Worldradio

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Father Moran visits the States

Submitted by Leanna Jo Shaberly, KB8RT

The Motor City Radio Club, of the southern Detroit, Michigan metropolitan area, had standing room only at a November meeting as members and guests turned out to welcome and listen to Father Marshall Moran, 9N1MM.

Father Moran — a Jesuit — talked and showed slides of his Xavier School for Boys, as well as the people and country of Nepal.

Many of us were surprised to learn that it doesn't snow in his part of Nepal. Of course, photographs of the snow-covered Himalayas are well-known, but Fr. Moran lives in a valley less than 5,000 feet above sea level. "His boys" can swim in their outdoor pool from March through November, and in his pictures we saw them swimming, high-jumping, performing plays and other normal school activities.

Life is not so easy for some of the rural people. Many children die before they are 6. Diseases such as malaria and smallpox are becoming less common, but tuberculosis is prevalent. Food is not eaten in quantities as it is in the United States. Especially in the rural countryside, it is not uncommon for people to have only one real meal a day, and that is much smaller than ours would be. Malnutrition is a problem. Chicken is expensive; the usual meats are goat, sheep and buffalo.

In his 30-plus years in Nepal, Fr. Moran has seen many changes. The first car did not arrive until 1953. It was carried in in pieces and then assembled. Now there is a highway between Nepal and India. However, roads are still not common. One of his students has to walk for eight days, at the rate of 10 miles a day, to get home. He gets home once a year.

During the last few years, five first-class hotels — complete with swimming pools — have been constructed to serve the 80,000 tourists Nepal is now getting.

The next time we hear NINE NANCY ONE MICKEY MOUSE, we'll be able — in our mind's eye — to see him sitting at his radio, the flags of Nepal and the USA

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Father Moran, 9N1MM (center) with Motor City Radio Club president, Stan Briggs, W8MPD (left), and vice president, Jerry Druyor, KB8AI (right). The Motor City Radio Club is located in the Detroit, Michigan area.

RCA amateurs

If you are a licensed radio amateur employed by RCA, please contact John Fisher, K2JF in Camden, Ext. 4841. He is preparing a list of all the RCA amateurs. — *South Jersey RA, NJ* □

10M beacons

George Sharpe, W4ESY has compiled a list of 10-meter beacons which he monitored during the month of October 1981:

28.205 ZS5VHF Natal, SOUTH AFRICA
28.205 DLØIGI
28.2075 Florida beacon
(Tamiami Amateur Radio Club)
28.215 GB3SX
28.2175 VE2TEN
28.220 5B4CY CYPRUS
28.2225 HUNGARY
28.225 VE8AA
28.235 VP9BA BERMUDA
28.2375 LA5TEN Oslo, NORWAY
28.245 A9XC BAHRAIN
28.2575 DKØTE
28.260 VK5WI Adelaide, AUSTRALIA
28.2625 VK2WI
28.2675 ZS6PW
28.270 VK6RTL
28.2725 U2ABJ
28.2775 DKØAAB
28.280 YV5AYN
28.3025 ZS1STB
28.315 ZS6DN
— *Tamiami ARC, Venice, FL* □

Welcome to Indonesia

Lenore Jensen, W6NAZ

"Selamat Datang! Welcome to Indonesia!" was the greeting at the opening of the XI 1981 SEANET Convention, 27-29 November, held in Jogyakarta, Java.

Of the 200 present, five were Americans, including Loyd Sigmon, W6LQ and his wife, Pat, who had made their third trip to a SEANET gathering.

"Amateur Radio activity in Indonesia was started around 1931," it explains, "and around the middle of 1935 the first Amateur organization was formed, only to be disbanded during WWII. In 1947, during the war of independence, activities were resumed."

A second ham group was formed only to be disbanded three years later by the government, for security reasons.

Finally, in 1967, amateurs again were allowed to go on the air; the government allowed one organization to form in 1968, and all amateurs in Indonesia are required to belong to it: ORARI (Organisasi Amatir Radio Indonesia) — the group which hosted this latest convention with Soewondo, YBØAT as president. The chairman of the event was the brilliant and gracious Dr. Jos Soejoso, YB2SV — highly respected internationally.

Presently, the booklet continues, "ORARI has about 10,000 registered members with about 80 percent of them on the Island of Java." There are 10 call areas in Indonesia.

The three types of licenses have different prefixes: Novice — YD, for local communication on 80 meters; Advanced — YC, for internal communication on all bands except 20 meters; and General — YB, allowing international communication on all amateur frequencies.

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Antenna victory

Joel Kandel, KI4T
Asst. Dir. ARRL SE Div.

Very recently, another victory was struck for Amateur Radio antennas. In a close call, St. John's County (Florida) passed a tower height ordinance, but excluded Amateur Radio towers from compliance.

The victory was due to amateur awareness and the ARRL's quick legal response to the situation. In a five-page letter to James G. Sisco, St. John's County Counsel, ARRL attorney Christopher D. Imlay presented a very convincing argument as to why Amateur Radio could not be regulated by local ordinance. He defined Amateur Radio stations as "federally-licensed instrumentalities of interstate commerce, pervasively controlled by the United States government through the Federal Communications Commission."

He went on to point out that tower height was not necessarily a factor of safety, and that a higher tower could create less of a chance of RF interference with home entertainment equipment. A number of precedent cases throughout the country were cited by Imlay where the courts ruled in favor of the amateur and where "substantial attorney's fees were awarded by the court to the amateur, to be paid by the municipality."

The quick action of Robert Robinson, W4ZR, with a phone call to Newington, prevented North Florida amateurs from future harassment. Keep your eyes open for this kind of legislation in your area.
— *Florida Skip* □

Russia launches satellites

Six Russian satellites, RS3 through RS8, were launched on 17 December and are now in a nearly circular orbit around the Earth at an average altitude of nearly 1700km. The six are steadily moving away from each other with slightly differing orbits, and by 28 December their equatorial crossing times were spread over more than an hour and crossing points nearly 20 degrees.

All six have been transmitting telemetry data, with each series preceded by the spacecraft's call (e.g., "RS3"). RS3, 5 and 7 all have the "robot transponders" described in *HR Report* 354, and at least one has been worked by a number of stations around the world. Robot availability is indicated by a "CQ," stopping when a signal appears in its input passband. Sending (for example) "RS5 de W9JUV AR" should bring the response "W9JUV de RS5 QSO nr xxx." It may also respond "QRZ," "QRM" or "RPT" if it misses a call, or "QRQ" or "QRS" to calls made below or above its 10-25 wpm acceptance range.

Beacon frequencies for the even-numbered birds are: RS4, 29360/29403; RS6, 29411/29453; and RS8, 29461/29502. Their 40 kHz-wide OSCAR-style transponders have apparently not yet been activated. One indication of transponder status in any of the six is the first, or "K," group telemetry number, which indicates power output. A reading of anything other than "K00" should mean the transponder is on.

Interference to the RS satellites from terrestrial stations is becoming a real problem, with their covering so much of the 29.3-29.5 MHz spectrum. SSB, AM and FM signals have all been heard in recent weeks on top of or breaking over onto the new satellites. Non-satellite users should try to stay below 29.3 or above 29.5 to avoid the problem.
— *HR Report* □

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TM

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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.

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Don't volunteer information

Mike Borsuk, WB2CBU

It has come to our attention that a "communications consultant" has been calling licensed amateurs in our area asking questions about current "ham" activities. It appears that if you are contacted, your answers might be used for legal testimony relating to what the employers of the caller have referred to as "illegal reception." They are trying to make the argument that if someone has an antenna for a given band and there is no amateur activity in the appropriate frequency range, the antenna is being used for nefarious purposes.

With the usual problems the Amateur Radio community has already, I suggest you refuse to volunteer anything about the existence or lack thereof of any ham activities, including your own. Our legal rights to transmit within FCC assigned bands and receive *all* transmissions have not yet been changed and will be just that much harder to change without our cooperation. Americans are unique in this right, by the way.

— Boulder ARC, CO □

Troposcatter

John Kobi, member of the Senior Technical Staff, Comtech Laboratories, at Hauppauge, New York will present a talk on "Troposcatter Communications" on Wednesday, 10 February at 8:30 p.m. over the IEEE/LIMARC Long Island-based technical network. The net operates on 147.375 MHz and covers Long Island, metropolitan New York, all of New Jersey and southern Connecticut, with interactive teleconferencing on a monthly basis.

John Kobi is a pioneer in the field of Troposcatter Communication, whose experience dates back to 1953. He is an expert in the design, installation and overall performance of "Tropo" systems and has been involved with installations throughout the world. These systems are particularly important for use in point-to-point communications in emerging nations.

The network is being interlinked with a chain of repeaters covering the state of New Jersey which has been set up by Charles Kosman, WB2NQV. Mr. Kosman is with the AT&T Long Lines Division, and is arranging for a teleconferencing buss whereby other repeaters in cities throughout the country can be tied into the conferencing circuit. Requests have already been received for this from Boston, Washington/Baltimore, Seattle/Everett, Los Angeles, San Antonio and Dallas. □

Technical seminar

John Hirley, WB5IIR can be found on 7235± kHz each Sunday night between 8:00 and 9:00 CST conducting a technical seminar. The seminar lasts approximately 20 minutes; the remaining time is devoted to a Q & A session. This seminar is becoming increasingly popular across the USA.

WB5IIR is a retired Collins engineer in Dallas, Texas.

— Cedar Valley ARC, IA □

Antique radio equipment needed

Fred Maia, W5YI

The U.S. Air Force Museum, Wright-Patterson AFB, Ohio, 45433 is in the process of restoring a 1937 vintage Douglas B-18A twin-engine bomber for public display in 1982. To help complete the restoration of the interior, the museum needs the following items which are part of the SCR-187A Liaison Radio Set: BC-224 Receiver (the 14-volt version of the BC-348); BC-191 Transmitter, J-5 Key; BD-86 Dynamotor and R-30 Antenna Reel. Also needed is a BC-310 Radio Compass Receiver. Donations to the Air Force Museum are tax-deductible. Contact Joe Ventolo, K8DMZ, Research Division (AFM/RD).

I know it's not news that first class stamps now cost 20 cents each. Did you know, however, that International Reply Coupons (IRCs) went up to 65 cents? When you turn in an IRC, you only get back 40 cents, but no one does this. Instead, they are just passed on to someone else as international postage in the same fashion as money. For those of you who don't know, an IRC prepays the basic surface postage from one country to another.

Another point for you QSLers. Don't use those "C" series stamps which are worth 20 cents on international mail. Foreign countries, including Canada and Mexico, won't honor them and your mail will be returned.

One bright point: there was no increase in international postage. Post card type QSL cards now require 13 cents postage domestically.

— West Coast VHFer, CA □

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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.

Nicola Tesla film

Submitted by Joe Turkal, K8EKG

The Massillon Amateur Radio Club recently viewed an excellent movie on the life of Nicola Tesla. Tesla, the discoverer of AC, was 100 years ahead of his time. His AC experiments are depicted in the movie with a high degree of authenticity. Especially interesting are the concepts he proposed, and the impact he had on the discovery of radio. The movie is dramatically excellent, and the cast of characters includes Orson Welles. (The first three minutes of are spoken in Serbo-Croatian.)

The film is two hours long, and can be obtained by request from: Consulate General of S.F.R. Yugoslavia, Attn.: Mr. Milos Nicolic, 307 North Michigan Ave., Chicago, IL 60601. □

Contact Worldradio for hamfest prizes.

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FEATURES

COLUMNS

Father Moran

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hanging side by side on the wall to his right, with a climate so mild that the radio shack isn't heated. Fr. Moran did confess to the temperature in the shack dipping down to 50 degrees once in awhile.

In the last 15 years, his QSL manager — Ed Blaszczyk, N7EB — has gone through 54,000 QSL cards. If you've been one of those fortunate enough to make contact with 9N1MM, you're probably aware of his friendliness and marvelous sense of humor. Those of us who had the opportunity to meet him in person can attest to it, and will never forget the experience. □

Mike Jacobs, KA8LUY listens to Father Moran, 9N1MM as he talks about eating the usual meats of Nepal — goat, sheep and buffalo.

Father Moran, 9N1MM visits with Motor City Radio Club members Ruth, WA8YPY and Ray Wardell. W8ROS.

Attention Florida

On Saturday, 14 November, Frank Krupansky, N4BD was shot to death in an attempted break-in of his home in the southwest section of Miami.

The police would appreciate our assistance in locating the car driven by his killers. Thus far they have the following information. Make: 2-door, General Motors vehicle (Pontiac, Chevy, Buick, Olds, etc.). Color: Light gray or blue, or metallic gray or blue. Windows: Purple tinted. *The driver's window has been smashed and is missing.* Body: Damage to driver's door and side by an axe.

If you spot this vehicle, the most important information you can get is the license tag number, and then an accurate description, including any unusual characteristics, and location.

Call Joel Kandel, K14T at the following numbers: Day - 592-8536; Night - 667-3727. If no answer, try the 16/76 or 40/100 repeaters.

DO NOT call 911. The information will be relayed directly to the detective in charge of the case with the above phone numbers.

DO NOT risk your own safety approaching the suspected vehicle. Leave that for the police.

Frank was an active member of our amateur fraternity, and gave of himself generously in many public service activities. We owe it to him and ourselves to help find his killers.

—Florida Skip □

SPAR protects Amateur Radio

Since the announcement of SPAR's (Society for the Protection of Amateur Radio) formation, the Organizing Committee has received many inquiries from across the United States. It is especially encouraging to the Committee that so many amateurs from so many parts of the nation have recognized the need for such an organization. Because of the number of inquiries, it has been impossible to answer each one individually. The questions most commonly asked have been answered as follows:

What is SPAR?

A group of concerned amateurs in Santa Barbara, California sponsored a two-day seminar in response to ARRL's appeal to furnish input to the ARRL Long-Range Planning Committee. Prominent amateurs from throughout the country were invited to participate. The purpose of this first seminar was to identify the major problems facing Amateur Radio and the ARRL. One year later, a second seminar was convened to seek solutions to the problems so identified.

One of the most significant problems identified was the inherent weakness and lack of ability on the part of institutions such as the League to fully protect their members against adverse rulemaking and legislation. It was the unanimous opinion of the study group that the League's headquarters staff are authorities, and that they perform well in the gathering and disseminating of technical information, the running of contests and operating events, identifying and recommending beneficial rulemaking and legislation, publishing in the broad field of Amateur Radio, and in providing a host of services related to running a technical association. However, it was agreed that the League is not, nor can it be expected to be expert in political fighting. Political fighting is a separate field entirely, a field requiring specialized training and experience. It was also brought out that the Charter of the ARRL, as a tax-exempt, not-for-profit corporation prohibits hard-hitting, aggressive political action.

It was the opinion of those who have had experience in organizing political protection for other organizations similar in structure to the ARRL that the League should follow their example. Almost without exception, other significant national institutions have found it necessary to protect their interests with a separate special-purpose organization.

Currently, SPAR is an ad hoc, grassroots Organizing Committee dedicated to working with the ARRL to structure a separate, specialized SPAR which will have the capability to fully and strongly protect Amateur Radio in the political arena.

Why do we need SPAR?

The Federal Communications Commission (FCC) and its staff leadership have, for too long a time, demonstrated a lack of understanding of Amateur Radio and the importance of its contributions to the needs of the people, the communities, and to the government agencies of the nation. The Amateur Radio operator today is regarded as a special privileged class of Citizens Band Radio operator.

So what's new?

In the past, many of the Commissioners were, themselves, licensed radio amateurs, as were their staff. There existed an understanding and respect for the amateur and his contributions. Today, however, due to unfortunate political appointments and the growth in complexity of the field of communications, there are no licensed Amateur Commissioners and few licensed staff leaders in the Commission. Consequently, Amateur Radio has become another football to be kicked as the political exigency dictates.

Why act now, for instance?

It is already very late! Almost monthly, the FCC issues yet another ill-conceived, poorly thought-out, illogically prepared docket having serious potential impact on Amateur Radio. Some dockets, ineffectually disseminated, require the marshaling of national Amateur Radio support to file hurried responses before the expiration of an all-too-short deadline for comments. Increasingly, the editorial pages of QST have had to be devoted to alerting amateurs to new FCC rulemakings which shuffle away amateur privileges to another "more important" spectrum user.

Remember the FCC's proposals trotted out at the last minute at the World Administrative Radio Conference? Standing alone, before the world, the FCC pushed for a codeless license without any prior consultations, hearings or warning to the U.S. amateurs they were expected to represent and protect. The lack of understanding of Amateur Radio by the FCC became embarrassingly apparent as each nation in the world voted against it.

The motives of the FCC become more questionable as one examines its actions. The ban against 10-meter amplifiers, which harms and punishes Amateur Radio because of the FCC's refusal to correct its own mistakes with CB, is still on the books. The "plain language" rewrite as proposed by the Commission is a comprehensive rewrite of *all* the rules governing Amateur Radio and contains many harmful changes. Space does not allow for the other adverse rulings extant and pending. However, the intention of the Commission toward Amateur Radio is strongly suspect and becomes manifest when reading the Commission's assess-

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Direct Broadcast Satellites aired

Wilbur L. Prichard, president of Direct Broadcast Satellite Corp. of Bethesda, Maryland — a pioneer and international consultant, and an applicant for a $550 million direct broadcast satellite system — will address the Long Island Section meeting of the IEEE on 3 March 1982 at 8:30 p.m.

His talk, originating from an auditorium of the New York Institute of Technology (NYIT) at Old Westbury, will simultaneously be broadcast on the IEEE/LIMARC Technical Network on 147.375 MHz, thereby covering the tri-state metropolitan area. This is an experimental program which will tie in the speaker with a captive audience and one which is geographically separated by means of two-way radio.

Dr. Ward Deutschman, K2LKO, Director of New Programs at the NYIT, will coordinate communication with the outside network.

Additional information may be obtained by contacting Ed Piller, W2KPQ, net director and Chairman of IEEE (Long Island) Educational Telecommunication Committee at (516) 349-2530. □

Band plan amendments

A partial amendment was made on the JARL's (Japan Amateur Radio League) V. UHF Band Plan, effective 1 July 1981. The main points amended are as follows:

1) 52.50 MHz for beacon frequencies on 50 MHz band moved down to 50.010 MHz.

2) Abolishment of frequencies specified for mobile and newly establishing "frequency for short-distance communications between mobile stations with low power."

3) Preparation for the near future when repeaters are licensed, with consideration of frequency for repeater.

4) Enlargement of FM band on 144 MHz and 430 MHz band.

5) Amendment of the plan on 1200 MHz band in line with the decision made at WARC '79. □

SPAR

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ment that radio amateurs "use the service only for their own personal satisfaction." If such an assessment of Amateur Radio is allowed to stand in the records the Commission and the Legislature would treat Amateur Radio with the lowest priority. If amateurs allow this kind of thinking to be propagandized, it will not be long before the Amateur license, Service and operating practices will be indistinguishable from CB.

Taking on the FCC calls for what?

"CLOUT"!

Why not just open a Washington office?

ARRL already has a capable man who is in Washington constantly representing and recommending Amateur Radio's needs before the government. This representation is essential, but does not insure that government is going to listen.

What tactics are involved?

Tactics can be summed up in one word: "CLOUT". To issue a reply comment to a proposed rulemaking, or to testify before the FCC or any governmental agency is important, but not enough. What is the recourse when the FCC is arbitrary and when bad rulemaking is promulgated? This is the dilemma which the League faces regularly and, for them, the answer to the question is "not much in the way of recourse." For a specially designed political action organization, unhampered by the League's Charter, the answer is "a lot of recourse."

There are numerous tactics that bring effective pressures (CLOUT) to bear upon government agencies. Among them are the threat of legal action with attendant adverse publicity, the introduction of legislation which takes the initiative out of the hands of the Commission, appeals to the legislators and the Executive Branch through letter-writing campaigns (commissions are funded and empowered by the legislature), actions of a legislative advocate, and a combination of the above, etc. It should be noted that the need to use such tactics diminishes as "CLOUT" is developed, recognized and respected.

Amateurs don't like politics!

That's right! Politics is a dirty business and amateurs would rather enjoy Amateur Radio than engage in unpleasant confrontations. Amateurs would rather donate a small sum like $3 per year and let someone else in whom they have confidence fight their battles, keep them informed, and call them to action only when needed and with clear, specific instructions.

Where's the money coming from?

As stated above, the amateur is more than willing to voluntarily donate a small sum such as $3 per year if he is convinced it will protect his interests in Amateur Radio. Such donations will finance the needed work, but donations are *not* being solicited during organizing.

Who runs SPAR?

The governing of SPAR will be vested in a Board of Directors which will consist of 15 members representative of the 15 U.S. ARRL Divisions.

Is SPAR just one more organization promoted by power-hungry egoists?!

Definitely not! The Organizing Committee is structuring SPAR to be run by a Board of Directors nominated by the ARRL Directors for their knowledge, ability and dedication to Amateur Radio. SPAR, itself, will not make policy. Its sole function will be to fight for those policies as formulated by ARRL. To provide essential separation, while serving ARRL in office, Officers and Directors of ARRL are ineligible to serve as Directors of SPAR.

Is SPAR for or against ARRL?

SPAR is FOR ARRL. Its objective is to fight for the interests of Amateur Radio as defined by ARRL and in close alliance with ARRL.

Who in ARRL favors SPAR?

SPAR was conceived in the Southwestern Division of ARRL. Its Director, Jay Holladay, W6EJJ, has been apprised of SPAR's development from its inception. He has already alerted other members of the ARRL Board and Staff that a proposal is being made. Informal talks have taken place and the first formal meeting was scheduled for 9 October 1981 at the Southwestern Division ARRL Convention in Scottsdale, Arizona.

What can I do to help?

If you believe that Amateur Radio needs more political CLOUT, and if you believe SPAR can supply that CLOUT, write to *your* ARRL Director asking for his support in organizing and fostering a vigorous SPAR! □

Indonesia

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Foreign amateurs are permitted to operate in Indonesia if there is reciprocal licensing between the governments and if the applicant joins ORARI on a special member basis. These operators use suffixes AAA to AZZ. ORARI belongs to IARU, is in Region III, and has Oceania number 28 of the ITU.

It was a most colorful affair, with attendees receiving red and white caps commemorating the convention and handsome frameable certificates, bumper stickers, etc.

There were dinners each evening, the theme being great sociability among the many countries represented: Singapore, Malaysia, Indonesia, Japan, France, Thailand, Australia, New Zealand, India and our own five from the United States.

At the second banquet, each entertained in the dress, language and culture of its own. Loyd was asked to speak.

"I stressed my favorite subject," he remembered. "We may have different racial backgrounds, religions or politics, but Amateur Radio is the common denominator and a great force for strong friendships, peace and understanding."

Loyd Sigmon, W6LQ at SEANET convention Jogyakarta, Indonesia.

Patricia spoke with enthusiasm, "Again, we were overwhelmed with the warm welcome, the kindness and the hospitality of these people who had come to SEANET!" She, like Loyd, feels that such hands-across-the-sea friendships can lead to the lessening of world tensions.

The SEANET itself is heard regularly at 1200 GMT and serves to handle traffic, emergencies and to further good will between the member countries.

Next year's convention, it was announced, will be held in Bangkok and chaired by the well-known, Kamchai Chotikul, HS1WR.

One more souvenir came out of the briefcase. A cheerful red rectangle of cloth, done in batik, with large letters proclaiming: "Till we meet again, all the convention participants. 73 88 cheerio YC2BL." □

A) NEW 2 kW Antenna Tuner/SWR Bridge/Power Meter,$249.
Reversible "L" circuit, silver-plated roller inductor, high-voltage variable capacitor and switch-selectable fixed capacitors for precision matching. Automatically provides low Q, minimum-loss path. Rated 2 kW PEP, 1 kW cw. Matches 50-ohm unbalanced output to balanced or unbalanced loads (dipoles, inverted "V"s, long wires, windoms, beams, rhombics, whips, Zepps, Hertz and similar) from 1.8-30MHz. Built-in balun. SWR bridge indicates 1:1 to 5:1; 2-range power meter reads 10 to 2000 watts. Front panel by-pass switch and 4-position antenna selector switch. Coax and screw-type connectors. Requires 12V dc for dial lighting. Styled in black and bronze. Front panel with black-out lighting. 5⅞h x 12¾w x 13½d; 9 lbs. **Model 229.**

B) Deluxe 20 Amp. Power Supply/Speaker Combination,$199.
Dual primary (115/230V ac, 50-60 Hz) supply plus 3" x 5" front-facing speaker. 13.5V dc (+0.5V) output, regulated to better than 1%, no-load to full-load, at 117V ac, with output current of 18A, full load, 20A max., and less than 60 mV pk-pk ripple. Over-voltage and over-current protection (16V and 20A), 25A panel meter, power switch, and phone jack. 5⅞h x 8¼w x 12d; 11 lbs. Black and bronze finish. **Model 255.**

C) Dual 20 Amp. Primary Power Supply—$169.
Same power supply specifications as Model 255 but less speaker. 5½h x 7w x 12d; 15 lbs. **Model 280.**

D) Dual 10 Amp. Primary Power Supply—$129.
Similar to Model 255 except output current 9A full load, 10A max., and ripple less than 50 mV. 4h x 4⅜w x 10½d; 9 lbs. **Model 225.**

E) 200 Watt Antenna Tuner/SWR Bridge—$95.
Unique design features a 47-tap silver plated 18-gauge toroid used in a wide-range "T" network with variable capacitors for accurate vernier tuning. Rated 200 watts intermittant, 100 watts continuous. Matches 50-75 unbalanced output of transceivers to balanced or unbalanced loads (dipoles, inverted "V"s, long wires, windoms, beams, rhombics, whips, Zepps, Hertz and similar) from 1.8-30 MHz. Built-in balun. SWR bridge indicates 1:1 to 5:1 ratios. Front panel switch has by-pass and dummy load positions plus selection of 3 antennas. Coax and screw-type connectors. 3⅝h x 10½w x 7¾d; 4¼ lbs. **Model 228.**

F) 200 Watt Antenna Tuner—$79.
Same as Model 228 but less SWR bridge. 3½h x 8¼w x 7¾d; 3.5 lbs. **Model 227.**

G) DC Circuit Breakers—from $10.
Protects transceivers from over-current demand with battery supply. Model 1140, for 200 watt transceivers, has 18A operating and 24A trip rating, $10. Model 1125 for 100 watt input transceiver includes cable, has 8.5A operating and 12A trip rating, $15.

H) Single Paddle Electronic Keyer—$39.
Low cost keyer features self-completing dits and dahs, preset weighting for optimum articulation in the most-used speed range, and a speed control with a range from 6 to 50 words per minute. Uses positive low voltage transistor switching circuit (not for use with cathode or grid block keying) with 1 IC, 5 transistors, 9 diodes. Single paddle of molded plastic has adjustable contact spacing for individual preference. Requires 10-14V dc. 2h x 4w x 6d; 1½ lbs. Black and bronze finish. **Model 670.**

I) Dual Paddle Electronic Keyer—$85.
Deluxe iambic keyer features self-completing dits and dahs with automatic adjustable weighting ratio of 50-150% of classical dit length, dit and dah memories with defeat switches, adjustable magnetic paddle return, force 5-50 gms., and a speed of 6-50 wpm. Smoothly pivoting paddles have 4 ball-bearing points. Uses positive low voltage transistor switching circuit (not for use with cathode or grid block keying) has 5 ICs, 5 transistors, 4 diodes. Requires 10-14V dc. 2½h x 5½w x 8¼d; 2 lbs. Black and bronze finish. **Model 645.**

J) RF Speech Processor—$139.
Give your rig more punch to improve its operating range under adverse and low propagation conditions. A true Rf processor, this unit converts the audio signal to SSB, clips and processes it through a 4-pole monolithic filter for greater average envelope power, and then converts the processed signal back into audio. Can be used without derating TEN-TEC transceiver power limits. Has adjustable processing levels and output plus disable switch and passband adjustment. Requires 12V dc @ 75 mA. Circuitry uses 2 ICs, 10 transistors, 5 diodes, two 4-pole monolithic filters. Black and bronze finish. **Model 234.**

K) Electret Microphone—$39.
Designed specifically for use with the Model 234 Processor, this trim light-weight, easy to use microphone features an electret condenser element, coiled cord with 4-terminal connector, and a SPDT PTT switch built into the zinc die-cast and Cycolac case. Matching die-cast base. 8½"h; 11 oz. (base 13 oz.) Black and bronze finish. **Model 214.**

Ceramic Microphone—$34.50
Flat, peak-free response. For clean, articulate pleasant speech. Built in TEN-TEC plant. Comfortable to hold, convenient as a desk mike. Similar in appearance to Model 214. **Model 215PC.**

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SEVIERVILLE, TENNESSEE 37862
EXPORT: 515 LINCOLN AVE., CHICAGO, ILL. 60644

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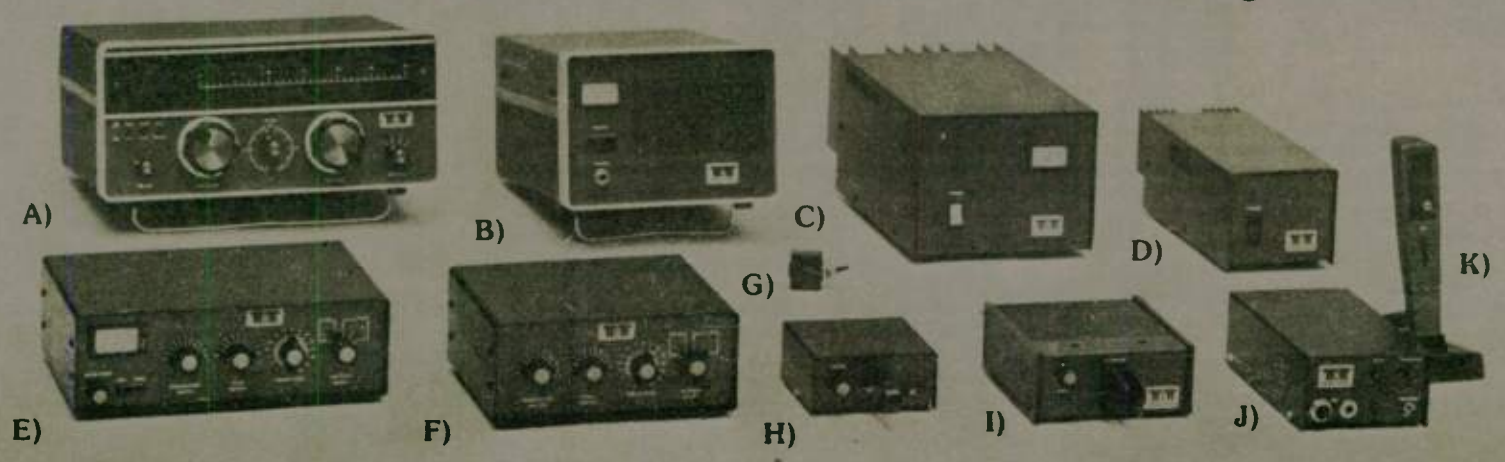


Microcomputers for deaf communications

Paul L. Rinaldo and Robert E. Bruninga

Microcomputers offer potential for equipping the deaf with equipment capable of communicating with both existing deaf teletypewriters and computer networks. In addition, a microcomputer may be used for other personal or business applications.

This article describes the work being undertaken by the Amateur Radio Research and Development Corporation (AMRAD) to interface personal computers for communication with deaf teletypewriters. It also outlines the use of a microcomputer as a message system that is accessible by both ASCII and Baudot teletypewriters. It details a protocol for shared use of a single phone line for both ASCII and Baudot subscribers. Further, it suggests a hierarchical structure for major, regional and local nodes to serve deaf and other users of data communications over the telephone network.

Introduction

The deaf are isolated from communications going on around them when sound is the only means of conveying the information. This is especially true of the telephone, which was conceived for transmission of the voice. To enable the deaf to communicate over phone lines, a voice-frequency carrier telegraphy system is now in use.

To keep costs to a minimum, surplus 5-level (Baudot) 60-word-per-minute (wpm) teletypewriter (TTY) machines are used. The deaf use Weitbrecht modulator-demodulators (modems) which have the unique frequencies of 1800 Hz mark and 1400 Hz space in a half-duplex mode. Thus, while the deaf equipped with TTY's can communicate with others similarly equipped, their equipment is not compatible with other existing data networks or terminals.

Although there are some services using Baudot (but not Weitbrecht tones), many are now using 8-level codes, particularly the American Standard Code for Information Interchange (ASCII). These services use modems which are incompatible with the Weitbrecht modem.

To bridge this gap, the Amateur Radio Research and Development Corporation (AMRAD) initiated a project which was supported by a federal grant from the Bureau of Education for the Handicapped, Department of Health, Education and Welfare, starting in October 1979. AMRAD was well-prepared to take on this project because of its involvement in radioteletype, personal computers and computer message systems. Also, AMRAD has a manpower pool of members who are electronics and computer professionals as well as radio and computer amateurs.

There has been some discussion concerning whether the deaf TTY network should continue to use Baudot or change to ASCII. The argument in favor of staying with Baudot centers around the low cost of the machines and the probability that they can be supported for many years to come. Replacing the older Baudot machines with ASCII equipment could be considered an unnecessary expense by individuals on a limited budget. Reasons for upgrading from Baudot to ASCII include: (a) compatibility with computer services; (b) ability to talk to (hearing) persons with ASCII terminals; (c) the decreasing availability of surplus Baudot machines; (d) the increasing availability of surplus ASCII machines at decreasing prices; and, (e) the fact that only a minority of deaf persons own TTY's now, thus phasing out the Baudot machines would not have serious general economic impact on the deaf population.

Simple substitution of the newer ASCII TTY's for the older Baudot machines is possible and likely in some cases where backward compatibility with Baudot machines is not required. If paper tape peripherals are included in the ASCII TTY, the deaf could save some long-distance telephone charges by sending prepared messages at 110 or 300 baud. An ASCII printer would permit the user to access time-share computer services and to send mail electronically, read the news, and use other services available to subscribers.

In contrast to simple substitution of machine for machine, the AMRAD concept was to try to adapt the personal computer to the special needs of the deaf; i.e., to handle both 5- and 8-level codes. The microcomputer with a Bell 103-compatible modem could talk to the computer world and with a special interface could also communicate with the deaf who are still using 60-wpm TTY's and Weitbrecht modems. In addition to being able to emulate both Baudot and ASCII TTY's, the computer can be programmed to operate as either a "dumb" or "smart" communications terminal. Also, it is a home computer capable of personal programs, computer-assisted instruction (CAI) and a variety of other applications for the user.

Home computer interfaces

AMRAD selected the Radio Shack TRS-80, the Apple Computer Inc. APPLE II and the Commodore PET or CBM computers to be interfaced because they were the three most popular home computers during the latter part of 1979.

In late 1979, one of each of these computers was purchased and turned over to interface designers. The first goal was to design a simple hardware/software combination that would perform the ASCII-Baudot conversion and enable the computer to be used as a dumb terminal. These designs have been completed and "debugged", except for the PET interface, which has some peculiar problems. In the near future, these computers and interfaces will be demonstrated to the Bureau of Education for the Handicapped and described to others via direct mail.

Visible "bell" for deaf users

Of the three computers presently being used, only the APPLE II has an audible signal, or "beep", which corresponds to the ASCII BEL (Control-G). It is used to attract the attention of the user at critical times such as indicating a syntax error. A husband-and-wife team is doing the interfacing; the wife is deaf. A hardware modification was added to the APPLE II to give her a visual signal whenever the beep sounded. It was found that a light-emitting diode (LED) would operate when simply inserting in series with the speaker lead. This is inexpensive and easy to implement.

Handicapped Education Exchange

The Handicapped Education Exchange (HEX) is a microcomputer system devoted to subjects pertaining to the education of, and communications with, the handicapped. The foundation for this was AMRAD's telecomputing experience which dates back to January 1978, using both 2-meter Amateur Radio and the direct-dial telephone system. After some months of experimentation, the computer was reprogrammed as a message system which functions as a computerized bulletin board system (CBBS). The system is capable of storing messages entered by callers and retrieving them at any later time until erased from memory. It was the fourth CBBS to be operational on the phone lines in the U.S.

The application software for HEX is similar to the CBBS in concept. It is written entirely in the BASIC language, resides on floppy disc and occupies 12 k of storage space.

Initially, HEX will not impose a message-length limitation because of the subject matter anticipated. Message-length limitations will be reviewed after some additional experience is accumulated. At the moment, it is open for use by any organization or individual with an interest in education and communications involving the handicapped. Should abuses occur, experience has shown that most can be resolved by means short of turning the system off or password protection, but these options are still retained.

Presently, HEX can be described as a bulletin board because all messages entered by callers can be read by everyone else. In addition, there are other files that can be accessed by a single-letter command; i.e., H-Help, N-News, T-Time, B-Bulletin, A-Announcements, and D- for a list of other data bases being maintained.

The data base categories currently on line are a list of all other 8-level computer information services available to the general public, a directory of governmental and service-oriented 5-level TTY phone numbers, and descriptions of other projects related to the Bureau of Education for the Handicapped. These files will be updated by the system operator on a periodic basis. Major improvements will be implemented as experience is gained.

Dual 5/8-level modem protocol

The provision for dual 5- and 8-level access was not a simple task. Each type has its own unique features which make it a complete line-control protocol handling the origination, reception, validation, transmission and termination of a call.

The Bell 103 standard is a comprehensive 8-level protocol which was originally intended for data communications, usually between a human operator and a computer. The 5-level protocol is less formal and presumes human operators on both ends of the line. In the 8-level Bell 103 protocol, the receiver of the call, usually the computer, places tones on the line first and awaits a response from the originator and usually one or two characters to establish the type of terminal and baud rate. In the 5-level case, the receiver of the call is expected to answer the call and immediately type a welcoming response before the originator is required to indicate his or her wishes.

An additional difference between the two protocols is the full-duplex capability of the Bell 103 standard and the half-duplex nature of the 5-level TTY mode. That significance of these differences is that both ends of the Bell 103 exchange are con-

tinuously aware of the presence of the other due to the continuous tones being transmitted. In the 5-level case, however, to allow half-duplex operation in a conversational mode, the tones must be silenced automatically at the end of each character to allow a reversal of the direction of data flow if the other person desires to talk. The difficulty arises in that there is no way to determine from line conditions only the status of the 5-level user. The only way to sense the activity of the user is by context (e.g., has the user logged off?) or through a time-out.

The other significant constraint on the 5-level protocol is the inability to interrupt the transmitting station in the middle of a transmitting stream. This is because the half-duplex nature of the Weitbrecht modems causes the transmitted tones to mask any possibility of detecting the tones from the receiving end unless a silent pause is taken periodically and at a known point. In the conventional 5-level person to person exchange, this was no problem due to the sporadic nature of manually keyboarded text. With the advent computer communications using the Weitbrecht modem, however, this problem exists and is accentuated by the large volumes of data available from the computer and the slow rate of transmission. A mistaken command could take tens of minutes to recover if it was interpreted as a request for a large listing of information.

To overcome these difficulties, a mutual protocol has been developed. It takes into consideration the features and limitations of each of the two protocols and allows automatic unattended operation of a single telephone line to handle incoming calls of either 5- or 8-level codes. It also distinguishes between 8-level calls of either 110 or 300 baud.

The only limitations of this protocol are the four-second time requirement for the 8-level user to establish connection with his originate modem and the 60-second requirement of the 5-level user to maintain system activity to prevent loss of channel.

Future plans

A proposal for a second year grant has been submitted to the Bureau of Education for the Handicapped. The proposal calls for interfacing three other popular computers. The specific choices will be left until later, but if made now would be the Texas Instruments TI 99/44, the Atari 800, and a computer using the IEEE S-100 bus. Both the TI and Atari models have made significant impact on the personal computer market and were expected to work toward mass marketing of these products during 1980. The S-100 does not have the sales volume to the general public enjoyed by several of the single-board computers but is nevertheless important for interfacing for the deaf. Beside its appeal to the computer hardware hobbyist, the S-100 has become important in small business computer systems and computerized bulletin board systems.

