Worldradio

April 1982 • Year 11, Issue 10 • 80¢

Storms don't stop amateurs

Submitted by Ed Steinke, WA4BHS

Last January, Mother Nature dealt another cruel blow to the Sunny South, but this time it wasn't just in the form of tornadoes. Beginning late in the evening of 3 January 1982 and lasting until the night of 15 January, a series of storms wreaked havoc in central Alabama. There were nine estimated tornado touchdowns in the first week and two severe winter ice and snow storms the following week. Damage figures are not complete at this time, but it is known that there were at least 21 confirmed fatalities and over $80 million in damages throughout the state.

The rarity of ice and snow storms in this area causes enormous problems when it does happen. Almost all normal activities were brought to a complete halt and some 90,000 people were left without electric service — including heat — for several days, many up to a full week.

The Birmingham Amateur Radio Emergency Services (BARES) participated in emergency operations ranging from tornado touchdown reporting to all manner of assistance during the ice and snow storms. More than 100 amateurs were active at various times during this period, providing invaluable assistance to the National Weather Service, American Red Cross, Civil Defense, law enforcement agencies and the National Guard.

Amateur Radio operators were the principal means of communication, using their own equipment and frequencies for the Civil Defense authorities. Amateurs rode with four-wheel drive vehicles, providing transportation for the sick and elderly, hospital personnel, doctors, and blood donors. Amateurs made many phone calls via autopatch to relieve worried families of stranded motorists. They participated in operations that provided emergency generators and water supplies.

From the very beginning of the emergency, reports from radio amateurs on the scene flooded the emergency operations center of Civil Defense, where the liaison officials of all service organizations were stationed. Messages carried reports of poles down, lights out, trees across roads, stranded school buses, wrecks and numerous other incidents. These prompt reports enabled the officials to give the situations immediate and efficient attention.

Amateurs were dispatched to all of the police and sheriffs' precincts in the county (Jefferson) when their communications were overwhelmed by volume or knocked out by the storm. Amateurs also traveled over 30 miles on icy roads to the Centerville National Weather Service radar site to provide communications with the Birmingham forecast office when their link went out.

During the tornado activity of 3

(please turn to page 3)

Clyde Rutherford, WA4JUM works on emergency repairs to central Alabama's .34-.94 repeater tower, which went out of action when a tree limb fell across a guy wire and took the upper two-thirds of the tower down ***(Photo by Joe Veras, N4QB)***

Amateur Radio in China

Submitted by Werner Ruhl, N6ZL

You may recall reading a front page story in **Worldradio** about the first demonstration of Amateur Radio for the officials of the People's Republic of China a few months ago (November 1981).

Recently one of the men — who was part of this demonstration team — visited the USA after a tour of the Northwest, where he met with Bill Bennett, W7PHO. He came to visit San Francisco before returning to the People's Republic of China.

Werner H. Ruhl, N6ZL, a technical director for ABC TV, extended an invitation to Mr. Zheng Wen-hao of the Chinese Institute of Eletronics, Beijing, China, to visit the ABC Studios in San Francisco. Since Mr. Yong-kang Zhang of the Beijing Vacuum Electronic Devices Research Institute, was in San Francisco at the same time, the invitation to the tour was also extended to him. In order to keep a one-to-one relationship, Mr. Dan D. Purnell, N6FT was also on hand to help with the tour.

After the tour was completed, an invitation for lunch was extended to our two guests. It was during this luncheon that we brought up the subject of Amateur Radio in the People's Republic of China. A strong pitch was made in its favor. It seems, at this point, the word is go slow and all will come to pass in due time. The demonstration went very well and was well received by the Chinese officials.

There have been some talks held which will bring the People's Republic of China

(please turn to page 3)

20-meter stretch

The FCC has assigned Docket No. 82/83 to a combined Notice of Proposed Rulemaking and Notice of Inquiry on the subject of HF phone band expansion.

The Commission proposes expansion of the 14 MHz phone band by 50 kHz, from 14.150 to 14.350 MHz, with the new segment to be available equally to licensees of General Class and higher. There would be no change to the segment 14.200 to 14.275 MHz, which would continue to be available only to Advanced and Extra Class.

In its Notice of Inquiry, FCC requests comments on several issues relating to phone subbands, among them the desirability of expanding other phone bands and the proper relationship between frequency and mode privileges and license class.

Amateurs have until 1 July 1982 to send their comments to the Secretary, FCC, Washington, D.C. 20554. Comments should be labeled with the Docket No. 82/83. Reply comments are due 2 August. □

Signal Corps

If you have ever served, or are currently serving, with the U.S. Army Signal Corps — either in the military (active, reserve or National Guard) or as a civilian employee — you are invited to join the U.S. Army Signal Corps Association. Communicators from sister services and allies are also welcome to join and become part of this unique organization.

The Signal Corps Association was formed to recognize the proud history of the Signal Corps and to reserve its ever evolving history for posterity. In accomplishing this goal, recognition will be given for outstanding achievements by signal soldiers, Army civilians and Signal Units.

Members of the Association receive copies of the *Army Communicator*, the Voice of the Signal Corps, as a benefit of membership. This professional journal contains timely articles on worldwide communication developments. Here is an opportunity to learn what the Signal Corps is doing today and what is in store for the future.

Additional information and applications for membership are available by contacting: Signal Corps Association, P.O. Box 7740, Fort Gordon, GA 30905. □

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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.

Controlled circulation postage paid at Sacramento, CA.

YL ISSB 1982 convention

The YL International Single Sidebanders (YL ISSB) 1982 convention will be held in Milwaukee, Wisconsin 8-11 July 1982.

Activities planned include the DX Roundup with presentations by some of the DX members attending. J3AH; Eugenio Plath, TG9EP; Mrs. Usha Gulthadani, VU2UGI; G.H. Thadani, VU2GI and others will tell us how it is on the other end of the pileup. Jean Chittenden, WA2BGE will tell us about her recent trip to China and of the efforts being undertaken to bring Amateur Radio back to that country.

The System Awards Banquet will be held on Saturday night with speeches, awards and a raffle. An ICOM IC-2AT will be the major door prize.

Pre-convention activities will begin 5 July. Golfing, fishing and side trips are planned to fill in the hours between Amateur Radio activities. Milwaukee's Summerfest will be underway, with plenty of music, food and (of course) beer. Amateurs and non-amateurs, members and non-members — everyone will find something of interest on the Riviera of Lake Michigan.

Detailed information may be obtained from: Sus Musachi, KB9OC, P.O. Box 18123, Milwaukee, WI 53218. (Business-size SASE, please.) □

Help wanted: antique tubes

Help is wanted in the disposal of the estate of Lester Green, a collector of old radio tubes. Tubes are unused/new condition. If interested, please contact: Frank Beach, WA0OVU, P.O. Box 42, 721 N. Fourth Ave., Coon Rapids, IA 50058. □

Beacon mode schedule

Experimental Station KK2XJM (30W ERP)

Date	Frequency (MHz)	Date	Frequency (MHz)
2 Apr	10.140	23 Apr	Note 2
9 Apr	18.108	30 Apr	"
16 Apr	24.930	7 May	"
21 May	Note 3	14 May	"
28 May	"		
4 June	"		
11 June	"		

Notes

1) Beacon operations are scheduled for Friday, Saturday and Sunday, 0000 to 2400 UTC.

2) Four weeks of operation with band selected for optimum working frequency to Europe. (See QST Propagation Curves.) Frequencies as above.

3) Four weeks at optimum working frequency for South America.

4) To be followed by Asia (Japan) and Oceania (Australia).

5) Station may be on at other times for calibration, maintenance, special tests, and two-way QSO with other experimental stations. At this time, communication with Amateur Radio stations is *not* authorized.

6) Frequencies and times may change without notice, as dictated by interference limitations. Current information will be announced each 10 minutes when in Beacon Mode.

7) For information, QSL or special schedules, contact R.P. Haviland, W4MB, 2100 S. Nova Rd., Box 45, Daytona Beach, FL 32019. □

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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.

Needed: 200 S.F. Bay area amateurs

The 1982 Health Fair Project is the largest pre-planned public service challenge Amateur Radio has ever been handed in the history of the San Francisco (California) Bay area. It will occur during the week of 17-25 April and will involve 70 sites and 10,000 community volunteers in the nine Bay Area counties.

This project is an expansion of previous projects to provide health screening tests and health education to those of our citizens who are not in a condition to obtain this service via the normal mechanisms. An efficient communications network is considered to be a necessity in order to handle unpredictably large crowds and to coordinate the availability of medical supplies, equipment and personnel. Both HF and VHF links are planned.

Plan now to devote a day of your own time to this excellent and intense public service. Contact Merrill Card, KB6TO in San Jose to register your availability and to obtain more information. □

TV engineers

On page 39 of the March 1982 issue of **Worldradio**, we said that Gregg Tyler, KA0MKU of 412 North Wilson, Oberlin, KS 67749 was interested in hearing from those who are interested in the Kansas State Network. Gregg tells us the message he had wanted to relay was to ask all **Worldradio** subscribers who are television engineers to contact him. The request has nothing to do with the Kansas State Network. □

Code practice

Wendell Wilson, W0TQ is broadcasting code practice on 3751 kHz every Monday night at 7:15 p.m. local time beginning with 3 wpm and increases the speed every few minutes.

ARRL certificates are awarded by the Kansas-Nebraska Amateur Radio Club. This broadcast has been approved by the FCC and ARRL.

— *Kansas Amateur Radio* □

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Station Appearance will reappear next month.

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Storms

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January, the BARES nets were continuously active for approximately 25 hours. During the winter storm that followed on the 12th through 15th, the operations lasted for about 58 continuous hours. One of the regular repeaters, the 146.34-146.94 machine, went out of action when a tree limb fell across a guy wire and took the upper two-thirds of the tower down. The primary backup repeater on 146.28-.88 went off the air from loss of power, so a third local machine was pressed into service as the primary communications link for emergency service. Several amateurs braved the icy conditions to restore the .34-.94 machine to limited service. Others found it necessary to service the third machine on 147.75-.15, which has separate inputs on mountain tops about 20 miles apart. They were, of course, snow-covered and treacherous at that time.

Tim Slay, WD4AAP (left) and Randall Howard, KA4DVL help out at Civil Defense Headquarters in Birmingham, Alabama. ***(N4QB photo)***

Authorities in the Birmingham area have always been impressed with the capabilities of the BARES organization and have depended upon them in times of emergency over the past 50 years. This period of adverse weather, which is so foreign to this area, has shown that radio amateurs can provide invaluable service even in a protracted and severe emergency. Without their participation, things would have been a great deal worse.

(Article is composite of material supplied by: Louis Bohorfoush, WB4CXD, former DEC of Birmingham ARC, and Joseph Smith, WA4RNP, present DEC of Birmingham ARC.) □

China

continued from page 1

(BY) back to the amateur family. There will be groups formed to study the procedures to be used to test individuals who wish to become Amateur Radio operators. Buildings in a number of cities have yet to be built which will house the records and personnel of this licensing commission. In the opinion of Mr. Zheng Wen-hao, as told to N6ZL and N6FT, all these things will take time, but at least the process for getting the People's Republic of China back on the air has been started.

If there are no unexpected delays, we can look for "BY" to start limited operations again about July/August 1983. Let's hope so. We will have to have a little patience. □

If your club is involved in any emergency situations, send the story and pictures to **Worldradio.**

See your group in print and help your fellow amateurs with shared experiences. Your story may help others be better prepared.

1982 World's Fair

The station will be located on the World's Fair site in space provided by the city of Knoxville. It will operate for the entire duration of the fair, May through October 1982. Operating activities will be on display to the public and will include traffic handling, contesting, DXing, ragchewing, and demonstrations of exotic modes such as RTTY, SSTV and satellite communications.

The Tennessee Wireless Association is an independent entity, not associated with any specific club or individual. It exists solely to exhibit Amateur Radio to the public at the World's Fair and is dependent upon the support of all area amateurs and clubs. Equipment will be donated or loaned by manufacturers, but there are significant costs to be covered. These include construction of station consoles, QSL cards, newsletters and insurance. Volunteer help to construct, administer and operate the station is also needed.

Contributions will be gratefully acknowledged with a certificate to contributors, and recognized in a display at the station. Clubs and individuals will be recognized in the following classes:

CLUB: Sustaining clubs — $100 or more; Supporting Clubs — less than $100. INDIVIDUAL: Sustaining Patrons — $10 or more; Supporting Patrons — less than $10.

As the Association is currently being supported by small individual donations, seed money is urgently needed. Make your check payable to the Tennessee Wireless Association and send it to Jerry Goodchild, 3701 Warner Dr., Apt. 213, Knoxville, TN 37912.

Association officials include the following: Chairman, Ed Dunn, W4NZW; Secretary-Treasurer, Jerry Goodchild, K4DZR; License Trustee, Raymond J. "Chip" Coker III, KD4C; Liaison to City of Knoxville, Virgil Davis, KA4RPA; Station Designer, L.B. Cebik, W4RNL; Equipment Agent, Tom Salvetti, WD4FVU; Newsletter Editor, Steve Kercel, AA4AK. □

A party was thrown for Ruel Samuels, 6Y5RS on 24 November 1981, in celebration of the 30 years he has been a distributor of Motorola two-way communication products. Some of those who attended are shown here. Left to right, they are: The Honorable Edward Seaga, Prime Minister of Jamaica; Joseph Guido, vice president of Motorola Communications, International; J.A.G. Smith, Chief of Cabinet; Ruel Samuels, 6Y5RS; Mrs. Seaga; and Lyman Rundlett, K4ZA.

6Y5RS honored by Motorola

Lyman Rundlett, K4ZA

Motorola Communications, International sponsored a party for Ruel Samuels, 6Y5RS and some 200 of his friends at the Pegasus Hotel in Kingston, Jamaica on 24 November 1981. The occasion for the party was to celebrate 30 years that Ruel has been a distributor of Motorola two-way communication products. He was appointed by me as the first Motorola distributor outside the United States.

The party was attended by the Prime Minister of Jamaica and five members of his Cabinet. The MC was Mr. J.A.G. Smith, Chief of Cabinet. □

LIMARC announces scholarship winners

The Long Island Mobile Amateur Radio Club (LIMARC) announced the winners of the First Annual Helen Reed, K2AIU Memorial Scholarship Fund Awards. Winners were: Ann Harrison, daughter of Duke, K2MZ and Todd Wolin, son of Sid, K2LJH.

This fund was created in memory of K2AIU who exemplified true spirit and conviction to her family, community and Amateur Radio for many years, although she suffered through an incurable illness.

Todd Wolin (second from right) receives one of the scholarships awarded through the Helen Reed, K2AIU Memorial Scholarship Fund. Others on hand for the presentation were (left to right) Hank Wener, WB2ALW; Art Altarac, WA2KXE; Robert Reed, WA2ZOU; and Sid Wolin, K2LJH.

Helen served as Autopatch Chairperson and handled many emergency calls. Her son Robert, WA2ZOU and the present Autopatch Chairperson Art Altarac, WA2KXE were on hand for the presentation. Also making the presentation were Fund Chairman Hank Wener, WB2ALW and Al Flapen, WA2FBQ. □

Check your license expiration date.

YL Radio League

Ruth Jank, K5OPI

YLRL (Young Ladies Radio League), organized in 1939, is the only organization of international scope exclusively for women Amateur Radio operators. Membership — as of 1 January 1982 — was 1,560, of which 240 are DX YLs in 30 countries.

The League is non-profit, and encourages its members to improve their knowledge of electronics and to enhance their Amateur Radio operating skills. Dues are $6 annually; the fiscal year begins 1 March. Their official publication is *YL Harmonics*, published bi-monthly. News from YLs all over the world, contest dates, and YLRL-sponsored certificates are listed periodically, as are listings of various YL nets. Once each year a directory is published which lists call signs and addresses of members.

YLs who wish to join are requested to mail $6 for first year dues to: Jerrie Stonier, K6INK, 9945 Lull St., Burbank, CA 91504.

— San Antonio RC, TX □

NORCARS

Steve Hendrix, KA0DEK
Dick Eichhorn, KB0AE

NORCARS, the North Central Amateur Radio Service, operates daily, Monday through Friday on 7250 kHz ± QRM at 0800, 0900, 1000, 1400, and 1600 hours Central time.

NORCARS — a group of handicapped hams and retirees — provides weather information and highway conditions during their operating periods. The service operates formally during the first quarter hour period, then reverts to general hamming as long as stations remain on the frequency.

NORCARS provides primary coverage in the states of Minnesota, North and South Dakota, Nebraska, Iowa, Kansas and Missouri.

All Amateur Radio operators are invited to participate as much as their time permits.

— Kansas Amateur Radio □

New HF ATV net

Submitted by Mike Stone, WB0QCD

A "new" HF amateur television net is being conducted by Ron Stefanskie, W9ZIH near Chicago, Illinois on Saturday mornings at 11:00 a.m. CST (1700 GMT) on 7.290 MHz. (The net previously met on 7.160 MHz about a year ago.)

The purpose of the ATV Net is for schedule and exchange of FSTV information for Midwest stations. ATVers in the Midwest are DXing among several states using horizontal polarization at 439.25 MHz.

For more information on the ATV Net, see **A5 ATV Magazine**, April issue. Address is P.O. Box H, Lowden, IA 52255.

Sixth-grader earns Novice

Submitted by Calvin and Barbara Bacon

Sheri Bacon of Long Valley, New Jersey received her Novice license on 13 February 1982. Her call is KA2OLM.

A student in 6th grade, she is 12 years old. She has been working on her Novice ticket since 5th grade with the help of her father (Cal KC2KD) and the West Morris Wireless Society. She says she would have had it sooner if her other interests didn't take up so much time — playing flute in the school band, baton lessons, Girl Scouts, square dancing, school computer club, reading and, of course, watching television. □

Amateur Radio in Morocco

After a decline of Amateur Radio activity over the years, an enlightened and progressive licensing procedure has swelled the ranks of amateurs in the Kingdom of Morocco. The reactivated Royal Moroccan Amateur Radio Club and its over 100 members nationwide are doing excellent public relation work in educating officials and the public. Press releases on specific and general amateur topics are being printed by the local papers. A TV program with listener participation is in the works. ARRL films were requested for showing on national TV. License approval for qualified resident amateurs are issued within a few weeks. Reciprocal agreements are being considered.

In the northern Moroccan city of Tangier, Hans Dankerl, CN8AT and Wayne Houser, CN8CU are helping to put Morocco in the forefront of progressive countries and its amateur population. Hans managed to obtain a number of ARRL's project "Good Will" 20-meter QRP transceivers for distribution to qualified amateurs without a station. Wayne started a second round of a Novice training course at the American School of Tangier. Practical training in electronics for the budding amateurs consisted of QRP rig assembly and subsequent on-the-air test. Code practice keys were made from hacksaw blades, a 555 chip and parts from the junkbox. Local purchase of Amateur Radio equipment and parts is very difficult, if not impossible, due to the scarcity of such things. Radio Shack does not (yet) have a store in Morocco.

A license for a future club station (CN8MT) should be forthcoming soon. Neither Hans nor Wayne are too proud to solicit help and support from U.S. Amateur Radio clubs and its members. The support is needed not only for the creation of a Tangier-based club station, but also to make it possible for the many amateurs there who are willing but not able to become active participants to do so with equipment donated by American amateurs.

Moral support or active assistance may be sent to: Hans Dankerl, CN8AT, AmEmbassy/T, APO, NY 09284. □

New 30M band

David Rankin, 9V1RH/VK3QV

NZART — New Zealand

The New Zealand Post Office (NZPO) has advised the New Zealand Amateur Radio Transmitters (NZART) that as of 1 January 1982, the following bands are available to Grade 1 ZL amateurs, the Amateur Service being the secondary service: 10,100 to 10,125 kHz; 10,135 to 10,150 kHz.

The band split occurs because of another service operating on 10,130 kHz; the NZPO wishes to have a guard band of ± 5 kHz to protect this service.

In addition, the NZPO has recommended that transmissions be confined to CW and fsk in view of the limited spectrum available.

NZART had applied for the use of the segment 10,150 to 10,200 kHz, but the NZPO advised that this is still under consideration.

PNGARS — Papua New Guinea

Papua New Guinea amateurs are permitted to use the band 10,100 to 10,150 kHz on a secondary service basis. Emission modes permitted include modes having bandwidths up to ± 3 kHz and thus A3 (AM), F3, F4 and SSTV ± 3 kHz transmissions are permitted.

No restricted frequencies within the band are specified.

WIA — Australia

The WIA has been advised by the Australian Department of Communications (DOC) that VK amateurs may use the band 10,100 to 10,150 kHz on a secondary service basis as of 1 January 1982.

The DOC, however, advised that another service was assigned to the frequency 10141.5 kHz, and thus the band 10141.5 ± 4 kHz should be kept free of Australian amateur signals.

There are no official emission mode restrictions, but it is expected that amateurs will be encouraged to use narrow band modes only.

General

The official announcements from all three administrations listed above carried cautions concerning the secondary service nature of the amateur assignments at 30 metres. In effect, amateur signals must *not* interfere with signals of the Primary Service working in the same band.

The Amateur Service is therefore on trial.

Other proposed new HF bands

New Zealand — Bands at 18 and 24.9 MHz will not be made available to New Zealand amateurs at an early date on any basis.

Papua New Guinea — The official letter from the PNG Dept. of Public Utilities made no reference to other proposed new HF bands.

Australia — The DOC has advised that new bands at 18068 to 18168 kHz and 24890 to 24990 kHz will be released to Australian amateurs at the earliest possible time. Initially, the allocation would be on the basis of the Amateur Service being the secondary service, but once the transfer procedures specified in Resolution 8 of WARC '79 had been finalized, the Amateur Service would become the primary service. □

The Rig That Filters The Crowd

OMNI-C has what it takes to filter the crowds. To narrow the Amateur Radio world right down to the particular signal you want. The selectivity, sensitivity, dynamic range and operational features you need to cut any crowd down to size.

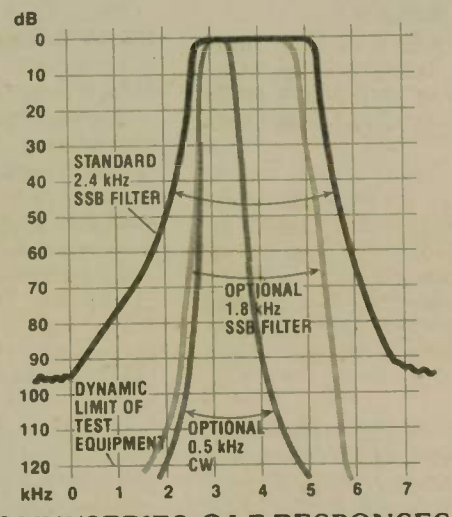
Tailored i-f response. OMNI is equipped with the potential for ***seven*** response curves to handle any listening situation.

Standard filters include an excellent 8-pole 2.4 kHz crystal ladder filter and, in addition, a 150 Hz active audio cw filter with three ranges (450, 300, 150 Hz).

Optional filters include 1.8 kHz 8-pole crystal ladder ssb filter, 500 Hz 8-pole cw filter, and 250 Hz 6-pole cw filter.

Front panel switches put any optional filter in series with the standard filter for up to ***16 poles of filtering*** for near ultimate skirt selectivity.

Four i-f response curves for ssb and three for cw. That's response tailoring, that's crowd control.



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Optimized sensitivity and dynamic range. The OMNI sensitivity range of 0.3 μV typical (slightly less on 160 & 80M) combines with a 90 dB dynamic range to provide an ideal balance that will handle any situation from copying a weak signal half way 'round the world to keeping the next-door kilowatt from muscling in. And a PIN diode switched 18 dB attenuator is included for extra insurance against overload.

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Built-in notch filter. To drop out unwanted signals or carriers. Tunable from 200 Hz to 3.5 kHz, with a 50 dB notch depth.

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OMNI-C features stand out in any crowd.

All solid-state—from the pioneer, Ten-Tec.

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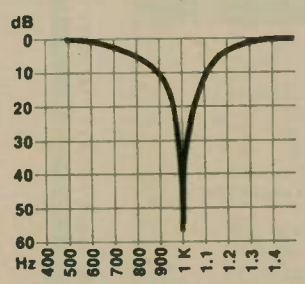

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Broadband design for instant band change without tune-up or danger of damage to the final amplifier. Another Ten-Tec *original*.

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WWV reception on the 10 MHz band.

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Separate receiving antenna capability. Switch receiver to a common antenna for transceive or separate receive-only antenna; the system also acts as receiving antenna by-pass with an instant break-in linear amplifier or transverter.

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100% duty cycle on all bands up to 20 minutes. Full RTTY and SSTV power.

Built-in VOX and PTT with front panel controls.

Built-in phone patch jacks for easy interface.

Built-in zero-beat switch for spotting the exact frequency of a DX station.

Built-in adjustable sidetone volume and pitch.

Adjustable threshold ALC, optimum power for driving a linear. Provides means of working into a high SWR.

Front panel control of linear or antenna. The rear panel bandswitch terminals control relays or circuits in step with front panel bandswitch.

Automatic sideband selection plus reverse.

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Clean signal, exceeding FCC requirements.

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Full complement of accessories:

Model 280 Dual Primary AC Power Supply, $169; Model 255 Deluxe Power Supply/Speaker Combo, $199; Model 243 Remote VFO, $189; Model 215 PC Microphone, $29.50; Model 214/234 Microphone/Speech processor, $39/$139; Model 645 Dual Paddle Keyer, $85; Model 670 Single Paddle Keyer, $39; Model 227 Antenna Tuner, $79; Filters $55 ea.

Made in the U.S.A.

Model 546 OMNI-C transceiver $1289

Get out of the crowds with OMNI-C. See your TEN-TEC dealer or write for details.

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EXPORT 5715 LINCOLN AVE., CHICAGO, IL. 60646

Special Events...

VS6 Activity Days

The annual VS6 Activity Days will be held 3-4 April 1982. Operating times will be 0001Z 3 April to 1700Z 4 April 1982. Suggested frequencies are: **SSB** - 3770, 7070, 14170, 14220, 21270, 21320, 28470, 28520; **CW** - 3502, 7002, 14025, 21025, 28025. **Exchange**: *VS6's* — signal report plus three-digit QSO number; *Rest of world* — signal report plus CQ Zone.

As many VS6's as possible will be active during this time period with the sole purpose of giving as many QSOs as possible to other amateurs worldwide.

This activity is not meant to be a contest. Rather, it is a weekend set aside to give DXers/award chasers a chance at working relatively rare Hong Kong. The Hong King Amateur Radio Transmitting Society offers two very attractive awards and the income from these awards keeps the VS6 QSL Bureau going. Details of our awards are listed below:

Nine Dragons Award

One QSO must be made with a country in each of the following nine zones: 18, 19, 24, 25, 26, 27, 28, 29, 30. The Zone 24 QSO must be with a VS6. Stations within the nine zones require two QSOs in each zone with two VS6's. QSOs after 1 January 1979 accepted. U.S. $3/25 IRCs or equivalent. Certified log extracts; no QSL cards required.

Firecracker Award

Six QSOs with different VS6's. Stations in zones 18, 19, 24, 25, 26, 27, 28 require 10 QSOs with different VS6's. QSOs after 1 January 1964 are valid. U.S. $2/15 IRCs or equivalent. Certified log extracts; no QSL cards required.

As many of our active members have QSL managers, we urge those who QSO VS6's during the Activity Day to check the numerous QSL aids available for an appropriate QSL manager before overloading our QSL bureau with cards that are destined for a QSL manager. A few minutes spent checking QSL info will speed up delivery of your VS6 QSL card.

Indiana activities

Indiana Code Net (ICN)	3708 kHz	0015Z
Indiana CW Net (QIN)	3656 kHz	0100Z
		0400Z
		1400Z
Indiana Traffic Net (ITN)	3910 kHz	1330Z
		2300Z
Indiana Phone Net (IPN)	3910 kHz	2130Z
Midwest RTTY Net (MRN)	3633 kHz	0230Z

Novice, Texas

Charles Mooney, KA5IWF

Novices take heart, here is a mini-expedition for you! Beginning 17 April at 1800Z and continuing until 1800Z on 18 April, the North Texas High Frequency Association (NTHFA) will be operating the Novice bands from Novice, Texas.

Look for the mini-expedition about the center of the Novice bands signing the call KC5YN (Young Novice). Operators will work your calling speed (if you're not too fast), so do not worry about calling.

A commemorative QSL will be issued to all stations working who send legal-sized SASEs.

The NTHFA is the same group that brought you "Phone From Telephone, Texas," the "Alternate Olympics" from Moscow, Texas, and the annual mini-expedition from the decks of the *Battleship Texas,* moored in the Houston Ship Channel.

We look forward to working you, Novice or not, from Novice, Texas on 17 and 18 April near the center of the Novice bands. And remember, "Keep Calling 5 Young Novices." □

Armed Forces Day

This year's observance of Armed Forces Day will include the operation of an Amateur Radio station from the United States Air Force Museum at Wright-Patterson Air Force Base, near Dayton, Ohio. Operating under the call sign K8DMZ, the station will be on the air from 1400Z to 2200Z on Saturday, 15 May. Operators will work primarily in the General Class phone segments of 75, 40, 15 and 10 meters with periodic CW excursions to the Novice subbands. FM and SSB operation on 2 meters also is planned. The specific frequencies to be used will depend upon existing band conditions.

To commemorate the event, the museum will issue a special certificate for each two-way contact. This will be the first time an Amateur Radio station has operated from the museum in conjunction with a special event.

First established in 1923, the United States Air Force Museum is the oldest and largest military aviation museum in the world. It is located six miles northeast of Dayton at historic Wright-Patterson Air Force Base and is close to the Huffman Prairie site where the Wright Brothers conducted many experimental flights following their first successful powered flight at Kitty Hawk, North Carolina. □

'Sun-Day'

The Indian River Amateur Radio Club (IRARC) will participate in a "Sun-Day" exercise in conjunction with the Florida Solar Energy Center at Cape Canaveral, Florida on Friday, 7 May and Saturday, 8 May 1982.

The IRARC station will be using the club call W4NXL/4 and will be operating completely on power generated by the sun (solar power).

The hours, frequencies and mode of operation on both days are as follows: 1300 to 1400 GMT — 40 meters, 7,250 to 7,275 kHz, SSB; 1400 to 2000 GMT — 15 meters, 21,350 to 21,375 kHz, SSB.

A certificate confirming contact or reception will be issued free to each station or shortwave listener who sends a QSL and a self-addressed stamped envelope (foreign — 1 IRC) to: Florida Solar Energy Center. Attention: "Sun-Day", 300 State Route 401, Cape Canaveral, FL 32920. □

Killeen Centennial

Station KA5ACT (Theron L. Johnson) will be operating a special event station 1-15 May 1982 on 28.730 on Saturdays, Sundays and Mondays, 8:00 a.m. to 5:00 p.m. CDT ± QRM. The station will operate on 21.410 on Tuesdays through Fridays after 6:00 p.m. CDT.

This event will mark the Centennial of Killeen, Texas. Killeen is the home of Fort Hood, Texas — the largest base for tactical troops in the free world and the only two-division post in the United States Army.

A special QSL card and brochure on Killeen/Fort Hood will be available for an SASE to ARS KA5ACT SGM (Ret.) T.L. Johnson, U.S. Army Retired, 1212 Bonnie Drive, Killeen, TX 76541. □

DON'T FORGET . . .

Include first and last names with call signs.

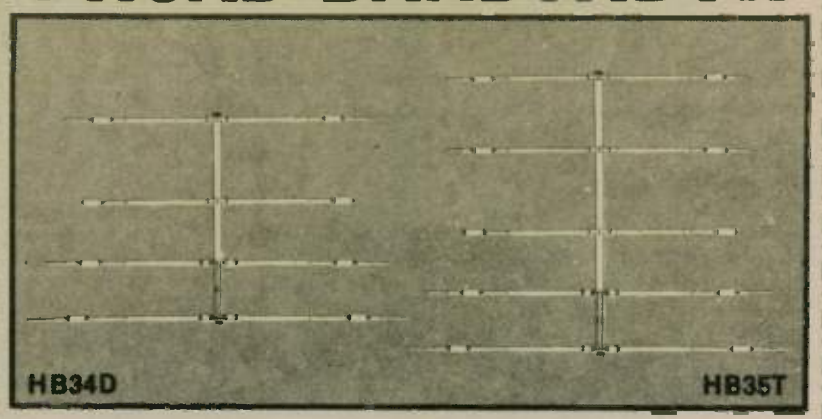

PHOTO BY MICHAEL CLAPP

1982 JUNE 4-5-6

OREGON STATE HAM CONVENTION

P.O. Box 920 — SEASIDE, OR 97138

THIS IS AN ARRL SANCTIONED CONVENTION

- *Seminars*
- DX
- FM
- COMPUTERS
- ARRL

- *Banquet Speaker*
- Nationally Known Amateur Radio Figure

- COMMERCIAL AND DEALER EXHIBITS
- FLEA MARKET
- RADIO & TV BOO-BOO'S
- BUNNY HUNT
- FCC TESTING
- YL & HARMONIC ACTIVITIES

- *Prizes Galore*
- ICOM IC 730
- HEATH SB201
- YAESU FT 290R
- KENWOOD TR 7730

THERE WILL BE AN EXTRA PRIZE TICKET FOR EACH PERSON REGISTERING BEFORE APRIL 30th.

REGISTRATION

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(off. use only)

- Please make all checks payable to: OREGON STATE HAM CONVENTION

- MAIL TO: OREGON STATE HAM CONVENTION
P.O. Box 920 - Seaside, OR 97138

NAME _____
ADDRESS _____

CALL _____ DATE _____
CITY _____ STATE _____ ZIP _____

Single Reg _____ $5.00
Couple Reg _____ $7.00
Children _____ $1.00 each
Flea Market _____ $5.00 per table

Banquet $12.50 per person
Dinners: Salmon _____ Prime Rib _____
Please put number and choice

COME TO THE BEACH AND HAVE A GREAT TIME FOR THE WHOLE FAMILY.
SEE YOU THERE!

