mariner. It's a tight-knit group, and it bears your investigation because it seems extremely worthwhile.

Impedance matching

The final subject this month deals with trying to tune a whip antenna off your stern. If you find that your whip does not resonate, chances are you probably don't have enough ground. I know, you are sick and tired of hearing this from old Gordo, but you still need to remember that a quarter-wave loaded whip still requires a good groundplane. A good groundplane may only be constructed out of copper foil. If you can't find copper foil, keep looking. It's very common among marine electronics dealerships. Some hardware stores also have copper foil for sale.

Remember last month when we talked about whip antennas that might refuse to load up, even with a good groundplane? If this is your situation, chances are you may need to raise or lower the characteristic feedpoint impedance at the base of the antenna. The feedpoint impedance is tremendously affected by surrounding metals and the surface you mount the whip on. Sometimes the feedpoint impedance may be too high — and sometimes too low. Pruning the whip won't help here. The antenna is resonant; the feedpoint impedance is simply not close to 50 ohms.

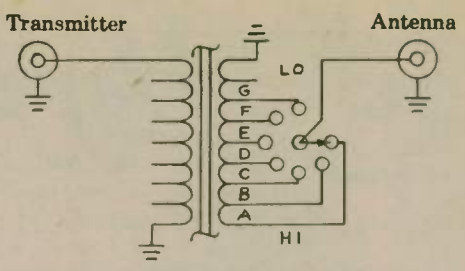
The best device I have found for bringing the feedpoint impedance back down to 50 ohms is the rugged impedance matching box produced by Cubic Communications, (X-Swan), Oceanside, California.

Amateur Radio noise checklist prepared by Marine Technology, Inc., Long Beach, California

PROBLEMS	POSSIBLE SOURCES	CURES
Audio/Hi-Fi Equipment:		
Alternator whine in any receiver, tape system, hi-fi loud-hailer or radiophone receiver. Whine varies in pitch with engine speed.	The alternator normally develops an audio frequency voltage (1 to 6 kHz), across the battery.	Use the MAR-P5, P10 or P25 in the powerlines to affected receiver(s), depending on the current required.
Fixed-frequency whine or whistle in the above equipment.	Any DC/DC or DC/AC converter such as is used in . . . • Electronic ignition • Radar set • 12V to 115VAC supplies.	The MAR-P5, P10 or P25 may be used in the power wiring to the offending device as well as to the affected receivers. However, certain high-power inverters may work only when connected directly to the battery.
HF SSB Marine and Amateur Receivers:		
Regular popping sound at low engine speeds, increasing to a rough sounding roar at high RPM.	Gasoline engine ignition system.	Use a MAR-10A filter on the primary (+12 volt) lead from the key to the ignition system. Install at the engine. Use resistor-type spark plugs and resistor-type plug wiring. Test or replace resistor-type plug wiring if over three years old. Use a MAR-TAC 2 filter at the engine on the line to an electronic tachometer. Also, use a MAR-P5 in the power leads at the tach, especially if it's a digital unit.
Intermittent frying noises.	Mechanical voltage regulator.	Install two MAR-ACE 2 filters on the four leads to the regulator.
Grinding noise when in gear.	Intermittent electrical grounding of shaft due to oil film in transmission and bearings.	Install shaft brush to provide a good electrical connection between propeller shaft and engine ground.
All of above.	Residual RF noise in the vessel's electrical system.	MAR-HF in powerline to radiotelephone. MAR-HF2 in ground lead to radiotelephone.
Loran C. Radionavigation System:		
System can't be used while engines are running. Symptoms are . . . • Can't acquire LOP's • Can't hold LOP's when engine started. • Cycle jumps (10-count errors) • SNR unacceptably low.	Alternator diode noise, gas or Diesel engines. Electronic ignition, gasoline engines. Note: Interference may appear more severe at some engine speeds than at others.	MAR-70A or MAR-120A on each alternator. MAR-10A in +12V or "booby-light" lead to alternator voltage regulator. MAR-10A in +12V wire to ignition circuits, gas engine. MAR-TAC 2 at electronic tach connection on gas engine. MAR-P5 filter in the power wires to each electronic tach unit. MAR-LC kit on Loran C receiver power and ground wire (gas or Diesel).
System can't be used while certain accessories operate. (Symptoms same as above).	Television set.	Turn the . . . thing off.
	DC Motors on pumps, blowers, refrigerators, wipers, bait tanks, bilge pumps heads, icemakers, etc.	Install a MAR-P5 (5 amps) or MAR-P10 (10 amps) or MAR-P25 (25 amps) in the powerlines to the offending motor. Also use MAR-LC.
	Flourescent lights — Strobe lights, — All digital instruments . . . (Tachometers, wind speed and distance etc.) Computers, calculators on ships power.	Install a MAR-P5 in the power leads to the unit. Use MAR-LC. Use short pieces of wire to bond fluorescent light chassis parts together and to the negative power lead.
	DC/DC and DC/AC power converters (as in some Radars).	Use the MAR-P10 or P25 in the powerleads to the unit. Use the MAR-LC.
Depth Sounders, Sonar:		
Excessive background hash, obscuring indication and reducing range.	Same sources as affect Loran C.	Same cures useful for Loran C engine and accessory noise problems. The MAR-P5 is effective in the powerlines to the depth sounder.
Interference at top speeds only.	Propeller cavitation, transducer mount cavitation.	Review propeller selection. Review mount location.

Their MMBX matchbox is an impedance matching device intended for HF mobile marine service to match the antenna impedance to the output impedance of the transmitter operating from 2 to 30 MHz, with up to 500 watts of power output. The unit contains a toroidally-wound transformer and a 7-position rotary switch. The switch contacts are connected to the several taps of the transformer. The transmitter connector is connected across the primary and the antenna connector is connected by the switch arm to the selected tap. You use regular coaxial connectors and place the switch at the base of the antenna. By switching the set-up and looking for the lowest SWR, you are bound to find a position that will give you a closer match to 50 ohms.

I have installed this device at the base of many mobile whips, and it has saved the day in several cases where the 20-meter band simply would not drop into resonance.



Cubic MMBX matcher schematic diagram

So that's it for this month — more questions and answers to problems next month. Good cruising, and be patient if you have sent me a letter and you are still waiting for a reply in your self-addressed, stamped envelope. I'll get to you soon! □

Great American lies

Loretta Demko, N4EBB

The check is in the mail . . . I'll start my diet tomorrow . . . We service what we sell . . . Give me your number and the doctor will call you right back . . . Money cheerfully refunded . . . I gave at the office . . . It's better to give than to receive . . . This hurts me more than it hurts you . . . I just need five minutes of your time . . . My wife doesn't understand me . . . I thought the bill wasn't due till next week . . . Your table will be ready in a few minutes . . . Of course I'll respect you in the morning . . . Money can't buy happiness . . . Leave your resume and we'll keep it on file. (Tnx to the *W5YI Report*, 1 August 1981)

(Add to the list: QSL sure via the bureau . . . You're 5 & 9.)

— *Trident ARC, Charleston, SC* □

Happy Flyers
HAMS & PILOTS

"THERE IS NO LIMIT TO WHAT YOU CAN DO – IF YOU DON'T CARE WHO GETS THE CREDIT"

INTERNATIONAL COMMANDER, **Hart Postlethwaite, WB6CQW**
1811 Hillman Ave., Belmont, California 94002 (415) 341-4000
International Vice Commander, Paul Hower, WA6GDC
Box 2323, La Mesa, California 92041 - (714) 465-5288

Great Sierra Balloon Crossing

23 to 26 September are the dates for an event you should try to attend. It will contain a number of "firsts." Even though this event will be held in Visalia, California, if you have any interest at all, it appears to be worth the trip if you can work it out. Those who read this column typically have an interest in Amateur Radio, flying or direction-finding. All of these will be a part of these exciting four days.

Attorney Dan Crowe, KB6AR (one of the volunteer workers), came to the San Francisco area recently and spoke to the San Mateo Sheriff's Air Squad about the activities. He is very excited about the events, and it is easy to see why. Most of us in flying and Amateur Radio know very little about balloons, and few of us have given much thought to them.

Helium balloons

I never gave much thought to the difference between a helium-filled balloon and a hot-air balloon. One of the differences, obviously, is that one is filled with helium. What I did not realize is that it takes about $1,800 to fill one of these large balloons for a flight. This is not something the average person could afford to do every weekend — or even very often. This is why these types of balloons are usually sponsored by companies that can write part of the flight off to publicity.

These balloons can fly very high. So high, in fact, that they are fully equipped for IFR (Instrument Flight Rules). This means that, in addition to the $1,800 of helium, they have two-way aircraft radio, transponder with altitude reporting capabilities, etc. Those of you who fly know that to be IFR-equipped can cost over $10,000, without all the niceties that are actually available. With all this money tied up in a flying device, it follows that they will have good professional crews.

The "Great Sierra Balloon Crossing" will be an internationally sanctioned contest for these helium balloons. The balloonist will be required to cross the mighty Sierra Nevada mountain range just south of Mt. Whitney. For those of you not familiar with that overgrown hill, it juts about 15,000 feet into the sky. The crew will have to wear oxygen equipment at all the high altitudes.

An interesting feature of weather in the West is the so-called jet stream that runs from west to east quite often. If these balloons happen to be "lucky enough" to find a jet stream, there is no telling where they will end up. As far as is known, no one has ever attempted to cross the Sierras like this before. I believe five or six are already signed up to compete.

One of the things that caused Dan to contact the HAPPY FLYERS is the subject of safety for these high-flying balloons and the rugged terrain they will be crossing. They will be equipped with the Emergency Locator Transmitter (ELT) that we write about so often, but those of us involved in Search and Rescue (SAR) know only too well how poorly this 80mW transmitter has been DFed in the past. Few are properly equipped to locate this transmitter rapidly. I recently wrote about two ELT searches that lasted five days. In many areas, it could be difficult to survive that long after a crash; the Sierras are one of those areas. We hope the services of DFers are not needed, but if they are, we hope amateurs from coast to coast will listen to the club station (KB6AR) that will be operating until all balloons are safely landed. It is possible that one might fly as far as Canada or the East Coast!

Hot-air balloons

Obviously, once the helium balloons depart, those at the festival will only be able to watch their progress via TV and radio. The hot air balloons will compete in a number of local activities that should prove to be very thrilling to watch. One would not think a relatively slow-moving thing like a balloon could cause excitement for spectators.

Think again! A hot-air balloon is held aloft by the amount of hot air in the balloon as controlled by the pilot (via blasts of fire from burners under the opening). Its only directional control is by means of the wind. I would have thought that one could therefore only go where forced. Dan tells me that they actually can control direction somewhat by trying different altitudes, which have slightly different wind directions.

One of the contests will be to choose one's own launching site (a few miles from the festival), and attempt to maneuver to a pole at the festival grounds. This pole will be about 20 feet high and have a key on top of it. This key will be to a $12,000 new pickup truck. Anyone able to maneuver to that pole and pick up that key will be able to drive home in a new vehicle. Another contest will be the "spot landing." Those of us who fly airplanes have often been part of such competitions — but remember, we can control all realms of flight. With the balloons, they will again have to choose their own take-off point to try to land at the spot at the festival grounds. Dan tells me that some "crazy" balloonists will pull the rip cord and try to "drop" on the spot. Sounds exciting. Not enough room to tell you of all the activities.

Club Amateur Radio station

A well-equipped station (KB6AR [KB6 Amateur Radio]) will be available on the grounds for use by interested amateurs. They will provide multi-colored certificates to all confirmed contacts with the special event station, for the customary QSL card and SASE. We hope that many of you will plan to be on the air those four days and visit with us. I plan to be there for the DF SAR work and some sheriff's patrol, but I do plan on getting on the air from the station to visit with some of you who read our HAPPY FLYERS column. If you cannot attend, do join us on the air; and to those in the flight path of the helium balloons — we would appreciate your listening in case of emergency.

Other activities

We have run out of space and there are too many other activities to go into detail about. To mention a few: a chili cookoff (annually sponsored by a local radio station); skydivers; radio-controlled model aircraft; naval air display; Delorean Car Club; name entertainment; dancing; numerous displays; SAR equipment; etc. For more detailed information, write to Dan Crowe, KB6AR, 2222 West Main, Visalia, CA 93291. *THIS IS THE MONTH!*

DF query

We would like to hear from anyone who has tried retuning a receiver in conjunction with any previously poor operating DF unit. Brand name is unimportant. As stated, this may be the final problem with switched antenna DF units. Sharing your findings may materially help others — and the SAR community.

In the August column, I mentioned I am looking for work. Would appreciate any help readers may be able to render in this regard. We are willing to relocate under the proper circumstances. □

Woodpecker

The following message sent in CW on the frequencies that Russian intruders are using will often get them to shift out of the band:

UITA OEASTOTA OEASTX MEV-DUNARODNOJ LIMBITELSXKOJ POLOSY OEASTOT POVALLUJSTA QSY TOTOEASVE.

The OEs, UI and IM are run together to form the additional Cyrillic alphabet characters. The message, when taken down in Cyrillic script, reads, "This frequency is part of the international amateur band . . . please QSY immediately." —Ham Radio
—*Red River Valley AR News, Paris, TX*□

CW in outer space

Nick Hauck, K6QPE

All radio operators learn it, Boy Scouts learn it; even the Armed Forces taught you a few letters, then tested your recall on their initial entrance aptitude test. And even the astronauts have to learn it.

During Scott Carpenter's training at the Control Center, NASA knew the success of the mission depended upon the communications of his voice and the way his reports were given. A NASA order said if an astronaut lost voice communications before orbit, the mission would abort and if it was lost after orbit, they could finish that particular orbit. The message was clear. Lost voice communications meant a lot of effort and money would be wasted.

Scott Carpenter felt differently about this NASA rule. He, along with the other astronauts, had learned and could use Morse code. One day inside the procedures trainer that NASA used to simulate space flight, the simulator crew wanted to see what would happen if all voice communications were cut off. Carpenter was not told and when the plug was pulled, he started using a hand key to pass his communications. He even sent word that the mission should be completed in spite of the communications failure. It was only a simulated test flight but these guys were taught for every emergency.

