

Worldradio

May 1982

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REDWOOD ESTATES CA 95044

Shipwrecked amateur aids typhoon victims

Arthur R. Lee, N6FAD

As reported by Mike Simpson:

On 2 March 1982, winds estimated as high as 170 mph lashed through the Tonga Island kingdom in the southwest Pacific. On the island of Vava'u, at least nine cruising and charter sailboats were caught in the harbor and eight of them driven onto the beach by the heavy winds and seas.

All facilities and native houses on the islands in the group were heavily damaged, with many being totally destroyed. Electrical power and all communications were lost.

Aboard *Panache* — one of the yachts blown ashore by the typhoon — was owner and skipper Tony TI2MMW/MM3. Although *Panache* lay at a 45 degree angle on the sandy beach, he set up his Amateur Radio and began transmitting, using battery power only. Hoping to contact the Pacific Maritime Net with emergency traffic for the U.S. State Department, his faint signal was first picked up by Don Curtis, KK5N on American Samoa.

Don began relaying and clarifying the emergency information to Odia Howe, KH6CO, net control for the Pacific Maritime Net (21404 kHz, 2300Z). KH6CO was then able, working through KK5N, to point his beam toward Tonga and begin communicating directly with TI2MMW/MM3. During the initial 11-hour period after the storm, Odia KH6CO and Don KK5N worked diligently to pass all emergency traffic. Through the net, Tony was able to give a condition report of damage to the island and boats in the harbor.

In response to a request from island government officials, a call was made to the U.S. State Department in Washington, D.C. by Mike Thomas, WB6FBI. The Tonga kingdom Emergency Director, Mr. Langi Kavaliku, urgently requested medical supplies and food and shelter for the 16,000 people on the island. Most homes were flattened and the breadfruit crop was destroyed. The emergency request was for a two-week supply of food, including water purification tablets, powdered milk and other food staples. The 3,300-foot runway on the island was usable for rescue work and medical air evacuation but had no runway lights or communications. Peace Corps volunteers on Vava'u were helping the homeless and injured but were storm victims themselves. Initial reports by Tony listed only one native baby as a casualty from the island population.

Driven ashore were the cruising yachts *Panache*, *Red Hawk*, *Tukilit*, *Leeway*, *Kirsten*, *Adacio*, *Fair Seas*, *Eleysium* and *Sivil*. Only *Adacio* was afloat. *Leeway* was reported to have a large hole above the waterline. The owner was aboard and safe. His wife, living in San Francisco, was notified by operators on the net.

Kirsten, a boat out of San Francisco, and *Fair Seas* were believed to be total losses. Aboard *Adacio* was a 9 month pregnant crew-member. The skipper of *Fair Seas* — Gene Panther of San Francisco — and his son were safe. His wife Carol was notified of the yacht and crew status. Elmer Olson, KA7EKP and wife Helen were aboard the ferro cement yacht *Eleysium*.

Mr. and Mrs. Jacobson, aboard *Sivil*, were both injured. Mr. Jacobson had a broken leg and Mrs. Jacobson was reported to have sustained multiple injuries including a broken pelvis, broken ribs and a crushed spine. The *Sivil* is a chartered yacht owned by Mr. Ken Laser. Arrangements were made by the charter company to salvage the vessel and to have an aircraft of South Pacific Island Airways fly the injured couple out to Samoa for medical treatment. Mr. Dean, manager of South Pacific Airways, made the necessary arrangements for the med-evac flight.

For the first two days, the only contact with the outside world was Tony TI2MMW/MM3, from his storm-beached yacht. Message lengths were kept short because of the need to conserve Tony's limited battery power.

The Pacific Maritime Net control was Odia KH6CO, in Honolulu. Mike Simpson, W6CRD in Long Beach, California and Bill Donohue, W6SYQ in West Covina, assisted net control. All of them coordinated traffic, first with Tony, then later with Terry A35GH on Samoa, Tommy AH6E at Nuku Alofa on Tongatapu, Steve FO0SP (believed aboard the yacht

(please turn to page 3)

China is now on the air

Thomas Wong, VE7BC has informed *Worldradio* that Amateur Radio in China went on the air 29 March, under the call sign BY1PK. The 3kW station is located in Peking and operates CW only. Frequencies for the station will be announced later.

Consumer assistance

At the Gettysburg Licensing Division, they have added the Consumer Assistance Branch which may be contacted by using the telephone number (717) 337-1212. This branch is to help provide proper license forms; help in completing them; handle requests for special temporary authorizations; provide information on call signs and frequencies; refer legal, technical and engineering questions to proper authority.

—Triple States ARC, OH

ARRL Board

President and general manager named

Victor C. Clark, W4KFC has begun his term as the new President of the ARRL. Also elected recently by the ARRL Board of Directors was David G. Sumner, K1ZZ as the new General Manager.

"My first notion to run happened about



Victor C. Clark, W4KFC is the new president of ARRL.

six months ago," said Vic, who ran against Larry Price, W4RA (Second Vice

President) in this election. He stepped down as First Vice President of ARRL two years ago, after having served in that position six years. He also served as Director of the Roanoke Division for seven years, as Section Communications Manager (SCM) of Arizona, and as SCM for Virginia.

His enthusiasm for Amateur Radio has rubbed off on his family. His wife, Hester, is WA4PAE, and three of his six children are now amateurs — two sons and a daughter. Vic's own participation in Amateur Radio started over 40 years ago.

Dave Sumner, K1ZZ also has many years of Amateur Radio experience behind him. He became an amateur about 20 years ago, and has worked at ARRL Headquarters for the last 10 years.

Dave's decision to run for the office of General Manager came about in March 1981, when Dick Baldwin, W1RU announced his resignation. Dave was serving as Assistant General Manager at the time; he served a total of six years in that office.

"Vic and I will be working together very closely," commented Dave. (Harry Dannals, W2HD — former ARRL President — was the other candidate for General Manager.)

When asked whether his family shared his interest in Amateur Radio, Dave replied, "My wife's upstairs right now, working a contest." Linda is licensed as KA1ZD.

Tower ordinance

A model to follow

Dave Buckwalter, N3BBH

The following statement was presented to the Ferguson Township Planning Commission at the first public hearing held on the new Ferguson Township Zoning Ordinance after the height limitation was discovered. Its principal authors were N3BBH, Charles McMullen, K3CM; Wilber Bemis, WB3EDI; and Robert Peters, K3EZE. Others participated including an amateur from Cleveland, Ohio who happened to be in town. This is the only statement or presentation made to any officials from Ferguson Township that was officially sanctioned by Nittany Amateur Radio Club (NARC). All other comments were made by individuals as individuals.

"My name is Dave Buckwalter and I am a resident of Ferguson Township. I am speaking on behalf of NARC and the

20 or more residents of Ferguson Township who are licensed Amateur Radio operators with respect to Section 207 of the proposed zoning ordinance. This section sets maximum height requirements of all structures in the township.

"The basis and purpose of the Amateur Radio Service is specified by the FCC Rules and Regulations Part 97.1 as follows:

(a) Recognition and enhancement of the value of the Amateur Service to the public as a voluntary, non-commercial communications service particularly with respect to providing emergency communications.

(b) Continuation and extension of the amateur's proven ability to contribute to the advancement of the radio art.

(c) Expansion of the existing reservoir

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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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Second-class circulation postage paid at Sacramento, CA.

Ohio Sunrise Slow Net

Submitted by John Schaffner, KB8LH

The Ohio Sunrise Slow Net (OSSN) meets daily at 6:45 a.m. local time on 3.577 MHz. Jerry Spencer, K8OZ felt that a slow (8-9 wpm) CW net was needed to train amateurs in the procedures used in CW nets. OSSN is ideal for the amateur who knows nothing; also for those who want to brush up.

If you have questions about the net, call net manager Jeff Andrade, WB8YTD after the Ohio Single Sideband Net (first and third Wednesdays, 6:45 p.m., 3.972 MHz). It is Jeff's hope to make as many people comfortable in CW traffic as he can.

Give the net a try sometime — they are very patient and understanding. — *de Massillon Amateur Radio Club, W8NP*

Dungeons and Dragons

A 10-meter Dungeons and Dragons net is starting up at 28.72 ± QRM. Saturdays at 1500 GMT — *pronto!* To save us time and grief, please be ready with your character, rank, dice, and all of the necessary info. Net control is KA9JOX. If you don't hear anyone at 28.720, check 28.820. If still nothing is heard, the net has been cancelled because of poor turn-out or other reasons and will resume the next week at the same time and place.

If you wish to participate regularly, please write me so you can get a chance to be a DM or net control: Michael Frost, KA9JOX, Box 1008, Riverside, IL 60546.

Please come and join us in the fun! We'll be happy to have you along with us to... who knows where?

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Armored Forces Net

All Amateur Radio operators who have been or are now members of any Armored Forces unit in any Armored Division, or who were/are members of any military unit attached to an armored unit are eligible for membership. There are **NO DUES** on this net.

The "A Far Net" on-the-air schedules are as follows:

- 1) 40 meters SSB, Saturdays, 1930Z, 7.285 MHz ± QRM. Net Control is Al Beutler, K2DWI, Member #37.
- 2) 20 meters SSB, Wednesdays, 0200Z, 14.320/14.325 MHz. Net Control is Harry Thomsen, W2PJH, Member #1.
- 3) 15 meters SSB, Sundays, 21.375/-21.380 MHz, 1500Z. Net Control is Bob O'Neil, W1FHP, Member #14.
- 4) 160 meters SSB, Saturdays, 1.840 MHz ± QRM, 0200Z. Net Control is Harry Barrett, W8OQY, Member #12.
- 5) 40 meters CW, Tuesdays, 7.065 MHz ± QRM, 0200Z. Net Control is Bob Vergith, WB8BOR, Member #5.

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Amateur Radio operators who are owners of Atari Microcomputer systems are welcome to join the Atari Microcomputer Net to exchange ideas on applications, programming, hardware and software development. Please contact: Jack McKirgan II, WD8BNG, 4749 S.R. 207 NE, Washington Court House, OH 43160; (614) 869-3597.

Announcement for Southern CA hams

Ed Marriner, W6XM

Ivan Simpson, W6TET, AREC coordinator, is monitoring 1940 kHz continuously as much as possible. A net meets at 11:00 a.m. Sundays as far north as Santa Barbara. For antenna checks or QSOs, try calling during the day on 1940 kHz for more activity.

Foreign stamps

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

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SASE must be business-size (#10) envelope with two first class stamps, or manila envelope, 7 by 9 inches or larger with two first class stamps.

Send requests to: Karl Pagel, N6BVU, P.O. Box 6490, Orange, CA 92667, or to Tom Polley, WA6GEV, P.O. Box 603, La Mirada, CA 90637.

East Coast repeaters

Those of you who plan to travel through the Eastern Seaboard states in the near future may be interested in reading the ninth and tenth paragraphs of Ted Wolfe's letter, page 15 of this issue.

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A model

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within the Amateur Radio Service of trained operations, technicians, and electronics experts.

(d) Continuation and extension of the amateur's unique ability to enhance international good will.

"Examples of public service activities which have taken place in this township are assistance to police by providing them with trained, radio-equipped observers when extra eyes and ears are needed, and assisting local charitable organizations in coordinating and safely running an event such as a bike-hike. Through NARC, Ferguson Township amateurs have helped to establish an amateur station at the Centre Community Hospital as a backup to public and government agency systems and have registered themselves and their capabilities with the Centre Co. Emergency Management Agency.

"Examples of the true emergency situations that amateurs from this community have responded to are the Johnstown flood of 1977 and the widespread flooding in Pennsylvania and New York in 1972. In many such disasters, Amateur Radio is the first and sometimes only communication service available to agencies trying to provide relief to such stricken areas. The day-to-day activities of amateurs help them to increase their proficiency and evaluate their capabilities to insure that they are ready to respond when required.

"A height limitation of 40 feet would severely inhibit amateur communications by decreasing the effective range of radio transmissions. It is our opinion that this degradation of amateur communication will significantly detract from and hamper Amateur Radio's ability to respond in public service activities and disaster situations.

"We do not believe it was the intent of the drafters of the ordinance to so limit Amateur Radio's public service and disaster relief capabilities, but rather to insure that no structure in the township would pose an undue hazard to the safety of the property and lives of the residents of this community. A height limitation does not serve this purpose. We feel that the public interest and safety would be

better served by requiring an Amateur Radio operator who wishes to erect an antenna exceeding a certain height to obtain a permit for its erection, the application for which would require certification by a licensed engineer that the proposed structure would be safe.

"Additionally, we asked the ARRL, which is a nationwide organization of Amateur Radio operators with over 160,000 members in the United States, to provide us with advice on the legal implications of a blanket height limitation

Tower ordinance

Another model

John Fisher Jr., K2JF

Back on 26 May 1981, the town of Andover, Massachusetts at their annual Town Meeting approved an amendment to their zoning bylaws which required radio amateurs to correct all RFI/TVI problems caused by ham operations. The new ordinance ordered that an applicant for a permit to erect an Amateur Radio antenna essentially insure against the occurrence of radio frequency interference to neighboring television and radio reception. Thus a burden was placed upon amateurs over which they had no control.

The League was made aware of the ordinance amendment and Chris D. Imlay (the League's Assistant General Counsel) went to work on it. On 17 June, he wrote a letter to the Massachusetts Assistant Attorney General (Henry F. O'Connell) pointing out that:

1. Amateur stations are federally licensed instruments of interstate commerce controlled by the U.S. Government through the FCC. The town of Andover lacks jurisdiction. RFI is not a local matter. "Unquestionably, federal legislation has pre-empted local regulation of radio transmissions . . ."

2. RFI results from inability of home entertainment devices to reject unwanted signals even though internally incorporated filters could accomplish this. "The U.S. Congress has for years, and is

ordinance. Their response in the form of a letter to Donald Bachman, Township manager for Ferguson Township, cites tried to present this letter to this commission for inclusion on the record of this meeting and for your consideration. We sincerely hope that the relationship between Amateur Radio and this community need never be subject to litigation.

"In view of the above, we propose that an additional exception be added to sec-

tion 207 of the proposed ordinance stating that:

tion 207 of the proposed ordinance stating that:

"Nothing herein shall be construed to preclude, limit, or inhibit the erection of Amateur Radio antennae and the supporting structures therefor which necessary permits and approvals have been obtained."

"We feel that such relief from the blanket height limitation will insure that this community will receive the full benefits of Amateur Radio as was intended by the FCC."

— Nittany ARC, PA

presently attempting to introduce legis-

lation requiring the manufacturers to incorporate radio frequency filtering."

While most manufacturers will supply filters on request, "they resist efforts to require such filtering. It is thus impossible for Amateur Radio operators to insure against the occurrence of interference to neighbors' electronic equipment."

3. Ordinances that suggest lower antenna heights as a means of controlling RFI "are faulty as a matter of longstanding engineering considerations. To reduce antenna heights if interference should occur would compound the problem immensely."

On 8 September, the Massachusetts Assistant Attorney General wrote the

Town Clerk in Andover advising him that with the approval of the Attorney General (Francis X. Bellotti), the amendments to the zoning bylaws were being endorsed with the exception of paragraph 3(a) which "seeks to regulate Amateur Radio equipment and any interference resulting therefrom." The Attorney General's office gave the Town of Andover the same legal reference that ARRL's Chris Imlay gave him stating that "a local community may not legislate in this area." Thus, Andover amateurs will not be held responsible for RFI resulting from their transmitters and can thank the League for intervening in their behalf.

— Gloucester County ARC, NJ

Air Force Secretary reopens Pentagon station

Submitted by Karl Edler, KB3US

Last year the Pentagon Amateur Radio Club (PARC) had a problem; all of its equipment was piled on two old desks, making it hard for more than a pair of amateurs to use it at one time. Since there are more than 120 members, something had to be done. Club member Jack Jenkins, NI4B drew up plans for a four-

position console. Jim Neff, Al Walters, Mal Billings KB3J and others on the Station Committee pitched in to build the streamlined 12-foot U-shaped working area.

With everything installed, it looked too good just to return to business as usual — so the club invited the most prominent amateur in the Pentagon, Secretary of the Air Force Verne Orr, WA6IOG to officially reopen the shack. After he cut the ribbon on 26 January, Secretary Orr tried out the club "rig" by contacting an amateur operator in Michigan and QSO-ing for more than half an hour on the 20-meter band.

The new club console has positions for HF and VHF CW and phone transmission. Members use it daily (on their own time) and operate a military affiliate station (MARS) as a voluntary service.

The group also sponsors radio classes for interested amateurs and provides volunteer help for community events. Members like to socialize, too. The "hams" and their "dates" enjoyed a dinner-dance at the Andrews Air Force Base Officers' Club on 16 February, with a hilarious talk by fellow amateur and Washington radio/TV personality, Paul Anthony, N3CIN.

Department of Defense amateurs in the nation's capital are welcome to join the group. Interested people may contact the Membership Chairperson, Al Abercrombie, at (202) 558-4178.

Shipwrecked

continued from page 1

Carina, cruising the Pacific), and Jim BE7XM on Tokelau island.

Also helping with the Pacific Maritime Net in the United States were Mike WB6FBI and George Mowery Jr., WB7OYD. Mike W6CRD made a 40-mile round trip in his personal automobile to deliver an urgent health and welfare message to a family member of one of the cruising boats' passengers.

In the days following the storm, further assistance was given by Henry Reluga, WA1VDX; K6CRA on Ponape; and KK5N/MM3, who helped set up the med-evac while in the harbor at Pago Pago.

At the end of the third day after the storm, the Tonga kingdom inexplicably prohibited all Amateur Radio communications in and out of Tonga.

To aid the victims, five Hercules aircraft with food and medical supplies were dispatched from Australia and two were sent from New Zealand. Later reports received from commercial sources in Fiji, New Zealand and Australia listed two children as drowned and from six to eight people swept out to sea and lost.

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See Nov., 1981 73 Magazine, page 169 for details.



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ERIKA — more than a boat

Joan Ash, WD6BNH

ERIKA sailed into my life a short week ago (late December) and with *ERIKA* came one of my most heartwarming experiences.

Over three years ago, Hiroakai Nagae, JG2JAL — then working for the Japanese Foreign Office — decided to give up his desk job, build a boat and sail the oceans blue in order to understand the people of the world better and to promote world peace. His British wife and then 1-year-old daughter were, of course, part of the plan.

They left Tokyo for Nagoya, Hiro's home, where they would build a 44-foot ketch soon to be named *ERIKA* for his bewitching young daughter. The first difficult problem was *where* to build the boat. As Nagae's modest home did not have a big yard, some friends offered their backyard and construction began.



Erika, 4 years old, stands in front of her namesake.

Money reared its ugly head, so Jennifer Nagae and Hiro opened a school in their home; the plan: to teach English to children. It was an immediate success! Even though they averaged over 200 students a day (coming in shifts), Jennifer managed her housework, the baby and the lessons with Hiro's help. In the evenings and the weekends, they would work on the boat.

Seiichi Yubahara, JO1BGT was a friend of the Nagaes when they lived in Tokyo. Sey-san (as Seiichi is known to his friends) worked as a building supply salesman and would travel to Nagoya (a 600-mile round trip) every free weekend to help build the boat. Soon, other friends started helping as the fame of the *ERIKA* grew. The *Ahashi* newspaper and magazine found out about the project, took a lively interest in the planned venture and is now sponsoring the voyage around the world. In return for their help, Hiro is writing articles for the newspaper and the magazine about "typical" small town life in America. (Sey-san signed on as a crew member and is taking photos "by the gross" to accompany the articles.)

As the boat neared completion, plans for the launching and sailing were made and it was decided the *ERIKA* should be moved 29 miles to the port at Nagoya.

The roads were narrow and the first part of the journey was difficult. As people watched, the big sailing vessel made its way to the sea. Fences had to be removed and replaced, power lines lowered and raised; at one point the *ERIKA* was only inches below a theatre marquis (Jennifer told me that the family that owned the "boat yard" so missed all the commotion and visitors that the lady of the house convinced her husband to purchase an old boat to refurbish it so that she would not miss the *ERIKA* and little Erika so much.)

At last all was ready! On 13 July 1981, with hundreds of people watching at the waterfront and with many boats acting as escort, the *ERIKA* pulled out into the Pacific as a TV news helicopter whirled above. Destination — USA.

During the 60 odd days at sea their only contact with the outside world was via Amateur Radio. They kept regular schedules with amateurs in Japan. Hiro would report their position and their welfare and Erika would say "hello" to her young friends. They sailed through three typhoons and arrived in Newport, Oregon with a broken boom. After visits in Newport, Coos Bay, Eureka, Fort Bragg, San Francisco and Monterey the *ERIKA* sailed into my life and my heart.

In Santa Barbara, the day was cool and foggy when I turned on my mobile 2-meter rig to hear Chuck Stersic, N6CJL and Dick Belden, K6QYL handling a call for assistance. *ERIKA* needed help in finding the harbor. The Harbor Master was called and went out to guide the ship into port through the thick fog.

The next morning I went to the Marina to see, for myself, these people who had alone braved the Pacific. I fell in love with a beautiful, dark-eyed 4-year-old, her pretty blonde mother, the handsome captain and smiling, mischievous Sey-san (who I now know can understand a lot more English than he lets on. A wisecrack in English brings peals of laughter from him.)

I invited the family to my home for dinner and offered to drive them around Santa Barbara. The first stop was at the office of Sheila Lodge, Santa Barbara's newly elected mayor, where Hiro presented her with a letter to the people of Santa Barbara from the Mayor of Nagoya, plus a letter from the Society for World Peace. Mayor Lodge presented the Nagaes with a Santa Barbara bicentennial book and medal.

The next stop was at the Santa Barbara Newspress. The Nagaes sought old stories of certain Japanese fishermen from Nagoya who were supposed to have been rescued at sea and brought to Santa Barbara in 1815. We could find no records at the Newspress, but the family was interviewed for a great article that appeared in our Sunday paper. From there we were off to the Santa Barbara Public Library where, much to everyone's surprise, the research librarian came up with the information in about 15 minutes of searching on the computer. The material was photocopied and sent on its way to Japan.