FOR MOTEL RESERVATIONS — Oregon Toll Free 1-800-452-6740 — Others 1-503-738-8585

Six meters

Operators who have worked and confirmed by QSL, 50 countries on 6 meters (no crossband contacts outside of the 6-meter band can be accepted), should send Dick Lent, W5NKG, 5634 Seacomber Place, San Antonio, TX 78242 USA a list showing each of the 50 two-way contacts made.

This list must show the full name, call sign and address of the operator applying for the award; the call sign of each station worked; date and time of each contact; mode of emission used; and the name of the ARRL Countries Listed country worked. The applicant must still be active on the 6-meter band. This award application must be verified by two disinterested licensed Amateur Radio operators. The application must be signed by the applicant and the two witnesses, with full names and call signs. QSLs are not required to be sent with the application but must be available should SMIRK request them for verification. This award will be free to the awardee.

Deadline for application is 1 May 1982, postmark.

The award is in the form of a golden globe of the world, with the continents outlined, borne on the wings of two golden eagles. It is topped off by the number 50, in gold, on a golden horseshoe. It will be an award to cherish. Apply now before you miss the deadline.

Long-timers luncheon

Saturday, 8 May has been set for the annual luncheon meeting of Southern California's chapter of QCWA at the Pickwick Recreation Center, 1001 Riverside Drive, Burbank.

Fifty-years-a-ham certificates will be awarded. A certificate for 60 years will be given to Moe Joffe, W6PHE, who will also be given a Meritorious Award.

Chapter President Don Wallace, W6AM already has his 70-year honor along with Ray Meyers, W6MLZ — first op to win one.

The group will see a slide presentation by the "Two Reverend Clarks" — Gene, W6DQH and his wife, Jeanie, WA6GUA. The Clarks are popular speakers and also ministers in Science of Mind. They will tell about their trip on the "Love Boat" (*Island Princess*) through the Canal, taken with several other amateurs who all enjoyed operating /MM from the ship at a station near the pool.

Any amateur licensed for 25 years is invited to join QCWA. Those in Southern California may write to Ralph Cabanillas Jr., W6IL, 2359 Creston Drive, Hollywood, CA 90068. □

Nine scholarships to be awarded

The Foundation for Amateur Radio, Inc. — a non-profit organization with headquarters in Washington, D.C. — plans to award nine scholarships for the academic year 1982-1983. The Foundation, composed of 50 local area Amateur Radio clubs, fully funds two of these scholarships from the proceeds of the Gaithersburg, Maryland Hamfest. It administers, without cost to the donors, two scholarships for the Quarter Century Wireless Association and one each for the Richard G. Chichester Memorial, the Radio Club of America, the Young Ladies' Radio League, the Edmund B. Redington Memorial and the Amateur Radio News Service. The last named award is new this year.

Radio amateurs holding at least an FCC General Class license or equivalent may compete for one or more of these awards if they plan to pursue a full-time course of studies beyond high school and are enrolled or have been accepted for enrollment in an accredited university, college or technical school. The scholarship awards range from $300 to $900, with preference given in some of them to residents of specific geographical areas or the pursuit of certain study programs.

Additional information and an application form can be requested by a letter or QSL/postcard, postmarked prior to 31 May 1982 from: Hugh A. Turnbull, W3ABC, 6903 Rhode Island Avenue, College Park, MD 20740.

The Foundation is devoted exclusively to promoting the interests of Amateur Radio and to the scientific, literary and educational pursuits that advance the purposes of the Amateur Radio Service. □

Scholarships go to graduating seniors

The Atlanta Radio Club announces that three cash ($500) scholarships will be awarded to graduating high school seniors who enter an accredited college or university in the fall of 1982. Recipients must be duly licensed Amateur Radio operators at the time of application.

This is the fourth consecutive year in which the Atlanta Radio Club has been able to award scholarships to deserving amateurs. The three scholarships to be awarded in 1982 represent an increase of one additional scholarship over past years.

For additional information and application forms, write to: Phil Latta, W4GTS, Secretary; Atlanta Radio Club Scholarship Committee; 259 Weatherstone Parkway; Marietta, GA 30067.

Completed applications along with the required high school transcript must be postmarked no later than 1 July 1982. □

Briem's program goes national

Starting 13 April, Ray Briem, N6FFT — popular host of an all-night program from KABC, Los Angeles — will be heard coast-to-coast.

His call-in show has been highly rated for many years in Southern California and now will be extended through many states. □

USQS wants you!

Laryl Myers, KM7Z

U.S. QSL Service, Inc. is an independent, non-profit QSL bureau for QSLs going to amateurs in the USA. The system receives QSLs daily from contesters, DX stations (direct), award hunters of all kinds, ragchewers, SWLs . . . everyone!

In order to get the incoming cards delivered, *USQS wants you!* Here are some ways to help keep the cards flowing:

- Send self-addressed stamped envelopes to be kept on file. Remember your past and present calls. **Note:** we will put SASEs on file for you, four for $1.
- Send extra stamps or donations to be used to send out unclaimed cards on file.
- Take USQS flyers to your next club meeting.
- Have a club newsletter introduce the service to readers.
- Notify us of any hamfests or events in your area that would provide an opportunity to have flyers available.
- Tell your contacts to QSL via KM7Z (or USQS), and save yourself some postage costs.

We look forward to receiving your outgoing QSLs. *No charge, no limit!* When sending cards via USQS, please:

- Sort into groups by call area 0-9.
- Alphabetize each group by suffix . . . please!
- Print plainly! Hint: Do not use felt pens to write on high-gloss finish cards as it wipes right off!

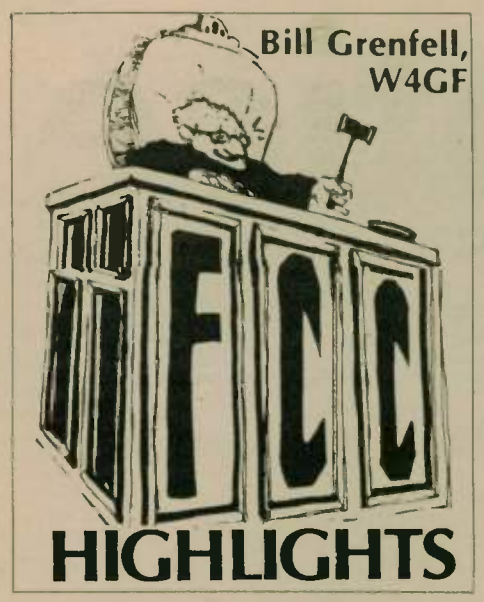
Again, thank you for the support, encouragement and suggestions.

Following is a list of calls of amateurs who have QSLs awaiting their SASEs. This is part of what has been received in the last month. If your call is listed here, or even if it isn't, please send an SASE to: USQS KM7Z, P.O. Box 814, Mulino, OR 97042.

N1AC	K2EKM	KA3EWV	K4BQ
K1ACE	W2EQS	W3FA	W4BTZ
N1AFW	WA2ETU	WB3FFE	N4BXM
N1APE	W2FCR	W3FJY	WD4CBA
KA1AVC	KA2FCV	WA3FJY	KA4CHA
W1BEL	KA2HAZ	KA3FMO	N4CLD
N1BHH	K2HUN	WB3FNZ	NA4D
N1BIZ	WB2IBX	KA3FYF	WA4DGX
KA1BSZ	W2ISY	K3GAU	WD4DIY
KA1CQM	KA2IWK	WA3GNW	N4DYL
W1CWU	KA2JJK	KD3H	N4DYU
AG1D	KC2JM	W3HCW	KW4E
W1DHZ	WA2JUO	W3HGT	N4EBV
KA1DTX	AE2L	W3HJY	N4EJY
KE1E	KC2L	K3HPG	N4EVV
KC1F	KA2LCS	WB3HPJ	K4EWH
KG1F	WB2LEI	N3HW	WD4EKZ
W1FBV	K2LSU	WA3HWZ	N4EWK
AJ1G	N2MF	WA3IKQ	N4EYN
W1GCI	KB2MG	WB3IGS	K4EZ
KA1GCS	KB2N	W3IMN	NC4F
WB1GEX	KA2NUA	WB3IQJ	N4FKF
KA1GHX	WB2OFV	N3JD	N4FKZ
W1GKL	KJ2Q	WB3JYY	KD4FP
K1GYT	KN2Q	K3KA	N4FTH
KB1H	KA2SS	K3KU	N4FXC
KA1HIG	WA2TNN	WB3LQM	NO4G
K1KX	WA2URD	KB3MM	KA4GLJ
K1LPS	WA2UXB	K3MOE	WD4GOL
KA1LY	KB2WB	WA3NAS	KA4GPW
KB1M	KB2WN	KB3NE	KA4GVC
KA1MY	K2YCO	KB3NJ	KA4HLY
K1NBN	KA3A	KB3NQ	KD4HZ
AE1O	WB3AEI	K3NSA	KB4I
K1PHO	N3AEP	W3PM	NA4J
WA1RHS	W3AFA	K3PSF	NE4J
KA1SA	KA3AFY	KE3Q	KD4JC
W1SIP	KA3AJC	KI3Q	K4JJX
W1SPP	WB3AMO	K3QHD	KA4JMU
N1SW	N3AOT	N3QN	KA4JRC
KB1T	N3AQD	W3QPC	NA4K
KA1U	WB3AVT	AG3R	N4KE
KE1U	N3AWS	KE3R	WB4KKL
KA1VQ	K3BIE	N3RJ	KA4KMF
AE1X	KA3BMO	KB3S	KD4KU
KA1XN	KA3BMU	KD3S	WD4LDS
N2AAF	N3BMV	W3TB	WA4LMG
KA2AC	KB3BW	WA3TCV	KA4LSG
WP2ACC	N3CAM	W3TEF	NV4M
AH2AJ	W3CES	K3TJM	W4MMK
WA2ALW	N3CHR	KB3UD	R4MO
N2AMI	N3CHV	K3UKO	WD4MZY
W2AMW	N3CKL	WA3YON	KA4NCE
K2BOC	W3CNS	WA3YTI	WD4NHM
N2BUH	N3CO	K3ZFS	WD4NUN
K2CAB	KA3CUF	W3ZPW	W4NJP
N2CDX	KD3D	N4AII	KD4OL
N2CIW	KA3DBT	WB4ASV	KA4OOE
KA2CKS	W3DKL	N4ATP	KD4OW
KC2CS	WB3EFQ	KI4B	W4OYJ
N2CWB	WA3EOP	KV4B	W4PFK
WB2CZC	WB3EPC	NR4B	NJ4Q
KA2DLK	KA3ETO	WP4BJB	NI4R
WA2DUE	WB3EVL	N4BM	WD4RLW

KA4SEW	KB5AC	K5KSY	W6BB	KE6HX	KT6S	KA7FAS	W7LVW	KG7Z	WD8IDD	KS8Q	K9CLO
WA4SIV	KB5AH	KA5KTA	WB6BDY	KE6HY	KA6TB	KA7FBI	AG7M	AH8A	W8IMZ	WB8TVP	KC9CS
KA4SWY	N5AIK	N5LB	W6BFO	NE6I	W6TPH	KC7FJ	K7MRR	KA8ALW	K8IXU	K8VIX	KD9D
W4TA	N5AMA	KC5M	KD6BP	KA6ISE	ND6W	W7FVR	AD7N	N8AME	WD8JKK	K8WIW	KF9D
KA4TOT	KQ5C	AC5N	KA6BUD	KA6JAT	NF6W	AI7G	KN7N	KC8B	KA8JNX	N8WW	KC9DD
KD4TQ	K5CAV	KC5NQ	KE6C	W6JCE	KI6X	WA7GSM	WA7NIN	N8BEF	W8JQR	K8WYP	KK9E
KA4TSG	N5CMF	K5NW	KN6C	KH6JDU	KE6Y	KO7H	WB7NQJ	N8BKB	WD8JTG	KB8WY	W9ENE
KA4UBN	K5CMW	KC5PU	W6CBA	KA6JJI	K6YPT	W7HAH	K7NW	KB8BPL	KC8JX	KB8XW	W9EWW
KA4UDD	KD5DD	W5PWG	KE6CD	W6JKO	WA6ZVM	KA7HHW	NL7O	KC8BW	KB8K	WB8YUO	AE9F
KA4UVR	WB5EQR	AC5R	KB6CP	K6KS	W7ABX	KL7HHX	WB7OOU	N8CBM	WB8KKI	KE9A	KA9FYZ
KX4V	N5FG	W5RJV	WD6CTQ	K6KWN	WL7ACK	KL7HJ	NL7PK	N8CDD	KA8LDT	WD9AJY	WB9GGD
KA4VAL	KA5FZM	KC5SQ	KB6CW	KA6LDM	WL7ACN	K7HPH	KM7Q	N8CDP	KA8MDG	KA9ALC	WA9HCZ
KA4VNE	KG5G	KM5T	N6CYS	KA6LTJ	WA7BNG	KB7IJ	W7QZI	N8CXI	W8MIB	KA9AMO	KA9HTE
KA4VYG	KD5GB	WB5UBK	N6DMM	KA6MBF	N7BSK	KA7IMH	KJ7R	KK8D	KA8MOX	KA9AXD	K9HV
W4VZG	KA5GWT	W5UBW	N6DMV	N6MM	N7CHL	W7IUV	KK7R	N8DKG	KA8MQC	N9BIV	KA9JAB
W4WKQ	KA5HPD	K5UCV	WB6DPX	W6MOW	KL7CQ	KM7J	WB7RKU	N8DS	WB8MZZ	N9BKM	KA9JZN
NU4Y	KA5HQZ	W5ULO	WD6EDK	KH6MQ	K7CZQ	K7JJN	WB7RRS	K8DYZ	N8NA	W9BM	KB9MW
KC4YO	KA5IBP	WB5VHL	N6EQZ	K6MXO	KC7DB	KA7JOF	KB7RV	N8EL	N8NYQ	KA9BNG	AA9N
KD4YQ	WA5IGD	KC5VT	N6EVK	WB6NDM	N7DCW	W7JXP	KB7SF	KB8EL	AD8O	N9BVH	KG9N
KK4Z	WD5ITK	KT5X	N6FBL	KU6P	WD7DNS	KF7K	WB7TEB	KA8FHB	AK8O	N9CBH	KK9N
N4ZC	KU5J	WA5ZBX	N6FIK	N6PE	KA7DZZ	KC7KI	KB7TR	KD8G	W8OK	N9CEL	N9NB
KD4ZJ	WD5JEA	KB5ZT	W6FMO	KA6PTS	KN7E	KA7KIW	WB7VGQ	KA8GHO	K8OT		
K4ZT	W5KED	WH6AJB	KA6FZN	KA6QDV	KA7EHF	KA7KKV	WB7WOW	W8HFK	KE8P		
KC4ZV	KA5KKP	K6AQ	W6GK	WB6RSE	KL7EMA	W7LET	KB7WV	KA8HIB	WD8PEM		

(*please turn to page 20*)



The punishment of Leonard Boucher, K4MME and Gerard Morin, W1GM for causing malicious interference is now in force. An Order of Revocation and Suspension was issued 28 January 1982 by James C. McKinney, Chief, Private Radio Bureau. Boucher's Amateur station license, granted 30 May 1980, was revoked and his Amateur operator license suspended for the remainder of its term, effective 28 January 1982. He was ordered to forward his license to the Commission. Morin's operator license, granted 11 May 1979, was suspended for one year, effective 28 January 1982. Additionally, Morin's operator license was modified for the remainder of the license term to prohibit operation between the frequencies 14.295 MHz and 14.330 MHz.

Also involved in the foregoing case was Richard Eastman, N5FX, whose amateur station and operator licenses were proposed by FCC to be revoked and suspended for willfully interfering "with the radio operation of other operators" (Boucher and Morin). Like the other two, Eastman requested a hearing. Unlike the other two, Eastman did not withdraw his request for a hearing. Eastman and FCC's Private Radio Bureau negotiated a consent agreement, which was approved, and the order to revoke and suspend his licenses was dismissed by a Consent Order, issued 27 January 1982 by the FCC Administrative Law Judge. The Order was released on 29 January 1982. Eastman agreed "not to deliberately interfere with communications of other Amateur operators" and agreed "to operate his station in accordance with the Amateur practice Rule (97.78) and all other Amateur Rules." FCC Rule Section 97.78 is titled "Practice to be observed by all licensees." It states: "In all respects not specifically covered by these regulations, each Amateur station shall be operated in accordance with good engineering and good Amateur practice." FCC's Rule Section 97.125, titled "Interference" states: "No licensed radio operator shall willfully or maliciously interfere with or cause interference to any radio communication or signal."

•

Expansion of the U.S. Amateur high frequency phone subbands is under consideration by FCC. On 11 February, the Commission adopted a Notice of Inquiry (NOI) and a Notice of Proposed Rule Making (NPRM) which invited comment on the general question of expansion of the HF amateur phone bands and specifically proposed moving the bottom edge of 14.20 MHz down to 14.15 MHz in the 20-meter band. Specifics such as the Docket number, comment deadlines and operator class subdivisions were not available as this was written. Seven petitions on this subject had been filed with the FCC.

•

Petitions for 2kW for moonbounce and for a 250-watt limit on amateur telegraphy transmissions were dismissed by FCC's Private Radio Bureau Chief James McKinney on 27 January 1982. In the notice of dismissal of the petitions, RM-3137 and RM-3181, FCC again sought suggestions from amateurs on better ways to specify and measure amateur transmitter power.

•

Full credit for petitions which resulted in the simplification of the identification rule was omitted in a previous Highlights column. The rule Section was 97.84(a), (h). The Docket number was 80-136. The petitioners were James R. Sebolt, John D. Kanode (Potomac Valley Radio Club), Arlington R. Kaeding and Stephan R. Mann. The petition numbers were RM-2910, RM-2939, RM-3281 and RM-3302. (Thanks to Stephen Mann, WB9PRU, February **Worldradio**, page 16.)

•

The provision for use of high frequency amateur facsimile and slow scan TV was effective 22 February 1982. The frequency and license class limits and eligibility are the same as for the use of type A3 emission in the high frequency bands.

•

FCC *will* reissue certain recently "expired" club station call signs under a one-time "open season." This was in response to a request made by the ARRL. I hope to have more information in next month's Highlights.

•

Ralph Ennis, WA6GVG has promised to refrain from broadcasting or exceeding otherwise permissible one-way communications as specified in a Consent Order released by FCC on 15 January. This apparently set a precedent for resolution of the N5FX willful interference case reported elsewhere in this month's Highlights.

•

Issuance of General Radiotelephone operator licenses by FCC began 4 January. As I reported in an earlier issue, this license was to replace Commercial Radiotelephone First and Second Class operator licenses, and is being issued upon application for renewal of a First or Second Class phone ticket. However, at least one phone first renewal applicant advised me that his resulting General Radiotelephone certificate was annotated as a renewal of a First Class license. □

FCC remarks on phone patches

Dayton Amateur Radio Association member Al Torres, KP4AQI, tired of the constant wrangling over the legality of phone patches and the attitudes of the phone companies toward patches, wrote the FCC asking a series of questions. His letter and replies were printed in the Upper-Valley Amateur Radio Club Bulletin. Of particular interest is the statement by the FCC that the Heath HD-15 has been "grandfathered." Since there are probably more HD-15's around than all others combined, this is good news for those with the patches but no FCC certification stamp. Al's summary of the correspondence is as follows:

A) Phone patches are legally authorized by the FCC.

B) Ring Back is legal provided it meets the proper inter-connection regulations or uses grandfathered equipment (HD-15).

C) Every amateur is a control operator.

D) Interpretations to the law made by Commissioner Ferris are no longer applicable. (An interpretation to a law is not a law until properly contested in a court of law.)

E) Telephone company personnel cannot legally operate or adjust a federally licensed radio station.

— *RF Carrier, Dayton ARA, OH* □

...important notice

YES I want to know even more about the wonderful world of Amateur Radio

Subscriptions received by the 20th of the month will begin with the issue dated two months from the month of receipt, i.e., if we receive the subscription by April 20, your first issue will be June, and will be mailed to you in early May.

If you received this copy of Worldradio and you aren't yet a subscriber . . . this was your sample copy.

We sent it to you to acquaint you with our reporting on this great activity. Amateur Radio is exciting, challenging, stimulating, satisfying and very rewarding.

You are cordially invited to subscribe to, and be a part of Worldradio.

Tell us something:

So we may better serve you, this space is for your comments, suggestions and even criticisms. If you have any news and information, you are invited to share it. Tell us and we teli the world.

Tell us of your interests and what type of news, articles, features and columns you would like to see. Tell us of your activities. The more we know about you, the better we can tailor this publication to serve you.

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

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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 January 1982.

Radio District	Group A	Group B	Group C	Group D
0	KQ0A	KC0MG	N0DIT	KA0MWT
1	KI1D	KA1YK	N1BXP	KA1IDF
2	KS2Y	KC2LA	N2DDZ	KA2OFT
3	KG3M	KB3XT	N3CPL	KA3IMK
4	NV4P	KE4KE	N4GFT	KA4YJO
5	KW5D	KD5GC	N5EGU	KA5NBJ
6	NG6Q	KE6NV	N6FVT	KA6SMC
7	KQ7I	KC7NT	N7DOU	KA7MDT
8	KT8B	KC8RM	N8DOD	KA8OPU
9	KK9X	KC9LI	N9CWJ	KA9MID
No. Mariana Is.	AH0A	AH0AA	KH0AC	WH0AAE
Guam	AH2N	AH2AM	KH2AU	WH2ADB
Johnston Is.	AH3A	AH3AB	KH3AB	WH3AAB
Midway Is.		AH4AA	KH4AC	WH4AAF
Hawaii	NH6Q	AH6DV	KH6QT	WH6ASH
Amer. Samoa	AH8B	AH8AB	KH8AB	WH8AAN
Wake Wilkes Peale			KH9AA	WH9AAA
Alaska	WL7L	AL7DL	KL7RW	WL7AST
Virgin Is.	KP2H	KP2AJ	NP2AM	WP2ACV
Puerto Rico	NP4I	KP4EX	NP4EM	WP4CEC

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. ☐

Wedding bells — on 2 meters

An interesting wedding was conducted via 2-meter repeater by Dr. Earl Christofferson, WB6ENC of Sunnyvale, California on Sunday, 20 December 1981.

Dale Parsons, KU6U and Alice Seaton, KA6PZS were united in marriage at the Raynor Park Christian Church, at 2:00 p.m. Arrangements had been made in advance with the owners of W6ESI of Santa Clara Valley, and the West Valley Radio Club, to ask amateurs to clear the frequency for about 10 minutes or so on that date, to allow for the wedding. George Colacicco, K6GZK of San Jose made plans to extend the range via uplinks and downlinks to other repeaters. An audience as far away as Los Angeles stood by on several frequencies during the brief service.

Dr. Christofferson conducted a more or less typical wedding service, except for specific injections of "ham language" at certain points. The couple were to "keep each others' batteries charged" and to "stay on the same frequency" during their life together.

A reception was held on Sunday, 27 December at the home of Rick and Candy Crockett, WA6MZF and KA6PRF, attended by many amateurs of Santa Clara Valley. At the close of the wedding service, many dozens of amateurs expressed their congratulations by giving their calls, cities and names.

This was most likely a "first" in Amateur Radio, and many fine compliments came in to Dr. Christofferson, Dale and Alice in the following days. ☐

EARS Net

The EARS Net, originated by the Emissary Society, is growing daily and meets Monday, Tuesday, Thursday and Saturday at 14325 at 1200Z. ☐

AMATEUR RADIO IN PUBLIC SERVICE

Two meters saves lives

Lenore Jensen, W6NAZ

"So near and yet so far!" That was the situation on the cold, damp night of the President's Day holiday, 15 February, when John Olip, WB6YQT and his friend, Jim Spitz, were lost in a treacherous area of the Angeles National Forest.

Realizing they were truly lost in the dark and heavy fog, John used his ICOM 2AT to call his friend Eva Gordon, WA6YQT, who had been waiting anxiously to hear from them. Two meters came through and there started a long night of searching by the Montrose Search and Rescue Volunteer Unit.

John and Jim were experienced in mountain exploration and had many times taken their motorbikes in the general area. But this time they had gone down a new trail which narrowed and became laden with snow. The weather turned grim, the fog deepened, and they realized it would be dangerous to continue on the bikes with 200-foot drops in the area.

Darkness came quickly so they decided to hike in what they believed was the direction of a highway. After a couple of miles they were threatened with hypothermia, becoming very cold, wet and fatigued. John began to lose the feeling in his legs and arms. At least they had a survival kit including a "survival blanket," which was not sufficient.

Meanwhile, Eva was joined by Ed Khoury, WB6NHO, and the two set out for the mountain as suggested by the Forest Service. Hearing of the plight, Jack Crusinberry, WB6BPO offered to aid by driving up in his jeep. "From then on," reported Eva, "the generous help of the amateurs was wonderful!"

Ed had asked Bill Holliday, WB6EDE to serve as NCS (Net Control Station) on the WR6AHM repeater, Magic Mountain, 147.135/735 MHz. As Eva and Ed gained altitude in the drive up the Angeles area, contact was lost with John and Jim, so Keith Hoyt, K6GXO — on his Hauser Peak repeater, 146.13/73 MHz — took over as NCS for the "other side of the mountain."

John was able to switch to low power, conserving battery, and hit the repeater with only 200 milliwatts. At no time was he ever out of radio contact. (The media picked this up for radio and TV as an interesting point.)

With the "link," excellent radio communications continued between the friends, searchers and the two men at

John Olip, WB6YQT, realized just how valuable 2 meters can be after being rescued from Angeles National Forest on 15 February.

about 6,000 feet altitude. Close as they were by voice, there was frightening distance separating them. It turned out the trail was not on the map, although John was able to give considerable help from his memory.

However, the weather prohibited the use of "choppers" and the rugged area required the searchers to hike.

It had been around 5:30 p.m. when John realized the situation and alerted Eva. By 9:00, the men were very uncomfortable. John reported to Bill WB6EDE that he was feeling ill as well as discomfort. Bill, a communications officer for the American Red Cross, phoned a Disaster Nurse and patched her through. She gave explicit instructions for surviving the situation.

Ed WB6NHO reflects, "They didn't stand a chance of being rescued until morning, except for the 2-meter radios. I dread to think about their condition if it had gone on much longer."

Finally, about 11:06 p.m. contact was made between the Search and Rescue team and the two men. Full of gratitude to all, John "just can't say enough thanks!"

His thanks included all the amateurs who refrained from occupying the repeater during the emergency as well as to many who guarded; Steve Grajeda, WB6YQP recorded the entire event for later evaluation of the operation. Due special consideration is Tim Kearns, WB6KRV, who personally drove up for possible aid and did considerable relaying. Bob High, WB6TTS, Sam Birken, WD6GYQ, and many others not noted were most helpful.

The following day, John — an insurance agent — said, "I've always taken my rig when I go into the mountains. Believe me, I'll never go *anywhere* without it again."

Georgia hams aid Tin Man runners

Richard Smith, WB4APG

The morning dawned cool, hazy and windy at the Lotts Island Landing on the Forest River. Fifty-six eager participants took part in the Steve Lynn Triathlon, known locally as the Tin Man Race. The event took place on 11 October and is patterned after the famous Iron Man event held each year in Hawaii. The event starts with a brisk morning (7:00 a.m.) swim of 1.25 miles which is followed by a 53.5-mile bicycle ride; the final torture is a run of 13.5 miles for a total of 68.25 miles.

The Tin Man Race is sponsored by the Savannah Wheelmen and Savannah Striders — the local cycling and running clubs — to promote good physical fitness and endurance.

Don Collins, KA4BLS was stationed with the event chairman, Mr. Olson, who accompanied the swimmers up the river by boat and then monitored the contestants' progress during the cycling and running by car. Richard WB4APG and Sarah Smith, KA4MXJ were at the Lotts Island start/finish point. Greg Dickerson, N4DBS; Kim Clough, WB4ZBV; Gene Nagy, WA4CTY; Wilson Roberts, WD4DIE; Tom KA4RKX and Beckey Langenfeld, KA4VSC; Tom Locke, WD4MAX; and Joe WA4GFC and Demetria White, N4EXD all worked as communicators from the fluid and aid stations placed around the track.

All of the communications took place over the Savannah Amateur Radio Club 146.28/88 repeater W4HBB during the eight hours of the event. The only emergency was one unfortunate accident involving a bicyclist who suffered a broken clavicle when he was thrown from his bicycle. Due to the location of the accident, which was several miles from the nearest telephone, Greg N4DBS used the Savannah ARC 146.37/97 repeater to make an autopatch to call the County Police and have them dispatch an EMS unit to the scene and transport the injured person to a hospital.

The amateurs taking part were glad to furnish the service and gained some useful experience which may come in handy when other emergencies occur. Of the 56 who started the event, 55 completed the total distance. □

Accident victims help selves

Submitted by Larry and Elva Garens

Larry Garens, KC5OQ was riding home from work on Christmas eve with Danny Hinman, KA5LLW when their pickup was hit head-on by another pickup. KC5OQ had been in QSO with his wife Elva, N5DHV on 146.31/.91 WA5JVC/rpt, Brady, Texas. Although injured, KC5OQ returned to the air to report the accident, then turned the mike over to KA5LLW who filled in the details. N5DHV phoned the Brady Policy Department, who dispatched ambulances and the Highway Patrol. The injured were rushed to a hospital and medical aid was rendered quickly.

As of early January, the injured were recovering well. □

Life saved

On 12 August 1981, John Hudson III, WA6HYQ and Cal Plageman, WD6DSV were passing the time on the 04/64 machine.

Win Tatro, WB6EMS broke in with his emergency call. Win was westbound on Highway 94 at the Bancroft exit. He had in his car a young man who was bleeding severely in the abdominal area as a result of failure of a colostomy. Win requested that the Highway Patrol be alerted and that Balboa Naval Hospital be notified that he was enroute. WD6DSV made the call to the CHP and Don Smiley, KA6EEG called the hospital. Emergency room personnel were at the door when Win rolled in and a life was saved.

Johnnie reports that the communications went like clockwork, and that there was dead silence on the repeaters from other sources until the matter was settled.

— *San Diego Repeater Assoc., CA* □

New QCWA member

The MITRE-Bedford Amateur Radio Club has announced that Dorothy Jodice, K1BUF recently became a member of QCWA; she joined the YANKEE Chapter. □

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OFF THE AIR

Send a note of cheer

One of our local amateur friends was in a motorcycle accident last July and just underwent his seventh surgery on his leg. We could all sure cheer him up with a card and some well wishes! He has been an amateur for six years, is now 22 years old, and a General Class license holder.

You can send those wishes to: Jessie Endo, WA6MOX, 645 Carmelita Place, Montebello, CA 90640.

Thanks a lot & 73,
KATHY STEIN, WA6FAH
Fullerton, California □

Praise for Father Moran article

RE: "Father Moran visits the States"

Have just received a clipping of the front page of your February 82 issue of Worldradio with the cover story on Fr. Moran.

I would like to commend KB8RT [Leanna J. Shaberly] for her excellent article. I would, however, like to correct one statement in it regarding QSLs. I handle Father's cards on a worldwide basis, and have in fact mailed out over 54,000 cards. This has occurred over a period of 22 years, and not 15 as mentioned in the article. I began handling Father's cards from the first day of his official start of operations in Nepal. It has been my great pleasure to help him in this fashion, and a source of satisfaction in confirming Nepal for so many hams throughout the world.

73,
EDWARD BLASZCZYK,
N7EB/W3KVQ
Sun City, Arizona □

Curious about Citizen Radio

In re Old-Time Radio, page 50, January **Worldradio**

Was interested in your reproduction of cover of July 1922 QST. I used to have every QST from 1921 on, but now have only a copy or two each of the early years. The enclosed pictures bracket fairly closely before-and-after July 1922.

What interests me, I do not recall the term "Citizen Radio" being used, so this copy may be unique, or a run for the newsstands. (QST was available on all newsstands back then.) There was some dispute about then by the owners as to whether QST should also cover the broadcast field. I'm not arguing the genuineness of the cover, just wondering. The subject matter just does not add up as I recall it then (the BCL theme illustrated).

Note the pix of cover of the November 1922 QST; the white pointer (mine). Twice recently my peanut whistle was ordered off a frequency I had judged to be quiet or unused — once, an obscure group net; the other, a "this frequency is occupied." The manner seemed to be rude and offensive, so I sent the Major Domo one of the (November '22) pictures without comment.

Very truly yours,
HAL S. JUSTICE, W4TS
Canton, North Carolina □

DJ3TF works ITU station

After some activities during the last few years in the Principality of Liechtenstein and Corsica, I had plans to visit the International Amateur Radio Club's station in Geneva, Switzerland, 4U1ITU, and to especially activate CW.

The club station, 4U1ITU is located in Geneva at the headquarters of the International Telecommunication Union (ITU), the United Nations specialized agency for telecommunications. Founded at Paris in 1865, the ITU is the oldest international organization in existence. Over 150 countries are members.

The reservation for the station was made by telephone — without any problems — through the station manager, Paco La Fuente, EA2ADO. After arriving at midnight, the prepared permit was received in the ITU building. The reception of the ITU goes around the clock. It is possible for visitors to get permission to operate 4U1ITU at any time upon presentation of their home licenses.

The station's operation was begun on Friday, 30 October 1981 at 0001Z. The station is in very good condition right now. Using a Collins KWM 2, a Yaesu FT-901 DM, a Kenwood TS-130V, and a TS-830 with a linear from time to time, and chiefly with a second VFO, hardly keeps one wanting. For the DX bands, a 3-element Fritzel or a 3-element Swan can be utilized. For the 80-meter and the 40-meter bands, inverted Vee dipoles are available, and for 160 meters, a ¾-wavelength sloper dipole is mounted,

Wolfgang W. Wessely, DJ3TF sits at station 4U1ITU in Geneva, Switzerland.

which produces a very good signal.

It didn't matter what time one got on the frequencies; there was already such a pileup on them after the first or second QSO, most of it was worked off in a split-operation. The largest part of the contacts was with the United States and Japan with the well-known good operating procedure. It is a pleasure, again and again, to work such pileups. Surprisingly, the congestion — which was really severe — was from Europe and especially Germany. This situation brought about the conclusion that use of 4U1ITU fills a certain need.