The simulator crew pulled the same thing on John Glenn. Without prior warning, he went to CW and continued to send all the necessary data. NASA now knew they had a backup communications system that had not been programmed.

It is doubtful that any astronauts objected to learning CW previously, even though they would not be using this mode. They knew code knowledge might save their lives. □

WITH THE HANDI-HAMS

Bruce L. Humphrys, KØHR

Intelligent life??

During our West Coast Radio Camp session this past January, we visited the Jet Propulsion Labs of California Tech. While there, we heard — among a host of other things — about Cal Tech's program of Searching for Extraterrestrial Intelligence (SETI). Serious scientists, working with very serious equipment (albeit with low budgets), are seriously looking for signs of someone or something *"OUT THERE."*

I can remember well listening to the radio on Saturday afternoons to Captain Midnight, Buck Rogers, and the rest. Reality took over — reluctantly — from fantasy, and I gradually got to believe that there really weren't spooky space-people flitting around in super-spaceships, waiting to disintegrate the Earth. Now the fellas at JPL are actually *looking* for Mongo!

Dr. Carl Sagan wrote in the preamble to one of his books: Either there *is* life elsewhere in the Universe . . . or there *isn't*. Either way, it's *mind-boggling!* That's what he said. Neat stuff.

But what was even neater, I think, was learning about the equipment and methods being used for the search. First of all, we aren't so much in a hurry to send a message spaceward anymore. Reason is, it's gonna take so long to get anywhere, even at the speed of light, that we won't be around to hear (see, feel, smell — who knows?) the answer. Also, what with our radio and TV and radar and such, we're broadcasting fantastic amounts of signal into the universe as it is. If anyone is listening, they're *certain* to know someone is here! Whether or not what they hear will be intelligent is, of course, another matter!

We radio operators can do a lot to convince someone from Mongo that there really is intelligent life here on Earth. We can do it by being courteous on the air and courteous in our personal relationships when helping a new amateur learn the ropes.

The equipment we buy comes with a user's manual and instructions, right? We wouldn't think of turning on an expensive piece of Amateur Radio gear without first reading and understanding the manual (oh, I know we all have, but . . .!). Well, how about people? Do you realize that people are the most complicated pieces of equipment you may ever come in contact with? Why don't people come with instruction manuals?

In the HANDI-HAM system, we're trying to put out a "Human Manual" to help amateurs who are assisting our students learn the ropes of Amateur Radio. We want to make our manual as intelligent as we can so that our students don't embarrass themselves on the air, and so our helpers know how to get the most out of helping another person get on the air.

We would like your help with this manual. If you have some hints or kinks on neat ways of teaching, or ideas on methods that you've come across, we'd like to hear of them. This manual is going to be a comprehensive *operating manual for people*. We hope that through the HANDI-HAM System, people will learn the right way to conduct themselves on the air, both for their own enjoyment and to prove to Mongo that there *is* intelligent life on Earth! □

●●●

Pass it on . . . WORLDRADIO

New ARRL booklet

The ARRL has put out a new booklet entitled *ARRL Program for the Disabled*. It is a very good booklet with information for anyone who may be disabled and who desires to acquire an amateur license, or for anyone who may be called upon to assist such a person.

— Enid ARC, Enid, OK □

Region 6 Base Support Teams

Paul Turkheimer, WA6NKL

Base Support Teams have traditionally been the focal point for highly concentrated USAF MARS activities. Structured, organizational approaches, frequent personal contacts between members on tasking and technical projects have resulted in these groups providing valuable services to their host commands. Region 6 offers a broad spectrum of these services; a brief overview of some of these teams follows.

George AFB, California

The Southwestern deserts with their wide open spaces are ideal for the location of test and training bases. George Air Force Base (AFB), in the Southern California desert, is a very active Tactical Air Command Facility. Its Base Support Team, in operation since 1975, consists of 16 members, led by First Lt. Carrol, the IMD. The Class B Station, equipped with Drake and Collins equipment, a log periodic and other antennas, supports downed aircraft searches several times a year over a wide geographic area. Close-in support is provided through a sophisticated repeater system capable of VHF/HF linking auto/phone patching and other features. Access to all radio communication facilities are available in the Base's Disaster Support Van.

The Base Support Team distinguished itself by providing around-the-clock service to the exercise Gallant Eagle, the large scale manuever held in the Fort Erwin area at the beginning of the year. Hundreds of messages in connection with the casualties during the early phases of the exercise were handled by the team's dedicated members.

Holloman AFB, New Mexico

AGA6HO and its Base Support Team services the 49th Tactical Air Command Wing. AGA6HO is an auxiliary station supported by 15 affiliates, who each average 75 hours per month for participation. Its IMD is Major John Cunningham, AFA6FL. The team, originally organized in 1964, now has in addition to a manager, a training officer and a combined Civil Defense Preparedness Officers and Emergency Coordinator.

The Base Station is equipped with a Drake TR7DR7 exciter, 30S1 linear and various antennas. The mobile emergency van contains two HF, three VHF and one aircraft frequency transceiver and teletype. Since August 1981, the team provided first on-the-scene communications from the site of three separate air crashes. In addition, it distinguished itself in supporting the third landing of space shuttle *Columbia*.

Los Angeles AF Station

LAAFS, Headquarters, Space Division (SD) is part of the Air Force Systems Command. Since 1963, the 25-member team — currently headed by the IMD, Larry Savell, AFA6UL — has provided backup communications to the SD. The station, AGA6LA, located in the penthouse of building 100 in El Segundo, is a class B station and has four KWM-2A's, three 30S1 linears, one GE Progress Line four-channel VHF FM transceiver and one two-channel monitor receiver. Antennas range from a log periodic to dipoles to sloping Vees to an all frequency vertical.

The Base Support Team is a structured organization, having a Team Manager, Emergency Coordinator, Administration and Operations Manager, Technology Manager and special Net Manager.

The latter's function is to organize and manage the Worldwide Space Division Net (WSDN), a recent regular activation of MARS stations at the locations of the SD's subordinate commands, worldwide.

Mather AFB, California

Mather AFB is a Navigator Training Base. AGA6MA is a class B station, supported by 12 Base Support Team members. An additional 12 affiliates are available on an as-required basis. The communications equipment at AGA6MA consists of two KWM-2A's, a 30L1 linear each, a log periodic and several other wire antennas.

The Base Support Team has been active since 1975 and has been alerted on numerous occasions to provide services during frequent storms, floods, etc. On occasion, AGA6MA has provided backup to AGA6TR. The IMD is 1st Lt. Susan LeClare. Dave Minton, AFA6PI is the Team Manager.

Nellis AFB, Nevada

Located in the Nevada desert, not too far from Las Vegas, is Nellis AFB, a Tactical Air Command Base. It has a 10-member Base Support Team which is less than two years old, highly efficient and dedicated, and all too often exercised to provide actual emergency services during accidents. Support requirements, 230 miles from the base, in a variety of climatic conditions ranging from torrid desert temperatures, well above the 100 degree mark to 8,000 feet plus sub-zero temperatures, are not uncommon.

The team has three KWM-2A's, located in the Command Post, the Mobile Command Post and the disaster preparedness vehicle. A sophisticated VHF system was also developed by the members, centered around its repeater. The team is headed by Captain Harrison Mosser, AFA6CW, and includes members who are professional military, as well as civilians from the Nevada Test Sites Department of Energy and Sandia Laboratories.

Travis AFB, California

Known worldwide as AGA6TR, the station is the Region to Master Net Control Station. After many years of inactivity, the Base Support Team is currently in the process of reactiviation. T Sgt. R. Walker is the IMD and Gerald Hentzen, AFA6KG/AFF6M is the Team Manager. The current membership is growing and consists 75 percent of active and retired military. Gerry, in addition to his many MARS activities, also finds time to help train the military operators on the use of the six KWM-2A's, the five 30L1 linears and the 30S1 linear as well as the intricacies of the use of the two log periodics, the two Rhombics and one Discone antenna.

Other teams are active in the region with some in the process of being formed. The recently developed close mutual support program between state support and base support has had very positive effects throughout USAF MARS. □

Las Vegas area MARS at Scout meeting

On 5 and 6 March 1982, USAF MARS provided communications to the Scout meeting 30 miles southwest of Las Vegas. Six hundred Scouts attended. USAF MARS was requested to supply this service.

The Sandia Emergency Response Trailer under call sign AGA6NE/23 was activated at the site. It was also used as part of a training activity for those Scouts interested in Amateur Radio. The group had access through the 6NVFO1 repeater autopatch to medical facilities in the event it became necessary.

Special thanks go to Bob Nelson, AFA6NE and Ken Johnson, AFA6LM for mobilizing the communications trailer. Others participating were Robert Geske, AFF6NV; Jim Olson, AFB6EH; Fred Dent, AFA6RE; Ken Mulkey, AFB6HA; and Tom Seymonds, AGA6NE, Base D.P. Officer. □

TRAFFIC

Chuck Clark, K4ZN
Assistant Director
Roanoke Division, ARRL

Economy

Our principal investment in Amateur Radio is usually our equipment. Electricity generally is a much smaller expense. But there is another item on which many operators and many nets can economize, and it's much harder to put a dollar value on it in our amateur operations. That item is time.

While we really don't have to worry too much about time from a cost standpoint, it is good in net operations to economize in its use. In all our net operations we must not forget that we are also preparing for possible emergency operation, and in emergency operation time can have value beyond price; it can mean saving lives. And even in our ordinary day-to-day operating, saving time can mean that we can accomplish more in a given net session. Here are a few time-wasters to watch:

Too fast

Paradoxically, one of the easiest ways to slow things is to transmit too fast. It takes longer to get fills than it does to transmit more slowly and get it right the first time. This is true whether the mode is voice or CW. Yes, we should work at improving our copying abilities in both modes, and fast operators can move more traffic in less time under favorable conditions. But if we exceed our limit, we're wasting time. Furthermore, we increase the risk of errors, of forgetting to ask for all the fills we need. And 100 percent accuracy is not the ideal we must aim at — it's the minimum acceptable performance.

This holds true also for operators who transmit by CW. Try to go too fast and you make errors. Correcting the errors take longer than it would to send it more slowly and correctly the first time.

Use break-in or push-to-talk, or VOX. It not only wastes time, it's exasperating to send a whole message and then at the end be told, "I didn't get a word of it; please repeat." When you see that you don't stand much chance of making a reasonably good copy, hit the key or push the mike button during a pause and let the sending station know. Even if you aren't equipped for break-in yourself, the other station may be. If the operator is a regular traffic handler, the station probably has that capability.

Many begin on CW with QSK before sending the message, to inform the receiving station that this capability exists. But, unless the sending station has said "NO QSK," it's a good idea to break, because many operators don't bother to inform other stations that they can work break-in; it's routine for any station specializing in traffic handling.

On voice, any station can work break-in. All that is necessary is to take your finger off the mike button when you're not actually talking, or set your VOX for a short delay to enable the receiver to come on during the pauses between phrases. When transmitting by voice, you always have to have pauses between phrases unless the other operator is writing shorthand or recording on tape. Put those pauses to work by listening. And when you are receiving, use the pauses to break the sending station. It may not work, but it's worth a try.

Taking your finger off the mike button is good advice for net control stations, too. Too often a net control station will decide to make another net call and step on someone who wants to check into the net. For example, during roll call — after acknowledging the stations you have just heard — pause a moment and listen before you make another net call. If there are more stations waiting to check in, you can pick them up immediately instead of wasting time calling.

Identification

If you have a Novice net operating at 12 wpm, it takes about 15 seconds for one station to call another like this: KA4NCS DE KB4NET. If the other station replies in like manner, that's 30 seconds. At that rate, it would take five minutes for 10 stations to exchange calls. If there were 20 stations in the net, it would take 10 minutes, and by then they would have to start over to comply with the FCC rules!

Except for legally required identification, most CW operators use only the suffixes of their calls as identification. I use ZN, for example. Identification is required now only on leaving the net and once each 10 minutes that the station is transmitting. And, unless you are handling international traffic, you are no longer required to identify the other station. Less time needed for identification means more time available for other things, so take advantage of the new rule.

Incidentally, the rule formerly in effect that required identification of the other station was introduced in 1939 at the beginning of World War II when the FCC forbade amateurs to work foreign stations. For some reason, it was maintained after wartime surveillance had ceased, but now it's gone — finally.

Ragchewing

When in formal session, a net should be business-like. Comments should be kept to a minimum. If net control asks you if you can handle a particular piece of traffic, just say yes or no. No need to explain that you just had visitors come in and how you haven't seen them for years; all we want to know is can you take it or can't you.

If you are sent off to pass traffic, first listen and get the instructions correctly, what frequency, what station, what traffic and who has it. If you are to follow another station, be sure you understand it. If you listen carefully, you shouldn't have to ask net control to repeat anything, unless you can't hear it all. Once you clearly understand the instructions, follow them. And when you have finished, wait a moment on the side frequency in case net control has sent someone else to receive traffic or to give you some. If not, return to the net and announce your return at the first opportunity.

On CW, just send the suffix of your call. On voice, give your call: "K4ZN back." But return promptly. If you spend too much time chewing the rag with the other station after clearing the traffic, you can be holding up the entire net. Net control could be waiting for you to come back to give you or the other station more traffic. If you want to talk longer, the best thing to do is to tell the other station, "See you at the end of the net."

Proper net procedure

Much time is lost on nets because stations don't understand what they should be doing. Net control sends somebody off frequency to pass traffic and assumes that everything is being done as directed. Then 10 minutes later, finds out that nothing was being done and has to go through the whole procedure again. Worse yet, some of the stations who could have helped may by then have been excused from the net.

The best way to learn is to listen. And perhaps keep a full log of what is happening, just like the net control operator does. Try to anticipate what will be done next. This is also good preparation for acting as net control.