While not specifically covered in the project, it is likely that other interfaces will be spun off. The most likely candidates are: Ohio Scientific Inc. (OSI), the Rockwell AIM 65, and the Teletype Corp. Model 33 teletypewriter.

In the second year, the plan is to increase the storage capacity of HEX by the addition of an 11-megabyte hard disc. This greater capacity is required to support additional mail boxes and a larger informational data base.

Conceptually, HEX could be considered to be a prototype for a "regional node" in a national communications system to be used by the deaf and other handicapped. As a regional node, it would be interposed between "major nodes" and "local nodes". A major node would be a minicomputer located at one of the largest population centers in the United States. Major nodes would be responsible for long-distance transmission of traffic between these largest population centers. Local nodes could be set up by computer clubs, cooperatives or institutions desiring to operate a CBBS-type system for computer amateurs, the handicapped, and others in the community.

Because HEX is regarded as a prototype, the software has been written in BASIC so that it can be used on other types of computers with only minor dialectal changes. Although it could have been written in 6800 or 6809 assembler language with some improvement in speed, this approach would have required major revision for Z-80 or 6502 assembler languages.

Conclusion

Interfacing personal computers for Baudot TTY communications can give the deaf a system capable of both communications and computing. Although a personal computer system costs more than an existing Baudot TTY, there is some savings in combining communications and computing capabilities. This combination will facilitate the modernization of deaf TTY by providing at least some terminals capable of both ASCII and Baudot operation.

HEX will demonstrate the capabilities of a medium-size message system somewhere between the community levels CBBS and a larger minicomputer system. Operationally, it will serve institutions and individuals involved in the education of, and communications with, the handicapped by providing a current information exchange.

HEX can be reached by dialing (301)593-7033, 24 hours a day, seven days a week. If you have something you would like to pass along to others in the field, you can easily enter it as a new message.

In order to "talk" to HEX, you will need either an ASCII or Baudot terminal.

Automatic 5- and 8-level telephone access

The following lines of code handle the automatic telephone access and switch between 5-and 8-level modems, as required. Associated with this code is the hardware and assembly level software which is required to do the actual 5-level interface. The hardware and software are described in "Microcomputers for deaf communications", which was prepared and presented at the Institute for Electronic and Electrical Engineers seminar on Applications of Microcomputers as Aids to the Handicapped on 2 April 1980. As noted in the paper, the program only has to sense two inputs and control one output:

1. **Off-hook** — This signal from the modems tells the computer that someone is on line. When it goes low, the computer must reset to be ready for the next caller.
2. **Data carrier detect** — This signal from the 8-level modem tells the computer whether the user is an 8- or 5-level user.
3. **Data terminal ready** — This output from the computer tells the 8-level modem to be ready for a call, or if removed, takes the 8-level modem off-line if the caller is 5-level.

```
0970 REM ***WAIT FOR CALL***
0972 POKE (63268,1)              Turn on Data Terminal Ready
0974 IF PEEK (63270) 32 THEN 974 Wait for modem to go Off-Hook
0976 FOR I=1 TO 1500             Delay 5 seconds
0978 NEXT I
0980 LET J=0
0982 FOR I=1 TO 50
0984 IF PEEK (63270) 127 THEN 990  Test for 8-level carrier.
0986 LET J=1
0988 LET I=50
0990 NEXT I
0994 IF J=0 THEN 1000            8-level access was found.
0995 PRINT "5 LEVEL"
0997 POKE (63268,0)              Turn off the 8-level modem.
1000 REM **BEGIN MAIN PROGRAM**
      . . . . .
      . . . . .                  The I/O routines keep track of whether
      . . . . .                  to use 5 or 8 by testing the
      . . . . .                  Data Carrier Detect.
      . . . . .
7980 PRINT "GOODBYE"             Prints the TIME of logoff. Turns off
7985 GOSUB 9900                  both modems. Wait for both modems
7994 POKE (63268,4)              to drop the line before going back
7995 IF PEEK (63270) 32 THEN 7995 to the program start.
7999 GOTO 970
```

MICROCOMPUTERS

The ASCII terminal may be either a simple terminal or a computer which is capable of running at a speed of 300 baud using 7 data bits, no parity and 1 stop bit. It should be equipped with a Bell 103-type modem. Baudot callers should use a standard TTY.

HEX is set up to handle either an ASCII or Baudot caller, automatically, on the same line. At the moment, we are using only one telephone line but plan to add at least one more line later this year. So if you get a busy signal, try a little later. □

Have you tried this?

A few years ago, I installed a 40-foot tower with a new TA33 antenna, fed with coax, and a heavy-duty rotor. This setup *loaded up beautifully*, but was not able to get out at all.

Repeated calls proved fruitless, and it wasn't until I ran a copper tubing ground to the tower itself that my problems cleared up.

— *Triple States RAC, OH* □

U.S.-Canada

Friendship Games

Joe Turner, K8CQF

"Amateur Radio Enthusiasts Play Key Role In Competition" was the declaration of the headline. In more subdued print, but with a sense of magnanimity, the article went on to say, "For the past two years, Amateur Radio enthusiasts enjoying their hobby have been knights in shining armor for Friendship Games officials." It concluded with an overview of how these "knights" had used a VHF and 40-meter communications link to save "a lot of headaches" and make "things go much smoother" for the organizers of an annual athletic contest between the cities of Saginaw, Michigan and Saulte (Soo) Ste. Marie, Ontario, Canada. The event last year took place 7-9 August.

Although the bouquets were thrown to members of the Algoma Amateur Radio Club (VE3SOO) and the Saginaw Valley Amateur Radio Association (K8DAC), they are typical of reactions by public officials to communications networks established by amateurs assisting in large community-sponsored goodwill projects.

This form of public service appears to have been growing in use across the nation. Some probable reasons for the increasing popularity of these radio networks lie in the fact that they're a lot of fun to do, can be easily replicated by other amateurs, require only a small number of amateurs to function well, and solve very serious problems for the event organizers.

Perhaps the most important of these reasons is the last — the solution of serious communication problems. The burden facing officials putting together one of these community-sponsored events is best understood by looking closely at the makeup of a single event. So let's take a closer look at the previously mentioned Friendship Games.

Saginaw and the "Soo" are located about 250 miles apart, and the two cities take turns being host to this annual competition consisting of three days of activity in over 80 different groups of events. From their combined populations of 150,000, each city selects about 1,000 participants. Because the primary purpose of these "Games" is to mix citizens from the two communities, all youngsters under 18 years of age are required to travel together in a convoy of buses to the host city and live as a guest of a host family for the duration of the contest. Each year homes must be found for approximately 600 youths.

That task alone is very difficult, but the total volume of information which must be exchanged between cities is staggering. It takes about three months each year for them to communicate information on which events they have athletes

Amateurs were knights in shining armor who eliminated at lot of problems for officials.

for, where the various competitions will be held, determine which dignitaries will attend which ceremonies, name the players, etc.

Amateur Radio operators stepped in with a RTTY link which was ideally suited to the transmission of this type of information, especially lists like team rosters and event schedules. In a little over six weeks, they had passed over 5,500 facts for officials.

Simultaneously, plans were laid for a 2-meter network for use on the "Games" weekend. Some competitions — such as gun shooting — were miles from the center of town, and a score of remote competition sites were used. From these sites, amateurs handled hundreds of reports on contest results, injury reports, equipment requests, and miscellaneous traffic — all of which was relayed to a communications center for resolution or distribution to officials and the media.

Even though the work can be exhausting, the amateurs involved always have a good time. They travel from the visiting city to the host city on the weekend of competition in order to help out during the contests, and many friendships have been started by the close working relationships and eyeball QSOs.

Amateurs experience several benefits by being involved in this work. The very fact that their services are needed and used has created a sense of camaraderie among them. They have become better operators by having been exposed to unique modes of operation like RTTY, and because of the chance to handle infinitely variable forms of traffic with heavy volume and rush conditions. "Games" personnel have given amateurs the red carpet treatment. The amateurs have been provided with communication headquarters in the Emergency Operations Center at Saginaw's City Hall; have been allowed to erect a three-element 40-meter beam on its roof; use permanently installed VHF antennas; and can power their equipment from their self-sustaining emergency power system.

The public support for amateur efforts has been gratifying. Key public officials and community leaders have spent a lot of time with the Amateur Radio personnel, becoming acquainted with individuals and learning what an asset Amateur Radio can be to a community. Consequently, the efforts of both clubs have been highly visible — in newspapers, on radio and on TV.

Recognition of Amateur Radio public service is further augmented by the multitude of private citizens the amateurs are in contact with each year. A coach; a child who lost his wallet in a foreign town; a Laotian boy who wasn't left alone when he was prohibited from crossing the border; a chaperone who received the tragic news of a death in her family — these and hundreds of others have been left with an indelible impression of Amateur Radio.

We should also realize that this form of service is very much in keeping with the Communications Act of 1934, which established the Amateur Radio Service, in part, because of its unique ability to foster international good will. Confirmation of that ability was indicated by Jerry Werle — a City of Saginaw official who, in a report to the citizens of Saginaw at the end of the 1980 "Games," said: "but the real winner of these Games is the spirit of friendship and international understanding which they have created."

The requirements for this type of public service project are simple, the benefits are large, and your skills are needed. You are encouraged to establish a similar network in those communities where it could be useful. If you are already involved in a project of this nature, or are planning to begin one, please drop me a line so that we can exchange notes. □

Contact Worldradio for hamfest prizes.

U.S. QSL Service, Inc.

As you may have heard, USQS is a *FREE* QSL bureau for your QSLing to U.S. stations. The service is run by Laryl Myers, KM7Z (ex-N7BMY).

To use the bureau to receive QSLs from all over (we do get some DX direct), you must keep a self-addressed stamped envelope on file. If you would like to have us put SASEs on file for you, just send $1 and we'll put four of them on file for you. It works best to keep at least three SASEs on file. Let us know if you would like your SASE returned when full; when filled with a certain number of cards; or monthly. Put your past and present calls on the SASEs!

To use the bureau to send your cards to U.S. stations, (*PLEASE NO DX* unless via a U.S. call manager), do the following: group your cards by call area 0-9, then *sort alphabetically* by suffix for each group. This sorting makes the handling of QSLs faster and prevents errors in filing. *Please watch your printing!*

There is no charge for outgoing cards. We are a non-profit corporation. We ask for donations, which are necessary for our operation. In the past, we have mailed out thousands of cards at our expense — a way of advertising and getting cards delivered. The time has come when it is not possible to continue to provide financial assistance to such an extent. USQS must become self-supporting. What this means is that the donations must cover

Laryl Myers, KM7Z (ex-N7BMY)

expenses. Please understand that this is a service for and by amateurs, so those of us who use it must support it. The work of running the system is strictly voluntary; any donations are used to keep the cards flowing and get the word out in advertising.

I would like to thank all the amateurs who have sent donations and letters of appreciation. It is a lot of work, and even though I enjoy it, I like to know it is for a good cause! I would like to have some of you let me know what ideas, suggestions and comments you have. I have been writing here for well over a year now, and I'm getting ready to have some of you pitch in and help me with ideas, comments and articles. If you have anything of interest that I could include in these monthly articles, let me know and we'll spice up the writing talents here!

Following is a list of calls that have QSLs waiting to be claimed. This list is compiled in advance of publication, so if your call is here and you have sent SASE, thanks. If there are errors in the list, please forgive me. I think I'm seeing calls in my sleep (ha ha).

We need SASEs from everyone — especially:

AK1A	N4FOI	KD6EJ	W7PMI
N1AY	AA4GA	N6ESU	WB7PQX
N1AYI	K4GG	KE6ET	WB7PST
KA1BFA	K4GOK	WD6FIX	WB7PYC
N1BGA	WD4GPY	KA6FXK	KB7Q
N1BJA	W4GSM	WA6GFY	WB7QMH
N1BMU	K4GSO	W6GGH	KL7RA
N1BRT	WD4GXR	KA6GTY	K7RJ
N1CW	WD4HAI	KA6HBN	W7RLW
KA1CYN	WB4HDX	WD6HFC	W7TY
KA1DJV	K4IHML	KA6HLQ	WB7UMO
WB1DYP	WA4IJW	KA6IAM	WB7UZT
WB1EDL	KB4IS	KA6IVL	WN7VRZ
K1EQA	KA4ISH	KA6IWO	AJ7X
KA1EYB	WA4IUL	W6JHQ	W7YN
WB1FBF	NQ4K	KA6KCD	WA7YWX
K1FLO	WD4KHI	K6LBG	W7ZMD
WB1FWA	WB4LFT	WA6LGO	AF8A
KA1FYS	W4LPF	KA6MMS	AK8A
WB1GLH	KC4MK	K6MRI	K8AWX
W1HSP	WB4MLG	WA6NAE	W8BCL
KE1M	WA4MRI	KD6NB	WA8BLV
K1NCD	W4NPT	KA6NPJ	W8BS
K1NDF	WA4NZD	W6NVN	KA8BTC
K1RSC	K4OD	KI6O	K8CA
W1TEE	N4OF	WA6OEC	N8CLA
WA1VRH	WA4PGI	KA6OHA	N8CMH
KB1W	W4PUR	KA6OMX	WB8FWQ
WA1YLN	N4RI	K6OZI	KJ8J
W1YS	WA4RJN	KA6OZK	KD8K
WA1ZVI	KA4RPO	W6ORD	WD8KXR
AG2A	WA4RXD	KA6OWZ	KA8LUW
WD2AGU	K4SAO	KA6PHY	WD8MFP
KC2BD	K4SP	W6PSK	KA8MQY
N2BQ	AK4T	KR6Q	W8PWI
N2CKH	WN4TTN	KA6QDG	WD8QAC
W2EMW	K4VRT	WA6RCH	WB8UDQ
WB2FJR	KA4VXT	WA6TBT	KB9A
WA2GSF	N4WF	K6TMB	W9AA
W2IOL	W4WJ	WB6UWK	N9BZJ
KA2IUT	W4WJV	W6VRK	KA9DON
W2KN	W4XQ	WA6WIY	KA9FYL
WA2KWC	N5AFV	KB6XR	W9GW
KQ2M	KE5B	KH6XX	WB9IGO
W2MVT	KC5BG	K6YA	KA9ILK
KA2NMT	KA5BME	WB6YBT	W9LID
WA2PHA	WD5CDD	W6YQM	W9NAX
WA2PNF	KA5DPF	K6YT	W9NSA
K2ROL	KA5EFV	AE6Z	N9PI
WA2VZL	N5EM	N6ZE	WB9TXT
KI2X	WD5HQC	KB6ZN	K9XI
KG2Y	KK5I	KA7AAZ	W9YWE
N3AC	KA5IAN	W7BB	WD0AVG
N3AMK	WA5IPS	N7BHC	W0AW
W3BXG	KA5JMG	N7BLS	N0BLD
N3CAK	KA5KAZ	W7BVH	K0BM
N3CBJ	KA5KGO	K7CD	N0BPC
KB3D	KC5KM	KA7CDG	N0BYC
KA3GIG	KA5KPO	KA7CIM	N0BYP
W3GOH	K5LG	N7COI	KA0CDP
KA3GWH	KA5MQG	KA7COU	WB0CRZ
KA3HEF	W5NDP	KB7CQ	N0CWB
KA3HGT	K5NW	WB7CQE	WD0DEH
KA3HMS	WB5NWV	N7CVO	KA0DFV
KA3JHX	KB5P	N7DBS	K0FAZ
KA3HNM	W5PK	KA7DCB	K0HHB
K3II	W5QCF	KA7DCG	KB0L
KB3KW	W5QEP	WB7DIM	KA0LUZ
W3LR	WB5QHK	KA7DTG	KA0MFJ
KB3MR	W5QJM	W7EDA	KA0MHA
VE3NAR	K5QQ	KA7EST	KB0N
K3NB	WB5QVN	KI7F	W0PFR
VE3QRP	WB5RCS	AK7G	WB0QQW
WA3SWD	W5TGU	K7GEX	AE0R
K3URR	WB5THD	W7GYX	W0RSP
K3VAV	W5TZN	K7HZN	AC0S
K3ZUD	KC5VU	K7IPK	W0SP
N4AM	WB5YSB	W7JBN	K0TBB
WB4BQM	WA5ZAR	K7JYP	K0TGB
KA4BYS	KA6AKN	W7JYW	WB0THS
WA4CRY	K6APB	KJ7K	K0XT
NP4D	N6APQ	KA7KDX	AE0V
N4DSQ	N6BCZ	KA7KFB	
WD4DTI	W6BGU	KA7KML	
N4DU	WB6BNN	KA7KWR	
W4DU	N6BNO	KA7KWU	
ND4E	KA6BXJ	KA7KYT	
W4ENU	KA6BXM	KA7LDL	
KA4EQW	K6CPL	K7LED	
WD4ERN	WA6CVL	WA7LNW	
N4FFT	W6DL	K7LR	
N4FGF	N6DOK	K7MGX	
WA4FNA	N6DQN	WB7NXC	
W4FOA	WD6EBI	WB7OKN	

Here is our address; keep it handy! **U.S. QSL Service, Inc., P.O. Box 814, Mulino, OR 97042.**

Thanks again and see you next month. 73 and 88, Laryl Myers, KM7Z (ex-N7BMY). □

Special Events...

George Washington

The 250th anniversary of George Washington's birth will be commemorated on 22 February 1982 by day-long Amateur Radio operations from Mount Vernon, the magnificent estate of George Washington on the banks of the Potomac River, south of Washington, D.C.

The Mount Vernon Ladies Association of the Union, which owns, preserves and maintains this national shrine, has granted permission to the Mount Vernon Amateur Radio Club (MVARC) to establish and operate a temporary station on the grounds of the mansion during the commemorative day.

Members of the MVARC will operate on a number of bands continuously from 0900-1600 EST (1400-2100 UTC) using the call sign WB4IGW. Look for WB4IGW at or near 7.260 and 14.285 MHz (SSB) and on the 146.055/655 MVARC repeater. Additional SSB operations may also take place on 28.745 and/or 21.415 MHz, and via a Novice CW station at or near 21.120 MHz, depending upon the prevailing propagation.

A special commemorative card confirming radio contact made on 22 February 1982 will be available. Send a self-addressed stamped envelope and, if possible, your own QSL card to: Amateur Radio Station WB4IGW, Elmer Zborofsky, 5912 Brookview Drive, Alexandria, VA 22310.

For further details concerning this event please contact: Amateur Radio Station WA5YJP, Peter Jones, 7104 Roxann Road, Alexandria, VA 22310; Telephone 703-971-7770. □

25th year is a special event

In March of 1982, the Juniata Valley Amateur Radio Club will be celebrating their 25th year as a bonafide club.

In honor of the event, we will be operating a special event station. The club call is K3DNA, located in Lewistown, (Mifflin County), Pennsylvania.

We plan to go on the air at various times starting 1 January 1982. We will operate heavily throughout the entire month of March 1982.

The station will operate on different bands, CW and phone, according to the operator's wishes. One contact with any club member will entitle the operator to receive the club certificate. □

•••••••

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

Most of the provisions of Senator Goldwater's S. 929 and Congressman Dannemeyer's H.R. 2203 bills were included in Congressman Tim Wirth's H.R. 5008. H.R. 5008 was the subject of a hearing before the House Subcommittee for Telecommunications on 19 November 1981.

As of early December, provision for the use of volunteers to prepare and administer amateur license examinations and for monitoring amateur communications were included. Exclusion of amateur transmissions from secrecy and provision for 10-year license terms were included.

Exclusion of license requirements for CB stations was retained, but authority to require RFI-proofing of home entertainment was not. However, I was advised by a subcommittee staff member that the desirability of including the RFI authority in H.R. 5008 would be given serious consideration.

•

Provision for high frequency amateur facsimile and Slow Scan TV was approved by the FCC at its 24 November meeting, effective early in 1982. The frequency and license class limits and eligibility are the same as for the use of type A3 emission in the amateur high frequency bands.

•

FCC has approved automatic control for one-way amateur beacon transmissions, in its Notice of Proposed Rule Making adopted 24 November 1981 (PR Docket No. 81-823). Detection of unusual propagation conditions and checking and adjusting equipment were given as the basis for the proposed authorization of unattended automatic control of beacon transmissions. Manual, as well as automatic, beacon operations would only be permitted on certain frequencies in the amateur bands above 28 MHz. Emission modes of stations in beacon operation below 450 MHz would be limited and power would be limited to 100 watts. The Commission said "... it would continue to entertain STA* requests for beacon operations above and below these frequencies provided there was a unique need for such operations." Original comments on the NPRM are due 15 March 1982, and reply comments on 15 April 1982.

•

Leonard Boucher, K4MME withdrew his request for the hearing on the proposed suspension and cancellation of his amateur operator and station license, for "jamming" a net. FCC received Boucher's withdrawal letter on 2 December, just seven weeks before the 20 January 1982 date set for the hearing by the hearing judge. At the time this was written, no decision was available as to whether the hearing for the other jammer — Gerard Morin, W1GM — might still be held at Washington, D.C. on the 20th. This leaves the cancellation and suspension of K4MME's license to be accomplished by FCC's staff.

•

The "plain language" rewrite of the Amateur Radio Service rules was rejected by the FCC's Commissioners in their 12 November 1981 meeting.

•

A petition to relieve the licensee of a repeater from any responsibility for what is transmitted via the repeater, was dismissed by the Commission during the last week of November.

•

Requests for Novice exams dropped from 27,000 to 22,000 during a 12-month period from 1 November 1980 through 31 October 1981, compared to the prior 12 months. Going further back, the figures were 32,000 three years ago and 40,000 four years ago.

•

Prospects for use of the new 10 MHz band early in 1982 are dim, according to a Private Radio Bureau staff member. The World Radio Administrative Conference (1979) allocations became effective 1 January 1982. Rule-making procedures will be required to determine the manner of use of the 10 MHz band. Emission(s), power, user operator class, and protection of non-Amateur Radio Services sharing the band are some of the factors to be determined. Thus, it may be several months before the band will be available for regular use by U.S. amateurs.

In the meantime, Bob Haviland, W4MB of Daytona Beach, Florida has been authorized to operate beacons on 10, 18 and 24 MHz under his experimental authorization using the call sign KK2XJM. He solicits signal reports. November QST, page 68 reports details of the operation.

The official signing of the WARC for the United States is held up in the White House (at the time this was written, in early December). According to *HR Report* (11/20/81), British amateurs will be using the 30-meter band starting 1 January. Contrary to an earlier report, however, they will not have immediate access to the 18 and 24 MHz bands.

•

End-of-October amateur license statistics were: Extra 29,387; Advanced 93,865; General 126,247; Technician 76,538; Novice 79,082; Total 405,119. Unfortunately, I understand, these figures as released by FCC are about 6 percent "fat," in that about 25,000 licenses which have expired and are in the grace period are buried in them.

•

Spread spectrum communication for amateurs has been proposed by the FCC for the 50, 144 and 220 MHz bands for Advanced and Extra Class licensees. Comments on the proposal should be marked "General Docket No. 81-414" and sent to FCC, Washington, D.C. 20554 by 1 March 1982. The Commission asks for comments on the interference potential, and means of detection, monitoring and identification of such transmissions, etc.

•

The new simplified identification rule text follows: "(a) Each Amateur Radio station shall give its call sign at the end of each communication, and every 10 minutes or less during a communication." (h) At the end of an exchange of third-party communications with a station located in a foreign country, each Amateur Radio station shall also give the call sign of the station with which third-party communications were exchanged." The wording of 97.84 (a) was changed and (h) was added. Sub-section (g), which was not changed, states in part that: "The identification required by this section shall be given on each frequency being utilized for transmission . . ."

•

The comment period on the Docket 80-135 proposed the non-amateur use of the 420-450 MHz band for inland private radio-location, was extended to 21 October. A 90-day extension had been requested by a California repeater group.

•

FCC Commissioner Dawson's engineering assistant is Ed Logan Jr., W4FPD, according to the 10/23/31 issue of *HR Report*.

•

A petition for use of repeaters to receive in-band Technician's stations and repeat them outside the Technician band was dismissed as moot by FCC's Private Radio Bureau Chief McKinney. He referred to Docket 19852, which specifically addressed this matter and stated that "no amendment to the Rules was necessary to make this clarification which applies to repeater operation as well as space operation."

As long as the control operator of the transmitting station is authorized for the frequency privileges being used, the fact that the station may retransmit from frequencies authorized to both higher and lower operator classes is of no consequence." For example, there is no prohibition, *per se*, for those types of operations where retransmission is permitted (repeater, auxiliary and space) to retransmitting the signals from a station with a Technician Class control operator on frequencies not authorized for the Technician Class."

•

The amateur station and operator licenses of WB6VII were revoked and suspended by FCC on 21 October 1981 for "intentional interference with another station, failure to identify by call sign and the transmissions of unidentified radio communications or signals." The licensee — Edmond M. Jules of Los Angeles, California — had 30 days in which to appeal the Comission's action.

•

The illegal Channel 7 TV station of a Southern Pines, North Carolina operator was closed by the Norfolk Office of the FCC, and he was issued a notice of forfeiture of $2,000. He may either pay the fine or request a hearing on whether or how much he should pay.

**STA: Special Temporary Authority* □

Council hears FCC specialist

Lenore Jensen, W6NAZ

Grace Poirier, Public Service Specialist from the FCC Long Beach Office, spoke before the Los Angeles Area Council of Amateur Radio Clubs on 3 November.

"What's in the future" was her interesting opening as she predicted large flat TV screen picture tubes which we may hang on our walls; or we will participate in opinion polls from our armchairs by voting for programs we prefer. Already some people are receiving home print-out information from department store sales, comparative marketing, etc. . . . and we'll be receiving postal messages electronically.

There's no limit to imagination — but remember: there *is* a limit to the space in the spectrum. We'll all going to be *crowded!*

Ms. Poirier went on to discuss current dockets before the Commission, urging us to always become acquainted with them and express opinions within the time limits.

She explained that the Long Beach of-

fice has but five engineers for Southern California, Southern Nevada and the entire state of Arizona. Priorities come from Washington. With "safety of life and property" at the top and with the office's responsibility for all broadcast, TV, police, fire, aviation and marine radio facilities, it is not surprising to find Amateur Radio at the bottom of the list.

However, she assured the audience, "We are well aware of your problems and will get to them." Current revocations are examples, she stated.

Replying to questions about TVI complaints, she showed the handsome booklet, *How To Identify and Resolve Radio-TV Interference Problems.* It may be obtained from any FCC office or from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

She also told of the new Study Guide for Amateur Radio licenses as well as a PR Bulletin (No. 1003) which gives information about the Amateur Radio Service, handy for giving to newcomers or the general public. It explains how to obtain a license, the various classes and written elements required.

Renewals were discussed and she said the correct time span to apply is between 90 and 30 days (never before 90) before expiration. Should the renewal not arrive and your license is in order, you may continue to operate until it does — but she strongly advised that you keep a *copy* of the application you have sent in. However, if the license *has* been allowed to lapse and one applies for a renewal, operating is prohibited until the new ticket arrives. (The backlog may be longer than desired.)

As for those holding Radiotelephone First or Second, the new "General Commercial" license will replace it as soon as the new forms arrive. If one has lost his former ticket, he should apply to the *most recent* office which renewed it before.

The proliferation of new TV cable companies is apt to cause us considerable interference to and from the systems — less-than happy news to some who had yet not experienced it.

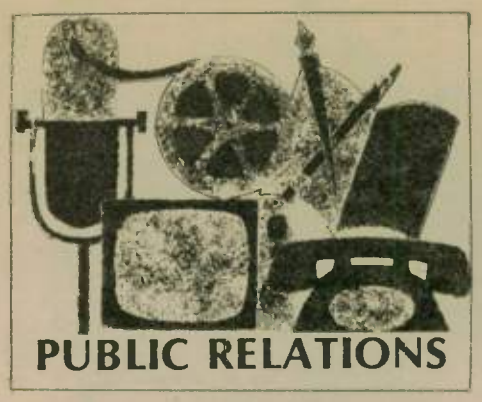
The chairman of the council — Tom McInnis, WB6ZEB — expressed great appreciation to Grace Poirier for her effort to come (on her own time) and for her careful, interesting answers to the many questions. ☐

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 radio district, as of 1 December 1981.

Radio District	Group A	Group B	Group C	Group D
0	KO0Q	KC0LH	N0DHC	KA0MRS
1	KG1X	KA1XU	N1BWM	KA1HZI
2	KS2O	KC2KM	N2DCO	KA2OCH
3	KG3G	KB3XE	N3COI	KA3IJK
4	NU4Y	KE4HU	N4GCD	KA4YBR
5	KV5K	KD5EP	N5EEF	KA5MWN
6	NG6C	KE6MD	N6FSI	KA6SGD
7	KO7V	KC7MM	N7DMP	KA7LXO
8	KS8Q	KC8QQ	N8DLW	KA8OKQ
9	KK9P	KC9KJ	N9CVC	KA9MFH
N. Mariana Is.	AH0A	AH0AA	KH0AC	WH0AAE
Guam	AH2N	AH2AM	KH2AT	WH2ADB
Johnston Is.	AH3A	AH3AB	KH3AB	WH3AAB
Midway Is.		AH4AA	KH4AC	WH4AAF
Hawaii	NH6N	AH6DS	KH6QH	WH6ARS
Amer. Samoa	AH8A	AH8AB	KH8AB	WH8AAM
Wake Wilkes Peale			KH9AA	WH9AAA
Alaska	WL7I	AL7DI	KL7RL	WL7ASK
Virgin Is.	KP2H	KP2AH	NP2AM	WP2ACV
Puerto Rico	NP4H	KP4ER	NP4EJ	WP4CCO

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 Office, Washington, D.C. 20554. ☐



Santa speaks Spanish

Lenore Jensen, W6NAZ

Children confined to Orthopaedic and County-USC Medical Center hospitals were allowed to speak to Santa 14-15 December through the efforts of the Radioclub Latinoamericano de California and their 220 MHz repeater in Los Angeles.

At a discreet distance, Samuel Saunders, TG9CB/6 (formerly of Guatemala) voiced Santa in Spanish or English as the children required upstairs. There, Hernando Cote, WD6EAY (formerly of Colombia), and Alvaro Guzman, WA6WMN, took their hand-helds and mikes to children in wheelchairs or on beds for the all-important QSOs.

Jorge Ribas, WA6PDZ (from Spain) also assisted, along with the overall chairman of Operation Santa Claus in 1981 — Don Lewis, WA6MHN.

The club was exactly three years old at the time, having been started by Lorenzo Enriquez, WA6YRD (Cuba), who has been made a life member in appreciation.

Randy Johnstone, WB6QWR (Costa Rica) is in charge of the repeater. He is an engineer at Jet Propulsion Labs, as is the incoming president, German von Phal, WB6JYJ (Columbia). The former president was WA6PDZ.

There are 62 members in a well-organized club having excellent bylaws. Meetings are held on first Saturdays at 8:00 p.m. at the Joslyn Center in Alhambra, Southern California.

The club is already well known in Latin and South America. The past year saw much public service activity on 20 meters, with requests for medicine and other emergency traffic. Affiliation has been made with the club in Tulua, Colombia and Radioclub de Uruguayo in Montevideo. There are members in Guatemala City, Buenos Aires and Monterey, California. A present effort is being made to "tie up" with ham groups in Tiajuana and Ensenada, Baja California.

There are many programs and outings in which there is "wonderful cooperation by the XYLs of members." Many members are already citizens of the United States.

TV coverage from the local CBS station, KNXT in Hollywood, and the Spanish station, KMEX, was a plus for all Amateur Radio.

Don Lewis reports that many other hospitals throughout Southern California had similar Operation Santa Claus visits by ham groups, all with their own stories of success. □

Violet Barrett, W6CBA helps spread the Christmas spirit at La Habra Community Hospital in La Habra, California. A few days before Christmas, the children in the pediatrics ward got to talk to Santa and Mrs. Claus via Amateur Radio, using a radio which was provided by the Rio Hondo Amateur Radio Club.

Patients of Mirada Hills Convalescent Hospital enjoy chatting with Santa Claus during the Christmas season. Here, Violet Barrett, W6CBA holds a microphone for one woman to use.

Christmas in Victor Valley

Shirley Wolter, WB6QFU

Santa Claus sent two of his elves to visit the children in the hospitals of Victor Valley. Tuesday, 22 December — during Santa's busiest season — Harry Knapp, WB6FWE and Joe Broskey Sr., KA6MXD (both of them real grandfathers) went to the bedsides of the children. With QRM sound effects associated with transmissions coming from the North Pole and plenty of "Ho! Ho! Ho!"s, Santa Claus was able to talk to the children and some of their little brothers and sisters who had been permitted to visit for this special occasion.

Santa Claus's identity can now be revealed as Dorsey "Diz" Price, K5EDS. All participants were from the Victor Valley Amateur Radio Club. Needless to say, the children were delighted and the activity brought many interested "grown-ups" into conversation as they observed the elves at work with their hand-helds.

Another public service mission accomplished, and congratulations to this club for successfully reaching Santa Claus for a few minutes during his busiest time of the year. □

Volksmarch

Reynolds Davis, K0GND

The 1st Annual Lincoln Volksmarch was a well-organized 10- or 20-mile hike through Lincoln, Nebraska's Wilderness Park. This community "folks" march was held 20 September 1981, and was sponsored by the American Red Cross and the Lincoln Volksmarch Committee. Family participation was encouraged, and the Lincoln Amateur Radio Club was asked to provide communications between the various checkpoints and first aid stations.

Fifteen amateurs assisted with communications, on 146.52 simplex and WR0AEV (146.25/85). The amateurs were: Howard Cash, KA0AYY; N0CIS; Dave Knisely, KA0CZC; Jerry Kohn, WD0EGK; Lynn Blesh, K0EK; Kenneth King, WD0EJJ; Jackson Clift, KA0ERQ; Reynolds Davis, K0GND; JoAnn Coller, KA5HOJ; KA0JQF; Gordon Trout Sr., W0KBS; Robert Mitchell, WB0RJJ; Joe Eisenberg, WA0WRI; Scot Davis, WB0WSL; and Arthur Gakel, WB0YYE.

Faye, WB4YPD and Steve Silsby, WA4BRL — a husband-and-wife team — stand next to their Amateur Fast-Scan TV system, which was on display at the Coliseum Mall in Hampton, Virginia. Faye is secretary and Steve is president of the Southern Peninsula Amateur Radio Klub (SPARK).

Keith Hansen, WD4NPF — chairman of the Hampton, Virginia Coliseum Mall project — talks to visitors.

The Wayne King Orchestra appeared at the Broadmoor Hotel, Colorado Springs, Colorado on Saturday, 25 July 1981. Four of the members (shown here) are also Amateur Radio operators. From left to right, they are: Harold H. Tracy, KA0LCU, clarinet and saxophone; Ed Bolton, WA3PUN, vocalist; Don Korinek, W0JFO, lead clarinet and saxophone; Tasker Day, W9QBB, first violin; G. Russell Freymuth, W0SRS, general manager of the Broadmoor Hotel.

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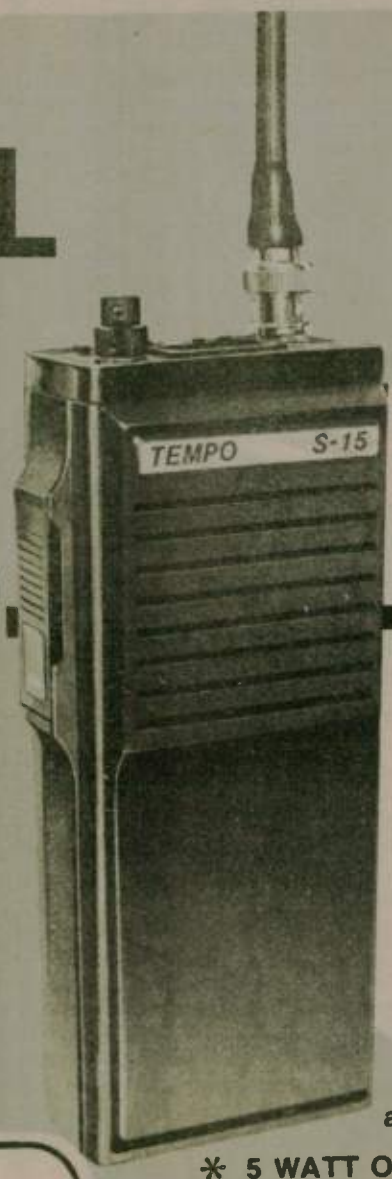

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AMATEUR RADIO IN PUBLIC SERVICE

What it's all about

In October, Randy Miller, KA5AST stayed up late one night helping the Coast Guard and other amateurs rescue a sailing boat with Amateur Radio operators on board. The amateurs in Costa Rica and Cocoa Beach, Florida could not always read each other well enough to coordinate the search plans and the Coast Guard helicopter. The Search and Rescue planes were from the Netherlands Antilles. The boat's name was *Fortress Cove*.

The amateur on board with whom Randy was in contact with was Claire Braden, WD5DIM. She could not keep talking all the time as the power in her ham rig was getting low, and she and her OM had to hand-steer the boat. They had been taking on water for many hours. Randy had to relay messages between San Juan, Cocoa Beach and the rescue aircraft.

With the amateur's help, the Coast Guard cutter was able to get to the boat in time. Our hats are off to you, Randy, for a good job well done.

— El Paso ARC, TX □

Amateurs assist hit-and-run victim

Submitted by Scott Thompson Jr., KB6CC

A couple of Tulare County (California) Amateur Radio operators gave some public assistance the morning of December, following an auto-pedestrian accident in the thick morning fog.

Pete Williams, K6VWV of Tulare, saw a car hit some pedestrians on a road near Tulare and drag one boy into a nearby field leaving him trapped under the car. Quickly calling Porterville resident Ed Lamb, K6LSB by 2 meters to relay information to the highway patrol, Williams helped to dig 8-year-old Richard Hyles — also of Tulare — from under the car and waited until help could arrive.

Hyles was taken to Tulare District Hospital for treatment of a broken leg and road burns, and a 22-year-old Porterville man was arrested a short time later and charged with felony hit-and-run driving. (The driver had run on foot from the accident scene.) □

Volunteers needed

Monty Caduff, WD6AUS, is chairman of the V.I.P. Radio Club in Southern California. He is looking for volunteer instructors to teach Amateur Radio one day per week to handicapped children. There is a special need in the El Toro area to keep this worthwhile program alive in the El Toro area schools.

If you can spare some time to help these children, please contact Monty at (714) 846-3572.

— So. Counties Amateur Teleprinter Soc.

Snowstorm call

Reynolds Davis, K0GND

In response to a call issued by the Lancaster County Civil Defense Agency in preparation for the first winter storm of the season, weather nets were started on both local repeaters (WR0ACD and WR0AEV) to gather weather and storm-related information from the area. The call occurred on 16 December 1981, and involved eastern Nebraska, including Lincoln and Lancaster Counties.

The Amateur Radio station at the Civil Defense EOC was manned by Gail Tanabe, KA0CGF and Jerry Kohn, WD0EGK, while Steve May, WA0ASM; Reynolds Davis, K0GND; and Scot Davis, WB0WSL took over NCS responsibilities.

One "emergency" run to an outlying suburb by a four-wheel drive vehicle was necessary to pick up two nurses and deliver them to a local hospital. Joe Eisenberg, WA0WRI acted as radio operator and navigator for that run. After 7 inches of snow, the storm tapered off and predicted high winds did not occur, allowing all nets to secure by mid-evening. □

Life-saving airlift

A tragedy was averted with the rescue of Norm Buck, KB7CI and a friend by an Air Force chopper recently. Norm and friend were hiking in the mountains northeast of Tucson, Arizona. His friend got sick, and both ran out of water and food. Norm used the .31-.91 repeater with the help of Les Hearn, K7WIP, and both Norm and his friend were eventually airlifted out of the canyon.