WOLFGANG W. WESSELY, DJ3TF
Amberg, WEST GERMANY □

Comments on 'Mexican repeater report'

Several statements in the Maritime Mobile article of the February issue by Gordon West, WB6NOA need rectification or clarification.

The ATVers mentioned are licensed radio amateurs holding licenses identical to other amateurs. The only difference is that the particular group of Los Angeles area amateurs, which has operated on 144.90 MHz for over 10 years, has developed a side interest in the point-to-point exchange of ¾-meter A5 signals. The group operates on the premise (similar to FCC Rules and Regulations) that if a monitored frequency is not active, it is available for use by one and all and that no individual or group has exclusive or privileged rights to any frequency, even if sanctioned by commit-

tees, societies or technical groups.

The San Quintin repeater was recently set up on the two frequently used and nationally recognized U.S. simplex frequencies of 144.90 MHz in and 145.50 MHz out, making it easy to see why "interference" cries might be heard from its founder. The chastised group in the West article is 150 miles from the repeater site, running an average power of 15 watts to omnidirectional antennas — definitely not a setup for "jamming."

The "other amateur group that reduced its power" is one that set up another repeater, N6FM, 5kHz — yes, 5kHz — down from the Mexican repeater with a reverse pair for its first three months of operation, keying up the Mexican repeater every time it transmitted. Now that the outputs are 5 kHz apart, it appears the local transmitter is the "jammer." WB6NOA, who is a frequent user of the N6FM Costa Mesa repeater, failed to mention that its licensee uses a 100-watt low-power station amplifier, simultaneously keying up three repeaters.

Sincerely,
SERGE MILLER, WA6BJV
Northridge, California □

Extra Class couples keep busy

Dear Extra Class couples:

In response to my card of last June requesting information for another newsletter, I was deluged from all over the country. From whatever area, there was always pronounced enthusiasm for Amateur Radio. In order to be able to include as much information as I did, it was necessary to do some judicious editing. If you sent in information and your call does not appear in print, you will appear in the next issue [of the newsletter]. If you haven't sent it in yet, I will be waiting for it to share with the other couples.

Among the replies, reference was made to an Extra Class couples net, but always with a preface that it is "next to impossible." Not for us! To set a time, I would like to suggest the first Sunday evening of each month: 9:00-10:00 EST and 6:00-7:00 PST. We need to establish the frequency, with a first and second choice; therefore, I would like to receive a few suggestions from the following couples: West Coast — Sandi, WA6WZN and Fried Heyn, WA6WZO; Jerry, AA6BB and Joanie Branson, KA6V. East Coast — Pete, KB1N and Sally O'Dell, KB1O; Peggy, KB2B and Jack Flavin, KB2C.

We will give it a try, and if we can't get all the way across the United States, we can settle for regional meetings. I'm thrilled at the thought of our first meeting. Forward!

Word has come from two globe-trotting DXers in our group — Mort, W1UQ and Claire Bardfield, K1YL, from Brookline, Massachusetts. Their letter states, "We spent last Xmas in Kenya operating as KZ4UQ and 5Z4XL . . ." They operated in Nairobi and portable in the Albemarle game preserve not far from Mt. Kenya. They spent last summer on St. Martin, where they met Lloyd, W6KG and Iris Colvin, W6QL, who were operating on the French side of the island.

At the ARRL headquarters in Newington, Connecticut, we have two experts — Pete, KB1N and Sally, KB1O. I'm sure we all look forward to Pete's well written, informative articles in QST. Sally is Club Corner Editor for this publication. You may have become acquainted with them at one of the hamventions.

From Rochester, New York, both Peggy, KB2B and Jack, KB2C have made a real effort to strengthen our group. They have contacted some couples at the hamfests and have sent in a list of new ones they contacted on the air. We have, through their efforts, three additional Extra Class couples. Peggy and Jack are active on 10 meters during the winter and 2 meters during the summer while on vacation.

Ben, AG4I and Susan Booth, AG4H send news from Wytheville, Virginia. Ben tells of their busy schedule there, where he is a Presbyterian minister and Susan a musician. Ben is Executive Director of the Presbyterian Highlands Home there. They do not get on the air as much as they would like because of 30 students in the Home and other duties. However, they have taught radio license classes with some 70 students getting their licenses. I am sure I speak for all of us in saying our hearts are with them in their work.

Ellen, W1YL/4 and Bob White, W1CW/4 write from Homestead, Florida that they have forsaken New England for Florida. They recently moved into their new home in the country (1-⅓ acre) and are waiting delivery of a new KLM tribander to top their 70-foot tower. Ellen writes for the QST DX column and is 4th Call Area Representative on the ARRL Contest Advisory Committee. They have had their Extra Class licenses since 1954. Can anyone top this?

From Connie, K5CM and Pam Marshall N5KW of Muskogee, Oklahoma, we learn of some unusual achievements. Connie holds WAS No. 2 on 2 meters, while Pam has 49 states, still needing KH6. Both have WAS on 6; Connie is also the first person to acquire an 8-band WAS.

Lee, K5FF and Fred Fish, W5FF, of Edgewood, New Mexico report that they operate VHF mostly. Lee gets out a 220 MHz newsletter that goes to 300 and is still growing.

From Costa Mesa, California, we learn news of Fried, WA6WZO and Sandi, WA6WZN. Fried was re-elected Section Communications Manager (SCM) for the Orange Section (four counties) and Sandi is the Assistant SCM. Sandi also doubles as YLRL Secretary. According to the information we have, this Extra Class couple is the only SCM team. Congratulations and keep up the good work!

Joanie, KA6V and Jerry, AA6BB write from Oxnard, California — where Jerry is officially a strawberry grower on the Oxnard Plain — that they love all aspects of this "wonderful hobby." They both have strong backgrounds in electrical engineering, are active DXers, and active in teaching and helping other amateurs with problems such as antennas. They have taught amateur licensing classes in their home and are active in Ventura County Amateur Radio Club. Jerry has, among others, 100 Nations Award WAS on 10 meters, and is now working for 5BDXCC and 5BWAZ. Joanie has WAS on 10 meters, DXCC (188 confirmed), and the 100 Nations Award.

From Texas we learn of our only "motorcycle-mounted" Extra Class couple — Mary, KL7P and Fred Moore, KL7Q. They rode from Seattle, Washington to Memphis, Tennessee, on Tom's Honda, and were "motorcycle mobile." Mary is about to acquire her own.

John, KG8K and June Braunz, KM8E report from Michigan that of their four children, two have licenses. They are both active on the low bands and work a lot of DX. As a respite from Amateur Radio, they are active in Black Powder Shooting. I guess with that hobby, by necessity they live on a 100-acre farm.

In our last newsletter, we mentioned that Larry Smith, WB9UKA was injured in a mine accident and had to do much of his radio work on his back. Now things are getting back to normal for this electronic-minded family (son Larry, Jr., is WB9UKE and daughter Carol Sue, WB9UKC). Larry and Diane, WB9UKD are active in the Electronics Technology program at Vincennes University Indiana and have built an audio amplifier, stero amplifier, plus power supply, and are now working on a television set. They are studying for radio telephone licenses — he for First Class, she Second Class. Glad to hear of your fine recovery, Larry.

I hope that next year I will be able to publish a completely new list with changes in calls and addresses. I look forward to receiving the names of any new Extra Class couples you come in contact with. Below are listed additional couples to be added to your list.

1. N14R Mary Morris
   KZ4D Fred Morris
2. KM4Q Jack Francis
   NI4V Doris Francis
3. KB6MQ Mark Taylor
   KR6F Sherry Taylor
4. NL7N Nic Nicoson
   NL7O Beth Nicoson
5. KM9P Judy A. Zust
   KM9R Eric L. Zust

Next year, also, I hope we can make a more concerted effort in getting together at the various hamfests — particularly the Dayton Hamvention.

I know you join me in expressing our appreciation for the fine publicity that Armond Noble, N6WR of Worldradio has given our group. We continue to send Worldradio and other Amateur Radio publications a copy of our newsletter to use as they see fit. With this exposure, we hope to locate more eligible couples.

AI6S and I extend to each of you our best wishes for a new year filled with health and happiness.

73,
BETTY BALDO, KB6P
Berkeley, California □

Operation opens new world for deaf amateur

Here is a little about me, for the benefit of deaf amateurs who have lost not only their hearing, but also their licenses.

All my life, I had only one good ear, but with it I passed my first exam in 1943 (voided because of WWII and FCC Order #?). In 1946, I received call W8YJF in Michigan; in 1955, K4CDJ in Kentucky; in 1964, W8GHB in Michigan; and in 1966, W4LDC in Kentucky.

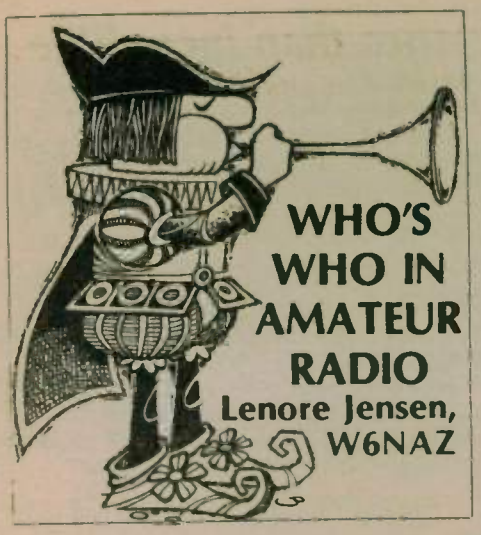
In 1975, I had an accident. A stick which I was going to use for a garden row marker broke; a sprig went into my right ear, damaging the inner ear beyond repair. I was in a world of silence for six years. I was without hope of ever hearing again. Then came the cochlear implant, first started in Los Angeles (California), but my implant was done in Indianapolis, Indiana.

The result: I passed my requalification exam at 13 wpm in October 1981. My ticket arrived 2 December 1981, and now a whole new world has again opened up for me. Also new hope.

I now can hear all sounds above a whisper, including speech, but very little that I can understand, so phone is out. But I am so thankful for what I now can hear, I want to tell the world — especially the Amateur Radio world.

I might add that during surgery a coil is placed under the skin behind and above the ear. A hole is drilled or cut in the mastoid bone directly behind the ear channel. Two wires are inserted — one is grounded to a bone in the middle ear or run down the tube that goes to the mouth; the other electrode is run through the

(*please turn to page 17*)



The beautiful strains of a hymn being sung by the Sisters in the chapel were interrupted by anouther feminine voice coming over the loudspeaker, "CQ CQ CQ . . ."

That was the one incident in an otherwise long and fine ham career which Sister Mary Charlotte, K6VFE could do without. "Oh, how embarrassing when I found out," she laments. "But it wasn't my transmitter's fault. It turned out that the wiring in that building was old and not grounded. But after that, I was careful about the hours I went on the air!"

Otherwise, her Amateur Radio activities since 1948 have been warmly accepted by her Sisters of the Order of the Holy Cross. Her superiors have approved of Charlotte's ham stations at various schools where she's taught math, physics and biology.

When she became a religious, she trained to be a teacher at St. Mary's, Notre Dame. She also received a fellowship to study at M.I.T. (Massachusetts Institute of Technology).

"We have a saying," smiles the attractive lady. "Join the Sisters of the Holy Cross and See the World!" She's seen a good part of the USA, for she has taught in Illinois, Iowa, Indiana, Utah, Texas and California. But it was in Boise ("a good ham town") in 1947/48 that she discovered surplus stores selling electronic gear at 10 percent of its original cost. Thinking it would be ideal for her physics classes, she received permission to purchase some — ending up with transmitters and receivers.

Her curiosity was whetted by the receivers which brought Amateur Radio into her life. Alan Ross, W7IWU (talented son of a well-known scientist) taught her the code while she taught herself theory.

Before long, she was on the air from her school, "with an ARC 5 on every band" using her new call, W7MUT.

Sister Mary Charlotte, K6VFE *(Photo by Bob Jensen, W6VGQ)*

The first year was all CW. ("Everyone should do that, it's so interesting!") Besides, she had no modulator.

"I believe I was the second nun to become an Amateur operator. The very first was the late Emiliana, W1HUH of Providence, Rhode Island. Now there are hundreds of us — possibly thousands."

Charlotte has always found Amateur Radio to be extremely exciting since those first QSOs. ("My first out-of-state was from Boise to Massachusetts — I'll never forget how thrilling that was in 1948!") As the years went by, she became very well known on the air and very popular.

Her sisters were amazed by the warm generosity of local amateurs wherever she lived, who were always quick to assist her in raising antennas. She remembers, "The day I went to the FCC to take the Advanced exam, I returned to find a splendid beam atop the four-story building where I taught!"

Her way of repaying such helpful kindness was to continuously give code and radio classes to newcomers. Nearly 100 operators are on the air, thanks to her instruction in Boise, Fresno, Ventura and other cities.

Traffic-handling has been a special interest. She remembers being busy with it during the floods at Rapid City and during the Alaskan earthquake disaster. Now she favors the Western Public Service Net.

One regular Monday night sked was a particular favorite. A man stationed in Antarctica wanted to keep in touch with his parents, grandparents and girlfriend in Ventura. K6VFE was delighted to be the link. "And how nice to finally meet him when he returned home, to match the face to the voice," she says.

Her memories prompt her to credit help received from other amateurs. "Joe Foristiere, W6PXP, for instance," she recalls. "He was endlessly helpful!" Her personality is so pleasant, her enthusiasm for the hobby so great, that it's not surprising she's found so many friends on the air.

Her call, K6VFE, was received after transferring to Los Angeles and Fresno, California. She was warmly welcomed into the YL Radio Club of Los Angeles.

After moving to Ventura, somehow the call was dubbed "Ventura Fire Engine." In that lovely city by the sea, Charlotte enjoyed helping to revitalize the Poinsettia Amateur Radio Club and assisting with their classes.

She's a popular voice on 2 meters, and the Dawn Patrol (early drivers to work) expect to hear her wishing them a happy

day on the KDK transceiver which 11 of them brought to her as a gift.

Now retired, she lives in a convent home on a hillside with a view of the ocean. She also works 80 and 40 meters with her Drake rig and a vertical antenna, using both SSB and 18 wpm CW. ("My favorite speed — it's comfortable.")

Always busy, Charlotte has taken up oil painting and makes delicately-decorated note paper and crocheted items for the Sisters' gift shop.

"All the Sisters here are professionals from various fields, all with splendid backgrounds, all fascinating women who are interesting conversationalists," she comments.

Amateur Radio continues to provide unexpected pleasures, "Such as when Father David Ryan, N6AI (ex-W6HBP) came; just think, it had been a full 30 years since we first met each other on the air in Boise!"

Sister Mary Charlotte believes it's great to be a ham because it offers many ways to be helpful to others and to continually make new friends. And *her* friends believe she's a credit to the service. □

Off the Air

(*continued from page 15*)

round window into the cochlea where there are 32,000 hairlike nerve ends. (These nerve ends previously converted sound impulses into electric impulses like a microphone.)

Two months after surgery, a stimulator with an output coil is held against the head, over the inside coil. No sound is involved; a transformer action does the trick.

Donations are still being asked for by the non-profit organization, but patients are expected to pay as they are able. This program is still in its investigative stages, with improvement being added all the time. The address of the organization is: House Institute (previously Ear Research Institute), 256 South Lake St., Los Angeles, CA 90057.

Hope this information will prove helpful to someone.

LAWRENCE CLEMENTS, N4FXU
Ludlow, Kentucky □

Use that code!

I have been a licensed Amateur Radio operator since January of 1975, and presently hold the Advanced Class license. From my years of experience and association with Amateur Radio, I have observed that a large segment of amateurs learn and work CW for the basic purpose of generating enough proficiency to pass their General Class license; once this is achieved, they settle into phone use and never bother to keep their CW proficiency healthy and well. Erosion begins to take place, and in a few years, the operator's CW becomes obsolete. He has now lost the CW proficiency he worked so hard to gain.

What a pity! The loss of CW automatically creates a vacuum which results in a loss of much of the world of Amateur Radio. Because of this chosen course, the operator has limited his communication potential with much of the world, and has partially lost the capability of helping in a potential emergency situation; under certain circumstances, this may mean the difference between life and death.

We all know that low power, simple unsophisticated radio equipment, basic wire antennas, and adverse atmospheric conditions are more forgiving to the CW mode than they are to the phone mode. (Basically, a CW signal mode may be intelligible when a phone signal mode is not.) We also know that many areas of the world, particularly developing countries, have many amateur operators working under the above restrictions. From my QTH in San Antonio, Texas, I have had good intelligible QSOs with stations in Japan and Australia when these distant stations were operating with 10 watts, using the CW mode. Also, many foreign governments restrict the amount of power a radio amateur may use to a low level.

I write this correspondence out of a sense of duty to encourage all Amateur Radio operators to operate CW enough to stay proficient in the mode. By staying proficient in both CW equipment and in operating expertise, you will have a change of pace from your preferred mode of operation — whatever that mode may be — and you can have a lot of fun in the process. Along with these plus factors, you know you will have the potential to help should an emergency come your way.

Sincerely,
DAVID Y. OBERLE, WB5NMV
San Antonio, Texas □

More than incredible

I noticed that in the May 1981 issue of **Worldradio**, you ran an item titled "That's incredible!" where it was reported that WA6PKI worked WD8PKI, and that the odds are quite long on that happening. Well, what are the odds for N2CBU working N4CBU? Isn't that more than incredible? (No skeds were involved.)

ANDREW D. GERALD, N2CBU
Melbourne, Florida □

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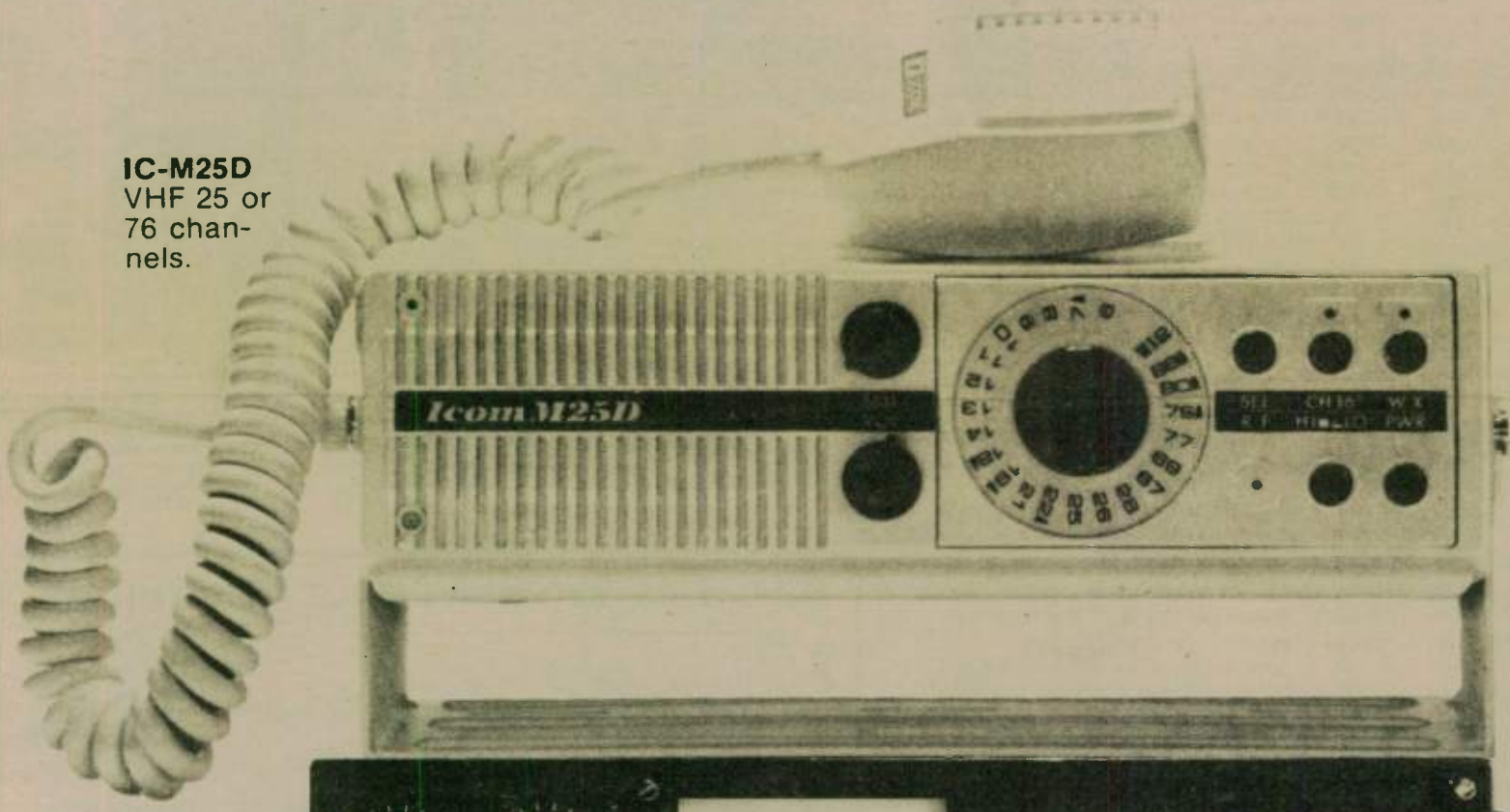

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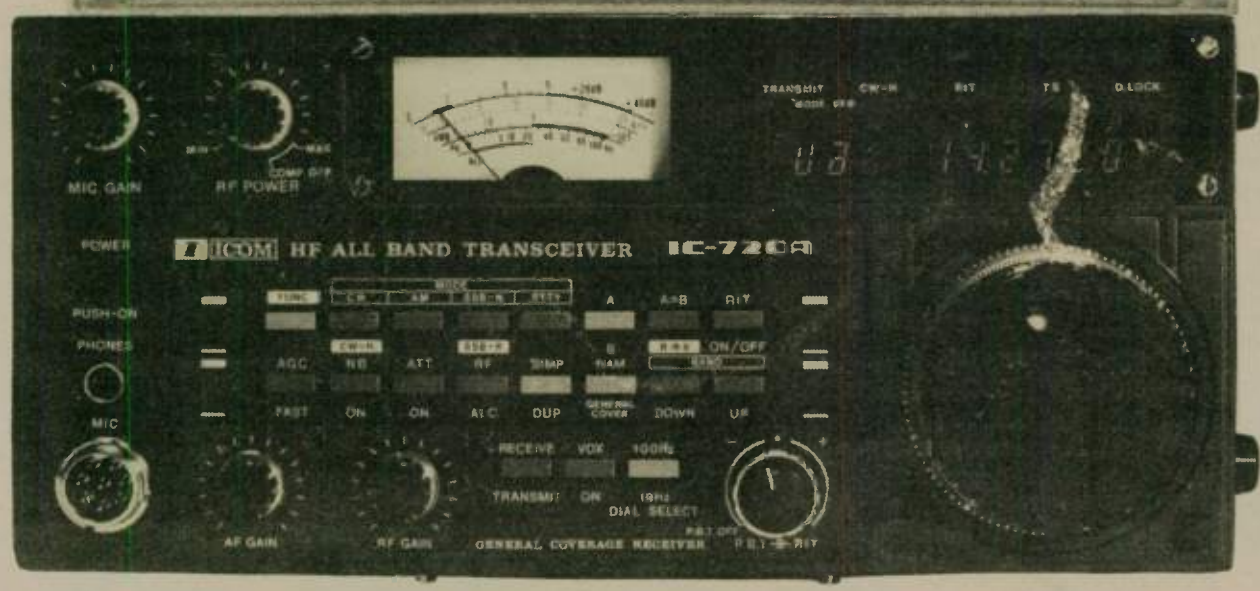

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American Radio Relay League

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

By the time this column appears in print, it is probable that the ARRL Board of Directors will have set into motion the implementation of at least some of the recommendations of the Long-Range Planning Committee Phase II Report. Some of the recommendations of this report have been discussed in past columns of this ARRL series.

The recommendations, if adopted, will make major changes in how the League functions, especially at the Division and Section levels.

As previously pointed out in this column, the Section Communications Managers (SCMs) under the new structure will report to the Division Director instead of to the League's Communications Manager (CM) in Newington. The SCMs will then become part of a kind of "division council" which will meet regularly to recommend items to the Director to be taken back to Headquarters and the ARRL Board meetings.

This will not change things in some of the Divisions, but in my own Pacific Division, it might mean that members — through their clubs — may have less direct input to the Division Director than at present.

For more than 35 years, Pacific Division Directors have carried on an annual "Pacific Division Director's Meeting" which was started shortly after WWII by then Director William Laddly. Early meetings included mostly SCMs and other League officials, such as Assistant Directors (ADs). The meetings were not large at that time.

As the years went by, representatives of ARRL-affiliated clubs were invited to take part in the meeting, and then representatives and alternates were invited; finally, non-affiliated Amateur Radio clubs and groups were invited to send participating observers.

The League officials invited to attend now include ADs, SCMs and Section Emergency Coordinators (SECs).

When votes on issues have been taken, only the officially affiliated club reps, ADs, SCMs and SECs have been given the right to vote. These votes in no way tie the hands of the Director, but are to be taken only in an advisory way, to tell the Director generally how the membership in the Division feels regarding specific issues.

The Directors meetings have grown larger over the years, and at the last meeting held in January of this year, there were over 85 individuals attending. All are allowed to make motions and resolutions and to second those made by others.

The Division Director is the chairman of the meeting, and there is a meeting secretary and assistant who take care of the reading of motions and proposals. The Vice Director also helps in the running of the meeting.

Generally, the meetings are held on Saturdays and run from around 9:00 a.m. to 3:00 p.m. On the average, 15 to 20 motions are made and votes taken.

The first part of the meeting is a general report on the "State of the Division and the League" by the Director. The Director reports on actions he has taken at the past two ARRL Board Meetings, especially as actions relate to items that were discussed and voted upon at the last Division Directors meeting.

Items discussed at the meeting range from actions by the FCC to specifics on operations and rules for contests and DX-CC or other awards programs. Of course, major items affecting Amateur Radio have a major amount of time devoted to them. These are items such as the "incentive liscensing" proposal of some years ago; the recent attacks against our 220 MHz band; and the League's stands and preparation for WARC '79.

In addition to communications with the Director by those attending the meeting, there is time devoted to announcements from clubs and individuals to the assembled club representatives to take back to their own club meetings. These include announcements of conventions and hamfests and other amateur events and programs by the various clubs in the Division.

In past years, the Director held a luncheon as part of the meeting, with the Division expense account carrying the cost of the meal. Recently, costs have become so prohibitive that the reps now pay a portion of the luncheon cost.

All of these Directors meetings have been held somewhere in the San Francisco Bay area, since this is central to the Division. Clubs from throughout the Division send representatives, some coming from 300 or 400 miles away.

Word on the meetings are sent to all clubs and League officials within the Division some months ahead of the meeting date, giving time for clubs to discuss issues facing radio amateurs and to formulate proposals to be presented at the meeting, if desired. This means that, where possible, the club representatives are "instructed" on at least some of the issues that will be discussed.

The Pacific Division Directors meeting is not the only Division meeting held by the Director. Other meetings are called at various times of the year but are "LO" (League Officers) meetings and only ADs, SCMs and SECs take part.

Generally, the LO meetings involve the operational areas of League activities such as traffic and emergency work, DX and contest operation. At times the Director will also use the Division League officials as a "sounding board" on issues facing the League at a particular time.

Whenever possible, LO meetings are held at hamfests and conventions where SCMs and SECs are already present, thus saving travel costs. While I have heard there are Directors meetings of this type held by Directors of other ARRL Divisions, I don't believe any are as extensive as the ones held in the Pacific Division.

Most leaders in the Pacific Division see these meetings as being of great value to the membership. They realize the meetings create channels to and from the Division Director. Much communication in both directions has gone on over the years.

The Long-Range Planning proposal now being implemented may, in some ways, change the meetings held in the Pacific Division. The only bad change I can see is that this may mean there will be a much smaller base (at least in the Pacific Division) for communication from members to their Director.

Just how any changes will be made remains to be seen, but I would hope that anything done by the Board will lead to even better communications between the membership, their Director and the ARRL Headquarters. □

ARRL conventions

Arkansas State	
3-4 April 1982	Little Rock, AR
Great Lakes Division	
17 April 1982	Muskegon, MI
Texas State	
4-6 June 1982	Dallas, TX
Oklahoma State	
23-25 July 1982	Oklahoma City, OK
Midwest Division	
15-16 April 1983	So. Sioux City, NE
Northwestern Division	
8 10 July 1983	Spokane, WA

Mexican amateurs to celebrate 50 years

Submitted by Luis Villanueva, XE1CRM

The Club de Radioaficionados Hidrocalidos is making all the arrangements for the next national annual meeting of the Mexican Amateur Radio operators, which will be held in Aguascalientes, Mexico.

At that time, the Mexican Amateur Radio club will also celebrate 50 years of Amateur Radio in Mexico.

Lawyer J. de Jesus Lopez, president of the Club de Radioaficionados Hidrocalidos, is working hard to obtain very good results with this celebration. □

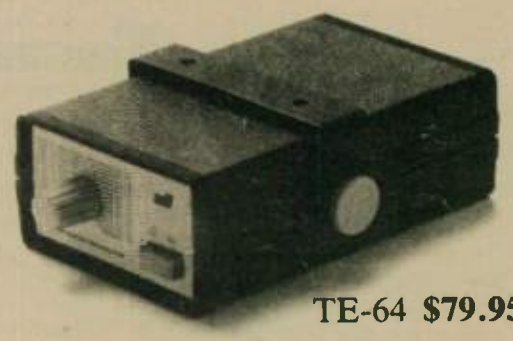
USQS

(continued from page 9)

W9NQN	AG0C	KA0HAS	N0NO
W9PK	KE0C	W0HF	K0NW
KJ9R	N0CGM	KC0HH	AI0O
W9RE	N0CKH	KA0HXN	W0PGZ
W9SU	KC0CL	W0HZV	KC0Q
KB9TL	KA0CUP	WB0ICS	KB0RC
WB9UAI	N0CWH	WA0IDK	W0RCW
W9XD	K0CY	KC0IS	WB0RPY
WB9YCJ	WD0CZB	KA0IYJ	WB0TCF
WB9YKO	KC0D	KA0JRQ	KB0TG
W9YRL	KJ0D	KA0KDO	WB0TJI
AK9Z	KC0DD	K0KEV	WA0TZY
KZ9Z	WA0DEL	WA0KHN	KM0U
W9ZDT	KK0E	KA0KUJ	W0USE
W9ZRX	KF0F	K0KXR	WB0UZI
WD0APQ	WD0FLO	W0KYG	KB0X
N0AX	W0FPB	KA0LCU	W0XH
WD0BDA	WD0GML	KA0LGL	KB0XY
W0BGM	WA0GMY	WA0MHJ	WB0YQE
KE0BR	N0GP	K0MM	W0ZBM
N0BSM	KA0GPE	AJ0N	WA0ZYY
WB0BWM	WD0GRX	KJ0N	

Food for thought.

Our new Universal Tone Encoder lends its versatility to all tastes. The menu includes all CTCSS, as well as Burst Tones, Touch Tones, and Test Tones. No counter or test equipment required to set frequency-just dial it in. While traveling, use it on your Amateur transceiver to access tone operated systems, or in your service van to check out your customers repeaters; also, as a piece of test equipment to modulate your Service Monitor or signal generator. It can even operate off an internal nine volt battery, and is available for one day delivery, backed by our one year warranty.



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The ART of Contesting

Randy Thompson, K5ZD

Ever wonder who is responsible for rule changes of a contest? In the ARRL-sponsored events, it begins with the Contest Advisory Committee (CAC). The CAC is composed of 11 members — one from each U.S. call area and one from Canada. A headquarters liaison and Board of Directors liaison are also included, although they have no voting power. The committee communicates through correspondence and telephone calls. They encourage, study and discuss ideas which are suggested by contest participants. Twice yearly, a ballot is taken which addresses items which have appeared before the committee. The results are forwarded from the CAC chairman to League headquarters.

At this point, the headquarters liaison presents the suggestions to the awards committee. This group is made up of headquarters staff members. Besides studying contest rules changes, they are also responsible for voting on disqualifications of participants who have been found in violation of contest rules. The awards committee makes its recommendations to the Communications Manager. His is the final responsibility for deciding whether a change is to be made.

Current members of the ARRL CAC are Willard Myers, K1GQ; Lewis Tompkins, N2LT; N3UA; Ellen White, W1YL/4; Tom Morrison, K5TM (chairman); Alan Brubaker, K6XO; Larry Strain, N7DF; James Stahl, K8MR; Howard Huntington, K9KM; Edward Gray, WØSD; and Henry Thel, VE7WJ. Board Liaison is Theodore Olson, KØTO; Headquarters Liaison is Mark Wilson, AA2Z.

You are encouraged to talk with your call area representative directly. However, if you wish all members to receive a copy of your letters, send them to League headquarters, Attention: CAC. From there, they will be copied and distributed.

The CAC is currently considering a major change in the multi-operator classes of the ARRL DX Convention. The multi-operator single-transmitter rule now in use is one identical to that of the WW DX Contest. The rule states:

(B) Multi-operator: More than one person operates, checks for duplicates, keeps the log, etc.

(1) Single transmitter: One transmitter on any one band during the same time period. Stations must remain on a band for 10 minutes once a contact is made on that band, with one exception. One other band may be used during the 10-minute time period if the stations worked are new multipliers only.

An excellent article by Doug Zweibel, WB2VYA on how the rule is interpreted appeared in a recent issue of CQ Magazine. Very basically, the multi-single rule allows two transmitters to be in use simultaneously! There has been growing concern that allowing a two-transmitter station to compete against stations with only a single transmitter is unfair. A look at recent winners of the M/S class shows that all were capable of multi-transmitter operation.

I have participated in record-setting M/S efforts from K5RC/K5GA in both the CQ and ARRL contests. The current rules create one of the most challenging and interesting categories in contesting. Both contesting thrills are present — QSO rates *and* multiplier chasing. However, to be competitive takes a multi-multi type station. This excludes a large number of stations from feeling they have any chance to win.