MARS guidelines

Jim Seeley, WB9MTD, Section Communications Manager for Michigan, wrote that one item in the June column makes him uneasy; the recommendation that amateurs use MARS practice as a guide. It was in connection wtih the paragraphs on missionary nets and what is legitimate traffic.

Jim writes, "I was asked a short while back by a MARS operator if, 'Cancel the insurance with Prudential. Take policy with Aetna,' would be appropriate. My answer was, as it has always been in dozens of similar examples over the years, 'Mail it!' Facilitating regular business affairs, clearly, to say nothing of 'relative unimportance.' Even if MARS was the individual's sole means of communicating, thereby making the message acceptable at the originating end, to put such a message on an amateur net — especially given the franking privileges enjoyed by MARS people — cannot be acceptable."

Jim has a point. Since MARS operators can use postage and fees-paid envelopes to mail traffic from overseas, it would save a lot of hassles to mail the message from the nearest MARS outlet instead of refiling it in the amateur system. So this will often be the best solution.

For the record, however, here are the MARS operating directives: "The following categories of messages will not be accepted for transmission via MARS:

"a) Initial notification of death.
"b) Message in a foreign language.
"c) Encrypted personal message.
"d) Nonsensical/whimsical messages.
"e) Obscene, derogatory or demeaning messages.
"f) Messages bearing precedences above 'Priority' (with exceptions).
"g) Business transactions (messages to mail order houses, banks or to business firms requesting a product or service).
"h) Messages, which in the estimation

of the operator, should not be sent via MARS. In this case, the sender will be referred to the operations officer . . . ."

Also to be noted is another directive: "If a message that shouldn't be transmitted via MARS is accepted and transmitted via MARS, it is the fault of the originating station. Once the message is in the 'system,' it must continue to flow through the system."

While these directives directly affect only MARS stations — which are U.S. government stations, not amateur — they were developed by the panel of MARS chiefs with the FCC rules in mind, and with the realization that many MARS messages will find their way into the amateur system. Furthermore, the FCC would take some kind of action if these guidelines were not in accordance with its regulations. It is for this reason that they may be followed and that MARS messages ordinarily may be handled on amateur circuits with no misgivings.

It is to be noted, however, that (b) does not apply to the Amateur Radio Service, for we may send messages in any language. And (d) does not appear in any amateur regulation, but such messages are not to be encouraged in most cases.

Paragraph (g) is the one that Jim questions. Business communication is defined in 97.114 (c) of the FCC rules as "Any transmission or communication the purpose of which is to facilitate the regular business or commercial affairs of any party." How does that square with (g)? Perfectly. If the *purpose* of the communication is to facilitate the *regular* business activity of someone, the communication may not go by Amateur Radio. Otherwise it is permissible.

In Jim's example, unless either the sender or the addressee were in the insurance business, insurance is not a *regular* business activity of theirs. And while it facilitates the insurance business of the agent who will write the policy, such is not the purpose of the communication. So it may go by Amateur Radio. If the message were addressed to the insurance agent, however, the case would be different and would be prohibited both by FCC rules and MARS directives.

Actually, the FCC gives fairly low priority to monitoring traffic on NTS nets. What does concern Uncle Charlie is what is handled by phone patches, both HF and VHF, and we should be grateful for that. For 60 and more years, Amateur Radio had practically no restrictions on what could be handled as traffic within the United States. And we caused nobody any trouble. But when phone patching became common, the FCC rightly feared that commercial traffic might usurp our amateur frequencies unless action was taken, and it took that action. As in most cases, the regulations also restricted operation that was not bothering anybody, but that seems to be the usual price of having something regulated.

Chess anyone?

Vince Luciani, K2VJ wrote to say that an organization for Amateur Radio chess players — Chess & Amateur Radio International (CARI) — is being formed. Its purposes are to agree on frequencies and schedules; on procedures; and to bring together players of similar proficiency so you won't find yourself playing a master unaware. Or perhaps you may want to find someone who can offer you a real challenge. Any who are interested should contact Vince Luciani, K2VJ, P.O. Box 682, Cologne, NJ 08213-0682.

Why mention it in this column? Two reasons: First, not all chess players are radio amateurs, and amateurs can provide a public service by arranging communication to enable players to conduct chess matches without need to travel. Second, it can serve as a way to introduce people to Amateur Radio. I still recall a motion picture comedy I saw back in the 1930s, depicting life in the frozen Canadian Northland. One of the pastimes of several of the characters — including the radio operator on an icebound ship, some hunters and trappers in their cabins, and a Mountie — was playing checkers via CW. It helped whet my interest in Amateur Radio. CARI could do the same for someone else. □

● Pass it on . . . WORLDRADIO ●

No. Carolina amateur electrocuted

Phil Wicker, W4ACY

An Amateur Radio operator of only two weeks was killed instantly in March when the antenna system he was raising accidentally touched 220-volt power lines.

Jack Javana Nichols, KA4ZDN (47) was pronounced dead on the scene after receiving a fatal shock from some 220-volt power lines running from his house to a utility building. Two other men working with Nichols were unhurt.

Nichols had received his Novice license on 9 March and was killed on 24 March. He was a lifetime Cumberland County, North Carolina native and was already studying for his General ticket. He had already made plans to go to Greensboro in June for FCC tests.

According to his wife, they thought the power lines had been disconnected years ago.

(ED. NOTE: 'Tis the season when many of us will be working on our antennas. The above unfortunate incident emphasizes that utmost caution is required at all times.)

— *CVRA Repeater Journal* □

Who's Who

(*continued from page 16*)

technical exam. "A G8 call with three letters after indicates such a license, good for 144 MHz and up. In the United Kingdom, the number does not indicate location."

She is chairman (no *person*, please!) of the 2,000-member East London group of the RSGB, just as she's chaired and been a member of many committees on British Standards.

Her husband has died but she has two grown sons — one a senior video engineer and the other a chartered surveyor.

After enthusiastically visiting our nation's capital at the convention, followed by concentrated sightseeing, Sheila Gabriel planned a visit to a ham festival in the Black Forest of Germany.

She left an admirable impression — a lady who might be lunching at the House of Lords, working in a research laboratory, fixing her motor car or, very probably, chasing DX. □

Kurt N. Sterba

I have returned. First, an apology. My employment demanded that I devote all days, nights and weekends to an important matter, denying me the opportunity to spend the necessary time to put my column together. However, please know that during my absence, I was looking out for your interests.

Second, the letters that so very many of you wrote to **Worldradio** about my absence, were forwarded to me, and snatching a moment here and there I read them all and was indeed touched.

Now to the matter at hand. To some questions sent in regarding tuners and open-wire line. Basics first. If an antenna is too short, it exhibits capacitive reactance. If an antenna is too long, it displays inductive reactance to the feedline.

The purpose of the tuner is to add the proper amount of capacity to balance out the inductive reactance or the needed amount of inductance to erase the effect of the capacitive reactance, and, of course, to match the resistance.

If you are looking for the most efficient antenna system of all, it is indeed with open-wire or, as some call it, ladder-line. There are some precautions that must be taken, however. Keep it at least twice as far away from metal objects as the feedline is wide. Do not make sharp bends, and do not close your window screen on it.

The virtues of it are worth the extra effort. You can forget all about SWR; for any length run you are likely to do, open-wire is lossless. And with a lossless feedline, there is no SWR loss. Neat!

There are some purists who like to use RF Ammeters (cheap at the surplus stores), one in each side, to see that everything is balanced.

To another subject. What if you had a dipole up in the air about 40 feet and your buddy suggested that you take it down, dig a big long hole, put half of your antenna in the hole, lay the feedpoint right on the ground, and stand the half remaining upright?

You'd think he had spent too much time with his head inside his amplifier, right? Well, so much for the so-called "image" antenna of the ground-mounted vertical.

Since the maximum current (and radiation) comes off the center of where the two halves of the dipole meet, it would be practically impossible to think of a worse thing to do than lay it right where a good portion of the radiation goes right into the ground. Crazy!

Howsomever, if you have deed restrictions, radicals for neighbors, lot-size problems or whatever dictate the use of a vertical, give yourself a fighting chance and get it up off the ground some.

Feedpoints should be: for a 10-meter vertical, up 4 feet, 5 inches; a 15-meter vertical, up 5 feet, 10 inches; a 20-meter vertical, up 8 feet, 9 inches; a 40-meter vertical, up 17 feet, 7 inches; and an 80-meter vertical, up 35 feet, 2 inches.

Hold on a minute! I know you are already saying, "Hey what are you talking about? This 40-meter antenna is now a 50-foot structure?"

Yeah, I know. I was just talking about what you should do. Maybe you have a tree you could hang it from. Yes, the tree will absorb some, but it still beats warming up the worms.

Much has been made of the low-angle radiation of the vertical. Such is *only* true if a certain condition is met.

Radials! Now, radials are *NOT* some sort of reflective ground screen or some such nonsense you hear bandied about. What they do is catch some of the radiation that would be going into the ground and return it to the radiating system.

Obviously, the more "catchers," the more radiation you will have going where you want it to. There has been much research and several published charts showing field strength related to number of radials.

What a ground stake ground does for you is assure you will not be spending a lot of money on sending out QSL cards. One radial means the person handling your incoming cards at the bureau will have more time to get on the air. Two is something better — it lets you honestly say "QRP" no matter how much power you are running. Use three and you will work JAs from the West Coast and KV4FZ from the East Coast.

Strive for 16. Now you will be competitive with a dipole, half-wave above ground.

Looking at the price of wire for all these radials may upset you a bit. Here's a solution. Your local TV repair shop throws away a lot of chassis. On the chassis are transformers. In the transformers there is l-o-t-s of wire.

After I came off my maddening schedule I caught up on the ham mags. There is some trash being written. I would hate to argue with those who are legends in their own minds, but . . .

The straight scoop is in the ARRL Antenna Book. It's the best 8 bucks

you'll ever spend. I refer the buffoons who had the gall to write in and argue with me to the bottom of column three on 3-14 and the top of 5-5.

The ARRL Antenna Book is truly an outstanding book. So far, I have only one complaint about it. On 12-7 they talk about the Turnstile-Reflector antenna for OSCAR. The spacing for the reflector below the dipoles is never given. Instead, a reference is made to look at Chapter 2. (Where in Chapter 2?)

I guess in my advancing years I get more cranky, but I want what I am reading about where I am reading about it. Not flipping backwards.

What you must do is flip through 18 pages of Chapter 2 to find the chart of radiation patterns. Listening to some of the galoots that gather at the local ham store on Saturday (this is one reason I stay anonymous), I'm sure they would totally miss the connection between a "reflecting screen" on 12-8 and "perfectly conducting ground" on 2-18.

Then we see the newcomer to OSCAR who is putting up this primitive antenna being told, "Choose the spacing that best suits your needs . . ."

How does he know what best suits his needs? A good explanation of time in the pass and angle would have been helpful. Those writing the Handbook should assume everyone they are talking to is a total beginner. Maybe I'm just picky. I'd like to see more people on OSCAR — accountants, postal clerks, librarians, truck drivers, etc. — not just EEs.

If you have any questions just send them in. Any question. You'll get an answer. If you should stump me, (as unlikely as that may be, but this really isn't my field), I'll take the elevator up a couple of stories and get the answer for you. Let 'em rip.

(For a variety of reasons, Mr. Sterba's true identity must be protected. Tacky types who write in and say he sounds like someone whose 2-meter antenna is a king-size Coke bottle filled with salt water, are just jealous that he gets out so well with it.) □

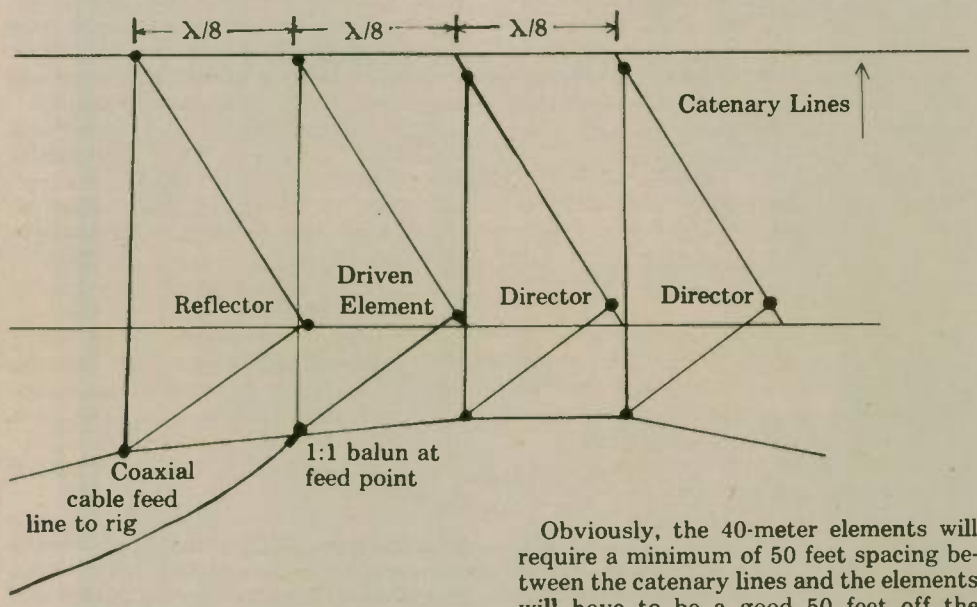
The infernal triangle

Jack Patterson, WB0FFV

If you have been on the amateur bands any length of time but have never had much luck working DX, your problem has been solved. The simple 4-element Delta loop beam shown here will make some pretty loud noises in far-away places, even if installed at a modest height of 30 feet above the ground. While it is entirely possible to construct such an antenna for use on 20, 15 and 10 meters, you may wish to "get your feet wet" with a mono-band version and learn what really *hot* antenna performance can do for your DX-CC aspirations.