A big California barbecue topped off the day! I had been told that beef is more

than \$12 per pound in Japan and that as they sailed across the Pacific they had dreamed of a BIG BEEF STEAK . . . so we had the biggest and thickest one I could find. You should have seen their faces as the meat was put on the hibachi. Everyone licked their plates clean and little Erika patted her tummy and said "My stomach is SO crowded!!"



Seiichi Yubahara, JO1BGT (left), Hiro Nagae, JG2JAL (center) and Jennifer Nagae on board the *ERIKA*.

The next day we invited our guests to stay at our home and see "typical" America (tract life and all). Sunday we went to the local swap meet-flea market; you should have heard their ooohs and aaaaahs as we walked up and down all the aisles, looking at all the stalls. With cameras clicking, they inspected everything. Hiro purchased an electric heater for his ship. It worked and cost him \$7. Jennifer found a perfect lamp to read by in the "Owner's Cabin" and Erika got a ceramic pin. Say-san took almost 100 photos and about 200 feet of movie film to send home to their sponsors.

That evening my husband and I were invited aboard ship for a real Japanese dinner. We took Hiro to our local supermarket (he was fascinated with the amount of Japanese food available) and

he whipped up a fantastic meal with miso soup, sukiyaki, spinach omelette, bean sprouts with dipping sauce, ginger tofu and rice. What a meal . . . OUR stomachs were crowded.

Altogether we had a week full of experiences. It was enlightening to see American life from their point of view. We watched American TV from cartoons to Burt Reynolds; showers were taken by the dozens after my shower massage was discovered. Have you ever tried to explain why your black and white cat is named Oreo? A quick trip to the supermarket cookie department brought many laughs as they played with Oreo and ate Oreos! Peals of laughter filled the room as I poured coffee cream from my white cow-shaped creamer.

We took photos of Erika playing football on the front lawn with the neighborhood boys who had *never* before allowed a girl to participate. My Honda looked like a "tree on wheels" after they helped me select a Christmas tree and tied it on the car roof. So many wonderful memories of shopping, seeing, talking, sharing, learning. They shared the housework, sweeping and cleaning when I wasn't looking — Jennifer ironing my laundry (she said she hated housework but that *this* was different!), Sey-san raking the lawn, Hiro sweeping the garage.

One day I returned home to find Hiro sitting at the table with a Mr. Coffee paper filter in his hands. I looked inside and found a scrambled egg. I said, "Hiro that is a coffee filter." We laughed as he looked at it and said, "I thought it was too thin for a bowl! Say-san, when asked if he liked something (I never found anything he didn't like) answered "Bery-Bery" until Hiro and I explained what Bery-Bery was. He decided he would just say "Is OK — Good."

(please turn to page 6)

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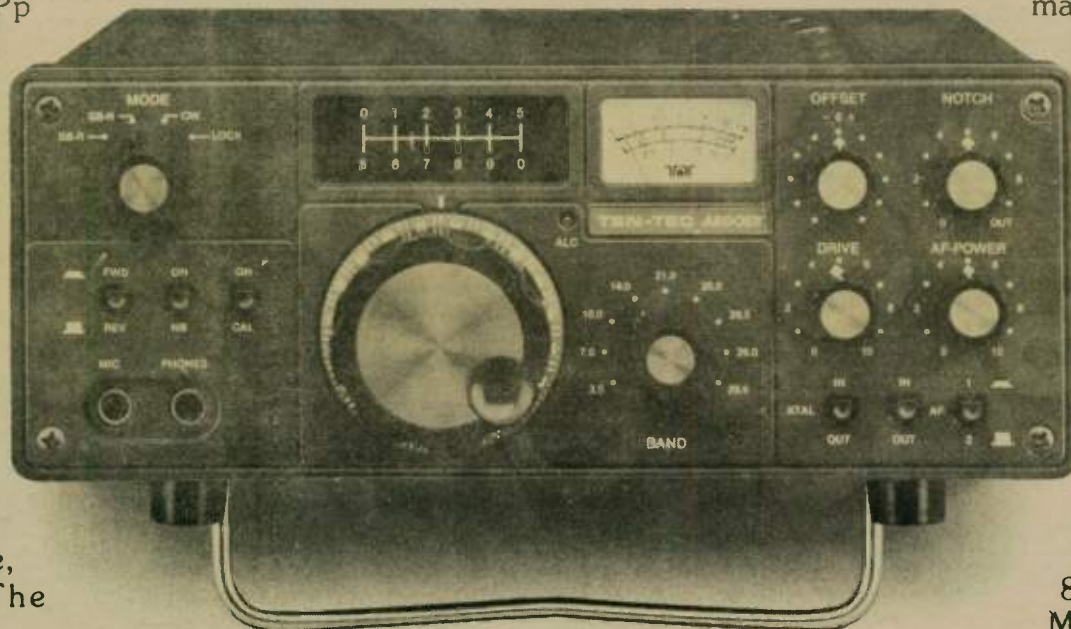
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Hz cw filter \$55; Model 224 Audio cw filter \$34; Model 223 Noise blanker \$34; Model 226 internal Calibrator \$39; Model 1125 dc circuit breaker \$15; Model 225 117/230V ac power supply \$129; Model 222 mobile mount, \$25; Model 1126 linear switching kit, \$15.

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ERIKA

(continued from page 4)

Much interest was taken in a 3-by-6-foot sign that appeared on a neighbor's home one day. I explained that when my neighbors had had a fire in their garage two weeks ago, all of their Christmas decorations were destroyed so each of the neighbors had bought a new ornament for them. The sign said, "THANK YOU ALL FOR CARING — MERRY CHRISTMAS, signed the Fraas family." The sign was photographed, and the story was on its way to Japan. Here people CARE and our visitors know it... and soon all the people in Japan will know as well.

The last night of their visit, we were invited over to Austin (K6IA) and Ruth (KA6SDO) Rudnicki's home to meet "Gus" Austin's homebrew radio-controlled robot, built out of tin cans. Gus has blinking green eyes, a flashing red smile and blinking ears. To see Erika in earnest conversation with Gus was a sight to behold. She asked every question imaginable — "Do you have bones? Can you talk Japanese? Can you walk? Why do you talk? Will you sail with me?" — on and on. Ruth and Austin are famous, in town, for their non-animated tin can children (about 24 inches tall). They presented Erika with "Philip McCan" and she was in seventh heaven. Erika doesn't normally play with dolls, but she slept with Philip that night and would not leave him for a second.

Then it was time for parting. As ERIKA sailed out of the Santa Barbara Harbor toward southern ports, through my tears I could see Erika and Philip at the helm as we all waved Sayonara and Merry Christmas to all.

If the ERIKA sails into your port, or if you hear them on 21.360 at 2200Z, say



Austin Rudnicki, K6IA sits with Erika Nagae on his lap. On the right is "Philip McCan" — a 2-foot tall, non-animated tin can child that was made by Austin and his wife, Ruth, KA6SDO.

hello and find out what Amateur Radio is really about — you'll find your life as enriched as ours has been.

•••

Some things I learned:

Corn is very popular in Japan and Corn Soup is served regularly at all restaurants. Coffee shops are on every corner in Japan and serve coffee. Japanese children go to school on Saturdays; after classes throughout the week they attend private schools for special subjects. In the first six years of school, they learn over 2,000 Kanji symbols. Clothing is very inexpensive and food very expensive in Japan. Japanese do not buy used things; if an item breaks they throw it away. A child is a child is a child.

Some things they learned:

Mr. Coffee filters are not thin paper bowls. California is not tropical. Japanese food is popular here and prepared by real Japanese. People in America care for their neighbors and all is not crime and killing. There are many Christmas trees available in the USA and Christmas is big. A child is a child is a child.

Novice calls on license plates

At the request of Tadeusz (Tad) Klein-dienst, KA6IYM in Buena Park, California, Assemblyman Chet Wray is sponsoring Assembly Bill 2338 which would permit Novice Class licenses to apply for and receive Amateur Radio call letter plates. The practice is currently prohibited because of an old state code enacted when the Novice license was a one-year non-renewable ticket. The proposed new law will bring California statutes in line with the current FCC license term of five years, renewable.

Bill Tubbs, KB6JM, an amateur who last year succeeded in getting through legislation to allow motorcycles to sport Amateur Radio plates, is providing infor-

mation and support for this bill at California's capital, Sacramento.

Although the bill has cleared its first hurdle — the Assembly Transportation Committee (unanimously) — California amateurs are urged to contact their state representatives and express their support.

Check your license expiration date.

West Virginia notes

Ted Wolfe, WD4KHL

The Kanawha-Fayette-Clay Amateur Radio Association's wide area 2-meter repeater W8FG/R (Kingston/Lick Knob) 144.87/145.47 was out of service briefly early in November and again in early December for its first major maintenance since its installation in June 1980.

The Lick Knob repeater was one of the first in the sub-band to serve our area. Now there are quite a few others. The additions in roughly the last half of 1981 are the 144.71/145.31 (N8BZS) repeater in Layland/Mann Mountain, the 144.57/145.17 (WB8LVH) repeater near Bolt on the Raleigh-Wyoming County line, and the 144.67/145.27 (N8APH) repeater at Kermit/Horsepen Mountain on the Logan-Mingo County line.

Radio amateurs in the southern part of West Virginia are also able to operate into the new 144.59/145.19 repeater at Pikeville, Kentucky.

As for the other repeaters in southern West Virginia, the 144.85/145.45 (N8ACQ) repeater at Welch was recently moved from the Mt. View High School site to Caretta Mountain, improving its coverage.

Another 145.45 machine was heard and worked late in the year in neighboring Kentucky. But Dave Vest, KZ4G has advised that since the improvements at Welch he's moving his new repeater to 147.795/195. Dave says it should be on site soon and we should label it as an Ashland, Kentucky repeater.

Improved coverage is reported for two machines as the result of new antennas for the 146.40/147.00 (WB8GDY) repeater at St. Albans and the 146.13/73 (WR8AKE) repeater at Alderson, West Virginia. I'm told you can now get into the latter from Blacksburg, Virginia.

The 146.37/97 repeater at Logan is to get a new call when it goes back on following repair after a lightning strike and a move from Blair Mountain to Rattlesnake Knob overlooking Logan.

A new repeater is expected to be activated early in 1982 by the Black Diamond Amateur Radio Club in Beckley. The repeater, 144.770/145.370 (WD8-POF), will be located on a 180-foot self-supporting tower in the downtown area and controlled from the city's Emergency Operations Center. There are plans to link it into the other repeaters of the Appalachian Repeater Association which is

being organized to support the linked system. The 144.71/145.31 Layland/Mann Mountain repeater is already linked with the 449.800/444.800 (KA8EMX) repeater on Lick Knob.

Eventually the link will encompass the new WD8POF repeater at Beckley and the 144.57/145.17 (WB8LVH) repeater at Bolt, which should be activated very soon. When completed, you'll be able to talk through all the machines if you can get into one of them direct.

Kanawha Valley amateurs met 20 November and 18 December at St. Albans to discuss radioteletype and the feasibility of organizing a net for the area and the possibility of putting up a 2-meter RTTY repeater.

In November, the KFCARA at Pratt voted to join the Plateau Amateur Radio Club in sponsoring the Fayetteville, West Virginia hamfest at the Memorial Building on Sunday, 21 February. In December the Black Diamond Amateur Radio Club in Beckley also voted to become a cosponsor.

This was the fourth year for the winter event and with three clubs supporting it, it should become bigger and better.

During December, the Plateau and Kanawha Valley Amateur Radio Clubs elected new officers to serve in 1982. The PARC membership elected Joe Roberts, KA8IBO, President; Jobill Campbell, KA8CGU, Vice President; Henry Maxwell, W8AHL, Secretary; and Bobby Wardrep, KB8ZJ, Treasurer.

KVARC's new officers are: Bill Pace, KB8ZM, President; Weldon Pierson, KB8QY, Vice President; Tina Clark, KA8NUN, Secretary; Roosevelt Wilder, K8RWF, Treasurer; Betty Hunter, KA8MLP, Publicity Officer; and Jeff Clark, KA8NNX, Program Director.

Ken Rupe, WD8AEW was recently named Assistant Emergency Coordinator for Kanawha County for 2-meters and Net Liaison.

The KVARA weekly 2-meter net session on the 146.82/88 WB8CQV repeater in Charleston, West Virginia on Sunday, 13 December included a feed of the current "Westlink" news report. The club and the repeater owner are working together to make this a regular feature of the new session. They're also working out a way to offer the report over the machine at other times. They've still got to work out the technical details.

Here's a tip for emergency service

James D. Young, KA6DZU

During a recent RACES call out, I had occasion to transfer my 2-meter rig to another vehicle. The cigarette lighter plug did not fit too well; also, there may have been a loose connection behind the socket. Consequently, at a very crucial moment, upon arriving at the scene of a fire, after a ride across some rather rough terrain, the rig went dead! Following some seconds of hysteria, I found I could operate by holding the lighter plug in place by hand.

So picture this: here (Riverside, California) in an atmosphere of heat, smoke and flying ashes is an eager beaver ham operator trying to demonstrate the usefulness of Amateur Radio as an emergency service, having to hold down a power connection with one hand, mike in one hand, and no hand for the other numerous jobs.

The moral to this episode is: operators expecting to do emergency service should include in their kit along with the mag mount or otherwise antenna, a POWER cable of suitable length for direct connection to a vehicle's battery.

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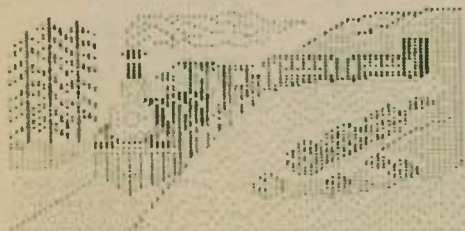
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1981 RTTY art contest winners

Hugh Washburn, WA6IEX

For the past three years, the Southern Counties Amateur Teleprinter Society (SCATS) has sponsored a Worldwide RTTY Art Contest. The RTTY art contest goes back over many years, but in 1979 SCATS volunteered to accept the responsibility of sponsor. Last year, SCATS received several letters from European amateurs requesting the contest rules be amended to a line width of 68 spaces for the pictures. The U.S. and Canadian amateurs have used 72 spaces in constructing artwork for RTTY; however, the RTTY Art Contest committee agreed to change the rules to require a maximum 68-space line and consequently received many more entries from Europe. This resulted in a very popular contest for all amateurs interested in RTTY art.

All art entries must be generated by hand and cannot be generated by computer.



"The Railroad"

SCATS is pleased to announce that handsome, 9-by-12-inch wood and brass plaques engraved with winners' names have been forwarded to the following 1981 contestants: First Place went to Jean Carter, KA6HJK of Buena Park, California for her entry "The Railroad." Hearty congratulations to Jean for her first year as an amateur, her first entry in a RTTY art contest, and her first prize!



"A Prize in Every Box"

Second Place was earned by Alfred La Vorgna, WA2OQJ of Hicksville, New York for "A Prize in Every Box." Third Place was secured by Charles Pike, K3YUH of Monaca, Pennsylvania for his entry "What's Up Doc." There was a tie for Honorable Mention with both receiving plaques: Bent Pedersen, OZ5RT of Copenhagen, DENMARK placed for "Freddie Fender" and Richard Camp, WA7NGN of Las Vegas, Nevada got the nod for "The Wild Horse."

Entries in the Worldwide RTTY Art Contest are judged on originality of sub-

ject matter, excellence of technique in producing the art and formatting the tape, on appearance of the art when



"What's Up Doc?"

viewed from a distance, and on suitability for publication. The SCATS contest chairman — Norm Koch, K6ZDL — is a well-known, avid RTTY art collector who spends much time with great enjoyment relaying RTTY pictures to a great ham following on all bands.


SCATS is located in Southern California, primarily in the Los Angeles and Orange County areas, but encompasses RTTY membership from quite a large surrounding region. SCATS would like to urge all RTTY enthusiasts to take a try at RTTY art if you never have. Many newcomers to this aspect of the ham hobby have been winners in this annual contest. Now is a good time to start practicing, as SCATS will begin accepting entries in the 1982 Worldwide RTTY Art Contest after 1 September 1982. Complete rules and other pertinent information about the 1982 contest will be published in this as well as many other Amateur Radio journals prior to contest time. SCATS is looking forward to seeing your RTTY art entry in 1982. Don't disappoint this enthusiastic RTTY club. □

New QCWA chapter

A new chapter of the QCWA was chartered on 15 February 1982, with 36 members. The chapter known as the "Central New Jersey Chapter No. 138" has held two meetings in the Fort Monmouth-Eatontown, New Jersey areas, has elected officers, and has drafted and adopted a constitution and bylaws. It was also decided to keep Charter Membership open for 90 days — to 15 May 1982.

As of mid-March, membership had grown to 67 QCWA members with an additional 17 qualified applicants awaiting their national membership numbers.

Any QCWA member or other amateur (qualified to join the QCWA) interested in joining the Central New Jersey Chapter, should contact the Secretary, Bob McKinley, W2OMR, 201-542-2113 or any of the other officers. President Charles Gspann, W2ZEE, 201-531-2856; Vice President Harry Landau, W2IX, 201-222-5620; Treasurer Jerry Havel, W2RRX, 201-747-4119. □



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Special Events...

Winston 500

The Calhoun County Amateur Radio Club will operate NN4R at the Alabama International Motor Speedway during the Winston 500. Operation will be 1-2 May from 1300 UTC to 0000 UTC on the following frequencies: 3.965, 7.280, 14.280, 21.380 and 28.580 MHz.

For certificate, send QSL to P.O. Box 1624, Anniston, AL 36202. □

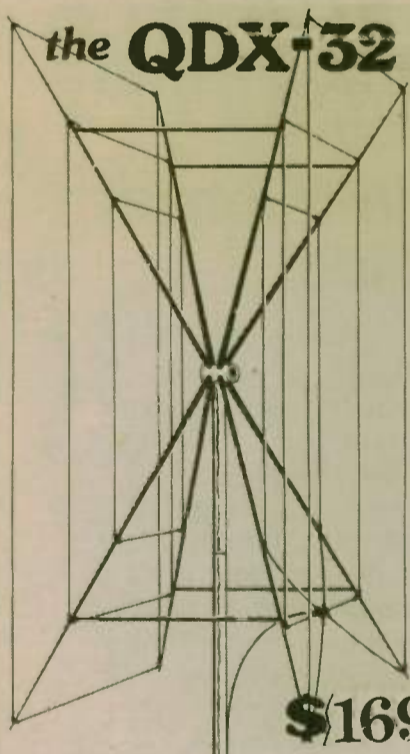
Timbuctoo

A special event station will be operating from the historic Gold Rush town of Timbuctoo, California — located in the Mother Lode country of California's Sierra Nevadas — during the weekend of 15-16 May 1982. Listen for call N6DDP, 1700Z on 15 May to 0100Z on 16 May. Frequencies: Phone — 28.620, 14.310; CW — 21.150.

Send SASE to Yuba-Sutter ARC, P.O. Box 1169, Yuba City, CA 95992 for commemorative QSL. □

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Tulip time

The Holland Amateur Radio Club will operate K8DAA plus other participating stations for the Netherlands-American Bicentennial during Tulip Time, 12-16 May 1982. Operations in all phone bands, and possibly some CW. One contact with K8DAA (club station) or two participating stations to qualify for certificate. QSL to HARC, P.O. Box 92, Zeeland, MI 49464. □

Eruption remembered

The Yakima Amateur Radio Club, W7AQ will operate a special event station in commemoration of the second anniversary of the eruption of Mount St. Helens in Washington.

On 18 May 1980 at approximately 8:32 a.m. local time, Mount St. Helens — located in southwestern Washington — erupted violently. The 9,677-foot summit was reduced to 8,364 feet. A crater was produced, 2,100 feet in depth. Over 1 cubic mile of matter was thrown into the atmosphere.

Join us in commemoration on 16 May from 1800 UTC to 0200 UTC on 17 May. Frequencies will be 25 kHz up from the bottom of the General phone edge, ± QRM and band conditions. CW will be up 25 kHz from the Novice band edge, ± QRM and band conditions and at 14.050 ± QRM and band conditions. A QSL will be available, if SASE is sent. Send QSLs to: W7AQ-Yakima Amateur Radio Club, P.O. Box 9211, Yakima, WA 98909. □

HANDI-HAMs gather

The annual HANDI-HAM May Convocation will be held from 4:00 p.m. CST 21 May to 1:00 p.m. CST 23 May 1982 at Camp Courage which is located near Maple Lake, Minnesota. As a part of the festivities, station W0EQO will be operating 22 May on the voice segment in the General portion of the 10- to 75-meter amateur bands. Furthermore, the first 200 to find and work this station can

Earn an Achievement

1982 will be the 24th year that amateurs have had their own program to publicize Michigan and its products. Just as for the past 20 years, the governor will award Achievement Certificates to amateurs who take an active part in telling the world of Michigan's unlimited resources, opportunities and advantages. (State Bird: Robin; State Fish: Trout; State Flower: Apple Blossom; State Tree: White Pine; State Stone: Petoskey Stone; and/or local facts of which you are aware.)

Certificates are awarded on the following basis:

1) A Michigan amateur submits log information and names and addresses (if possible) of 15 or more contacts made to out-of-state or DX amateurs with information regarding Michigan.

2) An out-of-state amateur, including Canada, submits log information and names and addresses (if possible) of at least five Michigan amateurs who relate facts to him about Michigan.

3) A foreign amateur, excluding any resident of Canada, submits the call letters and name/address plus log information for at least one Michigan amateur who has told him about Michigan.

4) Only QSOs made during Michigan Week, 15-22 May, will be considered valid.

All applications for certificates must be postmarked by 1 July 1982 and mailed to Governor William Milliken, Lansing, MI 48902.