The suggestion to the CAC is to change the multi-single rule so that it means what it says — one transmitter. The problem is how to write the rule so that true multi-single will be realized. In the past, there was no specific rule, and several stations tried to gain an advantage by operating two stations but using one log as if it were single transmitter. These were rather obvious since every other QSO was on a different band and in a different handwriting!

To prevent this type of rule-bending, the 10-minute rule was created. It stated that once a contact was made on a band, no other band could be used for 10 minutes. The 10-minute time period was chosen because it is long enough to curtail outright rubber clocking, yet short enough to allow flexibility in band changing for multipliers. The problem with this rule is that it makes a multi-op station less versatile than a single-op station.

To allow a multi-op to change bands for

multipliers, the present rule was borrowed from the CQ WW, where it is quite popular, Unfortunately, the question of what is multi-single reappears.

One suggestion is to create a new category called multi-operator, two-transmitter. This would provide a separate battleground for the small station with multi-transmitter capability away from those with only one transmitter. The result would be three classes for multi-operator stations:

1) *Single transmitter* — only one transmitter capable of operation in the shack. No band change time limits.

2) *Two transmitter* — only two transmitters capable of operation in the shack. No band change time limits.

3) *Unlimited* — Three or more transmitters capable of operation in the shack. Only limit is one transmitter per band.

There are two critical aspects of the above rule proposal which must be considered. The phrase "capable of operation" must be clearly defined. Should the rule state that only one transmitter can be plugged in? Or even in the shack? The second gray area is in the deletion of the time limits. History has shown that abuses will occur.

Amateur Radio contesting is a game of honor. Unfortunately, some people feel winning is more important than self-respect or ethical behavior. This results in rules becoming increasingly complex in an attempt to fill the "loopholes." This is the trap which makes each contest rule change important.

The CAC would welcome your comments and suggestions on the multi-single question. If the rule is to be changed, how should it be written to be both clear and concise? On the other hand, if you support the status quo, your letter is just as important as one advocating change. □

ARES group nominated for award

The Amateur Radio Emergency Services (ARES) group of the Southwestern Division, San Diego Section, ARRL has been nominated by the State of California Department of Forestry for an award from the President's Volunteer Action Program in Washington, D.C.

The Department of Forestry (CDF) has recommended ARES for its ongoing involvement in CDF's "Red Flag Patrol" program in San Diego County. This program occurs during the spring through fall months when the danger of conflagratory wildland fires is the highest here in Southern California. This group patrols predesignated routes throughout San Diego County and becomes the eyes and ears of CDF. They use their radios to report fires, suspicious activity, and alert the general public to the fire danger at hand. They act as a deterrent to arsonists who tend to set wildland fires during the fire season.

During the early stages of wildland fires, ARES provides radio communications from the scene to CDF's Emergency Command Post and continues to supply support communications once the organized command center has been established. This permits fire emergency radio frequencies to be devoted entirely to the operation of extinguishing the fire.

During the CDF's law enforcement operations and surveillance of rural areas where arsonists are known to be at work, ARES provides a unique service. They patrol an area as if taking part in a regular training exercise. This provides them the opportunity of watching and recording all vehicles loitering in the area and of immediately reporting any fires which may occur. On one occasion, ARES personnel were responsible for the arrest of an arsonist who was eventually convicted because of the eyewitness reports of Amateur Radio operators.

ARES has also become involved in education and information programs for the general public, including school children, relative to fire safety. To date, these volunteers have donated in excess of 3,000 hours to the "Red Flag Patrol" and in the words of CDF Ranger-in-Charge Barrit Neal, "their dedication and commitment to serve the public interest cannot be overemphasized."

Amateur Radio operators and ARES in particular have become an integral part of San Diego County's Emergency Preparedness Plan, providing auxiliary communications to police and fire departments, hospitals, and the American Red Cross in time of disaster or major emergency. □

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DX WORLD

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

Activities calendar

03-04 April	SP DX Contest (SSB)
03-04 April	Hong Kong Activity Days
07-08 April	DX YL to North America YL Contest (CW)
14-15 April	DX YL to North America YL Contest (SSB)
16-18 April	Visalia International DX Convention
24-25 April	YL ISSB QSO Party (SSB)
29-30 May	CQ Worldwide WPX Contest (CW)

DXpedition calendar

Navassa Island	16 Mar-20 Mar	KP2A/KP1 by IDXF
British Virgin Islands	18 Mar-25 Mar	VP2VHV by K9BJ
Mozambique	20 Mar-21 Mar	C9 by WA4SKE (may be cancelled)
Tonga	26 Mar-15 Apr	A35RF by VK3VU
Barbados	02 Apr-16 Apr	8P6EU by W1FB and 8P6FJ by W1CKK
Hong Kong	03 Apr-04 Apr	VS6Activity Days
Fiji Islands	16 Apr-21 Apr	3D2 by VK3VU
Abu Ail	17 Apr-23 Apr	J20/A by J28AZ
St. Lucia	24 Apr-05 May	J6LRA by KR4C and company.

W-100-N

The **Worldradio** Worked 100 Nations Award is available to any licensed radio amateur who can show proof of contact with at least 100 different nations in the world. All contacts must have been made since 1 January 1978. A list of nations and rules are available for an SASE, or see the March issue of CQ for details.

The following amateurs have successfully completed the requirements for this award:

159. WA2RLO	Al J. Misunas
160. KN7K	Vladimir J. Kalina
161. KB8RT	Leanna J. Shaberly
162. W4GIO	Jerome Layfield
163. WA7JUJ	Les L. Moller
164. N5CSW	Jeffrey L. Poll

I have been receiving some applications that have used QSL cards for stations that had used reciprocal calls, (i.e., OE5JTL/YK, W2BBK/PJ7, etc.). Although such calls are not credited toward the award, the station using such a call is eligible to apply for the award, provided that the calls worked are not reciprocal calls.

Hong Kong (VS6)

Check the first weekend in April for the Annual VS6 Activity Days, (see elsewhere this issue of **Worldradio** for details). All contacts made during the affair are good for the Nine Dragons Award and the Firecracker Award, that is sponsored by the Hong Kong Amateur Radio Transmitting Society.

Steve Hawley, VS6JR has given us a rundown of the active Americans in Hong Kong, which include the following:

VS6DX	Ed (K4DXN)
VS6DD	Jack (N6ADD)
VS6IC	Ken (K2MTC)
VS6CB	Bob (W5TYD)
VS6KS	Julian (W1UWB)
VS6II	Chuck (KB0H)
VS6EI	Dave (WB9BMM)
VS6JR	Steve (WA4UAZ)

Steve says that the Society's super OOT (Old-Old Timer), is Drake VS6EK, who was XU8LD in Shanghai during the 1940s. This doesn't look right as that prefix was used in the 1930s prior to the war. In the late 1940s, China was using the "C" prefix when Amateur Radio was reinstated.

Other activity from this little nation includes VS6DO who is active on both modes on 40 and 80. He has been reported on 3.794 MHz at 2330 UTC, 3.503 MHz at 1200 UTC, and on 7.080 MHz from 1100 UTC. He listens near 7.216 MHz.

Nepal (9N1)

The February 1982 issue of **Worldradio** carried a story of Father Moran's visit to the United States. He has probably given out most of the contacts to the deserving from Nepal. But if you are one of the few (many) who have not worked 9N1MM, you may look for him between 14.210 and 14.240 MHz at 0100 and 1200 UTC, 28.510 MHz at 0800 UTC, and 21.330 MHz at 1100 UTC. Father Moran, who is 77 years of age, is quite active and has been reported on at other times in addition to those above. Maybe I should go look for him as I still need Nepal. QSL chores for this one are handled via Ed Blaszczyk, N7EB.

Bahama Islands

The Florida Institute of Technology Amateur Radio Society is planning a DXpedition to the Bahama Islands for about nine days, 20-28 March, operating as WB4ABK/C6A. They plan to use all bands, 160 through 2 meters, SSB, CW and FM.

The operators will include Andy Gerald, N2CBU; Steve Myers, KA3BUJ; Victor, N4FUY; and Curtis Waters, WD4AE. The calls, N2CBU/C6A and KA3BUJ/C6A, will be used on 10 meters for those who collect contacts with members of 10-10 International.

Annobon (3C0)

This one had come and gone. Carl Henson, WB4ZNH and his XYL, Martha WN4FVU, were on Annobon, operating as 3C0BC and 3C0AC. They had made over 7,000 contacts in less than one week of operations on 10, 15 and 20 meters.

As reported in *The DX Bulletin*, they originally left from Atlanta on 7 January without their generator, as the airline would not accept it. In Madrid they had ticket problems which prevented them from getting to Equatorial Guinea, or their alternate destination, Tunisia. With that, they returned to Atlanta. They tried again on 14 January and arrived in Equatorial Guinea — with the generator.

It took five days of negotiations with the local authorities to get a license to operate. In addition to that, the authorities wanted $150 per day of operation, but settled for $100 for seven days. The license was good for the island only, so no operation was made from the mainland.

Two round trips were required to get to Annobon with the cost of renting the Cessna 402 being $6,000. As there is no electricity on the island, the generator was a must. Operation on 80 meters was not authorized as the government radio station operates near 3.7 MHz using the calls 3C424. Also, operation between the hours of 2300 and 0700 UTC was not permitted.

Both 3C0AC and 3C0BC worked strictly by split frequency. During one of their 10-meter operations a "runner" came down from one of the DX Nets (list nets), asking Carl to please come up to their net. I'm sure you all know what his answer must have been.

The generator was left behind due to potential overweight problems. It will eventually be transported back to the mainland and donated to a local mission school.

As only 7,000 contacts were made, many of the deserving still need Annobon, including at least one DX editor. I'm sure the contact rate would have been higher if the undeserving had not caused interference, preventing many DXers from gaining an Annobon contact. Whatever happened to "Love thy neighbor?" Of course, the rest of that statement is "Love thy neighbor as thyself." These lids obviously don't love themselves.

These three Australian YLs posed for their picture during the spring (October) of 1979 in Perth, Western Australia. Shown left to right is Heather VK2HD, Jill VK6YL, and Poppy VK6YF. The photo was submitted by Jill, who is now QSL manager for all Willis Island stations, VK9ZD, VK9ZG and VK9ZH. Heather and Jill both have Worldradio's W-100-N Award.

Tunisia (3V8)

Check 10 meters for 3V8AA who can be found most days between 28.600 and 28.620 MHz from 1400 UTC. He is also reported to be near 28.535 or 28.785 MHz daily from 1330 to 1430 UTC, and will work CW upon request.

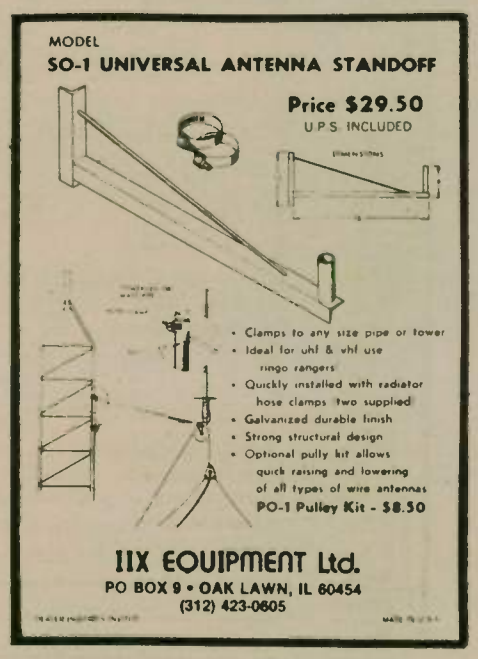
Reinhard Fierle, 3V8BZ is another station reported active from Tunisia. He has been reported on 14.251 MHz at 1630 UTC.

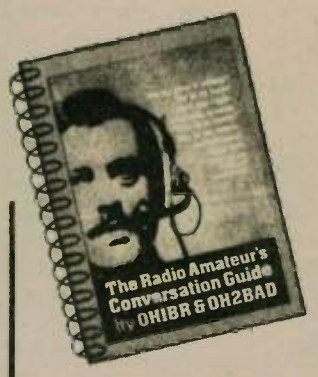
Marshall Islands (KX6)

KX6QT on Kwajalein has been reported on 28.540 MHz around 2200 UTC. This station seems to prefer 40, 80 and 160 meters, picking the middle of one of those bands at 0001 UTC for a Thursday roundtable with other U.S. Coast Guard stations in the various Pacific islands. Of the three bands, the one that is most favorable for the day is chosen. Check-ins are welcomed.

Heard Island (VK0)

This still seems to be an on-again/off-again situation. The problem is money.





As this is being written mid-February and the approach of their winter, it looks like the operation will be off for another year at least.

Tristan de Cunha (ZD9)

By the time you read this, a new operator is reported to have been on from Tristan de Cunha, a wireless operator by the name of Andy Repetho, who is also the postmaster and licensing officer for the island, (and nation for W-100-N purposes).

He will most likely be using a Kenwood TS-130S with remote VFO and a Cushcraft tri-band Yagi beam. As he will be inexperienced with Amateur Radio procedures, he probably will be working with the DX nets at first. The call is reported to be ZD9BV with the QSL duties being handled by John Parrott, W4FRU.

Crozet Island (FB8W)

FB8WG still appears to go the list route. He has been checking into the Family Hour on 14.225 MHz around 1500 UTC. Following this operation he might be found near 21.270 to 21.300 MHz. He has been reported to be active 14.005 to 14.015 MHz, 14.160 or 14.260 MHz from 0300 UTC.

This station is the subject of the many sickies on the bands. It is reported that this operator on Crozet cannot copy anything if there is the slightest bit of interference. He has threatened to quit if he can't have a clear channel. Now, is that going to make the sickies keep quiet?

Prefixes

To celebrate the 50th anniversary of the Mexican National Society, the Mexican amateurs have been using special prefixes — 6D5, 6E5 and 6F5 for XE1, XE2 and XE3, respectively. Calls such as 6D5OW are the same as XE1OW. 6D5AE and 6D5OW have both been active on 10 meters SSB. 6J5LM was for XF4.

ED9IFP is a special commemorative call that has been reported near 28.505 MHz from 1530 UTC most days. This station is the same as EA9JV from Melilla.

That JW0P is the former SP2BHZ/JW operating from Svalbard, and DP0LEX is another one of those Antarctic stations operated by DK6RK. He should be there from Atka Bay operating through May.

If you hear the "EZ" prefix, it belongs to Russian Novices, who are allowed only 160-meter operation.

IOTA

Amateurs working toward their IOTA awards (Islands on the Air) may check the following:

AN01	Adelaide Island	VP8ANT	21.299 MHz	1845 UTC
AN13	Dundee Island	LU5ZR	28.595 MHz	1200 UTC
EU52	Ionian Islands	SV8IE	3.720 MHz	2130 UTC
NA46	Nantucket group	W1QLL	21.375 MHz	1400 UTC
NA25	Grenadines	J87BI	28.480 MHz	1745 UTC
OC66	Tuamoto Archipelago	FO8BI	14.110 MHz	0800 UTC

Those LU5Z's

Several LU5Z stations have been active recently. Although the calls seem to be similar, they are not all from the same DXCC country. Ron is active from Dundee Island as LU5ZR, which counts as Antarctica. He also operated LU5ZI from the South Shetlands. Ron, whose home call is LU2AH, was expected on South Orkneys as LU5ZA, and maybe South Sandwich Islands.

There is a special award for working at least three of these LU5Z calls. Send log information with a fee of 10 IRCs to Reinaldo J. Szama, LU2A, C. Correo 100, Suc. 28, 1428 Buenos Aires (CF), ARGENTINA. Send your QSLs to the same address which includes LU5ZA, LU5ZE, LU5ZI, LU5ZM, LU5ZR, LU5ZS and LU5ZY.

Johnston Island (KH3)

Mark Ray, WB0MKR/KH3 is active from Johnston Island and is scheduled to be there for one year. He schedules his QSL manager — Jan Bridge, KB2RV — Tuesdays on 14.280 MHz at 0400 UTC. Mark is active on 10 meters at 0000 UTC and moves to 40 or 80 meters at 0500 UTC. 160-meter fans will be pleased to hear that he also operates on 1810 kHz at 0800 UTC. Do not expect much CW. Mark is also active during all major SSB contests.

The Colvins

Lloyd and Iris Colvin completed their Guyana operation mid-January. As W6QL/8R1 they made 9,0C0 contacts with amateurs in 144 countries on all bands, 10 through 160 meters. As usual, operation between CW and SSB was divided in half. The Colvins were on the air for 20 days after three weeks of trying to obtain a license.

After this operation, they continued on to Surinam where they operated as W6KG/PZ1.

DX News Sheet hits 1,000

Geoff Watts, editor of the "*DX News Sheet*", turned out his 1,000th DX newsletter at the end of January 1982. This is a weekly publication that was recently taken over by the Radio Society of Great Britain (RSGB) in London. It was created by Geoff many years ago for the licensed radio amateur and non-licensed alike, Geoff, not a licensed amateur himself, continued to edit and publish the *DX News Sheet* up to a few years ago when his health failed. The RSGB then picked up publishing the newsletter when he regained his health and retained him as editor. Congratulations OM-Geoff on your 1,000th issue of the *DX News Sheet*.

30 meters

Stations continue to show on this new WARC band. Following is a selection of what has been recently reported on that band (frequency in megahertz and times in UTC):

W6QL/8R1	10.107	2300
VK9NS	10.135	0815
VK7GK	10.133	1930
4U11TU	10.123	2300
5N0WRA	10.109	1715
VK9YC	10.136	1400
P29DH	10.142	1915
C6ABA	10.109	0900
OX3CS	10.119	2000
ZL3GQ	10.101	1800

160 meters

DX activity is still good on this band as you can see from the following selection of calls. They are in no special order. Frequencies are in kilohertz with the time, UTC.

HI8DAF	1803	0200
HK0COP	1802	0200
ZF2DX	1826	0500
EA8AK	1825	0400
F8VJ	1852	0500
FP0DD	1825	0400
GM3IGW	1828	0600
OK1KSO	1852	0400
W1BIH/PJ2	1826	0500
PY1MAG	1823	0100
VP2MCW	1833	0400
VP8ANT	1825	0400
RH8KAK	1875	0015
9H1BB	1836	0115
UH8DC	1851	0000
EA6CE	1849	0500
RD6DNE	1880	0030
FG7AM	1807	0530
RF6FFW	1853	2230
UF6FAL	1852	2200

Some of the times above do not favor North America. These times are for reports from Europe.

OSL appointment

OLS — Official List Station! This is a new appointment available from the Communications Department, ARRL, for those amateurs who can show expertise in DX list operations. If you have the skills for taking lists of calls for working other stations, such as DX, rare counties, etc., then this the appointment for you. You will receive a handsome certificate prepared for you by your SCM (Section Communications Manager). Refer to page 6 of QST for the name, call and address of your individual SCM. Oh, yes! You must be a member of ARRL and hold a General Class license or higher to apply. OLS is not to be confused with Official Lid Station, which is what you will get if you do happen to request an OLS appointment.

New DX newsletter

Another DX newsletter has come across our desk. *DXpeditions International* is a weekly publication by William N. Wiggins Jr., WA4TWS. The publication consists of four pages giving information on DXpeditions and other DX information. Also included are QSL routes and propagation forecasts. Interested parties may contact the editor at 999 Wildwood Road, Waycross, GA 31501. Subscription rates are $28 per year for 52 issues. This is higher than *The DX Bulletin* ($26 per year) and the *Long Island DX Bulletin* ($12 per year, for 26 issues).

French YL Awards

The following awards are available for working various YL stations. The 10 YL Award requires contacts with at least five French YL stations plus three other YL stations from another continent. En-

dorsements in the form of stars are available for each additional 10 YL stations. The cost of the basic award is 10 IRCs plus 2 IRCs for each star.

There is also the 100 YL Award, but they indicate the same requirements as the basic 10 YL Award. Whatever. There is a 500 YL Plate available for working 500 YL stations on six continents and must include at least five French YL stations. The cost of the plate is 20 IRCs.

To apply for any of the above awards, send your certified list and fee to: Gilda Le Gall, F6FMO, Ecole Publique, 56490 Guilliers, FRANCE.

Toepfer Diploma

The Toepfer Diploma is issued by DARC local DOK K-31 for completing Amateur Radio contacts with the West German DOK K-31. Each contact is worth 5 points. In addition, any contact made with DOK's K-01 through K-43, (excluding K-31), is worth one point. All contacts must have been made since 01 November 1975 and all bands and modes count. To qualify for this award you must have collected at least 30 points. Cost of this award is DM 5 or 10 IRCs.

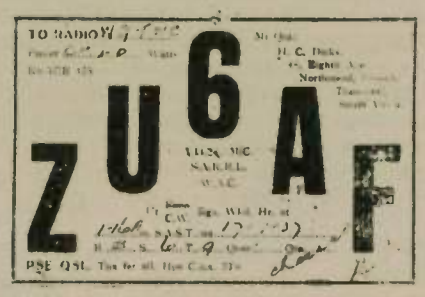
To apply for this award send your certified list along with the fee to: Rudi Haus, DK6WD, Alstrasse 24, 5522 Speicher, WEST GERMANY.

In April 1979 there were at least 30 different stations in K-31.

Antique QSL Department

The following two QSL cards date from the 1930s and are submitted by Dave Kennedy, N4SU. Dave was signing W9TWC in those days.

The contact with H.C. Dicks of



Transvaal, South Africa, made use of the call ZU6AF in the year 1937. Whatever became of ZU6AF or the operator, we do not know.

The call ZT5Z was used by a Dan B. Truter of Natal, South Africa for a December 1937 contact on 20-meter CW. Dan was using a Patterson PR 16 Superheterodyne receiver.

The old VQ7UU and VQ9UU QSL cards that were printed in the February issue caught the attention of David Sumner, K1ZZ, Assistant General Manager at ARRL Headquarters in Newington. Dave sent the following notes that were printed in the August 1954 issue of QST.

"Notice is hereby given that DXCC credit will be deleted from all members' totals, and any future claims rejected, for confirmations credited or presented for credit toward FB8UU, FF8UU, FL8UU, HZ1UU, I5UU, VQ6UU, VQ7UU, VQ9UU, VS9UU, YA3UU and 4W1UU. This action is taken as a result of evidence supplied by RSGB which indicates that these stations could not possibly have been in operation at the times so indicated on the confirmations presented."

Also in the same issue, EA0AB had reported that those widely worked DX-peditions whose call signs ended in "UU" never left the Sudan.

Reader comments

Ed Murta, K5LIL questions the Bouvet DXpedition that was mentioned in the February issue of Worldradio. Ed wonders what I meant by ". . . took place in January."

Like all monthly publications, we are faced with a lead time. In the case of the Bouvet DXpedition, I had to write it in the past tense as I had received a short notice on this one. Soon after I submitted my column, the DXpedition was postponed for a year. So, to answer your question, it did not take place.

If anyone has news of upcoming DX-peditions, please send out the details well in advance. In the case of Worldradio, from the time I submit my column and to the time you receive your copy it may be anywhere from four to six weeks. Personally, I feel that is pretty good as no other Amateur Radio monthly can beat that.

Therefore, there will be many times when I say "DXpedition took place" when in all reality the DXpedition may have been delayed or cancelled. Most of the time I have to depend upon the weekly DX newsletters such as *DX News Sheet, The DX Bulletin,* or the bi-monthly *Long Island DX Bulletin.* As they often receive short notice on some of these operations, it puts me in an even tighter spot — "it did" or "it did not." If you are missing out on many of these DXpeditions, the solution is in this paragraph.

Leonard Robinson, W6WO sends a couple of additions to the recent list of Soviet stations good for the RAEM award: UK0KAH, Pevek, 5 points; UA0KBW Chukota 5 points. UA0ZBZ is on Bering Island off Kamchatka, but is not above the Arctic Circle.

Paul Schuett, WA6CPP takes exception to my comment on county hunters. Paul writes: "You might not be aware

that some counties have no active amateurs, even some here in California, so the only way to get them is by mobiles. I trust you are consistent in your attitude and don't work the Colvins or these other DXpeditions when Americans go and work from these places. That's not really DX, just as working mobiles isn't county hunting." I think OM Paul missed my point. I was commenting on the "county hunters" who sit on County Hunter's Net on 20 meters all day long waiting for the mobiles to come to them. And comparing that to DXing, where do I make mention of deserving DXers sitting on a frequency all day long waiting for the DX to come to them? I am quite aware that many counties have no active amateurs. In past California QSO Parties, I have gone to Sierra County and set up to give that one out — and not mobile. It takes more skill to work DX than counties. Don't regard me as anti-county hunting. I have the USA-CA with the 1,000 county endorsement, and none of those are mobile contacts. I assume, Paul, that you consider the Henson's recent Annobon DXpedition not to be real DX?

The deserving?

A letter was received from David Church, WA2HZR, who expresses his feelings as follows:

"Lately, a new phrase has come into the DX vocabulary. It is not exactly clear just what meaning it has or is supposed to have. It is ambiguous and not necessarily something to strive for in the DXing game. The phrase is 'the deserving.' Let's see if you're of 'the deserving' because:

"1. You are a close friend of the DX operator.

"2. You contributed funds, equipment, transportation or all the aforementioned.

"3. Your 2-meter DX spotting repeater told you the DX was on such a frequency right then.

"4. The guy who 'owed you' a new one called you on the telephone about the DX.

"5. You got on the 'net.'

"6. You got on the 'list.'

"7. You're a 'high honor roller' who would be heard by the DX even if you were running a 'tuna tin special' to your window screen.

"8. You don't even work DX at all, but accidentally stumbled on the DX frequency, tuned up, and gave your call for ID.

"9. You've got enough aluminum in the air to make Alcoa jealous.

"10. Your aluminum is so high you need oxygen when you climb to work on it.

"11. You run enough power to light your neighbor's fluorescent lamps, with their switches off.

"12. You got on the DX's frequency and called until he had to work you or go QRT.

"13. You didn't work him at all but your buddy stuck your call in for you.

"So, if on the preceding basis, you're not of 'the deserving' but you worked the DX anyway, you're to be congratulated. You're a DXer!"

Perhaps many feel the same in the feelings above. It's all a point of view. I would say that the deserving DXer is the first seven of the above, or it can be none of the above. Heck, all DXers are deserving.

Some DXers may take offense at the second one above placed in the same class as a "net" or list. Many of the DXpeditions will never happen without the funds, equipment and transportation. If you refuse to contribute even the minimum of an SASE for a financed DXpedition, work the station on several bands — both modes no less — and demand your QSL card be sent direct, then you are definitely not of the deserving.

During the January Pacific Division Director's meeting in Dublin, California, a motion was made, which should be of interest on this list matter. "That the League disallow credit for DXCC and other awards for those applicants using a list type operation to make an aware QSO." The results of that motion? Seven in favor and 43 not in favor.

Special offer!

With the return of the enclosed card (see below) and your remittance of $2.50, you will be able to renew your ARRL membership for one year. Send to David Houghton, Circulation Manager, ARRL, West Hartford, CT 06111. To qualify for this special rate, you must have had your renewal postmarked no later than the date shown. Thanks to Al Miller, VE7KC for this little gem.


QST

SPECIAL OFFER!

Good for thirty days from date of postmark on reverse side of this card

FREE BACK COPIES OF QST TO COMPLETE YOUR FILES!

Of course you have missed that smaller wrapped copy of QST coming to you each month. The issues you have missed have been mailed ones, too. You would like to have them I know. The last item of QST you received around your previous membership/subscription was the FEB 1979 issue.

With the return of this card and your remittance of $2.50 we will enter your renewal for one year effective with the next issue of QST, and send to you absolutely free the three copies you need to complete your files since last expiration date.

No exceptions to the provisions of this offer can be considered.

A splendid opportunity to put your QST file in order, the issues to follow will keep it that way for some time to come, too.

Please sign the statement on the reverse of this card.

Sincerely yours,

American Radio Relay League
West Hartford, Connecticut

Circulation Manager

QSL information

Most listings of the Radio Society of Okinawa are wrong, reports Bob Hendricksen. KA6AA via Ross Forbes, WB6GFJ. The correct listing for this QSL bureau is as follows: Radio Society of Okinawa, Box 217, Torii Station, APO San Francisco, CA 96331.

All correspondence should go to that address. This applies only to the KA6 calls (with the two-letter suffixes). The Japanese nationals on Okinawa use the JR6 prefix, and those cards should be sent to their Callbook address or JARL in Tokyo. Not all JR6 stations are on Okinawa, but if the call has a two-letter suffix or the first letter in a three-letter suffix is R, then the call does belong to a Japanese national on Okinawa.

Incidentally, while we are on this subject, the Japanese government does not recognize the "KA" calls in Japan as amateur, but military. Japanese amateurs are not permitted to work them. The only way a "JA" can work a "KA" is via telephone or eyeball!

Jiro Iseya, JH4PRU writes that he is the QSL manager for JD1BAT on Minami-Torishima. The operator is Yoshi and does not operate CW and will be there until April. If you desire confirmation for a contact with Yoshi send your request to JH4PRU, and include 3IRCs for a colorful QSL card.

Another request received here was that of JR1RTK, QSL manager for HL1WD. JR1RTK was not listed in the latest Callbook. The W6GO/K6HHD List shows a stateside QSL manager for HL1WD, who is Bill Burney, WA9ETR. In the event that no other address was given, you could have sent the card to JR1RTK via the JARL QSL bureau. This request did not include an SASE, so I hope the requester isn't bent out of shape waiting until it is printed here. Oh, yes! Don't forget to include an SASE to WA9ETR when requesting your HL1WD QSL card!

Charlie Moraller Jr., K2CM, who handles QSL requests for Tim's BV2A call, reports that he cannot handle QSL requests for Tim's other call, BV2B. Requests for QSL cards for BV2B should be sent directly to Tim. Do not send BV2B cards to K2CM!

Charlie requests that when applying for QSL cards, you spell out the month. When he receives a QSL request for a contact with a date of "6-9-81" he doesn't know if it means 6 September 1981 or June 9, 1981. Deserving DXers all know that the correct way is "day-month-year" don't you? Give Charlie and all other QSL managers a break and fill out your cards right. If you can't spell the month, at least use the Roman numeral for the month. Another helpful aid to the manager is to put the date of contact in the lower left corner of your envelope. I assume he means your SASE, which several DXers already do.

Leonard Robinson, W6WO seeks help in obtaining QSL cards from 32CEW (??) and VU3AW.

Bill Morris, KH3AB of Johnston Island has returned to the states. All QSL requests should now go via NR4K, as Jim Howe, KB7MO is no longer his QSL manager.

QSL routes

A4XGR	—VS6EZ	VK4ANS/LH	—ZL1AMO
A4XJO	—WB3JRU	VK9NR	—ZL1BQD
A35EA	—ZL1AMO	VK9NYG	—VK6NE
AH2AI	—WA3HUP	VK9ZD	—VK6YL
AP2ZA	—W6NLG	VK9ZG	—VK6YL
C5ACE	—HB9AYP	VK9ZH	—VK6YL
C5ADH	—KB8KS	VP2KBS	—W2GHK
C53AP	—G3LZZ	VP2MCW	—W0CW
C53CL	—EA8ZZ	VP2MGP	—WB3JWJ
CO7AM	—EA1QF	VP2MJW	—WB3JWJ
CP6EL	—WB1DQC	VP2VIC	—KA2IXW
CR9BH	—*(See Note 1)*	VP5IS	—K9DDB
CT1BV	—AG1K	VP5JCR	—N4CTC
DF4SU/ST2	—DF4SU	VP5RAC	—KA5BPE
DJ0GF/FG7	—DJ0GF	VP8AIB	—VP8LP
DL9OP/1A5	—DL9OP	VP8PO	—WD8IIA
DP0LEX	—DL6NI	VQ9CW	—K1CW
DU1DBT	—DJ8CV	VQ9RE	—WA7RED
EL2AT	—N4VV	VR6HI	—ZL1AMO
EL2BA	—WA2DHF	VS6BT	—DL2GU
EL7H	—OE2UE	W3ATE/8R1	—VE6CKG
EL8H	—SM7FIG	W3BTX/PJ7	—W3BTX/PJ7
FG0WA/FS7	—ON4VY	W4LZZ/6W8	—W4FRU
FK8CR	—F6EWK	W6KG/PZ1	—Yasme
FK0VU	—DB9CI	W6YB/3D6	—KB7VD
FR7CG	—F1DYD	XE2JET	—W7AAJ
FW0BN	—W9BN	YB0WR	—DK9JD
FY0BE	—F6AOU	YI1AS	—DK2OC
H44RW	—ZL1AMO		*(See Note 3)*
HB0BBY	—HB9BBY	YJ8NSW	—W2NC
HL2XV	—HM2JN	YJ8RW	—ZL1AMO
JD1BAT	—JH4PRU	YJ8VB	—PA0GMM
J88AA	—N4FJL	YJ8VU	—DK5EX
JY6ZZ	—K1JPQ	ZD8MW	—G3GIQ
JY8ML	—W1CKA	ZD9BV	—W4FRU
KH3AB	—NR4K	ZF2AV	—WB0ISW
LA1RR/ST0	—LA1RR	ZF2FK	—WD9IIC
LU5ZA	—LU2A	ZK1CQ	—ZL1AMO
LU5ZE	—LU2A	ZK1MB	—ZL1AMO
LU5ZI	—LU2A	ZK2EA	—ZL1AMO
LU5ZM	—LU2A	ZL1AZV/C	—ZL1AZV
LU5ZR	—LU2A	ZS2U/S4	—ZS2U
LU5ZS	—LU2A	ZS6YO/S8	—ZS6YO
LU5ZY	—LU2A	ZY4ZO	—PY4AA
M1V	—M1C	3C0AC	—N4NX
OE6MBG	—WA1OER	3C0BC	—K4PHE
OH2SX/CT3	—OH2SX	3V8AA	—IS0LYN
ON4VY/PJ7	—ON4VY	3V8BZ	—DL1HH
PA6GN	—PA0GN	4K1A	—UA3AEL
PA0VDV/3A	—PA0VDV	4N2JG	—YU2JF
PA0LVB/3A	—PA0LVB	4S7IQ	—DL6IQ
PY1RR	—PY1AA	5H3BH	—SM0EAI
SM2DWH/C9A		5N8BRC	—W5UBY
	—SM0KV	5V7HL	—DL7VS
SP2BHZ/JW	—SM5DQC	5V7RE	—DJ5RT
	(See Note 2)	5W1CW	—ZL1AMO
T4FXT	—VE3DPB	6D5OW	—WB8NCT
TA7SD	—DJ0UJ	6E5MX	—XE2MX
TF3A	—TF3NA	6W8DY	—VE4SK
TG9WB	—WB2JVP	6Y5BC	—KA9BSD
TU2JB	—F6FFS	6Y5YY	—KA9BSD
TZ0PP	—F9KP	7P8CG	—KC0FH
UO5OBE	—YO5CT	8P6KY	—K2QIE
V2AZI	—HB9AQH	8P6MC	—N4CTC
V3KT	—WB4INC	8Q7BN	—RSGB
V3ME	—G3OQO		
VE1AWS/1	—VE1AWS		

(please turn to page 50)

Dyna-"mite."