The two parallel catenary lines from which the four triangular elements are suspended should be at least 25 feet apart since the widest dimension of a 20-meter reflector will be about 24'6" plus the insulators. If your QTH is such that you have only two suspension points available, simply invert the beam and locate the feedpoint in the center of the horizontal wire on the driven element.

Band center frequency	Reflector element	Driven element	Both director elements	⅛-wave spacing
7.150 kHz	147'-2"	140'-6"	128'-0"	17'-2½"
14.175 kHz	73'-7"	70'-10"	65'-1"	8'-8"
21.225 kHz	49'-1"	47'-4"	43'-7"	5'-9½"
28.600 kHz	36'-10"	35'-1½"	31'-5½"	4'-3½"



Dimensions and spacings for 40 through 10 meters are tabulated below the drawing, although the 40-meter size may require a little modification unless you have some very large trees to hold it up. The reflector and two director elements are merely continuous loops of wire, cut to the specified size, and supported by three insulators, one at each corner. The driven element is made in a similar fashion but the low point of the Delta is open so that the center line of the coax may be attached to one side and the outer braid to the other end of the wire loop.

If you can buy, beg or borrow a 1:1 balun to use at the feedpoint of the driven element, the power transfer should be improved and this is somewhat simpler than a gamma match or other type of feed system.

Obviously, the 40-meter elements will require a minimum of 50 feet spacing between the catenary lines and the elements will have to be a good 50 feet off the ground to permit safe passage beneath the wires. Any of these antennae may be reduced to a 3- or 2-element version consisting of the driven element with reflector and/or director. You will be happy you tried it. It doesn't rotate, but when you talk, people answer! Gud DX es 73, Jack
—Boulder ARC, CO □

80-meter Delta Loop

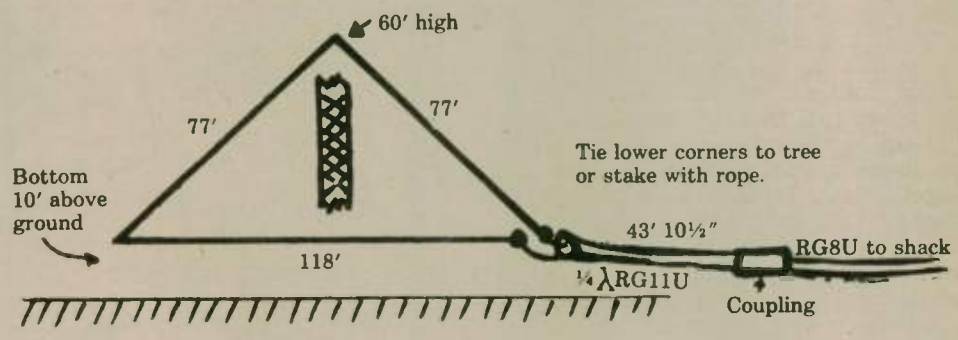
(Rich Rowe, K2BK has installed and has been working an 80-meter Delta Loop that neither takes up a tremendous amount of space nor requires a behemoth tower. It is so simple to assemble that you might give consideration to erecting it on selected contest weekends for a quick improvement in your 80-meter signal. At the end of Rich's article, I have given some dimensions for other frequencies. —NCJ Editor)

The top of my 80-meter Delta Loop hangs at 60 feet on a pulley at the end of a 2-inch PVC pipe, about 2 feet away from the tower. Layout is shown here (not to scale):

For the dimensions shown, the SWR characteristics are at right. During operation, I use an antenna tuner, chiefly to preserve the 3-500Z's. If you set up the tuner on either phone or CW, you can move around on your chosen mode pretty much at will.

At my QTH, the Delta Loop works far better than the inverted-Vee dipoles once you get over about 500 miles out. Feeding it in the lower corner results in good low-angle radiation. As a matter of interest, I was never able to work a JA or a VS6 on 80 until I put up this antenna.

3500	4:1	3750	1.4:1
3550	3:1	3800	2.2:1
3600	1.8:1	3850	3.3:1
3650	1.2:1	3900	3.8:1
3700	1:1		



Editor's Note: For those of you who wish to resonate the antenna on a different frequency than 3700, I've cranked up my calculator and come up with the following figures:

Frequency	MATCHING SECTION Standard RG11U	Foam RG11U	Wire length
3500	46' 4½"	56' 3"	287'
3600	45' 1"	54' 8"	279'
3800	42' 9"	51' 9½"	264½'
3900	41' 7½"	50' 5½"	257½'

A matching section for the K2BK example that is cut from Foam RG11U would be 53'2" long.

Your editor, who doesn't have a lot or tower big enough for the 80-meter variety, will be experimenting with a 40-meter Delta Loop using some of the following figures:

Frequency	MATCHING SECTION Standard RG11U	Foam RG11U	Wire length
7000	23' 2½"	28' 1½"	143½'
7100	22' 10½"	27' 8½"	141½'
7200	22' 6½"	27' 4"	139½'

I would imagine that a 40-meter variety cut for 7100 would work well across the whole band.

Oh, by the way . . . if you have the room, you can double the figures shown for 3600 (above) and you'll have a 160-meter Delta Loop that will resonate on 1800 kHz. Doubling the 3700 figures will give a loop that will resonate on 1850 kHz. Kowabunga!
—National Contest Journal, Chandler, AZ

Share your knowledge with your fellow amateur and Worldradio reader . . .

This month I am going to deviate from my original subject to write about a situation which I have known about that has been developing for over a year. When I began writing this column, I did so to report on what was going on in SSTV. Recently, this situation seems to have boiled over and come into the open. Therefore, I feel it should be reported here so that everyone knows what is going on.

There is a small elite "group" of SSTVers who have been friends and associates for a number of years. They were among the innovators of SSTV in the '70s. Through the affiliation of one of this "group" with ARRL, they effectively control what is shown and said at the SSTV forums and get-togethers at the Dayton and Cedar Rapids Hamventions. They would like to be the spokesmen for all of SSTV, and determine what is good or bad and what standards and formats we use. In recent years, many other outsiders have come forward with new developments in SSTV, and they have been very successful.

Since there is no published Who's Who of SSTV, we will remember SSTV history by popularity and successes rather than by claims made by innovators. Copthorne MacDonald, VE1BFL got us started. Robot Research and its line of scan converters, as well as Jim Thomas, WB4HCV and his keyboard and scan converters are well remembered. At least five people, three in the "group," have claimed to have invented and developed color SSTV. However, the 3000C color conversion system by Sam Mormino, WA7WOD and Howard McAfee, KD6HF stands alone as today's color SSTV success story.

There has been mention in two ham magazines and much discussion on the air about forming an International Slow Scan Society (ISSS). Two members of this "group" would not even allow the ISSS to be discussed at the SSTV forums or get-together at Dayton this year. Either because they did not think of the idea or did not favor its concept, they prevented anyone from discussing it at the public meetings. This is typical of the attitude.

Several of this "group" made it clear that they were running the show and they were the leaders of SSTV, and anyone who didn't go along would get nowhere. One of them even went so far as to say that he'd see the RGB color boys out of business within a year.

For many years, relations among SSTVers — both on the air and off — have been friendly and cordial, even though they may have been in competition in working on new developments. Now the cordiality is gone, and conflicts and bitterness have become public on the air. One of this "group" has chosen to openly criticize and degrade, on the air, another man s new work and developments while at the same time making wild and unsubstantiated claims for his system. He would have you believe that everything we are currently using on SSTV is obsolete, including RGB color.

High-resolution B&W and single frame color SSTV

Several people have been promoting high-resolution B&W SSTV as the future of SSTV. Picture resolution is defined in one's mind by what his eyes see on the screen. A so-called high-resolution picture does look somewhat better than the standard 128 × 128 × 16 grey level shade pictures we are used to. Higher resolution in an SSTV picture can be achieved in several ways. The number of pixels per line can be increased, the number of lines sent can be increased, and the number of grey level shades represented can be increased. Any combination of the above up to 256 × 256 × 64 will increase resolution. Better resolution is also seen on a three-memory Robot conversion when a single 128 × 128 B&W picture is loaded simultaneously into all three memories. The monitor displays each pixel of a picture from the three memories in a slightly different position. Therefore, the digitalized appearance of a 128 × 128 picture is greatly reduced. In fact, the displayed composite picture easily equals the quality of a 256 × 256 high-resolution picture with equal grey level representations.

The point is that we are hearing more about 17 and 34 second high-res SSTV pictures. These pictures are not compatible with the SSTV equipment in use today. Even with the so-called 256 mod installed in a Robot 400, you cannot see the full screen 17-second high-res picture without further modifications. There is nothing particularly new about high-res B&W pictures. What is new is that compatibility has been forgotten, and an attempt is being made to change the standards and format that have been successful for many years. The benefit of this is an only slightly improved picture. The same results can be gotten in an 8½-second frame.

Lately, several attempts have been made at 8½-second single frame color SSTV. It is quite apparent that not enough picture information can be sent in 8½ seconds to have the final color picture come anywhere near equaling the excellent RGB color now available today. There seems to be an almost frantic attempt by some members of this "group" to come up with something new in color SSTV. Experiments are underway with a 25-second single frame color SSTV picture. I have sent and received these pictures, and although they take the same amount of time as a sequential RGB color picture, the effect of seeing a full-color picture paint down the monitor is outstanding. In these experiments, we use the RGB format which I think is now a standard. Alternating lines from the red, green and blue memories are sent for a total of 384 lines in 25 seconds. Now we hear from one of the "group" that this makes no sense and is obselete. He proposes to change the format to a green, red, blue sequence.

The thing I find most curious about all of this is that members of this "group" are all of a sudden ignoring compatibility and proposing we change all our standards. They want us to send shorter color pictures and at the same time send longer B&W pictures. This makes no sense. I suggest they are promoting only their own self-interests.

Conclusions

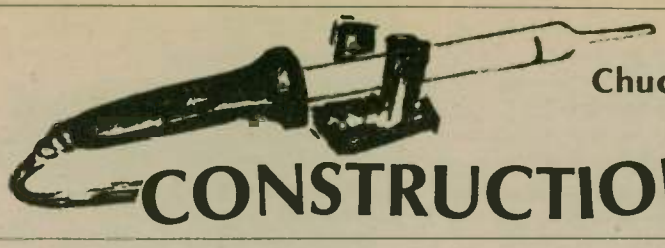
What some people fail to realize is that Amateur Radio has changed greatly since the mid-1970s. We are no longer builders; we are appliance operators, by and large. Less than 10 percent of SSTVers today would have the time, skill and equipment necessary to build and align a scan converter from a schematic. A couple of years back, two-memory color boards were offered to builders. Nobody could get those things to work. I've got plans and schematics in my files for the revolutionary medium scan TV (MSTV). What ever happened to MSTV?

Open criticism of others' work, unsubstantiated claims for unproven systems, ignoring compatibility and changing standards, and refusing to allow open discussion of SSTV issues at public forums, hurts their images and hurts and divides the SSTV community as well.

What can you look for, along with these claims and proposals? More schematics and boards to build. Lessons of the past have not been learned and this is likely to go the way of MSTV. Recent successes in SSTV in the areas of color, computers, and enjoyable and useful mods have come from people who know what you, the consumer, want. Higher resolution B&W SSTV pictures can be sent in 8½ seconds so that everyone can enjoy the video. 8½-second single-frame color does not measure up. There is no reason to change the RGB format; it has become the standard.

It is truly unfortunate that these things have to go on. SSTV is suffering because of it, and I will discuss this further next month when I report on your letters and thoughts. There is no place for this criticism and divisiveness on the air. Let's get it off the air and keep it off. Summer is almost over and we are looking forward to a good SSTV season ahead. Let's get on with exchanging some good SSTV pictures and building friendships and unity among all SSTVers. That's what it is all about! □

Send your news to Worldradio at the same time you send it to other amateur publications and see who prints it first. We get the news out before anyone else.



CONSTRUCTION

Chuck Clark, K4ZN
Assistant Director
Roanoke Division, ARRL

The VMOS transistor

Would-be home builders are frequently discouraged by the fact that design of transistorized equipment is not as simple as that of tube rigs. You can treat the input and output circuits of a tube as separate circuits for the most part, but not in a transistor. And tubes are voltage-controlled, while bipolar transistors are current-controlled. But the advent of the field-effect transistor has changed all that.

Field-effect transistors come in three types, at least those readily available to the average amateur: junction, insulated-gate and VMOS. The junction transistor, using a reverse-biased junction as the gate, is the nearest analogy to the vacuum tube. When the gate is forward-biased, gate current flows — just as grid current does in the vacuum tube. When reverse-biased, no gate current flows, and as the reverse bias is increased, current through the transistor is reduced, just as happens when the grid of a vacuum tube is made more negative. In both cases a cut-off point is reached where the tube or transistor ceases to conduct.

Two points of difference between tubes and junction field-effect transistors (JFETs): a tube will conduct in one direction only, electrons flowing from filament to plate, in normal operation. But a JFET will conduct in either direction. Secondly, a tube always cuts off when the bias is made more negative, as does an N-channel JFET. But it is also possible to construct a P-channel JFET that cuts off with positive bias.

The insulated-gate field-effect transistor has a very thin film of silicon oxide with a metal film plated on top to serve as gate. The gate is thus insulated from the substrate, the body of the transistor, and thus direct current is never drawn through the gate. It differs from the vacuum tube in that even when the gate is positive, no gate current flows, so it is completely voltage-controlled. The input circuit can be, for many purposes, considered an open circuit and drawing no power.

Both these types are small-signal units, however, with ratings in the milliwatt range — suitable for receivers, but not capable of operating at transmitter power levels. Enter the VMOS transistor, a refinement of the IGFET. VMOS is short for vertical-metal-oxide-silicon. This device is capable of generating power at radio frequencies up into the 100-watt range. Several articles have appeared in amateur publications telling how to build gear using VMOS transistors, but until recently it has been hard to find suitable transistors.

In recent months, however, Radio Shack has stocked in their stores throughout the nation the VN67AF, rated at 15 watts, 30 volts, 2 amperes, and good up to 150 MHz. (The AF may be misleading: it does not mean the device is for audio frequency use!)