— Metropolitan ARC, AZ □

Penguin talk

Thanksgiving in deep freeze was described via phone patch by temporary residents of Antarctica from KC4USY and KC4USX to W6BRD in Bel Air, California, operated by Cal Smith who had their families on the line.

Like many an "upper 48" bowl, they had their own Penguin Bowl football game (Navy won!) as well as a parade with a Penguin Queen — yes, there are gals down there, too, at McMurdo and nearby Williams Field.

The Associated Press heard about it directly from Bruce Blaser, KE6IO/KC4, who gave them the scoop. Later, patches around the country verified it had hit many papers.

This being the "warm season," there was a good-sized population — near 1,000 — although only about 50 stay through the bitter winter season.

Amateur Radio, of course, is the only practical means of instant personal communication for those stationed so far down under.

In December, another exciting (but frightening) event was described. The main Seabees building at McMurdo burned to the ground. Fire is always a great fear of those existing in sub-zero climes.

Cal runs patches with the two stations five times each week while Doyle Cable, WD6ARY of Santa Paula, California carries on the other two evenings. Kenneth King, K2CE of Escondido, California, also does a heavy share of bringing home to the isolated individuals. □

Toy-A-Thon #13

Reynolds Davis, K0GND

The Lincoln Amateur Radio Club, radio station KLIN, and the Lincoln Salvation Army teamed up for the 13th annual Toy-A-Thon on 6 December 1981.

From 9:00 a.m. until 5:00 p.m., listeners to KLIN were asked to call the station with donations of new and usable used toys, which were then picked up by members of the Lincoln Amateur Radio Club and delivered to the Salvation Army for distribution.

This year, the Toy-A-Thon netted nearly 3,500 individual toys! There were 88 volunteers, including 60 club members, 28 non-amateurs, and the entire staff and management of Lincoln radio station KLIN. Hundred of calls were relayed via the repeater WR0AEV (146.25/85). □

Repeater aid

Several months ago, Tom Rice, WB7SAB of Chandler, Arizona was driving south on Highway 89 when, near mile post 354, he spotted an overturned semi without trailer well off the highway. He turned around and investigated, to find the driver still in the cab, but could not move him.

He quickly got on the Mingus Mountain repeater. Juan Quesada, WA7FLB responded and called DPS. A helicopter, ambulance and two fire units were dispatched. The driver, with both legs broken, was finally removed from the vehicle and flown to the Prescott Hospital.

— AZ, Scottsdale ARCs, AZ □

Public service encouraged

Rex W. Lawson — president of the Victor Valley Amateur Radio Club in central California — sent us a copy of the form below, to show what his group is doing to encourage calls for public service.

Request for Amateur Radio communications support

General Information

Amateur Radio operators can provide communications at no cost to the requestor as a public service. FCC regulations prohibit any gratuity being accepted by amateurs. Because it is a hobby, amateurs enjoy performing this service.

The Victor Valley Amateur Radio Club (California) cooperates with the Hesperia Amateur Radio Society and the Barstow Amateur Radio Club in serving requests within the Victor Valley area.

Generally speaking, this club responds on a voluntary basis to requests in support of community events, such as parades, contests, etc., where there is no cost for public attendance. The Club also responds to requests by some non-profit causes; however, the membership must vote to do so on each such request. Please allow at least 30 days for the club to consider your request.

Requestor Information

Your organization:

Event needing support:

Date(s)/time(s) support needed:

Location sites for amateur stations:

Other remarks:

Requestor:
Name _____
Address _____
Phone _____

Send your news to Worldradio at the same time you send it to other amateur publications and see who prints it first. We get the news out before anyone else.

Ohio amateurs not afraid to help

Barbara Ernest, N8DAD

The following is an account of an emergency that occurred Saturday, 18 July, in the West Suburbs of Cleveland, Ohio.

"Break-break — this is WB4TDW — can anyone help, please," was heard on the LEARA (Lake Erie Amateur Radio Association) .88 repeater. We (husband Dave, WD8OYO and myself N8DAD) were busy with supper at the time. Dave rushed to the den where the radio gear is. Meanwhile a second call of "Break, break, break — this is WB4TDW — can anyone help, *please*." The multiple break, which means "emergency" to all amateurs, wasn't really necessary — the urgency in the caller's voice clearly indicated it was an emergency call!

LEARA member Dan D'Alessandro, WB8ZQH was mobile rolling east on the Ohio Turnpike and was first to grab a microphone and respond. The "4" station, it developed, had been in a one-car accident east of Dan on the Turnpike and the ham calling was unsure of the extent of the injuries, but could see a rapidly growing lump on the forehead of his 10-month-old son.

Dave was now on the radio at home and offered to make any necessary phone calls.

Meanwhile, Jerry Murphy, K8YUW had heard the calls for help and was monitoring the rapidly developing situation. He climbed into his "mobile" and started toward the hospital in Middleburg Heights/Berea where the injured would logically be taken so as to be available to help when and where needed.

Dan determined the exact milepost location of the accident so that Dave could phone in the information to the Turnpike District of the Ohio State Patrol (OSP) — it was just east of the Exit 10 interchange and on the westbound side. Dan had been going east, planning to get off at Exit 10, but when he heard the call he continued on past that exit to the scene, then parked in the cleared median area and ran over to see what help was needed. In the next few minutes, Dan covered that route several times to radio in to Dave for an ambulance, a wrecker, etc., all going to the OSP office.

Jerry was enroute the hospital and arrived there before the ambulance, so he was on hand to meet Marvin, wife and son. He took care of the valuables and stayed at the hospital for a couple of hours, acting like a "big brother" to the stranded family. When he was sure they were okay, he left, giving them his phone number and telling them to call if anything was needed.

About an hour or so later, the family called — the hospital was releasing them and they needed to get to where their badly damaged car had been towed in order to retrieve some personal items, including food and diapers for their little boy. Previously, Dave WD8OYO had offered to put them up for the night, so Jerry called Dave and Barb; they, in turn, left promptly to meet and pick up the stranded folks at the hospital.

Marv and family were taken to their car for the needed items, then were taken home to spend the night at Dave and Barb's. Marv's parents in Michigan (their intended destination on the trip) were called and they arrived in North Ridgeville the next day (Sunday) to rescue their son and family.

There had been no serious injuries (for they were all wearing belts) but their car was a fatality. They were fortunate that they plowed into a bank of dirt rather than another vehicle. Many people at the accident site were helpful; in fact, two ladies came up with ice cubes for the lump on the infant's head! Marv and wife Pat (a Novice, too) were amazed at how helpful people (and especially the amateurs) were in Cleveland. They remarked how they had been treated like "one of the family." They were overwhelmed.

Though a time of trial for the visitors, it was a "Shining Hour" for LEARA because of our members who willingly "became involved."

— LEARA Newsletter, OH □

Tornado warnings

Gene Kramer, WA9TZL

If a warning is issued while you're at work, out shopping or in your car, these basic rules apply. The best shelter is on the lowest level of a building away from windows and doors. Whenever possible, get beneath a sturdy piece of furniture. Protect your head and chest, since storm-related deaths are frequently due to injuries to these parts of the body.

If you're in a public building, look for a predesignated shelter. Always stay inside the building. Don't run to your car, since you're generally safer inside a structure than in the open.

Beware of long-span roof areas like those found in malls and gymnasiums. Try to find a smaller room such as a closet, restroom or storeroom. Stairwells also make good shelters.

In mobile homes or cars, leave them and find shelter in a building. If there is no nearby shelter, lie flat in the nearest ravine, ditch or culvert with your arms shielding your head.

Share your knowledge with those around you.

—MARC Harmonics Newsletter □

Wanted

Albercio, CX4CL needs help to locate coil sets for his HRO-50-1. He needs type AC for 21.0 to 21.5 MHz bandspread, a type E for 900 to 2050 kHz and type F for 480 to 960 kHz. If you can help, contact Howard Lorenzen, W7BI, 9000 Lk Washington Blvd. NE, Bellevue, WA 98004. □

Keep these out of reach

The button-sized mercury batteries often used in cameras, watches and calculators can pose a danger to children, warns the British Medical Journal. If children mistake such a battery for candy and swallow it, it can be fatal.

Each battery contains about two grams of mercuric oxide — nearly twice the lethal dose for a child. The battery cases may deteriorate quickly in stomach acids.

— Sterling-Rock Falls ARS, IL □

OFF THE AIR

Use this FIRST

An article on page 23 of the December '81 issue of **Worldradio** (from *RF Carrier*, Dayton, OH) gave information on "painting your tower."

In addition to the method devised using a "car washing mitt," or rather, *before* using that process, the rust can be arrested by using a product called Corroseal. It is a water-based rust inhibitor and primer available in 4, 8, 16 or 32-oz. sizes, and in gallons, too. If you put this product on FIRST, there won't be another paint job required since the Corroseal converts the rust to magnetite — a non-active substance.

The product, or further info on the product, can be obtained by writing to me at the address shown below.

CORKY KIRK, W6ORS
P.O. Box 396
Volcano, HI 96785 □

List available

Due to interest in public service, CW and traffic nets, I have compiled a listing (50+) of those groups meeting on Novice/Technician HF frequencies (80 through 10 meters) who operate at slow speeds and welcome newcomers.

The list is referenced to time (UTC) and includes day or days, frequency (kHz), net name and abbreviation, net manager, coverage and purpose. All available with SASE from my QTH.

73,
MIKE ADAMS, N4EVS/ex-WA4EJV
Rte. 4, Box 764
Panama City, Florida 32405 □

Bootlegged call

I have a phony WD0CRY working on 20 es 40-meter bands. He's worked DX stations — PA es OK on 20 meters, es Washington State (SSB) on 40 meters.

I'm a Novice es only work CW on 15 meters (21.100-21.200 MHz). Do not work SSB.

Thank you.

GEORGE KOMAREK, WD0CRY
4101 N. 56th Street
Omaha, NE 68104 □

Self-control needed on Net Control

"Please QSY — Net Control." We hear this statement used many times during our use of the bands as radio operators. Sometimes it's used with grace and a sense of tact, but many times with a blast of vengeance, hoping to persuade the culprit to move along. And in most cases we succeed, while in other cases we become total failures and for good reasons.

The failures are due to the lack of tact in some of the net control operators, their lack of leadership in handling a sticky situation, and their sense of ownership on a given net. Some amateurs will not recognize net ownership or net control under any circumstances. After all, the bands are open to all qualified amateurs; they have the right to use or operate any part of the band that is open or not in use.

Net operators should be selected with a little more care, and not selected just to fill a gap in a controlled net timetable. Some net operators approach and assume their positions in a mature professional manner, while others jump in like it's a pain in the neck. And that's just what they become, also — arrogant, offensive, exaggerating their own sense of importance.

A situation that calls for tact and good leadership becomes ugly and generates ill feeling due to lack of control on the part of the operator. A good net operator can orchestrate his operations in a professional manner with good leadership and a keen sense of human behavior. His personal feelings should be left out of net operations; his job consciousness should come into full play, and a sense of control assumed.

The net operator should always bear in mind that he is selected to operate and control the net operations, to insure the effectiveness of its operations — not his personal feelings. If he can't control his own emotions, how can he expect to be in control of others?

When a net operator shows or indicates a lack of respect for a fellow ham, he leaves the door wide open to dissent. Ill feelings are then generated on both sides, and future conflict with net operations becomes a pasttime with a disgruntled ham. The thread of legal retribution is not and has not been an effective deterrent. Shoddy, cheap remarks made by net operators only tend to generate more of the same, as well as loss of net control.

The Golden Rule should apply. After all, we are on the bands because we enjoy our hobby — I think.

GLEN J. STAPLES, WB0OVF
Denver, Colorado □

50 years

My husband and I celebrated our 50 years — Golden Wedding Anniversary — on 24 October 1981. We have one son — John, K6WC in Loomis, California.

My husband, Hans, is a Technician — WB7RHB. He is 80 years old. I am Carmen Brand, an Advanced — WB7UGU, age 73. I've been a ham operator four years. Looking forward to getting my Extra ticket.

Hans is a retired ornamental iron worker. This photo was taken on our anniversary in October. Hope my many ham friends will enjoy this bit of news. Thanks.

73s,
MR. & MRS. HANS BRAND
Grants Pass, Oregon □

Four, not one

I take exception to the first item in the January 1982 "FCC Highlights." The action by the FCC to deregulate the Amateur Station Identification rules (Section 97.84(a)) was in response to four separate petitions, not just Mr. Kanode's. They were James R. Seabolt (RM-2910), John C. Kanode for the Potomac Valley Radio Club (RM-2939), Arlington R. Kaeding (RM-3281), and Stephen R. Mann (RM-3302).

RM-3714 was not considered by the FCC in the Notice of Proposed Rulemaking (80-136).

In the final tally there were four petitions, 40 comments — seven of which opposed, and more than 250 individuals supporting the rule amendment.

Thank you,
STEPHEN R. MANN, WB9PRU
Cupertino, California □

Carmen and Hans Brand (WB7UGU and WB7RHB) of Grants Pass, Oregon, celebrated 50 years together on 24 October 1981.

Spread the news

I was just reading the item by Van Wingerden, KA6ISC in the November issue of **Worldradio** (page 14). He is lamenting the lack of publicity we amateurs receive for our efforts on the behalf of the public.

I have a suggestion. Why don't we all, when we finish with our copies of **Worldradio**, forward them to non-amateurs to better inform them of the benefits to the "man on the street." Also, it might help to send them to our elected officials such as mayors and police chiefs, and to newspaper editors, etc.

Maybe, as a result, we would reap more good will from our neighbors and find more sympathetic legislatures.

Sincerely,
WALTER HALSEY, WB6MFE
(portable)
Tecopa, California □

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

Greetings from JR6 land!

As another (for me) tour to Okinawa, Japan draws to a close, I would like to thank **Worldradio** for the "EXCELLENT" paper! It's really a joy to pick up a newspaper that really portrays Amateur Radio as the service it is, rather than as the political battleground that some narrow-minded publishers want to make it.

Amateur Radio here on Okinawa, at least for we service persons, is a whole different ball of wax. Actually, it's not even referred to as Amateur Radio here. It's the Auxiliary Military Radio System, or AMRS (*not* to be misconstrued as MARS — a different game!).

The Fifth U.S. Air Force administers the program here, and issues our call signs. There are *no* voice sub-bands here, which — as a result — gives DXing a totally different flavor!

For those who are already confused by the FCC call sign dilemma, the stations (U.S. type) in Japan are issued 2x2 call signs starting with KA. KA1 calls are no longer issued here, so that will eliminate the confusion with stateside policy.

Unfortunately, the KA types in Japan are prohibited from contacting JA stations! *Very* upsetting during contests! But there is quite a good off-the-air friendship among the JAs and KAs. Hopefully, the recent actions of the Japanese government to facilitate reciprocal licensing will change all that, but there's been no official word passed as to what changes will take effect.

Any Navy or Marine Corps types who may be going to Okinawa for any length of time may want to consider taking their stations with them. I'd be glad to answer any questions for them (unofficially) in response to a QSL or letter either to my Callbook address or the one listed here.

In closing, I'd like to pass a special congratulations to a very special man, without whose help I most likely would never have gotten started in Amateur Radio. He is a former Navy signalman who, despite having taught me the code 12 years ago, only this last year obtained his own Amateur license. He is KA8 My Pop Bruce (KA8MPB, Bruce of Ravenna, Ohio). Thanks Dad! (Novice to General in 10½ months.)

Keep at the mill, **Worldradio**. It's great and getting better all the time!

73,
SGT. STEVE ROBESON, KC8M
(stateside)/KA6CM (Okinawa)
HMH-363, MAG-16, 3rd MAW
MCAS (H) Tustin, CA 92710 □

Nets and beacons

While listening in on the 200-450 kHz range, I've heard what I suppose are aircraft or maritime beacons. Some, which I can hear consistently, are: COR — 205 kHz; VI — 220; FA — 264; SL — 288; O — 303; MCY — 325; SX — 369; EP — 374; FRU and BNU — both on 396; MW — 405; RD — 412; LYI — 415.

Can anyone tell me where they're located, and if there is a publication listing beacons in the 200-450 kHz range?

Also, is the NIN Net on 15 meters active? I've listened several times at the listed time and frequency and have heard nothing, so I assume the net's been discontinued. And what frequencies do the County Hunter's Net and TRS-80 computer nets use?

GARY PAYNE, KE6CZ
1347 East Dakota
Fresno, California 93704 □

Success in Cerritos

Well, we did it! We got a new ordinance here in Cerritos, and it's something we can live with. As you can see from the clipping, we got a maximum height of 70 feet with a CUP (Conditional Use Permit). Since I had asked for 75 feet, I guess I can say I had to give a little.

Since **Worldradio** was really the only radio publication that supported my particular situation — or at least acknowledged it was happening — you will be the first to get anything I write as to what I did, tried to do and tried not to do.

Basically, the ordinance is:
1) 20-foot maximum for roof-mounted antennas; no permit
2) 45-foot maximum for ground-mounted antennas; building permit
3) 70-foot maximum for ground-mounted antennas with CUP

We managed to get the CUP fee reduced from $200 to $75 — almost got rid of it completely. Thanks again for the support!

73,
GEORGE GOUMAS, N6AWF
Cerritos, California

(According to the news clipping — printed on 21 November 1981, in **The Community Advocate** *— the decision came after 14 months of workshops and discussion between city staff, the local amateur operators group and the city's Planning Commission which made the recommendation to the City Council that the amendment be passed.)* □

Note of thanks

Thanks for running our ad on the TRS80 and printer. The equipment was recovered — evidently, it was "Too Hot to Handle" because of the "advertisement" this deed got from **Worldradio** and other publications, as well as the amateurs in our locality, word of mouth.

A real estate broker was showing some shore property along a small local fishing cove, and spotted the TRS80 and printer in about 3 feet of water. The police recovered them, notified Radio Shack, and traced them to us.

Thank you for your fine cooperation.

SHIRLEY REX, K8MZT
Canton, Ohio □

Against computers in the shack

At least on a no-code license, ("Off the Air," December '81 issue), Teresa Wagner and I agree.

But what about her first sentence: "I would like to see articles on computer usage in the ham shack . . . ."

I would not!

Here's my guess: computer hobbyists got their start from the ranks of Amateur Radio. Fine. And it's no guess that the number of computer hobbyists has increased faster than rabbits over the past 10 years. Again, fine. And they have some (many?) excellent magazines filled with articles about their hobby: three cheers for them.

But is it my imagination, or is there a determined element within hobby computing that intends to dominate (exterminate?) Amateur Radio? To exterminate rag-chewing and brass pounding, and dominate the hobby to the point that radios would be no more than connecting links between computers?

Hoping that it's all my imagination, but suspecting otherwise,

ED JONES, JR., WB2DVL
Somerset, New Jersey □

••• SPREAD THE WORD ABOUT AMATEUR RADIO!!! •••

Attn: MA Elmers

Help! I have a friend who just got his Novice (KA1HRX). He needs a helping hand via a club, an Elmer or someone. He seems to be having problems in this area.

Could you direct some help Tony's way? His address is A.P. Maglione Jr., KA1HRX, 366 Mountain Ave., Revere, MA 02151. (Revere is north of Boston.) Club info, names of Elmers or anyone would be appreciated. Thanks. (P.S. Tony is retired from the Air Force.)

73,
JIM COTTER, WB6ECQ
Sacramento, California □

Please send **NEWS** and **PICTURES** to *Worldradio*

Winter problems

David Cole, KA0IVU

Have you ever had problems with your ground-mounted vertical antenna shorting out because of ice? I had a very recent experience with this problem and believe me, it was an ordeal. I was originally thinking about a rubber compound that I could put on the external connections of my Butternut, but most rubber compounds have some type of acid which would eventually eat through the antenna. So there went that idea. While pondering the problem, I had a "brainstorm." I took a plastic ice cream bucket, cut a hole in the center of the bottom large enough to enable me to slip it (inverted) over the lower 80-meter section and slide it down over the exposed connections.

It worked like a "charm." For waterproofing the area around the hole, I used black plastic electrical tape, which did a very good job. I have found that this protective covering not only saves the connections from shorting out from ice, but it also protects it from all other weather conditions. The appearance is very neat and gives a good finished look.
—Worthington ARC, MN □

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STATION APPEARANCE

Here is our February Station Appearance winner's account of her station and how important Amateur Radio is in her life.

Jeanne Friezner, KA6FYQ sits at her station, which was designed by Warren Ellis, N6AGN and built by herself. The equipment shown in the console is as follows. *Left side:* Heathkit electronic keyer; CDE rotor; Kenwood PC-1 phone patch; Kenwood 2-meter transceiver TR-7800; switches for 2 meters, fluorescent lights and one for future use; two coaxial switches. *Middle panel:* Drake TR-7; Drake VFO; Drake wattmeter; Kenwood TS-830S; Kenwood SP-230 speaker, Kenwood VFO-230. *Right panel:* Drake L7 Linear. Behind desk, on hidden shelf, the power supplies and extra equipment are stored. *Equipment not shown:* Kenwood 2-meter 2400 and base stand; Morse-A-Word; Heathkit weather station. Credit is given to N6AGN for installing the electrical equipment and making it all as neat as a pin.

My uncle in Delaware (Sterling Simonds, W3BWC) has been an amateur for 25 years and every so often would try to convince me to become involved. Since I enjoy challenges and firmly believe that the only way to find out if you can do something is to give it a try, one boring day I decided to try and learn those dits and dahs. Bought an oscillator, a keyer and all the books I could obtain. Then I signed up for an amateur class at LERC which happened to be starting two days later.

It was a frightening moment that first night at class to find about 84 people there — four of them women. As time went by, the class soon dwindled down. Four months later, I not only passed the code test but the theory as well, when it arrived. A proud moment indeed.

A happy time it was when I was able to make my first contact using Morse code with my uncle in Delaware. Of course, it took three phone calls, my husband standing in the hall telling me where to set the dial, my aunt standing in her hall telling my uncle what I was doing, and finally we made the contact.

Making my first contact on the radio was a greater thrill for me then when I first soloed in an airplane. Five months later, I had worked all 50 states and was proud to receive my first certificate — the WAS. Seven months later I passed the code and theory test for the General license. The thrilling moment came that evening when my husband called from Louisiana to find out how I was during our severe rainstorm. He was elated to find out I had passed because he had no idea I was studying for it in the first place, let alone going down to take the test. I have been a radio operator for two years and five months, have 82 countries confirmed and still maintain a daily sked with my uncle.

I've been married 31 years and have four children. My husband, Sandy, owns his own business which specializes in load factors — stresses and strain. His work is very challenging, and requires him to travel a good part of the time, leaving him very little time to even think about becoming a radio operator. But he is very supportive about my hobby and does present me with a new piece of equipment when a birthday or anniversary rolls around. The TH6DXX antenna was a Mother's Day present and the L7 linear a Christmas present.

My oldest daughter and her husband will shortly be getting their Doctor's degrees in biochemistry from the University of Washington. Another daughter is a nurse in Steamboat Springs, Colorado. Oldest son is a deep-sea diver in Maui, Hawaii. Youngest boy works for his father. None of the children are amateurs.

After the children became adults, I had the time to pursue hobbies of interest and challenge.

I play golf whenever I can find the time.

Have been snow-skiing for 28 years; also helicopter skiing and water-skiing.

My husband and myself are both private pilots and own a twin engine Beechcraft Travelaire. Other hobbies include making small stained glass windows and lamp shades, woodcarving, knitting, rug-hooking and traveling.

I do general carpenter work around the house with my own table saw, band saw and router — presents from the OM. Made furniture for my daughter, paneled four rooms, plus the unit on the desk for the radio equipment, the shack and the bookcases.

I've built kits and Heathkits such as the Morse-A-Word, Keyer, AM/FM stereo radio set, two digital weighing scales, radios, weather station, volt-meter for my husband, and a digital timer and clock for the airplane.

What I enjoy about Amateur Radio is the many friendships I have made around the world and the skeds that have resulted. Everyone is so friendly and courteous, always having something of interest to say. Have had eyeballs with friends in England, Scotland, Ireland, Singapore and Puerto Rico. It is an even greater joy when ham friends come to visit us. This is one hobby I can do for the rest of my life.

JEANNE FRIEZNER, KA6FYQ
Encino, California □

American Radio Relay League

J.A. "Doc" Gmelin, W6ZRJ

Past Director, Pacific Division
ARRL Honorary Vice-President

League officials and members were saddened in November when they received word of the passing of Ed Handy, W1BDI, retired communications manager, past vice president and honorary vice president of the ARRL.

Ed, who worked for the League for over 40 years, died suddenly and unexpectedly on 11 November.

He had a lot of influence on my amateur activities over the years, and I suspect he had a great deal of influence on all Amateur Radio operators.

Handy was the editor of the first issue of the *ARRL Handbook* in the mid-1920s, and in fact, for many years the *Handbook* was unofficially called "Handy's Handy Handbook."

But Ed also influenced Amateur Radio in a number of other ways. As Communications Manager (CM), he held sway over all of the operational activities of the League in such areas as DXCC and contests, traffic and emergency communications, and all station and section leadership appointments within the Communications Department (CD).

As Headquarters department head, Ed helped many of the Section Communications Managers (SCMs), by instructing them in their work and by supplying them with advice and information on CD affairs whenever he was contacted.

I know how well he performed these duties, since he was the CM during part of my term as SCM of the Santa Clara Valley Section in California.

Many of the operational publications were produced by the League under his direction, and he had at least some influence in the contents of each one during his tenure.

While Ed worked a great deal of CW in his own operation, he was also active on phone and other modes, and certainly did not favor just CW as some amateurs and League members have felt in past years.

It has often been said that the Headquarters is staffed by a bunch of "old" New Englanders who "hide behind the codfish curtain." Generally, this charge is not true, except for the fact that since one must live in New England while working for the League, all of the staff at any given time might be called "New Englanders."

Ed Handy, however, did fit the "New Englander" picture exactly, having come to Connecticut from Maine, his native state. In my experience, I did not find this to be a particular disadvantage. In fact, I believe in retrospect that it probably was a decided *advantage*.

I have in my files many letters that Ed wrote to me on League matters during my active years as an SCM, and later as a director. Each is full of down-to-earth advice and New England common sense.

He was in the habit of making changes and additions to his letters in pen or pencil after they had been typed by a secretary. These additions and changes are perhaps the real treasure of Ed's leadership ability.

Perhaps more than anyone else at ARRL Headquarters, Ed realized that in ARRL organizational activities, the amateurs in the field are all volunteers. Since no one is paid, these volunteers should not be "ordered around," but should be led to achieve in the area of public service. He also believed in listening to amateurs in the field, since they are the ones involved with the real action in Amateur Radio.

Thus, while there were very specific rules and regulations in the Communications Department, Ed did not always follow these "laws" to the letter. If strict application of a rule caused more harm than good (to a program or activity), Ed was always willing to compromise so that a solution to the problem might be acceptable to all involved.

Ed Handy saw the League grow from the traffic "relay" organization it was in the early days, to the large general Amateur Radio organization it is today.

He was one of the first Headquarters workers to realize that local radio clubs are the main strength of Amateur Radio, and to see the need for an active affiliated club organization at Headquarters.

Many radio club programs of today owe their roots to Handy and the Communications Department. For many years, club activities came under the direction of the communications manager, and Ed took his responsibility to the club program seriously.

Ed was an active CD operator in his own right and took part in many of the ARRL operational activities. During his years as communications manager, it was common for many stations to work Ed during the quarterly CD parties, as well as other operating contests such as sweepstakes and Field Day.

He was also an active traffic operator, working National Traffic System nets at various levels and originating and delivering amateur radiograms.

The League's station, W1AW, was also a part of the Communications Department, and Ed — through his department — was responsible for the major update of the station during the 1960s, as well as the original construction in 1937 and '38.

As communications manager and as an active vice president, Ed was present at most of the ARRL Board meetings held during the years he worked at Headquarters. He was often called upon to give advice and to comment on various matters facing the Board during these years, and was always ready with help in finding solutions to various problems that faced the directors over the years.

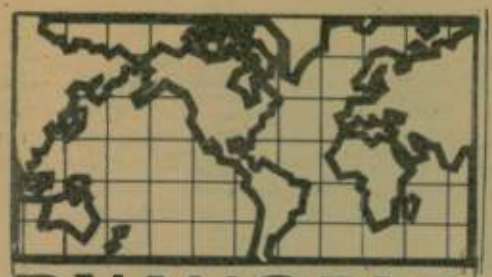
When he retired, the Board of Directors elected him honorary vice president, and he attended every subsequent Board meeting he was able to — even when his health began to fail.

Ed always had a smile for everyone, and almost always knew who the new directors were before he met them in person.

The strong signals from W1BDI will be missed. But Ed will be remembered by all, even by newcomers who may not be familiar with what he did.

His influence and work with the ARRL set the pattern of Amateur Radio operation that we continue to follow today. It can truly be said that he was "Mr. ARRL." □

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



DX WORLD

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

Activities calendar

13-14 February	VERON "PACC" Contest
20-21 February	ARRL International DX Contest (CW)
26-28 February	"CQ" Worldwide DX Contest (Phone)
27-28 February	French DX Contest (Phone)
27-28 February	RSGB 7 MHz Contest (CW)
06-07 March	ARRL International DX Contest (Phone)
20-21 March	YL ISSB QSO Party (CW)

There is only one SP DX contest this year and SSB only. You will have to wait until April 1983 for the CW only affair. In past years there were two separate SP DX contests each year, one for each mode. The schedule is now CW only on odd years and SSB only on even years, the first weekend in April.

W-100-N

Requests for the Nations List have been increasing and it appears that we will have to print up another batch.

149. N9AQB	Jack W. Bell
150. K5HGL	Gary Engleman
151. W4WSZ	Robert W. Moody
152. VE2AFU	Cora Kappert
153. N9ER	Dr. Gary Banks
154. WB1DQC	Peter Munroe

Gary, K5HGL went the single-band route, with all contacts made on 10-meter SSB. That is a challenge, 100 nations on 10 meters. (Nations now, not DXCC countries.) Cora, VE2AFU is the second Canadian and the first Canadian YL to apply for W-100-N.

Taiwan (BV)

Effective 1 December 1981, Tim Chen, BV2A will be operating on 15 meters. He has given four operating frequencies, two for each mode. On CW he will be operating on 21.030 and 21.100 MHz. SSB'ers should look for BV2A on 21.270 and 21.350 MHz.

As for the other bands, Tim's latest operating schedule is as follows:

14.025 and 14.050 MHz	1200-1400 UTC Wednesday
14.218 and 14.250 MHz	1400-1600 UTC Wednesday
14.218 and 14.250 MHz	2300-2400 UTC Saturday
28.530 and 28.575 MHz	0000-0200 UTC Sunday

Tim signs BV2B on 20-meter SSB, leaving his BV2A call for the other frequencies. Look for the W7PHO Family Hour during the Sunday operating period on 28.575 MHz.

Cocos (Keeling) Islands (VK9Y)

Frank, VK9NYG is active on Cocos Island to hand out a new one for the deserving DX'er. Frank has no specific schedules, but does show up at times on the DX nets on 10 and 15 meters. Other than that, you may find him usually between 1100 and 1500 UTC on weekdays, and 0200 to 1500 UTC on weekends. Neil Penfold, VK6NE — his QSL manager — reports that his operation is inhibited by the other residents who rely on hi-fi and shortwave broadcasts for entertainment. Frank has reduced his power to 20 watts PEP to the antenna, and now doesn't seem to make himself unpopular with his neighbors. As Neil says, "It's quite a small island he is living on and they wouldn't have far to carry him to dump him in the ocean."

Frank expects to be on Cocos until next Christmas, so you will have ample time to work him. Cocos Islands are located approximately 1,750 miles northwest of Perth, Western Australia. The population in 1980 was 294 on Home Island and 193 on West Island. At present, there are three amateurs on the islands, those being VK9NYG, VK9ZYX and VK9YC. From time to time they are joined by VK9YA (formerly VK9CCT). VK9ZYX can operate only 52 MHz and above.

Willis Island (VK9Z)

Graeme Mears, VK9ZG was to have ended his tour of duty on Willis Island at the end of the year. Tony, VK9ZH — his replacement — is to be there until this April. Both stations use Stephen Gregory, VK3OT for QSL services.

Macquarie Island (VK0)

Alan Nutley, VK0AN is presently active from Macquarie Island on a one-year business assignment. You can find Alan at "Open House" on 14.332 MHz on Tuesdays from 0930 UTC. The YL group also hosts other interesting DX stations such as VK9XW on Christmas Island. Also, check the frequency on Thursdays at the same time. Alan is attempting to meet additional schedules on 14.205 MHz from 0600 UTC and 14.225 MHz from 1400 UTC. Alan, whose home call is VK2BNA, should be there through November.

Bouvet Island (3Y0)

A DXpedition to Bouvet Island took place in January and included the team of DK9KX, DF3KX, DJ3NG and DJ9ON. The team has been assigned the calls 3Y0A and 3Y0B. This all depended on financing of a chartered vessel for 21 days, which is not cheap. The total cost,

including equipment, was expected to reach at least DM 120,000. Dieter Loeffler, DK9KD is their QSL manager and will accept donations at Postfach 620.260, 5000 Koeln. 60, WEST GERMANY.

Iraq (YI1)

YI1BGD has been reported near 14.245 MHz from 1600 to 1900 UTC. Other reports have him in the lower portion of 20-meter SSB from 1300 UTC on Mondays, Wednesdays and Saturdays. Also try Fridays after 0700 UTC.

There is a German operator who goes by the name of Alfred who has been showing on 28.510 MHz signing YI1AS. Look for this one daily at 1400 UTC.

Macao (CR9)

Look for CR9AN, (ex-CT1ANP), on or about 28.560 MHz from 1300 UTC. Simon has been using a dipole hung out of a window, but expects to be installing a tri-bander shortly.

We have a report that Martti Laine, OH2BH was scheduled to be in Macao in January operating as CR9BH. This should be of interest to the multi-band enthusiasts.

Also active from Macao is CR9D who made about 4,500 contacts during a six-day period in October. This is a CW station who has been found on 28.025 MHz at 1330 UTC and 7.003 MHz at 1730 UTC.

Finally, we have Luis, CR9UT, reported on 21.020 MHz at 1430 UTC. Some of these times and bands given are not favorable to stateside stations. These reports are gleaned from Geoff Watts' *DX News Sheet* published in England.

Zimbabwe (Z2)

Some time back, Rhodesia changed to Zimbabwe and retained the "ZE" prefix. Now they have replaced this prefix with a new prefix. If you are looking for new prefixes, you may find Z27JV on 28.504 MHz at 2000 UTC, Z21CK on 28.531 MHz at 2000 UTC, Z24JS on 14.336 MHz at 1800 UTC and Z21GJ on 28.520 MHz from 1900 UTC. All of the above calls were formerly ZE7JV, ZE1CK, ZE4JS and ZE1GJ, respectively. There is no change in country status.

Kuwait (9K2)

9K2DR has been observed on the 10-meter band from 1200 UTC. He has been known to check into the various DX nets. Try 28.270 MHz at 1300 UTC.

Also active during the recent Worldwide DX Contest was 9K2DX operated by N6NI.

Europa (FR/E)

FRØGGL/E is a new operator on Europa. He has been found on both modes and several French nets, and will go to 40 or 80 meters upon request. FRØGGL/E has been reported on 14.020 MHz at 0400 UTC, and as late as 1600 UTC near the same frequency. Also check 21.029 MHz at 1800 UTC. This one counts the same as Juan de Nova, FR/J.

IOTA

Geoff Watts issues the Islands-on-the-Air awards of which there are several different classes, including one for each continent. These awards are printed in red, blue and silver on cream parchment. For details and the list of qualifying islands send $2 or 6 IRCs to Geoff Watts, 62 Belmore Road, Norwich, NR7 ØPU, ENGLAND. Following is a list of recent activity:

Ref. No.	Call	Island Group	Freq. (MHz)	UTC
EU-35	UK1PAB	Novaya Zemlya	14.014	0700
EU-56	LA2QAA	Nordoyane Island	21.182	1500
AF-36	EC9CW	Chafarinas Island	29.000	
AN-01	VP8ANT	Adelaide Island	14.205	0600
AN-10	CE9AH	South Shetland Islands	21.314	2300
AN-11	KC4USV	Ross	14.200	0800
AS-05	UAØBAD	Dickson Island	28.510	0900
AS-18	UKØFAP	Sakhalin Island	28.479	1000
AS-31	JD1BAE	Ogasawara Islands	28.484	1000
OC-73	JD1BAT	Minami Torishima	28.504	0800

160 meters

The winter months always invite activity on this band. Here is a selection of calls heard or worked on 160 meters:

Call	Frequency (kHz)	UTC
FMØGA	1823	0415
P47A	1803	0400
VP8ANT	1803	0400
VP9BO	1805	0200
YV1OB	1801	0315
KP4KK/DU2	1822	2045
VK6HD	1802	2045
LA6U	1834	0600
U1OML	1850	2200
UT5AB	1852	0145
RF6FFX	1853	2230
LZ2CW	1823	0045
OY7ML	1849	2245
YU3EF	1836	0300
SP5INQ	1835	2215

Several of the above are not workable from the states for the times given, but this will give you an idea of what can be found on the top band.

The RAEM Award

The RAEM Award was established by the Federation of Radiosport of the USSR in memory of Ernst Krenkel, the famous Arctic explorer, who died on 8 December 1971 at the age of 68. RAEM was the personal call sign of Krenkel, formerly of the ship he served on as radio operator. The unique call was awarded to him for his heroism in service to the Soviet Union.

This award is for CW-only contacts after 24 December 1972. A minimum of 68 points must be accumulated by contacting Soviet Union Amateur Radio stations located above the Arctic Circle. Repeat contacts with stations do not count and a city or inhabited area may be counted only once; (i.e., you can only use one Murmansk contact regardless of how many stations you work in Murmansk). Make sure, for your credit, that the exact location is shown on the QSL card. The point breakdown is as follows:

1) A confirmed contact with RAEM is worth 15 points. There is no time restriction for this contact.

2) A confirmed contact with a Soviet drifting Arctic station is worth 10 points, such as UPOL 22.

3) A confirmed contact with a fixed Soviet Antarctic station is also worth 10 points, such as 4K1A.

4) Confirmed contacts with Cape Chelyuskin, Cape Schmidt, Vankarem, Dickson, Pevek, Ambarchik, Ustx-Olened, (not to be confused with Olenek), are worth 5 points.

5) Confirmed contacts with Soviet Arctic islands are worth 5 points.

6) Confirmed contacts with other stations and locations above the Arctic Circle are worth 2 points.

To apply for this award, prepare a letter of transmittal with a list of your contacts accompanied with your QSL cards and a fee of 14 IRCs, and send it to: E.T. Krenkel Central Radio Club, P.O. Box 88, Moscow, USSR.

Calls good for the RAEM Award

The following calls were listed in the "How's DX" column by Ellen White, W1YL in a recent issue of QST. My own logbook and other sources include some additional calls to this list. All stations above the Arctic Circle count for the RAEM Award. All contacts, of course, must be on CW.