Photo shown is TR-7730 in 16-key autopatch UP/DOWN microphone version.

Miniaturized, 5 memories, memory/band scan

TR-7730

The TR-7730 is an incredibly compact, reasonably priced, 25-watt, 2-meter FM mobile transceiver with five memories, memory scan, automatic band scan, and other convenient operating features. The TR-7730 is available in two variations: a 16-key autopatch UP/DOWN microphone (MC-46) version, and a basic UP/DOWN microphone version.

TR-7730 FEATURES:

- **Smallest ever Kenwood mobile**
  Measures only 5-3/4 inches wide, 2 inches high, and 7-3/4 inches deep, and weighs only 3.3 pounds. Mounts even in the smallest subcompact car, and is an ideal combination with the equally compact TR-8400 synthesized 70-cm FM mobile transceiver.
- **25 watts RF output power**
  HI/LOW power switch selects 25-W or 5-W output.
- **Five memories**
  May be operated in simplex mode or repeater mode with the transmit frequency offset ±600 kHz. The fifth memory stores both receive and transmit frequency independently, to allow operation on repeaters with nonstandard splits. Memory backup terminal on rear panel.
- **Memory scan**
  Automatically locks on busy memory channel and resumes when signal disappears or when SCAN switch is pushed. Scan HOLD or microphone PTT switch cancels scan.
- **Automatic band scan**
  Scans entire band in 5-kHz or 10-kHz steps and locks on busy channel. Scan resumes when signal disappears or when SCAN switch is pushed. Scan HOLD or microphone PTT switch cancels scan.
- **Extended frequency coverage**
  Covers 143.900-148.995 MHz in switchable 5-kHz or 10-kHz steps.
- **UP/DOWN frequency control from microphone**
  Manual UP/DOWN scan of entire band in 5 kHz or 10 kHz steps is possible when using either autopatch or basic UP/DOWN microphone versions.
- **Offset switch**
  Allows VFO and four of five memory frequencies to be offset ±600 kHz for repeater access or simplex.
- **Four-digit LED frequency display**
  Indicates receive and transmit frequency.
- **S/RF bar meter and LED indicators**
  Bar meter of multicolor LEDs shows S/RF levels. Other LEDs indicate BUSY, ON AIR, and REPEATER offset.
- **Tone switch**

Optional accessories:

- **MC-46** 16-key autopatch UP/DOWN microphone
- **SP-40** compact mobile speaker
- **KPS-7** fixed-station power supply

More information on the TR-7730 and TR-8400 is available from all authorized dealers of Trio-Kenwood Communications
1111 West Walnut Street
Compton, California 90220

KENWOOD
...pacesetter in amateur radio

Synthesized 70-cm FM mobile rig

TR-8400

- **Synthesized coverage of 440-450 MHz**
  Covers upper 10 MHz of 70-cm band in 25-kHz steps, with two VFOs.
- **Offset switch**
  For ±5 MHz transmit offset on both VFOs and four of five memories, as well as simplex operation. Fifth memory allows any other offset by memorizing receive and transmit frequencies independently.
- **DTMF autopatch terminal**
  On rear panel, for connecting DTMF (dual-tone multifrequency) touch pad (for accessing autopatches) or other tone-signaling device.
- **HI/LOW RF output power switch**
  Selects 10 watts or 1 watt output.
- **Virtually same size as TR-7730**
  Perfect companion for TR-7730 in a compact mobile arrangement.
- **Other features similar to TR-7730**
  Five memories, memory scan, automatic band scan (in 25-kHz steps), UP/DOWN manual scan, four-digit LED receive frequency display (also shows transmit frequency in memory 5), S/RF bar meter and LED indicators, tone switch, and same optional accessories.

Specifications and prices are subject to change without notice or obligation.

NEW

"DX-traordinary."

Superior dynamic range, auto. antenna tuner, QSK, dual NB, 2 VFO's, general coverage receiver.

TS-930S

The TS-930S is a superlative, high performance, all-solid state, HF transceiver keyed to the exacting requirements of the DX and contest operator. It covers all Amateur bands from 160 through 10 meters, and incorporates a 150 kHz to 30 MHz general coverage receiver having an excellent dynamic range.

Among its other important features are, SSB slope tuning, CW VBT, IF notch filter, CW pitch control, dual digital VFO's, CW full break-in, automatic antenna tuner, and a higher voltage operated solid state final amplifier. It is available with or without the AT-930 automatic antenna tuner built-in.

TS-930S FEATURES:

- **160-10 Meters, with 150 kHz - 30 MHz general coverage receiver.**
  Covers all Amateur frequencies from 160-10 meters, including new WARC, 30, 17, and 12 meter bands, on SSB, CW, FSK, and AM. Features 150 kHz - 30 MHz general coverage receiver. Separate Amateur band access keys allow speedy band selection. UP/DOWN bandswitch changes in 1-MHz steps. A new, innovative, quadruple conversion, digital PLL synthesized circuit provides superior frequency accuracy and stability, plus greatly enhanced selectivity.
- **Excellent receiver dynamic range.**
  Receiver two-tone dynamic range, 100 dB typical (20 meters, 500 Hz CW bandwidth, at sensitivity of 0.25 μv, S/N 10 dB), provides the ultimate in rejection of IM distortion.
- **All solid state, 28 volt operated final amplifier.**
  The final amplifier operates on 28 VDC for lowest IM distortion. Power input rated at 250 W on SSB, CW, and FSK, and at 80 W on AM. Final amplifier protection circuit with cooling fan, SWR/Power meter built-in.
- **Automatic antenna tuner, built-in.**
  Available with AT-930 antenna tuner built-in, or as an option. Covers Amateur bands 80-10 meters, including the new WARC bands. Tuning range automatically pre-selected with band selection to minimize tuning time. "AUTO-THRU" switch on front panel.
- **CW full break-in.**
  CW full break-in circuit uses CMOS logic IC plus reed relay for maximum flexibility, coupled with smooth, quiet operation. Switchable to semi-break-in.
- **Dual digital VFO's.**
  10-Hz step dual digital VFO's include band information. Each VFO tunes continuously from band to band. A large, heavy, flywheel type knob is used for improved tuning ease. T.F. Set switch allows fast transmit frequency setting for split-frequency operations. A=B switch for equalizing one VFO frequency to the other. VFO "Lock" switch provided. RIT control for ±9.9 kHz receive frequency shift.
- **Eight memory channels.**
  Stores both frequency and band information. VFO-MEMO switch allows use of each memory as an independent VFO, (the original memory frequency can be recalled at will), or as a fixed frequency. Internal Battery memory back-up, estimated 1 year life. (Batteries not Kenwood supplied).
- **Dual mode noise blanker ("pulse" or "woodpecker").**
  NB-1, with threshold control, for pulse-type noise. NB-2 for longer duration "woodpecker" type noise.
- **SSB IF slope tuning.**
  Allows independent adjustment of the low and/or high frequency slopes of the IF passband, for best interference rejection.
- **CW VBT and pitch controls.**
  CW VBT (Variable Bandwidth Tuning) control tunes out interfering signals. CW pitch controls shifts IF passband and simultaneously changes the pitch of the beat frequency. A "Narrow/Wide" filter selector switch is provided.
- **IF notch filter.**
  100-kHz IF notch circuit gives deep, sharp, notch, better than -40 dB.
- **Audio filter built-in.**
  Tuneable, peak-type audio filter for CW.
- **AC power supply built-in.**
  120, 220, or 240 VAC, switch selected (operates on AC only).
- **Fluorescent tube digital display.**
  Fluorescent tube digital display has analog type sub-scale with 20-kHz steps. Separate 2 digit display indicates RIT frequency shift.
- **RF speech processor.**
  RF clipper type processor provides higher average "talk-power", plus improved intelligibility. Separate "IN" and "OUT" front panel level controls.
- **One year warranty.**
  The TS-930S carries a one year limited warranty on parts and labor.

Other features:

- SSB monitor circuit, 3 step RF attenuator, VOX, and 100-kHz marker.

Optional accessories:

- AT-930 automatic antenna tuner.
- SP-930 external speaker with selectable audio filters.
- YG-455C-1 (500 Hz) or YG-455CN-1 (250 Hz) plug-in CW filters for 455-kHz IF.
- YK-88C-1 (500 Hz) CW plug-in filter for 8.83-MHz IF.
- YK-88A-1 (6 kHz) AM plug-in filter for 8.83-MHz IF.
- MC-60 (S-8) deluxe desk microphone with UP/DOWN switch.
- TL-922A linear amplifier.
- SM-220 station monitor.
- HC-10 digital world clock.
- HS-6, HS-5, HS-4 headphones.

More information on the TS-930S is available from all authorized dealers of Trio-Kenwood Communications
1111 West Walnut Street,
Compton, California 90220

KENWOOD
...pacesetter in amateur radio

Specifications and prices are subject to change without notice or obligation.

AMSAT OSCAR

Dr. Norman L. Chalfin, K6PGX

AMSAT/OSCAR-8 has a birthday

The date of 5 March was the 4th anniversary of the launch of OSCAR-8. It is operating well and being used widely by the amateur community members who are satellite enthusiasts.

If you make a contact, or have made a contact through OSCAR-8 or copy AO-8 Telemetry during the period 1 - 31 March 1982, you will receive a handsome AMSAT/OSCAR-8 QSL card if you mail your report with an SASE to: ARRL, 225 Main St., Newington, CT 06111. Mark your letter to the attention of Club and Training Department, AO-8 4th Anniversary.

AMSAT bumper stickers for Phase III

In April, AMSAT will offer attractive bumper stickers depicting aspects of the Phase III spacecraft for a small donation. The colorful new stickers will show the Phase III antenna systems on the bird including the new configuration for the mode L transponder. These stickers are adhesive and will adhere to attache cases, windshields, bumpers or whatever you might like to stick them on. Cost and availability will be noted in this column when AMSAT releases the information.

Cuban control station for RS?

Speculation about other command QTHs for the Russian amateur Sputniks was raised when Nick Laub, W0CA/4 and Sam Walker, W4EWB in Florida heard RS-6 change mode when it was not likely to be in view of the Moscow control station. Another possibility is the existence of an on-board timer which controls the mode changes. *ASR* reports that a control station in Siberia is about to go into action.

AMSAT/UK OSCAR-9 (UOSAT)

The UOSAT (OSCAR-9) science spacecraft which has a downlink-only operation shifted the telemetry from its 145.825 output to a 70cm output near the end of January. On Sunday, 14 February, the CCD camera was turned on for evaluation. CCD camera interface boards have been in the planning stages for some time. It is expected that once these tests are completed, the go ahead signal to produce the boards and details of the circuits will be given. We will advise in this column when that occurs.

DX via RS satellites

East Coast U.S. amateurs have been making contacts with Hawaiian amateurs through the transponders on the Russian amateur satellites, it has been reported. Dennis Dinga, N6DD and John Pronko, W6XN were reported to have worked the XE1TU DXpedition to Revillagigedo, 600 miles west of the Mexican Coast in the Pacific. The expedition was equipped to use OSCAR spacecraft, according to Dave Liberman, the president of AMSAT Mexicana.

New things expected from RS satellites

Via Bill Clepper Jr., W3HV we learn from UA3AV that in celebration of the birthday of V.I. Lenin — one of the leaders of the Russian Revolution — there may be some new activities springing from the RS amateur satellites. There has been some mystery surrounding the absence or presence of a transponder on RS-3, or whether or not it contained a robot as do RS-5 and RS-7. There has been conjecture that a 13cm satellite signal heard in Western Europe and so-far-unidentified 70cm space-originated signals may be related to the RS satellite program.

It is also being conjectured that the unidentified radio satellites may be involved in a multinational search and rescue satellite program (SARSAT).

The Canadian Department of Communications (DOC), the Centre National d'Etudes Spatiales of France (CNES), and NASA — along with the Soviet Union — are participating in a program of Search and Rescue Satellite Aided Tracking. The validity of such satellite-aided tracking operations was demonstrated by the Canadian group using AMSAT/OSCAR spacecraft in 1975 and 1976. As was reported then in these columns, grounded aircraft were located in about 1/10th of the time it took the air search teams to locate them when the downed aircraft locator signal was detected by a spacecraft and relayed to a ground station.

The chart below gives the detailed uplink and downlink frequencies orbital periods and orbit increments for each of the six RS satellites:

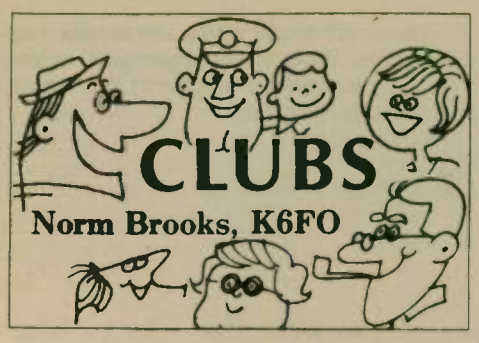
	MHz Uplink	MHz Downlink	(Minutes) Period	(°) Increment	MHz Beacon
RS-3	Beacon only		118.5205	29.7567	29.32
RS-4	Beacon only		119.3967	29.9769	29.36
RS-5	145.826*	29.33-29.45	119.557	30.0158	29.46
RS-6	145.91-145.95	29.41-29.45	118.7189	29.8065	
RS-7	145.835**	29.34-29.50	119.1957	29.9261	
RS-8	145.96-146.00	29.46-29.50	119.7662	30.0685	

Notes

* Robot uplink; downlink is 29.331. Transponder uplink is 145.91 - 145.95.
** Robot uplink; downlink is 29.341. Transponder uplink is 145.96 - 146.00.

Wednesdays UTC are designated as experimental days, as is the case with the AMSAT/OSCARs. This means that no transponder operation should be attempted since the satellites are set aside by prearrangement for special experiements.

●●● **Pass it on . . . WORLDRADIO** ●●●



April Fool!

This is the time of the year that bulletin publishers run April Fool articles. I love 'em.

I once wrote a whole page of April Fool articles for a Telephone Pioneer publication, and was amazed to find a lot of readers believed them. Of course, I don't think it's right to write an article which would injure someone who did believe it, but if it is only an ego that gets a little bruised, why not?

In reading all the club papers received here at Worldradio, I notice editors run "fun" articles all year long. Here are a few, reproduced for your reading pleasure this April Fool's Day.

Negative SWR

Vince Luciani, K2VJ

Hams, these days, do a lot of worship at the SWR altar and get to thinking that anything past 1.01:1 is serious.

Just to show how you can always capitalize on something when you put the old ham ingenuity to work, let me tell you about my negative sloper antenna which I used to have, way back when.

That rascal of an antenna had such a high (actually, negative) SWR that its reflected power far exceeded the incident power. Problem? Heck, no.

I took all that reflected power, put it to a bridge rectifier, smoothed it and used it to power the anodes of my negative-resistance tuner-diode linear, thereby doing away with the DC supply. Worked like a charm.

I'd be glad to send the exact details to anyone who sends me an SASE with a Collins KWM-380 inside.
—Shore Points ARC, NJ

New product

Chuck Lobb, KN6H

Have you heard about a universal battery-decharging IC recently introduced? Along with the popular darkness-emitting arsenic diodes (DEADs) and write-only memories (WOMs), the BD-1 should gain great popularity with do-it-yourself amateurs. It comes packaged in a TO-3 case with the leads cut off, and is guaranteed to drain all power from virtually any battery. Simply connect one bolt hole to the positive battery terminal and the other to the negative terminal — it's completely polarity-independent.

There is a note of caution, however. The extreme operating efficiency of the BD-1 can cause some batteries to overheat and explode. A resistor should be used in series with the IC to solve this problem. The BD-1 meets full specs to 500°C and is linearly derated thereafter to the softening point of steel. (Paraphrased from EDN, 5 April 1980, p. 16)

Incidentally, if your supply of DEADs is running low, check any lab around HAC. If they don't have any, most labs will be glad to make some up for you.
— Hughes El Segundo Employees ARC, CA

Tacos or Transistors??? Tuscon Transistor is still losing money on its electronics business. First half of 1981 results indicate an expected 3 cents per share loss for the year. But the company cafeteria is still showing a profit. In fact, it has become the company's main source of revenue, offsetting manufacturing losses. In an attempt to increase cash flow, the plant's employee lunch hour has been extended to 1½ hours effective the first day of this month.
— 220 Notes West, AZ

DXpedition to Norway

Hams interested in participating in a 12-day DXpedition trip to Norway, contact KF0F. The group will leave Mason City International Airport at 4:30 a.m. You will travel first class aboard Norwegian Airliner Uniengine Yumbo Yet. 2nd day . . . in the air; 3rd day . . . in the air; 4th day . . . in the air; 5th day . . . arrive Oslo 11:00 p.m., and on to the Oslo Hilton basement annex for box dinner; 6th day . . . after breakfast, complete tour of Oslo, 9:30 to 9:40 a.m. Later in the day there will be a marvelous hamfest and banquet, with fabulous seven-course meal: 1 Lutefisk sandwich and a six pack.

7th day . . . tour the countryside in the comfort of a rebuilt Norwegian army tank. Some may continue on by jeep to Siberia (optional). 8th day . . . back in Norway for a tour of the University (both buildings) Then to the library where everyone will get to see both books. 9th day . . . board your waiting Yumbo Yet to the USA. Only three quick stops (two for fuel. one for directions). 10th day . . . in air; 11th day . . . in air; 12th day . . . arrive Mason City between 10:00 a.m. and midnight, depending on weather conditions and fuel leakage. (Complete trip $49.50 per couple!)

Don't delay . . . reservations must be received no later than departure time!
— Backscatter News, North Iowa ARC

Notes on the hand key

Mickey Hicks, WA6SZC

The inventor of the so-called "Hand Key" apparently didn't have some of us in mind when he developed the darn thing. My key has had such problems as chirp, clicks, birdies, raw carrier, 60 cycle hum and very poor spelling. In an attempt to cure these problems, I spent many countless hours at the design process and several evenings at the work bench developing the device described below.

For the lack of a better name I called it

a Hand Key Anti-CW Autostart for Phase Locked Loop Terminal Circuit; Schmitt Trigger Pulse Shaper employing a two-selector magneto on the input. It has cured most of the above-mentioned ills and what it amounts to is an iron-core soft-powdered toroidal hickey that is big enough to put on the output of the input crossover network system. Actually I could have acheived the same result at about the same cost with a full cast on my sending arm.

— Splatter, Kern County ARC, CA

A different kind of speech processor

Ron Bolyard, KA5GYG

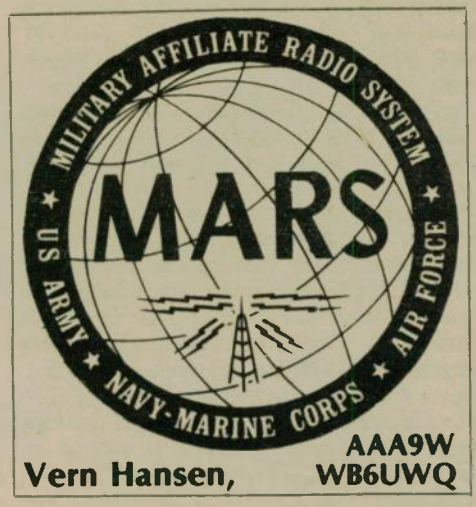
Those hams who have been considering the purchase of a speech processor for the old HF rig, or who have the urge to buy a new rig with a built-in processor may wish to consider the following:

The cardboard tube from inside a roll of toilet paper placed atop my desk microphone has made a most effective "speech concentrator." It fits the barrel of the mike snugly and extends out about 3 inches from the grille. It has the effect of concentrating my entire voice spectrum onto the microphone element.

The merits of a speech "concentrator" — or for that matter, of a speech processor — are mostly in the ears of the listener, for I have received both negative and positive comments.

(CHARRO Editor's comment: Ron's article has been selected because it is distinctly different in its approach to speech processing. Some may have a good laugh; others might like to try it. The point is that in Amateur Radio one should make light of absolutely nothing until one has tried it and failed. Even then, one should hold one's laughter until the failure of others is received in confirmation. One big point in Ron's article: the price is just about as perfect as one might wish. de W5KR)

— CHARRO, Brownsville, TX □



Vern Hansen, AAA9W WB6UWQ

This year's observance of Armed Forces Day marks the 33rd anniversary of communications tests between the Amateur Radio fraternity and military communication systems. Since 1950, this event has been scheduled during the month of May and has emphasized a continuing climate of mutual assistance and warm esteem. Saturday, 15 May 1982 has been designated as the 33rd Annual Armed Forces Day.

A featured highlight of the nationwide celebration will be the traditional military-to-amateur crossband communication tests. These tests give amateur operators an opportunity to demonstrate their individual technical skills and to receive recognition from the Secretary of Defense or the appropriate military radio station for their proven expertise.

The proceedings will include operations in continuous wave (CW), single sideband voice (SSB), radioteletype (RTTY) and slow scan television (SSTV).

Special commemorative QSL cards will be awarded to amateurs achieving a verified two-way radio contact with any of the participating military radio stations. Those who receive and accurately copy the Armed Forces Day CW and/or RTTY message from the Secretary of Defense will receive a special commemorative certificate from the Secretary. Interception by shortwave listeners (SWL) is not acknowledged by QSL cards; however, anyone can qualify for a certificate by copying the Secretary's message.

Crossband radio contacts

The military-to-amateur crossband operations will be conducted from 15/1300 UTC to 16/0245 UTC May 1982.

Military stations will transmit on selected military frequencies and listen for amateur stations on those portions of the amateur bands listed here. The military operators will specify the particular frequency of the amateur band to which he/she is listening. Duration of the contact should be limited to three minutes.

Station	Military Frequency	Emission	Amateur Band
NAV	7385 kHz	RTTY	7090-7100 kHz
HQ Navy-Marine Corps MARS Radio Station, Cheltenham, MD.	13975.5 kHz	SSTV	14225-14250 kHz
NMH	4040 kHz	CW	3500-3650 kHz
U.S. Coast	7346.5 kHz	LSB	7150-7300 kHz
Guard Radio	14440 kHz	RTTY	14080-14100 kHz
Station	20937.5 kHz	USB	21270-21450 kHz
Alexandria, VA			
NPG	4008.5 kHz	LSB	3800-4000 kHz
U.S. Naval Comm.	4010 kHz	CW	3650-3750 kHz
Station	6970 kHz	CW	7025-7150 kHz
Stockton, CA	7301.5 kHz	LSB	7250-7300 kHz
	7365 kHz	CW	7025-7150 kHz
	13827.5 kHz	RTTY	14080-14100 kHz
	13927.5 kHz	CW	14025-14075 kHz
	14470 kHz	USB	14200-14350 kHz
	20950 kHz	CW	21000-21200 kHz
	20998.5 kHz	USB	21360-21450 kHz
NPL	7380 kHz	RTTY	7090-7100 kHz
U.S. Naval Comm. Station San Diego, CA	14385 kHz	SSTV	14225-14250 kHz
Note — SSTV From NPL will run from 1600-2400 (UTC) 15 May 1982			
NZJ	7375 kHz	RTTY	7090-7100 kHz
Marine Corps	14480 kHz	USB	14275-14350 kHz
Air Station El Toro, CA			
AIR	4025 kHz	LSB	3800-4000 kHz
2045th Comm	6995.5 kHz	CW	7025-7150 kHz
Group, Andrews	7313.5 kHz	LSB	7225-7300 kHz
Air Force Base	13997.5 kHz	CW	14025-14075 kHz
Washington, D.C.	14390.5 kHz	USB	14275-14350 kHz

Station	Military Frequency	Emission	Amateur Band
WAR	4018.5 kHz	LSB	3775-4000 kHz
HQ. U.S. Army	6997.5 kHz	CW	7000-7150 kHz
Washington, D.C.	14403.5 kHz		(see operating schedule below)
	20995.5 kHz	USB	21270-21450 kHz

14403.5 Operating Schedule

Emission	Time	Amateur Band
RTTY	1300 — 1500, 1900 — 2100, 0100 — 0300	14080 — 14100 kHz
CW	1500 — 1700, 2100 — 2300	14025 — 14075 kHz
USB	1700 — 1900, 2300 — 0100	14200 — 14350 kHz

CW receiving test

The CW receiving test will be conducted at 25 words per minute. The broadcast will be a special Armed Forces Day message from the Secretary of Defense to any amateur or SWL operator desiring to participate. A 10-minute call for tuning purposes will begin at 16/0300 UTC. The Secretary's message will be transmitted 16/0310 UTC from the following stations on the listed frequencies:

Transmitting station	Frequency (kHz)
NAM — U.S. Naval Communications Area Master Station, Norfolk, Virginia	4005, 7645, 14400
NPG — U.S. Naval Communications Station Stockton, California	4010, 7365, 13927.5
NAV — HQ Navy-Marine Corps MARS Station Cheltenham, Maryland	7385, 13975.5
WAR — U.S. Army Radio Station Fort Meade, Maryland	4030, 6997.5, 14403.5
AIR — 2045th Communications Group Andrews AFB Washington, D.C.	6995.5, 13997.5

Radioteletypewriter receiving test

The radioteletype (RTTY) receiving test will be transmitted at 60 words per minute. Radio Station "AIR" will transmit using 850 hertz (wide) shift. All others will transmit using 170 hertz (narrow) shift. A 10-minute CQ call for tuning purposes will begin at 16/0335 UTC. The special Armed Forces Day message from the Secretary of Defense will be transmitted at 16/0345 UTC. Transmission will be from the same stations and frequencies as previously listed for the CW receiving tests.

Submission of test entries

Transcriptions of the CW and/or radioteletypewriter receiving tests should be submitted "as received." No attempt should be made to correct possible transmission errors.

a) Time, frequency and call letters of the military station copied, as well as the name, call sign and address (including ZIP code) of the individual submitting the entry must be indicated on the page containing the message test. Each year, a large number of acceptable copies are received with insufficient information; or the necessary information has been attached to the transcription and been separated, thereby precluding the issuance of a certificate.

b) Entries must be postmarked no later than 22 May 1982 and submitted to the respective military commands.

Stations copying NAM, NAV or NPG send entries to: Armed Forces Day Test; HQ, Navy-Marine Corps MARS; 4401 Massachusetts Ave., NW; Washington, D.C. 20390. **Stations copying WAR send entries to:** Armed Forces Day Test; Commander, 7th Signal Command; ATTN: CCN-PO-OR; Fort Ritchie, MD 21719. **Stations copying AIR send entries to:** Armed Forces Day Test; 2045th CG/DONJM; Andrews AFB, D.C. 20331.

Novices OK, but . . .

A little-known fact is that Novices may apply to become a part of Air Force MARS (Military Affiliate Radio System), but they must upgrade to Technician Class or higher within one year or be dropped from the program.

Technicians and higher can stay in the program as long as they meet the quarterly activity figures. All are given voice privileges on special MARS frequencies after completion of training program and certification.

— Triple States RAC BNT, OH □

YOUR LOCAL RADIO CLUB

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.

ALASKA

EIELSON/NORTH POLE ARC
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

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.

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

Sonoma County Radio Amateurs, Inc.
Box 116, Santa Rosa, CA 95402
For information: W6DTV 823-7885
1st Wednesday/monthly — 8 p.m.

S.C.A.T.S./WB6LRU
S. CA Amateur Transmitting Society
P.O. Box 1770, Covina, CA 91722
Cortez Park Rec. Hall
1st Monday/monthly — 7:00 p.m.

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.

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.

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

ILLINOIS

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.

Radio Amateur Megacycle Society
Irvingwood Acacia Church
3900 N. Plainfield, Chicago, IL 60634
(312) 625-2879
3rd Friday/monthly — 8:00 p.m.

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

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
2512 Glenwood Ave., Fort Wayne, IN 46805
The Salem Church
3rd Friday/monthly — 7:30 p.m.

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.

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

Glouster 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.

NEW YORK

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.

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

Staten Is. Amateur Radio Comm. (SIARC)
Northfield Savings Bank (side entrance)
Richmond and Castleman Avenues
Call KA2CUS (698-2006) or WA2KQN (981-0372)
3rd Thursday/monthly — 8:00 p.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/

OREGON

Clatskanie Amateur Radio Club
Route 2, Box 553
ClatsKanie, OR 97016
ClatsKanie Grade School Library
2nd Tuesday/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

Lakeway Amateur Radio Club
Roy A. Zeigler, Activities Mgr.
Rt. 11 Box 61, Morristown, TN 37814
State Area Vocational School
Last Thursday/monthly — 7:30 p.m.

Oak Ridge Amateur Radio Club
Dick Church, N4ARO (615) 482-9054
Oak Ridge Civic Center
W4SKH/R 146.28/88
2nd and 4th Monday/monthly — 7:30 p.m.

Radio Amateur Club of Knoxville (RACK)
PO Box 124, Knoxville, |37901
Fire Training Center
Prosser Road, Talk in 147.90/30
3rd Thursday/monthly — 7:30 p.m.

TEXAS

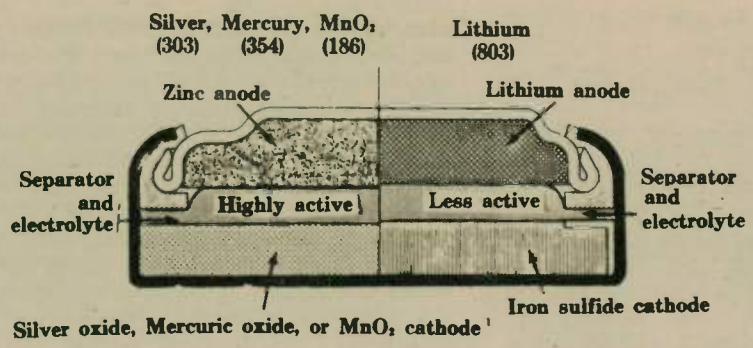
Garland Amateur Radio Club (GARC)
146.775/146.175 K5QHD/R (info Net Mon. 8 p.m.)
Garland Women's Activity Building
713 Austin Street, Garland
4th Monday/monthly — 7:30 p.m.

UTAH

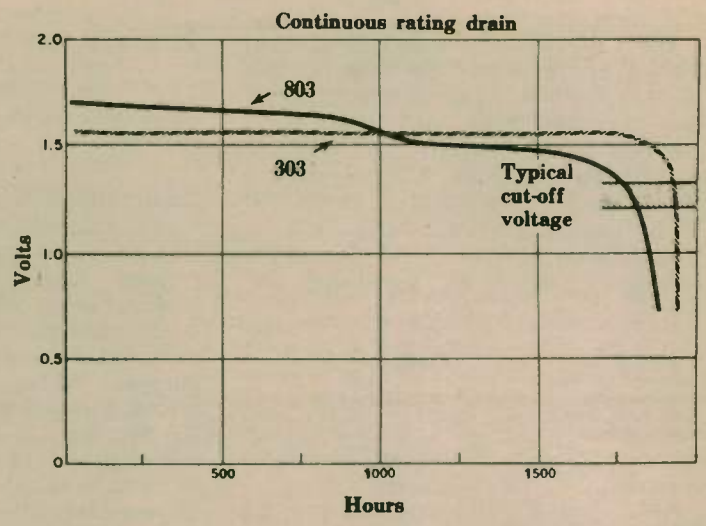
Utah Amateur Radio Club (UARC)
Room 161, Murray High Sch., 5300 S. State
Gordon R. Smith, K7HFV
582-2438/talk-in 16/76
1st Thursday/monthly - 7:30 p.m.

WEST VIRGINIA

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



Miniature systems comparison — 1.5-volt miniature cell construction



Miniature systems comparison — 803 lithium vs. 303 silver oxide

Hand-held batteries

Just a couple months more before you start planning some local cruises. Chances are you won't want to leave behind your trusty hand-held 2-meter, 220, or 450 MHz transceiver. While aboard, a hand-held set is ideal — for staying in touch, as well as calling out in an emergency.

As a mariner, you well know the problems of charging the battery when out at sea. Battery life is most important to you, so let's take a look at hand-held transceivers and the batteries that keep them going when you're out to sea.

New lithium batteries

Yaesu is one of the first companies to offer a lithium battery source in their new hand-held, the FT-208. The small lithium battery is used as the memory keep-alive battery in this compact set. Make sure, when you first buy the radio, to switch the battery supply on. A small slide switch is located in the battery compartment and is in the "off" position when shipped from the factory. Make sure that the switch is turned on to maintain memory from your built-in lithium battery.

Lithium is an ideal battery for hand-held memory circuits. Before the hand-held is initially activated, the shelf life of a lithium battery is everlasting — in other words, a lithium battery does not discharge itself while sitting on a shelf waiting to be placed in use. The battery does not use a water material, termed "aqueous" system, for it to work. The electrolyte solution in the lithium battery is less active than the electrolyte in regular batteries, and this "no water" electrolyte will allow the battery to perform for years under a light constant load and charging before breaking down.

This resistance to salting is the most important characteristic of the lithium battery because it makes useful the long service life which is achieved through its ability to retain capacity for long periods of time. The lithium cell can last five to 10 years because it usually retains its capacity better than the equivalent silver-oxide battery, and the long service life and capacity is useful because lithium batteries should not salt during their five to 10-year period.

What all this means is that the small, little lithium battery will keep your memory circuit alive for many years without dying at sea!