The VN67AF

VMOS transistors currently available are called enhancement-type transistors. They do not conduct current until the gate is forward biased. Thus they will operate as Class C amplifiers with zero bias, and that simplifies design of amplifiers for CW and FM work. They are also free of several of the problems that plague bipolar transistors: there is no critical bias adjustment; it is possible to connect VMOS transistors in parallel without the tendency for one unit to hog the load; VMOS transistors are free from thermal runaway that so easily destroys ordinary bipolar power transistors.

In common with IGFETs, however, VMOS transistors are subject to damage from static voltages. The oxide film has to be very thin for the gate to function effectively, and so it is easily punctured by fairly low voltages. On a dry day our bodies can easily pick up charges of several hundred volts, as we may have experienced when we discharge ourselves by touching a grounded surface. Even when the charge is much lower, not enough to give us a shock, it can be enough to puncture the insulating film and ruin the unit. For that reason, VMOS transistors have built-in zener diodes to pass the static discharge harmlessly to ground before it can damage the insulating film of oxide. These diodes fulfill their purpose, but they also require some modifications in the circuit to prevent their leaking off the input signal as well.

A VMOS RF amplifier

To see what one of these things can do, I haywired together the amplifier shown in *Figure 1.* It took only an hour or two, and gave such excellent results that I think just about anyone could build one. And the parts should be available in most builders' junk boxes. If not, the local Radio Shack will have most of them in stock. The VN67AF is the most expensive item and it costs only $2.49 — much less than any tube that could do the job. So why fool around with dangerous high voltages and also waste precious energy heating filaments?

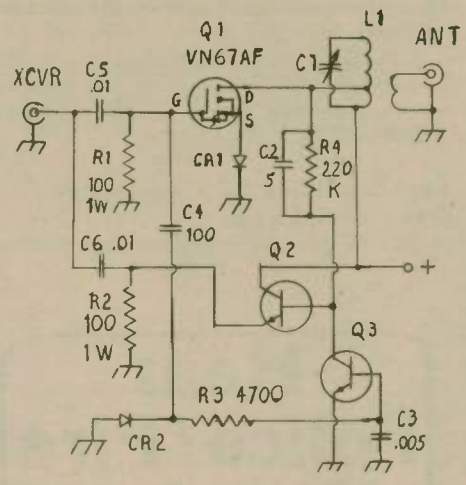


Figure 1

The VN67AF comes in the T0202AA power transistor package with a tab for heatsinking connected electrically to the drain terminal. There are three terminals, source, gate and drain, with the case beveled on the drain side. How much heatsink you need depends on the power you are running. I found that at the 5-watt level, 2 square inches of aluminum is more than enough.

To protect against static electricity, there is a zener diode within the case connected between source and gate. This diode breaks down when the gate is more than 15 volts positive relative to the source, and it conducts as an ordinary diode whenever the gate is negative. The latter action is undesirable in a class-C amplifier, so diode CR1 is included in the source lead to prevent it. When the gate goes negative, the internal diode will conduct, but CR1 blocks current flow.

The experimental prototype was driven by a Heath HW-7, which requires a 50-ohm load. R1 and R2 are in parallel for RF, and so provide the required load.

Q2 can be any NPN transistor that will function at the frequency being used. It acts as an RF amplifier when receiving. The gain is nothing spectacular, but it does serve to switch from transmit to receive rapidly enough to allow full break-in operation if the transceiver has the capability. Energy is tapped off the gate circuit through C4, is rectified by CR2, and is fed through R3 to the base of Q3, causing it to conduct and thereby disable Q2 when transmitting. There is no need to switch anything off when receiving, because the VMOS is completely cut off unless there is a volt or so of RF at the gate terminal.

This amplifier can be used with any power supply up to 30 volts. It should be effective up to 150 MHz as well, with suitable coils at L1. And for more power, you can connect additional transistors in parallel. It might be necessary to use a very small resistance in series with the source of one or another transistor when several are in parallel, to equalize the load on all, but VMOS transistors are much easier to operate in parallel than are bipolar transistors.

L1 and C1 are chosen to resonate at the desired frequency, and to provide the proper load for the transistor. As a guide, the experimental prototype used 50 turns on a T-80-2 toroid form, with the tap three turns from the cold end. The antenna coil was nine turns wound over the other coil, to match a 50-ohm load. Tuning up is easy: when you peak it for reception, you're automatically tuned up for transmitting as well. A 50 picofarad variable capacitor at C1 tuned the 40-meter band with this toroid.

Performance

As noted, this unit was merely haywired together, using a seven-lug terminal strip as the chassis, just to test the circuit. Usually when I finish building a project, the next thing on the program is to de-bug it. Not this time. I connected a 12-volt power supply, hooked up the HW-7 to one end and a 40-meter quad to the other, tuned C1 for maximum signal on receive, and before the soldering iron had time to cool, heard Bea Eld, K4JYQ calling CQ on 7045 kHz. I gave her a call, she replied, gave me a 579 report, and we went on to have a chat with 100 percent copy in both directions. I thought to myself, "Who needs a kilowatt?"

As built, this amplifier runs 5 to 10 watts, and remains cool in operation. A 24-volt supply would probably raise the power level to 20 or 25 watts, and some more care would have to be given to heat-sinking Q1. Additional VMOS transistors could be added in parallel to raise the power to any reasonable level.

As built, this amplifier is not a linear amplifier; it will not amplify SSB or AM signals properly. For voice operation, it is necessary to add a volt or so of forward bias — whatever is needed to make the VMOS transistor conduct and begin to draw drain current. As no direct current is drawn in the gate circuit, however, there is no problem with voltage regulation, such as plague builders of linears using either tubes or bipolar transistors. The bias supply has to furnish no power, only voltage, so it can be adjusted with a simple voltage divider, and the bias will remain constant regardless of whether a signal is present or not.

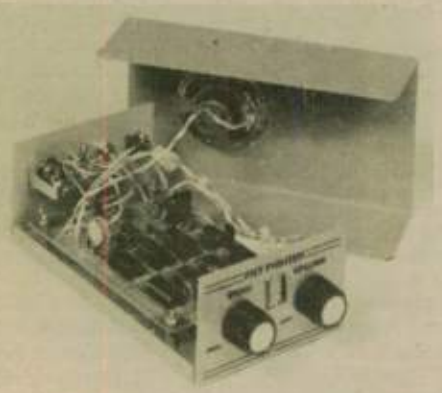
Yes, the VMOS transistor should be a prime item in the home constructor's parts supply. □

Electronic keyer

Designed exclusively for straight-key users, the FIST FIGHTER™ is an electronic keyer that accurately times the length of dots, dashes and the spaces between them.

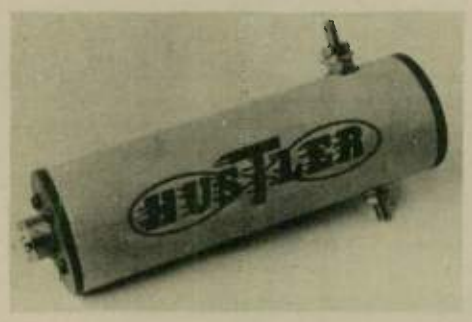
The FIST FIGHTER uses a standard 1:3:1 timing ratio so that code sounds clear and crisp. No new hand motions are required, and an automatic tune-up feature is built in so that normal key-down tune-up is possible, without the need for any extra switches. Speed is variable from about 3 to over 30 wpm, and a built-in side-tone oscillator with variable tone is provided. The FIST FIGHTER uses CMOS digital circuits and it will key grid-block and solid-state transmitters/transceivers. It can be used as a code-practice oscillator and for teaching people how to send code properly.

The FIST FIGHTER is available in two forms: kit ($59.95 + $2.50 S/H) and assembled/tested ($79.95 + $2.50 S/H), each with a limited 90-day warranty. Additional information and specifications are available from the Blacksburg Group, Box 242, Blacksburg, VA 24060; (703) 951-9030. □



Balun

Hustler, Inc. now offers a new 1:1 ratio blaun to complement their line of HF amateur antennas.



The balun, designated model "BLN", features a low-loss air core design eliminating saturation at high-power levels while maintaining a uniform power balance in the system.

"BLN" features include a 1kW input rating and bandwidth of 7 to 35 MHz under 2:1 VSWR.

All stainless steel hardware and flying leads are supplied for connection to the driven element of beams, quads, or dipoles and coax termination into an SO-239 connector.

For additional information on this or other Hustler amateur products, contact your dealer or write: Hustler, Inc. Sales Department, 3275 North B Avenue, Kissimmee, FL 32741. □

450 MHz hand-held

ICOM is very excited to announce a "second cousin" to the popular IC-2A/3A series — the IC-4AT for coverage of the 440 MHz band. The IC-4AT is essentially identical in appearance, size and operational features as the popular IC-2A/3A series. Most importantly, all accessories — including battery packs, chargers, microphone, etc. — are completely compatible with the IC-2AT and IC-3AT series. The IC-4AT also includes a 16-button touchtone® pad.

The IC-4A covers the 440 MHz band from 440.0 MHz to 449.995 MHz and is set up for both duplex and simplex operation. The power output is nominally 1.5W with the standard IC-BP3. The IC-4A system comes complete with IC-BP3 NiCd battery pack, wall charger, belt clip, "rubber duckie" and wrist strap. Price for the IC-4A is $269 and the IC-4AT is $299.

For more information, write to: ICOM America, 2112-116th Ave. NE, Bellevue, WA 98004. □

Compact 2-meter mobile rig

ICOM is excited to announce the most compact full-featured 2-meter mobile rig for the U.S. market — the IC-25A!

With cars getting smaller and space getting tighter, the market is ready for and needs an extremely compact full-featured 2-meter rig, and ICOM has it. The IC-25A is only 2 inches high and 5½ inches wide, and fits into places almost impossible for most other 2-meter rigs on the market. The IC-25A includes all the features the market has asked for, including: five memories plus two VFOs; HM8 touchtone microphone *standard* at no extra cost; priority

channel; two scanning systems, including automatic scan resume; and provision for memory backup when the unit is unplugged.

Price is $349 including HM-8 touchtone® microphone. For more information, write to ICOM America, 2112-116th Ave. NE, Bellevue, WA 98004. □

Receivers

Hamtronics, Inc. has announced three new premium-performance VHF and UHF receiver kits for repeaters and other critical applications. They have been designated with model numbers R144 for 143-150 MHz, R220 for 213-233 MHz, and R451 for 420-470 MHz. Best of all, the $119.95 price is no more than their previous top-of-the-line receivers, and they include many new features.

Built on a single, compact PC board, the new receivers include volume and squelch controls mounted on the board for easy wiring. Sharp front-end filters reduce intermod and dense problems in demanding applications; the VHF receivers have a 3-section helical resonator in the front end; the UHF version has a 6-section tuned-line filter. IF filtering utilizes both an 8-pole crystal filter and a 10-pole ceramic filter for a very sharp ± 12 kHz bandwidth at 100dB down.

Both receivers have provisions for optional crystal oven with proportional heater to provide 2 PPM stability over -30°C to +60°C temperature range (-22°F to +140°F). Hysteresis is provided in the squelch circuit to lock onto fading mobile signals. Sensitivity for 12dB SINAD (a critical method of measurement) is only 0.15uV for the R144 and R220 and 0.25uV for the R451.

For further information on the entire line of Hamtronics® VHF and UHF receivers, transmitters, converters, amplifiers and preamplifiers, call 716-392-9430 or write to Hamtronics, Inc.; 65 Moul Rd; Hilton, NY 14468-9535. A complete catalog will be mailed on request. (For overseas mailing, please enclose $1 or 3 IRCs.) □

Helical resonator amplifiers

The communications research lab at Hamtronics, Inc. has developed a new line of very low-noise receiver preamps with helical resonator filters built in. The HRA-144, HRA-220, and HRA-432 units cover the three major VHF and UHF ham bands. The combination of a low noise amplifier and the sharp selectivity of a 3 or 4-section helical resonator provides increased receiver sensitivity while reducing cross-band interference in critical applications. It is anticipated that repeater builders, OSCAR users, and others who need good sensitivity in the presence of strong off-band signals will benefit significantly from the simple addition of an HRA Amplifier. The unit has a low 0.6 to 0.95dB noise figure and 50 to 60dB rejection of any signals out of the ham band.

The amplifier circuit uses some of the new microwave transistors developed for satellite TV service. Nominal gain is 26dB on 2M, 22dB on 220 MHz, and 16dB on 420-450 MHz. A 3-section helical resonator is used in the output circuit of the VHF units, and a 4-section resonator is used in the UHF unit. The VHF unit is on a board only 1½× 3 inches, and the UHF unit is only 2½ × 3 inches; so it is easy to mount one of these units in the same enclosure as your receiver board.

The price of the HRA-144 or HRA-220 is only $49.95, and the HRA-432 is only $54.95. The price is for a wired and tested unit aligned to your specific frequency requirement.

There is also a new line of Hamtronics® low noise preamps without the helical resonators to cover amateur and commercial bands from 28 to 1000 MHz. These are the LNA series, which are priced at $39.95 for VHF models and $44.95 for UHF models.

For further information, call 716-392-9430 or write to Hamtronics, Inc.; 65 Moul Rd; Hilton, NY 14468-9535. A complete catalog will be mailed on request. (For overseas mailing, please enclose $1 or 3 IRCs.) □

WHEN PURCHASING GOODS, SAY YOU SAW IT ADVERTISED IN **WORLDRADIO.**

New shock mounting

The Antenna Specialists Co., has unveiled a new line of professional mobile communications antennas designed around a radical new concept in shock mounting, called DURA-FLEX™. In place of the conventional steel shock spring, the antenna is equipped with a tapered, cylindrical shock mount of molded neoprene which performs the basic shock absorbing function while solving two special problems experienced in several mobile environments.