Call	Location	Points
UA1PAM	Franz Josef Land	5
UK1PGO	Franz Josef Land	5
UA1ZAB	Sveromorsk	2
UA1ZAO	Kola Bay	2
UA1ZAQ	Kandalaksha	2
UA1ZBA	Kirovsk	2
UA1ZBM	Olenogorsk	2
UA1ZBP	Kirovsk	2
UA1ZBQ	Murmansk	2
UA1ZBW	Safonovo	2
UA1ZCG	Zapolyarny	2
UA1ZCL	Jumanny	2
UA1ZCW	Apatitty	2
UA1ZDB	Rosliakovo	2
UA1ZMB	Olenegorsk	2
UA1ZR	Kovdor	2
UA1ZV	Murmansk	2
UA1ZWW	Murmansk	2
UK1ZAB	Murmansk	2
UK1ZAI	Monchegorsk	2
UW1ZO	Monchegorsk	2
UA9XAH	Vorkuta	2
UA9LCX	Cape Harasavery	2
UW0AJ	Dudinka	2
UA0BAE	Cape Chelyuskin	5
UA0BAP	Norilsk	2
UA0BAR	Norilsk	2
UA0BBA	Karaul	2
UA0BBI	Cape Chelyuskin	5
UA0BBJ	Cape Chelyuskin	5
UA0BBN	Cape Chelyuskin	5
UA0BBP	Dickson Island	5
UA0BBR	Norilsk	2
UA0BCS	Norilsk	2
UA0BCZ	Pravda Island	5
UA0BYL	Dickson Island (YL)	5
UK0BAC	Dickson Island	5
UK0BAE	Cape Chelyuskin	5
UW0BX	Norilsk	2
UA0KAD	Pevek	5
UA0KAF	Bilibino	2
UA0KAH	Wrangel Island	5
UA0KAR	Wrangel Island	5
UA0KAS	Cape Schmidt	5
UA0KAT	Pevek	5
UA0KAW	Cape Schmidt	5
UA0KBI	Cape Schmidt	5
UA0KBN	Bilibino	2
UA0KBS	Polyarny	2
UA0KBV	Krasnoarmejsk	2
UA0KCJ	Pevek	5
UA0KCL	Pevek	5
UK0KAA	Wrangel Island	5
UK0KAH	Pevek	5
UA0QAA	Kyusyur	2
UA0QAU	Taymilir	2
UA0QAV	Johowa Island	5
UA0QBF	Olenek	2
UA0QCJ	Tiksi	5
UA0QCK	Tiksi	5
UA0QCM	nr. Tiksi	5
UA0QDT	Srednekolymsk	2
UA0QDY	Lyakhovsk	5
UA0QEF	Verkhoyansk	2
UA0QEU	Tenkeli	2
UPOL 22	Polar Ice Station	10
4K1A	Molodezhnaya	10
4K1B	Mirny Base	10
4K1D	Novolazarev	10

The 88 Certificate

A YL club was formed in The Netherlands this past spring. The club — the Dutch YL Club (DYLC) is affiliated with VERON, the Dutch national Amateur Radio society. To promote recognition of this club, the 88 Certificate was created. To qualify for this award, you must have collected 88 points. Each contact with a Dutch YL is worth 11 points, and a contact with a foreign member of DYLC is also worth 11 points. If you are a European amateur, DYLC members are worth 8 points, and non-members of DYLC who are Dutch YLs are worth 4 points. For VHF, the point value is one half of that for Europe.

To apply for this award, prepare your list of confirmed contacts with a fee of eight IRCs and send it to: M. Wolf-Wildeboer, Pilotenweg 14-b, 8303 EJ Emmeloord, THE NETHERLANDS.

Officers of this new club include as president, Agnes Tobbe, PA3ADR; secretary, Veronica Priem, PE1DUE; and treasurer, Hil Neumann, PAØHIL. There

are no mode or band restrictions for the above award, except that all contacts must have been made since 9 May 1981, the date the club was formed.

Clubs

The National Capitol DX Association elected as their new officers: Ed Kuebert, K3KA, president; Lorence Fraser, W3LMZ, vice president; Bob Short, N3TO, secretary; and Henry Herman, W3UJ, treasurer.

Likewise for the Southern New England DX Association we have Jim Dionne, K1MEM, president; David Fisk, KA1CY, vice-president and secretary; and Roy Gould, K1GSK, treasurer.

If you are in the Portland, Oregon area and are interested in a DX club, you are invited to visit the Willamette Valley DX Club. This club meets the last Thursday of each month at 7:30 p.m. at 2145 NE Hoyt Street, Portland on the second floor. The address is opposite KATU, Channel 2's parking lot. This group is responsible for the incoming QSL bureau for the 7th U.S. call area.

The Southwest Ohio DX Association is a newly formed group in the Dayton and Cincinnati area. Frank Schwab, W8OK is the first president with Paul Forgraves, K8ES as secretary-treasurer. All DX'ers in the area are invited.

DX prefix list

Recently, a complimentary copy of the DX Prefix List — prepared by Jon Presley, WD0EAO — was sent for review. The DX Prefix List is a custom-printed list of 367 separate places and includes all of the current ARRL DXCC countries. Each location is calculated by pinpointing two locations. The computer computes the shortest and longest path from your station to every DX location. The DX Prefix List is collated into individual standard size sheets (8½ × 11 inches). It is a personalized listing for your station location with beam headings and distances calculated from your coordinates. The copy we received had N6JM located at 38.6 North and 121.5 West. A check of my 7.5 minute "quad" map showed the location approximately at 38°36'16" North (38.6) and 121°19'12" West (121.3) which is very close estimating for someone who doesn't know exactly where in Carmichael N6JM is located.

The DX Prefix List contains 12 pages of useful information plus a cover sheet and instruction sheets. Every sheet within the list has a helpful quick-index feature that trims those added seconds needed to find a DXCC country. The list has 10 columns of information and is arranged by prefix in alphabetical and numerical order, (i.e., A2 through 9Y). The first column contains the prefix followed by the name of the DXCC country in column 2. The next three columns contain the continents, "CQ" zones and ITU zones. Column 6 contains the short path distance in statute miles and column 7 contains the long path distance. Columns 8 and 9 contain the short and long path bearings. The last column contains a checklist divided into four squares for showing DXCC countries worked and confirmed, both CW and SSB.

We were impressed with our copy. The only criticism that can be added is the narrow left-hand margin which makes it inconvenient for mounting in a loose-leaf notebook. Actually, that isn't all that bad, as only the prefix would have a hole punched in it. As the listings are in order, it doesn't take much to figure what the prefix would be anyway. The instruction sheet is also printed in computer format. The lower case of this particular printer is hard to read for the letters g and q, and possibly others. This would be a handicap for those who have difficulty reading. The DX Prefix List in itself is printed in upper case so there is no problem there. Perhaps the instruction sheets can be printed on other than a computer printout in later editions.

Order your personalized DX Prefix List from Jon S. Presley, Route 3, Box 117, Lebanon, MO 65536. Each order will be handled quickly and mailed to you first class, unfolded in a large envelope. Please enclose a check or money order for $6.95 plus $1.50 for shipping, (total of $8.45), for each list that you order.

Be sure to include the location of your station, and if you know your coordinates, include those too.

Lists

The term list is becoming one of those dirty four-letter words. We received a letter from Carl Henson, WB4ZNH concerning his views on the subject, but unfortunately, the letter has been misplaced. Carl had proposed that rule 12 of the DX-CC rules be modified in some way to include the making of lists and the contacting of DX stations through net operations be used to disqualify stations from DX-CC. This, of course, is not quite that strong and involves operating ethics.

In some of his recent DXpeditions, Carl had been plagued by several stations calling him, wanting to take lists and asking him to come join their nets. Carl was doing just fine and didn't need any list masters. I can sympathize with him on that as any true-blue DX'er would. Just recently I came across a list master operating portable in Salem, Oregon, who was controlling contacts with VK9NYG on Cocos Island. Of course, the DX station was louder than the list master. I moved up frequency and came across XZ9A in Burma. Would you believe the list master came up and broke in and got him to move into his net? Some amateurs may feel these list masters are doing them a service, but in all reality all they are doing is feeding their over-sized egos.

Just listen to some of these operations sometime. It is harder to get on a list master's list than actually work the DX station in a pileup. And if you could break the pileup to get on a list master's list, you really didn't need to be on a list in the first place.

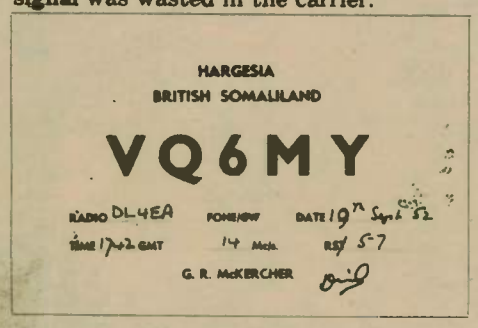
San Felix Island (CE0X)

Evidently the Chilean Amateur Radio Club was upset with the recent operation by Bob Read, KF1O/CE0X. They sent a letter to ARRL headquarters in Newington, expressing their feelings and making charges that he never operated on the island and didn't even have a license to operate from there. They actually came out and accused him of fraud. Jim Cain, K1TN, editor of *The DX Bulletin* claims to have seen copies of the license permitting operation on San Felix Island. Methinks the Chilean nationals are upset that they are not permitted there and outsiders are.

Antique QSL Department

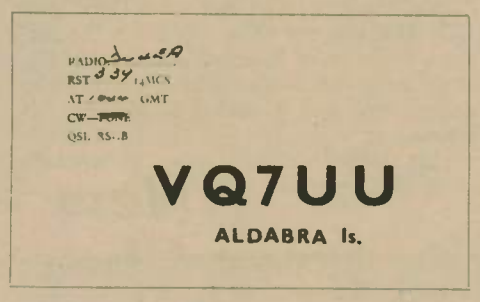
Here are a few more "VQ" prefixes to go with the VQ3HGE, VQ4CO and VQ5DQ from last month. These are also provided by Ray, W6SYM, who was operating as DL4EA at the time the following calls were made.

VQ6MY was the call used by G.R. McKercher in Hargesia, British Somaliland on 19 September 1952. The contact was made on the 20-meter phone band, and of course, using AM. Completing successful phone contacts prior to SSB was no easy task, as most of your signal was wasted in the carrier.

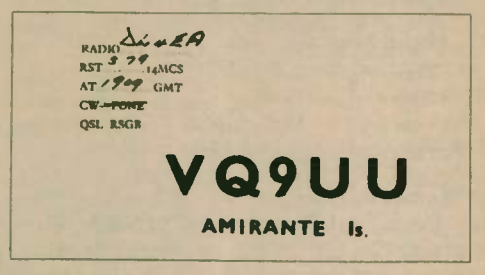


British Somaliland ceased to be a DX-CC country back in 1960, along with Italian Somaliland. The countries are now Somali (6O) and includes the former French Somaliland.

The next two cards were evidently DX-peditions back in 1953. The VQ7UU card



represents a contact made with Aldabra Island on 14.0 MHz, 9 August 1953, with a contact made on the same band two days later with VQ9UU on Amirante Island. Aldabra Island was added to the deleted DXCC countries list in 1976. I can't find Amirante Island on any list, so perhaps it never was a DXCC country. A check with Geoff Watts' *Directory of Islands* shows that both islands are part of the Seychelles Islands group, and are counted separately for his IOTA awards.



QSLing

The bands are hot. A large number of DXpeditions will activate rare and seldom-heard spots around the world. The contest season begins, providing many amateurs with their best shot at exotic DX. Working DX should be the easiest part of the DXCC quest for the next few months. The most difficult part might be getting the QSL card to confirm that contact. You can improve your QSL return by avoiding these common mistakes:

1) **Not in the log:** Be sure *you* worked that DX station, not another station at the same time. Ask for a confirmation if you have any doubt.

2) **Time wrong:** DXpeditions and contest stations work hundreds of contacts per hour, and a time error of only five minutes puts you on a different logsheet. Keep an accurate clock on UTC, and check it frequently against WWV.

3) **Date wrong:** Remember that the UTC date changes before the calendar date. Write the date day/month/year, with the month spelled out (30 September 1981).

4) **Wrong address:** The Callbook addresses are often dated, or a QSL manager might be the best way to QSL. Listen to the station you worked, and if he doesn't explain how to QSL in 15 minutes, ask him for the best way.

5) **Improper postage for return of QSL:** If you send your QSL with a self-addressed, stamped envelope (SASE), be careful to include the proper postage. U.S. stamps for stateside QSL managers, but (IRCs) for foreign managers.

6) **Not enough patience:** QSLs via the bureau can take a year or two in each direction, Russian cards even longer. And even QSL managers must wait for the end of the DXpedition, return of the logs, printing of the cards, and the often formidable task of opening, sorting, checking and answering thousands of cards.

Thanks to Chod Harris, VP2ML, author of the above. This item was printed in the newsletter of the Sonoma County Radio Amateurs, of Santa Rosa, California.

QSL information

If you think the postal rates here in the United States are high, try this one. Garry Hammond, VE3GCO reports effective 1 January 1982 that the rates between Canada and the United States go up to 35 cents! The rates just prior to that were 17 cents. So if you send mint Canadian stamps to a Canadian QSL manager, be sure you include enough postage. I don't know what their internal rate will be, but that 35 cents is more than surface mail overseas from here.

Bob Leo, W7LR took us up on our offer to help on long overdue QSL cards and submitted a few for listing. Any old-timers out there have any help for Bob? Try these:

MX2B	Manchuria	11 March 1938
VO6F	Newfoundland	15 February 1947

VU2PB	Andaman Islands	20 March 1947
PK3TT	Java	9 September 1947

Most likely, these go back too many years. But then, you never know.

Bob, formerly K7KOK, was one of the co-founders of the Radio Society of Thailand (RAST) while he was there in 1963. They selected their own calls, with his being HS1L. Other places that Bob has operated at include VQ3HGE, VQ4EHG, VQ5GHE, HZ1AB and MP4BAL (now A9X). A QSL card from VQ3HGE was included in our "Antique QSL Department" in the January issue, although Bob was not the operator for that particular contact.

Mac McCowen, W0CUB sent us a copy of a letter he received from the former holder of 5H3AP in Tanzania. Ian Millar, the former 5H3AP, wrote to the Tanzanian Posts and Telecommunications Office recently, regarding two QSL cards that had been forwarded to him. As Ian surrendered his 5H3AP call in 1975, he feels his old call is being pirated. With the large amount of Slim operations today, it's not surprising.

George Oster, K0EDA writes regarding a QSL that took 18 years to arrive. Back in the early 1960s, George worked some DX but didn't know much about the art of QSLing. When reactivating his interest in 1979, he discovered that several of his old logbooks had been destroyed. George had, however, retained a list of stations that he had worked and never sent a QSL to. One was OH5TK/OH0 in the Aland Islands. George write to Andy Kahra, OH5TK, explaining his plight and saying he didn't remember the date of the contact.

George writes, "After writing him, I was surprised to receive a letter and QSL via Atlanta, Georgia, where Andy is studying word processing. My letter, sent in late 1979, had been forwarded three times. Andy had phoned from Atlanta to Finland to get his old logbooks, searched and found our QSO."

The contact was on 21 August 1962, which he received 9 July 1980. Perhaps you have reviewed your old logs and found a contact to whom you wished you had sent a QSL, but thought it too late. Maybe not; it sure would be worth a try. True-blue DX'ers don't throw out their logs.

Kevin Kienlein, VE7EGD wishes to become a QSL manager and will be happy to help any DX station in need of such. Contact Kevin at 3502-43rd Avenue, Vernon, B.C. V1T 7T9, CANADA.

James Freeman, WB2NHP needs help in obtaining a QSL card from Sergio Correia, C21AA on Nauru Island. The date of the contact was 20 August 1980 on 20 meters. He sent three QSL cards to the Callbook address but has received no reply. If I may comment on that one, somehow I recall Slim may have used that call around the date mentioned. I, too, worked the station about that time, but due to the characteristics of the operation, I assumed it to be a pirate. The W6GO/K6HHD List gives QSL information for C21AA, where contacts made during September 1980 go to Akiro Takano, JH1FVE and contacts made November and December 1979 go to J.B. Smith, VK9NS. Also, some stations who utilize QSL managers will not answer QSL cards that are sent direct, even with IRCs.

Ken Stanger, W0CAW is looking for a QSL card from 4W1AA for a contact made back in 1963. Ken sent his card along with an SASE, but received no reply and assumed he was Slim. Well, could be. But before you write it off, try sending another request. Your first request might have been lost.

Don't like the high cost of IRCs at the post office? Don't care for sending green stamps? George Robertson, W2AZX runs a stamp service where you can obtain mint foreign postage stamps, which may be cheaper than purchasing IRCs. For more information, send George an SASE at 7661 Roder Parkway, Ontario, NY 14519.

Propagation

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

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

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

MARCH 1982

UTC	AFRI	ASIA	OCEA	EURO	SO AM
0100	29.7	37.6	39.4	15.7	28.8
0200	23.8	35.1	39.6	15.0	29.3
0300	18.8	31.8	36.9	13.6	25.9
0400	20.1	27.9	33.8	12.2	23.3
0500	17.5	23.9	30.9	12.1	22.1
0600	16.1	20.3	28.5	13.8	21.5
0700	15.5	18.0	26.9	15.9	20.8
0800	14.9	16.8	25.4	15.9	18.1
0900	13.8	16.5	23.7	15.4	16.4
1000	12.7	16.8	22.0	14.7	18.8
1100	12.1	17.0	20.6	14.0	16.9
1200	12.8	16.3	18.9	13.9	16.4
1300	15.2	15.3	16.7	15.5	19.6
1400	19.0	16.1	16.7	19.2	25.7
1500	23.0	19.6	21.4	24.1	31.2
1600	26.2	19.7	23.5	28.3	34.4
1700	28.4	19.2	21.7	30.2	34.7
1800	30.3	18.7	20.2	27.4	34.8
1900	31.8	19.6	21.7	24.3	35.2
2000	32.9	23.5	26.9	21.3	34.9
2100	33.6	30.0	32.8	19.0	34.1
2200	34.0	36.5	36.4	17.3	32.9
2300	34.0	38.8	37.9	16.3	31.3
2400	32.8	38.8	38.7	15.9	29.3

QSL routes

A22GM	—N4FD
A35DB	—W7XN
A35XX	—OE2DYL
A71AA	—DJ9ZB
A71AM	—DJ9ZB
A71AU	—DJ9ZB
AH0A	—K4AVU
AM1A	—EA3AOC
AO3PDX	—EA3BBD
C5AEG	—N6BFM
C5AT	—OH2FQ
C6ADV	—N7YL
C6AES	—K4XG
C6ANU	—VE1ZL
C31KI	—DL5KV
C31WX	—DL3ZI
CR9AC	—DJ0FX
CR9BH	—OH2BH
CR9D	—OH2VD
CT3AB	—CT1BGM
CT3BZ	—OH2BH
D68AM	—*(See Note 1)*
DJ9KC	—DJ9EB
DL1BA/3A	—DJ5PX
DL1FAN/6W8	—DL1FAN
DL3ZM/YV5	—K8EFS
EA9JZ	—EA9GN
EI6DR/VP9	—AD8P
EI0WPO	—EI2CZ
EL8H	—SM7FIG
EM8T	—UK8MAA
F0CYA/FC	—HB9BFS
F0GQX/FC	—DF3FJ
FC0FOO	—N6RA
FG7AR/FS7	—W1XK *(See Note 2)*
FG0GDV	—F6AZN
FH8OM	—DJ1TC
FH8YL	—I8JN
FK8DD	—KA3A
FK8DH	—DJ9ZB
FM7BX	—KA8ANQ
FM0EOM	—F2VT
FM0GA	—N6ZV
FO8HO	—WB6GFJ
FO0FB	—WB6GFJ
FO0KP	—W6SZN
FO0KU	—WB6GFJ
GD5DLW	—DL7RT
GJ5EEJ	—K8CW
GU5EEJ	—K8CW
HB9AEO/9Q5	—HB9AEO
HH2W	—WA2DFR
HI8CH	—WB2LCH
HK3A	—HK3AFD
HL1WD	—JR1RTK
HP1XBO	—W4USL
IQ0ONU	—IS0VMB
IU8ONU	—I8KDB
IZ2YKV	—I2YKV
IZ5ARI	—I5HCH
J5HTL	—SM3CXS
J6LZA	—WA6VEF
J28DG	—F6FGN
J28DL	—F6ESH
JY9RC	—W1CKA
JY5UB	—DJ3HJ
K1GW/PJ7	—K1GW
K1MM/KH0	—K1MM
K6HNZ/CT3	—K6HNZ
K6SSJ/CT3	—K6SSJ
K8ZZO/PJ7	—K8TCR
KA2MZS/SV9	—WB5WLH
KA6JPM/TG8	—N6DDK
KA8KRM/HP1	—WA4TWS
KC4BH/KH0	—JA2VUP
KC6DG	—N4BSK
KC7I/TN8	—KC7I
KC7I/TR8	—KC7I
KC9C/LX	—KC9C
KF1V/PJ7	—WB1HJF
KG4KN	—WB1GQQ
KG6RE	—JA2VUP
KJ8R/V2A	—KJ8R
KX6EM	—N6BSD
N4FKZ/HR5	—WA4RZL
N5RM/SU	—N5RM
N6DPH/DU2	—WB3IET
N6DY/KP2	—KP4 Bureau
N6TU/KH0	—JA2VUP
N6YK/V2A	—N6NK
N0TG/6Y0	—N0BZE
N0WL/6Y0	—N0BZE
OA1BU	—K4MUP
OA4SS	—KB6J
OE5BS/5N2	—OE5BS
OE5JTL/YK	—OE5UYL
OK0ISK	—OK1PGT
P29DP	—K7TRG
P29VV	—ZL1VV
P29ZSA	—JG3JRS
PJ9AA	—PA0GNK
S21GM	—N2CW
SM6DYK/HC1	—SM6DYK
SP2BHZ/JW	—SP2ESH
SP0KAD	—SP9ERV
ST2FF	—YU2DX
SU1AA	—OH2MM *(See Note 3)*
T30AF	—JA7SGV
T30DB	—G8LGB
TA2FM	—DK5GT
TA2SRO	—W1CKA
TE1C	—TI2CF
TG9NX	—WA4RZL
TG9RB	—W1WLW
TJ1GS	—DJ6SI
TN8AJ	—Y25LO
TR8OIT	—JA1LFR
U1OML	—UK1OAZ
UPOL 22	—UA1ABY
V2AAW	—KG6S
V2ADX	—*(See Note 4)*
V2AGX	—KJ8R
V2AJ	—WB2TSL
V2ARS	—N6NK
V2AS	—OE3ALW
V3AQ	—KI5Q
V3MS	—W0CP
VE3GAM/V2A	—VE3GAM
VK9NYG	—VK6NE
VK9YC	—G8MBX
VK9ZH	—VK3OT
VK0AJ	—VK3AWY
VK0GS	—VK3DIJ
VO2CW	—VE3ICR
VP2EC	—N5BET
VP2EJM	—VE4AHT
VP2EM	—VE1BHA
VP2ETW	—K2QIE
VP2MEV	—AJ6V
VP2MFW	—KP4BZ
VP2MR	—W5STI
VP2VD	—VP2VBK
VP2VGF	—NP2AF
VP2VGR	—VE1ASJ
VP2VHT	—WA3YJA
VP5GCM	—NP2AF
VP5IW	—VP5EE
VP8AIC	—WA4TWS
VP8AJL	—GM4KHE
VP8ZR	—G3KTJ
VQ9AB	—K0AB
VQ9JB	—WD5BHP
VS6BS	—JA7AYE
VS6CF	—W5QK
VU2SUN	—G4CHP
W6TPH/CT3	—W6TPH
W9SWM/V2A	—W9SWM
WA5RPJ/4X	—W2KF
WB8QXN/V2	—WB8QXN
XE1MDX	—WD8NKT
XE1OX	—WD8NKT
XE2BC	—N6TU *(See Note 5)*
XE2GDD	—KN5H
XE2PL	—K3SFM
XE7J	—XE1J
XT2BK	—W9GW
XZ9A	—JA8IXM *(See Note 6)*
YB0ACL	—WA4RRB
YB0PG	—KB5AS
YI1AS	—DK2OC
YJ8RW	—ZL1AMO
YS1SC	—WA1YYX
YT6A	—YU6SCG
YZ6G	—YU6SCG
YZ9HDE	—YU2HDE
Z28JD	—ZE8JD
ZF2FL	—N6RJ
ZF2FN	—W5RU
ZF2FO	—W5RU
ZK1BM	—ZK1CG
ZK1BR	—DJ0FX
ZK2RU	—NCDXC
ZK2WW	—NCDXC
ZK2ZZ	—NCDXC
ZS3LK	—DJ4LK
ZS6RIE	—N0GP
ZY4OP	—PY4AA
ZY4SA	—PY4SA
3B6CF	—3B8CF
3B8CD/3B7	—3B8CD
3B8DO/3B7	—3B8DO
3X1Z	—W4FRU
3X1ZZ	—ZS5NG
3Y0A	—DK9KD
3Y0B	—DK9KD
4A2Q	—XE2AQ
4M2AMM	—YV2AMM
4N1AU	—YU1DZ
4S7AAG	—OH2BCP
4S7VAG	—JA1VAT
4U1ITU	—KC9C *(See Note 7)*
4X6BYB	—WB2WDU
4Z4AB	—K3STM
5N9ACO/8	—IV3APC
5N2IHGP	—DJ3JP
5T5RR	—F1ANH
5W1BT	—WA6AHF
5W1DE	—OE2DYL
5W1DK	—VK9NL
5W1DN	—WA7UWU
5Z4CS	—JI1VLV
6W8DL	—F6CGS
6W8DY	—VE4SK
6W8JU	—F6CGS
6Y5DZ	—WB6UBR
6Y5JW	—VE3DAP
8P6QL	—Yasme
8P6T	—K5MHZ
8Q7BM	—JA8BMK
9G1DJ	—WD5GXB
9G1JZ	—DB8GF
9H2JAM	—9H1GB
9L1JW	—DJ0GN
9M2AV	—JA3BQE
9M2HB	—N4FFN
9M2RQ	—WA2VWG
9U5WR	—SP6FER
9V1UZ	—AK2Q
9Y4KG	—Yasme
9Y4LL	—K2QIE
9Y4VT	—WA6KZI

IDXF	—International DX Foundation, P.O. Box 171, Manahawkin, NJ 08050
NCDXC	—Northern California DX Club, P.O. Box 608, Menlo Park, CA 94025
Yasme	—Yasme Foundation, P.O. Box 2025, Castro Valley, CA 94546
AU2CD	—P.O. Box 534, New Delhi, INDIA
BV2A	—Tim Chen, P.O. Box 30547, Taipei, TAIWAN 107
BV2B	—Tim Chen, P.O. Box 30547, Taipei, TAIWAN 107
CR9UT	—Luis, P.O. Box 798, MACAO
FG7BU/FS	—Colbert, 97122 St. Barthelemy, FRENCH WEST INDIES
FK0AD	—P.O. Box 12, Noumea, NEW CALEDONIA
FR0GGL/E	—P.O. Box 386, St. Pierre, REUNION ISLAND, via FRANCE
HC8MD	—Rick Dorsch, P.O. Box 665, Cuenca, ECUADOR
HI3VAK	—P.O. Box 591, Santiago, DOMINICAN REPUBLIC
HK0FBF	—P.O. Box 842, San Andres Island, COLOMBIA
HP1LC	—P.O. Box 9A1099, Panama City, PANAMA
J6LT	—P.O. Box 1026, Castrie, ST. LUCIA
JD1BAE	—P.O. Box 2, Ogasawara, Tokyo 100-21, JAPAN
JD1BAT	—J. Iseya (JH4PRU), 1159-7 Higashi-Uenodai, Tsubaki, Hagi, Yamaguchi 758, JAPAN
NL7N	—P.O. Box 709, Barrow, AK 99723
P29CF	—P.O. Box 369, Okakumpa via Lae, PAPUA NEW GUINEA
S85H	—Fr. H. Houlihan, P.O. Box 14, Mt. Ayliff, TRANSKEI 4850
SV8OX/1	—P.O. Box 564, Athens, GREECE
V3AWS	—P.O. Box 306, Belize City, BELIZE
V3ME	—M.M. Elliott, P.O. Box 367, Belize City, BELIZE
VK0AN	—Alan Nutley, 18-70 Hunter St., Hornsby 2077, NSW, AUSTRALIA
VS5DD	—P.O. Box 1200, BRUNEI
XT2BJ	—Michel Ittmann, P.O. Box 22, Nouna, VOLTAIC REPUBLIC
YI1BGD	—P.O. Box 5864, Baghdad, IRAQ (Include three IRCs)
3B8CF	—S. Mandry, 6 Shastr Road, Candos, Quatre Bornes, MAURITIUS *(See Note 8)*
9K2DR	—Bob Roberts, P.O. Box 21944, KUWAIT

Notes:

1. For contacts with D68AM, QSL operator Mike via DF2RQ, and operator Alaine via WB2OHD.
2. This applies for the CQ Worldwide DX Contest only.
3. This applies for the CQ Worldwide DX Contest only.
4. For contacts with V2ADX QSL CW contacts via K8NOQ and SSB contacts via W9SWM.
5. This applies for the CQ Worldwide DX Contest only.
6. This applies for the CQ Worldwide DX Contest only. All other contacts for XZ9A should be sent via JA8BMK.
7. We don't know if KC9C handles all contacts for 4U1ITU, or just his own.
8. Send all cards for 3B8CF direct to the above address only.

Our thanks to the following for their contributions: WB2NHP, K2TV, WB4ZNH, W5LXG, W6SYM, W7LR, W9LNQ, KG9G, W0CAW, W0CUB, WD0EAO, K0EDA, VE7EGD, VK6NE, Champaign-Logan Amateur Radio Club, Dayton Amateur Radio Association, Old Pueblo Radio Club, Sonoma County Radio Amateurs, *The Long Island DX Bulletin*, *DX News Sheet* and *The DX Bulletin*.

Any of you readers have any photos of your favorite DX station that you would like to share with us? We would be pleased to use it in the column, and we will return the photo to you if you desire.

We hope you all had a good time during the Christmas season. Much activity is coming up this spring. Refer to the Activities Calendar at the beginning of this column and you will see at least two big DX contests. See you on the bands. 72 es gl DX de John, N6JM. □

Unsnarl your tangled DX records

Ed Mehnert, N3NN, ex-W3JZJ

If your DX record-keeping resembles what's left after the bull has left the china shop, here's an idea tailor-made for you.

The amateur who moves a lot — and the thousands who have changed calls recently — can easily run into trouble keeping clear records of past QSOs and QSLs for awards purposes. Some awards call for multi-band contacts, others for certain modes, bands or years. Especially if, like me, you are still receiving cards for the last five or six QTHs and DXCCs, you may find yourself up to your keyer in checklists and logs. Here are some ideas for keeping your records straight — and they also work fine for the guy who hasn't moved since Marconi first raised Scotland.

Because of my job, I move a lot. Would you believe 14 QTHs in 14 years? QSLs are still trickling in for the last several QTHs, building up credit for endorsements to DXCC, SSB-DXCC, Mixed DXCCs, WAE and several other awards I am interested in. I have tried many systems for tracking my progress over the years, and after many trials and errors, came up with a system that works.

There are commercial checklists available, but each has some kind of deficiency as far as my own desires are concerned. In particular, I wanted to track 5-band DXCC progress and have a record instantly available, so that as soon as I heard a DX station I could not only determine whether I needed it or not, but if I needed it I wanted to have the antenna bearing right there on the same line. Also, I wanted cross-referencing in the same place for at least a few awards. Like many DXers, my main interests are in DXCCs, WAZ, WAC, WAS and WAE. None of the commercial lists had just this lineup — and all of them had me flipping from my QSO/QSL records to some kind of antenna bearing list in another place. Also, some awards are given annually — not just once, such as the DARC's EU-DX-D certificate. If my list could separate at least two years' QSOs, so much the better.

The list I finally developed allows the user to keep all the necessary data in the log book (just a few pages thick), to immediately ascertain whether s/he has the QSO or QSL in question, and track progress toward various awards in a second section. Having the data so conveniently arranged has often allowed me to save time, passing up a pileup because I found to my surprise and delight that I already had that rare one. This has also often given me unexpected new 5BDXCC credits, because although I'd have sworn I already worked that country on that band, my little list showed I didn't! A real time-saver, indeed. Here's how I set it up.

The little book I keep has two main parts: the "countries list" and the checklists. The format for the countries list is shown in *Figure 1*. This part of the book is the part used every day. The distances and bearings are available from the Callbook or the *DX Guide* — published by the Callbook folks, if you are lucky enough to live in certain metropolitan areas. Commercial ads offer to supply such lists, based on your hometown, for nominal fees.

Enter the distances (optional) and bearings in the country list as shown, for each location, and you are ready to go. I duplicate many countries on my list, showing San Marino as M1 and 9A1, for example. In such cases, I must be careful to keep the records of QSOs on only one of the lines, not both. I follow the ARRL Countries List in general, but add some WAE countries (such as GM-Shetland Islands and IT-Sicily) with a note to the right that they do not count for DXCC. About 30 entries fit on a normal piece of typing paper, so the entire list of 390 locations takes up about 13 pages. An extra page would cover the deleted list, or deleted countries can be interlaced in the main body of the countries list.

When I work the country, I enter the month of the QSO. This helps a bit in cross-checking between this list and my logs. Write small enough and the whole date fits. Once the card arrives, the date is irrelevant, so black in the whole box. Using the left half of the box for one year and the right half for a second year allows one list to take care of two separate sets of annual awards.

When I hear the DX station, I can quickly see whether I need it for 5BDXCC in the band in use, and if so, the antenna bearing is right there. It works!

The second part of my book has some award checklists. Too many of these and your records-keeping gets too complicated again. There are probably a *few*, however, that you would like to follow your progress on. *Figure 2* shows a portion of the checklists for 5BWAZ and 5BWAC. Each shows QSOs and QSLs by band and mode. The two added columns (CW and SSB) could be changed to a sixth band, such as 160 meters or kept as they are to show WAZ or WAC by mode, regardless of band. There are also checklists in my book for 5BWAS, 5BWAE, Mixed, CW, SSB, 5BDXCCs, some RSGB awards, and the Diplom des 100 of the ITU.

When I make contact with a country on a certain band and mode, I enter the information on the countries list, and then on each checklist that applies. The first CW QSO with A2C, for example, might have generated checkmarks under WAZ, CWDXCC, 5BDXCC, WAZ, WAC, and maybe more. It's kinda satisfying to go along filling in the little boxes — sort of takes the edge off the long wait for the QSL to arrive, because you can see some kind of progress!

The entire book is about 20 pages long and you can easily make your own! With this system, you may find it easier than ever to keep your complex records straight. Happy hunting! □

COUNTRY — PREFIX	Distance in km	Distance in miles	WAZ Zone	Bearing degrees	DXCC CWSSB	80M CWSSB	40M CWSSB	20M CWSSB	15M CWSSB	10M CWSSB
A2C BOTSWANA, Gabarone	13427	8340	38	101						
A35 TONGA, Nukualofa	10910	6819	32	242						
A4X UN ARAB EMIRATES	12434	7723	21	38						

The MP4 listing would refer to this line, to avoid duplication.

Figure 1 — **Several lines from the "country list" showing past QSOs (slant line) and QSLs (blacked in) by band, year, and mode.**

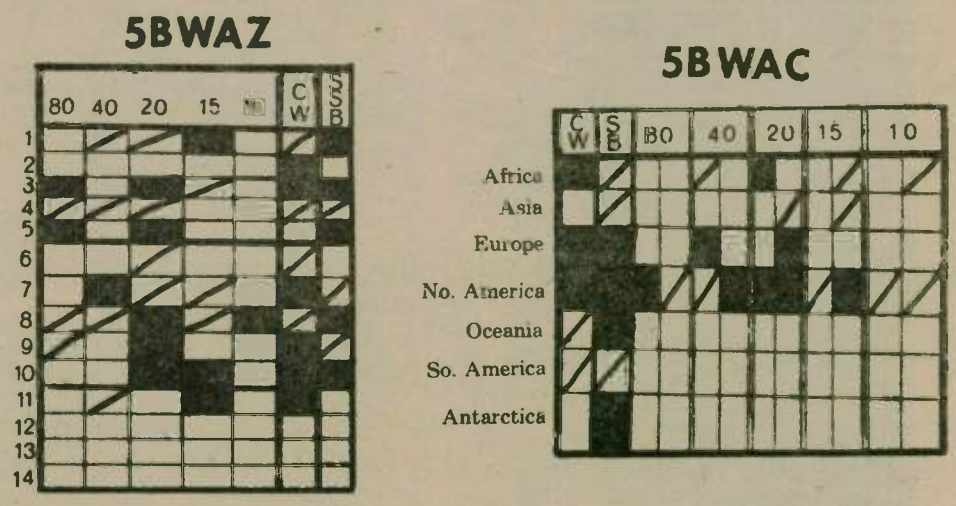


Figure 2 — **An extract from the checklist portion of the QSO-QSL record book. A slant bar indicates a QSO. When the QSL arrives, black the box in completely.**

Jordan jammers

Bob Kneebone, N6AZV

King Hussein, JY1 of Jordan, worked about 100 local amateurs during his visit in Los Angeles via 2-meter repeaters. There was some repeater jamming. The king's representative — Ali Shukre, JY3AK — told Westlink that such jamming by licensed radio amateurs in Jordan brings a two-year prison sentence and a fine. When an unlicensed person jams communication, the sentences are *much worse!*

—Southern CA ATV Club □

Be a 'pilee'

Jack Hubbard, W8HOD

DX pileups are — to some of us — an irritating, aggravating and disgusting way of making a contact. To others, a challenge and a pleasure (especially when successful).

Wouldn't it be fun to be on the other end of a pileup? But DXpeditions take time and lots of money. However, it is possible to be the "pilee" instead of the "piler." Between 28.900 and 29.000 MHz, you will find the Novices in Argentina who are restricted there on phone. For many, you will be their first USA QSO. Most do not speak English, but communications will take place with a little effort.

Speak slowly and use the phonetic alphabet. Count up to the signal report (1, 2, 3, etc.). Most "colegas" in Argentina have a post office box they call "apartado." A four-number zip code, which they call a "Codigo Postal," is used. The 24 radio districts in Argentina are determined by the first suffix letter after the number in their call. Their QSL cards are often beautiful postcards with pictures of their cities or towns. Good luck with Antarctica and Tierra Del Fuego. A Worked All Provinces award is available.

Want an even bigger pileup? Call the Novices in Spain between 29.000 and 29.100. Their calls begin with EC. Spain has 52 radio districts and also offers a Worked All Provinces award. Their areas are determined by numbers (like ours used to be). These Novices must present 75 QSL cards to gain admittance to the next exam.

Better communications can be achieved if you know even a little Spanish. One place to learn is at your local adult education night classes, which gear a conversational Spanish class (usually 10 nights) to vacationers. Simple sentences, good pronunciation, numbers, greetings and "despedidas" (good-byes) are often covered.

Spanish can be helpful for 20 meters at night, 40 meters early in the morning and for snagging the Spanish amateur on 75 meters.

Give me a call on the .70 machine for more info. "Adios."

— The Northern Ohio ARS □

Watt's new...on 2 meters?

All mode (FM/SSB/CW) 25 watts, plus...!!!

TR-9130

The TR-9130 is a powerful, yet compact, 25 watt FM/USB/LSB/CW transceiver providing increased versatility of operation on the two meter band. It features six memories, memory scan, memory back-up capability, automatic band scan, all-mode squelch, CW semi break-in, and incorporates microprocessor technology. It is available with a 16-key autopatch UP/DOWN microphone (MC-46), or a basic UP/DOWN microphone.