Throughout Michigan Week, spread the word to others about this award. □

Historic ship looks for contacts

Submitted by Sam De Donatis, WB2BWL

The Cruiser Olympia Association proudly announces the opening of the first Amateur Radio station aboard a U.S. naval shrine. The cruiser *USS Olympia* at Penns-Landing on the Delaware River in Philadelphia, Pennsylvania is currently on the air. A special full operating weekend is planned for 22-23 May.

Times will be 1300Z Saturday to 2000Z Sunday. Frequencies will be: CW — 3590, 7050, 14050, 21090, 28150 kHz ± 10 kHz; Phone — 3890, 7235, 14285, 21360, 28600 kHz ± 10 kHz. Novice operations are planned from 0500Z Sunday to 1000Z on 40 and 80 meters; local 2-meter operation, also.

A beautiful certificate has been prepared for contacts with the Olympia Amateur Radio Club on board the *USS Olympia* (C-6). Admiral Dewey's flagship of 1898 has been fully restored.

Stateside contacts, please remit 40 cents for postage; foreign contacts, remit 2 IRCs for your returned special certificate of contact. Call sign used will be the operator's call sign; example: WB2BWL-Sam.

Additional inquiries about the ship's history or its newly formed Amateur Radio operations should be sent with SASE to: Cruiser Olympia Association, c/o Olympia Amateur Radio Club, P.O. Box 928, Philadelphia, PA 19105. □

Cape Hatteras Lighthouse

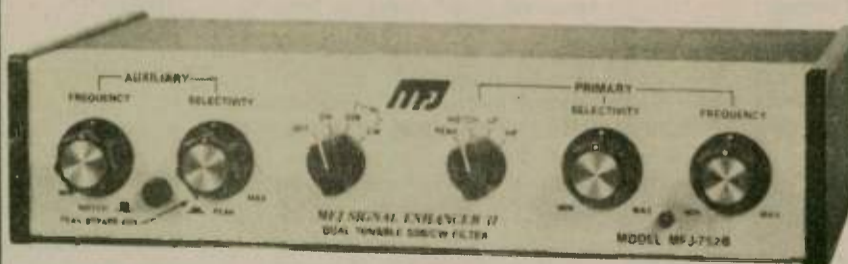
When the Cape Hatteras Lighthouse was completed in 1870, it was 1,500 feet from the shoreline. Today, it is 70 feet — and closing. The Cary Amateur Radio Club of Cary, North Carolina will draw world attention to the peril of this keeper

(continued on page 9)

MFJ Dual Tunable SSB/CW Filter

lets you zero in SSB/CW signal and notch out interfering signal at the same time. Primary Filter has tunable peak, notch, lowpass, highpass. Auxiliary Filter has peak, notch. Noise limiters for SSB, CW.

Adjust primary filter for optimum readability. Use auxiliary filter to eliminate interference.



\$89.95

The MFJ-752B Signal Enhancer dual tunable active filter system gives you signal processing performance and flexibility that others can't match.

For example, select optimum Primary Filter mode for SSB signal, zero in with frequency control and adjust bandwidth for best response. Then with the Auxiliary Filter notch out an interfering heterodyne... or peak the desired signal.

For CW, peak both Primary and Auxiliary Filters for narrow bandwidth to give skirt selectivity that others can't touch. Or use Auxiliary Filter to notch out a nearby QSO.

The Primary Filter lets you peak, notch, lowpass, or highpass signals with double tuned filter for extra steep skirts. The Auxiliary Filter lets you notch a signal to 70 db. Or peak one with a bandwidth down to 40 Hz

Tune both Primary and Auxiliary Filters from 300 to 3000 Hz. Vary the bandwidth from 40 Hz to almost flat. Notch depth to 70 db.

MFJ has solved problems that plague other tunable filters to give you a constant output as bandwidth is varied. And a linear frequency control. And a more effective notch filter.

Works with any rig. Plugs into phone jack. 2 watts for speaker. Inputs for 2 rigs. LED for power.

Switchable noise limiter for impulse noise; trough clipper removes background noise.

Simulated stereo feature for CW lets ears and brain reject QRM. Yet hear off frequency calls.

Speaker and phone jacks. Speaker is disabled by phones. OFF bypass filter. 10x2x6 ins. 9.18 VDC or 110 VAC with optional AC adapter, \$7.95.

Every single unit is tested for performance and

inspected for quality. Solid American construction.

Order from MFJ and try it — no obligation. If not delighted, return it within 30 days for refund (less shipping). One year unconditional guarantee.

Order today. Call toll free 800-647-1800. Charge VISA, MC or mail check, money order for \$89.95 plus \$4.00 shipping/handling for MFJ-752B.

Don't wait any longer to tune out interfering signals, order now. Call MFJ or see dealer.

CALL TOLL FREE... 800-647-1800

Call 601-323-5869 for technical information, order/repair status. Also call 601-323-5869 outside continental USA and in Mississippi.

MFJ ENTERPRISES, INCORPORATED
Box 494, Mississippi State, MS 39762

USQS spring cleans the files

Laryl Berry, KM7Z

Greetings from U.S. QSL Service, Inc.! I hope the sun is shining where you are. Here in Molino, Oregon, it's time to clean out the shack and the files. Most of you are lucky to only have the shack to spring clean... I have a couple hundred-thousand QSLs on file waiting to be claimed!!

For anyone who has not read or heard about the USQS, let me introduce myself. I am Laryl, KM7Z. I have offered the USQS bureau for two years now. USQS is a domestic bureau. What that means is that I handle QSL cards that are going to ops here in the USA. I also send batches direct to the Canadian Radio Relay League Bureau so I can forward Canadian cards as well. USQS accepts cards from anywhere and anyone so long as the QSL is headed to a U.S. station.

USQS works like the DX bureau. I request you keep SASEs on file to claim any cards that come here to USQS for you. If you would like to tell your contacts to QSL via KM7Z, that's great. If you work contests, odds are I have QSLs waiting for you; I get a lot of contest QSO cards. If you have a preference as to when you want your SASE returned, let us know. Perhaps you wish your cards as they come or only after 1 or 2 ounces accumulate.

If you have QSLs to send out to U.S. stations, it is appreciated if you would sort the cards into areas 0-9, then alphabetize each separate area by suffix. There is no charge for QSLing via USQS! The bureau is supported only by donations. USQS is a non-profit organization. I formed it and I operate it strictly as a service to my fellow amateurs. Donations are greatly appreciated. I also thank you

for the extra postage/envelopes I receive to help send out cards and flyers.

Now back to spring cleaning. The good news here is that volume is really booming and due to the increase in donations, a lot of unclaimed cards are getting mailed out. I am going through and mailing as much of the unclaimed cards as funds permit. If QSLs come in with a donation and I have no SASE for them, I will mail it direct along with a flyer. Many cards have been waiting for sometime now, so it is time to do some serious mailing. I hope the flow of cards will be great news to everyone, and an encouragement to those who don't yet use USQS.

The ability to mail out unclaimed cards is due to the donations I receive, so thanks and keep up the good work!

The World's Fair, in Knoxville, Tennessee will have a ham station! USQS has helped support the event by offering its services for QSLing. The QSL manager for the station will be Harvey W4PKM. USQS has agreed to handle any QSLs that come to W4PKM without SASE or postage for return cards. If you wish to QSL the World's Fair Station and receive a special QSL, and you already have an SASE on file with KM7Z (USQS), send your card either to Harvey or myself. I will send batches of cards to Harvey for

verification and special QSL, and he will send the reply cards back to USQS.

If there are any events that would like to use the system here to help with the QSLing, WELCOME.

I have been aware that the county hunters have a bureau of their own, and perhaps there are others. If you know of any other domestic bureaus, please write a note. I would like to see if cooperation could benefit everyone.

For the past two years, there has been a list of calls each month, representing unclaimed QSLs on file. This month again I have listed calls of amateurs who need (please turn to page 49)

In the proud tradition of the S/Line and KWM-2: Collins KWM-380.

What is "tradition"? Fifty years of HF communications experience and a high technology base that makes us an industry leader. Plus added value like the KWM-380 12-month warranty and 24-hour factory "burn-in" followed by individual testing and calibration of each transceiver.

The Collins KWM-380 gives you "tradition" in one box. Microprocessor control provides operation from the front panel or optional remote interface connector. Plug-in read-only-memory I.C. allows the addition

of WARC band changes. Built-in AC/DC power supply lets you operate almost anywhere.

Rate selectable tuning to 10 Hz with frequency memory and split VFO provide excellent operational flexibility.

The Collins KWM-380. A sound investment that offers excellent resale value. See it at your authorized dealer. Collins Telecommunications Products Division, Rockwell International, Cedar Rapids, Iowa 52498. Phone 319 395-5963. Telex 464-435.

Special Events

(continued from page 8)

of the "graveyard of the Atlantic." On 29-30 May, whether the lighthouse is still standing or not, Cary ARC members and friends will put two HF stations on the air from a site close to "the big candle." The targeted time for operation is 9:00 a.m. (1300Z), Saturday, 29 May to noon (1600Z), Sunday, 30 May 1982. Operation may start sooner and last longer, depending on conditions and people power.

Planned frequencies for operation are: CW — 3552, 7052, 14052, 21052, and 28052 kHz; SSB — 3988, 7288, 14288, 21388, and 28588 kHz. The call sign will be NB4L (New Blood 4 Lighthouse).

Every station making a contact with NB4L during the special event can receive a commemorative 8 1/2-by-11-inch certificate by sending an appropriate SASE (1 oz., folded or unfolded) with QSL card containing the correct log information to Chuck Davis, NB4L, 304 Atchison St., Garner, NC 27529. □

Mule Days

The Bishop Amateur Radio Club has decided to operate a special event station in California.

The event will take place on Memorial Day, 31 May, and is to celebrate the Annual Mule Days Celebration at Bishop, California.

Look for KA6AMT on the following frequencies: 3.905 7.240 14.295 and 146.34/94. A certificate will be offered for a large SASE sent to the Bishop Amateur Radio Club, P.O. Box 1024, Bishop, CA 93514. □



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Authority to suspend the operator license and revoke the station license is given to the FCC by the United States Congress. The scope of the Commission's authority is described in the "Communications Act of 1934, as amended." Section 303(m)(1) of the Act authorizes the Commission to suspend the license of any operator who violates the regulations. Section 303(m)(2) provides that the operator who is served with a suspension Order may request a hearing on the Order and that the suspension will be held in abeyance until conclusion of the hearing, at which time the Commission may affirm, modify, or revoke the Order. Section 312(a) of the Act authorizes the Commission to revoke the license of any station which is not operated in accordance with its rules or in violation of its rules. Section 312(c) provides that before revoking a license, the Commission serve the licensee with an order to show cause why a revocation order should not be issued, and set a time and place for a hearing. In the case of an amateur who has not waived the hearing, the FCC issues a combined Show Cause and Suspension Order.

A Technician's transmissions can be retransmitted by repeaters onto bands or subbands not otherwise available to a Technician. On 23 September 1981, FCC's Private Radio Bureau Chief issued an Order dismissing a petition to amend the rules as unnecessary, and stating the following: "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) for signals from a station with a Technician Class control operator on frequencies not authorized for the Technician Class."

Comments on FCC's proposed expansion of HF phone bands are due by 1 July 1982, and reply comments on or before 2 August 1982. One-copy comments will be considered. However, "formal" participants must file an original and five copies, and an original and 11 must be filed if you wish each Commissioner to have a personal copy. "All comments are given the same consideration, regardless of the number of copies submitted."

The Commission specifically proposes to add telephony emissions at 14,150-14,200 kHz in Section 97.61(a) but leaves the question open as to where (above 14,150 kHz) the added 50 kHz would be available to General Class operators. No change in the power limit is proposed.

Regarding "... the other telephony subbands between 3.5 and 29.7 MHz ...," the Commission asked seven questions on which it would like to receive comments and encouraged commenters to make specific frequency and occupancy recommendations and also invited comments about related matters not specifically mentioned (by FCC). Comments should be directed to Docket 82-73.

Paraphrased abbreviations of FCC's questions follow. A: Would expansion of telephony have a major detrimental impact on domestic telegraphy? B: Is protection of foreign stations from U.S. telephony a legitimate requirement? C: Is reservation of frequencies for foreign stations unnecessary or undesirable in view of the increased use of single frequency transceivers? D: Should new phone subbands be contiguous with the old? E: Should Novice subbands be relocated for orderly phone subband expansion? F: Are current Advanced and Extra Class exclusive subband widths sufficient? G: How should the recent expansion of the Canadian 7 MHz telephony subband influence U.S. telephone expansion?

FCC's recent Order in Docket 80-252 for facsimile included VHF bandwidth limit changes for F4 and F5. Section 97.65(e) was amended to provide: "On fre-

quencies between 50 MHz and 225 MHz: ... (3) F4 and F5 emissions shall utilize a peak carrier deviation no greater than 3 kHz or, alternatively, shall occupy a bandwidth no greater than 20 kHz. (...)"

Certain expired club and military recreation station licenses can be renewed with the old call sign. By a Memorandum Opinion and Order adopted 28 January 1982, FCC authorized the Chief, Private Radio Bureau to grant "... applications for renewal of Club and Military Recreation station licenses, provided that: (a) The station license expired between 11 March 1977 and 14 July 1980, the effective date of the amended rules. (b) The application for renewal is received by the Commission on or before 1 June 1982."

CB/TV interference was the reason for over 56 percent of the complaints FCC received in fiscal year 1980. The total number of complaints was 80,244, of which 45,369 were CB/TV. The Field Operations Bureau estimated that television receiver front end overload was involved in 45 percent of the CB/TV complaints. This information is in an FCC memorandum dated 12 January 1982, filed in Docket 78-369, "In the matter of Radio Frequency Interference to Electronic Equipment."

The FCC has again asked for comments on methods of amateur transmitter power

measurement. In its 27 January 1982 Order, FCC dismissed two petitions (RM-3137, RM-3181) asking for 2kW for moonbounce and a 250-watt limit on A1. In that Order it also reiterated a previous Docket 20282 statement that it was "... still of the opinion that the state of present-day amateur communications warrants the use of better procedures to determine transmitter power than the 'plate voltage times current' method. "We intend to revisit this matter at a later time, and we encourage amateurs, in the interim, to develop and disseminate data which could be used as a basis for a workable and state-of-the-art measurement technique."

It reported that, in addition to peak envelope power output (PEP), "Other techniques under consideration for power measurements and regulatory requirements included PEP input, average power input, ratios of peak to average power output and limitations on dissipation ratings of final power amplifier devices."

The use of a Consent Order to dispose of proposed suspension and revocation of amateur operator and station licenses was reported in last month's Highlights (Richard Eastman, N5FX and Ralph Ennis, WA6GVG). This tactic may seem to be an easy out for the amateur involved, in that he gets to stay on the air and avoids the expense of time and money of a

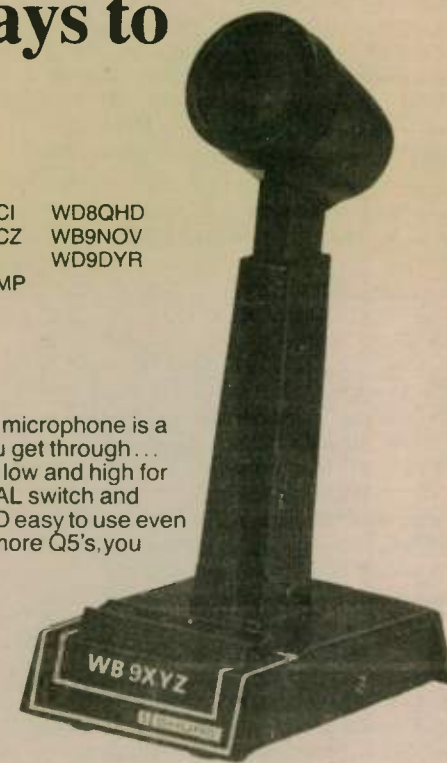
Two great ways to get Q5 copy

Ask:

G4HUW	KA5DXY	KB0TM	WD4CCI	WD8QHD
KJ2E	KB5DN	W4YPL	WD4CCZ	WB9NOV
K4XG	K61MV	WA4FNP	W5GAI	WD9DYR
KA4CFF	K8MKH	WD4BKY	WD5DMP	

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Truly a microphone and a half! Variable output level that lets you adjust the impedance to match the system. The perfect match for virtually any transceiver made, from 500 ohms and up. Turns mobile-NBFM unit into an indoor base station! Super for SSB operation, too. These and many other features make the 526T Series II a must-try unit.

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See at your local dealer or order direct if none in your area.

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hearing. However, the violation of a Consent Order will subject the party to the Order to immediate imposition of any and all sanctions which could have been imposed had every one of the "issues" of the Commission's revocation and/or suspension Order been decided against the licensee in a hearing. The sanctions may be promptly imposed at any time in the future should violations reoccur.

A petition asking the FCC to adopt a position on net vs. non-net amateur station operation was dismissed on 18 January 1982 by Order of the Chief, Private Radio Bureau. The Order quoted a rule proposed in Docket 21033 in 1976 as follows: "All Amateur Radio Service licensees shall cooperate in the selection and use of authorized frequencies and shall take such steps as may be necessary to minimize interference to other Amateur Radio stations. Licensees making prolonged use of a particular frequency or frequencies shall cooperate with other licensees in the use of such frequency or frequencies."

The proposed rule was overwhelmingly opposed. It was criticized as vague, and it was said that its adoption would create more problems than it solved, etc.

Therefore, the Commission did not adopt the proposed rule.

The current dismissal Order stated: "However, the policy we expressed in the proposed rule must be widely observed by Amateur Radio operators if self-disciplined frequency sharing and selection in the Amateur Radio Service is to continue to be workable."

"FCC denies reconsideration of new rule governing Amateur Radio identification procedures (PR Docket No. 80-136)." The petitioner sought reconsideration claiming the Commission made a procedural error in not discussing his comments in its Report and Order and that the wording in the rule, as adopted, was different than what was proposed. The Commission noted that, while petitioner's suggestions had been considered, it was not required to discuss every comment in its final action. The difference in the proposed and final rule wording was considered to be a matter of semantics. It also said petitioner's "... request that the rule be amended to allow identification 10 to 30 seconds before the end of a communication would be an unnecessary

(please turn to page 49)

Amateur Radio call signs

Amateur Radio operators often ask the FCC what call signs have been assigned lately. This list shows the last call sign in each group to be assigned for each district, as of 1 February 1982.

Radio District	Group A	Group B	Group C	Group D
0	KQ0X	KC0NE	N0DKW	KA0NBD
1	KI1O	KA1YU	N1BYU	KA1IGW
2	KT2M	KC2MJ	N2DGI	KA2OKM
3	KG3X	KB3YM	N3CQP	KA3IRS
4	NW4P	KE4MN	N4GJP	KA4YTR
5	KW5X	KD5HT	N5EJO	KA5NGQ
6	NI6E	KE6PG	N6GAJ	KA6SST
7	KQ7U	KC7PJ	N7DQN	KA7MID
8	KT8L	KC8SO	N8DPY	KA8OWA
9	KM9I	KC9MK	N9CYE	KA9MNL
N. Mariana Is.	AH0A	AH0AA	KH0AC	WH0AAE
Guam	AH2N	AH2AN	KH2AV	WH2ADD
Johnston Is.	AH3A	AH3AB	KH3AB	WH3AAC
Midway Is.		AH4AA	KH4AC	WH4AAF
Hawaii	NH6Q	AH6DW	KH6RC	WH6ASM
Amer. Samoa	AH8B	AH8AB	KH8AB	WH8AAN
Wake Wilkes Peale			KH9AA	WH9AAA
Alaska	WL7N	AL7DO	KL7SU	WL7ATF
Virgin Is.	KP2H	KP2AK	NP2AN	WP2ACV
Puerto Rico	NP4J	KP4EY	NP4ES	WP4CEW

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



Bill Welsh, W6DDB (right) presents an award to Arthur Godfrey, K4LIB at the Los Angeles chapter of the American Red Cross. The occasion was the 40th anniversary celebration of the first pint of blood collected by the Red Cross in Los Angeles. Arthur helped initiate the "GAPSAL" (Give A Pint, Save A Life) activity at the start of WWII. This group was highly successful in getting entertainment industry people to donate blood for war zone use. Bill is a multi-gallon blood donor who is very active in the Los Angeles area blood program.

Amateur Radio week in New Jersey

Submitted by David B. Popkin, W2CC

On 17 February 1982, Sondra J. Greenberg — mayor of Englewood, New Jersey — issued the 22nd proclamation issued in that city for Amateur Radio week. The week designated as Amateur Radio week this year is 20-26 June.

Among the comments mentioned in the proclamation was the fact that "the Englewood Amateur Radio Association has brought honor to its members and the City of Englewood by placing first in its transmitter category throughout the United States and Canada during the Field Day exercises in 18 of the last 19 years." Mayor Greenberg encourages "the recognition of the essential emergency services, as well as the year-round services which are provided by Amateur Radio operators in Englewood."

VIP goes to an open house

Gerhard Schilling, AI6I and David Hannah, W6NBJ

Training for emergency preparedness can be fun too. Not that the members of California Department of Forestry's (CDF) Volunteers-In-Prevention (VIP) program in Riverside County need much additional training. Unfortunately, they have gained enough experience during recent fires and floods (see Worldradio, September 1981, page 1). But a recent exercise gave the OMs and YLs an opportunity to show off to XYLs and harmonics, and let all enjoy a fun event.

The Air Attack Base at Hemet-Ryan Airport in Southern California is a joint CDF — U.S. Forest Service (USFS) operation, and one of the busiest in the nation. At the end of fire prevention week in October, an open house was held with some 15 emergency agencies participating. VIP members were responsible for the airport-wide communications, and their Amateur Radio network linked the command post and simulated fire camp with the many air and ground demonstrations and the exhibit areas.