NiCads

NiCad batteries are the ones that power your hand-held on transmit and receive. Sometimes the NiCad battery pack has a tap-off to keep the memory circuit alive.

The NiCad rechargeable battery is considered a dry cell. Actually, it really isn't. Within the battery, a moist chemical reaction converts chemical energy into electrical power. Unlike the disposable dry cell battery, the NiCad battery may be charged over and over again, keeping your small HT going on and on at sea.

The NiCad battery is capable of producing long-lasting high current from an extremely small package, or pack. The current capacity remains relatively stable until the cells are completely depleted. This means that your HT will perform at almost full output until the very last seconds when the battery set goes dead.

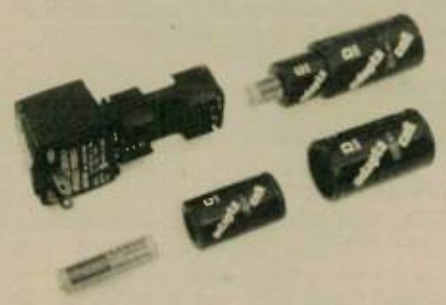
The actual voltage of a single NiCad cell is 1.34 volts without a load, 1.25 volts under load, as opposed to a 1.5-volt disposable premium "AA" penlight battery. This means that your hand-held won't have quite the voltage with a set of NiCad batteries as it will with a regular penlight cell.

You should also remember that regular cells gradually sink in voltage as the cell is depleted, so that regular cells may only offer more power than NiCads when they are brand new. When both sets of cells are compared after an hour of transmitting and receiving, the NiCad set usually has better power in the batteries.

When the NiCad battery pack goes dead, it's time to recharge them. NiCads must be charged at a specific current level commensurate with their size. Overcharging a NiCad battery will rapidly heat it and possibly damage it. It's safe to charge NiCad batteries at 10 percent of their rate ampere hour rating. By carefully monitoring the temperature of the NiCad, it's possible to charge them at a higher rate. Many ham NiCad sets have special provisions for temperature sensing so that the batteries may be charged rapidly without risk. The sensing element determines the warmth of the NiCad cells and tapers off the charging current or stops the charging current completely until reset.

Although NiCad battery packs are certainly more expensive than conventional disposable battery packs, the NiCads may be used and re-used for years. Some manufacturers indicate 500 recharges before they may begin to get weak. I have a set of NiCads that are well over 1,000 recharges.

Some ham transceivers will take individual NiCad batteries without the need of a sealed battery pack. Most will use "AA" size NiCads. If you have a lot of these cells around your shack, there are some alternate uses for them aboard your boat.



NiCad adapter system

A unique system that allows you to use "AA" cells for larger NiCad applications has been developed by a company called Burton Products Corporation, Department RE-3, P.O. Drawer E, Coram, NY 11727. They produce battery adapters that will take the common NiCad "AA" cell and adapt it to "C" or "D" cell applications. This is handy aboard a boat.

The system is easy to use. The small individual NiCad "AA" battery is inserted into the adapter, and depending on which size you need, you may slip the adapter into the appliance aboard your boat. When the NiCad requires recharging, simply disassemble the adapter and place the NiCad battery in the charging assembly.

The charger supplied in this system is designed to charge either two or four "AA" cell NiCads. It will also charge the rectangular 9-volt NiCad transistor radio battery.

We tested the system out aboard a boat with a pair of fully charged 450mA NiCads, discharging into a marine PR-2 flashlight. The NiCads lasted to .9 volts cut-off for 66 minutes. One regular throw-away "D" cell into the same load and cut-off voltage lasted 64 minutes. The "C" disposable cell into .9 volts into the same load lasted only 15 minutes.

The low internal impedance of the NiCad permits the adapter system to be practical in marine applications. This test validates the idea that a single charged NiCad "AA" rechargeable battery will last longer than a regular carbon "D" cell with a current averaging ½ amp during the entire discharge cycle.

This system is available at $6.95 each plus $2 postage from the manufacturer.

NiCad batteries have many applications in the marine environment. When charged and exercised regularly, the NiCad battery will last up to 1,000 recharges. The NiCad battery requires plenty of exercise so that it is kept active and strong.

When you are planning your next cruise, plan to take along your hand-held and plenty of fresh and exercised NiCad batteries for long life aboard. □

New Product

Marine VHF hand-held

ICOM is proud to announce the world's first marine synthesized (no crystals to buy) 12-channel VHF hand-held. The ICOM IC-M12 is truly one of the most exciting announcements in the marine electronics field and will capture the imagination of your customers with its many possible applications. Extremely compact in size (much smaller than most 6-channel hand-helds on the market), the M12 has 12 channels of capacity, yet *no crystals to buy.*

The ICOM M12 is also extremely affordable, retail priced at only $499, and comes complete with rechargeable NiCd battery pack, charger, antenna and belt clip. The M12 comes ready to go and has many possible applications as a second inexpensive VHF for the flybridge, intership communications from vessel to dinghy, etc.

The M12 also comes with a full line of accessories to increase its versatility, including a speaker mic. Provisions for running directly from the ship's power, and for plugging directly into the existing VHF antenna allows the portable M12 to act as the main VHF; simply unplug and carry home for better security. □

AWARDS

Scott R. Douglas Jr., KB7SB
P.O. Box 9990
Glendale, CA 91206-0990

This month we offer for your examination the awards program of 73 Magazine which consists of six domestic and six DX awards. Most measure 9 by 12 inches and are printed in two colors on a parchtone bond. For all 73 award applications the following applies:

1) Award fee — $4 or 12 IRCs. 2) Endorsements — $2 or 6 IRCs. 3) Do not send QSLs. To apply prepare a list of claimed contacts in alphabetical prefix order and include date, time, mode and band information. 4) Send your applications along with the application fee to: Bill Gosney, KE7C, 2665 North Busby Road, Oak Harbor, WA 98277.

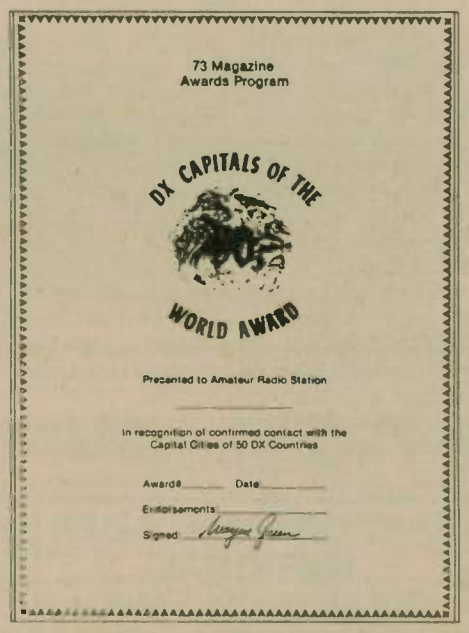
73 DX Country Club Award

To qualify, the applicant must work and confirm a minimum of 73 countries as per the 73 WTW (Work the World) country list in the same calendar year for which the application is made. Annual endorsement stickers are available for each succeeding year in which application is made.

The award is issued for All Phone, CW, and Mixed Modes. Band endorsements by request. To be valid, all contacts claimed must be made in a single calendar year beginning 1 January 1979.

DX Capitals of the World

To qualify, applicants must work and confirm 50 different capitals of the world. Only those capitals of countries which appear on the WTW country list qualify. There are no band or mode restrictions, but endorsement for these will be made upon request.



To be valid, all claimed contacts must be made after 1 January 1979.

Work the World DX Award

The WTW program consists of six continental awards, each of which is applied for separately, and each with its own application fee. Upon completion and

receipt of all six awards, the WTW Award will be automatically issued at no charge.

The WTW country list is used in application for all of the following:

North America Award

Work and confirm 13 North American countries per WTW list.

South America Award

Work and confirm 12 South American countries as per the WTW list.

European Award

Work and confirm 12 European countries as per the WTW list.

Oceania Award

Work and confirm 12 Oceanic countries as per WTW list.

Asian Award

Work and confirm 12 Asian countries as per the WTW list.

African Award

Work and confirm 12 African countries as per the WTW list.

To be valid, all contacts must have been made on or after 1 January 1979. Band and mode endorsements will be issued upon request with application. The complete WTW Country List is available from the award manager and also appears in the Septemer 1981 issue of 73 Magazine, or the IARS Directory of Certificates and Awards.

Specialty Communications Achievement Award Class A-1

To qualify, the applicant must work and confirm at least 10 DX countries on the WTW list via RTTY, SSTV, EME or OSCAR. Mixed Mode contacts are not valid. Only contacts made after 1 January 1980 are valid for this award.

Class A — To qualify, work and confirm each of the 50 states. Contacts made after 1 January 1980 are valid for these awards.

Worked All USA

To qualify, work and confirm each of the 50 states in the same calendar year. Prepare a log extract in alphabetical order by state beginning with Alabama. Contacts after 1 January 1979 are valid for this award.

Century Cities Award

Designed as a dual WAS effort. To qualify, the applicant must work and confirm two different cities or towns in each of the 50 states. Prepare a log extract in alphabetical order by state. Only contacts made on or after 1 January 1979 are valid.

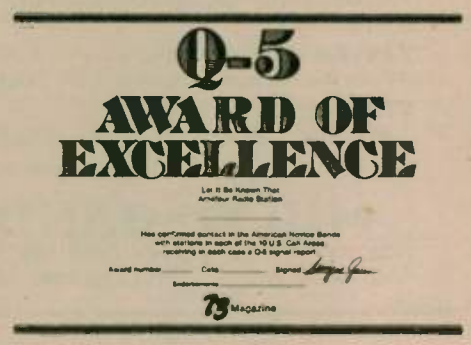
District Endurance Award

To qualify, the applicant must work all 10 U.S. call districts in one hour or less. The time will commence the time the first contact is established and end with the time logged for the last district required.

To be valid, contacts must be made on or after 1 January 1979. All contacts must be made independent of any lists or nets.

Q5 Award of Excellence

If you frequent the Novice bands, this one may be just what you are looking for. Work and confirm all U.S. call districts on the Novice portion of the bands conforming to the rules and regulations applying there and receive no less than a Q5 report. Example: an RST of 599, 539, 579, etc., would qualify, while an RST of 449, 349, 479 would not qualify. All contacts must be made on or after 1 January 1979.



Island DX Award

Issued for confirmed contact with 50 island countries as per the DXCC country list. Although this award is sponsored by the Whidbey Island DX Club, Bill is also the award manager for them and the same basic rules apply. Send your verified log extract, $4, and SASE to Bill. Only contacts after 1 October 1977 are valid for this award. Want an island list — send an SASE to Bill and the club.

KB0ZP's Worldwide Directory of Awards

Two volumes comprise the complete directory. Only Volume I was submitted for review. Volume I is 22 pages total including the covers printed one side with black ink on heavy red paper, at a cost of $9.95 for this volume. The information lacks detail, the print is difficult to read, and I feel the cost is excessive for what you receive.

W5IJU's International Directory of Awards

A one-volume publication with emphasis on local radio club awards from around the world. Moderately priced at $8, it makes a very important addition and supplement to other award directories in your library with limited local radio club type awards.

W0YBV's DX Awards Guide

Comprised of seven volumes, this awards guide is both very expensive and quite comprehensive and includes applications for each award listed in the guide. The average volume is $6.95 with the only exception being Volume C, which is $4.50. This brings the complete guide cost to $46.20. If you don't want to be bothered with making your own application forms out, this is the one for you. I have examined volumes D and E and found them to be up to date with proper attention payed to details. A hefty sum for a hefty offering.

DJ9ZB's DX Awards Log

This is a one-volume book covering the world's major awards. As it is seriously lacking in details with regards to making applications and band and mode requirements, its main benefit is — as its title states — an awards log. If this is your only reference regarding awards, you had better be knowledgeable in this area. If you are looking for a book to record your progress, it is ideal.

RSGB's Amateur Radio Awards

This one-volume paperback publication is an excellent guide to the major awards offered around the world with excellent attention payed to detail and application procedures. Although limited in scope, if you are only interested in the major awards this publication is an excellent value at $9.95 and a fine addition to your awards reference library.

Certificate Hunters Club Awards

Next month we will display a new series of awards from the CHC (Certificate Hunters Club), which includes the "All Nations" — the CHC form of DXCC; "United Nations Award" — a revival of a past offering; "Islands of the World" — an endorsable DXCC-style islands award; and a series consisting of "Worked the Indian Ocean," "Worked the Mediterranean," and revised "Worked the Caribbean" and "Worked the Pacific." All of the above are multicolored, measure 11 by 14 inches, and are printed on a fine parchtone bond. This promises to be the finest group of awards ever offered by the club. For complete details send your business-size SASE to: International Amateur Radio Society, P.O. Box IARS, Glendale, CA 91206-7609.

IARS/CHC will be at both the SAROC Convention in Las Vegas and the Dayton Hamfest. Stop by and get acquainted. Till next month, 73s and good hunting. Scott □

Check your license expiration date.

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

Which type DF is best?

We receive many inquires each month asking, in one way or another, our advice on the best direction-finder. I am sure we have answered it over and over again, both by letter and in this column. We are nearing the end of our DF research work, and it seems that we should again cover this in our column.

We have actually tested many of the commercially available DF units, as well as used the various ham methods normally used in "T" hunts. We have not (as yet) had the opportunity to test the latest group of doppler-type (so-called) DF units. I did read the review done on one of the doppler-type DF units that was published in 73 Magazine. It confirmed my previous thoughts on how the design would work.

The following information is not designed to reflect on any company or design. It is designed to reinforce some basic truths about RF propagation and laws of science. It is often strange how the desire for an easy solution can blind one's normally good powers of common sense. No matter how good any design may be, *it cannot change what is actually happening.* It can only present information on the basis of its design limitations and advantages.

I have worked with the designer of a $17,000 DF unit, worked with an $8,500 DF unit, and observed the workings of many DF units costing from $2,500 down. The designer of the $17,000 DF was not an amateur, nor did he have any amateurs on his engineering team. As a result, their end product did not take into effect the realities of RF propagation at VHF and UHF, where it was designed to operate. The answers their DF produced were only valid under the proper circumstances. Almost any amateur would have known of Murphy's Law which states, "Any time a VHF or UHF signal can bounce, it will." I could achieve far greater accuracy and reliability with the $25 worth of parts used in the so-called HAPPY FLYERS DF.

No single DF for everything!

When I spoke at a radio club in Santa Barbara (the home of the Elper DF), many questions concerning DF units were asked. I was asked how I went about DF on the ground, rather than in my airplane, and specifically what equipment I used. I explained that I usually took the following on all planned T hunts:

1) one receiver connected to my 9dB gain Gam omni-directional antenna. This receiver was used to be sure the object of search was actually on the air, and was never used for actual DF; 2) a receiver specifically for use with various DF devices and antennas; 3) a hand-held receiver that was battery-operated so I could leave the car when I was very close; 4) a surplus government FSM (field strength meter) that was tunable (selectively) from 100 to 170 MGc (to be used in conjunction with listening on the handi-talkie); 5) an 11-element beam (for weak signals); 6) a three-element beam — for normal range average signal information; 7) a loop for closer work; 8) a switched antenna phase-measuring DF; 9) a sandwich and a few cans of soda pop — excitement makes me want to eat and drink (I don't smoke); and, 10) on jammer-hunting missions, various classified material necessary to testify properly if court action is required.

The long list of things I took seemed to surprise many of the Santa Barbara amateurs. They had assumed that as one of the designers of the HAPPY FLYERS DF, *I would be using it!* Not so! I firmly believe that presently, there is no single DF capable of giving the correct answer under every set of circumstances (on VHF and UHF). There are times where a specific method has advantages over other methods, but as the circumstances change, so do the values of a specific DF method or unit.

For instance: If the signal you are seeking is so weak that you can barely tell it is there, the logical choice is the 11-element beam. You cannot DF what you cannot hear! I have seen articles on the merits of signal peak or null methods. In reality, on a weak signal the null is very broad, so peaks are better. As the strength increases, the peak gets broader and the null narrower. This is generally true of beams, loops, quads, FSMs and body fades.

For high accuracy, nothing presently beats the two-element, switched antenna, cardioid pattern, phase-measuring DF — such as is manufactured by Micro Electronics or homebrew as the HAPPY FLYERS DF. However accurate they are

in some circumstances, there are other circumstances where I would not even consider taking it out on the ground. The VH-12 commercial unit is so accurate that it has been used for surveying boundaries by radio. However, this high accuracy permits phase DFs to see both the actual direct RF signal *and* reflected paths — when they exist. If three RF paths do exist, one direct and two reflected, it becomes an operator function to eliminate the two reflections. This becomes quite simple as one becomes experienced, but quite confusing when one starts out. If you are used to a single answer (even if it is not accurate and only indicates the average of all signals influencing your method), seeing that three actual paths exist is very confusing.

The "lateral arc swing" method — developed by Ben Bohach, K0GVS and members of the Minneapolis HAPPY FLYERS Squadron 24 — is one method of finding the direct path from the reflected paths. Other methods include multiple wavelength plots, geometric observations, etc. However, when enough multi-path exists, it is time to again switch to a method more advantageous to the actual circumstances. Sometimes it is a combination of methods that results in the quickest finds.

When I discover that a false ELT (emergency locator transmitter for crashed planes) is emanating from an airport parking area when I overfly the field, I use the phase DF in my plane to locate which general area of the field. Then I land and taxi the plane toward that area. I have connected a microammeter to the AGC buss on my aircraft receiver and it acts as a full time "S" meter. As I approach my selected area, I can see the "S" meter field strength increase. When it peaks, I slam on the brakes. The DF needle will pin on one side. I count how many planes out in the row it is, then taxi to the end of the row and turn in the direction of the point. I taxi down those rows until it again peaks and again slam on the brakes. I can now taxi down to the plane that matches my count on the front row. I then take my government surplus FSM and get out of my plane. Usually, planes are parked close together — one facing one way and the next the other. By walking over to their ELT antenna, there is no doubt as to which is emanating the false ELT signal. This method uses three different devices in a combined effort. It has never taken any of us using this method longer than an hour to locate an ELT.

REMEMBER, no single type DF is best for every circumstance!

Going back to my illustration of the direct path and two reflected paths, consider a circumstance where only reflected paths are available at the spot you are DFing. This could happen when an obstruction behind you totally blocks a direct path, while buildings or hills provide a perfect geometric angle to provide a perfect reflected path from in front and to your left. If you start in that direction and maintain perfect geometric alignment, your signal strength measurements toward that reflected point will increase as you approach it (even though you are actually traveling away from the real transmitter). This has caused many problems in the Search and Rescue community. DFing requires maximum concentration, observation, knowledge and a broad use of common sense. This is more important than the actual tools you have available at the moment.

Jim Meachen, ZL2BHF of the New Zealand Amateur Radio Emergency Corps, visited Hart and reported on the excellent progress on ELT DF. Jim is an example of the fine amateurs in NZART, and devotes much of his time to Amateur Radio volunteer work.

No VHF/UHF automatic DF yet!

We strongly believe that automatic direction-finding (ADF) is not possible on VHF or UHF unless it is capable of simultaneous display of any and *all* RF paths arriving at the DF antennas. No such multiple display unit presently exists. (We are speaking of a CRT or similar display that paints a line from the center outward to each and every path of RF.) ESL, OAR, CDI and a number of others produce a unit that gives a single line each clock pulse. The one that is there the most as you move is presumed to be the most likely prospective direction. Since they start at $17,000, this seems a lot of money for just "averaged" information.

When our research brought us to the foregoing information and conclusions, Jim Williams, K6HIO considered designing a multiple display VHF/UHF ADF. When we realized how costly it would be — compared to how easy it was with proper knowledge and the common sense usage of what we already have — we quit. He had some good preliminary designs, but for SAR and HAM "T" hunts, the parts costs alone were not worth the slight advantage a trained DFer would have over presently available methods.

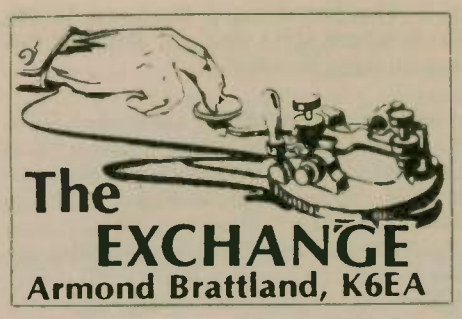
No matter what DF unit you buy, build or use, try to always have more than one method with you at all times — especially in the life-saving work of ELT search.

DF board updates

Over 2,000 HAPPY FLYERS DF boards have been sent out. We do not plan to make any after the present supply is exhausted. We have been trying to find the reasons so many of the commercial and HF DF units had so much trouble interfacing with various receivers. Some receiver brands worked almost every time, while others would not work well, no matter which brand of DF we connected. Once we finish our present research and publish the results, we hope our work in DF will be at an end.

While working with Bob Smith, W6EPX, who drove from Los Angeles to San Francisco to work with me on some DF problems, we made two discoveries we would like to share. In some cases, RF is being superimposed on the audio pickoff line. In the HAPPY FLYERS basic DF board, this can be overcome by putting a 0.01 capacitor from the junction of the 10K resistors on the input buffer op amp (1458, 4558, 5558) to ground. This will remove RF into the DF and allow it to

(*please turn to page 50*)



The EXCHANGE

Armond Brattland, K6EA

The Van Normans entertain interesting foreign guests

In connection with his work at the Mayo Clinic, Willis Van Norman, K0JCF meets doctors from foreign countries. They come there to study the American methods. Two Chinese doctors — one named Lei, the other Wei — worked at the Clinic for several years. They both knew the Continental code, but had never used it. They also knew a long and complicated code which made use of a series of figures and characters, to represent the Chinese symbols. The doctors were willing to teach Willis such long code, but he decided it was one thing he could get along without. He concluded that presently there was no chance to work such doctors in China, but that if it becomes possible in the future, it had better be with the Continental code!

Eric Van Norman, KF0S (left) demonstrates his skill at flying radio-controlled model airplanes. Doctors Lei and Wei (center) listen to an explanation of the operation, given by Brian Van Norman, N0AKU. Don Hogland (right), an instrument technician at the Mayo Clinic watches the plane.

Arrangements were made for doctors Lei and Wei to visit the Van Norman Ranch. Irene K0QJX served them a real American farmer's home-cooked dinner, with plenty of meat and potatoes, and it was reported the doctors forgot there was also rice if they had wished it. Thereafter, they all took a long ride in the family airplane over the city of Rochester and much of the surrounding countryside. Outside of expressing surprise about the beauty of the area, the first question expressed by the doctors was, "Do all American farmers own airplanes?"

Later, when the doctors were introduced to Amateur Radio and engaged actively in a "ragchew," that same question was repeated concerning radio. They all enjoyed joking back and forth, and when the doctors agreed to say a few words over the microphone, back came the inquiry, "What was the QRM we heard that time?" Before going back to Rochester, the doctors watched Eric, KF0S demonstrate his expertise in flying radio-controlled model airplanes.

Unusual radio contacts

A few of us may remember making contact with a doctor who lived and took care of the medical problems for a small village on Hudson Bay. He had taken his internship in Minnesota and became a radio amateur. What made the contacts unusual with the northern village, which was frozen in each winter, was the fact that the doctor found his broadcast radio useless because of the radium, which was mined at such village. Since the people were so well isolated from germs, there was little for the doctor to do. Most of his time became his own and he dismantled the BC receiver, rebuilding it into a one-band receiver and one-band transmitter.

Howard Menge, now KA0DFV, had an unusual surprise when answering HC7JB, who was calling a station in the Twin Cities. HC7JB was not an Ecuadorian; he was Jim Moberg of Bemidji, Minnesota, wishing to talk to his mother at Bemidji, which was accomplished over Howard's radio. It seems that Jim now operates the Mission Radio station in a jungle area of Ecuador and has acquired an amateur license. Jim's father, Ralph — a former well-known Alaskan bush pilot — operates a flying service at Bemidji and presently serves as a city councilman. Ironically, I had been with Ralph in the Civil Air Patrol before WWII, but had failed to convince him that an Amateur Radio license was a valuable asset. Sometimes "apples" do fall a long distance from the tree!

The Ozone Club and the net on 21,435 kHz

Skillfully guided by Ralph Hasslinger, W2CVF — founder of this exclusive, diminishing group of radio old-timers — the net has quite a few of the more active members aboard at 1800Z on Mondays.

W2CVF announced that 208 applications had been processed up to the last Monday in January, and that "the rush" seems to be over. The preliminary membership as of November 1980 had 151 members processed. A year later, in November 1981, there were 203. How many more there may be who qualify is, at best, a guess.

If readers know of anyone who might be eligible, contact Ralph Hasslinger, W2CVF, 28 Warren Place, Glen Rock, NJ 07452. It will be much appreciated by Ralph and the Ozone Club. If this is reprinted in radio club publications, it might bring out a few more.

To give you an idea about the qualifications for membership: you must be a presently licensed amateur who operated an amateur spark gap transmitter as a licensed amateur. Since the use of such mode became obsolete when radio tubes were used in the early '20s and "outlawed" by 1927, will there be 300 of such now alive in the world? To date, there are only one or two DX members — one in England. If working DX and working an old-timer, listen carefully to what he says; he might be another prospective Ozone Club member.

Can code be used on the Club net? Definitely *YES! IT IS WELCOME!* After all, it was the "language spoken" by this group of old-timers!

National International Net — 21,150/2300Z

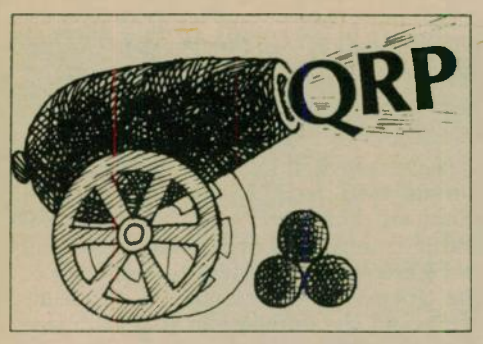
Thank you, Chuck Clark, K4ZN! Your boost should be especially appreciated by Novices seeking an opportunity to participate in a long-distance traffic net in the middle of the Novice 15-meter band. They must learn, however, to operate in an undirected net, making calls for stations to relay their radiograms. It has been pointed out a great number of times that listening to ARTS (Amateur Radio Telegraph Society) operate on or about 7060 kHz between 1400Z and 1500Z is the "easy way" to learn. For those unable to listen during the morning, there is an evening net on or about 3560 kHz which operates in the same manner, *without need of net controls,* between 0200Z and 0400Z. Note the smooth manner such nets — the latter called TTN — operate. They do not operate at high code speeds and never seem to hurry, yet look at the great number of radiograms they handle. Check QST!

I can think of no better "school" which you can "attend" in order to learn that you can and must get along on your own. Without a net control station leading you, you learn to become self-reliant, and to listen and determine for yourself *just what is going on!* In this column it has been pointed out that, until you can listen through a little QRM, there is slight chance you will be able to handle traffic in the future. In fact, even carrying on a QSO may be difficult for you. The average Novice and too many other licensees place undue emphasis on "sending" and not enough on learning how to receive without writing everything down!

A few things were mentioned recently about QRM and the need for filters to aid you in following the signals you wish to copy. Actually, there is no better "filter" than that with which you were endowed — your own ears and brain. Provided, of course, you listen around the bands enough — particularly traffic nets — to learn to use such marvelous "filter!" Learning by listening to code gives you the ability to *know what is going on* without having to scribble everything down and then trying to translate it. There is no "royal road" to learning such skill.

Again and again, I've heard stations in QSO that complained to each other to the point they "pulled the big switch" — when, if they had developed the ability to *listen and receive*, they would have known that the QRMing stations were making plans to move off the frequency.

Hopefully, there will be stations coming aboard 21,150 kHz at 2300Z handling traffic within the next few months — listen for them, and make up some radiograms yourself to pass on such frequency. That is the only way to build up a net frequency. Use it, advertise it and enjoy it. NIN needs your help, and sometime you may need NIN! Read the "Traffic" column by Chuck Clark, K4ZN. Future NIN announcements may be carried there, or in short articles near the "Traffic" column! □



QRP — wow!

Robert Iler, KA0JCE

After being a radio amateur for 18 months and thoroughly enjoying my TS-520 Kenwood with all-band trapped inverted Vee, I approached a new possibility. Should I purchase a used beam and amplifier or try QRP?

I tried QRP and was absolutely amazed! The first thing I did after buying the rig was string a 40-meter dipole across the roof. Then I purchased an Argonaut 515 and tuner SSB, CW 5 watts PEP.

My first contact on 40 meters into Ohio was reported 589. After a half dozen more contacts — including Minnesota, Illinois and Georgia — my average RST was 569. Not too shabby for a 2-watt output. Reports on my Kenwood and inverted Vee couldn't have been much better.

I next decided to try SSB. Reports were great. 5-7's were common. The only drawback was I found QRM blocking me out on crowded bands. Conditions definitely had to be good to assure a pleasing report.

Then, using my tuner, I took a shot at 15 meters on the 40-meter dipole. If QRM wasn't bad, stateside contacts were easy. I still had three bands that were not resonant to my 40-meter dipole. So I strung a long wire and attached it to my tuner. As a result, I received a good SWR on 10 meters.

One day, unexpectedly, I heard Caracas, Venezuela coming in 59+ on the same band. I debated whether or not to attempt a contact. While Phil (the YV operator) finished his QSO, I decided to give it a try. Keying the mike, I called, "This is QRP calling, QRP calling — YV5 — this is KA0JCE. Do you copy?" The result: silence. I called again and again. Silence. Just when I had lost all hope, to my amazement Phil said, "Please all stations calling me, I want the QRP station." Phil gave me a 5-5 report. We talked for 5 minutes. I gave him much thanks, and requested a QSL card which would be sent direct.

That QSO is what really hooked me on QRP. My Advanced ticket gives me somewhat of an advantage with QRP. It's nice to operate on the lower frequencies which aren't as crowded. Imagine if everyone ran on low power, the delight of eliminated QRM.

My experience has caused me to never just call CQ on QRP. I now listen longer and more carefully. When a QSO is finished, I go after the louder station. All of this has also carried over to my high-powered rig (90 watts). I've become more of a listener.

Another advantage I immediately noticed about QRP equipment is its lightness and portability. It really comes in handy for backpacking, camping, etc. I am presently building a small wooden box to carry the rig in. That will make it easier to transport and will provide it with some protection.

I'm not attempting to put out a sales pitch for this particular brand of QRP, but I'm very pleased with the little Ten-Tec Argonaut. I am also currently constructing an 80-meter dipole to observe the results compared to a long wire.

If you're undecided about experimenting with more power, I urge you to give QRP a chance. It is a challenge, but well worth it!

In closing, I wish you lots of DX and hope to meet you on the bands with my flea power. 73s from Dubuque, Iowa — Bob KA0JCE. □

Forget QRO

Joe Schroeder, W9JUV

Re QRO: serious DXers should try QRP to learn how little QRO does for those who run 3 or 4kW instead of legal power.

In the CQ WW CW, I used a Heathkit HW-8 *only*, with a dipole on 15 and a two-element homebrew plumber's delight on 20. In 11 hours I made 97 QSOs with combined country multipliers of 51 and 31 zones — with measured output of 1.1 watts! Tried the same setup in the recent ARRL fray and logged 145 QSOs in 16 hours with a 61-country (two-band) multiplier . . . including 4S7MX (first call) and EA9GK (second call) on 20! And I bet I had more fun doing it than one of the locals whose QSO total for the weekend was an incredible 2,250!

QRO — phooey! Even a KP4 is a thrill with 1 watt into the feedline, and when a Siberian comes back (and I worked seven UA/UK 9/0 stations on each band) . . . Wow!

— *The Richardson Wireless Klub, TX* □

Wow!

Frank Pfeiffer, KJ6V recently competed in the ARRL International DX Contest. He made 750 DX contacts in one weekend. □

TRAFFIC

Chuck Clark, K4ZN
Assistant Director
Roanoke Division, ARRL

Phone patching

Included under the definition of third-party traffic is the phone patch. You won't find much on this subject in anything from ARRL, particularly in what comes from the Communications Department. Until about 1970, ARRL completely ignored the topic and replied to anyone who asked that phone patching was illegal. But it was being done, and had been done ever since amateurs began to use voice. The ARRL knew about it, the FCC knew about it, the telephone people knew about it, but it wasn't causing anybody any trouble, wasn't costing the phone company any revenue, and in many cases it was a significant public service.

Then a decade ago, a manufacturer of commercial two-way radio gear offered an accessory to allow commercial users to patch a phone line into their radios, making it possible, for instance, for an ambulance driver to talk directly to a doctor via phone patch instead of having the base-station operator repeat everything from one circuit to the other. A telephone company filed suit asking for an injunction, because such a device was illegal, contrary to the phone company's tariffs. The judge refused to grant the injunction until he could ask the FCC about it, because the defendant claimed that the phone company's tariffs were too restrictive. The FCC agreed, and started rule-making proceedings to regulate private devices to be connected to the public phone system.

QST has carried several articles since that date telling how to do it, what the rules are, and some of their publications discuss it too. But there has been no effort whatsoever to organize it, nor any attempt to set up a National Phone Patch System like the National Traffic System. About all you hear from the ARRL Communications Department is an occasional warning to keep it legal. Organization has come from elsewhere.

Independent nets

While some patches are arranged through the National Traffic System (NTS) by an exchange of formal messages between stations, or even by contacts made on those nets that don't have a policy of not permitting it, most of the organized patch activity takes place on the independent nets, and probably more on 20 meters than on any other high-frequency band. You can find a net in session nearly any time of day on 14,313 kHz, for example, that can arrange a patch for you. This frequency has become Amateur Radio's maritime calling frequency, where persons at sea make contact with the folks back home, but the amateurs there are happy to facilitate a patch for anyone.

VHF patching is governed by the same rules, but is otherwise quite different. It deals mainly with local calls and is usually controlled by the operator making the call (autopatch), normally from a mobile station, with no need for the base station (usually a repeater) operator to take any action. This discussion concerns HF patching.