TR-9130 FEATURES:

- **25 Watts RF output**
  All modes, (FM/SSB/CW), utilize a new high power linear module, for more reliable FM operation and increased DX on SSB or CW.
- **FM/USB/LSB/CW all mode operation**
  For added convenience in all modes of operation, the mode switch, in combination with the digital step (DS) switch, determines the size (100 Hz, 1 kHz, 5 kHz, 10 kHz) of the tuning step, and the number of digits displayed.
- **Six memories**
  On FM, memories 1 through 5 for simplex or ±600 kHz offset, with the OFFSET switch. Memory 6 for non-standard offset. All six memories may be operated simplex, any mode.
- **Memory scan**
  Scans memories in which data is stored. Stops on busy channels.
- **Internal battery memory back-up**
  With 9 volt Ni-Cd battery installed, (not KENWOOD supplied), memories will be retained approximately 24 hours, adequate for the typical move from base to mobile. A terminal is provided on the rear panel for connecting an external back-up supply.
- **Automatic band scan**
  Scans within whole 1 MHz segments (ie., 144.0-144.999 MHz), for improved scanning efficiency.
- **Dual digital VFO's**
  Incorporates two built-in digital VFO's, selected through use of the A/B switch, and individually tuned.
- **Transmit frequency tuning for OSCAR operations**
  On SSB or CW, the tuning knob or UP/DOWN buttons on the microphone may be used to adjust the transmit frequency during transmission.
- **16-key autopatch UP/DOWN microphone version**
  The TR-9130 is available with the MC-46 16-key autopatch UP/DOWN microphone, or with the basic UP/DOWN microphone. Manual UP/DOWN scan of entire band possible using either microphone.
- **Squelch circuit on all modes (FM/SSB/CW)**
  The squelch circuit is effective on SSB, CW, and FM.
- **Repeater reverse switch**
  For checking signals on the repeater input, on FM.
- **Tone switch**
  For activating a tone device, (not KENWOOD supplied).
- **CW semi break-in circuit with sidetone**
  Built-in, for convenience in CW operations.
- **Digital display with green LED's**
- **High performance receive-transmit design**
  The use of a low-noise dual-gate MOSFET plus two monolithic crystal filters in the receiver front-end results in excellent two signal characteristics. Care in transmitter design assures clean signals in all modes.
- **Compact size and light weight**
  170 (6-11/16) W x 68 (2-11/16) H x 241 (9-1/2) D mm (inch), 2.4 kg (5.3 lbs.) weight.
- **Extended frequency range**
  Covers 143.9 to 148.9999 MHz, which includes certain MARS and CAP frequencies.
- **Transmit offset switch**
- **High performance noise blanker**
  Suppresses pulse-type noise on SSB and CW.
- **RF gain control**
  For all modes of operation.
- **RIT (Receiver Incremental Tuning) circuit**
  Useful during SSB/CW operations.
- **Amplified AGC**
  Enhances SSB and CW operation. The AGC time constant is automatically optimized for each mode of operation.
- **HI/LOW power switch**
  Selects 25 or 5 watts RF output on FM or CW.
- **Accessory terminal**
  A four pin accessory terminal is provided for use with a linear amplifier or other accessory.
- **Quick release mounting bracket** (Supplied)

More information on the TR-9130 is available from all authorized dealers of Trio-Kenwood Communications 1111 West Walnut Street, Compton, California 90220.

KENWOOD
...pacesetter in amateur radio

Accessories:

- KPS-7 Fixed station power supply.
- TK-1 AC adapter for memory back-up.

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

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.

AMSAT OSCAR

Dr. Norman L. Chalfin, K6PGX

This article describes Ray's participation in the preparation and launch of OSCAR-1 in 1961, and was presented in a speech he made on 9 December 1981 to the JPL (Jet Propulsion Labs) Amateur Radio Club. Ray retired from the U.S. Navy as an admiral in 1947. He ran a column in the **Los Angeles Herald-Examiner** *(California) up until two years ago. He has been an amateur since 1910, and was given an award by ARRL in 1980 at the Southwest Division Convention for 70 years as an amateur.*

At 2040 GMT on 12 December 1961, OSCAR-1 W6EE/S was launched into space aboard an AGENA-B satellite aboard an AF Discoverer-36; within minutes, OSCAR-1 started sending out the signal "HI" on 144.98 Mcs for the whole world to hear.

It all started with an article which appeared in CQ Magazine around 1958/59 by Don Stoner, W6TNS who wrote a Buck Rogers yarn about an amateur satellite in which he wound up his story with "All we need is a missile."

At the time, I was manager of radio operations for Lockheed Aircraft Company, and one of my operators at Palmdale was Fred Hicks, W6EJU. Fred was excited about Don's article and suggested to me that we do something about it for Amateur Radio.

At the time, I was FCC's representative for Amateur Radio on its National Industry Advisory Committee. On a trip to Washington I mentioned the possibility of an Amateur satellite to FCC and was informed that the State Department had jurisdiction of all communication devices in space by U.S. sponsors. With this information at hand I contacted Dick Black, a fellow amateur at the State Department and he said the State Department would have no objection, and suggested I contact the Air Force to see what were chances of riding piggyback on one of its satellites.

First I contacted Col. Steve Cerwin USA K6OJO, who at the time was Chief, Plans and Policy Division Joint Chiefs of Staff (J-6). He thought it a great idea, and he contacted the late MGen. James Dreyfus USA-WA2WBE who went to bat for us with members of JCS; they all agreed it was a good idea and they authorized the Air Force to assist us in the project.

With this information at hand, I informed Fred of results and also ARRL with information that the authority was granted, provided it was for the benefit of all radio amateurs. Things began to hum. A committee was formed to be known as the OSCAR Committee consisting of Fred; my Sunnyvale Supervisor B.B. Barrick, W6OON; Bill Orr, W6SAI; Chuck Towne, K6LFH; Harley Gabrielson, W6HEK; Tom Lott, VE2AGF; Dick Esneault, W4LK; Harry Workman, K6JJC; Nick Corsier, W6IGE; Stan Benson, K6CBK; Jerre Crosier. W6IGE; Harry Enwight, W6HC and M.K Caston, WA6MSO; Nick Marshall, W6OLO, and Don Stoner. By that time, I had transferred Fred to Sunnyvale from Palmdale.

Next step was to come up with specifications of the package we wanted to get in space. Fred Hicks, Doc Henry Richter, W6VZA and I got together on what was needed. Doc drafted a beautiful presentation, and we took it back to Washington as requested by General Dreyfus. JCS Air Force representative then approved of the presentation and notified Vandenberg Air Force Base (AFB) to provide us with space aboard an upcoming Agena-B based on package specifications that would be prepared by the OSCAR Committee based on Don Stoner's design.

The rest is history. I became Southwestern Division Director for ARRL and invited President Dosland, W0TSN to be my guest to Vandenberg AFB Officer's Club and we were joined by Lieut. Gen. Francis (Butch) Griswold USAF-K3RBA (now K0DWC), Vice Comdr. Strategic Air Command under Gen. Curtis LeMay — another amateur; Captain Turner USAF; and Chuck Towne, K6LFH, who kept in touch with OSCAR Control Station WA6GFY. This was the first time I had seen Butch Griswold since he flew me out of Washington after an Armed Forces Communications Association meet we both attended.

Much credit goes to Chuck Towne and Fred Hicks who promoted material for the construction of OSCAR. Thanks to our Lockheed president, who gave us his blessings, construction cost the amateur fraternity nothing for labor or material.

The gang at Lockheed and members of the OSCAR committee did the work. The batteries were furnished by Burgess Battery; transistors by Fairchild Transistor Co., Philco Co., PCS Diodes, Inc. and Pacific Semi-conductors, Inc. Crystals furnished by XpTron, Inc. and Midland Crystal Co.

Al Diem, W3LSZ, a project engineer, designed the RF assembly. Harry Hughes worked out the ideas and surmounted the problems of the code generator. Gail Gangwish and Doug Beck, WA6AAL packaged the keyer assembly into shape for the launching.

Components and materials not mentioned above, plus laboratory and testing facilities were made available by Philco Corp., Western Development Labs at Palo Alto, and the Lockheed Missile Division at El Monte.

Antenna work was done by C.A. Andrews, W6LHV and Jim Daly. Wally Raven, WA6AID and Jim Barnett were consultants on mounting and heating problems. Howard Linnenkohl, K6SSD designed the container. Walter Read, W6ASH got it built based on drafting and layout by Orv Dalton, K6UEY. Herman Poole designed and built a second transmitter that served as a standby unit. Alf Modine and Will Jensby wrote the test procedures. All this should give you some idea as to the many helping hands we had for the project, and obviously I may have omitted a few names that should have been given credit for work performed. Modine's call was K6TWF.

ARRL had appointed me as League Coordinator for OSCAR program, which I considered an honor. On 1 June 1962, OSCAR-2 was launched into space as a sort of tribute to thousands of amateurs gathered at Disneyland for the ARRL Southwestern Division Convention that year. □

Ray Meyers, W6MLZ (Ret. Adm. USN) was given an award at the 1980 ARRL Convention to celebrate his 70th year as a radio amateur. ***(K6PGX photo)***

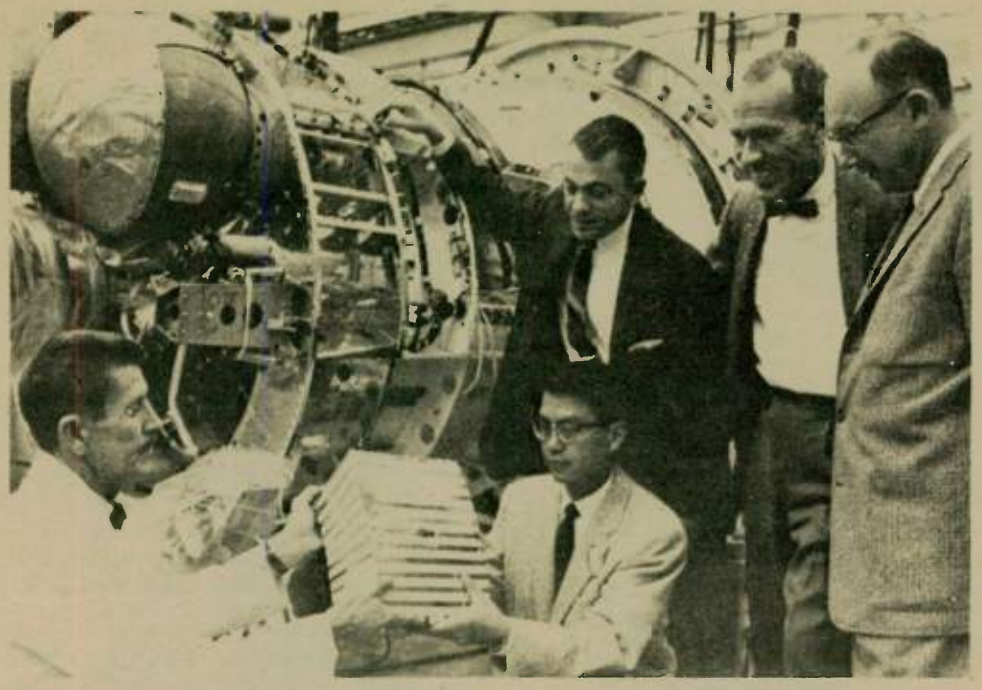
Hallicrafters items wanted

Skip Westrich, WB8OWM

Perry Ballinger, W8AU (2468 Bellevue SW, Massillon, OH 44646) has become a noted collector of early Hallicrafters memorabilia. Should you have any of the rarer, obscure Hallicrafters items gathering dust in the attic, he might appreciate hearing from you.

—Massillon ARC Feedback, OH □

Jenning's corollary — The chance of the bread falling with the buttered side down is directly proportional to the cost of the carpet.



OSCAR-1 and the Atlas/Agena rocket of Discoverer-36. Seated: Lockheed technician; Lockheed engineer Henry Louie. Standing: Chuck Towns, K6LFH; Fred Hicks, W6EJU; and Nick Marshall, W6OLO.

Tuning solid-state rigs

Tania Miller, WB9TKC

Some months ago, Tom Beary, KA9HWP, called every amateur he knew to find out why he couldn't load his brand new rig into a Hustler multi-band vertical, using a Dentron tuner. He tried several antennas without using a tuner and wasn't able to load into any of them.

Tom took his TS 180-S to one amateur's house and put in on his triband beam; it would not load. He took it to another amateur's house and put it on his trapped dipole; it would not load. The TS 180-S evidently saw a SWR of 3:1 or worse and shut down.

After borrowing a Dentron Super Tuner, he found he could load his rig on 15 and 40 meters, but loading was critical: 50-100 kHz down from where it was loaded he had to touch up the tuner controls. Finally, a friend of his suggested he change to a higher quality coax.

The transmission line he bought was RG8U, manufactured to a distributor's specifications. The braided shield was not tightly braided, but loose — like a fish-net. Tom thought this would cause only a loss, never a high SWR. But after replacing it with RG8X he could load his rig on all bands using the tuner.

The solid state rigs have no pi-network to match antennas with, but rely on the broad-banded nature of their finals to eliminate tuning. Solid state rigs have built-in protection circuits to prevent their finals from over-conducting. A tuner will protect the finals IF you also have a good antenna system, including transmission line.

Most amateurs agree that coax quality is very important, and in many cases, critical to properly working equipment and antenna systems and a low SWR. But before a tuner is used, the instructions that come with a beam antenna should be read. You don't want to change the current pattern on the beam or the balun will blow. □

Repeater of the future

Tania Miller, WB9TKC

Roy Neal, K6DUE of NBC and others have given speeches over the past few years of the fantastic future of 2-meter handi-talkies with touch-tone pads, in particular. In every case, the future dream was one of a licensed Amateur Radio operator holding 2 watts or less in the palm of his hand and talking around the world.

That dream is coming true right here, and in just the way these people have visualized it. Instead of sitting back and visualizing it, Bob Heil, K9EID has built it! It is the 147.81/21 Marissa Amateur Radio Club repeater system.

It is not an ordinary repeater. There are presently three receiver sites and one transmitter site. The system is built to handle access codes from touch-tone pads. Today the members use such codes to bring up ID tapes with famous voices, the talking clock's voice, the autopatch and a re-set timer when 10 seconds of "beeps" are heard, telling you the station they're listening to is about to time the repeater out.

Mid-winter — when this new system is up — members will be able to sit at home with family and friends, or be mobile, use their handie-talkie touch-tone pads and, using similar access codes, talk to people on distant repeaters a few states away. Once the access code is punched, two tones will come back to tell you it went through and you can dial up other repeaters. A TR-9000 remote base makes this possible in the club's meeting room.

Members can also punch up an access code to turn a beam antenna the right direction. If you need to talk to a city with no 2-meter repeater, they can dial up 2-meter SSB to a particular frequency AND turn the beam antenna in the correct direction for it with their touch-tone pads.

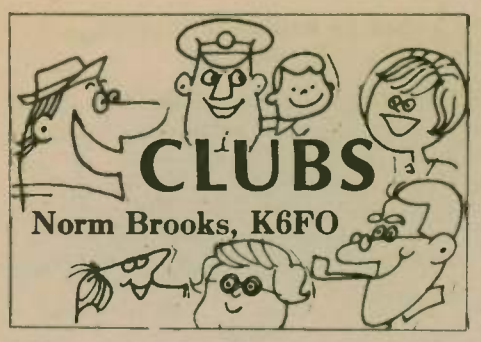
In 1982, the Phase III OSCAR satellite will be launched and hopefully put into successful orbit. Members can dial it up using the 81/21 repeater system. During the pass, when Eastern Europe is in, they will talk to Europeans with 1 or 2 watts and a rubber duckie in their hand. If South Africa or Australia is in, they will be able to hear it and talk to it through this system.

"Intertie" describes this link-in type of system is up and distant repeaters are tied into it. This will ID as soon as the access code is completed.

system. When members hear a low-tone CW IDer, the repeater is being used locally. When a high tone is heard, the intertie

Bob has already demonstrated this new system, using a handie-talkie to bring up one receiver strip after another. The working system consists of 220 MHz links, 2-meter strips, control panels and interties. Members can also use a 220 MHz handi-talkie and touch-tone pad.

This unique system brings the future to us now. The 2 to 10-meter FM link has been brought up often, allowing one amateur in Norway with his handie-talkie and rubber duckie to talk to K9EID, who was using 500 milliwatts and a handie-talkie through the system. Our congratulations to the designer and builder of this system — Bob Heil, Jr., K9EID. □



This month I plan to share with you what some of the clubs are doing. I'm referring to activities, programs, and anything else that could be shared from the club papers. These items are selected at random; there is no attempt to identify anything as "best."

The Hamfesters Radio Club, Inc. of Burbank, Illinois, publishes *Ham Gab*, edited by Rita Burba, KB9ZL. The paper is crammed full of interesting items, including an article on lightning protection by Matt Sobczak, K9MS; a proposed club constitutional amendment; an article on DX by Philip Brankin, K9UAA; a centerfold featuring a Whole Ham Family, the Ruehls — Matt, KA9LGT; Linda, N9BUY; Al, KB9EQ; and Chuck, KB9KBK. Minutes of a general meeting are included, as well as a questionnaire for nomination of Hamfester of the Year. The "Rovering Reporter" (whatever that is) gives the lowdown on member activities. The paper even has a table of contents and letters to the editor. Very well done, Rita.

The Squelch Tail is the official publication of the Arizona Repeater Association, Phoenix, Arizona. This monthly publication gives future club programs. Two of the programs are "Motorola 6800 Microcomputers" by John Aldridge, WA7RLL, and "Growth of Sperry-Phoenix" by Tim Oskin of the Sperry-Phoenix Corporation. This issue has a very comprehensive article on MARS (Military Affiliate Radio System) repeaters, without a byline. There is a report on a disaster drill. The "Rubber Duckie Award" column tells of recent boo-boos committed by unsuspecting members. Minutes of meetings and letters to the editor are also included. A technical article on the ICOM IC2AT is reprinted from *LEARA Newsletter*. Bob and Ruby LaRue, W7CDU and W7JZA, are congratulated on 50 years of married life. Photos and advertising neatly round out the paper. Congrats to editor Robin Conde, KA7DTT.

Here's a paper, *The Ground Wave*, put out by the Saint Paul Radio Club, Inc., St. Paul, Minnesota, which demonstrates how to make expensive printing go a long way. The cover sheet is printed in multiple colors, (printed in quantity for several issues), leaving spaces for the material that changes from month to month. The advertising (which no doubt pays for the cost of printing), is printed in color with the other "permanent" items. The paper carries articles on a picnic; want ads; new members; "Heard on the Party Line;" an unusual QSL delivery; an article on VHF radiation — "What's a Stammtisch?" reprinted from *PHD News* (see end of this column); Worked All New England Award rules; and an article on exploding batteries. Editor Marv Mahre, W0MGI does a fine job.

Hamtides is a monthly bulletin published jointly by the Tidelands Amateur Radio Society (TARS) and the University of Texas Medical Branch Emergency Communications Group (UTMB-ECG). (I wonder why there aren't a lot more papers put out jointly by two or more clubs?) Editor E. van der Smissen, WB5ASA lays out the paper with boxes, lines and white space in a professional manner. The issue I'm reporting on has a Field Day report; TARS Auction; "Heard on .75-.15" (humor on themselves); QRP nets; QRP news; where to get Japanese parts; meeting notices; repeater nets; "The President Speaks," (one from each club); meetings; a 300 ohm J-Pole antenna; "New Coax?," a swapfest notice; and a convention notice. A neat paper.

ACMR/I (Air Combat Maneuvering Range/Instrumentation)

16mm film — 15 minute cassette "tape talk" for an Amateur Radio audience — Narrated by Astronaut Wally Schirra depicting the space age ACMR/I equipment produced by Cubic Communications. The displays generated by the system were used in the *"Buck Rogers"* television series. It's quite spectacular and entertaining. Contact Mr. Gary Pierce, Cubic Communications, Inc., 305 Airport Road, Oceanside, CA 92054.

What's a Stammtisch?

For years I have noticed a certain social phenomenon at club meetings, on commute trains, on coffee breaks, etc. Certain people seem to congregate together in groups similar to cliques. At last I found an article that explains all this. It's by Gary Liljegren, W0SH and published in *PHD News*, reprinted in *The Ground Wave*, again republished here.

Have you ever gone into an English pub in London, or Stratford-upon-Avon, or Liverpool . . . and watched the groups form, laugh, joke and have lots of fun with the same people whose companionship they have enjoyed for years — decades? It is a cultural institution. That pub is "their" pub . . . it is the one they continue to enjoy — maybe for life.

Or how about the cracker barrel in the general store in Yankee Connecticut or rural American 100 or more years ago. The regulars who frequented the place had a closeness of feeling, a warm sense of pleasure at being there, a style of humor which had evolved over years of growing and nurturing.

In Germany, for years -- centuries, men have joined together at the beer gardens in similar cliques of friends. Such a gathering in Germany is called a stammtisch. It is a unique collection of long-time friends who are "regulars" at the beer garden. Like the pub in England, they have their "own" tables and a set time for being there. It's an important part of that lifestyle and the enjoyment of life.

Now let's compare that to Amateur Radio. Is it any different? Have a listen on 75 meters to groups who have been meeting at the same frequency each day or on certain days, and at the same time for years! How about SPAM on 40 meters AM (that's an antique form of SSB) on Saturday nights, or groups and informal nets on 20 meters during the daytime — the same old friends from the '20s, '30s and '40s.

And 2 meters isn't any different either. Find a local simplex frequency on a winter evening and check out the same frequency the next night at the same time. Hey! It's the same people, laughing about the same basic discussion of the night before.

We, too, have our stammtisch, our pub, our cracker barrel friendships — friendships which last a lifetime. The only difference is that our stammtisch is nationwide or worldwide, but with the same result that has been occurring for the last 100, 1,000 or 10,000 years. □

Amateur Radio lost a long-time friend on 13 December 1981 when John Di Blasi, W2FX passed away after a prolonged illness. John was a founding charter member of QCWA and was elected its first president on 5 December 1947 at the first meeting of the Association with 34 in attendance. John held the office of president until 1964. MAY HE REST IN PEACE.

By the time you read this column, the winter issue of QCWA News will have reached you. Be sure to brush up on the revised rules for this year's QCWA party. W2GHK is currently going through rebuilding and is in hopes of using this year's great event for a shakedown.

I am sure that a number of our readers have been counting the months until they are eligible to apply for membership in QCWA. I did. Perhaps you would like to subscribe to QCWA News during the interim. QCWA News is published four times a year and may be purchased for $1 an issue. Send your check (made payable to QCWA) for the number of issues you want to order in advance to: QCWA Headquarters, 1409 Cooper Drive, Irving, TX 75061.

The next QCWA Board meeting is scheduled for 27 March in Gaithersburg, Maryland, in conjunction with the Annual Old-Timers Banquet co-sponsored by the Washington, D.C. (#23) and the Northern Virginia (#91) chapters. The Board will also meet with a number of FCC Commissioners and staff the day before. Both Chapter members of record will receive timely information.

Others interested should contact W2GHK at 2417 Newton Street, Vienna, VA 22180. Non-members are also welcome. □

SOCAL QCWA learns best DX

Lenore Jensen, W6NAZ

An elegant dinner on 3 October brought out a large crowd of QCWA's Southern California Chapter (#7) at the Petroleum Club of Long Beach. Members were rewarded by an interesting peek into future "DX."

Before the program, two awards were made. A 60-year plaque went to Clayton Blake, W6AGK.

For winning first place in the 1981 QCWA QSO Party, the National's plaque went to Herb Gleed Jr., W6FQ. The point was made that Herb had won similarly five times in the past 20 years as well as being runner-up a few years! Herb invited all to take part in the Sunday Net of the International QCWA, of which he is NCS, at 2000Z on 14,346 kHz.

An invitation to a local net was extended by Roy Tucker, N6TK for the Antique Radio Society's exchange of information on the final Friday of each month at 8:00 p.m. on 147.435 MHz out, 146.40 in, using the WA6KOS repeater.

A fascinating program was given by Stan Brokl, N2YQ, SCM (Section Communication Manager) for the Los Angeles Section and an engineer with the Jet Propulsion Lab. Stan showed wonderful slides depicting the current work in radio and radar astronomy. The remarkably huge antennas at Goldstone were explained, and photos made by craft travel-

Left to right: Don Wallace, W6AM; Ralph Cabanillas, W6IL; Bert Ayers, W6CL; Lenore Jensen, W6NAZ; and Art Munzig, W6PYV. ***(Photo by Irv Emig, W6GC).***

ing through space were breathtaking.

Stan's down-to-earth explanations of extremely complex endeavors provided an inkling of the adventures of high power in the giagahertz range at, to the average amateur, unbelievable distances. Whether the future will provide us with actual signals from other living creatures among the stars is a possibility almost too exciting to accept.

It was fitting that a group of amateurs with long experience in the "early days" of radio should hear how far the art has developed in a comparatively few years. Many of those present remarked on the spark gap days and marvelled.

One was the Chapter's incoming president, Don Wallace, W6AM — now in his 71st ham year and going strong. He accepted with thanks the gavel from outgoing leader, Bert Ayers, W6CL.

Chairman Wallace extends an invitation to those having held an Amateur Radio license for nearly 25 years to request the bulletin of the Southern California chapter.

For $1 to cover postage it may be obtained from the Secretary, Art Munzig, W6PYV, P.O. Box 7509, Los Angeles, CA 90075. Information about joining the Quarter Century Wireless Association may be had by writing to 1409 Cooper Drive, Irving, TX 75061.

Other swapping of responsibilities included incoming vice president, Ralph Cabanillas Jr., W6IL, replacing Ray Furlong, W6QIL; and Art Munzig Jr., W6PYV, taking over from Moe Joffe, W6PHE, who had carried the heavy load of secretary/treasurer since 1973. Lenore Jensen, W6NAZ will serve as publicity chairwoman, succeeding Ray Meyers, W6MLZ. □

SMIRK dues

The Six-Meter International Radio Klub (SMIRK) has announced the following dues schedule, effective 1 January 1982.

Current SMIRK members — $3 per calendar year, payable each January.

New members — $6 at the time of application, which includes the initial membership fee and dues for the current calendar year or remaining portion thereof.

Dues-paid members are eligible for all SMIRK awards, contests, programs, etc., and will receive postage-paid newsletters and membership roster updates on a quarterly basis. Members who *do not renew* by paying their dues each January may continue to use their SMIRK number and may participate in the DXDC Program which is open to all amateurs. However, they are ineligible for any of the other SMIRK awards, including contest trophies, and will not receive either newsletters or membership updates. □

VISIT 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

Lake Elsinore Valley Radio Club
Wildomar Elem. Sch. (corner Palomar Rd. & Central)
Take Baxter Rd. turn off 71 Freeway
Monitor 146.55 simplex
3rd Thursday/monthly — 7:30 p.m.

Marin Amateur Radio Club (Founded 1933)
Coop Meeting Room
71 Tamal Vista Blvd.
Corte Madera, CA 94925
1st 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

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.

Stockton Amateur Radio Club
University of the Pacific, Room 122
2nd Wednesday/monthly — 7:30 p.m.
Club repeater net roll call:
Wednesdays 8:00 p.m. — 147.165/765

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

CONNECTICUT

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

FLORIDA

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.

GEORGIA

Atlanta Radio Club
Box 77171 Atlanta, GA 30357
1st Thursday/monthly — 7:30 p.m.
Community Rm./Perimeter Mall Shopping Center
Call (404) 971-HAMS Net Sun. 9:00 p.m. 146.22/82

Columbus Amateur Radio Club (CARC)
David Nulty, N4ATI, Secretary (404) 687-3272
The Quonset Hut next to Food Stamp Center
Buena Vista Road at the "Spider Web"
2nd and 4th Thursday/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

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

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

NEW MEXICO

Eastern New Mexico ARC
First National Bank, Clovis
Box 206 • Clovis, NM 88101
(505) 763-6960/356-5993
2nd Tuesday/monthly — 7:30 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.

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. (Clyde Amateur Radio Society)
Ervin Remaley, KA8CAS, Secretary
Community Room, City Building, Clyde, OH
Repeater 145.35/144.75
2nd Tuesday/Monthly - 7:30 p.m.

OREGON

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

C.A.R.S. (The Clyde Amateur Radio Society)
Gary A. Kauffman, WB8MUG, Secretary
2nd Tuesday/monthly — 7:30 p.m.
Community Rm., City Building, Clyde, OH
Repeater 147.075/.675 MHz

Champaign-Logan Amateur Radio Club
John Wentz, W8HFK, President
2 Meter Net, 147.60/00, Tuesdays, 9 p.m.
Dinner meeting, 1st Thursday/monthly
Dajolees Restaurant, West Liberty, 7 p.m.

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

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

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.

VIRGINIA

Southern Peninsula Amateur Radio Klub (SPARK)
P.O. Box 9029, Hampton, VA 23670
Call Steve Silsby, WA4BRL (804) 599-6877
VEPCO Bldg. (Pembroke and G St.)
1st and 3rd Wednesday/monthly

Penn-Jersey YL Radio Club celebrates 25th birthday

Submitted by Sylvia Soble, W3SLF

Early in 1956, Shirley Lukoff, W3VNN had a dream. It materialized from the realization that no local Amateur Radio club whose membership was boosted and boasted by men only, willingly opened their ranks to women. Encouraged by her OM—Herman, W3HTF (eventually W3HT and now a Silent Key)—Shirley joined with her sister Edith, W3AAU and Sylvia, W3SLF. Drawing upon the names and addresses in the Callbook, letters were sent to the YLs in the Pennsylvania and New Jersey areas.

On 8 June 1956, Shirley's dream became a reality. It was on that date at her QTH in Philadelphia, Pennsylvania that 18 YLs gathered for the purpose of forming a women's Amateur Radio group. The Penn-Jersey YL Radio Club was born.

If they were writing a parody to "*Thanks for the Memories*", the following are some of the events that would comprise the lyrics: operating the rig on Field Day; manning the famous station K3UN in the window of Gimbel's department store; winning a prize at an Almo Radio Exhibit; upgrading their licenses as a group; handling communications at the Boy Scout Jamboree; being so proud of Carolyn, W3GTC year after year serving as "chief of communications" for the Powder Puff Derby; also happy to have as one of them Harriet, WA3ATQ who was cited for her activities on the Eye Bank Net and her handling of traffic for the hospital ship *Hope;* remembering Bert W3TNP and Amy Young, WA2QYZ (formerly WA3CAP) for their excellent participation in Army MARS.

Showing off with Rose Ellen, N2RE (formerly WA2FGS) who received recognition for her work in civil defense and was elected the first woman president of Gloucester County Amateur Radio Club in New Jersey; giving thanks to Shirley, W3VNN for her emergency communications during two hurricanes — Hazel and Carol — during the middle '60s; all those Merry Christmas luncheons that Dottie, K3YPH arranged for the club; playing hostess to the YLs attending the Bicentennial Amateur Radio Convention and entertaining them with a luncheon and the famous Mummers Ferko String Band; also remembering Jane, K3ZDN dressed in her colonial costume for the event; not forgetting the part ALL the gals took in the YLRL 40th Anniversary Convention held in Philadelphia in 1979; etc., etc., etc., etc. and etc.

On 19 September 1981, the Penn-Jersey YL Radio Club celebrated their 25th birthday with a dinner party. Those present were: Rose Ellen Bills, N2RE; Harriet Creighton, WA3ATQ and her OM Harry, K3YJK; Marge Islett, WB3JUT and her OM Gerry; Jane Jones, K3ZDN and her OM, Don; Bert Kenas, W3TNP and her OM Ernie, W3KKN; Shirley Lukoff, W3VNN, who is now serving as president; Edith Rosner, W3AAU; Dottie Scialdone, K3YPH and her OM Joe, K3WSV; Mollie Silverstein, K3FYS; Sylvia Soble, W3SLF and her OM Bill, W3QXT; Harry Stein, W3CL and his XYL Sylvia; Edna Sutton, WA3NGV and her OM Dan, WA3BKR.

Other guests who attended included: Ruth Shailwitz, Murry Sussman, Edith Stork, Rose Rosner, Alberta Behnke, George Behnke, Helen Griebenon, Bill Griebenon, and last but far from least, Mr. Irvin Furman — a fabulous magician who entertained the happy group. □

Sylvia Soble, W3SLF and her OM — Bill, W3QXT use 2-meter hand-held with 5/8-wave antenna at 25th birthday dinner, held 19 September 1981.

Colegas y Amigos 19th annual motorcade

Jane Rice, AD6Z

Ensenada Radio Club members hosted 125 California amateurs and guests on 13 and 14 November during the 19th annual Colegas y Amigos Ensenada motorcade.

Weekend activities included a visit to San Antonio Orphanage near Ensenada where group members left donations of food and clothing, a luncheon fiesta, a dinner banquet with guitar entertainment and raffle prizes, and a patio brunch Mexican agencies presented an award plaque of appreciation to the American amateurs.

Radio operating privileges were extended by the Mexican government to visiting members during the occasion.

Colegas y Amigos is an informal organization of Mexican and American amateurs working to promote good will between amateurs across the border.

In addition to the Ensenada trip, two breakfast meetings — one in Long Beach and one in San Diego — are held yearly. For more information, contact group coordinator "Duke" Ellington, W6OZD. □

Members of Colegas y Amigos enjoying a breakfast in the patio at the Hotel Riviera del Pacifico as the final event of their 19th Annual Motorcade last fall. ***(Jane Rice photo)***

Planning is the key

Amateur Radio display

Gordon West, WB6NOA

Amateur Radio is a fascinating hobby that more people need to know about. One ideal way to spread the word about the Amateur Radio hobby is by setting up demonstration stations. Demonstration stations are ideal for local or county fairs. Many times, shopping centers and shopping malls will put on a community service program, inviting clubs from within the community to participate in an "open house." This is a perfect opportunity to set up an Amateur Radio demonstration display.

How do you properly display Amateur Radio to the public? Do you drive in and start calling CQDX? Do you set up a station and start ragchewing on a repeater?

There are some definite guidelines that must be followed in order to properly demonstrate Amateur Radio to the public. The West/Coast Amateur Radio School was recently awarded first prize for its efforts in setting up an Amateur Radio demonstration display at one of the largest fairs in California—the Orange County Fair, which drew almost a half a million attendees.

Amateur Radio clubs wishing to set up a display might follow the guidelines used by the West/Coast Amateur Radio Club (edited for length):

Dates and time: The Orange County Fair opens on Friday, 10 July. It runs every day until Sunday, 19 July. The exhibition building that will have the Amateur Radio booth is scheduled to be open from 12 noon to 10:00 p.m. on weekdays. On Saturday and Sunday, the booth area will be open from 10:00 a.m. to 10:00 p.m.

Booth size and location: It would be desirable to place the 20-foot Amateur Radio display in the northwest corner of the Commerce Building. This would permit us to easily pass antenna wires through the small hole in the wall. This location is also desirable because it is possibly adjacent to Coastline Community College and Orange Coast College, as well as Santa Ana College booths. A corner location with 10 feet on each side of the corner would allow for a smooth flow of traffic through the booth.

Sponsoring organizations: This year, the West/Coast Amateur Radio School/Club is taking on the responsibility of planning the Amateur Radio booth. Mr. Dave Mofford (phone 714-542-3387) is the principle contact and chairman of this year's display. All local Orange County radio clubs will be invited to assist in the staffing of the booth during the operational fair hours.

Purpose: The purpose of the Amateur Radio booth is to familiarize fairgoers with the exciting world of Amateur Radio. Live displays of equipment will demonstrate the capabilities of Amateur Radio in an emergency. Amateur Radio public service will be demonstrated.

Amateur Radio during times of disaster will be demonstrated. Amateur Radio relaying of soldier phone calls will be demonstrated. *Amateur Radio, and how it serves the community as more than just a hobby, will be the main theme of the booth.*

Booth layout: The proposed layout is based on an anticipated corner location with 20 feet of table space. Adjacent to the right-hand side of the booth (facing the booth) would be the local college displays that would have sign-up applications for Amateur Radio courses offered through their curriculum. Two 10-foot tables, covered with a fire retardant material, will be spaced approximately four feet from the wall. This would permit booth personnel to stand or sit behind each table. No booth personnel will be on the outside of the table area with their backs to the fairgoers—at all times personnel will face fairgoers.

Fairgoers will then move from left to right, looking at the different pieces of Amateur Radio equipment and conversing with the booth personnel. Fairgoers will also be able to sit down at each individual radio "station" to actually, on receive, tune around the dials.

As the fairgoer moves through each Amateur Radio "station," he is familiarized with the Amateur Radio Service, and how it serves his local community and the country. At the end of the right hand display table is a sign-up sheet for more information. Personnel at the end of the table will also "hand deliver" each interested fairgoer to the community college closest to their residency to sign up for an upcoming fall Amateur Radio course.

Equipment: All equipment will meet U.L. (Underwriters Laboratory) safety codes, and will be disabled so that nonlicensed persons will not be able to transmit over the airwaves even though a microphone might be disconnected. Some equipment will be loaned by Gordon West and the West/Coast Amateur Radio Club. Other pieces of equipment will be furnished by commercial organizations, such as Henry Radio, Anaheim, and Ham Radio Outlet, Anaheim. Although the equipment is donated by these companies, the booth will—in no way—be commercial. No equipment will be offered for sale at the booth, nor will any Amateur Radio training aids be offered for sale at the booth.

Equipment "stations": Going from left to right, fairgoers will visit Amateur Radio "stations" to familiarize themselves with the exciting hobby of Amateur Radio. Each station will be clearly marked, and large signs on the front of the table will indicate where to begin. This will alleviate any traffic-flow problems of people starting at the wrong end of the line.

Here is a list of proposed Amateur Radio "stations," going from left to right:

Station 1—VTR: Fairgoers will first be introduced to Amateur Radio on a color TV and videotape player. They will see and hear the exciting fields of Amateur Radio.

Station 2—High Frequency: Fairgoers may sit down and turn the dials of a High Frequency worldwide Amateur Radio station. This station will be "live," and they will easily hear stations thousands of miles away.

Station 3—2 meters: An operational synthesized 2-meter base and mobile station, side by side, will be set up and tuned onto local VHF repeaters and simplex channels. Fairgoers will hear the clarity of FM signals.

Station 4—Hand-helds: A booth attendant will demonstrate the flexibility of small hand-held VHF and UHF ham sets. Fairgoers will hear how to place an autopatch call. Small hand-held units will be securely fastened to the table, and will be for display only, without batteries.

Station 5—CW: Fairgoers will have a chance to sit down and send CW on a practice oscillator from a straight key, and then from a paddle. The booth operator will discuss the requirements for passing the CW exam in order to obtain a ham license.

Station 6—Computer: This station will be quite popular, in that it will feature a large color television hooked up to an Apple 2 computer with an Amateur Radio peripheral board installed. Fairgoers will see CW as it is received and displayed on the screen. They may send CW from Station 5 and watch it being received on the large TV at Station 6. Station 6 will also allow fairgoers to "type" CW and listen to it come out on the air.

Station 7—Theory: Station 7 will have sample questions and answers as found on the Amateur Novice test, and the Technician/General Class test. Booth personnel will describe the Amateur Radio licensing structures, and which test for each type of license. This station is designed to allay any fears that CW is too tough, or the technical part might be too stiff to pass a ham test.

Station 8—TVI PR: This station will show TVI low-pass filters for the ham set, and high-pass filters for the TV set. A wall chart will indicate common TVI problems encountered by CB radio operators. This station will also assist fairgoers who are having interference problems determine whether it is from CBers or amateurs. This station will also describe local ordinances, such as tower ordinances.

Station 9—Ham Class registration: The final station here will encourage interested fairgoers to sign up for an Amateur Radio class. Booth personnel (*please turn to page 45*)

AWARDS

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

Awards from Austria

To start off the new year, we present to you a fine series of awards from Austria. All applications should be addressed to: OVSV Awards Manager, Karl Pansi, OE6PN, Buchberggasse 19, A-8700 Leoben, AUSTRIA.

Standard GCR (General Certification Rules) apply, and a descriptive log extract containing all pertinent information should accompany your application.

Worked ITU Zone 28

Issued for confirmed contact with 28 stations representing 14 different countries in ITU Zone 28. Zone 28 countries are: DL, DM, HA, I, IT, IS, OE, OK, SP, YO, HB, YU, LZ, HB0, SV-Greece, SV-Dodecanese, SV-Crete, FC, 9A-M1, HV, 9H, ZA and 4U1ITU. . . .