The duty assignments listed below indicate that VHF was busy indeed. A good time was had by the more than 1,000 visitors, and VIP members had a rare opportunity to chat with many of the officers and members of the various organizations, who they otherwise meet only under emergency conditions.

Kansas DEC says thanks to amateurs

Jim Armes, WD0CFZ

When Great Bend, Kansas was almost 70 percent flooded in 1981, many Kansas amateurs responded, making use of transportation provided by the National Guard and facilities provided by the local community college. These amateurs were the only communications coverage the city had.

The amateurs acted in a very professional way. They located all persons involved, using college students to get the names and addresses of all displaced persons. They helped the city fathers direct the rescue operations for two-and-a-half days.

All of the amateurs involved received certificates from the ARRL for their efforts.

Cooperation on the 40- and 80-meter bands by amateurs throughout the United States was excellent.

As District Emergency Coordinator for northeast Kansas, I would like to thank the amateurs of Kansas and throughout the United States who helped during this emergency.

VIP duty assignments
Ryan Airport — 10 October 1981

VIP Net Control: W0TTG; Floyd Peck, K6SNO; Incident Command Post: Clifford Mullen, WA6FIE; Gerhard Schilling, AI6I; Base Camp: Ellen Parker, WA6UVF; Ben Traxler, WB6FRB; Dave Hannah, W6NBJ; KA6QHR; Airport control tower: Derwood Crock, WA1TGO; Runway: C. Gordon Busby, W6CDB; Public Plane Rides: Garland Moore, WB6NSX; Chester Elder, W6KRH; Barbara Schaelein, KA6LVM; John Schaelein, KA6LVN; CDF Public Information Officers: M. Stanley Cox, N6CBK; Hazel Kirk, WD6FEM.

CDF-USFS Important Visitors Reception: Robert Mann, W6LKN; VIP Motorcycle Patrol: Joseph Saetveit, N6BCD and others; Riverside Mountain Rescue Unit: Mary Bowman, WB6VXC; Phone Patching: Ray Adams, K6VDS; Various Locations: Lee Owens, WD6DGI; N6DYR; Mack McCorkhill, WD6GEE; Robert Hagerty, W6JMI; Lanford Sorensen, W6JWQ; Elvie Holman, WB6PZN; Merton Thomas, WA6QMW; James Holman, WB6ZMV; KQU2152.



Among the many real VIPs — that is, Very Important Persons — Kay Cenicerros, member of the Riverside County Board of Supervisors, is welcomed by Woodsy The Owl and Smokey The Bear.



The oldest equipment to be seen was a 1930 La France pumper from the Hemet City Fire Department. It is still functional, but does not respond to fires any more. At least, not lately.

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1.5W	45-50W	2C050-2W
1.5W	80-90W	2C100-2/25
2W-5W	>30W	2C025-2W
2W-5W	>50W	2C050-2W
2W-5W	>100W	2C100-2/25
10W	100W	2C100-10/25
25W	100W	2C100-2/25
25W	100W	2C100-10/25

25, 50, or 100 Watts Power — Whatever your present output level — from 200 mW hand-held or "battery saver" mode to 25W mobile or base — you can use that to drive a compact, 12V power amp from VoCom for much more talk-out power (see chart). Each model has a front panel switch to let you go "barefoot" for short hauls, plus an L.E.D. indicator to show the mode you're in. Full 10 MHz bandwidth gives you virtually unchanged power across the entire 2-meter band. High efficiency design holds down generated heat, low input VSWR saves battery drain by your radio's final amp. Use the chart to see which VoCom Power Amplifier gives you the power out you'd like from the power that you now have.

Power Pocket™ Mobile Amplifier/Charger — Simply plug in your Icom IC-2A(T) and you have a 25W synthesized mobile rig — take it out again, all charged and ready, when you want hand-held operation. Accepts any IC-2A version. Delivers 25W RF output, 2½W audio with 4" speaker to overcome road noise. Charge pocket accepts all Icom battery packs, has independent charging switch, indicator. Mic preamp makes Power Pocket compatible with any mobile microphone and with Icom speaker/mic.

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Tesla film is NOT available

About two issues ago, there was a short article notifying the readers that a certain "Nikola Tesla" film was available for showing to interested groups. (See Page 2, Worldradio, February 1982.) The article was written by a Mr. Joe Turkal and it referred the reader to the Consulate General of SFR Yugoslavia in Chicago, Illinois.

We wished to reserve the film mentioned for a fairly large crowd here in our Scott Valley area in Northern California and contacted the Consulate General's office and received the following reply.

Quote: "Dear Mr. Gipson — Thank you for your interest in the 'Nikola Tesla' film. This being a motion picture made in Yugoslavia, in cooperation with some foreign actors, and having in mind the commercial factor from the producer's side, I'm sorry to inform you that this film is not available for general distribution or public showings.

"Furthermore, Mr. Joe Turkal of the Massillon Amateur Radio Club in North Canton, Ohio, did not have permission to advertise the film as he did not acknowledge his intentions to this office for showing the film in public. Signed — Very truly yours — Milos Nikolic — Consul."

Throughout the years, I have run across several similar circumstances where a person — without a doubt, having very good intentions and thinking of performing an excellent service for (his) fellow amateurs throughout the country — fails to have a full understanding or fully stating one's intentions, and it causes

not only bad feelings but tremendous inconvenience(s). In such a case as this one, we can only sympathetically imagine the amount of work as well as expense involved in answering inquiries.

We are writers, and we have a self-publishing business. As a way of friendly advice as well as warning, let us say this: In the event anyone has an item of interest where inquiry is involved from the reader, be sure you have a complete understanding with the party or parties surrounding the item as to what your complete intentions are or may be concerning that item. They may not be ready to announce publicly what they have; they may not be set up to handle a rush of correspondence; they may not have brochure fillers. As a result of all of this, a person not having the proper authority or release for such a news release can very well find himself inside a court of law wondering how it all so innocently happened. Of course, Joe, you could see what you could do in getting Mr. Nikolic interested in Amateur Radio.

Very truly yours,
LEE and VADA GIPSON,
K6IVD & W6CEE
Fort Jones, California

KE6CZ needs info on nets, beacons

Are there any Sinclair ZX-81 computer user nets currently active? If so, what time, day(s) and frequencies do they meet? Also, where are the following aircraft (or marine?) beacons located? I've logged 50 so far, but have found the locations of only six. (Frequencies \pm 2 kHz): A-320, BNO-396, COR-206, EZB-362, FR-355, GWF-282, INE-521, LV-374, MNC-348, NO-351, OT-376, PNA-392, QQ-401, RD-410, SL-288, TA-390, UNB-388, VI-220, XSD-278, ZP-368.

GARY PAYNE, KE6CZ
Fresno, California

Looking for a local club?

Just saw a request article from Andre J. Nutis, KA0IGX looking for help in finding a good radio club in the St. Louis area. (March 1982 Worldradio, page 14)

The solution is very simple if he merely contacts the ARRL in Newington, Connecticut. When I came to the Danbury, Connecticut area from New Jersey, I called the League and the young lady was so very helpful in giving me names, addresses and phone numbers of clubs and club officers in the area. The address of ARRL is 225 Main Street, Newington, CT 06111; (203) 666-1541.

73,
BUD LIEBERMAN, WB2WSZ
Hackensack, New Jersey

Help needed in printing QSLs

I'm in need in some donated batches of QSLs printed. Anything would be greatly appreciated.

Thank you.

GARY MITCHELL, KH8AC
P.O. Drawer 909
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96799

Film wanted in Ohio

I wonder if any of your subscribers has any film showing an actual emergency operation or a simulated emergency operation which would be useful to show the local police and sheriff departments what Amateur Radio can do for them.

JERRY SWANK, W8HXR
Washington Court House, Ohio

King of Sikkim becomes Silent Key

1 March 1982

A very good friend of mine — AC3PT, the King of Sikkim — died in a New York hospital last week of throat cancer. I used to go out riding with King Thondup and the princesses, then go back to the palace for breakfast when I was in Gangtok as AC3SS. You may recall Thondup was married to the American, Hope Cook, who — after being the Queen of Sikkim — was kicked out of the country. She now lives in Connecticut, I believe, where she is fighting to get her citizenship back, after she renounced it when she married Thondup, instead of becoming a dual citizen.

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Columns bring rewards

I have two purposes in writing. One is to share with you — and perhaps your readers — several rewarding experiences I've had recently as a result of participation in Amateur Radio affairs. The other is to offer you some news notes of Amateur Radio activity in southern West Virginia. (See page 6.)

Since June of 1980, I have been writing a non-technical column on Amateur Radio which is published in the *Montgomery Herald*. The columns are designed to acquaint the general public with various aspects of Amateur Radio. I have also had an occasional item or story published in the *CVRA/Southeastern Repeater Association Journal*. CVRA/SERA serves Virginia, West Virginia, North and South Carolina, and Tennessee.

I receive nothing for these columns and consider them my contribution to publicizing Amateur Radio. But there have been rewards. Through *Journal* articles with my byline, I've been put in touch with two old friends from high school days and earlier. We had all lost touch but independently, each eventually became a ham.

As the result of an article in the November 1980 *Journal* on our club's new W8FG/R 2-meter wide area repeater, I had a letter from Shirley White, KD4HB in South Carolina. Following high school we had gone our separate ways — into the military and later to college. Shirl went to

a seminary and became a minister now residing in South Carolina.

We've since re-established contact and had an eyeball QSO this fall — the first in about 22 years as we figured it. Shirl's brother, Gary, is now a Novice. He still resides in this area and recently visited me. It had been a dozen years since I had last seen him.

Following another *Journal* article in the November 1981 issue, Dave Allen, WD8LDY near Clarksburg, discussed it with John Wills, WD8MIK in Kingwood via 2 meters.

That contact established that John (Jack, as I always called him) and I had gone to school together at Logan Junior High. Through Dave, a schedule was set up for me to renew an acquaintance with John after a 28-year lapse of contact.

Now I'll have to start working on a third old high school friend to become a ham. Gil Wiggins became a Navy career man and we lost touch about 20 years ago. I wasn't aware that he had retired as a Lt. Cmdr. until I read his brother's obituary in the newspaper and Gil was listed as a survivor with a West Virginia address. I've since been in touch with him, but it would be ever so much easier if he also were to become a ham.

Incidentally, for any West Coast amateurs planning to motor through the five states along the Eastern Seaboard, it would well be worth the \$3 a one-year subscription to the *Journal* would cost. Just send \$3 to CVRA Associate Membership, P.O. Box 5655, Greensboro, NC 27403. Also include your name, date, address,

call, your phone number, whether you're a member of ARRL, and list the repeater you call "home." Along with your monthly newspaper, I consider the *Journal* one of the best buys in Amateur Radio.

Each quarterly issue of the *Journal* includes an updated list of repeaters (2-meter, 440 MHz, 220 MHz, and 6 and 10 meters) in the five states, plus a chart showing the distribution of repeaters in the region by frequency. Each issue also includes a list of repeaters in neighboring

states as provided by frequency coordinators in those neighboring states. The information is more timely than in the annual ARRL repeater directory, at least for our region.

With the hope you may find some of this interesting and usable, I am,

Sincerely — with 73's,
TED WOLFE, WD4KHL
Cabin Creek, West Virginia

RG-8/U correction

There is a bit of an error in Gordon West's Maritime Mobile column (March). The 'G' in RG-8/U does not stand for government (this would be redundant, as it is government nomenclature intended for government services); it means 'guide,' as in radio guide, wave guide, et al. The 'R' stands for radio, not radio frequency. The 'U' does indeed indicate the product was intended for universal application. It was a good article, even if I don't own a boat.

I would like to see a VHF column of sorts; there is plenty going on at 50 MHz during this 21st solar cycle . . . worldwide F2, TE and multi-hop E propagation, new countries coming on 6 meters and so on . . . but to read *Worldradio*, one gets the ideas that DX ends at 10 meters. Taint so!

Cordially,
BUD WEISBERG, K2YOF
Bergenfield, New Jersey

Lazy DXers? Not so!

I have been an amateur for a little over a year now and am working on my DXCC award with 95 confirmed and 147 worked.

During the recent ARRL phone contest, I was an active listener for new countries to add to my list. I am at a point now where the countries that I need, everybody needs. So when I am trying to QSO a new country, there is usually a pileup.

Until the phone contest, I disliked list operations and DX nets. Now I am all for them. This is in contrast to your article about "Lazy DXers" in the March 1982 issue of *Worldradio*. (DX World, page 27)

On three occasions during the contest, the DX station went QSY because of severe QRM and rudeness of the hams. On one occasion, while trying to work a 5Z5 (Kenya) station during a pileup, I received an answer to my shout. "2 Alpha come back." What came back to the 5Z5 was a 2 Alpha Delta, a Bravo Alpha and

(please turn to page 17)

New TEN-TEC tuner design eliminates constant retuning!

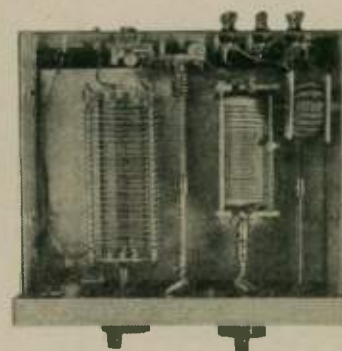


You may only tune once per band with this new 2 kW tuner. And it's only \$249.⁰⁰

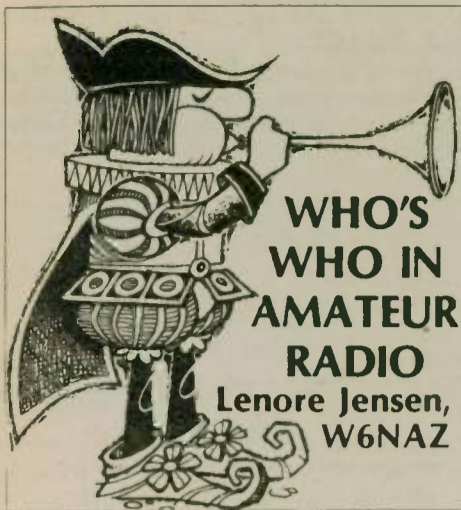
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When TV ratings come out, Art Nadel, W6TZY is frequently awed to realize how many people are affected by what he and his co-workers at Filimation Studios do.

In his case, it should be a warm and satisfying feeling. He's a writer-director-producer of a great many successful programs for children seen Saturday mornings on screens across the nation.

He shakes his head and remarks, "Yes, when you learn that 8 million have watched a certain show, it's a sensationally awesome feeling; you feel concerned as to whether you've done your job!"

His company's philosophy (inspired by its head, Lou Scheimer) is always to consider what's best for the welfare of the children. And in today's competitive market, that's a neat trick. But obviously they are highly successful.

An example would be "Fat Albert," which stars Bill Cosby. In its 10 years, the program has garnered countless honors recognizing its efforts to deal entertainingly with story material not usually presented to children. Subjects range from death, divorce, stealing, drugs, mixed marriages, and the hardest of all — sex. "Traditionally," says Art, "children do not want to be sermonized, especially when watching TV!" But this show has proved an exception. Surprisingly, research has shown that about half of its audience represents persons over age 18.

Preparing program material for television audiences and the "ratings" is like walking a tightrope. On the one hand, it is believed that heavy conflict (and varying shades of violence) assures an audience. On the other side is the conscience of the producer.

So anxious are the Filimation folks to present only material in the best interests of growing kids, Art regularly consults with a panel of experts, headed by Dr. Gordon Berry, professor of the Graduate School of Education at UCLA. Sociologists, anthropologists, psychologists and educators are available to discuss with him every concept being considered for a program.

In his other shows ("Shazam," "Isis,"



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"Kid Super Power Hour," "Zorro," "Lone Ranger," "Tarzan," "Jason, of Star Command," "Blackstar," etc.), the same question has preceded all script decisions: "What are we going to say in this one; what is the moral?" (Art's in the happy position of being able to take pride in his work.)

He's followed a long road through the field of motion picture production. His father was manager of the old Paramount Long Island studio in New York. But it was in Hollywood that Art started — as a messenger boy. Before long he became an apprentice film editor.

"I've always been grateful," says Art, "because editing is the most useful possible background in this business, especially in what I was to do later — writing, directing and producing."

He'd seen another important side of the business when he worked as an assistant with an independent casting group, learning the delicate job of selecting just the right actor for a specific part. This was while he attended college.

At Paramount he got into the vital side of editing — sound. Then for three years, Art worked as a music editor on major musicals at 20th Century-Fox. The experience was invaluable.

His first opportunity to become involved with what presently is of maximum concern was at the Walt Disney studios, where he worked on features which combined live action with animation. But more of that later.

Art Nadel began to receive awards for his editorial excellence while doing theatrical films at Columbia and United Artists.

His opportunity to get into directing came in Europe as Second Unit Director for the feature, "The Man Who Watched The Trains Go By."

It's not as great a step from editor to director as one might think. "As an editor, you really are a dramatist playing out a scene," he explains. But of course, there are good and not-so-good editors.

"I think that when a producer gives the 'dailies' (the film of a day's shooting) to an editor, it reminds me of an old saying. It's like hearing the same joke from 10



Art Nadel, W6TZY inspects animation "cells" near a film animation camera. (Photo by Bob Jensen, W6VGG)

different people. Some will have you rolling on the floor and others will bore you to death," he continued. Editing is a method of telling a story with the materials on hand. Its quality depends on the talent of the editor. (We well might note the names on good pictures as the credit for the editor passes by.)

As TV blossomed, so did the need for good editors and directors, especially those able to work rapidly and keep up with the omnivorous appetite of the new medium.

Art joined the big advertising agency, McCann-Erickson, as head of the post-production department, supervising the editing of their many series and commercials. Here he needed all of his talents.

Yet another was to be added — story editing — when he joined Four Star which turned out the "Plainsman" and the

"Rifleman" series. He directed a good many of the latter.

"The Detectives" ran for three whole years; he was producer-writer-director. There he had a chance to use Amateur Radio in the story line. "Being careful of which call letters to use, I decided to use my own and the former call of friend Joe Westheimer, N6VL. The story concerned a rescue done by amateurs and the call letters were clearly heard.

"For years since (it gets replayed), Joe and I have received extremely witty and clever letters from hams who looked us up in the Callbook and kindly wrote!"

He spent another five years over at Universal, with "Kraft Theatre," "Arrest and Trial" and "The Virginian." A complete change of pace came with the interesting assignment to direct Elvis in "Clambake."

Art crossed the Atlantic again, this time to film "Underground" for United Artists. And in between, he continued to direct a great variety of TV filmed shows, such as "Streets of San Francisco" and "Big Valley."

Like his current work, some of his past efforts have brought great personal satisfaction. He received an Emmy for his fine NBC special, "Welcome Home," which explored the plight of the returned veteran from Vietnam. Similarly, another special also brought plaudits: "Crime Without Punishment." Controversial, it concerned juvenile justice. It, too, earned an Emmy.

The late Judge Bill Ritzi, W6ONC was so impressed, he arranged for a showing of it to the Grand Jury. Several laws were changed as a result of Art's well-documented and presented special.

Art Nadel's rich and wide background in film has brought him to his happy present situation. Filimation, of which he is a vice president, deals largely in the com-

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mination of "live" (real people) and animation — ideal for children's programs.

In TV, as everyone knows, time is all-powerful. "Therefore," says Art, "the tempo of animation is about five times that of live action. One does not have to go through the 'grace notes' of someone entering a room, establishing something, speaking and leaving. Characters don't need entrances and exits; they can be believable although not real. We can speed up via dramatic license. The attention span of very young children is short. Live action doesn't work as well with them; that's why animation is so popular on Saturday mornings."

"Certain aspects of live, I prefer. It is more real. We can make a stronger message in terms of surrogate characters over animation, but we just wouldn't have the audience."

The complex functions of creating these programs involve a great number of writers, artists and technicians. And much of such a company's work is concerned with "presentations" to networks of possible future programs. At the time, Art is counting 42 projects "in the works." The TV industry is such that many, many efforts result in a far lesser number of purchased shows. But that's the way the game is played. Fortunately, Filmation's products are popular.

Relaxation from a heavy schedule comes from — you guessed it — Amateur Radio. Art's preference is 2 meters, which keeps him company to and from the studio, as well as when shooting on location. He first discovered Amateur Radio when he was 9 years old, listening to the shortwave portion of his dad's radio.

But it was about 26 years ago that he became W6TZY. And he's inspired several others into the hobby, including his nephew, Michael Kehr, K6GUY — a doctor of nuclear medicine who once stirred up the bands by going on a DX-pedition to the South Pacific.

Art has many ham friends within the movie world. Bernie Abramson, W6PJX had been filming with him on the set of "Fat Albert" the day of this interview. Another cinematographer — Fred Gately, W6LNH — has also worked with him. Special effects and titles are frequently made for Filmation by Joe Westheimer, N6VL, whom he urged into Amateur Radio.

Art's time is divided in many ways. He serves on the faculty of UCLA's Department of Theatre Arts; he is also an awards judge of documentary shorts and features for the Motion Picture Academy of Arts and Sciences. He was made "Man of the Year" by the National Multiple Sclerosis Society, on whose advisory board he serves. Art belongs to all the professional organizations and guilds of the many fields in which he works.

In addition, he's on the Board of Directors of the Producers Guild as well as being a trustee for the Producers' Pension Fund; he's a director on the Board of the Inter-Guild credit union, too. (Never a dull moment!)

His children are now of college age. Son Paul's in law school at Northwestern while daughter "J.C." attends Cal State University at Northridge in the San Fernando Valley, not far from Filmation.

With all his busy activities, Art always finds time for Amateur Radio and "especially enjoys the delightful conversations" of his fellow repeater members.

Thus, when next you see Arthur Nadel's credit flash on the screen — be it as producer or writer or director — you can say, "And besides that, he's W6TZY!"

Off the Air

(continued from page 15)

me — the 2 Alpha. The 2 Alpha Delta, who was the strongest, got through.