Public service

Nobody objected to amateur phone patches, primarily because they provided a valuable public service. They still do. Explorers in the Antarctic, military personnel everywhere, missionaries in the Amazon jungle, merchant seamen away from their families for months at a time, and many others have found Amateur Radio's services a great boost to morale, and in many cases actually a means of saving lives. A baby's cry may be a nuisance to many people, but to a young father snowed in at McMurdo it can be the sweetest of music. And a doctor at a remote outpost often would be unable to help a dying patient without Amateur Radio's facilities making it possible to consult specialists or obtain special drugs.

Phone patching has some problems in common with handling formal traffic, some that are peculiar to itself. One problem the two have in common is really a mutual problem: the lack of liaison, in many cases, between the two. It often happens that someone seeks a patch when a formal message via NTS would be just as effective, much easier, and more economical of spectrum. And there are times when formal traffic is too slow or when two-way conversation is really needed to discuss something. There have been some efforts to have stations which specialize in handling formal traffic, check into the phone patch nets on a regular basis, but they usually find the pickings rather slim.

Another common problem occurs when one tries to explain to the non-amateur recipient of the message or the "patchee" that everything is quite legal, there is no hidden charge involved, that this is not a crank call, nor is it a prank. In addition, the patch operator has to instruct the non-amateur on proper procedure, regulate the signal levels to transmitter and phone line (turn the receiver audio *down* to make the person at the other end speak louder), monitor to be sure that no illegal transmissions occur, perhaps adjust the rig to compensate for frequency drift, and in many cases switch between transmit and receiver. Both formal traffic handlers and phone patchers must keep records of the traffic. Formal traffic handlers usually do this by retaining a copy of the message in the file. Phone patchers may record the names of the persons being patched and a description of what was discussed, or they may make a recording and keep that on file.

There may well be more amateurs who are equipped to make phone patches than there are amateurs who handle formal traffic on any kind of regular basis. And there are some who rival the regulars of the Brass Pounders League in the time spent and the numbers of patches made during a typical month.

Senator Barry Goldwater's club station K7UGA does an enormous volume of patching — some 50,000 during the Vietnam War, for example. And I received letters recently from Jerry Swank, W8HXR, who specialized in handling traffic for Antarctica, with 10,000 contacts and 25,000 hours operation to his credit. To put that figure in perspective, remember that there are slightly under 8,766 hours in a year, and Jerry presumably had to eat, sleep and earn his living as well. The work of Jerry and many others like him has its reward, however, in the appreciation of the people it helps.

Finn Ronne, for example, in his book *Antarctic Command*, tells of his experience commanding Ellsworth Station during the 1954 International Geophysical Year, and has much to say about the problems and difficulties they faced, often life-endangering, because of bureaucratic foul-ups, incompetence, injured egos, and other weaknesses — and at times maliciousness of human nature. But one aspect of his expedition received nothing but praise, and that was the support he and his men received from Amateur Radio.

Words from an expert

As my experience with phone patching is quite limited, I've decided instead to let Jerry do the talking on this subject, giving some excerpts from his two letters.

Jerry says he prefers to switch manually. If the local party stops talking long enough for the VOX to drop out and the radio noise comes on the line suddenly, it can be upsetting. Furthermore, the station at the other end will be using push-to-talk if it's a military unit. "Did you ever try running a patch in noisy conditions with one station running PTT and the local running VOX?" Jerry asks.

Guidelines for the operator: Jerry says, "Probably the most annoying is the habit hams have of joining the conversation." Shut up and let them do the talking. Especially if you're using a long-distance line that they are paying for by the minute, don't make them pay for listening to you gab. We're offering them a communication service. What they would like most of all is to be together by themselves, but since that's impossible, we do the best we can and make our presence as unobstrusive as possible. Incidentally, that's good advice for amateurs who deliver formal traffic too. We are unavoidably involved in other people's private affairs and so should be discreet in what we say.

Next in importance, says Jerry, is not to put your party on the air until the conversation actually begins. Don't broadcast the dial tone, exchange with telephone operator, or your conversation with the person you're patching. It serves no useful purpose, and sometimes can do serious harm. And it's illegal — unnecessary transmissions. Sometimes, too, it's possible for the other station to clear other traffic while you're arranging your patch.

Jerry says he never explains anything to the telephone operator; it only confuses things. He just says, "Station to station collect. Tell them Joe is calling." When the party answers, the operator will say, "I have a collect call for anyone from Joe. Will you accept the charges?" And of course there is an enthusiastic answer, "Absolutely!" He then says, "This is Jerry in Ohio and I have Joe on the line. He will talk first, and when he says 'over' it is your turn to talk."

If conditions get too bad, he says he will try again another time. After the patch is the time to explain how it is done — if the party is interested — and perhaps add other details, but not on the air. As Jerry has specialized in Antarctic patches, he can answer many questions that may occur to the folks back home. But again, do it only if the party wishes.

While ARRL has no organized phone patch activity, MARS does. Lately, even places where military personnel used to send their patch traffic on the amateur bands — such as Antarctica — are now turning to MARS circuits, perhaps because of the increasing congestion on the amateur bands, and perhaps also because of the immature individuals who derive some kind of morbid pleasure from disrupting patches.

Jerry had his battles over the legality question too. He asked the FCC in Washington, and was told the FCC has no jurisdiction. "We assign frequencies to the Navy and they do as they please with them. What they do in Antarctica is their own business."

He asked the nearby monitoring station in Chillicothe, Ohio. They said they were quite aware that he was running the patches. He said sometimes he didn't break for ID in the middle of a patch even though it might run for an hour. They replied, "No, we would never cite you for that. You are performing a good service. The rule is 'as soon as possible.' You do that."

One of the ex-"Pole Cats" later went to Greece, and Jerry kept a schedule with him on 15 meters. His mother — Carolyn Smith, WB6UVU — often couldn't hear him, so he made tape recordings from one and played it to the other. He asked the FCC about that and was told it was OK since all three were licensed amateurs.

Then he told all that to an ARRL director at a meeting and was told it was illegal. "But the FCC says it's OK." Jerry was told, "Don't take those guys' word for it. They don't know what they are doing. I would go by what the ARRL says." Strange! But then he was only one individual even though a member of the Board of Directors; he was not the ARRL.

Lincompex

A speech-processing technique that has been around nearly 20 years offers much improvement in voice communication, and would be particularly useful in phone patch work, but I've never seen it even mentioned in any amateur publications. The sideband signal is completely compressed, so that loud and soft sounds have the same amplitude. The audio input is rectified at the same time, giving a DC voltage varying with the amplitude of the modulating signal. This voltage is used to frequency-modulate a carrier at about 2800 Hz, shifting 2 Hz for each decibel change in audio level. The audio itself is passed through a low-pass filter, cutting off around 2500 Hz.

The receiver's processor includes a variable-gain amplifier which restores the amplitude variations as recovered from the 2800 Hz FM carrier. As a result, the weaker components of the voice signal are protected from being swamped by noise, and the improvement in intelligibility is found to be 10dB or more, often giving wire-line quality to what would otherwise be marginal. The system was developed by the Bell Telephone Laboratories and the British Post Office. It would probably require special temporary authorization from the FCC for amateurs to use it, but such experimentation is explicitly encouraged by the FCC and so authoriza-

(*please turn to page 48*)

Kurt N. Sterba

I looked, I pondered, I sat baffled. Could I be wrong? Or could the magazine I saw it in be wrong?

What I'm referring to is the antenna on page 48 of the January issue of **QST**, called a two-element wire beam. The puzzle is that both elements are the same length. Now I had been taught that for an element to act as a director or a reflector it must be either shorter or longer. Or, it must have a phasing line which makes a phase shift. Neither condition was met by the diagram or the text. Perplexing.

While I may be stubborn, I'm not pigheaded. So, trying to keep an open mind, I called the noted antenna authority, Ryan Johns. As I started to phrase my question, he mentioned he had already seen the article and started to laugh. I tried to get a coherent statement out of him about it but he just kept on laughing.

I guess Doug DeMaw was off QRPing in the Caribbean again when the staff was working on that page. It's also expecting a bit too much to call a two-element antenna a device that will give 6dB gain over a dipole.

Also, some of the articles lately have been saying that a Yagi gives a lower angle of radiation than a dipole. Sorry, *NO*.

The February issue of a magazine which claims to be very technical contained this statement, "a truly high-performance short antenna . . ."

Sorry, but that is indeed a contradiction in terms. They were describing a 12-foot antenna to be used on 10-15-20. First of all, even a full-size dipole is not a "high-performance" antenna. Such is merely a "unity" antenna and is the basis from which we judge upward.

Now, one might say, "good performance for its size," and that could be accurate. But there is no way that "truly high performance" can be applied to such a short antenna, no matter what you do, unless you repeal the law of physics.

If anyone says, "But it loads up with a very low SWR!", let me refer you to the 50-ohm non-reactive resistor in your dummy load, about which you can make the same statement.

A very interesting letter came in from Yuri Blanarovich, VE3BMV.

"Dear Kurtain Sterba,

"Congratulations on excellent and very practical notes in your column. I have some experience that perhaps do not jibe with some of the 'rules' in the textbooks, but I have arrived at them by experimentation, which could be reproduced and observed.

"One of them is the question of insulated wire. I have to disagree with your and K9CZB's statement that insulation has no effect on the length of the antenna wire. I have found that the insulation makes the electrical length of wire shorter than if the wire was bare. I actually had a problem with people reproducing my Razor Beam antennas. Some resonated about 300 kHz higher than they were supposed to, and others were right on.

"Finally we had an opportunity to verify things with K2US, who built the five-element version of the Razor and when he used the bare wire, sure enough he was 300 kHz up.

"After he tried the #12 insulated electrical wire, he was exactly on the frequency that the formulas were asking for. That solved the 'mystery' and proved that if you use insulated wire, the length has to be shorter than if the wire were bare and uninsulated.

"Another time I made a vertical with bare wire and taped it to a bamboo pole. I couldn't get the beast to resonate. When I suspended the wire on plexiglass insulators, voila — it was right on.

"So I have to confirm and support what Jerry Swank, W8HXR says!

"One note. Don't be afraid to experiment. Many commercial 'brains' know the stuff from all the books that could be a little bit out of touch. Earth is not flat after all.

"Good luck and keep up the good work!"

Thanks, Yuri for your observations. I certainly enjoy reading your fine DX column in 73 Magazine.

What I *don't* enjoy there are recent editorials about abolishing the CW requirement for an amateur license. A lot of hogwash is raised like "many electronic technicians and engineers would become amateurs, but the code stops them." So what? A lot of aeronautical engineers don't have a pilot's license!

The editorials say the reason Japan has done so well in electronics is because th technicians and engineers sprang fro the ranks of non-code hams. Bunk! Ov 90 percent of Japanese hams hold onl lower grade phone licenses, and "regular hams refer to them as "Monkey Chatter. They are not the captains of industry.

The 73 editorials call CW obsolete an refer to devices that whiz 2,000 words minute back and forth. What if the break?

Sure, practially everybody has a typ writer but handwriting is still taught.

CW is a form of communicatio Definitely. Our astronauts still have CW equipment on the space vehicles. Whil your chances of being a captive of th North Koreans and spelling out t-o-r-t-u r-e by blinking your eyelids while bein part of a propaganda film, or being downed flier and making a tap for a di and a scratch for a dah while in the Hanc Hilton, is remote, CW is still good t know.

Amateur Radio has received muc space in the press by being on the scen when a ship called SOS. I'd hate to see wire service story quoting a ham talkin about some "little beeps" he kept hearin

but didn't know what they were.

In an era in which some people complain about having to go to law school before they can practice law, let's at least have some standard in Amateur Radio. It is the one thing you can't buy or be tutored for. You have to work at it.

A fighter plane today carries more firepower than squadrons and squadrons of B-17s, but the pilot still has to take training on a rifle.

CW is fundamental and a valued resource. In any form of emergency a tiny CW rig drawing next to no power could still communicate. If all commercial power were gone, storage batteries run down, gasoline unavailable for generators, a signal could be produced on CW by a rig powered with a little 9-volt transistor radio battery.

There is no "practical" reason for getting rid of the code and every reason for retaining it.

Back to antennas. Here is a real solution to a pressing problem. It may sound impossible, but as Yuri said, "Don't be afraid to experiment."

The Point Mugu Amateur Radio club, WD6BZS had trouble getting an RF signal through the all steel and concrete of Los Angeles Convention Center. They were there to demonstrate to the convention of handicapped that it was possible to become an amateur even if deaf, totally blind or with severe mobility disabilities.

Regulations prevented the Point Mugu Club from putting up an antenna anywhere inside. Plus, they could not run a wire on the walls or any structure. How would they get outside?

Jerry Kessler, WA6CAM, Laura Linder, WB7UZY and Bill Chandler, N6BED solved the challenge by taping over 100 feet of #12 wire on the concrete floor across aisles, through doorways, down ramps, finally outside and into a patio. The last 10 feet was run up to a small tree.

The results? Minnesota, Washington, Nevada, Oregon, Washington and many California stations on SSB and CW.

For three days, Ed Sanders, WA6VJP operated the 20-meter station and Bob Clark, K6BGU was providing information, being the ambassador of good will to the handicapped for Amateur Radio.

The Point Mugu Radio Club spent their time opening horizons for those whose disabilities preclude many other activities.

Others demonstrated 2 meters, RTTY and computers. We must applaud those who give up their own leisure time to help others.

Next month, Lil will be back and she promises to make her propagation forecasts.

(The writer of this column goes under an alias so he may go to conventions and not have people he writes about stick out their tongues at him. He is a sensitive soul, as you can tell.) □

•••••

Callbook oddity

Have you noticed that N6AET, W6AET, WA6AET and WD6AET are all YL operators? Everett Taylor, W7BYF brought this to our attention. □

More on verticals

Dear Kurt,

The correspondence in the March 1982 edition of **Worldradio** with regard to verticals inspired me to write in order to throw in my 2 cents' worth on the subject.

Most designs used for verticals — both commercial and homemade varieties — are quarter-wave vertical elements, which means they are low impedance when fed against a counterpoise. The resistive part of the impedance of such an antenna over a *perfect* ground is about 30 ohms. This means that every ohm of resistance in a real ground system soaks up about 3 percent of your precious transmitter power. Since it is difficult to get a ground resistance as low as 10 ohms without a fairly extensive set of radials, you are doomed to waste at least one-third of your RF power heating your lawn under your vertical! I once demonstrated this beautifully on 40 meters when I fed a 32-foot pole against an 8-foot ground rod. It matched beautifully, but wouldn't get out worth a hoot. An ohmmeter check between my ground rod and a water pipe revealed a 20 ohm resistance for the rod. This added well to the 30 ohms of the antenna to give me an impedance of 50 ohms, but 40 percent of my power was going into the ground.

The important thing to remember is that the crux of the problem is the combination of low impedance and base feed. If you don't feed the antenna against the ground, you don't have to take this loss.

Some years later I built a successful (not "excellent, however") vertical* without radials. It was simply a *half-wave* vertical, center-fed, with one end standing on a ceramic insulator a few inches above ground. The only ground losses were the very slight losses from the electric fields from the high-voltage lower end of the dipole getting into the ground. The antenna was a stack of various aluminum pipes that totaled 32 feet. It was center-fed with a gamma match on 20 meters, and gave me respectable reports from Ohio into Europe and Africa with 100 watts on CW. The bottom-fed sleeve dipole is another example of this; it is merely fed using the tubular section of the dipole as a balun for the coax; it is not fed against any ground. When this sleeve is expanded into a cone or series of sloped radials, you have the familiar "groundplane" antenna.

I just wanted to point these things out so your readers wouldn't avoid verticals all together. They do give lower angles of radiation than low horizontal dipoles, and are very efficient if fed properly. You can feed a half-wave dipole from the end, too, with a proper impedance transformer — a parallel resonant circuit-fed with link coupling or one-turn tap works well. The popular ⅝-wave vertical popular on 2 meters is a variation on this.

73,
FRED J. DIETRICH, W6MOH
Palo Alto, California

**Dietrich, F.J., 73 Magazine, October 1966*

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

CONSTRUCTION

Chuck Clark, K4ZN
Assistant Director
Roanoke Division, ARRL

Power supply

For most of us most of the time, the energy needed to operate our rigs comes in by way of a commercial power line. It's right at hand, it's reliable, it's economical. And our rigs are designed to use it. True, it's AC and we need DC — and often at a different voltage — but the needed transformers, rectifiers, filters and regulators are readily available. In fact, they are usually either incorporated in the rig itself or in a matching power supply.

Building a power supply, however — even designing it from scratch — is a good project for the beginning constructor, as there are fewer pitfalls along the way. If you are careful to provide adequate insulation, use parts adequately rated for the voltages and currents involved, provide sufficient ventilation, and do a sound job mechanically, you should have a power supply that does the job as soon as you turn on the switch, with no debugging required. You don't have to worry about feedback, stray coupling, lead inductance and other things that cause other parts of electronic gear to function differently than intended. And you will save money in the process, too, if you shop judiciously for the parts. Surplus dealers have plenty of them — any voltage, any power level.

Alternate energy sources

There is too much to say about AC power supplies to be able to cover it in this space, and it's not necessary, as you can find it in any electronics handbook. But for those of us who don't have AC available, there are other possible sources of energy we can use. And all of us at one time or another do not have AC available, either because we are in a place not served by AC lines or because those lines at the moment are inoperative.

Power sources other than AC lines used by amateurs would seem to fall into three groups: locally generated AC, batteries, other sources.

Engine-driven generators

Standby generators are available in capacities ranging from about 1500 watts on up into the hundreds of kilowatts — in fact, up to sizes used by commercial power companies. The smallest are powered by gasoline or LP gas (propane or butane), intermediate sizes either gasoline or diesel, and above about 100 kilowatts are usually powered by diesel engines because they are cheaper in first cost and also more economical to operate in larger sizes. The smallest units will power most amateur stations and are readily portable. But many of us find that the small additional cost of a larger unit is worth it because it makes it possible to have standby power for the entire house. It may even provide the selling point to convince others in the household of the wisdom of the investment.

If our interests in Amateur Radio are limited to ragchewing or working DX or chasing awards or winning contests, a power failure is merely a nuisance to us, and it may be a blessing to others in the family as it makes it possible for them to communicate with us for a change. But if we are concerned about Amateur Radio's public service aspects, we need standby power because often it is precisely when commercial power fails that our services are most needed.

If your generator merely powers the amateur station, you will probably set it in a sheltered place outside the house and bring the power in by an extension cord. A larger unit, capable of supplying other essential loads in the house, will usually be wired permanently into the regular house circuits. Local codes may require that this be done by a licensed electrician, or at least that it be inspected. You may be tempted to connect a plug on each end of an extension cord, plug one end into the generator output, and the other into a convenient wall plug. *Don't do it!* While it will work, it can endanger the lives of men working to restore your power if you don't disconnect the main breaker before you plug in. Your generator's output will be stepped up by the distribution transformer to the primary voltage, 2300, 4600, or even 7200 volts, and fed into the line. Install a double-throw switch, with one side connected to the commercial service, the other to your generator. Yes, these switches are expensive — $100 or so, depending on the current they have to handle, but the risk is too great to omit them.

Battery power

The most readily available alternate energy source for amateur gear is the battery. QRP rigs can operate from flashlight or lantern batteries, but battery energy is very expensive, costing 50 or 100 times as much as energy purchased from the electric company. If nothing else is available, however, it will work, and in some cases the convenience can outweigh the extra cost.

But the widely available automotive storage battery, as well as other types of storage batteries, are much more economical, and are probably the best for amateurs who don't want to go the generator route. Here's where solid-state gear really pays off.

For tubes, you have to convert the battery voltage (usually 12 volts) to some higher figure, like 250 or 400 or even higher. There are three ways it is done. The oldest, dating back to World War I, is to use a low-voltage DC motor to drive a high-voltage DC generator. By the time of World War II, the usual form these devices took was the dynamotor — a self-contained unit with a single set of field coils, two sets of windings on the armature, and a low-voltage commutator at one end and a high-voltage one at the other. There are still plenty of them on the surplus market, and probably will be for a long time, because few people use them anymore.

When auto radios became popular in the 1930s, vibrator supplies appeared. A mechanical vibrator — similar to a buzzer — interrupts the current in the primary of the transformer, inducing a current in the secondary. The transformer steps the voltage up to whatever is needed, and the AC is then rectified. You will find few vibrator supplies any more, and buying a vibrator for replacement is almost as hard as finding an ear trumpet for a deaf person or a button hook for shoes. Dynamotors are long-lived machines, but do require some maintenance. But vibrators were too prone to trouble to last long after better things arrived.

And the better thing in this case was the transistorized power supply. A pair of power transistors act as an oscillator, operating at the battery voltage. The AC output of this oscillator is stepped up in a transformer and rectified, as in the vibrator supply. Usually a special toroid transformer is used, but some amateurs have built supplies using ordinary filament transformers. The design of such supplies is also beyond the scope of this column. Recent electronics handbooks will give you the needed information if you wish to build one.

But now that solid-state components are available for transmitting and receiving on frequencies all the way up into the GHz range, there's little need to boost the voltage like that. Most modern amateur gear operates on 12 volts these days, so you can take your power directly from the battery. That makes it easy to operate mobile, but it also makes it easy to arrange the home station to operate from emergency power. All you need is a 12-volt battery and some way to charge it. The latter can be a power line-operated charger, or you can build a small generator set, using a gasoline engine and an automotive alternator, with an automotive regulator in the circuit to control the charging rate. The battery can be located anywhere convenient. An AC powered charger can also be located anywhere, but a gasoline engine used to charge batteries would have to be kept outside.

Other ways

The phrase "alternate energy sources" to most people would mean something other than commercial electricity, engine-

riven generators and batteries. Solar, ind, water and muscle power come to ind, as does methane gas produced by rganic decomposition. Some amateurs ely on such sources of power for perating their rigs on a regular basis, ut most who do it probably do it mainly o they can say they did it. Proably few ould go to the trouble of developing an lternative energy source for their radio ear to provide a backup for commercial ower, for the alternate source could well e less reliable than the commercial ource. Perhaps more of us do it to get a ew bonus points on Field Day than for ny other reason.

Here are remarks on a few such sources:

Solar power. In a sense, most sources of nergy are solar power, as the sun is our rincipal source of energy. But the term is sually restricted to methods of utilizing he sun's radiations directly, not through he intermediary of fossil fuel.

There are two ways to use solar energy: echanical conversion and photovoltaic ells. In mechanical conversion, the sun's nergy drives some kind of engine that in urn drives a generator. For example, the un's heat boils water that provides team for a steam engine. This approach as never been popular, for wherever you ave a mechanism you risk mechanical roblems. Photovoltaic cells, on the other and, offer an ideal way to harness solar nergy. They are small, reliable, with no oving parts. Their price continues to ecline, and as it gets lower you will see ore solar cells being used to supply ower for amateur stations.

You should not find it difficult to esign a power supply using silicon cells. ach cell develops about half a volt, with urrent depending on the size of the cell. ust put enough in series, adding more trings in parallel if you need more power, nd feed the output through a rectifier iode. Use a storage battery if you wish. he cost? Something under $20 a watt at his time, and going down.

Water power. If you have a suitable tream nearby, it might serve as a power ource. But exploiting it is an engineering roject too vast to be discussed here. You ay find the information you need in a ublic library, or may prefer to have a ivil engineer advise you. In some states ou may be required by law to have such rojects under the direction of a egistered professional engineer. One hing to bear in mind, though, is that it akes a lot of water to generate any useful mount of electrical energy.

Wind power. Here is an old standby. Wind power opened up the United States or settlement. Seventy-five years ago, ost farms relied on windmills to pump ater. And before commercial electricity ame to rural areas, farmers used wind-riven generators to charge batteries so hat they could have electricity. Several irms still make such generators, and omebrew specialists should have no rouble finding designs for build-it-ourself units.

There are the usual designs driven by a ropeller, but other types have been built oo, such as the Savonius rotor using two uckets in an S-shaped arrangement on a ertical shaft, or a type of windmill that as a groove for a V belt on its outer eriphery, making it possible to drive a enerator without any gearing. At this ime, most of us will find wind power the ost feasible of the alternative energy ources. But even it does not come heaply.

Methane. When organic matter decom-oses in the absence of oxygen, methane as is one of the byproducts. Methane gas s the main component of natural gas, and so can be used as a fuel to drive an engine to produce electric power.

Organic matter — which can be garbage, sewage, leaves, wood scraps, waste paper — is digested in a tank at a temperature of about 95° F. (35° C.). Bacteria do the work. The matter can be held for about three weeks before it is completely digested, but it still has value; it is good fertilizer, even better than it was when it went in.

One pound of organic waste generates about 25 cubic feet of gas. The manure dropped by one chicken can be used to generate about one-fourth watt continuously. So a 4,000-chicken poultry farm could generate a kilowatt continuously, or about 720kW hours per month.

Muscle power. Every Field Day has a few amateurs pedaling a stationary bicycle to power a QRP transmitter (50 watts or so is about the limit for most of us). There are many ingenious ways amateurs have connected their generators to the bicycles, and a study of their pictures in various Amateur Radio magazines may give some ideas. But there are generators manufactured expressly for bicycle use, to power headlights. They clamp on to the frame and are driven by a wheel, and generate enough power to operate a QRP rig, on the order of 12 volts at a half ampere or so, but it may be AC and so need to be rectified and filtered. You will also need some kind of regulator to keep the voltage constant if you power your rig directly, but you can just as well charge a battery and then use the battery later to power your rig. You might find it hard to pedal and operate at the same time anyway.

You can use a standard bicycle with the rear axle supported so that the wheel can rotate freely and drive the generator from the rear wheel, or else use an exercise bicycle and do some useful work while trying to fight the battle of the bulge.

You will find that most of these alternate energy sources cost at least as much as they save, but you are making a contribution to the well-being of the human race by using them — reducing pollution, conserving non-renewable energy sources, and in the case of muscle power, keeping the individual who provides the power in good physical shape. □

Ron Flynn, KB8LU

Many new and exciting things are happening on SSTV these days. Most of the talk and activity on the bands is centered on color SSTV and mods for the Robot 400.

Color SSTV is definitely here and becoming very popular. Nearly everyone involved in color SSTV is using a three-memory system in one form or another. The German SC422A scan converter comes with three memories and is ready to go on color. However, the vast majority on color now are modifying the standard Robot 400 into a three-memory unit using homebrew methods or purchasing one of several available modifying systems.

In using a three-memory system for color, one memory is designated red, the second green, and the third blue. A standard B&W SSTV camera can be used to produce excellent color pictures. A red, green and blue color filter is separately placed in front of the camera's lens as it is aimed at a color picture. Without moving the camera or picture, three separate snatches puts each filter's view of the color picture into the three memories. A composite overlay color picture from the three memories can be viewed on the color monitor.

The color picture can be transmitted sequentially from the memories. The famous "two, two and two" that you may hear on the air means that two frames from each memory are being sent. The filters most widely used are the wratten red #25, green #58, and blue #47B or the equivalent. A color video camera simplifies the process, allowing the operator to load a color picture into all three memories with one snatch. I am convinced that color pictures of equal quality can be produced by using either a color camera or B&W camera and filters.

To receive color SSTV with a three-memory system, some type of encoder or modulator board must be connected between the memories and the red, green and blue guns of the color monitor. The resulting received picture will have all colors and shades, as well as flesh tones, accurately reproduced. Because the pictures from all three memories overlay each other exactly, the coarseness of a normal B&W SSTV picture is greatly diminished. The qualify of the final color picture is nearly as good as fast scan color from a VHF broadcast station.

If you are interested in getting into color SSTV, comparing quality, ease of operation, service and economics, Sam Mormino, WA7WOD's 3000C three-memory color system for the Robot 400 is the way to go right now. He offers his system in kit form for the do-it-yourselfers or he will do the entire installation for you.

Mods, mods, mods

Among both color and B&W SSTVers, there has been considerable interest in installing mods in the Robot 400. Howard McAfee, KD6HF's four-quad mod has been widely published. It enables the standard 400 to store four individual and different 64 x 64 pixel pictures. With a three-memory system, 12 pictures can be stored.

Howard has now gone one step further and created the Zoom Mod. This mod allows you to take any one of the 64 x 64 pixel pictures from the four-quad mod and blow it up and transmit it as a full 128 x 128 pixel picture. The resulting picture will appear somewhat digitalized as each pixel and line is sent twice. Kerry Bickford, WA2NAN is the first one I've seen build up this mod and have it working on the air.

Tom Hibben, KB9MC has released his Graphics Overlay Mod. This mod permits you to hold a picture in memory and then superimpose either white or black graphics over the existing picture. The graphics can come from a computer, from your camera pointed at a letterboard, or they can be received over the air. I've superimposed three-dimensional color graphics over a color picture using this mod. Others have superimposed one picture over another for special effects.

Another very practical mod being used on the Robot 400 now is the First Sync Mod first developed by Howard McAfee, KD6HF. With this mod, whenever you move the TX select switch from voice to memory on the 400, the slow scan counters are reset and you begin transmitting a full frame picture right from the top. You simultaneously transmit a sync pulse over the air which resets all receivers so that your picture from memory is also seen right from the top. No more quarter- and half-frames sent before your transmitter and everyone's receivers get in sync. This mod is also very useful in making tape programs for later replay.

Generals on 15-80 meter SSTV

SSTV transmissions are now permitted throughout the General Class portions of 15-80 meters. This should encourag many people to get into SSTV. I'm look ing forward to working several General on SSTV who I couldn't work on 1 meters because of distances.

During the past few months, there ha been much on-the-air discussion abou suggested SSTV frequencies for th Generals. Opinions seem equally divided for various reasons, between the upper 1 kHz and the lowest 10 kHz of eac General band. I personally favor th lower 10 kHz of each General Class band I believe more Advanced and Extra Clas operators are likely to go to the lower 1 kHz with narrow band antennas to sen SSTV. Nevertheless, it will take time an patience to develop SSTV frequencies i the new bands. We'll find you and wor you wherever you decide to CQ SSTV.

SSTV nets

Brooks Kendall, W1JKF convenes th slow scan net each Saturday at 1800Z o 14.230. Tom Murray, N7AON and San Mormino, WA7WOD are operating Slow Scan Technical Net each Thursday evening at 2400Z on 14.230. Check int either net with your questions or in quiries, list SSTV equipment for sale, o send some video. See you there.

Dayton 1982

The Dayton Hamvention, 23-25 April is only a few weeks away. There will be big Friday night SSTV get-together Jeremy Royle, G3NOX will be a featured speaker. Don Miller, W9NTP hopes t have his 8 second color system to show George Steber, WB9LVI will be display ing his new scan converter which transmits 256 pixel by 128 lines in 8 seconds. Gerald Klatzko, ZS6BTD is com ing. Hope to see you there!

Next month — SSTV and computers plus more on color SSTV and Dayton 73s. Please send your SSTV stories and activities to Ron Flynn, KB8LU, Rt. 2 Box 204, Bangor, MI 49013. □

Traffic

(continued from page 43)

tion should not be hard to obtain. And if the system became at all popular, the FCC would soon authorize it on a regular basis.

H.F. Communications in Frederick, Maryland manufactures Lincompex processors, as do others, but the price is out of the reach of most of us. Those interested who wish to go the homebrew route will find useful information in a QST article by John E. Kaufmann, WA1CQW and Gary E. Kopec, WA8BNU — "Homomorphic Speech Processor," March 1976, page 33. This is not a complete Lincompex (linked-compressor-expander) unit, but rather an audio compressor that uses similar principles; it reduces but does not eliminate completely the amplitude variations of human speech. But the circuits could be adapted easily, with the addition of the frequency-modulated sub-carrier.

One final consideration to bear in mind, however, is that most amateur transmitters would have to be operated at much lower power levels when using Lincompex, because the transmitter operates at a 100 percent duty cycle, full power continuously, as when transmitting RTTY. □

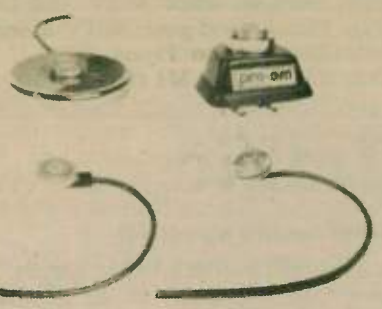
• People reaching People •
Amateur Radio is what Worldradio is all about.

PRO-AM mounts and antennas

Valor's new PRO-AM (Professional-Amateur) Line is compatible and interchangeable with the Motorola TAD and TAE type mounts. This system is used extensively in commercial two-way and Amateur applications. Two basic mounts offer installation into a ¾- or ⅜-inch hole; both utilize a 1⅛-18 thread for mating parts. All components are inspected and tested to rigid commercial standards to insure performance in the most demanding environments. Quality materials include stainless steel whips and set screws, nickelchrome brass parts, heavy gauge weatherproof coils, nickel silver contacts, and "O"-ring seals.

Four mounts are offered:

1. *Model PAS* — Basic surface mount. Installs in a ¾-inch hole in roof, fender or cowl. Includes 17-foot RG-58 with PL-259 connector.
2. *Model PAS38* — Basic surface mount. Installs in ⅜-inch hole in roof, fender or cowl. Includes 17-foot RG-58, PL-259 connector and instructions.
3. *Model PAT* — Heavy duty no-hole trunk mount. Black ABS cup, 17-foot RG-58 with PL-259 connector.
4. *Model PAM* — Low profile, chrome-plated magnet mount with 12-foot RG-58 with PL-259 connector.



PRO-AM antennas are divided into four types:

1. *Model PLB* — Quarter-wave base loaded low-band antenna. Five models cover 27-54 MHz. Electrical quarter-wave. 200 watt power-rated, with cutting chart.
2. *Model PAQ* — Quarter-wave unity gain VHF-UHF whips. 12 models cover 136-866 MHz. Passivated 302 s.s. whips factory tuned, ready to install. Nickelchrome brass base, 150 watt power-rated.
3. *Model PHB* — ⅝-wave 3dB gain VHF antenna. Two models cover 144-174 MHz and 220-225 MHz. 200 watt power-rated, with cutting chart.
4. *Model PUB* — Collinear 5dB gain UHF antenna. Four models cover 440-512 MHz. 200 watt power-rated, with cutting chart.