Please include the award fee of $3 or 10 IRCs.

Spell Austrian Large Cities Award

Work OE stations to spell the names of large OE cities like Vienna, Salzburg,

Eisenstadt, Linz, Klagenfurt, Innsbruck, Graz and Bregenz. Use one letter only from the call of each OE station worked. Issued in the following classes: E=2 cities, D=3, C=4, B=5, A=6, AA=7. An application fee of $3 or 10 IRCs should accompany your application.

OE 100

Issued for confirmed contact with 100 different OE stations since 1 April 1954. Endorsement stickers for 200, 300 or more are available. Any band or mode may be used. Please include an application fee of $3 or 10 IRCs.

WAOE and HAOE

This is the official award of the OVSV and is available to all amateurs and SWLs

in the USA for confirmed contact (WAOE) or reception (HAOE) with eight of the nine OE call areas since 1 April 1954 on any band or mode. An application fee of $3 or 10 IRCs should accompany your application.

WAOE 160M

Here is one for you 160-meter buffs. Work eight of the nine OE call areas on 160. Application fee $3 or 10 IRCs.

WAOE VHF

For the VHFer; work five OE stations in four different OE call areas on 144 MHz or above. The same application fee of $3 or 10 IRCs applies.

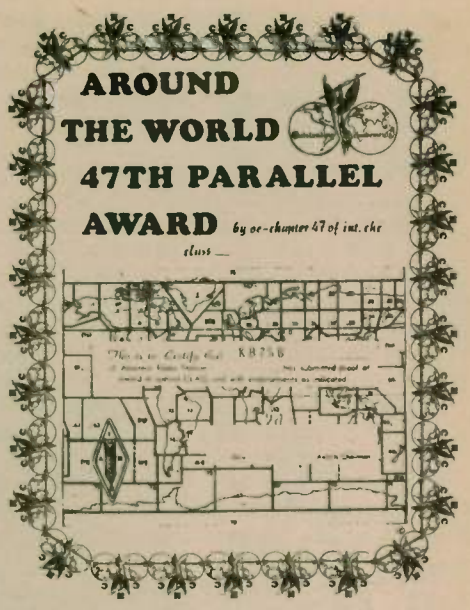
47th Parallel Award

Issued to amateurs and SWLs for achieving WAOE or HAOE and contact with the following per class of award applied for. 1st figure = total contacts required, 2nd = country representation requirement, 3rd = total ITU zones needed. Class C = 50/6/5, Class B = 75/7/6, Class A = 100/8/6, Class AA = 150/11/8.

An application fee of $3 or 10 IRCs should accompany your application.

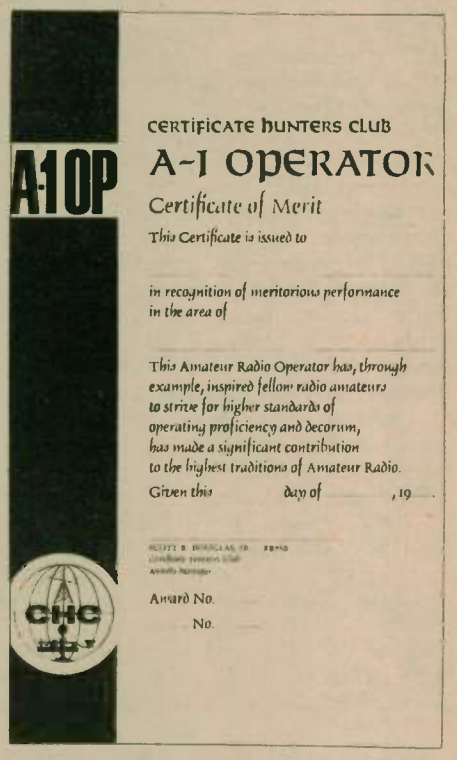
Country list and ITU Zone: OE, HA, HB, YO (28); F (27); UO, UA (29); UL (30); UA9, UA0 (31, 32, 33, 34, 35); JT (32, 33); BY (42); W-K-N (6, 7, 8).

Karl Pansi, OE6PN is a CHC member of long standing and is now working to re-establish the Certificate Hunters Club OE Chapter. We look for many more awards from Karl once he has completed this project.



IARS/CHC A-1 Operators Certificate of Merit

Throughout this year, we have been able to issue many of these honors to deserving amateurs around the world. We would have been able to send out more to those many deserving amateurs who were not nominated, but you didn't write in. I hope that in the coming year you will assist us in recognizing those out there who are providing us with excellent examples of expertise in various areas of the hobby by sending us your nomination for the amateur you feel deserves such recognition.



Three nominations from amateurs in different geographical locations are required for issuance. Your nomination should include a short explanation of why you feel this award should be presented. After all requirements have been met, the certificate will be sent free of charge. It's a great way to tell those who exhibit above average skills, courtesy, operating technique and decorum to keep it up — it's appreciated!

Until next month, 73s and good DX in '82. □

Two hams, four certificates

Paul, W3ILG and Althea McBride, WB3FUR both completed their WACs on 6 meters in 1981. Both have also received their WAS certificates (#209 and #466, respectively). These, too, were achieved on 6 meters. □

The Auto State Young Ladies

The Auto State Young Ladies (TASYLs) was organized in December 1965 by nine very active licensed Michigan YLs. The first meeting was held to discuss bylaws, dues, and plans and qualifications for a Certificate. The desire to select a name recognized by amateurs throughout the world as representing Michigan was made more difficult because of all the things for which Michigan is so well known. Automobiles seemed most commonly associated with Michigan; hence, the TASYLs was born. It was established that the first 50 members would be charter members, with a point system to obtain the certificate.

Membership is open to all licensed YLs living in Michigan. The TASYLs have been active on the air since the very beginning of the group. Members are from all parts of the state, and getting on the air is a delightful way for them to share experiences, hobbies and crafts. The annual meetings are held at the Annual ARRL Conventions, with the ladies getting together each summer for a family picnic. The current president is Pat Stegega, WA8ATB of Milan, Michigan. There are now three TASYL Nets; every Monday evening at 2300 UTC, on 3922 kHz; every Thursday morning at 1300 UTC on 3950 kHz; and each first Friday at 1300 UTC on 7265 kHz. Net participation is open to all radio amateurs.

The certificate was designed by Nancy Feeny, K8IAI, with colors indicating sky, air and water, (sable and black signifying movability and constancy) and of course, coordinating with the automobile theme.

The certificate is available upon receipt of log information signed by a club president or two licensed amateurs (not family members). Requirements are available from the custodian, Mary McCarthy, WA8WZF, 2823 West First St., Ludington, MI 49431. □

JARL Award

The JARL (Japan Amateur Radio League) has recently decided to newly issue an award — All Japan Award (AJA) and SWL-All Japan Award (SWL-AJA). The outline of the JARL's new award is given as follows:

1) Requirements for the award: To have contacted (heard from) an amateur station located at one of different cities (except those big cities having administrative KUs), GUNs or KUs in Japan, and have received QSL cards from 1,000 or more different amateur stations contacted (heard). In this case, if one station contacts (hears from) the same amateur station on different amateur bands respectively, each contact (or reception) is construed as being done with a different station.

A sticker will be issued for every 500 stations to those stations which have contacted or heard 1,000 to 3,000 stations, and for every 250 stations to those stations which have contacted over 3,000 stations.

2) Conditions of issuing the award

A) QSL Cards

I) Only contacts (receptions) made on and after the date this award was started — 1 September 1981 — will be acceptable.

II) Contacts made by the crossband method will not be accepted.

III) In case of application from a foreign amateur, QSL cards are not required to be sent for confirmation of this award.

Only the QSL cards listed in the form specified by JARL, which has been checked by the IARU national society of the applicant, or two amateurs, must be submitted.

B) Endorsement — No endorsements for this award are required.

C) Application fee — An application fee of eight IRCs should be paid per award. In the case of a second, a third or further additional application for this award, the fee of five IRCs should be paid per application irrespective of the number of stickers issued.

D) Application form — An exclusive application form for this award will be specified and published for sale.

The particulars of this award, other than those mentioned above, are generally the same as those of other JARL awards. All correspondence should be sent to: Japan Amateur Radio League, Inc. — Award Section, P.O. Box 377, Tokyo, Central JAPAN. □

Caution

Transistors in some transmitter power amplifiers are encapsulated in a ceramic called beryllium oxide. No danger can arise from normal handling of this material in its solid form, but it is extremely toxic if pulverized and if the dust is inhaled. The amount of beryllium oxide which can cause death or chronic disease is incredibly small . . . only 50 micrograms per cubic meter.

Never, under any circumstances, attempt to drill, file, grind, polish, cut, break, etch or otherwise modify a piece of this ceramic. Do not discard these transistors in waste, which — through compacting or other processing — might cause fracture or abrasion.

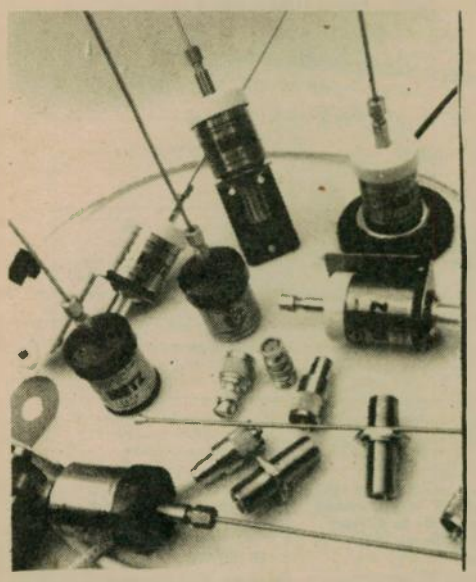
— Ground Waves □

Small marine VHF whips

Satisfactory results may be found by using your marine VHF fiberglass antenna on Amateur Radio VHF frequencies. Although your marine VHF antenna is tuned to 156 MHz, most will work fairly well at 146 MHz.

The best way to tie into your marine VHF antenna system is through a two-position coaxial switch. Stay away from those inexpensive CB radio antenna switches — they present a fairly high VSWR at 146 MHz. The professional coaxial switch will run about $30, but will do a good job in the marine environment. Your marine VHF antenna connects to the common post of the switch. A jumper cable connects to the common post of the switch. A jumper cable connects position #1 to your marine VHF set. Another jumper cable connects your amateur 2-meter set to your position #2 on the switch.

Although everyone will warn you that you may burn up your radio if you transmit while on the wrong position, this is rarely true. Almost all newer marine and ham VHF sets have VSWR protection circuitry against an open antenna circuit. If you inadvertently transmit with the switch in the wrong position (open position), you simply won't get out. The radio is not damaged.



Half-wave marine VHF antennas

Marine antenna manufacturers offer 3, 6 and 9dB gain antennas. The higher the gain, the better your signal on marine and 2 meters. They are achieving these high gain values by stacking half-wave antennas end-to-end within the fiberglass mast. The more they stack, the lower the angle of radiation. The bigger the antenna, the better your signal.

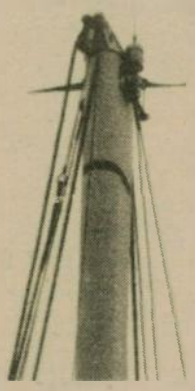
If you decide that you would like a separate dedicated antenna for 2-meter use on your powerboat, you have several choices. Unfortunately, your best brand choice is no longer making fiberglass ham VHF antennas. Shakespeare Antenna Company once produced a 3, 6 and 9dB fiberglass antenna specifically for Amateur Radio use aboard boats. This series is no longer available, but if you ever find one — identified because it is gray with a coaxial cable fitting at the base — hang on to it! It's valuable — and rare!

There are several brands of aluminum antennas that will work fairly well aboard a boat for 2 meters and give you up to 6 dB gain. These antennas, however, must be treated so they do not disintegrate in the salt air. An epoxy paint usually does the trick. Be sure to paint them, and handle with care.

Another solution to the 2-meter Amateur Radio antenna problem aboard a boat is the half-wave mobile antenna mounted high on the mast or high on your cabin. Be sure you select a half-wave antenna, not a 5/8-wave antenna. Five-eighth wave antennas are the common mobile 2-meter whips with a base-loading coil and an almost horizontal angle of radiation. These antennas require a groundplane, and their extremely low angle of radiation is not desirable for marine installation.

The half-wave antenna is characterized by a stainless steel tuned tank circuit coil and a rigid stainless steel whip. No groundplane is required for a half-wave antenna. This makes the antenna ideal for installations on wood masts, fiberglass cabin tops, or high atop fiberglass poles.

Radiation patterns from a half-wave antenna are quite different from the patterns of a 5/8-wave antenna. The 5/8-wave antenna will yield a main lobe of low-angle radiation, as well as several minor high-angle radiation lobes. When the 5/8-wave antenna is subject to bending from wind or whipping, the low-angle radiation lobe is skewed and the characteristic signal fading begins. When installed in a vehicle, this fading is typically called "mobile flutter."



Mast-mounted half-wave antenna

Half-wave antenna on windshield

The half-wave antenna yields one large radiation lobe that contains low as well as upper angles of radiation. Any bending associated with a half-wave antenna will result in almost no signal fading because of the broader lobe. The 25 percent shorter rigid rod has less tendency to swing and bend in the wind, further reducing the fading problem.

Vehicular and marine tests at moderate speeds indicate that a half-wave antenna will exhibit far less fading than 5/8-wave antennas to repeater stations. The half-wave antenna also gave a much greater signal strength in all directions as opposed to a 5/8-wave antenna, which will yield significantly reduced signal strength in the direction of no groundplane. Remember, the *half-wave* antenna requires no groundplane!

"We have found that the half-wave antenna is much more SWR stable than any other type of 5/8-wave antenna mounted on cars and on boats," comments Bob Moore of B & B Electronics. "Besides installations requiring no groundplane, we prefer to use the half-wave antenna on vehicles because of the higher angle of radiation to repeater stations. Although the 5/8-wave antenna is common for the amateur mobile, we prefer the half-wave antenna with lower SWR, better radiation characteristics, and ultimately greater range," adds Moore.

The large stainless steel low Q tank coil on the half-wave antenna allows for a wider bandwidth than a 5/8-wave antenna. It also yields less I^2R losses because of the extra large windings. The coil may accept up to 250-watt output across the band.

Since half-wave antennas are DC shunt-fed, the amount of static pickup will also be dramatically less.

The half-wave antenna mounted high on a cabin will make an excellent performer at 2-meter frequencies.

Mexico repeater report

Baja California maintains a series of linking 2-meter repeaters. These repeaters may be linked up, so it's possible for communications to take place from vessels at sea all the way from the tip of Baja California to San Diego. However, before we explain a portion of the system, let's first take a look at some basic laws regarding Mexico, repeaters and international radio treaties.

There is no reciprocal licensing agreement between the United States and Mexico. What this means is there is no easy way to receive a set of Mexican call letters to operate in Mexico. It is therefore technically illegal for an American to use Amateur Radio equipment without proper Mexican authorization while traveling or staying in Mexico.

Except for some special permits authorized during the running of the Baja 500 race and some special VHF/UHF DX-peditions, rarely will you hear an American use an authorized Mexican call sign.

Americans cruising the waters off of Mexico are permitted to operate maritime mobile, provided they are not within the territorial waters of that Latin country. There appears to be no definite answer as to whether "territorial waters" are 20 miles to sea, 50 miles to sea, 100 miles to sea, or 500 miles to sea! Just make sure that if you operate Amateur Radio gear in Mexico, you are indeed maritime mobile in international waters.

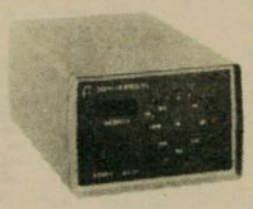
The Mexican 2-meter band may be used by Mexico operators who receive special call signs for low-powered operation. The special 2-meter licenses are only issued when the station is to be run off of battery power. It is also illegal for Mexican 2-meter operators to use a touch-tone pad on their equipment, and it is strictly illegal for them to operate phone patch equipment. You might say that this restricted 2-meter radio service for Mexicans is much like a "communicator" type band that the United States was thinking about several years ago.

Tijuana operates a 2-meter repeater on 146.940 MHz, -600 kHz. This repeater gives good coverage throughout San Diego and down as far as Ensenada.

In Ensenada, a low-powered repeater operates on 146.625 MHz, -600. This repeater is strictly a local machine. Remember, if you're in Ensenada, you may not legally operate on this repeater while on shore or out in the harbor. It's a Mexican repeater only.

Probably the biggest Mexican 2-meter repeater is one that is located in San Quintin. This repeater operates the standard split on 145.500 MHz output, -600 kHz. This repeater was developed and installed by Sam Pence, WD6DRM/XE2SD.

"The San Quintin repeater is a widespread machine that offers solid coverage



from Southern California south to Cedros Island." It was also indicated that there are other repeaters south of Cedros that are interlinked with the San Quintin repeater with an output of 145.500 MHz. Mariners at sea wishing to be linked further south to the San Quintin repeater should ask for control operators XE2ERD or XE2HSJ. XE2HSJ is none other than THE Walter Hussong. Need I say more?

The 145.500 MHz machine has its problems. Unfortunately, the Mexican repeater has United States problems. A group of ATV'ers flatly refuse to move off of their input frequency of 144.900 MHz. The ATV'ers appear to be running high power and operate key down full duplex for sometimes over an hour, which completely times out the repeater. Attempts by several organizations to reason with the ATV'ers have failed — most miserably. One ATV'er was quoted as saying it was not their problem (meaning the ATV'ers), but rather a problem with the Mexico-owned repeater. The ATV'ers claim squatters rights and refuse to move.

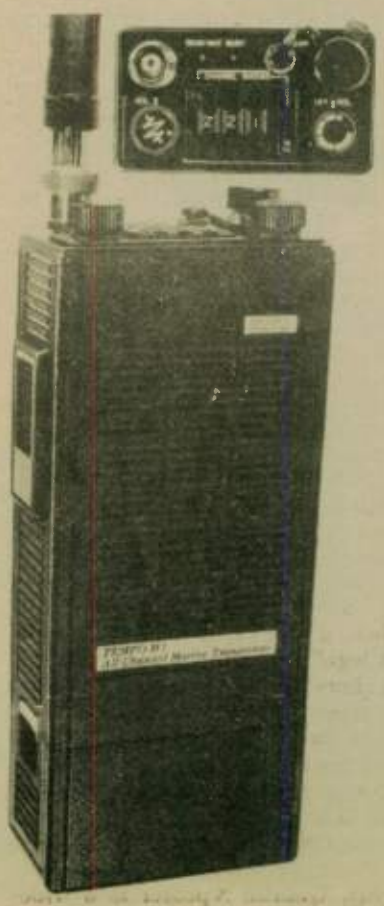
Another Amateur Radio group operating near the repeater input has voluntarily reduced power so as not to cause interference to the Mexican repeater. It is hoped that mariners wishing to support this Mexican repeater radio system will write this publication so that pressure may be exerted on the American operators that are intentionally or unintentionally jamming the input frequency.

A spokesman for the Mexican Repeater Association indicates that as soon as there is more cooperation between the Mexican and American users of their repeaters, there will be more general dissemination of linking codes. Let's all strive for that! □

New Product

All-channel marine portable

Henry Radio is introducing an exciting and revolutionary new marine VHF band portable . . . the Tempo M1. Prior transceivers operate on only six to 12 channels, but the new M1 operates on *every* marine channel — both U.S. and international — with all the necessary offsets built-in. It also includes all weather channels and a channel 16 override function. Channel selection is made by a thumbwheel switch on the top panel — simply dial up the channel number . . . no crystals to change, no internal adjustments.



Other special features designed into the M1 include a one-hour quick-charge type battery with built-in overcharge protection. The battery pack is a professional, twist-off type. Each unit is supplied with the rechargeable ni-cad battery pack, a rubber flex antenna, and full marine band, all-channel programming.

Deliveries of the M1 are scheduled to begin in January. Circuit design features include permanent memory programmed into a microprocessor controller for easy service and operation. The receive audio is extraordinary in volume and quality for a portable. Standby current is below 25mA, insuring long battery life. It also includes a high power 2½-watt position and a low-power 1-watt position.

Accessories to become available include a drop-in charger, a DC charger and 25-watt amplifier, leather holster, speaker microphone and higher capacity batteries.

The M1 is the result of designing and building the S-1, S-2, S-4 and S-5 amateur and portables. Thousands of these transceivers have proven their dependability through hundreds of thousands of hours of use.

Dealer inquiries invited. Contact Henry Radio Marine Div., 2050 S. Bundy Drive, Los Angeles, CA 90025 or call (213) 820-1234. □

Ice and snow

With ice storms and heavy snows upon us, it's important to keep a watchful eye — not just on your antenna, but on your VSWR bridge as well. A good coating of ice can cause substantial changes in SWR, transmitter loading, etc., as well as significant increase in the wind loading factor on beam antennas.

This is also important for VHF enthusiasts using power amplifiers, which can easily overheat and are especially sensitive to high SWR.

Reduced reception capability usually results, as well, with heavy icing; so if nothing else, watch your "S" meter for weaker than normal signals if you suspect your antenna is icing up.

— *Greater Cincinnati ARA, OH* □

UK Maritime Mobile Net

David Jolly, G3TJY

The UK (United Kingdom) Maritime Mobile Net now meets daily at 0800, 1200, and 1800Z. Normally Ernie Ayre, G8OS runs the 0800 net; the 1200 one is uncontrolled — it became rather too much controlling three nets — and I, G3TJY, do the 1800 net. Our frequency of 14.303 is not rubbing shoulders with the 14.313 Big Brother; it's just that I used to be a keen rifle shot at Bisley where the .303 bullets were the ones we used to use! At 18.30 we have weather reports from Rudi Weber, G4FTO, for the western Mediterranean and out to the Canaries. These are naturally very popular.

Our main activity is of course about now (early December), when up to 1,000 boats will be crossing to the West Indies between now and the spring. More and more people seem to be joining these nets — over 20 boats calling-in is quite usual.

I think we must be one of the longest-running nets, having started in 1969 when I plotted the late W6FRU back across the Atlantic in his Cal 36, *Agisymba*. For that crossing, I averaged out Columbus' positions for his third voyage in 1498, when both boats left Hiero Island in the Canaries, and fed these back daily to *Agisymba* to provide quite an interesting race across the centuries, Columbus arriving in Trinidad six hours after *Agisymba* reached Barbados.

Anyone cruising up the English Channel should visit our home port, Poole Harbour. It is a very beautiful and large expanse of water, easy to enter with a chart, in spite of its sandbanks, and much preferable to the overcrowded Solent with its glamour of Cowes and the Royal Yacht Squadron. I am only 10 minutes away from the harbour; telephone is 9.622.142 from the Quay, or 0202.622.142 from further afield.

It might be worth mentioning that we have been invaded by CB radio over here. The authorities have legalized 40 *FM-only* channels between 27.60125 MHz and 27.99125 MHz in 10 kHz spacing, and 20 channels between 934.025 and 934.975 at 25 kHz spacing, suggesting another 20 channels may be added later. AM CB is illegal over here as it causes interference with other services. □

Technical tips

Jim Britton, WB6NRR

Here are a couple of tech tips. The Yaesu FT207 hand-held may quit when dropped. If you measure the voltage at the charging contacts and get no reading, check the battery contacts. They are not made out of spring steel (as they should be). The soft steel deforms and can be easily bent back to make a proper contact.

The Hustler 4BTV all-band vertical has a small circular plastic insulator at its base to insulate the antenna from the base. Through poor design, this insulator is set in a ¼-inch recess which catches "bird-doo," floating dust and other debris. Clean it out with a toothbrush and cleaner at two-week intervals and the old vertical works better.

In using the Hustler, or any other mobile antenna, I find that putting a 100-foot coil of RG-8 lead between the transceiver and the antenna makes it load better than any kind of coupler. Using this coil mobile or portable, I find my SWR is about 1.3:1, or close to it on all bands. When I use my coupler, it just adds a tuning problem and the SWR isn't so good.

— *West Coast ARS Sentinel, Placentia, CA* □

Bruce L. Humphrys, KØHR

Conceptualizing

Some of the most difficult things to cover, when we are called upon to teach electronic or radio basics to persons with visual handicaps, are the most basic concepts underlying nearly everything in radio. Describing the properties of an RF signal at a particular frequency is often easier than describing what a *sine wave* is! And yet, of course, without the basic knowledge — concerning, in this case, a sine wave — the rest of it can be confusing at best, and entirely incomprehensible at worst. If we are to be effective instructors, we must be able to impart the basics to our students so that they have a permanent and accurate picture of what's going on. Doing this involves *conceptualizing* or *imaging*.

Memory experts tell us that it is much easier to remember something if we create an image of whatever is supposed to be remembered. In my May 1981 column, I mentioned a program on the Johnny Carson show back in 1960 which featured a memory expert. You might remember that in that column I *conceptualized* Ohm's Law (the Eagle, Indian and Rabbit — remember?). What I'd like to do here is show how a more complicated concept can be imaged for a sightless person. We will teach the principles of and describe a sine wave.

For this exercise, you must try to wipe all vision from your mind. Approach the descriptions with absolutely no preconceptions or prejudice. (For practice in doing this, read *Airborne* by William F. Buckley, Jr. — especially the chapter where he describes exactly how to find your position on Earth with celestial navigation.)

Another splendid example of "explanation with no preconception" is any construction manual from Heathkit. They presume NOTHING! If they ask you to grasp the 5-inch long orange wire with a needlenose pliers, they draw you a picture of the needlenose pliers — even the 5-inch wire! That's what I mean.

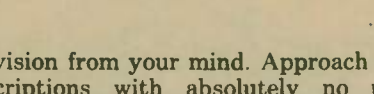
Remember, now, you are going to be explaining this concept to a blind person who may or may not have had any experience with math, geometry, algebra, or whatever. Here goes . . .

First, some definitions. If you are standing up, your body is *vertical*. If you are lying down, your body is *horizontal*. If you are standing up, and you hold your arms stiffly straight out in front of you, they are *parallel* to each other, *and* they are at *right angles* to your body. Okay . . . here goes *sine waves*.

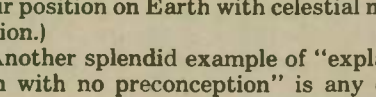
Construct a horizontal line approximately as long as one of your fingers.

At some distance from the left-hand end of the line, put a dot on the line. Label the dot "X".

Now we're going to construct a circle, using the dot "X" as the center of the circle. Make the left-hand edge of the circle just touch the left-hand end of the horizontal line.

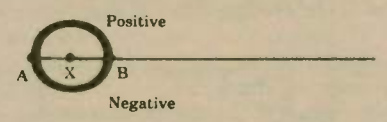


Where the left edge of the circle touches the horizontal line, put a dot. Label the dot "A".



Where the *right*-hand edge of the circle touches the horizontal line, put a dot. Label that dot "B".

We now have a horizontal line which exactly splits a circle in half. The part of the circle which is *above* the horizontal line, we'll call "*positive*". That part of the circle which lies *below* the horizontal line we'll call "*negative*".

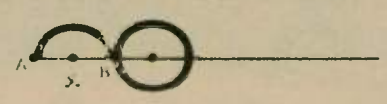


Now we're going to construct another, identical, circle on the same horizontal line — like this. The distance from the *center of the first circle* (just constructed) to the *right-hand* edge of that circle (dot "B") is a certain distance. This distance is called the *radius* of that circle. On the horizontal line, to the right of the first circle, we will be drawing another circle. Place a dot on the horizontal line exactly *one radius* from the right-hand edge of the first circle (dot "B"), and label that dot "Y".

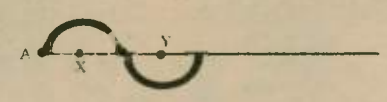
Now, construct a circle around that *center* "Y", with the same radius as the first circle — that is, the *left-hand* edge of our second circle will *just* touch the *right-hand* edge of the first circle.

We now have two identical circles through which passes a horizontal line. Half of each circle is *above* the horizontal line; and half of each circle is *below* the horizontal line.

From the *first circle, erase* the portion which is below the horizontal line.



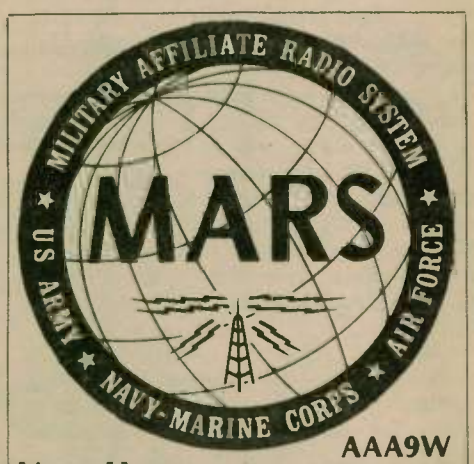
From the *second circle, erase* the portion which is *above* the horizontal line.



What is left is called a *sine wave*. Now that we have the basic thing in mind, we can go on to describe such things as *amplitude, frequency, phase relationships, etc.*

For example: The sine wave just constructed depicts *one cycle* of *alternating current*. Amplitude is defined as the distance — above and below the horizontal line (call it "base line"), — the sine wave travels. Frequency is defined as the number of complete cycles the current completes in *one second*, with *time* measured along the horizontal line: Time "zero" is at the left hand end of the line, and time intervals (like one second, one minute, or one microsecond) are marked along the base line starting with zero at the left-hand end, and going up in value (one second, two seconds, three seconds, etc.) as we travel one whole cycle (that is, one positive half-circle and one negative half-circle) in exactly one second; then the *frequency* of that current is one cycle per second — or 1 hertz! If there are 3 million complete cycles scrunched up into that one second, the frequency is 3 million cycles per second — or 3 Megahertz!

It may take awhile to "teach" what the basic thing "looks" like, but once you do, all else becomes much simpler. If you are helping someone with a visual handicap and you want to conceptualize something for them, try putting down the steps just as we have done here. Then, without preconceived notions of how it *should* look, try to make the thing from your own instructions. If you succeed, take it to your student . . . and open a world of comprehension and enjoyment for him. □



Vern Hansen, AAA9W WB6UWQ

The following article entitled "Air Force Reactivates Pentagon MARS Station," was submitted by Major B.J. Wilson, the Air Force Pentagon Station Director.

The Air Force MARS Station at the Pentagon has been reactivated as an auxiliary class station assigned to the Headquarters USAF Military Welfare and Recreation Activity and is operated by members of the Pentagon Amateur Radio Club (PARC), K4AF.

The new station, with call sign AGA1DC, began operations during the Washington AFCEA (Armed Forces Communications and Electronics Association) convention where Air Force Communications Command MARS NCOIC SSgt. Andrew Jann presented the station license to the Air Force Pentagon Station Director, Major B.J. Wilson.

Using equipment borrowed from PARC, the Pentagon MARS station is active on region and TRANSCON voice nets. As additional operators are trained, the station operating schedules will be expanded. The station, located on the top floor of the Pentagon, is now capable of kilowatt operation on SSB, CW and RTTY with an excellent antenna farm atop the five-story building. The PARC station itself was completely renovated by Jack Jenkins, NI4B and crew of PARC members.

Auxiliary Class MARS stations are not manned with military radio operators, but depend upon volunteers or additional duty augmentees from the organization which operates the station.

The Pentagon volunteer group consists of Air Force, Navy and Army personnel, as well as DOD (Department of Defense) civilians. Equipment for the station is not provided through Air Force supply channels, but must be bought out of local club funds. □

Drop a note

Dusty Dunn, W8CQ is the former editor of **RTTY Journal** and is not enjoying the best of health, according to the **Journal**. He would be happy to hear from amateurs, particularly the old-time RTTY'ers, so drop him a card at 1021 Marywood Drive, Royal Oak, MI 48067. — *So. Counties Amateur Teleprinter Soc., CA* □

Converter IRL – FSK 500, FSK 1000 KANTRONICS – Field Day 2, Mini-Reader CURTIS – KB4900

MACROTRONICS – M80, M83, Terminall, M800, M830, Ritty Riter, CA650, TA650, A6500, FSD1, M65, M650, CM650, TM650,

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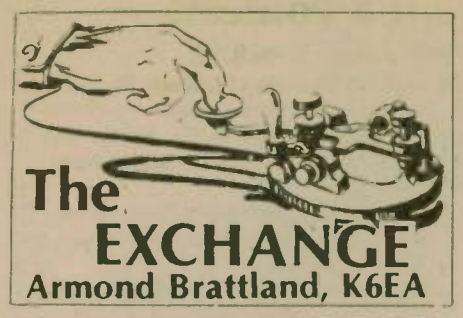


The Van Norman family

Mrs. Willis Van Norman (Irene) received her Novice license in 1958 and now holds K0QJX and a General license. With Willis as the instructor, in 1971 she acquired a private pilot's license and is a capable pilot in her own right. Besides being a busy housewife, that should be enough, but each school day, she is a librarian in the Rochester Elementary Schools.

Karin was 14 this past November. To date, she is the only member of the family not licensed as an amateur and pilot; however, she is working at it, and by the time this goes to print will have her Novice. Karin plays the electric piano in a jazz band, and for several years has been playing the organ and flute, despite the good-natured protestations from her two brothers that she was making "too much QRM."

Eric, KF0S — 18 last August — is now an Extra and was first licensed in 1978 at the age of 14. When 17 (in 1980), he acquired his private pilot's license, but now has a commercial pilot's license with full instrument ratings. Along with his interest in flying, he has built many radio-controlled model planes, one with a wingspread of 9 feet. He also builds the receivers and control transmitters for flying the planes; when he's not flying the family plane, he spends much time improving and flying his controlled models. He is an expert at this and puts on an exciting demonstration. Presently, Eric is attending Rochester Community College, shaping up his course of study before entering Purdue, where he'll major in aeronautical engineering.

The youngest Flying Farmer within the Van Norman family is Brian, N0AXU, who was 16 this past September. He acquired his Novice in July 1976 at the age of 11, but immediately went to work for a General and decided to get his Advanced. Likely by the time this is printed, he will be an Extra Class. Brian likes to fly, and at 16 is perhaps the youngest 1st Lieutenant in the CAP (Civil Air Patrol). In connection with CAP activities, Brian had an interesting week at Ellsworth Airbase, with a chance to ride the latest military planes and helicopters. He also had the unusual experience — as a member of the Flying Farmers — of flying wtih his father to Pensacola, where they spent two days touring the Navy Air Museum and Survival Center, and topped it off with a 12-hour cruise 60 miles out in the Gulf on the Lexington, where they watched six hours of flight operations. Brian hopes to attend the Air Force Academy.

An important member of the Van Norman family is their Cessna plane, licensed as "N4VN." The VN stands for Van Norman Special, being equipped with the Robertson-STOL (short take-off and landing option). There is a "cuff" on the leading wing edge; the ailerons and flaps which ordinarily are controlled separately are linked together, operating in such a manner that the "lift" is increased and better control is maintained at slower speeds, for landing and take-off. Willis estimates that fully loaded, such plane can get off in 500 feet in the summer and 250 feet during the winter.

The Van Normans, next to their plane. From left to right, they are: Brian, N0AXU; Irene, K0QJX; Willis, K0JCF; Eric, WD0GYQ; and Karin.

Willis has given me some other interesting information for those who like to fly. They have Eric, 18, and Brian, 16, covered by insurance at the same rate as for himself and his wife Irene. However, he laments, "That is *not the case with their car insurance!*" He tells me that rigging up fixed antennas on the plane raised problems of having to use tuners. I'm baiting him to fly up sometime and pick up an aluminum antenna reel which was once used by Northwest Airlines and others. The reel has a ratchet to hold it at any point, when resonance is had with the amount of trailing wire let out. The only problem pilots at such time had was *how to remember to reel it in before landing?*

The method some of them used was to paint a clothespin bright red and clip it onto the landing gear control, or back on the reel when the wire was reeled up again. (To be continued)

NIN/National International Net

NIN/The National International Net is on 21,150 kHz, 2300Z daily. Prospects for a brighter future during 1982 were recounted in January. Going back to daily operation, plus an encouraging offer from Chuck Clark, K4ZN — the columnist for "Traffic" — to do some boosting in his column for NIN, brightens the prospects for this year. Thank you, Chuck, for your kind offer to provide space within your column for some mention about NIN.

Presently, NIN operates daily at 2300Z, reaching into the East Coast at 6:00 p.m., Central at 5:00 p.m., Mountain Time at 4:00 p.m., and West Coast at 3:00 p.m., when many are through with work or classes, and at a time when the large western Pacific area can be heard. For such reasons, as well as the fact that 2300Z falls on the same calendar day, we've been reluctant to change the time. However, the time of operating a net should suit the greatest number of participants and be "negotiable." Suggestions are welcome.

Ozone Club Net

The Ozone Club Net continues to meet at 1800Z on 21,435 kHz, Mondays. For the time being, it was decided not to try to reactivate the CW net, but to encourage those who prefer to use CW to do so on the SSB net. During November, Ralph Hasslinger, W2CVF put out another club roster. The total at such time in this exclusive group was 203 members, the youngest being 71 and the oldest 88 years of age. If any reader operated an amateur spark gap transmitter while holding an amateur license (it should have had to have been prior to 1927, when such was still authorized), write Ralph Hasslinger, W2CVF, 28 Warren Place, Glen Rock, NJ 07452. When founding this club, Ralph doubted there would be 100 of us still around; now that the roster has swelled to over 200 members, he wonders how many more there might be? Drop in on 21,435 Monday at 1800Z and give him another thrill!

QSK?

Fifty years ago, you seldom asked "QSK?" which briefly means: Do you have break-in capabilities? Commercial ships and shore stations used noisy relays to effect break-in, but it worked. Amateurs, with exception of some traffic handlers, seemed satisfied to operate without any chance of breaking their "monologue." They went on and on, at times, even after bands faded out. All of this is not particularly startling, is it? But what if, in 1982, you hear an active traffic handler operating in such manner without any form of break-in, and you recognize his call as having been on the air handling traffic for over 50 years? To hear him tell someone, "QSK? No, I've never used it," makes me feel that Chuck Clark's "Construction" column had better cover simple methods of break-in, and even foot switches. I'll gladly pay postage to the old-time die-hards, such as mentioned.

When can autopatch be used to make arrangements?

A list of questions was submitted to ARRL. One of the questions involved making motel reservations. The answer contained material submitted and approved by the FCC staff, which appears in the **QST** "Washington Mailbox." Digging through a paragraph of mixed humor, the answer appears to be: "In the absence of an actual emergency, the same rules still apply (§97.114 Third-party traffic and business communications). Use of autopatch to aid in securing a reservation at another motel would not be permitted. Of course, should a member of your family be ill, use of autopatch to obtain medical aid *would* be permitted." This was sent by Richard Palm, K1CE of ARRL.

Can we assume that such "ill" person also needs a warm motel bed? If having to care for an ill person permits you to call for medical aid, that other step seems to be an logical one, right? It is hoped Richard will "specifically" answer this. Also, if you are allowed to use your judgment about an "ill person" needing "medical aid" in the event of a sleet storm, must you foolishly join other cars in the ditch to try to use a payphone, or use your better judgment and your autopatch? It would seem that *you* determine if it's an "actual emergency." Is that correct, Richard?

QRM — deliberate or careless — is something else!

I've neglected answering one letter about QRM. I've answered a number of such before, telling about the use of "QRL?" "didi dit" and other "aids" to try and ascertain "if a frequency is in use."

Years ago, one could chat for a long time without knowing of any QRM, but now, it seems, within minutes after making a contact there are "CQs," tuning or testing — and at times, someone merely practicing. All this is done by stations that are not in contact with anyone, so why don't they move away or use a dummy load? Surely some of them hear you, *if they listen;* on SSB, at times, you might even be treated to a lecture about the "right of free speech."

If you don't use an "active filter," why not try it? With such filter, I've used a pair of old Brush-Crystal headphones. There are others that one can try these days. Some combinations help bring your contact station through. It's not a pleasant remedy, always listening to a distorted signal, but you've got to try and beat it somehow without becoming discouraged and going back to collecting stamps! □

Let Worldradio know what you do in Amateur Radio; many others will be interested in your experiences.