The above situations wouldn't happen during a net or list operation. And because of this, I will never again put down a list or DX net-type of operation.

73s,
GREGG DECKER, KS2A
Woodbridge, New Jersey

Long-distance on 2 meters

Yesterday (19 February) I kept a sked with Jack Chew, ZL1BL on 15 meters, and he told me he had worked five VKs on 2 meters through the Hastings, New Zealand repeater. That's 1,200 miles plus.

One New Zealander reported to Jack ZL1BL that he'd heard a WB6 but didn't get all the call. Now that's 6,500 miles from Los Angeles to Auckland, New Zealand.

I was just returning from six weeks

stay in New Zealand and five days in Tahiti this time last year. I had my own call, ZL1ACZ.

I'm on sked each Friday and Saturday my time with the New Zealanders ZL1BL and W. D. McCracken, ZL3FV; and Fred Shidel, K6AQV of Kerrville, Texas on 21,417±QRM.

73,
WALLY NEWMAN, W6FEX
Smith River, California

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■ The 10 frequencies that you put into the memories are stored with your repeater offsets, and you can have them scanned, searched or instantly recalled at the touch of a button. ■ Memory 1 even gets priority treatment in the memory scan mode. ■ That's timely complexity made amazingly simple: and the high power option of 3.5W (nominal) is simply the greatest reach you've ever held in your hand.

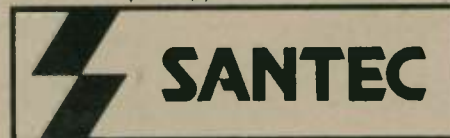
■ "Battery saver" function by the computer to hoard battery power when the frequency is quiet. ■ Programmed limits for both ends of bandscan. ■ Simplified frequency entry only by keyboard. ■ Full capacity, low impedance audio output to drive an external speaker. ■ Wide band span for MARS, CAP, AF, MARS: 142.00-149.995 MHz. ■ Quick-change 500mAh battery. ■ Separate level controls for MIC, TT, PL and DEV. ■ & so much more that we don't have space to mention. ■ SANTEC hands it all over, while others can't even give you the time of day.

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• Mobile Charger (ST-MC)
• Speaker Microphone (SM-1)



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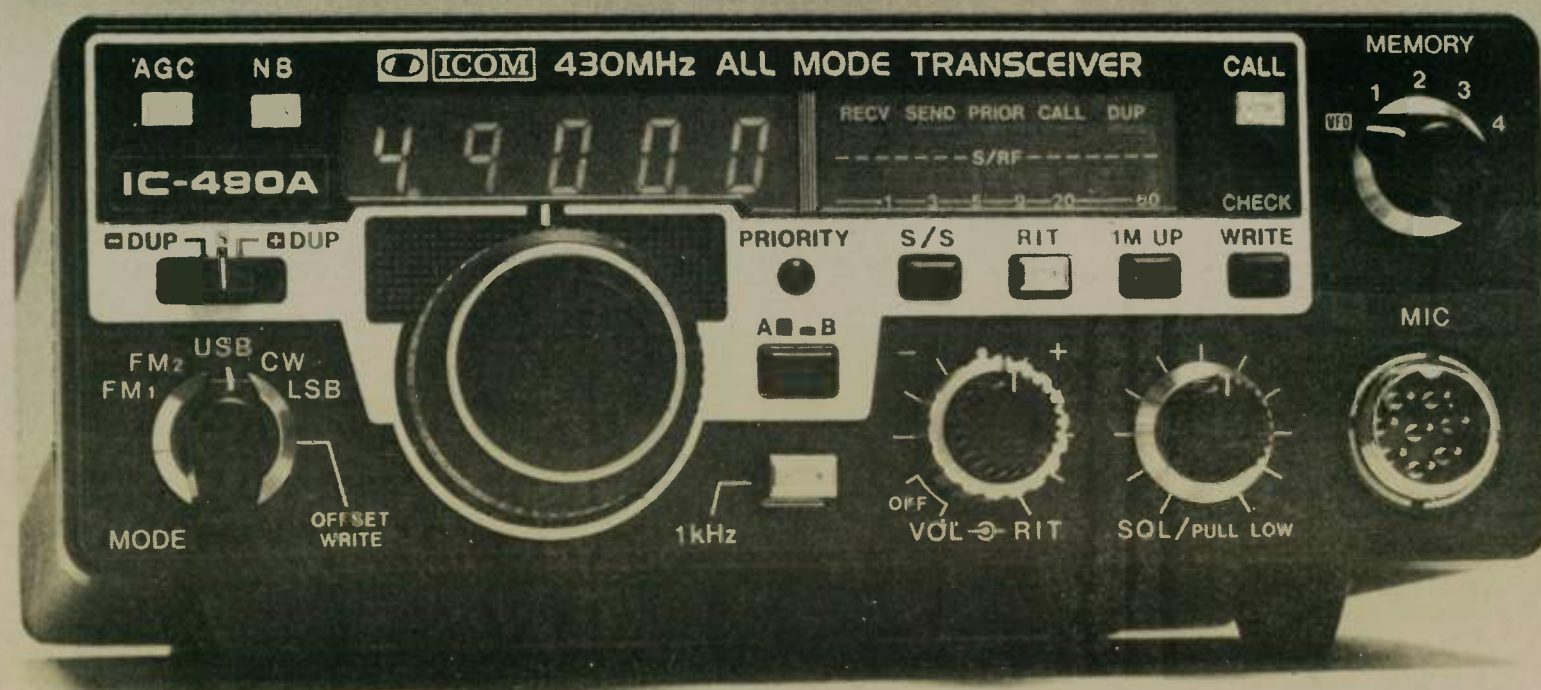
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Scanning features include full band scan, programmable band scan (scans between memory 1 and 2) or memory scan.

Using internal switches, the IC-490A will resume scan after an adjustable time delay, resume scan after carrier drop, sense busy or empty channels, and control scan speed.

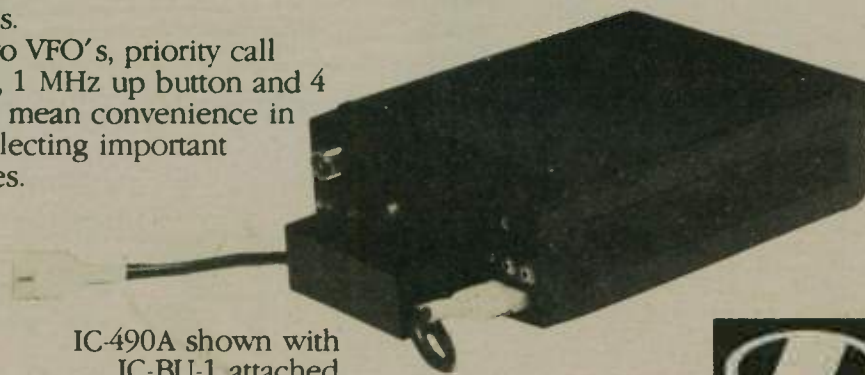
Use the call button to automatically select a frequency designated as the primary channel overriding other transceiver functions.

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IC-490A shown with IC-BU-1 attached



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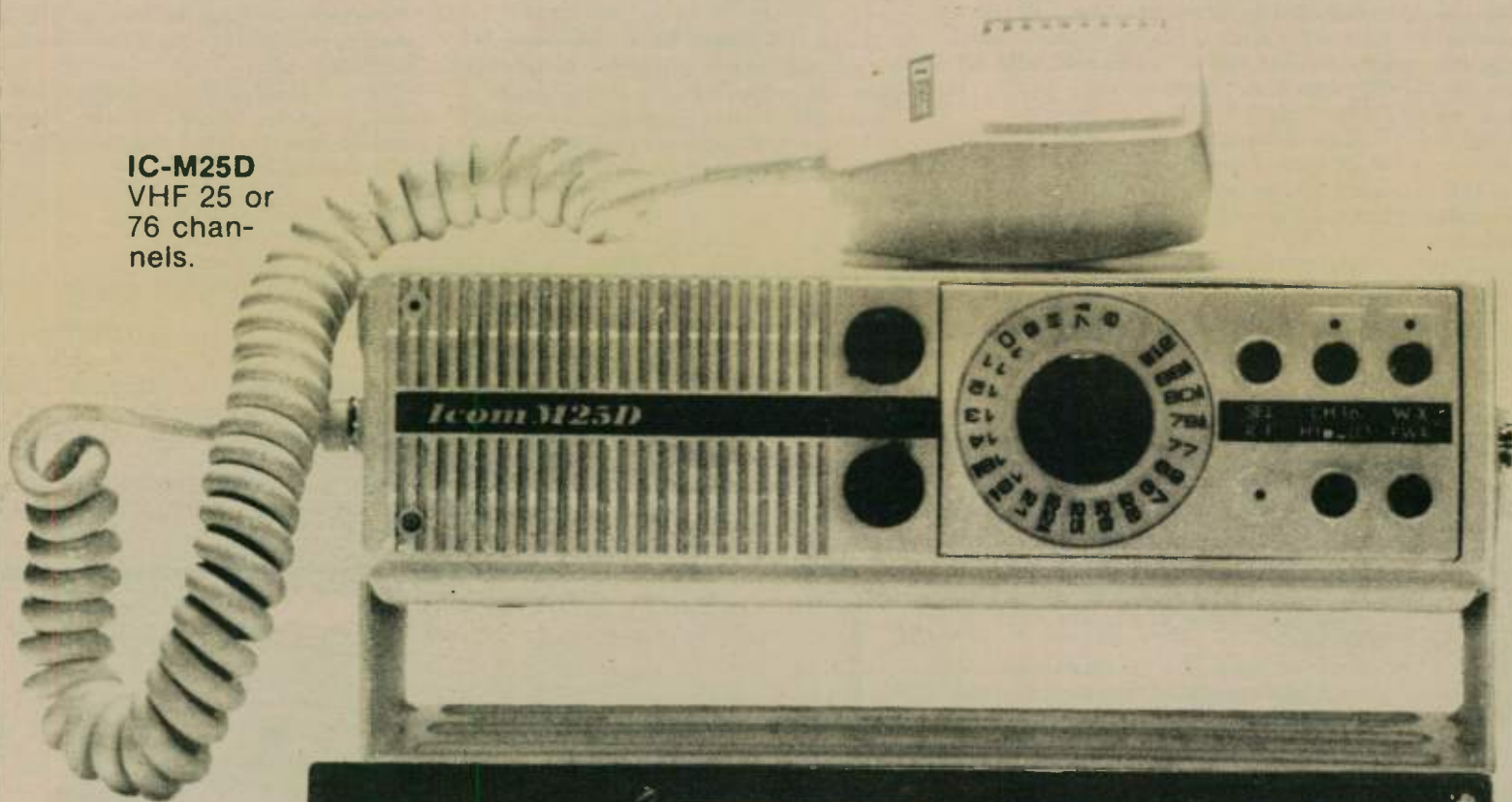
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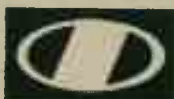
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**J.A. "Doc" Gmelin,
W6ZRJ**

Past Director, Pacific Division
ARRL Honorary Vice-President

In February, the FCC released Docket 82/83 — a combined Notice of Proposed Rulemaking and Notice of Inquiry on the subject of phone band expansion. The Docket proposes to expand the 14 MHz phone band by 50 kHz and requests comments on several issues relating to phone subbands.

Phone band expansion is certainly not a new issue in Amateur Radio, and I suspect this issue and the subject of license class related to use of the phone bands are the two issues that most divide radio amateurs and keep many from being members of the ARRL.

Phone band expansion, on the surface, seems like a rather simple issue. In the field I hear from many amateurs who feel the FCC is "not letting" amateurs in the United States use certain available frequencies and why should we not be allowed to use them? After all, the phone bands are overcrowded.

Of course, it isn't quite true that U.S. amateurs can't use all the amateur bands which are available to us internationally. Take for example the 20-meter band. The proposed phone band expansion is from 14,150 to 14,200 kHz.

The present phone band runs from 14,200 to 14,350 kHz, but we amateurs can use 14,150 to 14,200 now — for CW and RTTY only, however. The amateur who works only phone feels more restricted.

Few, if any, U.S. amateurs use this segment for CW, RTTY or anything else. In fact, few U.S. amateurs use the frequency band from about 14,110 to 14,200 kHz at all. Why is this so?

The reason for this is partially why the question of phone band expansion is a highly complex issue. The question of phone band expansion involves determining who can use the U.S. phone bands and what frequencies they will use. It is also an international issue.

In this column, I have discussed the issue of phone band expansion from time to time, in an attempt to show the many complexities the ARRL Board of Directors faces in trying to decide what stand

the League will take on phone band expansion.

No matter what final stand is taken, someone is unhappy. If the bands are not expanded, phone operators are unhappy. If the bands are expanded, CW operators are unhappy. And when the U.S. phone bands are expanded, amateurs in other countries are unhappy.

Without going into the issue of license class versus band use at this time, let's look at the problem of phone band expansion on the 20-meter band and the issues that face the Board of Directors in the present proposal.

To do this, we must first answer the question of why U.S. amateurs generally do not use the frequencies 14,110 to 14,200 kHz as stated above. After all, in the minds of many U.S. amateurs who use phone only, this is now part of the U.S. CW band. (Actually, U.S. amateurs can use CW on most of the amateur bands.)

It would appear that on the basis of assignment and use, there are 200 kHz for CW operation and 150 kHz for phone operation available to U.S. amateurs.

The United States has one of the largest amateur populations in the world and a large percentage use phone. Thus, the assignment of phone and CW on the 20-meter band seems on the surface to be unfair. But in actual practice, CW operation in the United States is pretty much limited to 14,000 to 14,080 kHz, with RTTY operating from around 14,080 to 14,110 kHz.

Since there is also the matter of license class versus band use, some U.S. amateurs do not even have full use of the presently used CW segment.

What about the 90 kHz from 14,110 to 14,200 kHz? Well, some call this the "foreign phone band." For all practical purposes, that's just about what it is. Why?

To understand this, we have to look at three other matters that affect the issue. One is the fact that outside the United States and Canada, there are no phone subbands. Another is the fact that in most countries, amateurs are limited to a relatively low power of 100 watts or less. The third is the fact that there are probably more high power amateurs in the United States than in all other countries combined.

How do amateurs in other countries keep modes separated if there are no subbands? By gentlemen's agreements. In Europe, for example, it is generally agreed that phone operation will be above 14,100 kHz. This works fairly well at present, but this may change if the U.S. phone

band is expanded by any significant amount.

Why should the actions of U.S. amateurs affect the operations in another region? The answer lies in the fact that there are so many U.S. amateurs and that in many countries, amateurs run significantly lower power than U.S. amateurs. Foreign amateurs have a difficult time competing with U.S. amateurs in the so-called U.S. phone band. Yes, foreign amateurs do operate in the U.S. phone band, but at those times they usually work only U.S. amateurs. What about when they want to work amateurs in other countries? Well, to escape from the very large number of high power U.S. amateurs, the foreign amateurs move down to between 14,110 and 14,200 kHz.

This does not sit well with many competitive U.S. amateurs who are working toward DXCC and other contest-related scores. Such amateurs would wish to "chase" the foreign stations to whatever frequency they move to.

One wonders if "gentlemen's agreements" would work with U.S. amateurs. Often I have heard *deliberate* QRM caused by U.S. amateurs who interfere with DX operation, as if to say, "If I can't work him, I'm not going to let any else make a contact."

If the U.S. phone bands are expanded by any significant amount — certainly if they are expanded to include 14,100 to 14,350 kHz — the foreign phone operators will move down into the present 100 kHz of CW/RTTY operation in order to avoid

U.S. phone operators at least part of the time.

CW will be restricted to an even smaller segment, which certainly makes no difference to U.S. operators who work only phone. However, surveys have shown over the years that nearly two-thirds of the U.S. amateurs work CW as well as phone, and there is concern for the existence of a usable CW segment on all bands.

Is there any way to solve the problem of the feeling among foreign amateurs for the need for a phone band where they can avoid U.S. amateurs? I doubt it. I suspect there is a hidden feeling on the part of some U.S. operators that foreign operators are there to give them contacts for DXCC and other awards. Judging from the operation of some U.S. amateurs I have heard, I suspect that some will do almost anything to make a contact with a rare country — including illegal operation if they can get away with it. These actions certainly affect the feelings of foreign amateurs.

Perhaps we should contact other regions of the IARU (International Amateur Radio Union) to find a solution to the problem. The countries in Region 1 are concerned, and Region 1 leaders have sent a letter directly to FCC expressing this concern.

Perhaps we have to look at the U.S. awards programs to see if these are a contributing factor.

In any case, phone band expansion is a complex issue. In next month's column I will discuss the issue of license class versus phone subbands. □

Club gains ARRL affiliation

J. Frank Irwin, W6ECB

The Grand Strand Amateur Radio Club, located in Myrtle Beach, South Carolina, has recently been affiliated with the ARRL. We have 35 members who live in this area, and well over 300 visiting amateurs each year.

The club's repeater WD4IMT operates on 146.61 receive and is open to all amateurs as they come through this area. We are well organized for emergencies and are ready for this year's hurricane season! □

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As a HANDI-HAM member, Mike's travel adventures have not been limited by his wheelchair. If you'd like to help HANDI-HAM students travel the airways and discover the thrill of making the first QSO, contact the address below.

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The ART of Contesting

Randy Thompson, K5ZD

Several months ago, I mentioned that it takes both station and operator excellence to achieve winning contest scores.

However, there are stations which are so impressive that they almost invite victory. One of these stations, which I have had the good fortune to be associated with, is N5AU. Its owner, Gordon Fogg,

built a station which to the average amateur would seem like paradise.

Gordon has been an active DX and contest enthusiast since being licensed in 1963. Over the years, he constructed several different stations around the Dallas, Texas area. Two years ago, he found the QTH he had been searching for. Twenty acres of pasture land on top of a

small hill in Rockwall County (the smallest county in Texas), about 30 miles east of Dallas.

Just as the CQ World-Wide DX contest is the giant of the contest calendar, multi-operator and multi-transmitter is the titan of the entry categories.

A successful multi-multi operation requires a team of skilled operators and the ability to put an extremely good signal on six bands simultaneously. To appreciate what a difficult job it is to build a station that can do this, consider your experiences in past Field Day operations. On Field Day, it is difficult to get several low-power stations to exist harmoniously. The problem is severely magnified when each station is running a kW!

The N5AU station was designed primarily to compete in the multi-multi category of the CQ WW Phone Contest. Gordon's dream is to win that trophy. The award has never been won by a station that was not on either the West or East Coast.

The first thing one notices upon arriving at this challenger to history is the towers that seem to loom as a steel forest. Can you imagine 24 towers on one site? Each band has its own set of mono-band antennas. Only two towers support more than one beam.

The 160-meter antenna farm consists of a half-wave sloper at the 110-foot level. Two Beverages are stretched across the property for receiving.

On 80 meters, three verticals in an equilateral triangle are used. Each vertical is constructed from 55 feet of Rohn 25G tower on top of an insulated base. The physical size of the tower is so large that the 55-foot length results in it having the same resonance as a 66-foot long wire.

Each pair of verticals is spaced 5/8-wave, and there is a very effective pattern on both receive and transmit. A half-wave sloper is strung to the northeast from another tower. Once again, Beverages are used to aid in receiving.

Forty meters has the least number of antennas, in comparison to the other bands. A three-element Yagi (Telrex 40M346) sits atop a 120-foot Rohn 45 tower. Having an antenna this large makes operating 40 a real pleasure.

Another Telrex Yagi carries the load on 20 meters. At 100 feet, the five-element, 46-foot boom antenna has proven to be a pileup crusher. Other antennas include a Hy-Gain 205BA at 70 feet for working the Caribbean and two Hy-Gain 204BAs at 60 feet fed in phase toward Europe.

During domestic contests — such as Sweepstakes — one of the 204BAs can be turned to the west, which puts a beam on each coast.

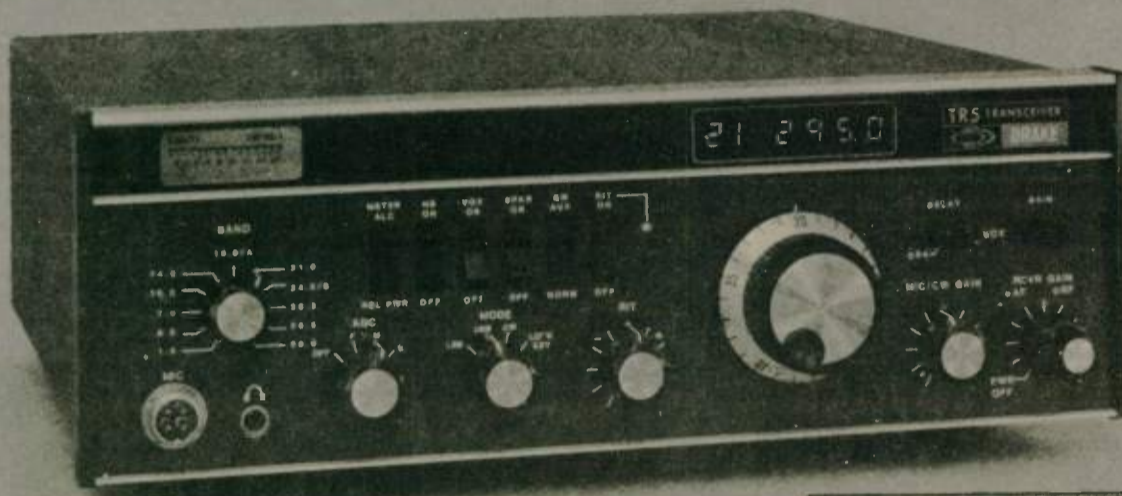
On 15 meters, the big antenna is a five-element Yagi at 100 feet. A four-element beam is at 55 feet, fixed on the Caribbean and two phased arrays are set up for Europe and Japan.