RF noise in duplex systems

The investigation leading to the invention, for which a patent is being pursued by The Antenna Specialists, resulted from RF noise problems being experienced by users of duplex mobile telephone installations. Antenna Specialists engineers discovered the high noise levels were in fact being generated in spring-equipped antennas by interaction of metal spring coils, which normally carry a small amount of RF current.

The whip and base mount are mechanically interconnected by means of solid brass, threaded connectors totally sealed within the shock mount. The connecting braid is totally isolated from the mount through an interior cavity and thus not subject to any strain from deflection. The mount is completely waterproof, and may easily be removed for car washes, etc.

Whip vibration significantly dampened

The new DURA-FLEX™ shock mount also solves an unrelated problem experienced in rough highway or off-road environments such as construction and farming.

DURA-FLEX™-equipped antennas are available in standard roof, trunk lid, cowl and magnetic mounting configurations at high band and UHF frequencies. The ASP-1450 series, exhibiting 3dB gain, covers high band frequencies from 138-174 MHz. Three UHF series are offered: Model ASP-1790, with 3dB gain, for 445-512 MHz; Model ASP-1650, a 5dB-gain collinear antenna for 406-512 MHz; and ASP-1750 series, a deluxe 5dB-gain collinear with low-loss PRO-FLEX™ cable. A 3dB motorcycle model, ASP-1791 and a no-groundplane model, ASP-1751 — both for UHF — also are available.

For complete technical details and specifications, write to: Marketing Department, The Antenna Specialists Co., 12435 Euclid Ave., Cleveland, OH 44106. □

Multi-mode transceiver

ICOM is proud to announce the latest in its versatile line of portable radios — the IC-505. The IC-505 is a fully synthesized multi-mode transceiver covering 50 to 54 MHz on FM (option), USB, LSB and CW. Utilizing an internal battery pack (nine C-size batteries), the IC-505 puts out 3 watts of RF power when run on its batteries, or 10 watts when connected to an external 13.6-volt DC source; low power is 0.5 watts.

Featuring an LCD frequency display for low-battery consumption, provision for internal memory backup, dual VFOs, five memories plus a call channel, memory scan, program scan, sideband squelch, LCD annunciators for VFO, scan, memory channel, call and split, and split-frequency operation, the IC-505 is a masterpiece of compact design. □

CONTESTS

1982 Worldwide RTTY Art Contest

All licensed radio amateurs — worldwide — and members of their immediate families (except as otherwise provided in these rules) are eligible to participate in the Southern Counties Teleprinter Socity's 1982 Worldwide RTTY Art Contest. It will be held from 1 September through 30 November.

Entries must have been originated by means of manual input to a teleprinter using standard communication keyboard, and may be submitted only by the originator of the art, or by the amateur on behalf of a family member.

Submitted art may be of any subject suitable for transmission via Amateur Radio. Entrants may submit as many entries as desired. Each entry shall be given a short title. Submitted art may contain overline shading.

Tapes of entries shall be formatted to permit a reasonably short running time, and to be compatible with machines which do and do not downshift on space. Compatibility with machines which interchange the bell and apostrophe is not required. At least three functions must be used between each line, normally Carriage Return (CR), Line Feed (LF), and Letters (LTR).

Each line of the art shall be limited to a *maximum of 68 characters (including spaces).* Prints must be in one single part, no splices. Tapes must be limited to a maximum running time of 40 minutes at 60 wpm for the art itself, exclusive of any other information on the tape, and contain no splices.

Each entry must have been transmitted for the first time via Amateur Radio after 1 September 1982, and must be accompanied by a confirmation of at least one receipt of its transmission, identifying the title of the art and the call letters of the receiving and transmitting stations. All confirmations must be in writing (not by RTTY transmission), and must have been obtained by the entrant from the receiving station. Entrants may obtain necessary transmission of their entry by an Amateur Radio station.

The tape and prints of each entry shall carry the full name of the author, call letters of the submitting station, and mailing address. This information shall be written upon a beginning leader of the tape and also punched in the tape to appear on page copy when reproduced.

Entrants must submit one five-level paper tape and five prints of each entry, and by such submission agree that the tapes and prints may be used, duplicated and published for any purpose. Tape submission shall be of the 11/16 width only.

Tape, prints and transmission confirmation information should be securely packaged and sent to: RTTY Art Contest, c/o Norm Koch, K6ZDL, P.O. Box 1351, Torrance, CA 90505 USA. Entries must be postmarked on or before 30 November 1982. Entries will not be acknowledged or returned. Winners will be announced as soon as possible after closing date. (Since mail-damaged tape will be of little value, it is suggested that the tapes be wound tightly upon a hard core.)

Entries will be judged on the originality of the author in selection of subject matter, on excellence of technique in producing the art and formatting the tape, on overall appearance of the art when viewed from a distance, on suitability for publication, and on the entrant's compliance with these rules.

If an individual is the first place winner in a given year, they will not be eligible for nor considered for first place in the immediate following year. They will be eligible for first place every other year. This does not preclude a station from entering and being considered for second, third or honorable mention places.

A committee of judges — made up from those amateurs who have exhibited an interest in RTTY art — will select first, second, third and honorable mention winners. Winning entrants will receive a plaque for their particular places. Winning entries will be published in various Amateur Radio journals. The decisions of the judges shall be final, and no correspondence will be entered into regarding their decisions.

Officials and judges of this contest and members of their families shall not be eligible to participate herein. □

CAN-AM Contest

Phone: starts 18 September 1982 at 1800 GMT, and ends 19 September at 1800 GMT. CW: starts 25 September at 1800 GMT, and ends 26 September, 1800 GMT. (third and fourth weekends in September)

Multi-operator stations can operate full 24-hour period; *Single operator* stations can operate maximum 20 hours with one or two rest periods, totaling minimum of four hours and must be clearly marked in the log. Any further rest periods do not need to be logged.

Objective: Sponsored by the Ontario Contest Club and Canadian DX Association to increase the friendship among Canadian and American amateurs and to provide a means of measuring the performance of the operating skills and equipment.

Category of competition: 1) Single operator — all band, single band and QRP, stations operated by the station licensee; 2) Multi-operator, single transmitter — stations operated by more than one operator, or single operator other than the licensee, or club stations; and 3) Club competition.

Bands: All SW bands, 1.8 through 28 MHz are permitted, U.S. General portion of the bands is recommended.

Number exchange: Signal report, use RS on phone and RST on CW, plus sequential QSO number starting with 001, plus multiplier area (MX) abbreviation, in that order; i.e., 59001CT, 59021NY. Multiplier area abbreviation is the usual two-letter postal abbreviation for 50 U.S. states, CN for Caribbean (KC4, KG4, KP1, KP2, KP4, KS4, KV4 and their A- and W-prefix equivalents), PC for Pacific (rest of U.S. possessions and Antarctica). Canadians will use: NF — VO1, VO2; NB — VE1 New Brunswick; NS — Nova Scotia; PE — Prince Edward Isl.; SI — Sable and St. Paul Isl.; PQ — VE2; ON — VE3; MB — VE4; SK — VE5; AT — VE6; BC — VE7; NW — VE8 NWT; YU — VY1 Yukon.

Multipliers: 50 U.S. states, two U.S. possessions (Caribbean, Pacific); 10 Canadian provinces, two territories (NWT, YU), two islands (Sable, St. Paul). Total of 65 multipliers per band; maximum possible on all six bands is 390.

Points: 1) Americans to Americans, Canadians to Canadians QSOs count for 2 points; 2) Americans to Canadians and vice versa QSOs count for 3 points. The same station can be contacted once on each band and mode. Stations operating from outside of their own call areas must sign slash and the areas they are operating from; i.e., W6AM/7, NP4A/W4.

Scoring: The final score is the result of the total QSO points from all bands, multiplied by the sum of the multipliers from all bands. Phone and CW sections of the contest are considered separate contests. However, combined score for phone and CW will be used for overall competition. Combined score will be calculated by the contest committee as a result of the addition of phone and CW scores.

Awards: Handsome first place certificates will be awarded in each multiplier area on both modes in single operator category. Top five multi-operator stations in each country will receive certificates for high combined phone and CW scores. All scores will be published in **CQ Magazine**.

Trophies and plaques:
Single operator, combined — Canadian Champion, American Champion
Single operator, Phone — Canadian Champion, American Champion
Single operator, CW — Canadian Champion, American Champion
Multi-operator, combined — Canadian Champion, American Champion
Club Competition Champion — awarded to the club having highest score as a result of addition of five best scores on phone and five best scores on CW made by its members. A club officer must submit the summary showing the call signs and scores. Each station is eligible for one trophy only. In a case where one station qualifies for another trophy, the less significant trophy goes to the next eligible station.

Free *Long Skip:* One year subscription to the CANAD-X bulletin will be awarded to the five U.S. stations.

Logs: All times must be kept in GMT. Indicate multipliers the first time only on each band. Log must be checked for duplicate contacts, correct QSO points and multipliers. Do not use separate logs for each band. Rest periods must be clearly marked in the log. Each entry consists of: log sheets, summary sheet showing all scoring information, category of competition, operator's name and call sign, address of the station and signed declaration. Entries with over 200 QSOs must include check sheets for each band. Official logs, check sheets and summary sheets with multiplier tables are available from the Contest Chairman. A large SASE with Canadian stamps (or U.S. stamps not glued to the envelope) will bring you the samples. Contestants are encouraged to use them; they greatly help with the processing of the entries.

Single band: Any band can be selected for the single band category. All single band entries will judged in one category. It is up to the contestant to select the one that could bring him the highest point score for his particular situation.

QRP:A maximum of 10 watts input is allowed during the entire duration of the contest.

Disqualification: Violation of national Amateur Radio regulations, or rules of the contest, unsportsmanlike conduct, taking credit for excessive duplicate contacts, unverifiable QSOs or multipliers will be deemed sufficient cause for disqualification. Incorrectly logged calls will be counted as unverifiable contacts. Actions and decisions of the CAN-AM Contest Committee are official and final.

Deadline: All entries must be postmarked not later than 30 days after the contest and mailed to: CAN-AM Contest Chairman, VE3BMV, Box 65, Don Mills, Ontario CANADA M3C 2R6. Please send your log, regardless how small or big your score is. □

Kansas State QSO Party

The 1st Annual Kansas State QSO Party, sponsored by the Boeing Employees' Amateur Radio Society of Wichita (BEARSØ), will be divided into three operating periods as follows:
0100 UTC, 18 September 1982 to 0700 UTC, 18 September 1982
1300 UTC, 18 September 1982 to 0700 UTC, 19 September 1982
1300 UTC, 19 September 1982 to 0100 UTC, 20 September 1982

All amateurs are invited to participate.

All bands and modes may be used. Stations may be worked once each band and each mode for contact points and more than once each band/mode if they are additional multipliers. Kansas stations score 2 points for each phone contact and 3 points for each CW contact (including contacts with other Kansas stations), multiplied by the total of different states, Canadian provinces and other foreign countries worked. All others score 2 points for each phone contact and 3 points for each CW contact with a Kansas station multiplied by the total of different Kansas counties worked (maximum of 105). Multipliers are only counted *once*, regardless of how many bands or modes they are worked on. There will be an additional multiplier of one for each group of eight contacts with the same Kansas county for all non-Kansas stations.

Kansas stations send QSO number, RS(T) and county. All others send QSO number, RS(T) and state, Canadian province or foreign country.

Certificates will be awarded to the highest scoring station (both single and multi-operator) in each state, Canadian province, foreign country and Kansas county. Additional certificates may be awarded at the discretion of the contest committee. Worked Five Kansas BEARS awards are also available to anyone working five club members before, during or after the QSO party. All QSO party entries will be screened by the contest committee for possible Worked Five Kansas BEARS awards. All Kansas BEARS awards are administrated by Mike Thornton, WA0TAH, Contest Chairman.

Suggested frequencies: CW — 1805, 3560, 7060, 14060, 21060, 28160. **Phone** — 1815, 3925, 7260, 14280, 21380, 28580. **Novice:** 3725, 7125, 21150, 28160.

Logs must show dates, times in UTC, stations worked, exchanges sent and received, bands and modes used and scores claimed. Include a dupe sheet for entries with more than 200 QSOs. Each entry must include a signed statement that the decision of the contest committee will be accepted as final. No logs can be returned. Results of the QSO party will be submitted to all usual amateur periodicals for publication.

Log sheets and summary sheets are available for an SASE. Log sheets and summary sheets must be postmarked no later than 20 October 1982 and sent to: Boeing Employees' Amateur Radio Society of Wichita, c/o Mike Thornton, WA0TAH, 5256 South Madison, Wichita, KS 67216. □

New Mexico QSO Party

The Albuquerque DX Association will sponsor the 1982 New Mexico QSO Party Saturday, 18 September 1800Z until Sunday, 19 September 2100Z.

Exchange: New Mexico stations send signal report, a consecutive serial number beginning with 001, and county. All others send signal report, a consecutive serial number beginning with 001, and state, province or DX country.

QSO points: Each station may be worked once each band and mode. Count 2 points for each phone/SSB QSO, 3 points for each CW QSO. CW QSOs should be made in CW subbands.

Multipliers: New Mexico stations multiply total QSO points by total number of states, provinces and DX countries worked. All others multiply total QSO points by total number of New Mexico counties worked each band and mode.

Awards: Plaques for highest score from outside New Mexico, highest New Mexico single operator score, and highest score by a New Mexico portable station (as defined by ARRL Field Day rules for Class A stations). Certificates will be awarded the highest scorer from each state, province and DX country. Certificates will also be awarded to each station submitting a score of more than 100 total points.

Entries must be postmarked no later than 15 October 1982. Send large (business-size) SASE to K5QQ, 1005 Morina Court NE, Albuquerque, NM 87112 for contest results. □

Washington State QSO Party

The 17th annual Washington State QSO Party, sponsored by the Boeing Employees' Amateur Radio Society (BEARS), will be divided into three operating periods as follows:

0100 UTC 18 September 1982 to 0700 UTC 18 September 1982
1300 UTC 18 September 1982 to 0700 UTC 19 September 1982
1300 UTC 19 September 1982 to 0100 UTC 20 September 1982

All amateurs are invited to participate.