The ART of Contesting

Randy Thompson, K5ZD

A successful contest effort depends on many factors. One of the most important is having an efficient, well-organized station. A person's shack is a reflection of his own personality, and therefore no two are identical. A look at the station of the month pictures shows the variety of ideas on station design. Contest operation is much more demanding than casual operating and therefore requires additional considerations. After a long period of operating, a piece of equipment in the wrong places becomes very apparent by making you feel a few extra aches and pains.

Start your station design by determining a priority usage list of the equipment. For example:

1. Receiver
2. Keyer/microphone
3. Clock
4. Rotator
5. Transmitter
6. Amplifier

From this it can be seen that the receiver needs to be the easiest piece of equipment in the station to reach. A good rule of thumb is to always place the receiver tuning knob even with the shoulder opposite your sending/writing hand. This allows you to tune and write at the same time. The keyer should be placed to the outside front of the receiver so the free hand can be used to adjust it while sending. The keyer paddles can be placed on the top of the log sheet to minimize the amount of movement needed to go from sending to writing. It will also hold the log sheet from moving around.

Place the clock at eye level or below. I try to put it near or on top of the receiver. If it is too high or off to one side, fatigue is increased due to the extra head movements.

The rotator is another device which should be placed to the side of the receiver. This enables the free hand to work the controls while writing or sending.

This fills up one side of the operating position. The open side is used for the transmitter and amplifier. The amplifier should only be handled when changing bands. It could even be placed on a shelf or side-table if extra space is needed.

If you are fortunate enough to own more than one radio, the problem becomes more complicated. The receivers should be placed in the center, where they are easily accessible. Transmitters go outside the receivers on each side and amplifiers go on the ends. A switchbox can be easily built which will change the keyer/microphone/headphones between rigs. The advantage of having more than one radio is that it facilitates "instant" band changing without having to retune.

There should be plenty of table space for log and dupe sheets, but don't push the rig back so far that it is hard to reach. That could cause back pain by preventing you from sitting up straight in the chair. Take time to clean up the shack before the contest. It is hard to be efficient when you have to reach around things to get to the rig!

These ideas on station layout are presented only as suggestions and hints. Many of them may seem like very small details, but after 20 hours at the rig they become very large! I have operated from a number of stations and learned many of them from painful experience.

Your station should be comfortable for you. A good way to get more ideas is to visit other contest stations. Over the years, each successful contester has developed and sharpened a few secret weapons. Look for anything to help you bring in that winning QSO.

The evening of 6 February has one of the most unique and exciting (not to mention, one of my favorite) contests going. The North American Sprint, sponsored by the National Contest Journal, is a CW contester's contest. It is truly a sprint, as it lasts only four hours with activity limited to 20, 40 and 80 meters.

The thing which makes this contest different is the "QSY rule." After calling CQ on a frequency, you may only work one station, and then must QSY at least 4 kHz before calling another CQ or at least 1 kHz before working another station. If you answered a CQ, the other station must QSY and you get the frequency to call CQ. Since no more than two QSOs can be made without changing frequencies, a mad scramble results. The rule eliminates the fire-breathing, frequency-hogging CQ machines. The smaller station can do quite well because every other CQ brings a frequency to call CQ on.

The contest period is 7 February, 0100Z to 0500Z. Complete rules are in QST, CQ, or from Charles Epps, W6OAT, 12866 La Cresta Dr., Los Altos Hills, CA. Good luck! □

What a contest!

William Jaker, WB8RAE

Rig Trouble Roundup Contest: Stations with weak receivers work stations operating unintentional QRP. Points are given for each problem that develops during a QSO.

Scoring: Key clicks and chirps, 1 pt.; Drift, 2 pts.; Antenna collapses, 4 pts.; Finals blow out, 5 pts.

Exchange: Call, report (anything *above* 336 will be disqualified), and nature of the problem.

Time: 48 hours, so keep trying.

*NOTE: Repair time counts as operating time, especially if operating while repairing.

— Triple States RAC, OH □

Use it right!

Mike Frost, KA9JOX

Have you ever heard a pileup with the DX station using a speech-processor incorrectly? Do you know what that sounds like?

First of all, the DX operator thinks the processor will boost his signal enough to where you can hear it, he goes out to an Amateur Radio store and picks up a processor. Then he rushes home, hooks it up without reading the directions, cranks the gain all the way up, puts his mouth 1 inch from the mike and yells, thinking his signal will improve.

Oh yes, his signal improves — as far as the strength is concerned, but the thing is, you can't make out a word he is saying. His modulation must be so high that you have to wonder why his radio doesn't explode! The gain is so tremendous, you can hear the guy's SWR needle moving.

A speech-processor can be helpful if it is used correctly. If it isn't, talking to a DX station is no fun. Instead, you must try to decipher the gibberish the DX station is transmitting.

—Ham Gab, Hamfesters RC, IL □

Please send **NEWS** and **PICTURES** to *Worldradio*

TRAFFIC

Chuck Clark, K4ZN
Assistant Director
Roanoke Division, ARRL

Big nets

Many net managers have a problem finding people to check in to their nets. CW nets, and Novice nets in particular, are often in such dire straits that they consider six check-ins a busy session. Perhaps the reason is that the beginning amateur has little opportunity to learn about nets and what they do. You will find little on the subject outside ARRL publications, and who reads those? The urge is to get on the air, keep trying until one passes the General test, and then throw away the key and start to modulate.

But this month, the talk is not about the nets starving for participation. Rather, it is about the opposite — the busy nets. After the amateurs mentioned in the first paragraph begin operating in the voice mode, many eventually find their way to the voice nets, and sessions of 40 or more participants often result. To accommodate large numbers like this, special steps have to be taken. Dan Ostroy, K2UL and Doug Zuckerman, W2XD give some suggestions in the September-October 1981 *New Jersey Traffic Bulletin*, from which the following is condensed.

It is important that the net control station run a tight ship, and that all participants keep unnecessary transmissions to a minimum. Here are suggestions for net control stations:

1. Use a short preamble when calling the net up.
2. Start passing traffic as soon as possible and keep it moving.
3. Whenever possible, send stations off frequency to pass traffic. Know what repeaters are available as side frequencies.
4. Pass traffic according to precedence: emergency and priority first; traffic going to other nets meeting at the same time; then other routine traffic.
5. Make your instructions brief. Ask questions that can be answered by a simple yes or no.
6. Don't allow "informals" on the net frequency except when directly related to traffic movement or net operations.
7. Reduce doubling by dividing the group, making separate calls, for example, for:

"Stations with traffic."

"Stations that can take traffic which has been listed."

"Stations with calls in the Alpha-through-Delta group."

"Stations in Podunk County."

Or other divisions, as may be suitable for a given net. It may be helpful to ask for "Call signs only" to minimize doubling. After each batch, net control reads back those that were recognized and adds, "Did I miss any?" or "Whom did I miss?" If only part of a call was recognized, "Last two letters were X-ray Zulu. Will that station please give its call sign again?" "There was a YL with a call ending in Quebec. Please say again." Then after a group has been recorded, net control asks each in turn to list traffic.

8. Keep casual comments to a minimum. Remember that NCS is the "boss," but don't become a tyrant. Accept constructive comments when offered. No "boss" is perfect.

The following suggestions are for other stations:

9. Let stations with traffic check in first if you don't have any yourself.
10. Keep your transmission short when checking in to avoid doubling.
11. Give brief answers to questions. Amateurs love to talk, but learn to answer yes or no and release your mike button.

To this I would add, be alert and be ready to answer when net control calls you. Follow the action so you will even be anticipating what is to be done next.

NIN

Armond Brattland, K6EA has been writing a column here in Worldradio for several years. For awhile it was entitled "Novice," but, fearing that others might be turned away by that caption, he changed it recently to "The Exchange." In it he has been promoting a nation-wide traffic frequency of 21,150 kHz — a frequency in the Novice 15-meter band, so accessible to all amateurs and usually open either directly or by means of a single relay to all parts of the country, at least during the present part of the solar cycle.

It was previously called the Novice International Net (NIN), but again, the term Novice might have led some others to believe they were not welcome, that it was only for Novices, so now the abbreviation stands for *National International Net.* At present, it meets at 2300Z on Sundays. That's 6:00 p.m. Eastern Standard Time; 3:00 p.m. on the West Coast. All are welcome. It's in the Novice band, and many of the stations are Novices, so all are asked to keep their code speed down to 10 or 12 words per minute when operating on the net frequency. In that way, there is more chance that all will be able to follow the action, and slower operators won't be frightened away by the speed demons.

Off the net frequency, operators should select their own speeds — whatever is most effective under the circumstances.

Armond says there are plans of a possible move to 7125 in the spring, and maybe changing the time. Also, he receives letters asking that it be put on a daily basis. If enough put their signals where their mouths are, and actually participate, the net will go on a daily basis.

Another idea he has been proposing frequently is that amateurs start using the frequency as a calling frequency, and keep a receiver tuned to 21,150 whenever they are in their stations. It's not a new idea. The maritime mobile service has been using 500 kHz in this way since before World War I, when it was designated 600 meters. The FCC tried to introduce it into the Amateur Service some years ago, but it received no support from amateurs and was dropped.

The ARRL had no more success when it tried the National Calling and Emergency Frequencies about 20 years ago. It has been more successful in a few cases, however. The frequencies 7250 and 7255 have been monitored by EASTCARS, MIDCARS and WESTCARS, and have served in many emergencies, particularly highway incidents noted by amateurs equipped with HF mobile gear. And 2 meters is used in much the same way, so you can get on the air just about anywhere and put out a call, and someone will hear you. But for the amateur at sea, for example, and for the amateur with only a Novice Class license, the only possible way to contact anyone in an emergency is to tune around and hope to find someone who can help. If 21,150 were monitored on a regular basis, the problem would be solved. Actually, only two or three stations would be needed, as propagation on that frequency is worldwide.

And it would serve not only for emergency communication; one could call on that frequency to list routine traffic at any time. Stations monitoring could accept it for relay, or if there is no outlet on the frequency at the time, one of the monitors could accept it and hold it for relay when an opportunity comes, or pass it to another monitor if the first has to close station. No net control would be needed for this, it could all be handled by the stations themselves.

Incidentally, the Amateur Radio Telegraph Society (ARTS) has been operating in this way on 7060 kHz for a number of years. The monthly traffic totals in QST show that it's highly successful. And they do it without tying up frequencies, either. I've yet to hear a hassle on 7060 — someone being asked to move, "I was here first," "I have as much right to be here as you," as is all too frequent on many net sessions. You hardly know they are there.

A call goes like this: ARTS DE K4ZN QTC TX K. K4ZN DE W5TI DN 5 K. G. We move down 5 and clear the traffic. That's all there is to it. Once you have enough participating, you can keep it open all day long and there is someone ready to help at any time.

MARS

"What are you doing on Mars?" "I'm not on Mars; I'm still at Clark Air Force Base in the Philippines. I'm talking to you over the MARS network. No, it has nothing to do with the planet Mars. The letters stand for Military Affiliate Radio System."

MARS and its predecessors — the Army Amateur Radio System and the Naval Communications Reserve — have been around about 55 years in one form or another, and still have an important role to play in the defense of the United States. Several roles, in fact.

The primary mission of MARS is to provide the backup for the regular communications facilities of the armed forces, both commercial circuits and military circuits. In case of failure, unavailability, or overload of the regular circuits, MARS is

called to step in and provide communications. In peacetime such emergencies can happen too, such as when a plane crashes in a remote location or a military installation suffers a natural disaster.

In addition, MARS has several secondary missions. Amateurs are trained in military procedures, so will be ready to serve at once should the United States be called upon to resist international gangsters with force. The technical skills of amateurs are available through MARS for research and development programs, as requested by the military units they serve. Through training programs and technical nets, those skills are sharpened. And finally, MARS provides an important service in handling personal traffic for military personnel — a service that would be prohibitive in cost if it were obtained from commercial sources.

MARS is not, strictly speaking, an Amateur Service, although the only civilians permitted to participate are licensed amateurs. It operates on frequencies allocated by international law to the fixed service, and by the federal government to the military frequencies outside the amateur bands (especially in the case of Air Force MARS — often far outside the bands, 500 or 1000 kHz outside). Operations are not subject to the FCC but to the military service sponsoring the MARS program. MARS stations, in fact, are actually U.S. government stations.

There are three programs, with the sponsors being the Army, the Navy and the Air Force. Their programs are generally similar, but differ in detail because of the different missions of the services. Amateurs interested in joining, or merely in learning more about MARS, may contact any MARS member for information or may write to the headquarters of any or all of the MARS organizations. MARS members remain civilians (the official designation is "affiliates"), undertake no military obligations, and are free to resign from the program at any time. It is purely voluntary. A specified minimum amount of activity is required to qualify for continued membership; otherwise one may simply participate to the extent one is willing and able.

The addresses of the three MARS headquarters are given below.

Chief, Army MARS; U.S. Army Communications Command, Att: CP-OPS-OM; Fort Huachuca, AZ 85613.

Chief, Navy-Marine Corps MARS; Building 13, U.S. Naval Communications Unit; Washington, D.C. 20390.

Chief, U.S. Air Force MARS; HQ AFCC/XOPRM; Scott AFB, IL 62225. □

New RFI source

A new RFI source is beginning to cause problems to amateurs, particularly in rural areas. The troublesome device is the CMH, a multiplexer that provides eight multiplexed voice channels over a conventional phone line. The problem is in its switching-type power supply, which operates at 79 kHz and generates harmonics well into the VHF spectrum. These harmonics are radiated through the phone lines it is tied into.

CMH-generated interference shows up on the bands as slightly unstable signals that appear every 79 kHz.

—Daytona Beach Repeater Assoc., FL □

Let Worldradio know what you do in Amateur Radio; many others will be interested in your experiences.

Display

(continued from page 35)

will determine which area the fairgoer lives in. The interested party will be encouraged to attend the closest Amateur Radio class offered near his residency or business. Amateur Radio clubs, Amateur Radio schools, and others who teach Amateur Radio courses will be encouraged to leave literature and descriptive information so that each fairgoer may be given a piece of literature to take home. Whenever possible, the fairgoer will print his name, address and phone number on special sheets divided up by areas.

At the end of the fair, every Amateur Radio class instructor will be given a list of potential class candidates who want more information about taking local Amateur Radio classes.

Booth overview: This year, emphasis will be placed on encouraging fairgoers to enroll in Amateur Radio classes, or better understand what Amateur Radio is all about. Unlike the past booth presentations, amateur traffic handling will be less important than explaining what Amateur Radio is all about to fairgoers. Personal operating of equipment by booth personnel will only take place when actually demonstrating Amateur Radio to a fairgoer. Except for an auxiliary station that may handle "traffic," there will be no backs turned on any fairgoer to operate equipment.

Objectives: When people leave the last station, they will know more about Amateur Radio, know how to cure TVI at their own TV set, and possibly sign up for an Amateur Radio course. No one should leave the booth without someone talking to them and explaining what Amateur Radio is all about.

Equipment demonstration hours: Licensed booth personnel will demonstrate different phases of Amateur Radio each day the fair is open, at 1:00 p.m., 5:00 p.m., and 8:00 p.m.

During each demonstration, fairgoers will be selected to speak over the microphone of an Amateur Radio station when supervised by licensed booth personnel. Fairgoers will also have the chance of hooking up with a distant station in their hometown to place a phone call to loved ones thousands of miles away. A question and answer format will follow each demonstration. Each demonstration will last one hour.

Safety: As described earlier, all equipment is U.L. approved. All radio installations will meet local fire regulations. All transmitting antenna will be outside the building, and of such low-power levels that they would not cause harm even if someone were to contact the wires on the roof. All wires will also be covered to prevent any accidents.

Noise: Most equipment will have head phones. This will eliminate the need for any blaring speakers which disrupt nearby displays. Any equipment with a speaker built in will be kept to below a 2 watt audio output level.

Broadcast interference: Since a minimum of broadcasting will be done, there is no anticipated interference to outside PA systems.

Summary: The West/Coast Amateur Radio Club sincerely accepts suggestions for this year's participation at the Orange County Fair. We welcome personnel from other clubs to take part in any of the above committees, and to add suggestions we may have overlooked.

This year's booth will be like no others in the past. We will take the individualism out of the Amateur Radio booth and let everyone—including the fairgoer—participate.

Goals: Last year, 950 signups were obtained for Amateur Radio classes throughout the county. This year's goal is 2,000 sign-ups for Amateur Radio classes.

Another goal is to win the first prize for the best booth in our category. The West/Coast Amateur Radio Club will pick up the $35 entrance fee.

Another goal is to have at least one member from every Amateur Radio club in Orange County participate in the booth.

Our final goal is to have a smooth-running, fun exhibition of Amateur Radio, pointing out the community service of Amateur Radio to our community.

Our thanks go to the Orange County Fair Board for allowing us this opportunity to point out the community service of Amateur Radio, and classes through the local community colleges. □

The RF Connection

Bet you didn't know that BNC stands for Bayonet Neill-Concelman. Paul Neill and Carl Concelman, both engineers at Bell Labs, invented this famous connector. Paul, incidentally, also invented the Type N connector, and Carl the lesser known Type C — used mostly in aircraft and avionics.

There's also an HN (high-voltage type N), an SC or Screw C, and a threaded version of the ubiquitous BNC called TNC. Learn something new every day.

— Hughes El Segundo ARC □

Lil Paddle

Kurt, you are a spineless jellyfish! In the September issue of this periodical you told the truth about the Zepp. Then in the January edition you carried a defence of the Zepp in your column, and you said nothing. You let me down!

As it says in the *RSGB Handbook,* "Put bluntly, it usually does not work." Then in *Amateur Radio Techniques,* edited by the respected Pat Hawker, G3VA, we read "Exit the Zepp?" which says, "Although the Zepp in its simplest form is still featured in almost every handbook, words of warning were published in the *RSGB Bulletin* as long ago as December 1955." On another page is this phrase, "by means of the rather dubious unbalanced Zepp feeder arrangement."

Now I tell you, Kurt, we Brits know our aerials, and I don't care what some clod out on some forsaken rock tells you. Let me remind you it was the Yanks who came to England to study RADAR in 1941 and not the other way around.

All those baby-faced 2nd lieutenants of yours. I think that if they had been asked to spell RADAR backwards in a cross-word puzzle, half of them would have muffed it.

As it was, some of them didn't bathe often enough and were sent to man the remote sites in Scotland.

So when I say something is so, it is so, and I expect you to go to bat for me in your column — not just tuck your tail between your legs.

I had great hopes for you. I thought it might be you who could come out with a good book on the subject. Heaven knows the newcomers need one. Look what they have to put up with. I quote from a book printed in 1981 by Prentice-Hall, "Amateurs have made these calculations a million times when trying to set up dipole or quarter-wavelength antennas for various frequencies.

Wavelength in metres	Frequency in MHz
85.7143	3.5
42.8571	7
21.4286	14
10.7143	28
5.35714	56

Now I pity the poor beginner searching for this bloody 56 MHz band. That frequency is Channel 2 of the telly!

Can you imagine, yet believe that the book was written by a Ph.D? The twit leaves *out* the 15-metre band (21 MHz) and puts in a totally non-existent band. Where has he been? That was the old 5-metre band which ceased to exist as of 40 years ago.

Then this flaming genius tells us that "At 28 MHz, a wavelength in free space is 32.65 feet." (It is 35.15 feet.)

A major publishing house lets this get by them, "Wire lengths will be longer than the free-space length for the frequency of operation." Good grief! The exact opposite is true. What was his doctorate in — goldfish?

The Scelbi Publications book, *Practical Antennas for the Radio Amateur,* is very good in most respects, but it shows one-element antennas with different size front and back lobes; long-wire antennas with the feedline connected to the wrong side of the insulator; formulas showing how to compute the length of an antenna but does not tell if the answer is in inches, feet, metres or what; calls rotator cable "TV ribbon wire," and so forth. But as it stands, it is probably the best book for the beginner.

But let us move on to something constructive. I heard a couple of chaps talking, and one said he was going to make a real effort to work DXCC on 80 metres. The other ham suggested a vertical to get the long throw needed. The first one pooh-poohed the vertical and said he was going to put his dipole up at 70 feet.

Now, let us look at that. An 80-metre antenna up 70 feet has the same angle of radiation as a 20-metre antenna at 17 feet. And that, it is my sad duty to relate, is 90 degrees, which is . . . straight up — and straight down. Antennas a quarter-wavelength above ground are referred to as worm-warmers.

For DX you need a low angle of radiation, and a vertical does give you that. Just shunt-feed your tower, old boy, and you'll be there. The bad words mouthed about verticals are spoken by people who did not have adequate radial systems. It would be quite impossible to overemphasize the importance of the radial system.

The more wire, chicken screen, metal — whatever you can get on the ground — the better. Considering the frequency involved, you might take a page from the book of the medium-wave broadcasters who use verticals. They run radials out for a half-wavelength.

Since most of us don't have gardens of that size, you could run the radial wire as far as possible and then go along the base of the fence, zig-zagging it around. If your wives don't care for wires running over their geraniums, do this: Coil the radials up on a roll and unroll them on those special 80-metre nights and roll them up the next morning. If you have a metal sprinkler system, chain-link fence, camper in the garage, whatever, tie to it. With declining sunspots, 80 will get better and better.

All experiments have shown that more radials make a real difference. It doesn't have to be expensive wire. Galvanized fence wire, old wire unwound from transformers, the shield side of ancient coax — it's all just fine.

Here is where the wattmeter is so much better than the SWR bridge. If your wattmeter reads less power going into your antenna than it does going into the dummy load, you know you still have a ways to go. You may have matched the resistance of the antenna, but the reactance has not been tuned out.

The more reactance seen by the transmitter, the less the power radiated. I see Palomar has come out with a wide range of matching transformers that

could prove very valuable right at the base of the tower.

This is a good place to give a tip of my bonnet to Forrest Shiver, W4ZLS, who is engaged in a crusade. As he puts it, "Stop calling your tuner an 'antenna tuner' — it's really a 'feed-line tuner.' Right?" Good for you, OM.

Let us not forget the great virtue of the roof-mounted vertical. Radials can be hidden under the shingles. You can strap to the downspouts. Possibly you could cover the entire roof with chicken wire and ground to that. Or if you have a full attic, you could run that chicken wire on the ceiling of the attic. With a real ground screen, that vertical will get out and hunt.

If you are plagued with TVI and have tried everything already, give this a shot. Replace your antenna with a folded dipole. That antenna does rather sharply discriminate against the second harmonic. Be warned that it does pass the third, however. You will have to provide for changing the 288 ohms of the folded dipole down to the usual by one means or another. Use a tuner at the end of the feedline, if using 300-ohm line, or a 4-to-1 balun at the feedpoint if you wish to make the run to the station with coax.

One caution we should mention. Books frequently mention those "always certain" impedances such as 72 for a dipole, 288 for a folded dipole, 50 for an inverted V, etc. What they neglect to point out is that such are only attained at about half-wavelength heights. Unless you have placed your 40-metre wire up about 70 feet, those "carved-in-stone" impedances are not so.

Another point the books leave a bit fuzzy is: on various wire antennas (ZL specials, Lazy-H, fixed position Yagis, collinear arrays, etc.), notation is made about how much dB gain you have achieved by using such. What is not made clear is that such gain comes at the sacrifice of power in other directions. You can't get something for nothing.

Also, the rejection from the ends of such fixed antennas can be severe. You will end up with a somewhat better signal in one given direction to the detriment of all other directions. Depending on what your objectives are, such may or may not be exactly what you are after. So you have at least been forewarned.

Should this sound like a defence of the vertical, so be it. Remember, WWV isn't running really that much more power than amateurs are allowed, and look at the signal they lay down with their vertical!

One thing that would really help would be to pick up a square of aluminium and put that under your vertical.

Some amateurs living in neighborhoods with antenna restrictions have circumvented them (at night) by having the vertical lay down on the roof normally. With a system of rope and pulley the antenna is raised to use, and lowered to hide. A commercially made antenna that would be rather suitable for such a clandestine operation is the Butternut.

Under less restrictive circumstances, but still with a wish to not draw attention to your transducer, you may utilize this scheme. Put a TV antenna on your house. The mast is now your vertical. There are a variety of ways to match it on the various bands. For example, a 41-foot mast is about ⅝-wave on 20. With a TV antenna on top it may turn out to be a bit shorter than 41. The matching process using coax is simple and explained in the *ARRL Antenna Anthology* book. Such an antenna would lower the angle of radiation even further than the usual quarter-wave vertical.

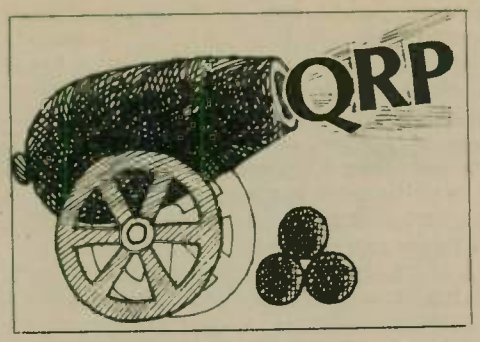
Another somewhat covert antenna is obtained by running the wire slightly above the fence in your backyard. This can be closed loop or dipole fashion. You'll have to experiment with the dimensions and the manner of feed.

One hidden antenna mentioned from time to time is the wire under the eaves. Such is a crock. Not only is the antenna hidden, so is the signal.

I do hope the above has been of assistance to you. And quite different from that cantankerous Kurt, I'd be delighted to hear from you.

(Because of her place of employment, Lil Paddle must write anonymously. While this genteel lady welcomes correspondence, be warned that if you address her as "Ms.", she will tear your head off.)

Aerials *continued*



It was a few years back as a Novice that the QRP bug first bit me. I think it was an article in **Worldradio** that got me interested. Anyway, I was sitting in my room with my rig (a Swan 500) keeping me warm when I picked up a CQ on 10 meters. Checking to see that my power output was still 1 watt, I listed for his call — VK4NPK. When he finished calling CQ, I sent back, "VK4NPK de KA7FEL/QRP KN."

I waited tensely, my mind racing with thoughts of other QRP operators and some of their contacts I had read about. I was about to try another frequency out of fear he had gone QRT when his strong signal called back, "QRZ? KA7FEL? de VK4NPK . . ."

As we talked back and forth for about an hour he informed me that his name is Noel, his QTH is Southport, Australia, and that he had a strong copy on my signal. When I told him my power output was only 1 watt, he told me to check my meter again. I was quite thrilled to discover I had read the meter wrong (standard lesson for a new Novice), and that my actual output was eight-tenths of a watt!

Mesa, Arizona

KA7FEL

Nick Spencer, Jr.
720 S. Mesa Dr
Mesa, Ariz. 85202

After signing with Noel, I sat down and did some quick calculations. My answer almost made me fall off the chair; I had broken the 10,000 miles-per-watt barrier! (How accurate can you expect a new Novice to be?) Surely, I thought naively, nobody had ever done this before!

When I was finally able to calm down, something made me listen for Noel's signal. He was just finishing up another contact with a station in Texas. Without tuning, I turned the drive control even lower (I measured five-tenths of a watt later) and, with an added string of "HI HI"s, told him to go to bed. Not really expecting a reply, I signed my call, switched back to receive, and reached for the OFF switch. The last thing I remember as I was falling off the chair was the reply, "Sri, Nick, is only lunch time hr-KA7FEL de VK4NPK 73 . . . ." □

QRP solar power

Bob Patten, N4BP

In September of 1980, I took delivery of a 1.2A, 18V panel from Solec International of California. Previous to this, an interface box had been designed and built which allowed me to begin operation immediately on receipt of the panel. The box allows for battery charging (I use an 80A/H RV battery) or running the rig directly from the panel after regulating its output to 13.6V. The rig in use was an Argonaut 509 until August 1981.

Operating directly from the panel, I received my WAS-QRPp on 15 May 1981 and my WAC-QRPp on 16 June 1981. The last continent confirmed was Asia; this one was tricky, but I finally worked a JA on 15M just before sunset with the Argonaut only able to deliver about 1/2W from available sunlight.

About the first of August last year, I purchased a TS-130V and put the Argonaut up for sale. Much to my surprise and delight, the 10-meter band came alive at the same time. After working some choice DX on 10M with the TS-130V at 5W output, I started keeping a list of each new country worked. By the end of August, my list had reached 73. At that point, I decided to see how long it would take to put DXCC in the log. By 14 September, my list hit 100 worked on solar power (six weeks).

The QSLs started rolling in; I applied for my DXCC-QRPp on 26 September (not all solar). At the present rate of QSL returns, I should be able to apply for DXCC-QRPp (all solar-powered) sometime in October; as of this writing, have 82 confirmed.

— Florida Skip □

QRP, anyone?

The Houston (Texas) Area QRP Club is devoted simply to the enjoyment of Amateur Radio by its members. The club was created in 1980 by Al Delaney, KC5EV when it became evident there was a relatively large following of QRP activities in the Houston area. At that time, it was felt that it was a shame there was no local group with which to share the "thrill of victory or the agony of defeat."

Our purpose is to join together the large segment of radio amateurs who enjoy running low power. Our objectives are to demonstrate that power is no substitute for skill while encouraging full enjoyment of Amateur Radio at reduced power.

If you are interested in operating QRP or would like to know more about low-power operations, contact the club at P.O. Box 383, Spring, TX 77373.

— Houston ARC, TX □

CONSTRUCTION

Chuck Clark, K4ZN
Assistant Director
Roanoke Division, ARRL

Transverters

Thanks to WARC-79, amateurs have three new bands in the HF range. Does that make our present gear obsolete? Not necessarily. Most of our amplifiers will work on the new bands without change. Type-accepted amplifiers that won't amplify 27 MHz will present the same problem on 24 MHz as they do on 28, and the same modifications should work for both bands.

Transceivers that cover only the older bands will present a problem, however. Some can be retuned or different crystals substituted. Some frequency synthesizers can be modified to make them generate frequencies in the new bands. But some rigs simply cannot be changed without a major engineering effort, or without impairing their capability on the older bands.

Fortunately, there is an alternative. Frequencies can be shifted up or down anywhere by heterodyne methods, making it possible to use a transceiver built for a given frequency on any frequency you wish. This can be useful not only for the new bands, but also for operating SSB or CW on VHF bands — for satellite work, for example, or to operate on MARS nets which are far removed from amateur bands. Converters can function both on transmit and receive. As we generally transmit and receive on the same frequency, it is possible to make a converter that uses many of the same circuits to perform both the transmitting and receiving conversions — a device often called a *transverter*.

Transverters are somewhat more complex than linear amplifiers, but still well within the skills of most amateurs who do any home building. There are a few additional things to consider in designing a transverter that do not figure into a simple amplifier, however, and should be borne in mind.

An amplifier operates on one frequency, while a transverter uses at least three: the antenna frequency, the transceiver frequency, and the frequency of the local oscillator. There may be additional frequencies, as when harmonics of a crystal are used for the local oscillator. All these additional frequencies must be kept inside the box and not allowed to generate interference for anyone.

Frequency conversion, like frequency multiplication, is inherently a low-efficiency operation. And so it is best to do the transmitting conversion at a low-power level and follow the converter with a straight amplifier to boost the signal up to the level required for effective communication. One problem is that most transceivers in use today put out a hefty signal even when operating barefoot, something in excess of 100 watts. Heterodyning a signal at such a level will mean a lot of power to be dissipated, and also a lot of spurious energy to be kept from getting out and causing trouble.

Heterodyning generates not only sum and difference signals, but also harmonics of both signals being mixed and sum and difference signals generated by mixing the harmonics. At low-power levels, such spurious outputs ("spurs") may be negligible. At high power they are not.

Three solutions are possible: 1) Work at full power and depend on filtering and shielding to keep the spurs bottled up. 2) Insert a pad in the line from the transceiver to reduce the output to something that can be converted effectively. 3) Turn down the gain control or reduce the output of the transceiver in some other way to the level desired. The third solution is the simplest, but it may cause problems with some transceivers that weren't designed to operate at low-power levels.

A transverter for the HW-7

The new bands will probably stimulate a number of articles describing transverters. The following is given to show how it can be done. It is not a construction article written for anyone to duplicate. Rather it is an idea article, showing how it was done in one instance with one particular need, in the hope that some ideas may be helpful to anyone who has similar needs to develop a solution to those needs.

Heath's HW-7 proved to be a popular QRP rig for 40, 20 and 15-meter CW only. But it was obsolete almost as soon as it appeared, as the provision made for crystal control was no longer needed once Novice Class licensees were allowed to use VFOs. Its popularity encouraged Heath to develop the HW-8, which eliminated the provision for crystal control, but added the much-needed 80-meter capability.

Thus, owners of HW-7s are handicapped because they can't work on 80; and at times, the users of both rigs are handicapped by the low power, about 2 or 3 watts. To overcome these handicaps at K4ZN, the unit described here was built, entirely from the contents of the junk box. Trying to duplicate it exactly would therefore be unwise and would negate the important advantage of costing nothing to build. Rather, one should examine one's own treasure trove and see if one can find what is needed and start from there.

The circuit, *Figure 1*, uses four tubes, a 6AQ5 which is either a straight amplifier or converter, a 1625 final amplifier, a 6AH6 receiving RF amplifier, and a

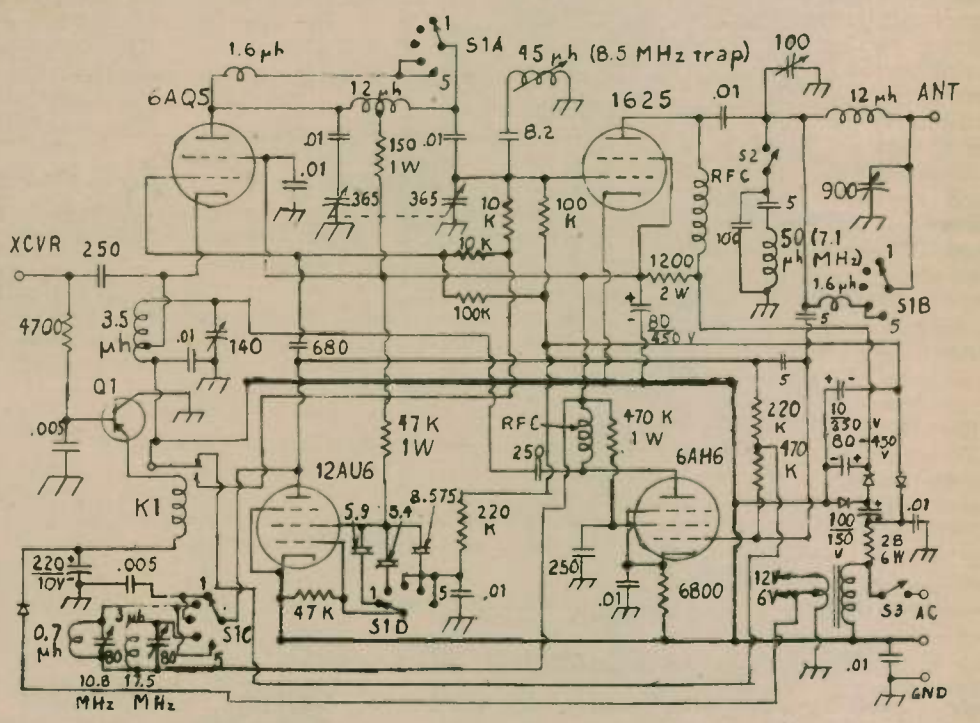


Figure 1

12AU6 crystal oscillator and frequency multiplier, used when the 6AQ5 is used as a converter.

Switch S1, a four-pole five-position switch, selects the band to be used. Its functions are as follows:

Position	Tunes	Transceiver	Local Oscillator
1	3.5-3.7	14.2-14.0	5.9, 17.7
2	3.6-3.8	7.2-7.0	5.4, 10.8
3	7.0-7.2	same	——
4	9.96-10.15	7.2-7.0	8.575, 17.15
5	20M, 15M	same	——

It takes two positions to cover the whole 80-meter CW band. Too bad there was no 8.75 MHz crystal handy; doubling to 17.5 MHz, it could have converted the whole band to 21 MHz, and it would have been possible to do it with one switch position, leaving the other for 160 meters — or maybe for 18 MHz.

The 6AQ5 acts as a cathode-drive amplifier. When it is used as a converter, the local oscillator signal is applied to the grid.

The 6AH6 acts as an RF amplifier, and gives a welcome boost to weak signals. As a converter, both the incoming signal and the local oscillator are applied to the signal grid. Because the signal grid is connected to the 1625 plate circuit, tuning the output circuit for maximum received signal automatically tunes the circuit approximately to resonance. And because the plate circuit of the 6AH6 is connected to the same tuned circuit that drives the 6AQ5, tuning that circuit for maximum signal also tunes it properly for transmitting. In this way, the need for much tuning on the air is eliminated. The only circuit that needs tuning on the air (or into a dummy load, dummy!) is the coupling circuit between the 6AQ5 and the 1625.

S-2 is closed when operating on any band requiring conversion, 80 or 30 meters. It does two things: it inserts a fixed 100 picofarad capacitor into the plate circuit, needed because the 100 picofarad capacitor is too small to resonate with the coil in circuit on these bands, and it also inserts a 40-meter trap to eliminate signals fed through without conversion when the switch is in position 4.

Both the interstage and the antenna circuits are pi-section design. This is an effective circuit, making it possible to match a wide range of impedances, and giving superior suppression of harmonics. But you don't get something for nothing, and the price for the harmonic suppression is much less attenuation of lower frequencies. The pi-section circuit is, in fact, a low-pass filter, so care should be taken that no lower-frequency components are allowed to pass through and find their way to the antenna to interfere with others. The trap in the antenna circuit serves this purpose, as does the 8.5 MHz trap in the grid circuit of the 1625, which eliminates any 8575 kHz fundamental energy that would otherwise go through to the output. Both traps are series-tuned circuits, calling for small capacitance and large inductance. Their impedance is large except at resonance, where they act as a short circuit.

Changeover relay

The HW-7 uses a VOX-type changeover circuit, switching the antenna to the transmitter as soon as the key is closed, and then back to the receiver after an adjustable delay period following the opening of the key. The antenna lead is an open circuit for DC when receiving, but exhibits 2000 ohms to ground when transmitting. Advantage is taken of this by allowing the base of the PNP transistor Q-1 to be forward biased whenever the transceiver is switched to transmit. When Q-1 conducts, relay K-1 is closed, applying negative bias to the 6AH6 tube to cut it off, and at the same time removing the bias from the 6AQ5 and 1625, allowing them to function. The local oscillator 12AU6 runs continuously except in switch positions 3 and 5, when negative bias is applied to the grid to cut the tube off.

Power supply

It will be noted that this unit uses a voltage-doubler power supply circuit, without a plate-voltage transformer. Use of this type of circuit is often discouraged because it is directly connected to the power line, and can be dangerous if the chassis becomes hot to ground. It must be noted, however, that the circuit shown does not use the chassis as the negative return, but rather that the negative side of the circuit is insulated from the chassis; provision is also made for grounding the chassis separately, preferably through a three-wire cord and plug.

For best performance, it will in most cases also be wise to provide a good RF ground connection, because the path to ground through the electric circuit grounding conductor can easily be a wavelength or more.

Performance

At this writing, this unit has not been used on the 10.1-10.15 MHz band, but probably will be once that band is made available to amateurs by the FCC. Its performance on the amateur bands currently available, however, has been quite satisfactory. It would easily be possible to use a voltage quadrupler in the power supply and boost the power from about 30 to about 60 watts, but I didn't feel the addition was worth the trouble. A good antenna makes high power unnecessary. And there wasn't enough room in the box for the additional rectifiers and capacitors anyway.