Much of the N5AU success can be attributed to the phased arrays. The Europe array consists of two five-element beams at a height of 50 feet and spaced 60 feet apart. This combination provides a surprising result. While the European signals come in but a few dB over a single Yagi, the East Coast stations can be attenuated as much as 15dB, depending on their location. This is a fantastic help in a DX contest where the European signals are covered by QRM.

The same effect has been noticed on the Japan array where the antennas are 70 feet high and spaced 60 feet apart. All antennas, with the exception of the four-element arrays, are Telrex 15M532s.

The phased array idea is also used with great success on 10 meters. On this band

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DYNAMIC RANGE

The dynamic range of the TR5 is unexcelled by any transceiver in its class. The TR5's greater than 0 dBm third order intercept point (85 dB two-tone dynamic range) at 20 kHz spacing can be achieved only by the use of a passive diode-ring double balanced mixer. Drake was the first to bring this technology to the Amateur market with a high-level mixer in the TR7.

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When you purchase a TR5, or any Drake product, you acquire a product of the latest production techniques, which provide reliable performance.

Yet with a product as sophisticated as one of today's transceivers, after-sales service is a must. Ask any Drake owner. Our Customer Service Department has a reputation second to none.

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Drake is the only Amateur Radio manufacturer who offers a full complement of accessories to satisfy almost every desire the HF Amateur may have. This wide selection allows any operator to assemble a station which meets his needs, and assures compatible interfacing and styling instead of a desk full of equipment with a variety of styling and poor operation as a system.

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Everyone wants to be heard! The accessory L75 and its 3-500Z (1200 watts PEP input) and a decent antenna will do the trick. This rugged self-contained amplifier/power supply will put the TR5 on an even footing with the best of them.

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The TR5 and all Drake Transceivers, are backed by the best in engineering. The TR5 is the result of an extensive engineering effort, combining proven past techniques and ideas with new state of the art concepts.

As a result, the TR5 will not be superseded by a new model every six months. It represents a true radio communications value that will provide many years of operating enjoyment.

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RV75 Synthesized VFO
featuring the Drake "VRTO"

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(please turn to page 31)



DX WORLD

John F.W. Minke III, N6JM

6230 Rio Rancho Drive Carmichael, CA 95508

Activities calendar

24-25 April Swiss H-26 Contest
 24-25 April King of Spain Contest
 01-02 May ARRL International EME Competition
 29-30 May CQ World-Wide WPX Contest (CW)

DXpedition calendar

St. Lucia 24 Apr - 05 May J6LRA by KR4C
 Maldiva Reef 09 May - 15 May VK9ZR by VK2BJL

W-100-N

The following amateurs qualified for Worldradio's Worked 100 Nations Award during the period of 18 February through 1 March 1982:

165. AG1K James A. DiSarro
 166. N4CYX Robert W. Levin
 167. KG0N Bruce Deinken

Morocco (CN8)

Need Morocco on 80 meters? Look for CN8CO and CN8BX, who are often found between 3.793 and 3.797 MHz on SSB. CN8BX comes on around 0200 UTC with CN8CO appearing between 0630 and 0700 UTC. Note for American amateurs: you must possess an amateur Extra Class license to operate on those frequencies.

Check 20 meters on 14.248 MHz from 2100 UTC for CN8AT and 15 meters on 21.295 MHz from 1500 UTC for CN8BX if the 80-meter activity is unavailable to you.

Pakistan (AP2)

Several stations have been appearing to keep the deserving happy. Sam AP2SQ was found on 14.203 MHz at 1900 UTC. Other stations include AP2ZP on 14.210 MHz at 1315 UTC, AP2ZA near 14.210 MHz around 1230 to 1330 UTC, AP2AL on 14.205 MHz from 1300 UTC and AP2HQ near 14.205 MHz from 1200 UTC. To contact these stations, your best bet is point your beam for long-path.

Lebanon (OD5)

Ted Truszkowski, OD5LX has been reported on 7.005 MHz from 0300 UTC for 40-meter contacts. This station is very active and is often found on the low end of 20 meters. Ted may be a CW-only operator as I have never heard him on SSB, although he used to be a member of the YL ISSBers — basically an SSB group.

Also representing Lebanon is OD5NT who has been found on 28.730 MHz. Ishan can be found between 1400 and 1430 UTC. On 15 meters, look around 21.301 MHz from 1900 UTC for OD5RZ.

This DX editor still needs Lebanon. I worked OD5LX several years ago on CW prior to the availability of the CW DXCC. Although I have this one for the CW/F DXCC, I still need it on SSB and CW.

Iceland (TF)

Roy KE4CI/TF expects to be operating from Iceland for about one year while he is there on assignment with his company. Look for him on 28.595, 21.400 and 14.300 MHz between 1800 and 2000 UTC. Roy often checks in with the YL ISSBers on 14.332 MHz until about 1400 to 1500 UTC. Roy should be active in the YL ISSBers QSO Party the last weekend in

April. He will be giving out my call as his partner. That does not mean I am his QSL manager, so don't send me QSL cards for Roy. Check the QSL routes for his address.

TY2YH is another active station from that island and can often be found operating both CW and SSB, including contests. You may find him on 21.298

MHz from 1900 to 2000 UTC.

Cuba (CM/CO)

Oscar Morales Tur, CO2OM has been on 10 meters regularly near 28.530 MHz from 1330 to 1500 UTC. On 20 meters you may find Cristobal Hernandez Sanz, CO2HS at 14.205 MHz from 1200 to 1400 UTC. Check either side of that frequency

as he may be busy off that frequency.

Edelman Jimenez, CO1MJ hands out CW contacts to the deserving on 3.502 MHz and has been reported at 0400 UTC. This station has also been reported on the low end of 40 meters.

That T4FRC was a special event call sign that was active during the latter part of February. The 'T4' prefix is one of the

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New! Both 2.3 kHz ssb and 500 Hz cw crystal filters, and 9 kHz a-m selectivity are standard, plus provisions for two additional filters. These 8-pole crystal filters in conjunction with careful mechanical/electrical design result in realizable ultimate rejection in excess of 100 dB.

New! The very effective NB7 Noise Blanker is now standard.

New! Built in lightning protection avoids damage to solid-state components from lightning induced transients.

New! Mic audio available on rear panel to facilitate phone patch connection.

- State-of-the-art design combining solid-state PA, up-conversion, high-level double balanced 1st mixer and frequency synthesis provided a no tune-up, broadband, high dynamic range transceiver.

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- Full passband tuning (PBT).

New! NB7A Noise Blanker supplied as standard.

- State-of-the-Art features of the TR7A, plus added flexibility with a low noise 10 dB rf amplifier.

New! Standard ultimate selectivity choices include the supplied 2.3 kHz ssb and 500 Hz cw crystal filters, and 9 kHz a-m selectivity. Capability for three accessory crystal filters plus the two supplied, including 300 Hz, 1.8 kHz, 4 kHz, and 6 kHz. The 4 kHz filter, when used with the R7A's Synchro-Phase a-m detector, provides a-m reception with greater frequency response within a narrower bandwidth than conventional a-m detection, and sideband selection to minimize interference potential.

- Front panel pushbutton control of rf preamp, a-m/ssb detector, speaker ON/OFF switch, i-f notch filter, reference-derived calibrator signal, three agc release times (plus AGC OFF), integral 150 MHz frequency counter/digital readout for external use, and Receiver Incremental Tuning (RIT).

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appropriate use of the TR7A's RCT control (Receiver Controlled Transmit). DSR is implemented by mixing the two audio signals in the R7A.

- ALTERNATE ANTENNA CAPABILITY. The R7A's Antenna Power Splitter enhances the DSR feature by allowing the use of an additional antenna (ALTERNATE) besides the MAIN antenna connected to the TR7A (the transmitting antenna). All possible splits between the two antennas and the two system receivers are possible.

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* Patent pending

ITU prefixes that has recently been reassigned to Cuba.

Ascension Island (ZD8)

Ted ZD8TC listens for calls on 3.508 MHz daily from 2330 UTC. For you 6-meter types, Ted has a beacon on 50.111 MHz. Need Ascension on 30 meters? Ted has also been reported there on 10.139 MHz at 2000 UTC.

Ted likes to keep all the deserving happy as he has also been reported on 7.003 MHz from 2200 UTC and on 75-meter SSB from 2300 UTC on 3.795 MHz.

Another station, ZD8JGN, has been reported on 21.253 MHz from 2000 UTC.

Mongolia (JT1)

JT1AO has been reported on 14.029 MHz around 1330 UTC, with JT1BH busy on 15 meters near 21.030 MHz from 1200 to 1300 UTC. Other Mongolian stations have been reported working near 28.510 MHz at 0100 UTC.

Activity seems to come and go from this one. In the past, it was difficult to find a station from Mongolia, but in recent years the rarity has diminished somewhat. Of course, that may all depend upon what part of the country you live in. Mongolia is in the rare "CQ" Zone 23.

Solomon Islands (H44)

If you were in the SSB portion of the recent ARRL DX Contest, you may have worked H44SH who is active from the Solomons. If you missed him in the contest, try looking for him on 3.795 MHz from 1200 UTC, 28.585 MHz from 0001 UTC, and the low end of 20-meter SSB from 1730 UTC.

Also from the Solomons, an H44PT has been reported at 1030 UTC on 28.449 MHz. Be aware that American stations are not permitted to operate SSB down there.

Papua New Guinea (P29)

John P29JM has been reported visiting the "Open House" operation on 14.332 MHz run by Jill Weaver, VK6YL and Heather VK2HD. This get-together has been meeting when most stateside amateurs are asleep from 0930 UTC.

Mellish Reef (VK9)

Harry Mead, VK2BJL is planning a DXpedition to Mellish Reef this May. The expected dates of operation are 9-15 May, with operation on 10 through 80 meters. Harry is expected to be accompanied by Franz Langner, DJ9ZB and Fernando Martin, EA8AK.

Mellish Reef is about 600 miles east of Australia and consists of several uncharted reefs. About the only thing that would keep them from going on the DXpedition is the weather. The operation will be a split-frequency style which will be a disadvantage to amateurs with transceivers and no external VFO. But it can still be done with a transceiver. The call to be used could possibly be VK9ZR.

Navassa Island (KP1)

This is another one of those after-the-fact DXpeditions, as we received the information too late for publication. As the

DXpedition was during the latter part of March, we would have needed this information in January. Unfortunately, the information was received in March.

The Navassa Island DXpedition was another IDXF-sponsored operation in which 11 operators were to have participated. The operators included Jim Dionne, K1MEM; John Ackley, KP2A; Bob Schenck, N2OO; Ed Magnuson, W2IJB; Stu Greene, WA2MOE; Dave Johnson, WA4SSU; Terry Baxter, N6CW; Al Fischer, K8CW; Bob Denniston, W0DX; Arnold Gaiuther, VP2MH; and K2OO. All bands were to have been used, 6 through 160 meters. If you worked KP2A/KP1, you may send your QSL card via Henry O. Feltman, WB2MSH, 20 Progress Avenue, Woodbury, NJ 08096.

It would also be appreciated if you would include a little contribution, "green stamp(s)" or a check made out to The International DX Foundation. You may become an Associate Member for one year for \$10. Included in the membership is the IDXF newsletter. The contribution is tax-deductible.

Ron LU5ZI

Ron LU5ZI has returned home and was unable to get to the South Orkney Islands or South Sandwich Islands. Ron did manage to make around 12,500 contacts during his stay on the South Shetland Islands in February. QSL cards for LU5ZI go via Reinaldo Szama, LU2A.

Rwanda (9X5)

9X5WP has been reported near 21.405 MHz daily from 1900 UTC. Also on the same band is 9X5MH, who is near 21.280 MHz from 1700 to 2000 UTC. He has also been reported as high as 21.321 MHz at 2100 UTC.

Other stations active from Rwanda include 9X5SL on the low end of 20-meter SSB along with 9X5BG and 9X5MA at various different spots. Listen around 1800 UTC.

IOTA

Rare island buffs might take a listen for the following. Frequencies and times are in megahertz and UTC respectively.

AF-18 Pentellaria Island	IH9ZYP	28.014	1100
AN-01 Adelaide Island	VP8ANT	14.206	2100
EU-27 Bear Island	JW5IJ	14.202	0800
OC-70 Mollucca Islands	YC8VL	21.180	1530

Yasme

The Colvins have finished up another one of their visits, this one from Surinam where they operated as W6KG/PZ1. Lloyd and Iris were on the air for 19 days and operated on seven bands, 10 through 160 meters. About 9,000 contacts were made with 155 countries. This was a new

record for them, probably due to the fact that Surinam is a fairly rare country. They participated in the "CQ" 160-meter contest and won for the country of Surinam. Operation was from an estate on the Surinam River. Close by (30 feet), was another active station — PZ1BU — which was on the air often. There was no interference between the two stations when they were on different bands and only minor interference when they were both on the same band.

The next stop was French Guiana, where they operated as FY0FOL followed by W6QL/PJ2 from the Netherlands Antilles. W6QL/PJ2 was active in the ARRL DX contest.

Bob Read, KF10

Bob was the subject of a recent San Felix operation, where he operated for a very short period as KF10/CE0X from the island. The Chilean amateurs were all bent out of shape about it, claiming he didn't have permission to operate from there and probably wasn't even there. Chilean nationals are not permitted on the island. It is reported that KF10/CE0X QSL cards will not be counting for DXCC.

Sierra Leone (9L1)

Drew 9L1SL has been quite active on the bands from Sierra Leone. He made 2,086 contacts with 70 countries in nine days from the club station there. Drew (whose home call is GM3YOR) has been found on several bands. 9L1SL has been reported on 3.502 MHz around 0200 UTC, 7.002 MHz around 0100 UTC, 14.033 MHz at 2000 UTC, 21.034 MHz at 2000 UTC, and 28.032 MHz at 1400 UTC. Drew operates CW 95 percent of the time. The QSL manager for this one is Gordon Silverman, N3ADC.

On SSB, look for 9L1DR who has been reported between 14.200 and 14.225 MHz, and between 2200 and 2300 UTC. On 10 meters, 9L1EX has been reported on 28.549 MHz at 1300 UTC.

Senegambia (C53/6W8)

C53CG has been reported on 14.248 MHz at 2100 UTC from the former The Gambia portion of this new country. He has also been found on 28.505 MHz at 1730 to 1800 UTC.

C53CL is also active and is often found around 14.205 MHz from 0000 UTC. Check 28.730 to 28.750 MHz after 1200 UTC for this station. C53DF has been found Sundays operating near 21.340 MHz at 2230 UTC. On 40 meters, C53AP has been reported on 7.045 MHz at 2045 UTC. This frequency and time is favorable to the deserving DXer in Europe.

Also from Senegambia are those amateurs residing in the former Senegal. Look for 6W8DY, who has been working split frequency on 40 meters from 0800 UTC. His transmitting frequency is 7.075 MHz. He also moves to 75 meters and has been reported at 0700 UTC on 3.798 MHz.

6W8AR is another active one on this band and has been reported on 3.798 MHz around the same time. This station also holds a weekly schedule with his QSL manager — Paul Greaves, WB4LFM — on Mondays at 1500 UTC on 28.730 MHz. Rene will take calls before and after the schedule.

Other stations reported active from Senegambia include 6W8DS and 6W8HL, often found near 14.210 MHz from 2200 to 0100 UTC. 6W8DS and 6W8HL use the services of Bill Dunbar, WA4VDE for handling their QSL chores.

China (BY)

Harvey McCoy, W2IYX reports in his *Long Island DX Bulletin* that Amateur Radio has received official approval of the Government of the People's Republic of China. This was in an article in the official technical journal *Radio of the People's Postal Telegraph Publishers of Peking*. The initial authorization is for group stations in universities, colleges, military academies, technical and athletic schools and youth clubs. No private stations are being considered for the present. Persons who show loyalty to the government and its principles, plus other favorable traits may apply now. An official license will be granted upon successfully passing the required examination.

So, it looks as if Amateur Radio in China will become a reality. We have been waiting a long time for this.

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This award is sponsored by the Ligurian Sections of ARI (Associazione Radiotecnica Italiana), which includes the provinces of Genoa, Imperia, La Spezia and Savona.

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Imperia	3	5	7
La Spezia	2	3	4
Savona	2	3	4
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given to add to the award to those amateurs who have contacted at least four Ligurian RTTY stations in addition to those requirements above.

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For those of you who wish to pursue this award, the provinces are in the first call district (I1), with the postal codes 16, 18, 19 and 17 for the order shown above.

Wake Island — 1935

We are indebted to Bob Williams, K6EMN for the following bit of nostalgia. Bob is compiling a list of present, retired and former employee-hams of Pan American Airways, and came into correspondence with Bill Breuer, W6TE and Al Gray, W1KA — radio operators on Wake Island in 1935 as part of Pan Am's SS North Haven Expedition.

The SS North Haven was leased by the airline to bring building materials, supplies and personnel to Honolulu, Midway, Wake, Guam, Manila and Hong Kong to establish and staff Flying Boat bases to be used by the China Clipper and other Pan Am Flying Boats that would be island-hopping across the vast Pacific Ocean.

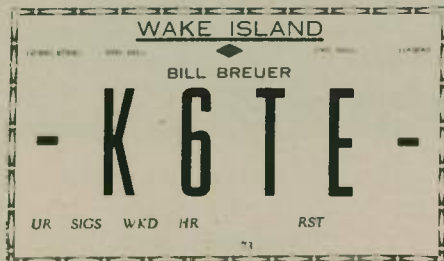
Bill Breuer, W6TE was the first radio amateur to ever operate from Wake Island. He used the call W6TE/K6, later modified to K6TE. At that time, all Pacific islands used the K6 prefix until 1937 when they were split into KH6, KW6, etc. Bill says the first contact made from Wake Island was on 20 August 1935 with 6DOB on 40 meters, which started a rat race. There were all kinds of low-powered Russian stations heard using raw AC from the mains and the stateside amateurs were "frothing at the mouth" to contact them, but of course, could not hear them. Wake Island was a real DX spot with no background noise and geographically in the middle of every-thing.

Al Gray, W1KA was the Radio Officer in Charge on Wake Island with Bill as his assistant. They used the Pan Am equipment for hamming which was a type PAA-100-G2 100-watt transmitter. It was fabricated specifically for the

airline's air-to-ground and point-to-point communications. The rig was telegraphy only with two remotely selected channels. It had plug-in coils and by pretuning the coils, it was possible to cover the range 1600 kHz to 13 MHz.



Bill Breuer, W6TE, on Wake Island in 1935. "Up a pole as usual," says Bill.



K6TE QSL card

Also included in the list of fueling stops was Kingman Reef. This was in 1937 during the survey flights from Honolulu to the South Pacific. All Kingman operations were from shipboard, although there was a fuel dumb and ramp ashore. After six months, the Kingman operation was scrapped in favor of Palmyra Island. Operations at Palmyra were discontinued in 1946. For the airlines crews to find Kingman Reef in those days must have required great skill, considering the difficulty the recent DXpedition teams had going there during the last few years. Captain Midnight they weren't.

All former employees of Pan Am who were or are radio amateurs should contact Bob at 32 Madrona Street, San Carlos, CA 94070.

Delta Division Convention

DXers may be interested in the Delta Division Convention to be held in Knoxville, Tennessee, 22-23 May. Don Search, W3AZD will head a DXCC forum and will be available for verifying QSL cards. Gary Dixon, K4MQG will be present for a forum on the "CQ" 5BWAZ programs, along with Bob May, K4SE, who will be verifying QSL cards for the award.

The 4-land one-letter DX QSL service will deliver QSL cards to anyone at the convention, provided 30 days notice is given to Bill Parris, AA4R.

For further information regarding the convention, please contact Ray Adams, N4BAQ, 5833 Clinton Hwy., Suite 203, Knoxville, TN 37912.

More on lists

I received a three-page letter from Carl Henson, WB4ZNH recently. If you recall, Carl was the one who came up with a proposal to modify Rule 12 of the DXCC rules to disallow contacts made via lists or other assisted means.

Dear John,

I appreciate your support in your DX column for my anti-list campaign. Your feeling comes awfully close to my own. I just received the March issue of Worldradio today, and thought I had better write while my thoughts are fresh on my mind. (March, page 38) That can really be a problem sometimes, as hectic as things get around here!

As you probably know, Martha and I just returned home from a short DXpedition to An-nobon Island. We never give much advance notice of our plans because more often than not, nothing is for sure — including airline reservations. It is my feeling that the real DX-ers, those who are willing to put forth some effort will know soon after we come on the air, anyway.

John, I was very careful in my letter to not attack anyone, whatsoever. I chose the mail as the medium for the campaign in order to not create arguments and other situations on the air which would detract from the amateur spirit and image. Additionally, I sent the letters to DX clubs, general interest clubs and DX bulletins. I did not try to single out an audience which would be in my favor. I only tried to concentrate on groups that had shown more than a passing interest in DXing.

Since that time, the DX list-takers have come out in force, at the time and place where the "welfare recipients" would be expecting a morsel or two to fall from the plates of their favorite DX HOG. They campaigned long and hard, day after day, and they have been successful in matching — letter for letter — the ones the DXers have written in response to my singular letter. Martha caught one infamous list-taker telling lies about our operation at

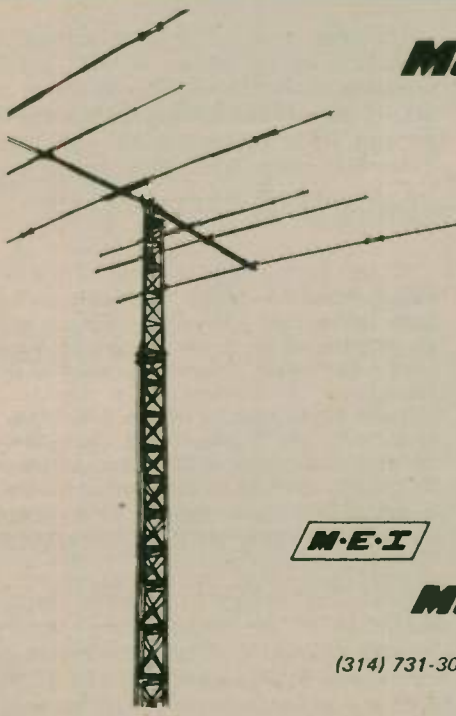
3C0. Other list-takers and list groupies would come to our transmit frequency to use the pileup we created as a platform to denounce my campaign, while I fueled the generator. I wonder how much of the QRM we suffered came from that source? The most vicious and cruel thing to date has been to circulate stories that I am a jammer. I recently received a postcard from a European amateur, trying to appeal to my "better side" to quit jamming the YLISSB and the Afrikaaner Nets. Several Net Controls had told him that I was responsible. I wonder how many will believe that? One is too many.