As original equipment, or replacement, Valor's PRO-AM series is ideal for professional two-way and discriminating Amateur Radio users who demand the very best communication products.

For more information on Valor's PRO-AM antennas, mounts and accessories, contact: Valor Enterprises, Inc., 185 West Hamilton St., West Milton, OH 45383. Phone (513) 698-4194; Outside Ohio: 1-800-543-2197. □

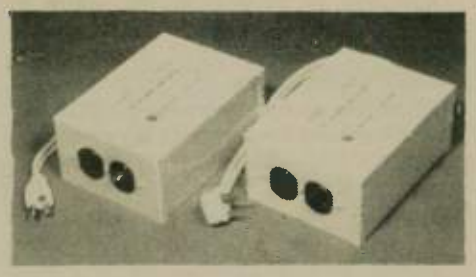
Varistor protected line filters

New heavy-duty 110 and 220VAC power line filters with Varistor high voltage/high energy transient protection have been introduced by J.W. Miller Division of Bell Industries in Compton, California.

Handling up to 15 amps, Model C-517-L1 (110-120VAC) and Model C-518-L2 (220-240VAC) five section LC network filters provide 50dB attenuation or better from 500 kHz to 300 MHz.

These filters are ideal for protecting minicomputers and other noise sensitive instrumentation from virtually all interference produced by copying machines, appliances, transmitters and other noise sources.

The filter can be used to protect sensitive



equipment from noisy power lines, and is equally suitable for preventing interference from being conducted onto power lines.

Additional information may be obtained from Joe Johnson, J.W. Miller Division, Bell Industries, 19070 Reyes Avenue, Compton, CA 90221; (213) 537-5200. □

Anti-static spray

Chemtronics Inc. has announced the availability of Static Free™, anti-static spray for use in the computer room.

Static Free™, which instantly neutralizes static buildup generated by friction and low humidity conditions, is completely safe for use on plastics, paper, cloth, rubber coatings and finishes. It may be used freely to eliminate static and its accompanying dust and dirt on data entry terminals, visual display terminals, magnetic tape and disc drives, etc.

Static Free™ is available in economical 16 oz., 454 gram cans from authorized Chemtronics distributors. Details about the product and names of local distributors are available from Chemtronics Inc., 681 Old Willets Path, Hauppauge, NY 11788. Telephone (800) 645-5244; in New York (516) 582-3322. □

Broadband tri-bander

Hy-Gain claims a new "Standard of Comparison" for high-performance tri-banders with the introduction of the Amateur Radio TH7DX antenna.

The TH7DX is a broadband tri-bander based on the excellent front-to-back characteristics of the older TH6DXX plus the superior VSWR characteristics of a dual driven element system. According to Hy-Gain, the combination produces an amazingly efficient broadband tri-bander without compromises.

During the development of the TH7DX, the company's engineering tests and research indicated that a higher average front-to-back ratio could be maintained on each band by employing a combination of trapped and monoband reflectors and directors rather than with fully trapped parasitics. Also, the gain bandwidth was broader and average half-power beam width was less. Research also showed that other tri-banders sacrificed gain and high front-to-back ratio to maintain a low VSWR across each band. And finally, none of the tested antennas covered all of the 10-meter band; most stopped at 29.2 or 29.4 MHz.

Based on these findings, the new TH7DX design features a dual driven element system that maintains a VSWR of less than 2:1 on all bands, including the entire 10-meter band. Both elements utilize Hy-Gain's efficient Hy-Q traps capable of handling power levels well in excess of the legal limits with a 2:1 safety margin. These traps allow element lengths of 0.225 wavelength on 10 meters, 0.203 wavelength on 15 meters and 0.185 wavelength on 20 meters. The dual driven elements are fed directly with Hy-Gain's 50 ohm BN-86 Balun. Hy-Gain's Beta Match provides both a DC ground and matches each band to VSWR of less than 1.5:1 at resonance. Rugged phasing lines and preformed feed straps facilitate easy assembly and consistent results even on installations by inexperienced amateurs.

The TH7DX also features a combination of trapped and monoband parasitic elements. Besides the two driven elements, there are two singly-trapped parasitics on 20 meters, one monoband director and one singly-trapped reflector on 15 meters, and one singly-trapped director as well as a monoband director and monoband reflector on 10 meters. Two of these singly-trapped parasitics are capacitively end-loaded to minimize the shortening effect and resulting in higher efficiency than would be possible with inductive loading. This combination produces average front-to-back ratios of 22dB on 20 and 15 meters, and 17dB on 10 meters. The average half-power beam width varies fron 66 degrees on 20 meters to 63 degrees on 10 meters. These outstanding broadband characteristics make the TH7DX an ideal antenna for "all-mode" operation.

Hy-Gain states that besides the high performance, the new TH7DX offers the amateur many other advantages. For one thing, the antenna is of manageable size. With a turning radius of only 20 feet and the longest element of 31 feet, this antenna is no larger than the well-known Hy-Gain TH6DXX.

The new TH7DX weighs only 75 lbs. With only 9.4 square feet of wind surface area, wind loading is 240 lbs. at 80 mph. This renders the TH7DX as one of the safest high-performance tri-bander antennas made and eliminates the need for and the expense of special heavy-duty towers and rotators.

Perhaps the best news is for current owners of the famed TH6DXX antenna. Hy-Gain announced that kit model 392S is available to convert the older TH6DXX to a TH7DX configuration for a suggested amateur net of $199.95.

The TH7DX, complete with stainless steel hardware, BN-86 Balun and heavy-duty boom-to-mast clamp is priced at $499.95. □

Microphone equalizer

The first in a series of new products for Amateur Radio is the HEIL EQ-200 Microphone Equalizer, for speech application to SSB and FM transmitters. The new EQ-200S allows you to equalize your transmit audio in a similar technique used for broadcast stations and recording studios. You now can salvage those hidden-away microphones that have brought you continually bad reports and equalize them to superior sounding speech audio, with good top-end articulation and sparkling sibilance, without the usually muddy low frequencies so common with dynamic microphones.

The HEIL EQ-200 is a battery-powered device, only 4-by-4-by-1½ inches. It plugs in series with the mic line and is simply adjusted by monitoring on a second receiver, using headsets, or with the help of a receiving station report. A helpful chart is included in the comprehensive operation manual that accompanies the EQ-200. Only three controls, microphone gain, low- and high-frequency boost and cut adjustments adjust the peaking and shelving active filters. Distortion level is .09 percent — far less than most transmitter audio sections. A wide impedance range will accept practically any type microphone. The EQ-200 will give your transmitter a 10dB increase of talk power with very clean and articulate audio.

RTTY/CW terminal

HAL Communications Corporation is pleased to announce the new CWR-670 TELEREADER receive-only RTTY/CW terminal. Featuring compact size and 12VDC operation, the CWR-670 is just the thing for the SWL (shortwave listener) or amateur interested in receiving amateur and commercial coded transmissions.

The CWR-670 has a video character generator and Morse code and RTTY tone demodulation circuits. To receive and decode Morse code or radioteleprinter transmissions, you need only a shortwave receiver and a video monitor. The CWR-670 will receive all standard radioteleprinter speeds from 60 wpm (45 baud) to 300 wpm (300 baud). Both the standard press "Baudot" RTTY code and the computer ASCII RTTY code may be received. Stations using the Continental Morse Code may be received at speeds from 4 to 50 wpm. A "computer-type" ASCII printer may be connected to the CWR-670 to obtain a full printed copy of all received text.

The CWR-670 is only 8 inches wide, 3 inches high, and 12¾ inches deep and operates from any 11 to 14.5VDC source, drawing 0.8 ampere. The CWR-670 can easily be slipped into a suitcase for a real "DX" outing! In the home shack, the TELEREADER occupies little space and can be connected to an external parallel ASCII printer for even more versatility.

For more information, write to HAL Communications Corp., Box 365, Urbana, IL 61801.

The EQ-200 is available, factory direct, from HEIL SOUND, LTD., #2 Heil Drive, Marissa, IL 62257. Their telephone is 618-295-3000.

Since 1966, HEIL SOUND, LTD. has been one of the major sound reinforcement contractors, building and operating thousands of state-of-the-art sound systems for the entertainment and commercial touring shows such as Dolly Parton, The Who, The Stones, The Billy Graham Crusade and recording studios, worldwide. HEIL, LTD. has been directing a portion of its research in the direction of communications and has made a major breakthrough for Amateur Radio SSB speech audio.

All-mode amplifier

MIRAGE COMMUNICATIONS EQUIPMENT, INC. is pleased to announce the release of our new 220 MHz amplifier to our ever-growing product line of amplifiers and peak reading watt/SWR meters.

The C106 amplifier is a solid-state "all-mode" amplifier designed to be used in the 220 to 225 MHz amateur band. It will amplify a 10-watt radio to more than 60 watts output, and a 2-watt radio to 25 watts output. The C106 is biased as a linear amplifier; therefore it can be keyed with as little as 300 milliwatts.

Other features include remote operation with the optional RC-1 remote head, external or internal keying circuitry.

The C106 carries a five-year warranty on all parts except the RF power transistors, which are warranted for one year. As with all MIRAGE products, they are only available through our worldwide dealer network.

For further information, contact MIRAGE COMMUNICATIONS EQUIPMENT, INC., P.O. Box 1393, Gilroy, CA 95020. □

HAPPY FLYERS

(*continued from page 39*)

operate better. We have found that this is mostly a problem in high ambient RF areas.

We also discovered that a number of DF units would skew to one side of center when no signal was present. We found that this could be corrected on some by replacing the 22mF electrolytic from pin 11 of the XR-2211 to ground. It was found that leaky caps will cause this. Some chips were more prone to this problem than others, so it was awhile until we discovered the leak. Occasionally, we have found problems with a leaky 4.7mF from pin 7 of the op amp to pin 2 of the XR-2211.

I am heavily involved in physical rehabilitation since the successful surgery by Dr. Cook, N6EHM, and it is very difficult for me to write personal answers to questions. I prefer you phone me after 7:00 p.m., Pacific Time. The rates are cheap now, and I can get the proper specifics I need to properly answer your questions. (415-341-4000). I cannot afford to return calls. (I am not home on CAP meeting nights — Wednesdays.) □

DX World

(*continued from page 27*)

8Q7KK	—SM2DYS
9M1BMK	—JA8MWU
9U5US	—WD5HUH
EA8AAY	—P.O. Box 860, Las Palmas, Canary Islands, SPAIN
M1J	—Juliano, Ca Raggio Borgo, 47031 Domagnano, SAN MARINO
PZ1AP/1	—P.O. Box 566, Paramaibo, SURINAM
3D6AE	—Lorna, P.O. Box 1334, Mbabane, SWAZILAND
4X4VE/5N8	—P.O. Box 439, Kano, NIGERIA
5W1DQ	—Graham Fuller, General Delivery, Apia, WESTERN SAMOA
9Y4B	—Bernard Maladin, P.O. Box 440, Port-of-Spain, TRINIDAD

Notes:
1. For contacts made with CR9BH (OH2BH) by Japanese amateurs, should go to Kan Mizoguchi, JA1BK. All others will be handled by Martti, himself.
2. New address for QSL manager DK2OC: U. Adelung, Klopstockstr. 2, D-1000 Berlin 21, WEST GERMANY.
3. This applies to contacts after 1 November 1981 only.

Contributors this month include K1ZZ, N2CBU, K2CM, W2HFO, WA2HZR, W2IOL, KB2RV, N4SU, K5LIL, WA6CPP, WB6GFJ, W6KG, W6QL, KA6SML, W6WO, KB7MO, W9LNZ, DJ9ZB, JH4PRU, JW2CF, VK6YL, VS6JR, VE7KC, North Florida Amateur Radio Society, Kansas DX Association, *The DX Bulletin*, *DX News Sheet*, and *The Long Island DX Bulletin*.

Recently, I had a change of pace in DXing by participating in the Winter 10-10 QSO Party and the Novice Roundup. Yes, the Novice Roundup! This brings to mind what Novices and potential DXers should learn to do. That is, to listen carefully. On 40 meters, I called many Novices calling "CQ NR" but received no comebacks. If I hear them, they should hear me. It's not my antenna, as I have worked some good DX with it. Most likely, the Novice doesn't know how to listen, doesn't wear "cans", or doesn't believe a non-Novice would answer his call.

The same applies to DXing. Wear the "cans" and listen carefully. You may be a first station to hear and nail a good DX call and work him. Then listen for the bedlam when you sign. Remove your cans then if you haven't already.

I received another computer printout of an Antenna Bearing chart from Ron McConnell, W2IOL. This is the Bell Labs version (Whippany Amateur Radio Club). Ron didn't say if it was available to all or just to members of the vast telephone system. You might drop Ron a line — with SASE, of course.

I am now an associate member of the Kansas DX Association, sponsored by Charles Hardman, WØIYR of Salina, Kansas. Thank you, it is appreciated. Work anything new during the recent DX contests? Hope you did! 73 de John, N6JM. □

CW/RTTY World Championships

The CW and RTTY World Championships, sponsored by **73 Magazine** and **RTTY JOURNAL**, will be held 3-4 April 1982. Contest period is: 10-80 meter CW event — 0000Z to 2400Z, 3 April 1982; 10-80 meter RTTY event — 0000Z to 2400Z, 4 April 1982. The same station may be worked *once* per mode. Crossmode contacts do not count. Single-operator stations may work 18 hours maximum per mode while multi-operator stations may operate the entire 24-hour period. Off times are no less than 30 minutes each and must be noted in your log(s).

Operator classes: A) Single-operator, single transmitter, noncomputer; B) Single-operator, single transmitter, computerized; C) Multi-operator, single transmitter, noncomputer; D) Multi-operator, single transmitter, computerized.

Computerized stations: To be eligible for the "computerized" class, your station must be interfaced with a microprocessor-controlled RTTY and/or CW operating system such as the TRS-80, Heath/Zenith, Apple, Pet, OSI, Hal, Info-Tech, etc. Utilizing a memory keyer for CW does not constitute a computerized station.

Entry categories: 1) CW only, 2) RTTY only, 3) CW and RTTY.

Exchange: Stations within the 48 contiguous United States and Canada must transmit RST and consecutive contact number. If your station is computerized, add the letter "C" to the end of your exchange; (i.e. 599WA C, 589 BC C, or 579 001 C, etc.).

QSO points: 1 QSO point is earned for each valid contact. An additional *bonus* point is earned if the station worked is "computerized" and sent a "C" at the end of his exchange.

Multiplier points: 1 multiplier point is awarded for each of the 48 contiguous United States, Canadian provinces or territories and DX countries (outside the contiguous states and Canada) worked on each mode.

Final score: Total QSO points times total multipliers equals *claimed score*.

Contest entries: Entries must include a *separate* log for each event entered, a dupe sheet, summary sheet, multiplier checklist and a list of equipment used for each mode or operation. Contestants are asked to send an SASE to the contest address for *official forms*.

Entry deadline: All entries must be postmarked no later than 10 May 1982.

Disqualifications: Omission of the required entry forms, operating in excess of legal power, manipulating scores or times to achieve a score advantage or failure to omit duplicate contacts which would reduce the overall entry score more than 2 percent are all grounds for immediate disqualification.

Awards: Contest awards will be issued in each entry category and operator class in each of the U.S. call districts, Canadian provinces and territories, as well as in each DX country represented. Other awards may be issued at the discretion of the awards committee. A minimum of five hours and 50 QSOs must be worked on a mode.

Send logs to CW and RTTY Championships, c/o The RTTY JOURNAL, P.O. Box RY, Cardiff, CA 92007 USA. □

Georgia QSO Party

The Georgia QSO Party, sponsored by the Atlanta Radio Club, begins Saturday, 1 May 1982, 1600Z and ends Monday, 3 May 1982, 0200Z.

Exchange: *Georgia stations:* QSO no. RS(T) and county; *Non-Georgia:* QSO no. RS(T) and state, province or country. Georgia to Georgia contacts allowed. No repeater contacts.

Scoring: *Georgia:* Multiply QSOs by the number of different states, VE provinces, and DXCC countries worked. *Non-Georgia:* Multiply QSOs by the number of different Georgia counties worked (159 possible). A station can be worked on each band but multipliers only once.

Frequencies: *CW:* 1805, 3560, 7060, 14060, 21060, 28060; *SSB:* 3900, 3975, 7245, 14290, 21360, 28600, *Novice/Tech:* 3718, 7125, 21110, 28110. Try 160 at 0300Z. 10 on the hour and 15 on the half hour from 1300 to 2300Z.

Types of entries: Single operator; Multi-operator single transmitter; Georgia mobile/portable outside their own county.

Awards: *Certificates to:* 1) Highest score in state, province or country. 2nd and 3rd place where activity warrants. 2) Highest score in each Georgia county. (Again, 2nd and 3rd possible.) *Plaques to:* 1) Highest Georgia and non-Georgia. 2) Top Georgia mobile/portable.

ABOUT YOUR SUBSCRIPTION

When does it expire?
Printed on your address label in the upper right-hand corner is a 4-digit number, such as 0281. This tells you that the last issue of your subscription is February, or the second month of 1981.

Why does my renewal notice come so early?
Advance planning is essential in producing a periodical. We have to plan for the time the issue will be in the mail, the time it takes to get ready to mail, and also the time it takes to process new subscriptions and renewal information at the computer house. If you wish uninterrupted service, we need to have your renewal instructions at least six weeks prior to the beginning of the month in which your subscription expires.

How can I ensure that my renewal will be added to my present subscription?
By making sure your include your subscriber number, the 6-digit number that precedes your expiration date, in all correspondence about your subscription. It enables us to service you better.

Mobile station note: A mobile can be worked once per band in each county.

Logs: Send complete log, score summary, and check sheets for those over 200 contacts. Send log by 1 June 1982 to be received by 15 June 1982. Send to: Atlanta Radio Club, Dave Thompson, K4JRB, 4166 Mill Stone Ct., Norcross, GA 30092. □

Dogwood Festival QSO Party

The annual Dogwood Festival celebrated in Fairfield, Connecticut will also be observed on the air by members of the Greater Fairfield Amateur Radio Association with its Dogwood Festival QSO Party on Saturday, 8 May.

Members of the club will operate on six amateur bands with the club call WB1CQO and explain the significance of the festival, which marks the blossoming of the 30,000 pink and white dogwood trees in the town of 55,000 persons.

WB1CQO will be on the air 8 May from 1300-2200 UTC or 9:00 a.m. to 6:00 p.m. EDST. A special commemorative QSL card will be available to confirm each QSO.

Dogwood Festival stations will operate on these SSB frequencies: 3.975, 7.235, 14.330, 21.420 and 28.710 MHz. FM operation: 146.55 simplex.

Special QSLs will be sent upon receipt of an SASE or IRCs to QSL manager Grace von Stein, KA1JT, 248 Euclid Ave., Fairfield, CT 06432.

Fairfield's Dogwood Festival began in 1936, although the original trees were imported from Japan in 1895 and earlier. Thousands of visitors flock to see the pink and white blossoms in full bloom during May. □

Florida QSO Party

The 17th Annual Florida QSO Party, sponsored by *FLORIDA SKIP*, will be held 15-16 May 1982. All amateurs worldwide are eligible and invited to participate. Operating times will be: Saturday, 1400Z-1900Z; Sunday, 0001Z-0500Z; Sunday, 1500Z-2300Z.

Conditions of entry: Each entrant agrees be bound by the provisions of this announc ment, the regulations of the applicable licen ing authority, and the decision of t *FLORIDA SKIP* Contest Committee, whi are final.

Valid contacts: All amateur bands may be u ed. All stations will use separate logs for pho and CW. Phone and CW are separate contes A station may be worked once on each ba and each mode. Neither crossband n crossmode contacts (phone to CW or vice vers will count for contest credit. Florida statio may work other Florida stations, but for cc test points only. Out-of-state stations may n work each other for contest credit.

Entry classes: Florida stations will be vided into two classes. Class "A" stations a those operating portable (under Field D rules) or mobile on emergency power and ru ning 200 watts or less (CW or PEP phone) side Florida but outside of their home counti Class "B" stations are all other single operat stations operating in Florida.

Exchange: Florida stations send sign report and county of operation. Out-of-st stations send signal report and U.S. sta Canadian province or country.

Suggested frequencies: CW — 3555, 705 14055, 21055, 28055. Phone — 3945, 72 14319, 21379, 28579, 50.2, 146.52.

Scoring: Florida stations count one point QSO with out-of-state or other Florida s tions. Multiplier is the sum of states (49 m imum), provinces (12 maximum), DX countr (27 maximum) actually worked; maximu multiplier is 88. Out-of-state count 2 points QSO with each Florida station. Multiplier the number of different Florida counties wo ed (67 maximum). Score is the product of Q points and multiplier. Florida Class "A" s tions *only* may multiply score by 1.5 to obt total.

Awards: Certificates — phone and CW — the top single-operator score in each sta province, DX country, and each Florida co ty. There will be five plaques awarded to: Hi Single Operator Florida CW; High Single O of-state CW; High Single Operator Flor Phone; High Single Operator Out-of-st Phone; and to the Florida club with the high aggregate score. A minimum of five conta must be submitted to be awarded a certific

Disqualifications: At the discretion of contest committee, stations and/or operat may be disqualified for improper reporting, cessive dupes, errors in multiplier lis unreadable logs, obvious cheating, etc. Any disqualified in this year's Florida QSO Pa will be barred from the contest next year.

Reporting: Phone and CW entries are to *separated*. Along with legible logs chronological order, a summary sheet is quired with each entry. 200 QSOs or more s ply dupe sheet. The summary sheet must c tain claimed score, number of QSOs, multipl station's call sign, entry class and numbe Florida counties, power source for Class " entries, county, state, province, country, signs of all operators/loggers if multi-op, na of club if part of a club aggregate score, na and address *typed or printed in block lett* and a signed declaration that all rules regulations have been observed. Include SA for contest results from a future issue *FLORIDA SKIP*.

Deadline for entries: All entries must received on or before 17 June 1982. (Late entries will be accepted within reason.) Mai entries to: *FLORIDA SKIP* Contest Comm tee, P.O. Box 501, Miami Springs, FL 33166

Michigan QSO Party

The 1982 Michigan QSO Party will be sponsored by the Oak Park Amateur Radio Club. Phone and CW are combined into one contest. The contest will be held 1800 GMT, Saturday, 15 May to 0300 GMT Sunday, 16 May, and 1100 GMT 16 May to 0200 GMT Monday, 17 May.

Michigan stations can work Michigan counties for multipliers. A station may be contacted once on each band/mode. Portable/mobiles may be counted as new contacts each time county changes.

Exchange: RS(T), QSO#, QTH, county for Michigan; state or country for others.

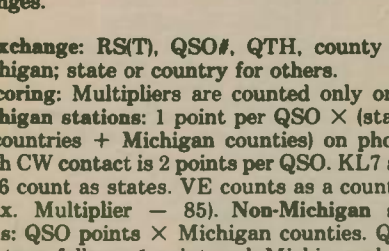
Scoring: Multipliers are counted only once. **Michigan stations:** 1 point per QSO × (states + countries + Michigan counties) on phone. Each CW contact is 2 points per QSO. KL7 and KH6 count as states. VE counts as a country. (Max. Multiplier — 85). **Non-Michigan stations:** QSO points × Michigan counties. QSO points as follows: 1 point each Michigan phone QSO and 2 points each CW contact; 5 points each club station contact (W8MB). Max. Multiplier — 83. **VHF-only entries:** Same as above except multipliers per VHF band are added together for total multipliers. No repeater contacts allowed. 5 points for each OSCAR QSO; 5 points for each W8MB contact for both Michigan and out of state.

Suggested frequencies: *CW* — 1810, 3540, 3725, 7035, 7125, 14035, 21035, 21125, 28035, 28125. *Phone* — 1815, 3905, 7280, 14280, 21380, 28580. *VHF* — 50.125, 145.025.

Awards: *Michigan trophies* — High multi-operator score (new for 1982); high Michigan score; high Michigan (Upper Peninsula) score; high aggregate club score: *Plaque* — High VHF-only entry. High Mobile. *Certificate* — High score each county (Min. 30 QSOs). *Out of state* — High out-of-state trophy and certificates for high score each state and country.

A summary sheet is requested showing the scoring and other pertinent information, name and address in *block letters*, and a signed declaration that all rules and regulations have been observed. Michigan stations include club name for combined club score. Party contacts do not count toward the Michigan Achievement Award unless one fact about Michigan is communicated. Members of the Michigan Week QSO Party Committee are not eligible for individual awards.

Decisions of the Contest Committee are final. Results will be final on 31 July 1982 and will be mailed to all entries. Mailing deadline is *30 June 1982*. Send logs to: Mark Shaw, K8ED, 3810 Woodman, Troy, MI 48084. □



California

The 1982 West Coast VHF/UHF Conference will be held in San Diego, California the weekend of 7-9 May 1982. The Conference will be held in the Vacation Village Hotel on Vacation Isle in San Diego's Mission Bay.

Present plans call for technical sessions to be held Friday afternoon and Saturday morning. Noise figures on Friday evening and antenna measurements Saturday afternoon. The departure from previous years' formats is due, in part, to Sunday being Mother's Day, and many attendees may wish to spend time with their mothers/wives.

Technical seminars include following subject matters: Spread spectrum techniques for amateurs; Using your home computer to control the station; Designing and constructing accessories for your station; Propagation and how to use the various modes for DXing; Other subjects to be announced.

Noise figure measurements will be performed using the new HP-8970A Noise Figure Meter for preamplifier measurements only. Converters and tweaking will be performed on other meters available.

Antenna measurements will be from 144 MHz through 1296 MHz, with possibly higher bands if sufficient interest is shown. 902 band will also be featured, so start building now.

Prizes galore — prizes will be drawn after antenna measurements Saturday afternoon. Prizes will also be awarded for noise figure entries and antenna entries (non-commercial).

Family activities include the many attractions of San Diego, including Sea World (just across the street from the hotel); Sunday a.m. "Mother's Day" brunch at the Vacation Village; easy access from I-5 and I-8; and 15 minutes from airport by shuttle bus or cab; of course, the famous San Diego Zoo and Wild Animal Park; half and full-day sea fishing trips available; myriad other attractions.

Send correspondence to: Louis N. Anciaux, c/o Lunar Electronics, 2775 Kurtz Street, Suite 11, San Diego, CA 92110. □

Illinois

The 16th Annual Rock River Amateur Radio Club Hamfest will be held on Sunday, 25 April 1982. Location will be the Lee County 4-H Club Center, one mile east of the junction of Routes 52 and 30, south of Dixon, Illinois.

Advance tickets are $2; at gate $2.50. For advance tickets, write to Ed Webb, WD9CJB, 618 Orchard, Dixon, IL 61021. A grand prize of $500 cash and a second prize of $200 cash will be given away (must be present to win). Breakfast and dinner will be served.

Talk-in on 146.52 MHz simplex. □

Indiana

The Tristate Amateur Radio Society (TARS) will hold their annual hamfest on Sunday, 16 May, at the Vanderburgh County 4H Center, Evansville, Indiana. Grounds open at 6:00 a.m. CDT. Admission $2. Indoors, air-conditioned, tables available. Also outdoor flea market.

Talk-in on 147.75/.15 and 146.19/.79.

For information and table reservations, contact Hal Wilson, WB9FNN, R.R. #8, Box 427B, Evansville, IN 47711. □

Massachusetts

A general Amateur Radio outdoor flea market, sponsored by the NEAT (New England Amateur TV) Group, Inc., will be held at Freeport Hall in Dorchester, Massachusetts on Sunday, 2 May 1982. The event will take place rain or shine.

Admission is $1. Plenty of parking will be available, as will 300 separate selling spaces in a secured area. Fee for sellers is $4 with pre-registration, which must be mailed to NEAT Group, P.O. Box 406, Boston, MA 02102 by 25 April 1982. Sellers fee is $7 at the gate.

Talk-in on 145.29 repeater and 52 simplex. □

Massachusetts

The Quannapowitt Radio Association (QRA) will hold an indoor/outdoor hamfest Saturday, 1 May from 9:00 a.m. to 4:00 p.m. at South Hall Fire Station, corner of Salem and Summer Streets, Lynnfield, Massachusetts.

Admission is $1 at the door. Tables $7, on day of hamfest; tables reserved in advance are $5. Food available.

Talk-in on 146.19/79 or 52. For details, write Dave Meldrum, KA1MI, 28 Cedar Ln., North Andover, MA 01845. □

Minnesota

The Bemidji Amateur Radio Club will sponsor a swapfest on Saturday 24 April starting at 9:00 a.m. at the Holiday Inn, Highway 2 west. Door prizes, refreshments and plenty of free parking.

For more information, contact Bill Williams, WA0ABX, Route 1 Box 369J-3, Bemidji, MN 56601; 218-751-9070. □

Minnesota

The Arrowhead Radio Amateur Club will hold its annual swapfest on Saturday, 8 May 1982 at the First United Methodist Church, 230 East Skyline Parkway in Duluth, Minnesota. Admission will be $2 in advance or $2.50 at the door.

Door prizes will include an ICOM 2AT. A raffle will also be held and prizes will include a Regency D100 programmable scanner and a portable B/W TV. Raffle ticket donation is $1 or a book of six for $5. Reserved 4-foot tables are $3 in advance and $3.50 at the door. Doors will be open from 10:00 a.m. to 3:00 p.m. There will be plenty of food, free parking, and hourly prize drawings.

Talk-in will be on 34/94.

For more info, advance reservations, or raffle tickets send a SASE to: Jerry Frederick, NØBNG, 1127-104th Ave. West, Duluth, MN 55808.

Pennsylvania

The Warminster Amateur Radio Club will hold its annual hamfest on Sunday, 16 May 1982, fron 7:00 a.m. to 3:00 p.m. at the Middletown Grange Fair Grounds, Wrightstown, Pennsylvania, near Philadelphia.

Admission is $3 at the gate, $2 additional for each seller's space (8 feet). Children and spouses free. Pre-registration by 1 May — $1 off admission fee. Door prizes every half hour, starting at 9:00 a.m.

For more information, write to P.O. Box 113, Warminster, PA 18974, or call Bill Scott, KA3CHB, (215) 249-0568, after 6:00 p.m.

Talk-in on 147.690/090 and 146.520 simplex.

South Carolina

The Greenville Hamfest, sponsored by the Blue Ridge Amateur Radio Society, will be held at the American Legion Fairgrounds, White Horse Road, one-half mile north of I-85 in Greenville, South Carolina, 1-2 May 1982. Admission will be $3 at the gate; no advance sales.

Talk-in on 146.01/61 and 223.46/224.06.

For further information, write Hamfest Chairman Gary D. Whidy, Rt. 6, Box 268, Travelers Rest, SC 29690. □

Washington

The Inland Empire Radio Amateurs will be sponsoring their 3rd annual swapfest on Saturday, 24 April 1982. The 'fest will be held at the Spokane Interstate Fairgrounds Floral Building in Spokane, Washington.

Numerous displays, auctions, raffles, contests and YL craft sales will be among the attractions of the day. Tables (4-by-8 feet) may be reserved at $5 per table. Free exhibit space and free RV sites without electrical hookup may also be reserved in advance. A banquet will be served at 6:00 p.m.; tickets $4.99 each.

Admission price is $1, which includes special raffle ticket. Regular raffle tickets are 50 cents.

Talk-in on 146.34/94, 146.52 simplex. For more information write to: Swapfest, Jan Thiemann, KA7DDU, 7803 East Mission, Spokane, WA 99206. □

Washington

The Yakima Amateur Radio Club, W7AQ, announces their annual hamfest. This year's event will be held 1-2 May 1982 at the Ahtanum Youth Activities Park in Yakima, Washington.

This year's gathering will be held for two full days with overnight camping Friday and Saturday nights at the site. Regional dealers of Amateur Radio equipment, a raffle of super prizes, free swap and shop, and plenty of QSOs and "eyeballs" are a few of the activities offered.

Doors open at 9:00 a.m. Saturday with lunch available Saturday and Sunday. Breakfast starts at 6:00 a.m. on Sunday.

Talk-in on 147.84-24 and 146.52.

Contact David Pankey, N7BRB, 512 So. 7th Street, Yakima, WA 98901 for more information. □

Contact Worldradio for hamfest prizes.

Washington

The Clark County Amateur Radio Club, W7AIA of Vancouver, Washington announces "the Premier Hamfair of the Pacific Northwest" — the Fort Vancouver Hamfair, to be held 8-9 May 1982. This year marks the club's 50th anniversary.

Registration is $4.50 (includes activities and prize drawings). Unlimited swap tables for Amateur Radio and electronic equipment are available for $5 per table per day. Limited hookups are also available at $3 per day; must be self-contained. Technical seminars, ragchews, contests, hidden transmitter hunts, Saturday night dinner and Sunday morning breakfast will be offered. A special event called the "Junque-Pile" will also be held — donate any surplus item you want to the pile and take any item that looks good to you.

For more information or to register, write to Registration Chairman Ken Westby, W7DYX, 606 Miami Ct., Vancouver, WA 98664. □

WORLDRADIO ON CASSETTES **Worldradio** for blind amateurs on cassette. To receive this free service send $3.00 (one time only contribution for tapes) with your name, address and call to George Hicki W4GH, Box 7453, Macon, GA 31209.

WANTED: COLLINS KWM-2 (modified OK). Griebe, K8HCZ/4, R 1, Parksville, KY 40464.

QSLs by W6BA — "Customized" $19.7 per 1000. Star Route 2, Box 241, 29 Palms CA 92277.

QSLS. QUALITY AND FAST SERVICE FOR 22 YEARS. Include call for free decal. Samples 50¢. Ray, K7HLR, Box 331, Clearfield, UT 84015.

YAESU FT-690R 6-meter all mode portable. New in box. $200. WA1WYC, (617) 328-1425.

RTIFICATE FOR PROVEN TWO-AY RADIO CONTACTS with amateurs ll 10 USA call areas. Award suitable to me and proven achievements added on re-st. Send $2 (USA) or $3 (DX) to cover tificate cost. W6LS, 2814 Empire Ave., bank, CA 91504.

NRY 2K-4 LINEAR — mint condition, n-10m — $925. Derek, KI6O, (916) 5-1027 days, (916) 965-4904 eves., ramento.

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