All bands and modes may be used. *No CW contacts in phone bands!* Stations may be worked once each band and each mode for contact points and more than once each band/mode if they are additional multipliers. Washington stations score two points for each phone contact and three points for each CW contact (including contacts with other Washington stations), multiplied by the total of different states, Canadian provinces and other foreign countries worked. All others score 2 points for each phone contact and 3 points for each CW contact with a Washington station multiplied by the total of different Washington counties worked (maximum of 39). Multipliers are only counted *ONCE* regardless of how many bands or modes they are worked on. There will be an additional multiplier of one for each group of eight contacts with the same Washington county for all non-Washington stations.

Washington stations send QSO number, RS(T) and county. All others send QSO number, RS(T) and state, Canadian province or foreign country.

Certificates will be awarded to the highest scoring station (both single and multi-operator) in each state, Canadian province, foreign country and Washington county. Additional certificates may be awarded at the discretion of the Contest Committee. Worked Five BEARS Awards are also available to anyone working five club members before, during or after the QSO party (unless previously issued). All QSO party entries will be screened by the Contest Committee for possible Worked Five BEARS Awards. Worked Three BEARS Cubs Award is also available for working three Novice club members. All BEARS Awards (except QSO party certificates) are handled by Doyel Burleson, WA7HKD, Awards Chairman. See page 28 of the August 1979 issue of **73**.

Suggested frequencies: **CW** — 1805, 3560, 7060, 14060, 21060, 28160. **Phone** — 1815, 3925, 7260, 14280, 21380, 28580. **Novice** — 3725, 7125, 21150, 28160.

Logs must show dates, times in UTC, stations worked, exchanges sent and received, bands and modes used and scores claimed. Include a dupe sheet for entries with more than 200 QSOs. Each entry must include a signed statement that the decision of the Contest Committee will be accepted as final. No logs can be returned. Results of the QSO party will be mailed to all entrants. *SASEs* are *not* required.

Log sheets and summary sheets are available for the asking. Log sheets and summary sheets must be postmarked no later than 20 October 1982 and sent to: Boeing Employees' Amateur Radio Society; c/o Willis D. Propst, K7RS; 18415 38th Avenue South; Seattle, WA 98188.

Scandinavian Activity Contest

The 24th Scandinavian Activity Contest will be held in September of 1982. The dates are as follows: **CW** — 18 September, 1500 UTC to 19 September, 1800 UTC. **Phone** — 25 September, 1500 UTC to 26 September, 1800 UTC.

General Rules for non-Scandinavians

Object

To encourage activity on the part of Scandinavian and non-Scandinavian amateurs to work each other and to promote communication skills between amateur stations worldwide. For the purpose of the contest, non-Scandinavian stations will try to work as many Scandinavian stations as possible.

Scandinavian stations are defined by the prefixes as follows: LA/LB/LG/LJ (Norway), JW (Svalbard & Bear Isl.), JX (Jan Mayen), OF/OG/OH/OI (Finland), OH0 (Aland Isl.), OJ0 (Market Reef), OX (Greenland), OY (Faroe Isl.), OZ (Denmark), SJ/SK/SL/SM (Sweden) and TF (Iceland).

Contest call

CQ SAC on CW and CQ Scandinavia on Phone.

Bands

3.5 — 7 — 14 — 21 — 28 MHz may be used, but only within the following subbands (kHz). **CW:** 3505 — 3575, 7005 — 7040, 14010 — 14075, 21010 — 21120, 28010 — 28125. **Phone:** 3600 — 3650, 3700 — 3790, 7050 — 7100, 14150 — 300, 21200 — 21350, 28400 — 28700. Region 2 & 3 stations may also transmit on their frequencies above 3790 and 7100.

Categories

a) Single Op/Single TX — all band only. Single Operator: one person performs all operating, logging and spotting functions. The use of multiplier spotting assistance or any other form of alerting assistance is not allowed in this category.

b) Multi Op/Single TX — all band only. Only one signal allowed at any one time on any band. The station must remain on the band for at least 10 minutes following initial transmission on that band after band change.

c) Multi Op/Multi TX. No limit to transmitters, but only one signal per band allowed. Club stations may work only Multi/Single or Multi/Multi.

Station definition

All transmitters and all receivers, including spotting equipment for a station using one and the same call sign must be located within a 160-meter/500 foot radius.

Contest exchange

Consists of RS(T) plus serial number, starting from 001, e.g. 59(9)001. QSOs after 999 are numbered 1000, 1001 etc. Multi Op/Multi TX stations use separate serial numbers, starting from 001 on each band. The same station may be worked once on each band. Only CW-CW and Phone-Phone QSOs are valid.

QSO points

Two-way QSO with sent and received exchange counts for QSO points. **European stations** credit their logs with 1 point for every complete Scandinavian QSO on any band. **Non-European stations (DX)** credit their logs with 1 point for every complete Scandinavian QSO on 14, 21 and 28 MHz and 3 points for such contacts on 3.5 and 7 MHz.

Multipliers

Two-way QSO is valid for multiplier credit, if complete contest exchange is sent and at least RS(T) is received.

Worked Scandinavian call areas may be claimed for multiplier credit (LA1=LB1=LJ1 and SM3=SK3=SL3 etc.) Portable stations without district number count for the 10th call area, e.g. W4XXX/OZ counts for OZ0 and G3XYZ/LA counts for LA0. OH0 and OJ0 are separate call areas. SJ9 counts for the 9th call area in Sweden. Each multiplier shall not be credited more than once per band. If serial number is not received, QSO counts for zero points.

Scoring

Multiply all QSO-points by the sum of all multipliers worked on each band.

Log instructions

Signed original logs (or copies of original logs) must be submitted separately for CW and phone. Logs to be filled out in the following order: date and time (UTC), station worked, sent and received exchange, band, multipliers (e.g., OZ4, SM3, OH0 etc.) and points.

Summary sheet

All entrants must submit a summary sheet showing station call sign, category, name of operator(s) and address. Indicate number of QSOs per band less duplicates, number of duplicates per band, number of multipliers per band, QSO points per band and final score.

Multiplier sheet

All entrants must submit a multiplier sheet for each band with more than 200 QSOs.

Duplicate QSO sheet

Possible duplicate QSOs must be shown in the log and counted for zero points. Each entrant shall submit a duplicate QSO sheet for each band with more than 200 QSOs. Duplicate sheet to contain worked stations listed, e.g. by DXCC countries and call areas.

Deadline

Logs and accompanying sheets, addressed to the organizing League, shall be mailed no later than 30 October 1982. Logs should be sent to: EDR Contest Manager OZ1LO, Leif Ottosen, Bankevejen 12, Kong, DK-4750 Lundby, DENMARK.

Certificates and plaques

Top scorer in each country as well as in each U.S. call district, in each category both on CW and phone, will receive a contest award, provided a reasonable score is made. Depending on the number of entrants from each country, the award of additional certificates will be considered by the Contest Committee.

Top scoring Single Operator stations on each continent will receive a contest plaque, both on CW and phone, provided a reasonable score is made.

Disqualification and score reduction

Violation of Amateur Radio regulations applicable in the country of the contestant or of the rules of this contest, unsportsmanlike conduct and the taking of credit for unverifiable QSOs or multipliers may lead to disqualification. A log showing more than 1 percent unremoved duplicate QSOs results in unconditional disqualification. Each unremoved duplicate QSO found by the Contest Committee results in a penalty of five QSOs of the same value as the duplicate.

Compliance with rules

By submitting a contest log, the entrant agrees to abide by the rules of the Scandinavian Activity Contest and by the decisions of the Contest Committee. The Committee's decisions are final and definite. Right to changes in the rules are reserved. □

SWOT Open QSO Party

The SWOT (Side Winders On Two) Amateur Radio Club announces its 5th annual QSO party. All licensed amateurs with operating privileges on 2 meters are eligible to participate.

The contest will be held the first two weekends of October 1982. It will begin at 0000 UTC, 2 October and 0000 UTC, 9 October, and will end at 0600 UTC, 4 October and 0600 UTC, 11 October.

Exchange: a) call signs; b) signal reports; c) ARRL section; d) SWOT number; e) USA use county*; others use the equivalent.

*You may determine your county number in the alphabetic list for your state and use that. Also, you can look for the county information on a map or use publication 26 — Directory of Post Offices. The county exchange does not have to be letter perfect — just determine which counties you have worked.)

Restrictions: a) Single operator — no time limitations; b) Contacts must be direct — no repeaters/satellites — and must be SSB or CW mode; c) A station can be counted only once; d) All contacts must be made from one geographic location. Portables or mobile stations operating from more than one county may submit the highest score.

Scoring: a) QSO points — SWOT members count 2 points, others count 1 point; b) Multipliers — each county worked; c) Score = (total QSO points) times (total number of counties).

Logs: Logs should not be submitted unless requested. Send a summary postmarked no later than 1 November 1982 to: Jerome Doerrie, K5IS, Rt. 2 Box 72, Booker, TX 79005. The summary should contain your name, call, address, ARRL section, SWOT number, total SWOT QSOs, total non-member QSOs, total counties and final score. □

Rhode Island QSO Party

Sponsored by the East Bay Amateur Wireless Association, this QSO party will be held Saturday, 9 October, 1700 GMT to Sunday, 10 October, 1500 GMT; and Sunday, 10 October, 1300 GMT to Monday, 11 October, 0100 GMT. The object is for Rhode Island stations to work other Rhode Island stations and the rest of the world. All other stations are to work Rhode Island stations. The same station may be worked twice on each band — once on phone and once on CW.

Exchange: Send RS(T) and QTH. (City or town for Rhode Island stations. State, province or country for all others.)

Scoring: All stations score 2 points per phone QSO and 3 points per CW QSO, except for Novices and Technicians, who score 5 points per QSO.

Rhode Island multiply total QSO points by the number of states, provinces and countries worked. Others multiply total QSO points by the number of different Rhode Island cities and towns worked. NOTE: There are 39 cities and towns in Rhode Island.

Frequencies: *CW* — 1810, 3550, 3710, 7050, 7110, 14050, 21050, 21110, 28050, 28110. *Phone* — 3900, 7260, 14300, 21360, 28600, 50.110, 144.2, 146.52. Use of FM simplex is encouraged. (No repeaters)

Logs: Logs must show date/time (GMT), call, exchange, band and mode. Include your name, call, mailing address, club affiliation if any, total QSO points, multipliers claimed and final score.

Awards: Certificates will be awarded to the top scoring station in each Rhode Island county, state, province and country. The top scoring Novice and Technician in Rhode Island and out of state. The Amateur Radio club in each state, province and country that submits the highest aggregate score (minimum of three logs per club).

Deadline: Postmarked no later than 15 November 1982. Send log (copy OK), summary and comments to: East Bay Amateur Wireless Association, P.O. Box 392, Warren, RI 02885. Include an SASE for results. □

California

The 6th Annual Smoked Hamfest, sponsored by the Williams Hill Amateur Radio Relay Society and commemorating the use of Amateur Radio operators on the Marble-Cone Fire in 1977, will be held at San Lorenzo Park in King City, California on 26 September.

A Santa Maria-style steak barbecue will be served beginning at 1:00 p.m. Tickets will cost about $6 each, with half-rates for children. A flea market, with free tables provided, will start at 10:00 a.m.

Talk-in on 146.13/.73.

Please make reservations for dinner with WD6EKQ or WD6EKR on the 144.87/145.47 K6JE/Repeater or through the W6LIO net on Tuesday nights at 7:30 p.m. □

California

The Santa Cruz County Amateur Radio Club is proudly hosting the 1982 Pacific Division Convention, to be held 8-10 October at the Holiday Inn, 611 Ocean Street, Santa Cruz, California. Activities this year include not only an exceptional variety of manufacturer and dealer exhibits, but also a well-rounded group of forums and technical speakers.

The convention will get underway on Friday evening with the exhibits open, a league session, and a hospitality room. (We are trying to arrange a wine-tasting.) Activities will continue with sessions all day Saturday, Sunday morning, and a banquet early Sunday afternoon to wind up the convention.

Look for our Convention Radio Station, K6BJ, which will be operating from the fifth floor of the Holiday Inn during the convention. We will have a special QSL card for those who work us.

Preregister early as there is a limited number of seats at the banquet. Full registration includes the banquet, as well as the ladies program (with lunch). All of the forum and technical talks, and the Friday evening events are also included. Preregistration price is $23 per person through 15 September. For forums and talks only, the preregistration price is $6; after 15 September, the price will be $7. Booths are $100.

For registration forms and/or more information please write: SCCARC "Convention", P.O. Box 238, Santa Cruz, CA 95061, or phone (408) 426-6691. □

California

The NorCal Sidewinders On Two will hold its first swapmeet on Saturday, 18 September 1982 at Chabot College, Livermore, California. The 'meet will begin at 7:00 a.m. and end ? The college is easily reached by traveling east from the San Francisco Bay area on Hwy. 580 or west from Tracy, on Hwy. 580 to Airway Blvd., following the signs.

Talk-in on 146.52 simplex, 145.35/144.75 rpt.

For more information, QSL Vern Roberts, WD6CHL, 716 Towhee Ct., Fremont, CA 94539, or phone (415) 656-3407. □

Colorado

The Boulder Amateur Radio Club will hold BARCFEST/82 on Sunday, 26 September 1982 beginning at 9:00 a.m. at the Boulder National Guard Armory, 4750 North Broadway at the Boulder, Colrado city limits. Admission donation of $2 per family includes swap space and door prize drawing. There will be a snack bar.

Talk-in on 146.10/70 and 146.52.

For further information contact David McClune, WB0ZID, 5338 Spotted Horse Trail, Boulder, CO 80301; 303-530-1872. □

Georgia

The 9th Annual Lanierland Amateur Radio Club Hamfest will be held 26 September, 9:00 a.m. at Gainesville, Georgia in the Holiday Hall at Holiday Inn. Free tables and inside display area for dealers and distributors. Large parking lot for flea market. Boat anchor auction. Many prizes and activities. Food and drink available. Doors open 8:00 a.m. for dealer set-up.