There seems to be a universal misunderstanding of the ramification of my anti-list campaign. The ARRL Awards Committee has the power to do it right now. The problem is that it has been tolerated so long that to enforce rule 12 now against these people (the list-takers) would be grossly unfair. My proposal would merely inform everyone that the act of taking a list is poor operating ethics and the act of soliciting a DX station to work from a list or from a DX net is likewise unacceptable. This puts the blame where it belongs, on the list-taker, not on the QSL cards. The action then required by the ARRL Awards Committee would be to remove that individual from the rolls of DXCC. To do less would be to take no action at all. I don't think we have the right to do more.

There are certain DX stations who are not DXers and have no interest whatsoever in our DXCC competition. The people in this category certainly ought to have the right to operate their radio. I would just as soon see their cards labeled "not accepted" for DXCC; that would give them the ability to operate in peace. They could pursue their hobby without the constant harassment of impolite breakers and at the same time, purify the competition aspect of DXing. This could remove the need for a "DX" phone band. I am a realist, in spite of what some will say. I know a proposal like that would not "fly." So if DX stations want to work the United States but not work a pileup, there are plenty of nets for them to check-in to.

I think DX nets are really lists that occur at a regular time and frequency, but I am willing to concede they are nets if they don't go dragging the DX away from the pileup. I think most would dry up and go away. Nets like the YLISSB System will be here for a long time to come. I certainly hope so.

To give you some idea of what is involved in a DXpedition like 3C0AC/3C0BC. We had to take our own generator, gasoline, and of course two complete stations (antennas, coax, VFOs, extra microphone, spare tubes and fuses, tools, lights, etc.). The charter for the Cessna 402 (eight-passenger, crew of two) was just a little shy of \$6,000. These trips get just a little expensive when you add in hotels, food, airline transportation, damaged luggage, doctor bills, QSL cards and goodness knows what else! Is it any wonder I get more than a little miffed when some snob gets his hooks into a good DX station, and figuratively struts up and down the



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band bragging about the fact that you have to go through him to work DX, and he never leaves the comfort of his living room? If you will be nice to him and give him the proper reverence, he will let you work *his* DX.

I get so sick of these do-gooders that claim they are striking out for the little guy! Nobody ever learned how to work DX by saying "When last heard. . ." No DX station ever got to be a better operator by someone spoon-feeding him contacts!

The next argument is, "Everyone doesn't have that kind of money." I would be happy to compare incomes with anyone. I am a mechanic. I blew all the cash savings Martha and I had on that trip to Annobon, plus I had to borrow some money from the local DXers to get us home. I could sure have replaced that '69 Nova (3-speed, no air) with a nice car for what I spent giving so many a "new one." It is also

real funny to read those letters to John Lindholm opposing my suggested change to Rule 12 and then look their calls up in my log; those types aren't big donors either!

Well, John, I feel better knowing that someone who has a real interest in DXing and is sympathetic to the cause of good sportsmanship, knows how I feel. Please feel free to use whatever you want of this letter; just make sure it does not sound like a solicitation for donations. Martha and I have never solicited a penny from anyone, and we don't intend to start.

Very 73 and Good DX. Tell your readers to listen, don't talk. Tune the bands and listen; when you get tired, listen some more. When you hear the lids on the low end of 20 talking about how great their Collins is, get a kHz or so away and listen. Many times there is DX all

around, and everyone is too busy talking about something else to notice.

Sincerely,
CARL HENSON, WB4ZNH
Jonesboro, Georgia

Jim Neiger, N6TJ offers his comments on lists as follows:

As I see it, list-taking and the working of DX through lists accomplishes (at best) three things: 1) allows you to prove to yourself that you really *did* need that kilowatt to work the MC (who's located on the other side of town); 2) allows you to prove to the other incompetents waiting to get on the list that you really *are* a snappy operator; and 3) feeds the ego of the MC. (Why doesn't he go on his own DXpedition and find out how much fun it is (or isn't)."

I would like to know how many of you list types took my recent advice and worked the ARRL DX contest? For a bit of information, this DX editor worked 54 different DXCC countries in the SSB portion of the contest and 49 different countries in the CW portion for a grand total of 72 different countries combined. Of course, this is peanuts to many DXers, but then their stations are in tip-top shape. Mine isn't. On CW, my rig just about dies after warm-up and I might as well be in the QRP class. But if you were a new DXer and worked those 72 countries, you would have been 75 percent of the way to DXCC, and that didn't include Canada and the United States.

Lists do have their place, but unfortunately, most of them are for ego-building of a few of the list masters. Now, perhaps we can bury this list business and see what develops with Rule 12.

Antique QSL Department

The holder of this call was P.T. Namgyal, of Gangtok, Sikkim. This card was submitted by Dave Kennedy, N4SU.



Further information on AC3PT was covered in the March issue of Worldradio, (see page 21), and was reported to have become a Silent Key recently. Sikkim became a deleted country in 1975 and now counts as part of India.

QSL information

Jill Weaver, VK6YL, recently assumed the QSL chores for all Willis Island stations — VK9ZD, VK9ZG and VK9ZH. Of the requests she receives, 35 percent do not send postal assistance. How many times does the DXer need to be reminded that it is a must to include an SASE or SAE with appropriate IRCs, when sent to any QSL manager? The QSL manager is there to help you get that needed QSL card. An addressed return envelope saves the manager much of his or her valuable time. Postal assistance will help the manager's personal budget keep from being eaten away.

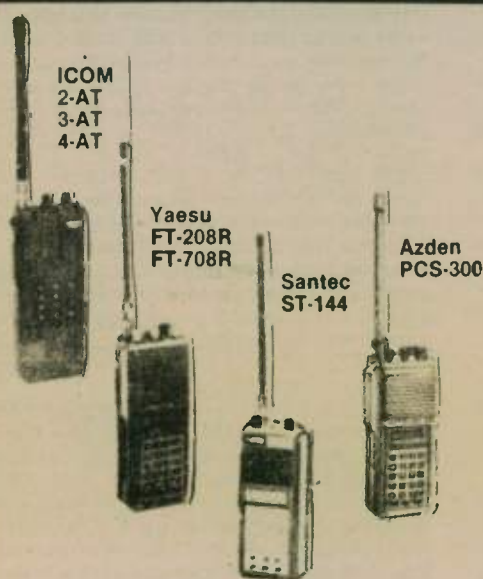
The next item is the other side of the coin, and by no means does it justify omission of the SASE. This is where the DX station takes advantage of the deserving DXer requesting his QSL card. Jesse McCowen, W0CUB writes in a letter to Art Moulton, K5FNQ, the following.

"Thank you for forwarding the 4S7NE QSL card, received here today. It restores my faith in the human race — the alleged humans in the amateur fraternity. Down through the years, I have seen several instances in which a QSL manager — or someone not a manager — resorted to the circular file for disposition of such cards, SASEs, etc. Twice I have mailed my card with SASE to Bob Cunningham Jr., K1XR and received no response. I worked a K1XR/5B4 for a 'new one' and wanted a card, but to date have not received even the courtesy of a reply. Apparently, you appreciate the situation as evidenced by your statement 'the K5FNQ pass through QSL Bureau'. When I worked 4S7NE in January 1981, I airmailed my card with an SAE and one 'green stamp'. In the summer of 1981, I airmailed a second card

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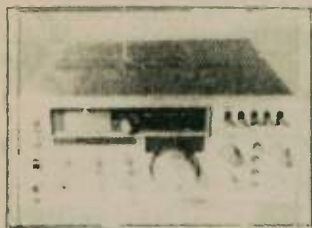


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- Dimmer switch.
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- Voltage selector for 100, 120, 220, and 240 VAC. Operates on 13.8 VDC with optional DCK-1 kit.



TS-530S

"Cents-ational"...IF shift, digital display, narrow-wide filter switch

The TS-530S SSB/CW transceiver covers 160-10 meters using the latest, most advanced circuit technology, yet at an affordable price.

TS-530S FEATURES:

- 160-10 meters, LSB, USB, CW, all amateur frequencies, including new 10, 18, and 24 MHz bands. Receives WWV on 10 MHz.
- Built-in digital display (six digits, fluorescent tubes), with analog dial.

- IF shift tunes out interfering signals.
- Narrow/wide filter selector switch for CW and/or SSB.
- Built-in speech processor, for increased talk power.
- Wide receiver dynamic range, with greater immunity to overload.
- Two 6146B's in final, allows 220W PEP/180 W DC input on all bands.
- Advanced single-conversion PLL, for better stability, improved spurious characteristics.
- Adjustable noise-blanker, with front panel threshold control.

- RIT/XIT front panel control allows independent fine-tuning of receive or transmit frequencies.

Optional accessories:

- SP-230 external speaker with selectable audio filters.
- VFO-240 remote analog VFO.
- VFO-230 remote digital VFO.
- AT-230 antenna tuner/SWR/power meter.
- MC-50 desk microphone
- KB-1 deluxe VFO knob.
- YK-88C (500 Hz) or YK-88CN (270 Hz) CW filter.
- YK-88SN (1.8 kHz) narrow SSB filter.




TS-660

The TS-660 "QUAD BANDER" covers 6, 10, 12, 15 meters.

- FM, SSB (USB), CW, and AM
- Dual digital VFO's
- Digital display
- IF shift built-in
- 5 memories with memory scan
- UP/DOWN microphone
- All-mode squelch
- Noise blanker
- CW semi break-in/sidetone
- 10 W on SSB, CW, FM; 4 W on AM.

Optional accessories:

- PS-20 power supply
- VOX-4 speech processor/VOX
- SP-120 External speaker
- MB-100 Mobile mount
- YK-88C, YK-88CN CW filters
- YK-88A AM filter.

 **KENWOOD**
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1111 West Walnut, Compton, California 90220

TR-2500

BIG performance, small size, smaller price!

The TR-2500 is a compact 2 meter FM handheld transceiver featuring an LCD readout, 10 channel memory, lithium battery memory back-up, memory scan, programmable automatic band-scan, Hi/Lo power switch and built-in sub-tone encoder.

TR-2500 FEATURES:

- Extremely compact size and light weight 66 (2-5/8) W x 168 (6-5/8) H x 40 (1-5/8) D, mm (inches), 540 g, (1.2 lbs) with Ni-Cd pack.
- LCD digital frequency readout with memory channel and function indication.
- Ten channel memory, includes "M0" memory for non-standard split frequencies.
- Lithium battery memory back-up, built-in, (estimated 5 year life) saves memory when Ni-Cd pack discharged.
- Memory scan, stops on busy channels, skips channels in which no data is stored.
- UP/DOWN manual scan in 5 KHz steps.
- Repeater reverse operation.

CONVENIENT TOP CONTROLS



- 2.5 W or 300 mW RF output. (HI/LOW power switch.)
- Programmable automatic band scan allows upper and lower frequency limits and scan steps of 5 KHz and larger (5, 10, 15, 20, 30 KHz... etc) to be programmed.
- Built-in tuneable (with variable resistor) sub-tone encoder.
- Built-in 16 key autopatch encoder.
- Slide-lock battery pack.
- Keyboard frequency selection across full range.
- Extended frequency coverage; 143.900 to 148.995 MHz in 5 KHz steps.
- Optional power source, MS-1 mobile or ST-2 AC charger/



power supply allows operation while charging. (Automatic drop-in connections.)

- High impact plastic case.
- Battery status indicator.
- Two lock switches for keyboard and transmit.

STANDARD ACCESSORIES:

- Flexible rubberized antenna with BNC connector.
- 400 mA heavy-duty Ni-Cd battery pack.
- AC charger.

OPTIONAL ACCESSORIES:

- ST-2 Base station power supply and quick charger (approx. 1 hr.).
- MS-1 13.8 VDC mobile stand/charger/power supply.
- TU-1 Programmable "DIP switch" (CTCSS) encoder.
- SMC-25 Speaker microphone.
- LH-2 Deluxe top grain cowhide leather case.
- PB-25 Extra Ni-Cd battery pack, 400 mA, heavy-duty.
- BT-1 Battery case for AA manganese or alkaline cells (not Ni-Cd).
- VB-2530 RF power amplifier.
- BH-2 Belt hook.
- WS-1 Wrist strap.
- EP-1 Earphone.

TR-7850

40 W, 15 memories/offset recall, scan, priority, autopatch (DTMF)

Kenwood's remarkable TR-7850 2-meter FM mobile transceiver provides all the features you could desire, including a powerful 40 watts output. A 25 watt version, the TR-7800 is also available.

TR-7850 FEATURES:

- 40 watts output, with selectable high or low power operation.
- 15 multifunction memory channels, easily selectable with a rotary control, M1-M13 ... memorize frequency and offset (± 600 KHz or simplex).

M14 ... memorize transmit and receive frequencies independently for non-standard offset. M0 ... priority channel, with simplex ± 600 KHz or non-standard offset operation.

- Internal battery back-up for memories. Requires four AA Ni-Cd batteries, (not supplied).

- Extended frequency coverage, 143.900-148.995 MHz in 5 or 10 KHz steps.
- Priority alert. Beep alerts operator when signal appears on priority channel.
- Built-in autopatch encoder (DTMF). All 12 plus four additional DTMF signaling tones. (With simultaneous push of REV switch.)
- Autoscan of memories and entire band. Scan resumes automatically.
- Front panel keyboard.
- Compact size.

- UP/DOWN manual scan of entire band and memories, using UP/DOWN microphone (supplied).
- Repeater reverse switch.
- Separate digital displays for frequency and memory channel.
- LED S/RF bar meter.
- Tone switch.

Matching accessories for fixed station operation:

- KPS-12 power supply (for TR-7850)
- KPS-7 power supply (for TR-7800)



SP-40

Compact mobile speaker
Only 2-11/16 W x 2-1/2 H x 2-1/8 D (inches)
Handles 3 watts of audio



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RS polar DX

P.J.A. Gowen, G3IOR, who is frequently a source of information about the activities of Russian radio amateurs, reports that an expedition to the Arctic was begun on 8 March when a group of Russian amateurs connected with the

Radio Sport Federation of the USSR left Moscow with Leonid Labutin, UA3CR as communications manager. They had reached the town of Tiksi at the Lana River 71° 45' N and 129° 30' E by 14 March. Since Labutin is the guiding light behind the Russian Amateur Satellite Program, there has been conjecture that there would be DX via RS satellites to the North Polar region very soon.

Astronomy Day 1982

1 May has been designated Astronomy Day for 1982. The Astronomical Society of the Pacific, The American Astronomical Society and the International Planetarium Society have jointly organized meetings together with the Astronomical League and the Western Amateur Astronomers.

Last year your correspondent was part

of the Space Day meeting at Cypress College (Cypress, California) where discussions of space law and amateur satellites were among the activities.

The Astronomical Society of the Pacific is coordinating the public relations activity for events all over the country. If you have any plans to set up meetings relating to space, astronomy, satellites, etc., contact "Astronomy Day Listings, ASP" 1290-24th Avenue, San Francisco, CA 94122.

The Phase III spacecraft


Work is nearing completion of the spacecraft for Phase IIIB to be launched sometime in late July. The launch vehicle will be a three-stage rocket of the Euro-

pean Space Agency (ESA) called Ariane. There have been three successful launches of Ariane and one failure. The second test launch exploded on launch 23 May 1980 and destroyed the Phase IIIA bird.

Ground command stations for Phase IIIB will be located in the United States, New Zealand and Germany at least. Others may be added as mission requirements demand. Telemetry from the satellite will be bi-phase DPSK at 400 bps.

Phase IIIB should continue operation well into the second half of this decade.

When placed in orbit this summer, Phase IIIB will likely become one of the most significant influences to affect



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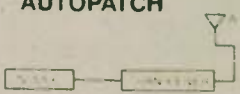
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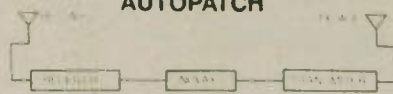
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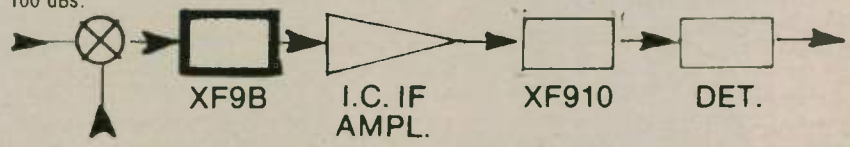
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The XF-9B can also be used to upgrade older receiver designs which use vacuum tube or discrete transistor IF amplifier stages. PRICE \$68.60 plus shipping.


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Centre Frequency	2.4 KHz	6:80dB	2.2
Bandwidth	<2.0 dB	Ultimate Attenuation	100 dB
Passband Ripple	<3.5 dB	Terminations:	500 ohms
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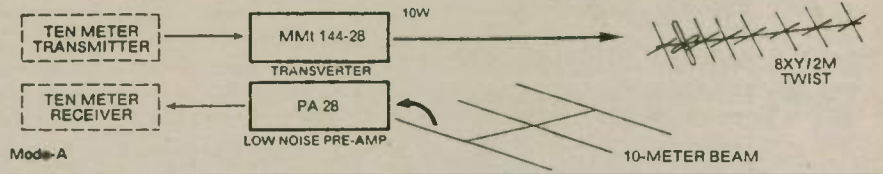
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TRANSVERTERS FOR ATV OSCARs 7, 8 and Phase III

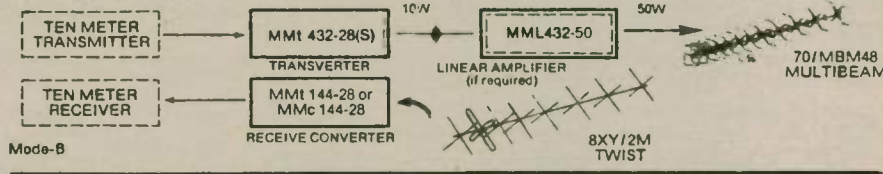
Transverters by Microwave Modules and other manufacturers can convert your existing low band rig to operate on the VHF and UHF bands. Models also available for 2M to 70cm and for ATV operators from Ch2/Ch3 to 70cm. Each transverter contains both a Tx up-converter and a Rx down-converter. Write for details of the largest selection available. Prices start at \$199.95 plus \$3.50 shipping.

Attention: owners of the original MMt432-28 transverters — update your transverter to operate OSCAR-8 and Phase III by adding the 434 to 436 MHz range. Mod kit including full instructions \$26.50 plus \$1.50 shipping.

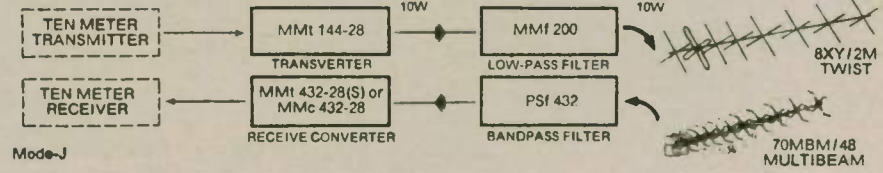




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Mode-B




Mode-J

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Amateur Radio ever. The impact on the course of events is likely to be so great as to be essentially unpredictable beyond, say, a few years. What can be stated with relative certainty, however, is that Amateur Radio will never again be the same!

Spaceweek seeks participants, plans petition

Space promoters are mounting a vigorous campaign to bring space exploration into the hearts and minds of Americans this summer. They've chosen the Apollo 11 anniversary week, 16-24 July, to conduct an annual event called "Spaceweek."

Spaceweek's national headquarters in Houston, Texas is training and coordinating pro-space groups in some 30 cities. During Spaceweek, these groups will host public space lectures and exhibits and possibly conduct the first nationwide petition to help support the space program.

As part of its training role, Spaceweek National Headquarters has recently revised *The Spaceweek Handbook*. This book is part of a kit mailed to space supporters throughout America, showing how to hold educational space events, raise funds and gain publicity for Spaceweek.

Last summer, all 50 states plus Puerto Rico signed Spaceweek or Space Day proclamations. The most significant part of this year's Spaceweek may be two

special petitions available to be signed by attendees at all Spaceweek events. People will be able to walk away from space events and lectures with a feeling they have done something to help the space program.

The two petitions being planned — one for voting-age adults and one for future voters — are designed to show that public support for space is both deep and lasting. Aimed at some specific goal for Congress or the Administration to endorse, a copy will be presented locally to a space-supporting senator or congressman. Tentative plans call for the originals to be flown to Washington, D.C. for presentation before news cameras to a senior government official, on the capitol steps.

"1982 will see great NASA budget battles, elections, and the announcement of our first major U.S. space policy in over a decade," said Spaceweek President Dennis Stone. "Spaceweek '82 can thus be highly influential in showing our nation's leaders the depth of popular support for space, even in times of budgetary uncertainties."

Persons wishing to help organize Spaceweek '82 in their local areas are urged to write now for their copy of the *Handbook*, available for a \$10 donation. Spaceweek's address is: Spaceweek National Headquarters, P.O. Box 58172, Houston, TX 77258.

(from *AMSAT Satellite Report*, 3/22/82) □



I have been an amateur only since April 1980, but as this photo clearly shows, I have become quite involved in this short period of time. My station is comprised of a Kenwood TS-520SE, Clipperton L amp., Dentron Super Tuner, Robot 400, Panasonic video monitor, RCA camera, Yaesu FRG-7 general coverage receiver plus a few other accessories that make operating the station a lot easier.