Tuning pi-section couplers

There is danger of losing the effectiveness of pi-section couplers through improper tuning. Always start at the low-frequency end of the range and peak up the first response. If you go higher, you may peak one of the spurs. You will also be putting out a signal on the amateur band, and so may think everything is fine until the FCC tells you it's not! It's wise to double-check with an absorption frequency meter or digital counter. □

Constructing a portable 30-watt tube transmitter

Ed Marriner, W6XM

It has been many years since any circuits using vacuum tubes have been published. Magazines have to keep up their format with the present — i.e., using transistors. I wonder how many have tried to build a transistor transmitter and make it key properly on CW? Transistor crystal oscillators take a lot of experimenting to make them work. A transistor VFO is difficult to key and turning it on and off the frequency will change due to junction heating. It is much easier for beginners and old-timers to use tubes if they want to get on the air with a home-brew set in a hurry, and be able to key fast with a bug.

This circuit which uses vacuum tube keying is not in any handbooks, and no practical circuits are printed in magazines. However, it is the only really click-free keying circuit I have ever used. This circuit also has semi-breaking in keying included.

Brief circuit description

The VFO and cathode follower are on 80 meters; they drive a 6AQ5 doubler circuit which, in turn, drives a 2E26. A 6146 could be used, but in this case, the set was made small for portable use with the power supply on a separate chassis. The 2E26 or 6146 is keyed with a 6BX7 in the cathode using vacuum tube keying. This tube and a 6AS7 are the only low internal pervance tubes I know that will give little loss to the current flow. A 6C4 is used for the semi-break in circuit, which will hold in a relay while keying. The contact on the relay can be used to switch antennas and keep the VFO on.

Power supply

A small 120mA transformer with 270 volts each side of center tap was used in conjunction with high capacity filter and resistor. Because the set is keyed and not operating continuously, this small transformer could be used in a bridge circuit to obtain 600 volts for the plate and 300 volts for the low voltage. A small 125-volt transformer was used to operate the semi-break in circuit.

VFO

The 12AU7 tube was used in a Colpitts circuit, separated from the rest of the chassis by a shield to prevent heat. A condenser from an old ARC-5 transmitter VFO was used and a shaft couple put in it. The little negative coefficient capacitor was snipped off and a silver mica 20pF put in its place to prevent drift in a negative direction. I used nylon-covered silver-plated wire for the coil that was mounted on a bracket attached to the back of the condenser. It is a rugged, and bang-free oscillator with no drift. Two and one-half volts rms is obtained to drive the 6AQ5 doubler. The oscillator is on 80 meters.

Doubler

The tank coil for the double was a surplus coil in a can, but you can wind and grid-dip most any slug or wind 30 turns of number 28 wire on T-50 red toroid. I prefer the slug-tuned coil because you can adjust the slug, and it is easier than pruning a toroid.

The arm two position switch is used to by-pass the relay and turn on the VFO along with the cathode of the doubler to obtain enough signal to hear in the receiver for calibrating or zero-beating a station. This SW-1 opens the cathode of the 2E26 when in calibrate position.

Final amplifier

I run my 2E26 at 70mA and 600 volts. The tank condenser is a 0-150 APC type and the output capacitor a two section BDC type padded with a 300pF silver mica to match 50 ohm output.

Keying

Keying is accomplished by breaking the cathode of the 2E26 with a 6BX7 tube. The signal is beautiful with no clicks. The delay control can be adjusted to hold in the relay RY-1 for sufficient time between words when keying. This holds the oscillator on for better keyed signal output rather than trying to key the oscillator. In first time adjustment, the cathode 500 ohm resistor can be varied until the relay works right and a fixed one soldered in place of it. Actually any 5,000 ohm to 10,000 ohm relay will work, but I prefer a 10,000 ohm.

Construction

I built my portable rig on two 4½ x 8 inch chassis. By doing this I reduced the heating which might affect the VFO. The transmitter part was enclosed with perforated metal shielding, which I cut with a hack saw held between angle iron, and then bent. Once the parts were mounted, I found it a pleasure to again be doing hard wiring point to point. It seemed like working with metal and wire was more relaxing than fighting a printed circuit layout which, when finished, would not work! I think many old-timers will be happy to find this circuit so they can again do some construction work in Amateur Radio.

Performance

My first excursion to the high desert was fantastic. With a dipole antenna only 10 feet off the ground, I worked all over the country with good reports, especially the keying. As far as I am concerned, there is nothing that compares to the keying method — unless it is a hetrodyne transmitter with both oscillators going.

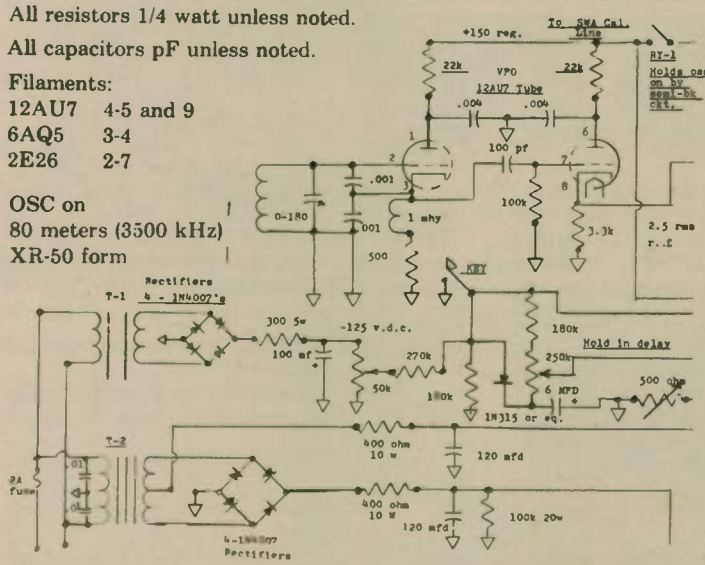
Let's hope this circuit will stir up the urge to build something practical again! There is nothing wrong with tubes; they are still cheap and surplus, and an atom explosion won't affect them as it will transistors. Who knows — you might be the only one left on the air? □

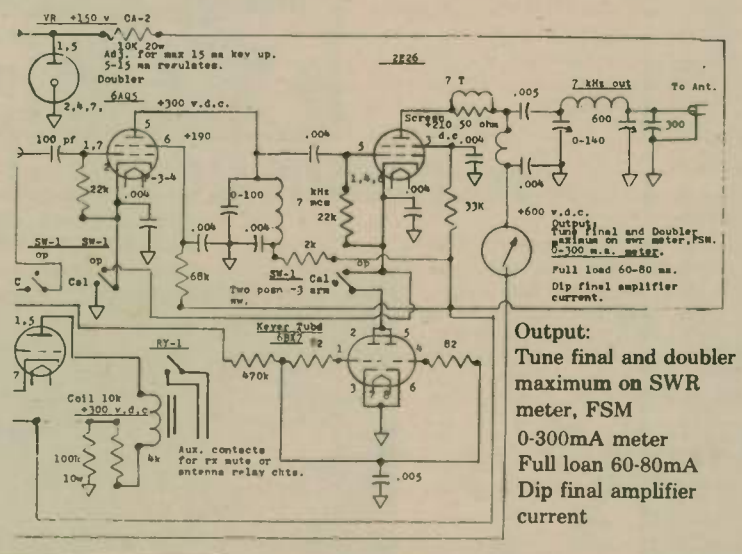
All resistors 1/4 watt unless noted.

All capacitors pF unless noted.

Filaments:
12AU7 4-5 and 9
6AQ5 3-4
2E26 2-7

OSC on
80 meters (3500 kHz)
XR-50 form





Output:
Tune final and doubler maximum on SWR meter, FSM
0-300mA meter
Full loan 60-80mA
Dip final amplifier current

Antenna tuner

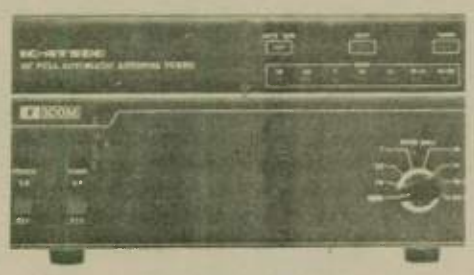
ICOM is proud to announce the debut of the new IC-AT500 Automatic Antenna Tuner. This innovative piece of ICOM equipment is the first of its kind on the market anywhere in the world today. (The IC-AT500 handles 500 watts, and the IC-AT100 handles 100 watts.)

This compact 6.4 kg antenna tuner provides the following features:

Quick tune up — The newly developed detector circuit detects resistance and reactance of the load, and controls powerful motors to tune automatically the two variable capacitors, thus making the tune-up time very short — usually less than three seconds.

Auto band switching — When the IC-720A or IC-730 (with the optional LDA unit installed) is used, band switching of the tuner can be controlled by the band switch of the IC-720/720A or IC-730. This tuner has dual accessory sockets, so the auto band switching function can be used with the IC-2KL linear amplifier at the same time.

Pre-set capability — The matching circuit can be used for each band, so you are able to make quick QSYs and enjoy trouble-free operation.



Four antenna connectors — This tuner has four coaxial sockets for antennas, and selects the suitable antenna for each band automatically. When the power of this tuner is turned off, this tuner can be used as an automatic antenna selector.

Matching styling — The IC-AT500/AT100 matches ICOM styling for base stations, and is very similar in size and appearance to the IC-2KL.

Two-way power source — This tuner can be used with DC 13.8 volts or AC 117 volts (or 230 volts).

Price and availability — The IC-AT100 price is set at $349 ham net, and the IC-AT500 price is set at $449 ham net.

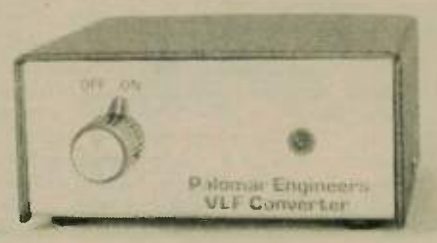
For more information or to order, contact ICOM, 2112-116th Ave. NE, Bellevue, WA 98004; (206) 454-8155; Telex: 152210. □

All-mode transceiver

Trio-Kenwood Communications has just announced a unique, new radio, the TS-660 "Quad Bander," an all-mode transceiver designed for operation on 6, 10, 12 and 15 meters.

The unit features built-in dual VFOs, a five-channel memory, memory scan, FM, SSB (USB), CW, AM operation, fluorescent digital frequency display, squelch, UP/DOWN pushbutton frequency control on the microphone, UP/DOWN pushbutton bandswitch, IF shift, CW semi break-in with sidetone, "S" meter, RIT control and noise blanker. The RF output power is 10 watts on SSB, CW and FM, and 4 watts on AM. It operates on 13.8VDC drawing 1 ampere in receive, 4 amperes in transmit.

Additional information may be obtained by contacting Trio-Kenwood Communications, P.O. Box 7065, Compton, CA 90224. □



VLF converters

Palomar Engineers is introducing two new converters for the 10-500 kHz band. They add to shortwave receivers reception of weather, ship-to-shore CW traffic, RTTY, WWVB, navigation beacons, 1750-meter no-license band, and European low frequency broadcast stations.

Model VLF-A converts to 3510-4000 kHz for use with ham-band-only receivers and transceivers. This gives optimum reception since receiver noise figure is best on 80 meters.

Model VLF-S converts to 4010-4500 kHz for general coverage shortwave receivers. With digital readout, the last three digits read frequency directly.

The new converters feature antenna bypass when turned off, LED power indicator, low current 9V DC operation, and are housed in attractive brushed aluminum and black vinyl cabinets.

The new converts sell for $79.95. For further information, write Palomar Engineers, 1924-F W. Mission Rd., Escondido, CA 92025. □

HF transceiver

ICOM is proud to announce the exciting new IC-730 compact solid-state HF transceiver. The IC-730 is specifically designed for the budget-minded amateur. It is priced at $829, making it affordable as a second transceiver for mobile-portable operation, or as the main HF base station receiver.

The IC-730 includes the following features:

- Extremely compact — only 9.5″ (W) x 3.7″ (H) x 10.8″ (D)!
- 10-80M frequency coverage including all three new WARC bands.
- Fully synthesized tuning for rock-solid stability in mobile operation (1 kHz, 100 Hz, 10 Hz steps).
- Dual VFOs built in . . . standard at no extra cost.
- *Eight* frequency memory storage (one frequency per band).
- Fully solid-state — with automatic final protection circuit.
- IF shift standard — with pass band tuning optional.
- Extremely modern, attractive styling.
- Human engineered for convenient, easy mobile operation.

With the IC-720A, the IC-730 expands the ICOM product line to offer complete coverage for HF to UHF in the most modern, technologically advanced equipment on the market today.

For more information, write to ICOM, 2112-116th Ave. NE, Bellevue, WA 98004; or call (206) 454-8155; Telex: 152210. □

Transistor checker

Radio Shack, a division of Tandy Corporation, now offers an inexpensive bi-polar transistor checker which works in or out of circuit — alone or in conjunction with an external meter or scope. The Micronta® Dynamic Transistor Checker (22-025) is available for $14.95 at Radio Shack stores and participating dealers.

The versatile Micronta Dynamic Transistor Checker can perform a number of in- and out-of-circuit tests on NPN or PNP silicon or germanium small signal and power transistors. It will indicate relative current gain, detect open and shorted junctions, and perform "Go/No-Go" tests.

A socket is provided for out-of-circuit tests, and miniature hook-type test clips for either in- or out-of-circuit tests. Additionally, output jacks are provided for connection to an external meter or scope. Complete instructions are included with this handy 2-3/4 by 4-3/8 by 1-3/16-inch test instrument. A single "AA" battery (not included) is required for operation. □

VLF/MW/SWL antenna

The new MFJ-955 VLF/MW/SWL preselecting antenna tuner greatly improves reception of .10 kHz through 30 MHz signals.

The MFJ-955 connects between your receiver and antenna. You can peak desired signals while rejecting interference and reduce overload, background noise, cross-modulation and inter-modulation. VLF signals come roaring in.

Front panel switching allows push button selection of two antennas and two receivers. A front tuning knob permits tuning for maximum signal strength.

The MFJ-955 measures 5½x2x3 inches and is housed in a black and eggshell white aluminum cabinet.

The MFJ-955 VLF/MW/SWL pre-selecting antenna tuner is available from MFJ Enterprises, Inc., P.O. Box 494, Mississippi State, MS 39762. The MFJ-955 sells for $59.95 (plus $4 shipping and handling), has a money back guarantee (less shipping and handling) and a one-year unconditional warranty.

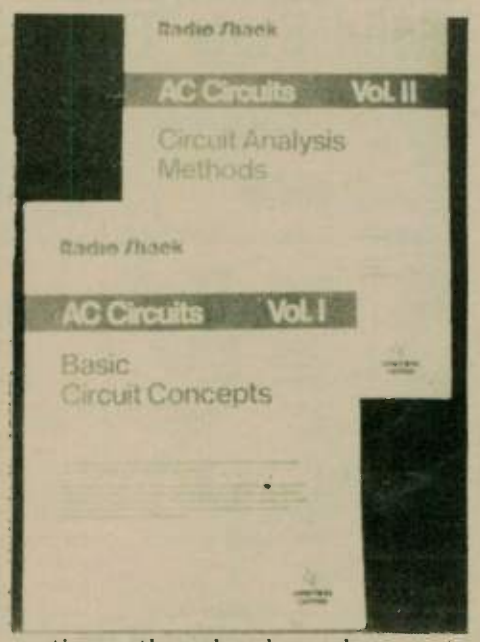
To order, call toll free 800-647-1800 (VISA or Mastercard accepted) or send check or money order to MFJ Enterprises, Inc., P.O. Box 494, Mississippi State, MS 39762. □

Study text

Radio Shack, a division of Tandy Corporation, now offers a two-volume *AC Circuits* study text covering basic and advanced AC circuit concepts.

AC Circuits Vol. I, "Basic Circuit Concepts," (62-2021) offers an introduction to alternating current, while *AC Circuits Vol. II,* "Complex Circuit Analysis," (62-2022) continues with inductance, resonance, transformers, phasor algebra in RLC circuits and more. These books are available individually for $5.95 each, or together for $9.95 at Radio Shack stores and participating dealers.

The *AC Circuits* study texts are the newest additions to Radio Shack's Basic Electricity Series, which begins with basic definitions and



continues through advanced concepts, methods of analysis and applications. □

Probe multimeter

The new Steinel Digi-Check is a precision 3½-digit hand-held probe multimeter. It differs from conventional hand-held or pocket DVMs by utilizing two probe tips interconnected by a 1M-long cable. The probes which are barely longer than conventional test probes contain the liquid crystal display, range and function selector slide switches, NiCd storage batteries, and an integral battery charger. No other cables, clips or test leads are required. The display probe is approximately 7.3 by 1.75 by .68 inches and the battery containing probe is approximately 5.4 by 1.3 by .64 inches. Total weight is only 9 ounces, making the Steinel Digi-Check the ideal tool for field service applications.

Technical features include 5 AC and DC voltage ranges from 200 millivolts to 500 volts full scale with an accuracy of ± 0.3 percent for DC and ± 1 percent for AC. Resistance is measured in six ranges from 200 ohms to 20 Megohms full scale with a measurement accuracy of ± 0.5 percent. All ranges are fully protected against overload.

The high contrast liquid crystal display is easily visible under high ambient lighting conditions and also indicates polarity, decimal point and measurement units. An additional pushbutton memory storage feature allows reading retention when the probe is used in hard-to-reach places.

The multimeter may be operated for up to 12 hours per charge and is conveniently recharged by any supply voltage between 110VAC or 240 VAC, 50 or 60 Hz. The probe tips are simply inserted into the main outlets in the CHARGE mode. Price — meter only: $169; carrying case: $10. (All prices in U.S. dollars.)

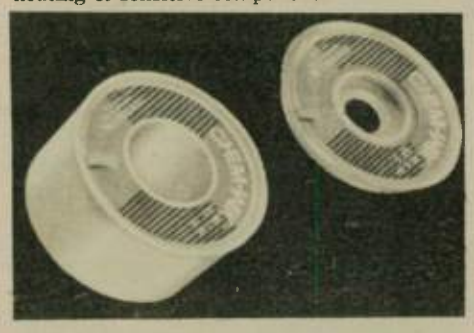
For further information, contact: Skip Opsomer, Energy Electronic Products, 5441 W. 104th St., Los Angeles, CA 90045; (213) 670-7880. □

Desoldering braid

Chemtronics announces a superior wick for quicker/cleaner desoldering. "Using the wrong desoldering braid can ruin a construction project or expensive piece of ham gear under repair," stated Lou Friedman, Chemtronics vice president. "That's why we're making Chem-Wik® professional, mil-spec desoldering braid available to the amateur operator and other electronics hobbyists." Mr. Friedman continued to explain that bargain wicks cannot be trusted because some are coated with a corrosive flux which degrades circuitry, causing problems with resistive joints and unwanted current paths down line.

Chem-Wik® is safer and more effective because it's manufactured with pure copper braid, which permits the user to see the absorption of solder as it travels up the wick.

Another characteristic of this unique wick is its pure rosin, water-white flux. This coating is completely free from halogens and corrosive chlorides which can leave harmful deposits on the work. The rosin is ultrasonically applied to impregnate the wick with a perfectly uniform and smooth flux, for more rapid and efficient wicking action. This results in minimal flux residue, instant solder absorption with less heating of sensitive components.



In fact, Chem-Wik® is so carefully manufactured that it meets strict military requirements, and even NASA specs for desoldering braid used on equipment found in spaccraft. Thus, hobbyists know they can use it on even their most prized piece of gear, with complete safety.

Chem-Wik® is available in five gauges: .025", .050", .075", .100" and .150" for all desoldering applications and in 5-foot and economical 25, 50 and 100-foot lengths.

Chem-Wik® may be purchased at any authorized Chemtronics distributor. Details and the names of local distributors may be obtained directly from Chemtronics Inc., 681 Old Willets Path, Hauppage, NY 11788; 800645-5244. In New York, 516-582-3322. □

Tuner/preselector

Advertised as the most advanced general-coverage antenna tuner/preselector available, the new SIGNA/MATCH from Grove Enterprises has a lot to offer the serious shortwave and low-frequency listener.

This state-of-the-art frequency-selective tuner is designed to optimize impedance matching between *any* antenna and *any* receiver on *any* frequency between 10 kHz and 30 MHz! It will reduce, and in many cases remove, receiver intermodulation, images and front-end overload. Background noise is reduced. VLF signals you never dreamed were there come roaring in loud and clear.

Front panel switches allow instant selection between two antennas and between two receivers (or two antenna inputs to one receiver). Matched rotary switches permit the listener to peak signal strength of the frequency of interest, while a main tuning dial provides sharp resolution of the final signal.

The SIGNA/MATCH works best with wire antennas or center-fed dipole antennas. SIGNA/MATCH requires no power source. Installation is between your antenna input line and receiver. When used as directed, SIGNA/MATCH is guaranteed to improve reception on your shortwave or longwave receiver.

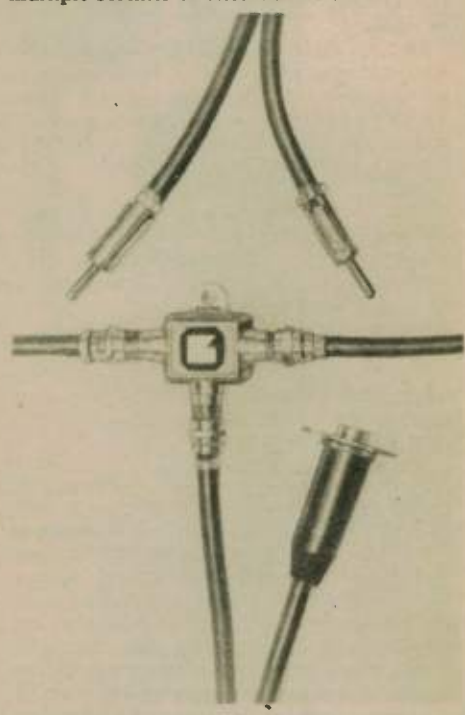
SIGNA/MATCH comes complete with instruction manual and all interconnecting cables. For further information and free catalog, contact: Grove Enterprises, Inc., Dept. G, Brasstown, NC 28902. Telephone 704-837-2216. □

Scanner antenna/receiver multi-coupler

Grove Enterprises, Inc. — specialists in the design and manufacture of monitoring accessories — has recently announced their new CPL-1 antenna/receiver multi-coupler.

The CPL-1 is a fully-shielded minimal-loss VHF/UHF signal splitter/combiner designed for broadband use in the 30 through 960 MHz ranges. For communications monitoring posts such as scanner installations, CPL-1 permits added receiver flexibility without the need to install additional antennas and coax feedlines.

With actual use verified from 2-1000 MHz, the CPL-1 allows the user to connect dual scanner receivers to one antenna and listen with both at the same time. Signals from two antennas may be combined into one downlead or fed into separate scanners in remote locations. Additional CPL-1 units may be cascaded for multiple scanner or antenna locations.



Insertion loss is only 3.6dB at VHF and 4.3dB at UHF. Output port isolation is 20dB and the CPL-1 may be used with either 50 or 75 ohm systems with a maximum VSWR of 1.68:1. The CPL-1 is AC/DC passive for use with remote pre-amplifiers.

The Grove scanner/antenna multi-coupler comes complete with all cables for common two-scanner hookups; additional connectors are supplied for extended applications.

This unique unit is only one of many advanced monitoring accessories illustrated in the new 1982 Communications Monitoring Catalog available ***FREE*** from Grove Enterprises, Dept. G, Brasstown, NC 28902. □

Iowa

The Davenport Radio Amateur Club's 11th Annual Hamfest is set for Sunday, 28 February 1982 in the Davenport Masonic Temple at 7th and Brady (Hwy. 61) Streets.

Talk-in on the W0BXR/repeater at 146.28/.88 MHz.

Tickets are $2 in advance, $3 at the door. Tables are $5 each with a $2 charge for electrical hookup (limited number). Hours are 8:00 a.m. to 4:00 p.m. Hotel discounts, food and drink available.

For advance tickets/table reservations, write: Dave Johannsen, WB0FBP, 2131 Myrtle, Davenport, IA 52804. □

Nebraska

The 6th Annual Hamboree will be held Friday, 19 March and Saturday, 20 March 1982 at the fabulous Marina Inn in South Sioux City, Nebraska. Doors will open Friday noon and 9:00 a.m. Saturday. This year, the exhibition and flea market area has been increased — over 8,000 square feet of indoor area. The event is sponsored by the 3900 Club and the Sooland Repeater Association.

There will be a talk-in on 2 meters — .37/.97 and .31/.91.

An ARRL Forum — along with many technical programs — is scheduled. There will be a meeting especially for Novices. We have also scheduled two CW contests, one for the Novices. We will have prize drawings all day Saturday and at the banquet.

For the ladies, there will be special programs all day Saturday in improved facilities.

The Hamboree closes Saturday evening with Attitude Adjustment at 5:00 p.m. with entertainment by the North High School Jazz Band, followed by the Banquet at 6:00 p.m.

Even with the increased flea market area, it is suggested you reserve your 3-by-8-foot table for $3 (for both days) by contacting Al Smith, W0PEX, 3529 Douglas St., Sioux City, IA 51104. We ran out of tables last year!

For advance tickets and motel reservations, contact Jerry Smith, W0DUN, Box 14, Akron, IA 51101.

For further information, contact Dick Pitner, W0FZO, 2931 Pierce St., Sioux City, IA 51104, or Glen Holder, K0TFT, Rural Route 1, Hinton, IA 51024.

Our attendance at Hamboree 5 was 650. All Amateur Radio clubs are invited to participate!

New Hampshire

The Interstate Repeater Society, Inc. will hold their annual hamfest and flea market on Saturday, 13 March 1982. This year's event will take place at the Merrimack Hilton Hotel in Merrimack, New Hampshire from 9:00 a.m. until 4:00 p.m.

Tables will be available at $10; admission is $1. Commercial vendors will participate. Prizes during the day. Dinner dance will feature live music and entertainment.

Talk-in on 146.25/85 and 146.52.

Further information from Ken Soares, N1BAD, P.O. Box 94, Nashua, NH 03061 or on 25/85. □

New Jersey

The Split Rock Amateur Radio Association, Inc. will hold its annual equipment auction Thursday, 25 February 1982 at the Morris Plains VFW Post, located on Route 53, Morris Plains, New Jersey. The auction will open for sellers and inspection at 7:00 p.m., with the auction itself beginning at 8:00 p.m. sharp.

More information can be obtained by writing SARA, Box 3, Whippany, NJ 07981. □

ARRL CW/SSB DX Contests

During the ARRL CW DX Contest (20-21 February 1982) and the ARRL SSB DX Contest (6-7 March 1982), a group of contesters will again be active from the island of Anguilla, using the call VP2E. We are making an effort this year to make a multiplier "clean sweep" — all 57 multipliers on each band from 160 meters through 10 meters, for a total of 342 multipliers.

In our 1981 ARRL SSB DX Contest effort, we made over 10,000 QSOs in 48 hours, and missed only 11 multipliers. We missed VE8/VY1 on 160, 80 and 40 meters, and on 160 meters missed working stations in Wyoming, Nevada, North Dakota, South Dakota, VO1/VO2, VE4, VE6 and VE7.

I am distributing our operating schedule for 160 and 80 meters in order to make it easier for amateurs to find us during the hectic contest period. While we are not pre-planning our operating schedule for the other bands (40-10 meters), I hope you all will make an effort to work us on six bands.

We plan to be on 160 meters on the hour from 0700Z through 1000Z on both nights of each contest, and also for the period 0545Z to 0615Z on the first night of each contest.

We will be on 80/75 meters at 15 minutes after the hour from 0715Z through 1015Z both nights of the contests, and after 0615Z on the first night of each contest.

We will have multiplier stations scanning 160 meters and 80/75 meters during the nighttime hours not scheduled above. These stations cannot call CQ and may only work stations which represent new multipliers to us.

If you do not operate on 160 or 80 meters, or cannot participate in the ARRL DX Contests, please pass this schedule on to someone in your area who may be able to make use of it.

CW Contest Frequencies (20-21 February 1982)
160 CW: 1.823 (early)*, 1.827 (late)* (RX down 4)
80 CW: 3.527

SSB Contest Frequencies (6-7 March 1982)
160 SSB: 1.832 (early)*, 1.828 (late)* (RX up 4)
75 SSB: 3.807, 3.770
*early = before 0900Z; late = after 0900Z

Scheduled operating times of VP2E
CW = 20-21 February
SSB = 6-7 March

160	80/75
0545Z**	0615Z**
0700Z	0715Z
0800Z	0815Z
0900Z	0915Z
1000Z.....VP2E Sunrise.....	1015Z

**These operating times on the first night of each contest only (20 February and 6 March 1982). □

Virginia QSO Party

The 1982 Virginia State QSO Party sponsored by the Sterling Park Amateur Radio Club from 1800Z, Saturday, 13 March until 0200Z, Monday, 15 March. This year there will be three categories of participation: fixed/portable single transmitter, fixed/portable multi-transmitter, and mobile. Exchange QSO number and QTH (county for VA stations, state, province, or country for others).

Scoring: *VA fixed/portable stations* — count one point per QSO per band per mode multiplied by total states, countries, provinces and VA counties worked. *VA mobiles* — count one point per QSO per band per mode per county worked from multiplied by total states, countries, provinces and VA counties worked. *Others* — Multiply by number of VA counties worked. VA counties determined as per the USA-CA counties list.

Suggested frequencies are: Phone — 3930, 7230, 21375, 28575; CW — 60 kHz from low end and Novice bands.

Awards: Plaque to high VA score and certificates to each high score in each state, province, country, and VA county.

Logs and summary sheets should be mailed to A. Ray Massie, K3RZR, Rt. 1 Box 115E, Dunnsville, VA 22454 no later than 15 April 1982. SASE for results. □

Wisconsin QSO Party

The Wisconsin QSO Party will be held from 1800Z, 21 March to 0200Z, 22 March 1982 (eight hours).

Modes: CW and phone. Stations may be worked once per mode on each band. Mobiles may be worked again when changing counties. No repeater QSOs.

Exchange: Wisconsin stations send RS/T and county. Non-Wisconsin stations send RS/T and state/province/country.

Frequencies: CW — 3570, 7070, 14070 kHz. Phone — 3990, 7290, 14290 kHz.

Scoring: Phone contacts count 1 QSO point; CW count 2 QSO points. Wisconsin stations: QSO points × (Wisconsin counties + states + countries). Non-Wisconsin stations: QSO points × (Wisconsin counties).

Bonus: Wisconsin mobiles add 100 bonus points for each county that you operate from, outside of your home county. A minimum of 10 QSOs per county to qualify.

Logs: Entries must contain a log consisting of time (GMT), call, RS/T, section, mode and a score summary. Logs containing more than 100 QSOs must be accompanied by a dupe sheet. Entries must be postmarked by 1 May 1982 and sent to: Wisconsin QSO Party, c/o West Allis Radio Amateur Club, P.O. Box 1072, Milwaukee, WI 53201.

Awards: Awards will be presented to the highest scores in each state/province and to the highest aggregate club score. □

Washington State QSO Party results

Spons. by Boeing Employees ARS

ALABAMA			
*K4ZGB	91	29	5,829
WA4VEK	12	10	240
ALASKA			
*NL7D	38	15	1,140
NL7H	21	10	480
AL7O	10	8	168
ARIZONA			
*W7ZMD	152	38	15,352
N6IA/7	66	26	4,888
W7RIR	47	19	2,204
KA7HHJ	18	11	473
KA7IVT	14	11	341
AD7J	18	9	324
ARKANSAS			
*KE5B	122	31	9,517
CALIFORNIA			
*N6PE	190	42	19,740
*W6OUL	82	28	6,160
WB6IYS	40	23	2,760
N6JM	15	10	450
AA6EE	6	6	108
WD6CQH	6	3	54
COLORADO			
*N0CKC	25	13	975
CONNECTICUT			
*W1TEE	76	29	6,061
WA1FCN	19	10	380
KF1B	10	8	160
FLORIDA			
*WA4FNA	43	17	2,196
W4WIJ	26	14	728
W4KFA	9	5	90
GEORGIA			
*KA4BYS	67	24	3,264
*N4NX	58	23	3,036
AK4T	40	15	1,200
K4BAI	31	15	1,080
K4BAM	16	10	470
IDAHO			
*KA7LBA	8	7	112
ILLINOIS			
*WB9TBU	101	27	6,804
*W9QWM	87	27	5,589
WD9EXD/9	46	19	2,242
K9KBD	37	18	1,368
WD9IFS	35	19	1,330
WD9FMI	24	10	480
N9CLP	17	10	340
WB9SVH	14	11	308
WD9DYR	7	6	102
K9JPQ	7	4	84
INDIANA			
*KI9U	212	46	23,368

*KB9Z	153	44	19,536
*WD8QBB	196	43	17,028
WD9EZL	97	27	5,238
WD9IRW	19	10	390
IOWA			
*WA0VBW	29	16	1,024
WB0ZHQ	3	2	12
KANSAS			
*WD0CCW	46	21	1,932
WA0TKJ	70	17	1,190
K0TJB	32	16	1,024
N0CLV	43	10	430
KENTUCKY			
*N4FCE	21	13	546
MAINE			
*K2QE/1	75	28	5,376
WB1GLH	47	19	2,109
W1DLC	17	11	495
KA1HB	15	10	440
MARYLAND			
*N3AC	21	11	506
MASSACHUSETTS			
*W1AQE	50	26	3,900
KA1R	21	14	658
KA1CLV	19	11	594
MICHIGAN			
*W8WVU	53	24	3,816
*K8ED	50	22	2,552
W8YL	28	18	1,512
K8KIR	35	16	1,120
MINNESOTA			
*WB0LNO	44	18	1,584
MISSOURI			
*K0TBB	41	19	2,242
N0CLV	1	1	2
MONTANA			
*N7ATT	9	7	126
NEBRASKA			
*W0JJL	25	12	660
NEW JERSEY			
*W2CC	5	5	50
NEW YORK			
*WB2NDE	107	33	7,062
*N2RT	39	20	2,340
W2EZ	34	10	1,632
KA2DLK	40	19	1,596
WB2NFB	35	13	910
W2NRD	17	8	408
W2WSS	15	7	315
W2MEI	12	6	246
WA2PHA	15	8	240
WB2PTP	8	5	80
NORTH CAROLINA			
*KB4GZ	13	8	208
K4YFH	5	4	40
NORTH DAKOTA			
*N0CZO	9	5	90
OHIO			
*N8FU	71	25	3,975
W3PYZ	47	22	3,102
WD8IDD	29	15	870
WD8OYF	10	7	140
OKLAHOMA			
*N5AFV	39	15	1,170
OREGON			
*WA7RQS	56	18	2,070
K7VM	18	7	357
PENNSYLVANIA			
*AD6J/3	49	19	2,147
WB3IET	28	17	952
WA3JXW	11	7	203
KA3AFY	9	6	108
SOUTH DAKOTA			
*WA0BZD	16	10	320
TENNESSEE			
*WA4CMS	45	20	2,180
*KA4ETL	44	18	1,764
WD4SIG	18	15	810
NJ4C	5	6	60
TEXAS			
*W5OVU	82	26	4,264
W5SOD	47	19	2,090
W5NR	28	12	1,008
W5PWG	33	13	858
N5CNH	18	10	360
UTAH			
*W7LN	27	10	800
VERMONT			
*N1BRT	10	6	120
VIRGINIA			
*K4OD	60	22	3,344
WB4ZPF	32	17	1,326
W4FOH	5	3	30
WEST VIRGINIA			
*KD8K	48	19	2,090
*K8KVX	41	16	1,328
WISCONSIN			
*K9GDF	107	34	9,350
K9HVL	14	9	378
CANADA			
British Columbia			
*VE7AVN	39	21	1,638
Manitoba			
*VE4RF	51	22	3,058
Ontario			
*VE3KK	70	27	5,670
*VE3CXL	70	23	4,255
VE3LVN	40	18	1,440
VE3EQF	18	13	468
BRAZIL			
*PY1NEZ	20	8	320
PY1BAR	4	3	24
ENGLAND			
*G4HBI	6	4	48
JAPAN			
*JA7KE	45	20	2,240
*JA3CZY	50	17	1,700
*JA2YKA	21	13	598
(JA9NFD, JR3GMC, JJ1BTA, JA9SSY opr.)			
JF1MYI	10	8	224
JM1IFB	8	3	48
JA7EAS	4	4	40
JA3CFA	4	4	32
SWEDEN			
*SM3DXC	24	16	1,136
WASHINGTON			
Benton			
*K7FR	90	32	5,760
N7CYQ	49	21	2,058
W7GHT/M	30	21	1,890
Chelan			
*K7GAH	57	22	3,762
Clallam			
*WA7YMC	162	38	15,656
*N7RC	120	41	14,760
WA7BTZ/7	54	23	3,059
WB7UQR/7	6	3	36
Columbia			
*W7GHT/M	21	17	1,071
Cowlitz			
*KJ7N	511	53	70,331
Douglas			
*W7GHT/M	40	21	2,520
Ferry			
*W7GHT/M	9	5	135
Franklin			
*W7GHT/M	13	9	351
Garfield			
*W7GHT/M	13	10	390
Grant			
*W7WMO	418	53	54,696
*W7GB	200	46	27,600
Island			
*W7GHT/M	46	21	2,898
W7EK/7 (WB7RMQ opr.)	32	17	1,564
King			
*KB7G	1,590	103	346,595
*N7AYF	1,126	86	193,672
*N7AEP	205	40	21,480
W7DRA	151	34	15,402
K7WA	154	39	14,196
*K7RS	165	40	13,200
*KB7HG + WD6FYJ	184	33	12,144
WB7RYC	160	37	11,840
*WB7AJP	146	39	11,388
KB7IX	114	35	10,642
WA7NOH	90	36	9,720
KI7I	68	32	6,496
AI7N	50	21	3,087
AK7S	72	17	2,448
K7NWS (KA7GEI opr.)	52	23	2,392
W7ERH	63	13	2,184
AI7V	51	18	1,836
KA7GEI	45	15	1,350
W7GHT/M	23	14	966
WB7FAH	16	9	378
W7LUR	8	4	88
K7LYT	10	3	60
KA7IMF	4	2	16
WA7EJX	3	2	12
Kitsap			
*W7IIT	49	25	3,650
Kittitas			
*WA7STA	202	37	14,985
W7GHT/M	28	17	1,428
Klickitat			
#*VE7ZZ/W7	1,043	109	252,771
Lewis			
*WA7YFJ	8	5	80
Lincoln			
*W7GHT/M	42	21	2,646
Mason			
*W7DFO	122	37	10,323
WA7HRA	15	9	288
Okanogan			
*KD7H	233	43	30,057
W7GHT/M	48	22	3,168
Pend Oreille			
*W7GHT/M	25.	15	1,125
Pierce			
*W7BUN	900	73	131,473
N7AGC	343	41	28,126
K7QLC	57	23	2,622
N7CBH	38	7	539
Skagit			
*W7GHT/M	31	20	1,860
Skamania			
#*VE7ZZ/W7	1,043	109	252,771
Snohomish			
*KB7NU +KD7U	527	51	54,060
KA7AFH +KA7IZA	107	37	9,324
*W7GHT/M	21	13	819
Spokane			
*KB7UL	637	60	76,440
W7GHT/M	24	13	936
Stevens			
*W7GHT/M	35	18	1,890
Thurston			
*WA7RDJ	86	32	6,144
*N7RV	80	29	4,901
Walla Walla			
*W7GHT/M	31	17	1,581
Whatcom			
*WB7CLU	1,484	103	305,704
*WB7CAO	1,376	82	225,664
W7GHT/M	18	14	756
Yakima			
*N7AEN	264	67	37,252
W7GHT/M	29	17	1,479

LEGEND: *Winner of QSO Party Certificate Award. #Operated from Skamania/Klickitat county line. Numbers after call letters are: QSOs, multiplier and total score. □

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