All activities and facilities are free to all. Only proceeds to club are from sale of prize tickets at $1 each or six for $5.

Talk-in on 146.07-.67.

For information and free space to dealers, contact: Phil Loveless, KC4UC, 3574 Thompson Bend, Gainesville, GA 30506; (404-532-9160). □

Georgia

The 1982 Rome Hamfest will be held on Sunday, 3 October at the Rome Civic Center in Rome, Georgia, from 9:00 a.m. to 4:00 p.m. The location on Turner McCall Blvd. (US 27 and GA 20) is different from past years. Admission for amateurs will be a door prize ticket. Ladies prizes, too. Come enjoy the barbecue, fun and fellowship.

Talk-in on 147.90-30 repeater. Contact Buddy Waller, NO4U, 18 London Lane, S.E., Rome, GA 30161. □

Illinois

The Peoria Area Amateur Radio Club will hold the Peoria Superfest '82 at the Exposition Gardens, West Northmoor Road, Peoria, Illinois on 18-19 September 1982. Gate opens at 6:00 a.m.; commercial building opens at 9:00 a.m. Admission is $3 in advance, $4 at the door.

Forums, Amateur Radio and computer displays, a huge free flea market and full camping facilities will be featured at the 'fest. There will also be a Sunday bus to the Northwoods Mall for the ladies. A Saturday night informal get-together will be held at the Heritage House Smorgasbord in Peoria. Free movies on Saturday night at the hamfest site.

Talk-in on 146.16/76. Call W9UVI.

For information and reservations, send SASE to Superfest '82, 5808 North Andover Ct., Peoria, IL 61615. □

Michigan

The Grand Rapids Amateur Radio Association, Inc. will hold its annual Swap and Shop on Saturday, 18 September at the Hudsonville Fairgrounds. There will be prizes and dealers, food concession, indoor sales area and an outdoor trunk swap area. Gates will open at 8:00 a.m. for both swappers and the public.

Talk-in on 146.16/76.

For more information, write: Grand Rapids Amateur Radio Association, Inc., P.O. Box 1248, Grand Rapids, MI 49501. □

Michigan

The Adrian Amateur Radio Club is having its 10th Annual Hamfest on Sunday, 26 September 1982 at the Lenawee County Fairground in Adrian, Michigan.

Talk-in on 146.31/91.

For information on tickets, tables, etc., contact the Adrian Amateur Radio Club, P.O. Box 26, Adrian, MI 49221. □

New Jersey

The Sussex County Amateur Radio Club is holding its 4th annual hamfest, SCARC '82, on 11 September at the Sussex County Farm and Horse Show grounds on Plains Road, off U.S. Highway 206 in Augusta, New Jersey, just north of Newton. Acres of free parking and outdoor flea market: Sellers, $4 preregistered, $5 at gate. Huge building for indoor sellers: $5 preregistered, $6 at gate. Registration: $2. Door prizes.

For information or registration: Sussex County ARC, P.O. Box 11, Newton, NJ 07860, or Lloyd Buchholtz, WA2LHX, 10 Black Oak Drive, Vernon, NJ 07462.

Talk-in on 147.90/30 and 146.52. □

New Jersey

The 1982 Annual Hamfest of the South Jersey Radio Association will be held on Sunday, 19 September 1982. Location is the Pennsauken High School parking lot at Route 73 & Remington Ave., Pennsauken, New Jersey. Door prizes, food and fun. Admission is $3; tailgate sales $5. 8:00 a.m. to 4:00 p.m.

Talk-in on 146.220/146.820 Camden, New Jersey repeater and 146.52 simplex.

Information and ticket sales, contact Fred Holler, W2EKB, 348 Bortons Mill Road, Cherry Hill, NJ 08034. □

New York

The Hall of Science Amateur Radio Club's annual indoor/outdoor, rain-or-shine hamfest will be held on Sunday, 12 September 1982, 9:00 a.m. to 4:00 p.m. at Municipal Parking Lot, 80-25 126th Street, (one block off Queens Blvd.), Kew Gardens, Queens, New York City. Sellers: donation $3; buyers $2; XYLs and kids free.

Walk/talk-in frequency 145.520.

For info, contact John Powers, KA2AHJ, 83-33 Austin St., Jamaica, NY 11415, (212) 847-8007; or Tony Russo, WB2OLB, 95-27 123rd St.-Richmond Hill, New York, NY 11419, (212) 441-6545. □

New York

The 7th annual Elmira Hamfest will be held 25 September 1982 at the Chemung County Fairgrounds in Horseheads, New York. Sponsoring the event is Elmira Amateur Radio Association, station W2ZJ.

A free flea market, dealer displays, technical talks, prizes, a QSL contest, free parking and refreshments will be among the features of this hamfest. Admission tickets are $2 in advance, $3 at the door. Hours are 6:00 a.m. to 5:00 p.m.

Call in on 146.52, 146.10/70, or 147.96/36.

Tickets may be ordered from Elmira Hamfest, c/o John Breese, 340 West Ave., Horseheads, NY 14845. □

Ohio

The Findlay Radio Club Hamfest will celebrate its 40th anniversary this year on 12 September, at the Hancock Recreational Center Arena, Findlay, Ohio, from 6:30 a.m. to 6:00 p.m. Tickets are $2 in advance, $3 at the entrance. There is plenty of free parking, also handicap parking. Exhibit tables are $5 per table inside. Flea market trunk sales $2 per space. Open Saturday for set-ups; entertainment for the early birds.

Talk-in on 147-75/15; check-in 146.52/52.

Write for reservations and tickets with SASE to Findlay Radio Club, P.O. Box 587, Findlay, OH 45840. □

Ohio

The Greater Cincinnati Amateur Radio Association announces its 45th Annual Cincinnati Hamfest, to be held Sunday, 19 September 1982 at Stricker's Grove, located on State Route 128, one mile west of Ross (Venice), Ohio, north of Cincinnati.

A limited number of booth spaces are available in the enclosed exhibit building, at $35 per space. A flea market, hidden transmitter hunt, entertainment (including a sensational air show by the Hawks), prizes, music and refreshments will be available to those who attend this hamfest. Admission and prize ticket $5.

For more information, contact Lillian Abbott, K8CKI, 317 Greenwell Rd., Cincinnati, OH 45238. □

Ohio

The Cleveland Hamfest Association presents the Cleveland Hamfest! Location of the event will be the County Fairgrounds in Berea, Ohio. Date will be Sunday, 26 September 1982, 8:00 a.m. to 5:00 p.m. (Please use *only* the Eastland Road entrance to fairgrounds.)

The flea market will be outdoors, opening at 6:00 a.m. Flea market spaces will be $2 per space. Tickets are $2.50 prior to 31 August and $3 at the door. Children under 12 admitted free.

Activities include seminars, displays, prizes (door and grand), and YL activities. There will be prizes for ladies, too. Refreshments and food will be available for the whole family. Overnight parking provided, as well as free parking in a patrolled lot.

Mobile check-in with W8QV for a number on 146.52 MHz from 6:00 a.m. to noon. Directions on all local repeaters.

For tickets and information, write to Cleveland Hamfest Association, P.O. Box 27211, Cleveland, OH 44127. □

Pennsylvania

The Pack Rats 6th Annual Mid-Atlantic VHF Conference will be held on Saturday, 2 October at the Warrington Motor Lodge, Rt. 611, Warrington, Pennsylvania. Advance registration $3, $4 at door. Price includes admission to the 11th Annual Pack Rat HAMARAMA on Sunday, 3 October at the Buck County Drive-In Theater, Rt. 611, Warrington. Admission to the flea market $2; tailgating $4 per space. Bring your own table. Gates open 7:30 a.m.

Talk-in via W3CCX on 146.52.

Information for both events available from HAMARAMA "82," P.O. Box 311, Southampton, PA 18966 or Lee A. Cohen, K3MXM (215)-635-4942. □

Texas

The Wichita Amateur Radio Society is sponsoring the annual WARS Hamfest on 25-26 September 1982. The hamfest will be held at the National Guard Armory in Wichita Falls, Texas.

Features at the 'fest will include a large dealer display by Electronic Center of Dallas; computer dealers and demonstrations; a large inside flea market (reserve tables soon); 24-hour security; free RV parking without hookups; and a concession stand, open both days. Special events will include a QCWA meeting; 3933 Net Meeting; QLF contest; and ladies' activities and prizes.

Registration begins at 8:00 a.m. Saturday and Sunday. Preregistration closes Wednesday, 22 September. Tickets are $4 in advance, $5 at the door.

Local talk-in on 146.34/94 and 147.75/15.

For more information, write to WARS Hamfest, P.O. Box 4363, Wichita Falls, TX 76308. □

Virginia

The ARRL Virginia State Convention and Tidewater Computer Show — Hamfest — Electronic Flea Market will be held at the Virginia Beach, Virginia Pavilion Saturday and Sunday, 9-10 October 1982.

Featured are dealers, special displays, forums, computers and satellite equipment. Special XYL programs, free XYL bingo and free jitney bus to the beach for shopping or beach activities. Cocktail party Saturday night. Showtime is 9:00 a.m. to 5:00 p.m. both days.

Admission is $3.50 and includes both days. Advance ticket drawing for hand-held transceiver, plus many valuable door prizes. Flea market tables $5 one day, $8 both days. Commercial flea market tables $15 both days. Commercial booths $30 both days.

For info and tickets, write or call Jim Harrison, N4NV, 1234 Little Bay Ave., Norfolk, VA 23503; 804-587-1695. □

Washington

The Walla Walla Valley Radio Amateur Club will hold its 36th Annual Hamfest at the Milton-Freewater, Oregon Community Building on Saturday, 25 September and Sunday, 26 September. Doors open at 9:00 a.m.

New gear displays will be shown by the top dealers of the Northwest. There will be a swap shop and antique, homebrew and repeater displays. Free ladies' bingo on Saturday afternoon. Visit the ARRL booth and chat with the top League officials of the Northwest. Lots of prizes and awards. ***FREE*** registration. Dinner at 12:30 Sunday is potluck.

Listen on 146.20-80 and 52-52.

For more information, write to W7DP, P.O. Box 321, Walla Walla, WA 99362 □

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NEW KDK2030 — $265.95. AZDEN PCS3000 or 300 — $279.95 including shipping charges. Free discount catalog on metal detectors. CHUCK'S AMATEUR RADIO SUPPLY, Box 44, Madera, CA 93639. (209) 674-1435 daily.

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WANTED — DRAKE AA-10-2MTR. AMPLIFIER and 1525 EM-T.T. microphone. WØALK, Vernon Clark, 1444 W. Parkhill Ave., Littleton, CO 80120.

NEW — KT5B Multi-Band Dipole 80-10 (WARC), Mini-8 Coax $17.25/100', 450-Ohm Open Wire $14.75/100'. Details — Kilo-Tec, PO Box 1001, Oak View, CA 93022.

MACK'S TUBES. New and used. Old radio types, also (oldies). Send large SASE for tube list. MACK'S TUBES, 2565 Portola Dr., Ste 4, Santa Cruz, CA 95062. (408) 475-5652 after 6 p.m.

FOR SALE: SIGNAL ONE CX7/modified to (B), near mint cond. New xformer, complete alignment and update AGC board mods in Feb. Great contest rig — $1,100. firm. WB6BIK, John. (415) 930-7119. CA.

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ATV XMTR — VHF engineering TVX-10 schematic needed. WA3HJC, Lee Robinson, 317 Peninsula Drive, #53, Erie, PA 16505.

MOTOROLA MICOR 450MHz mobile radio, 12 channels, 45 watts, control head, mike, cables, antenna. Excellent condition — $500.00. John, (415) 681-8437.

HEATH SB220, needs finals. Hy-Gain TH3MK3, good. $200 takes all. WB2JGD, 5747 S. Rue Rd., West Palm Beach, FL 33406.

ANTIQUE: E.M. SARGENT CO. amateur receiver model 11-AA serial 2612 9.5 - 550 meters. Mint. Full specs. QST July 1936, page 86. Best offers. VE2OU, 2785 Valcourt St., Ste Foy, Quebec, Canada, G1W 1W2.

JOHNSON 4730 SSB/AM 40-channel converted to 10 meters by Certified. Fine performer — $90. Heath HD-1410 keyer/paddle — $35. KC8OU, 3510 Arnold, Canton, OH 44709. (216) 492-0624. (Before 0200Z.)

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DRAKE T-4XC, R-4A, AC-4, MS-4, FS-4, Shure 444. Excellent condition — with manuals. Complete station — $695.00. John, N7AHW, (503) 665-1181 days, 663-3785 eves.

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QUALITY RUBBER STAMPS BY K5MK. 3 lines, $3.50 postpaid. Speedy delivery, satisfaction guaranteed. M-PRESS, Box 12823, Jackson, MS 39211.

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FOR SALE — Complete 2KW stn: Drake R-4C rcvr, T-4XB xmtr with MS-4 spkr & pwr supply, Heath SB-220 linear, all mint cond; W-36 tower, Ham III rotor, TH3MK3 beam, mikes, new RG8/U cable, many other goodies. Best reasonable offer(s). John, WB6VFF. (415) 731-2876, San Francisco, CA.

SELL: JOHNSON KW ANTENNA TUNER with meter and book, Mint — $135. Kenwood AT200 — $100. Kenwood phone patch CP-1 - $50. New receiving tubes, one dollar each. Stock up now. Levy, 4215 Darwood Dr. Tel. (915) 778-5553, El Paso, TX 79902.

AZDEN PCS300 $289 ppd. HALE'S SALES & SERVICE, 1509 Poplar, Lebanon, PA 17042.

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HOME COMPUTER marketing positions available. Unique ground floor opportunity with product of a well-known manufacturer. Write: COMPU-COTTAGES, P.O. Box 26, Candler, NC 28715.