John D. McClure, KC4TC and his XYL, Linda KA4SUZ share this station at their QTH in Granite Falls, North Carolina.

I don't get to spend as much time on the air as I would like, but I do get on as often as possible.

I am partial to the CW mode of operation, but enjoy the phone and SSTV portions as well. As of this writing, I have no awards to grace the walls, but I am working hard to this end.

You may notice that the license holder display shows two call signs. The top call, of course, is mine and the lower call that of my XYL, Linda. She received her license in February 1981.

I was originally licensed as a Novice as KA4NZC. I upgraded to General in July of '80 and passed the Advanced test in December '80. I hope to one day be among that elite and prestigious group of amateurs known as Extras.

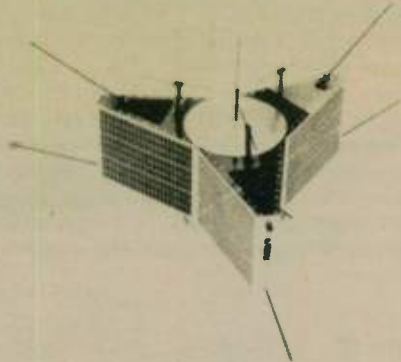
73s de
JOHN D. MCCLURE, KC4TC
Granite Falls, North Carolina □

DON'T FORGET . . .
Include first and last names with call signs.



AMSAT

Radio Amateur Satellite Corp.
P.O. Box 27, Washington, DC 20044
Telephone: 301-589-6062



Dear Fellow Radio Amateur:

Do you know that the AMSAT Phase III Program is designed to bring you a new worldwide DX/local amateur band via communications satellite? This new band will be scarcely affected by the ionosphere, so that unlike the current hf bands or the three new bands we gained at WARC-79, propagation via this band will be 100 percent predictable. For the first time, the technology used to provide the reliability, predictability and ease of use of a two-meter repeater will be applied to provide worldwide coverage. The AMSAT Phase IIIB satellite will be capable of providing reliable communications among all stations within its range, be they local to you or DX up to half way around the world. There will be no skip zones in this new satellite communications band. At times, stations in New York, New Jersey, London, Paris, Tel Aviv, Moscow and Tokyo will be able to hold a round table QSO. The potential for multi-language bulletin transmissions, RTTY, computer, emergency, and public service communications is tremendous.

You owe it to yourself to be informed about this new band. The new band almost happened in May, 1980 but the launch vehicle malfunctioned and the Phase IIIA satellite did not achieve orbit. Our replacement Phase IIIB satellite is a million dollar undertaking. We are going full steam ahead secure in the knowledge that we can do our part to make the new band happen following the successful launch of Phase IIIB. Why don't you join the AMSAT Team and receive regular news as to the status of the Phase IIIB Program.

73,
The AMSAT Team

P.S. We still have one working communications satellite in orbit, AMSAT-OSCAR's 8, and are building a satellite for Science, UoSAT, due for launch in the Fall of 1981. It will contain scientific experiments as well as a slow-scan television (SSTV) camera. This satellite will be ideal for use in classrooms all over the world for live demonstrations of various aspects of space research.

Yes, I want to be a member of the AMSAT Team and receive *ORBIT Magazine*. Enclosed are my dues of \$16 (\$20 overseas) for 1982 (\$200 for Life Membership).

AMSAT Satellite Report (Bi-weekly, \$16 in N. America \$26 overseas)

New Member Renewal Life Member Donation (tax deductible)

Name _____ Call _____

Address _____

City _____ State _____ Zip _____

Contesting

(continued from page 22)

the antennas are higher and wider spaced (in wavelengths) and work even better than those on 15.

Four-element Cushcraft Yagis are used, spaced 60 feet apart. The Europe pair are 60 feet high, while the JA pair are at 70 feet. These simple antennas regularly outperform the six-element Telrex beams at 60 and 120 feet. They also exhibit attenuation of high-angle signals on 15.

While this is still a large antenna array,

the spacing is not critical, so it is something that could be easily duplicated. The last antenna on 10 meters is a four-element Yagi fixed toward the Caribbean.

As if this were not enough, Gordon has a six-element, 6-meter beam at 70 feet, a 2-meter repeater antenna for local FM work, and a complete 220 MHz repeater installation.

Inside the station? Equipment used during contests includes Collins S-line, Drake C-line and Yaesu FT 107s. The Yaesu has been found to be super-sensitive, yet overload resistant. It has become the favorite for 10 and 15 operators. Amplifiers are ETO Alphas 76-77 models with a Drake L-7 on 160.

So far, Gordon's goal of winning has been denied. But he continues to search out ways to improve his station and its operation.

In contesting, it is the propagation and a little luck which can swing the margin from victory to defeat. But getting ready for the fray seems to be half the fun.

Next month: Field Day □



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". . . let us do good unto all men especially
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Galatians 6:10

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Mid-West	Sat	8:30 am	3.907
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South-West	Tues.	10:00 am	7.227
Transcon	M-Sat	1600 Z ST	14.307
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If you're like me, you have been around Amateur Radio clubs throughout your Amateur Radio life. And you've probably been a member of one or more clubs all that time. Have you ever thought what it would be like if you didn't belong to a radio club? Or even worse, what would it be like to want to belong to a club but distance made it impractical to get to one?

Armond Brattland, K6EA/W0MFW, conductor of Worldradio's Exchange column recently brought this to my attention. Here it is in his own words:

"If an octogenarian — licensed in 1915-16 and with his station listed in the 1916 government list of U.S. radio stations — mentions 'back when' radiowise, there may not be a great many who were interested or who presently care to dig back in such 'ancient radio history.' That was my situation, even though the need to solve a problem still exists. That problem is simply stated: too few amateurs and too much space between them!

"In northern Minnesota in the '20s and '30s, amateur stations were few and far between. In the late '30s and up to Pearl Harbor day, even a city of 10,000 such as Bemidji had only three of us on the air. We wanted to organize a club, but imagine a club made up of the president, vice president and secretary-treasurer.

"About the area in northern Minnesota, there were scattered amateurs on farms and villages, and many who lived near various lake resorts. It was impossible to bring them together, except at hamfests.

They all had the same urge to belong to some type of Amateur Radio club or association. We worked them over the air and corresponded with them, and finally came up with an organization we called North-Minn Amateur Radio Association, complete with a membership card. Each individual amateur could then get together with several others and form a 'unit club', which was a part of the association. We also had written bylaws, constitution, and were ARRL-affiliated.

"Meetings over the air continued and during the summer, when driving long distances was possible, we held picnics and enjoyed all the pleasures a radio club can provide. As time went on, as did Amateur Radio, when war was declared. But there are places about the United States where the idea of such 'unit club' association could be brought back to life."

The membership card mentioned had, on one side:

Unit Club of _____ Minn. NORTH-MINN. AMATEUR RADIO ASSOCIATION (W9) of _____ is a member in good standing for the year ending _____ Unit Number _____ and a place for signatures.

Note that Minnesota was W9 at that time, just as the Hawaiians were K6. On the other side, the card read:

Preamble to constitution

"We, being desirous of securing for ourselves the pleasures and benefits of the association of persons commonly interested in Amateur Radio, by furthering better cooperation among its members, developing individual efficiency, furthering the interest of Amateur Radio in the general community and rendering public service therein in case of emergencies, do hereby constitute ourselves the North-Minnesota Amateur Radio Association."

Armond continues:

"ARRL then recognized the situation of 'wilderness' amateurs, so under such 'unit plan' for membership, they gave us 'club affiliation' under the 51 percent rule. It brought in more members to ARRL and 'cured' an impossible situation for those spread about in the wilderness, who

would like to belong to a club.

"We had the understanding help of Ed Handy, then at Headquarters. Being so long ago, likely the old records of such group at Headquarters, are long gone in several moves of their offices. It is my suggestion that if anyone seeks to build upon such idea again, it would be well to first know something about those you must work through at ARRL — whether they can really understand the situation of amateurs living in wilderness areas, and the impossibility of their ever having the opportunity to belong to radio clubs. Holding club meetings on the air — including a few who were also handicapped

— they were doubly grateful for the good fellowship that belonging to a radio club can bring."

Thanks, Armond, for letting us relive some of the early days of Amateur Radio in Minnesota. Perhaps some of today's amateurs in similar "open spaces" situations can capitalize on your experience.

I'd like to hear from any club that tries the "unit club" idea. □

Send photos and stories of your club's activities to Worldradio Club column.



Leo Meyerson, W0GFQ,
QCWA Director
Ted Heithecker, W5EJ,
Gen. Mgr. QCWA HQ

Our immediate goal is to achieve an escrow account of \$25,000. At current interest rates, the income from such a fund will permit QCWA to make a needed contribution to educational assistance among young people. As you know, we are pledged not to spend the contributions themselves . . . they will be held in perpetuity with only the earnings used for our scholarship activities. Thus, we can guarantee gifts into the foreseeable future.

In this connection, I wish to speak of gifts to the fund. Naturally, we would love to have an "angel" give us \$25,000 dollars straight out. That would, however, be the easy way out and the organization as a whole would have made little or no contribution. Since the "angel" is not hovering in the wings, it is up to each of us to get into the act, to contribute as best as we can, to make the project a success.

Contributions can be small as well as large . . . it all adds up as time goes on, and each gift — regardless of the amount — is appreciated and will be doing good for years into the future. We would therefore urge chapters to regularly request members, in meeting, to pass the hat. When done at each meeting, an appreciable number of dollars can be put together each year. Gifts of pocket-change add up. These can be forwarded to Headquarters periodically as chapter gifts.

In addition, gifts of material might be solicited from members and sold or auctioned off in meetings. For instance, Melvin Swillinger, W8NLT gave Dallas Chapter a sheet of commemorative Amateur Radio postage stamps recently. They were offered to members and \$50 was collected for the scholarship fund. There are many ways that this and other ideas can be utilized to obtain gifts for the fund on a continuous basis . . . and it really adds up.

The Pine Tree Chapter of QCWA has challenged other chapters of QCWA to make at least annual contributions of \$120 per year to the fund. That is only \$10 per month. If all chapters participated, we would soon have a very respectable gain in our financial position and could give thought to enlarging our part in educational assistance. We urge each chapter to attempt to meet this minimum schedule of \$10 per month as a gift to the QCWA Scholarship Fund. Records are kept at Headquarters, and donors may send personal gifts for chapter credit; just put your chapter number on your checks. We will publish standings periodically.

In an effort of this type, we must con-

Confidential Frequency List



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MARITIME MOBILE



This month I will attempt to answer the most often asked questions I receive in the mail. I certainly appreciate hearing from all of you, and I will make every effort to respond to each of your questions individually.

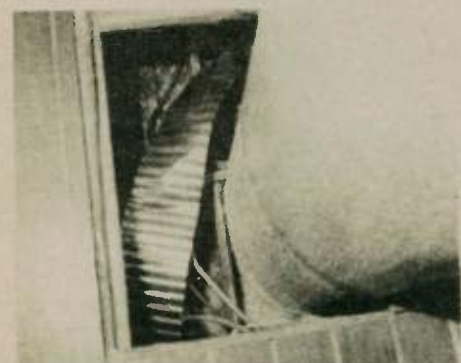
The most often asked question centers around the installation of Amateur Radio high frequency equipment. Let me give you some observations after 200 separate installations of HF rigs aboard all sorts of boats.



It is OK to wire your set next to other electronics.

It is generally acceptable to run your 12-volt wiring to a fuse panel. Just make sure your voltage drop is no greater than 1 volt during transmit voice peaks.

Grounding of the equipment and a good antenna groundplane are critical for proper high frequency operation. May I emphasize that ground wires are out! That's right, those small #10 or #12, or even #8 wires that lead to the engine block will hardly do a thing. If you are running



Copper foil is the best ground.

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ground wires, forget about any type of decent reliable performance.

A good ground system is made of copper foil. Three or 4-inch foil is fine. Thickness of the foil makes little difference. The lighter the foil, the easier it is to work with. The foil should be run directly from the back of the transceiver and the antenna tuner to a good sea water ground.

Good sea water grounds will consist of keel bolts, through-hull fittings, metal tanks below the water line, and any other large mass of metal below decks.

Yes, your keel makes an excellent ground even though it does not actually touch the water. We call this a capacitive ground. If your keel was poured in sections, it might necessitate several keel bolts to pick up each section. Remember, all connections between your equipment and the ground system must be made of 3-inch copper foil.

Battery cable braid is out. It makes a lousy conductor at a ground potential when it turns green with corrosion. Stick with thin copper foil for your best ground system.

When we speak of ground, think surface area. A small connection to the water does not mean you necessarily have a good ground system. Plenty of underwater metal acts as a springboard for your HF signals. A small ground will lead to terrible signal reports, "hot" metals in the cabin and erratic readings on your instruments every time you transmit.

Shipboard antenna systems is another complete subject of questions and answers in itself. Let's briefly summarize some good and bad antenna considerations.

It is possible to run a high frequency rig aboard without an antenna tuner. You



Mobile whips for SSB work fair.

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will be relegated to using mobile-type whip antennas off the stern or on your cabin. You feed the mobile antennas directly with RG-8/U coax cable.

Your coax terminates into a fitting where the mobile antennas screw in. It's most important to make sure you have a large surface area groundplane directly below the mobile antenna.



Loading coil for 160 meters. Be careful during coil changes!

I have checked out many marine installations where coax merely runs to the stern, and then only the center conductor is connected to a mobile whip. It doesn't load up at all, and the mariner asks why. The reason is that there is no groundplane under the mobile whip that will help launch the signal into the air. Once again, copper foil or copper screen makes an excellent counterpoise beneath the mobile whip.

What type of mobile whip should you use? The longer the better. We are presently testing several multi-band mobile whips. These whips are characterized by multiple loading coils that resonate each band to a single whip. So far, we have had some success in making these systems work. It all goes back to the groundplane — without a good groundplane, don't even try loading up!

Those new all-fiberglass single-band

whips are working out quite well with proper groundplane. They hold up super in the salt air. The Q of each whip is quite broad and, if properly installed with a good ground system beneath it, the fiberglass whips work out nicely.

One last characteristic about any mobile whip — the type of signal you get out and receive is similar to any mobile installation; if conditions are just right, your signal is respectable. If band conditions are poor, don't even expect to be heard on such a small antenna.

An insulated backstay makes an excellent antenna that will pull your signal out from the other boats using mobile whips. The backstay antenna requires an antenna tuner to resonate it on frequency.

Be careful — not all antenna tuners have a single wire output. Inexpensive \$50 antenna tuners generally only have coax 50 ohm outputs. This won't work with a backstay antenna in most cases.

The backstay antenna is fed with a single wire directly from the tuner. I have received many comments and questions as to the best type of single wire lead-in. Choose high voltage wire used for neon sign installations — commonly called "GTO-15." This type of wire has a double installation to keep it from arcing over.



Antenna tuner above ham HF set.

When you run your single wire to the backstay, remember — it's part of your antenna system. Don't run it along with a bunch of other wires. Run it separately. Keep it away from the metal toe rail. I repeat, don't run this wire along with a bunch of other wires!

Your backstay antenna system should have a feedpoint resistance of around 10 ohms. This is why we generally cannot use coaxial cable to feed a backstay system. You can try coax, but it probably won't load up well. You may even want to try coax plus a matching balun. It might work.

When you have finally fiddled around with the coax, trying to feed a backstay, switch over to GTO-15 and feed it with a long-wire tuner.

The backstay will work nicely only if you have a good groundplane. This means plenty of surface area below the waterline using foil. Make sure and connect the foil between the rig and the antenna tuner.



Long-wire antenna tuner for backstay antenna.

Other antennas that seem to work out well are half-wave in nature, and use themselves as a groundplane. This would include the dipole hoisted aloft, the inverted V, as well as the folded dipole. It's even possible to run a sloper antenna

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from your masthead in a dipole configuration using the mast as half of the antenna. This system will be described in detail next month.

What is the most common Amateur Radio installation problem? The biggest offenders were corroded antenna connections, inadequate ground systems and the use of small ground wires instead of copper foil. These contribute to poor signals and high SWR.

Many of you ask which is the best Amateur Radio to put aboard a boat. My response is "the rig that performs best for your particular type of operation."

You must first decide whether you want to spend around \$700 for a ham-only rig, or \$1,300 for a ham rig that also has general coverage capability. Although I don't advocate using one of the general coverage ham rigs as a marine single side-band set, it's nice to know that with a one-wire modification you can call for help on any frequency, including marine telephone and Coast Guard frequencies.

You have asked about antenna tuners that are automatic — yes, the new auto-

matic ham versions are working out quite well into 50 ohm loads. However, those automatic tuners only work on the ham bands, and all require a well-balanced 50 ohm antenna system to trim up. I think maybe they should call them automatic antenna trimmers rather than automatic antenna tuners. The automatic antenna tuner won't necessarily tune up anything and everything in an instant. Manual tuners will.

The best manual tuner? Several are available, but remember — all run around \$175 and have a long-wire low impedance output.

Bootleggers beware, "CLAMMARO" — the Committee for Legal Maritime Mobile Amateur Radio Operations — is out there patrolling our ham frequencies, looking for mariners using ham frequencies without the right grade of license. These boys are not to be messed with, either. They take this job seriously, and if you have ever received a letter from them, you know they mean business. One of their letters makes any FCC notice of

violation look like flypaper. I recently read a letter to a net control station handling marine telephone traffic, and they uncovered many stations that were using this net without the proper grade license. As they aptly point out, it is also illegal to work an illegal station. They just want to make sure that net control operators are aware who is out there, and which stations are not legal.

Yes, we still have extra copies of the Maritime Mobile Net Directory available, listing all maritime mobile nets in the world and their frequencies and times. This is combined with the new West Coast VHF/UHF repeater list, and the whole works is available immediately from the West/Coast Amateur Radio School, 2414 College Drive, Costa Mesa, CA 92626. \$2.50 covers everything, with same day mailing.

For our West Coast readers — nothing new on 2-meter repeaters in Mexico. Yes, there are a few. No, the proposed linking plan has not gone into effect along the Baja California coast. It's not that they don't have the technology — it's just that

every frequency they try and use next to the California border gets jammed. Whether the jamming is intentional or accidental, there is little hope that there will ever be a 2-meter repeater frequency compatible with a linking system down south. Pity.

Yes, I will be more than happy to discuss which magic wire on the ICOM 720 unlocks the transmitter for emergency use on general marine band frequencies. I first want to see a copy of your license. After that I will tell you which wire to clip.

Next month we'll look into more marine antenna considerations. Will examine that new multi-band mobile antenna for marine applications. A correspondent — Rudolf Severns, N6LF — will describe how to build a half-sloper using your mast as a groundplane. I will speak additionally on grounding techniques, and above all, will try and bring you up to date on the latest techniques in launching a high frequency signal like it was shot out of a cannon. 73's, and good cruising this summer.

NOW—for the Maritime Mobile Operator! The Spider™ Maritimer™ Antenna or The Spider™ Maritimer™ Adapter can be mounted where it will not interfere with handling the boat when under way

The Spider* Maritimer* Antenna has been especially designed for use in a salt water atmosphere, such as on an ocean-going boat or near the ocean. The 1/2" mast is made of non-magnetic stainless steel. The fittings at the top and bottom are made of bronze with a heavy nickel-chrome plating. Covers 10, 15, 20 and 40 meters without changing resonators.

The Spider* Maritimer* Adapter converts any mono-band antenna with a 1/2" stainless steel mast into a modern four-band antenna with all the features of the regular Spider* Maritimer*. It gives you the latest convenience at a modest price.

Features of The Spider* Maritimer* Antenna

- The Spider* Maritimer* Antenna is less than six feet high. The mast is made of 1/2" non-magnetic stainless steel. The radial 10, 15 and 20 meter resonators project out from the mast 11 to 24 inches, are 1/2" in diameter, wound on fiber glass. The vertical 40 meter resonator is 20" high and 3/4" in diameter, wound on polycarbonate.
- A special sealant is furnished to completely seal all joints after final assembly. This makes them impervious to penetration by moisture-laden air.
- Each resonator is tuned to the desired portion of the band by a tuning sleeve which slides from end to end over the outside of the resonator. Use an SWR bridge to tune to the chosen frequency, tuning for minimum SWR. If desired an antenna noise bridge may be used for tuning. Each resonator has a logging scale to provide resetability.
- SWR is approximately 1:1 at the selected resonant frequency, with generous band widths before the SWR exceeds 1.5:1. The typical band widths are about 500 kHz on 10 meters, 200 kHz on 15 and 20 meters and 60 kHz on 40 meters.
- **Base impedance is approximately 50 ohms on all four bands, requiring no matching network.**
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The Spider* Antenna

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The Spider* Adapter

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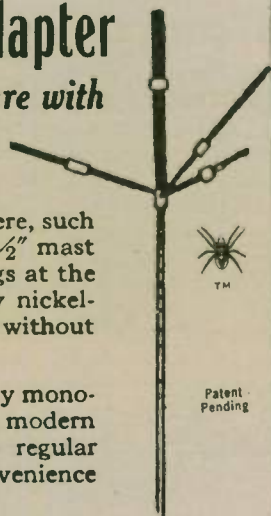
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K6YEO teaches aboard yacht



Carl Wallace, K6YEO explains to student — XYL Leona WA6OHB — some fine points about Advanced Class theory aboard their yacht MALAGA.

Leona Wallace, WA6OHB

Carl Wallace, K6YEO has been doing his "little drops of water" bit to stem the

tide of illegal use of Amateur Radio on cruising boats by making it more convenient for skippers to obtain a license or upgrade. To that end, he has been holding radio classes aboard his yacht MALAGA for other yachties. Among his students was XYL Leona WA6OHB, working for her Advanced ticket, which she has now obtained.

Carl and Leona are in San Diego, California, where Carl is working on a "cruising kitty" job that just fell in his lap. The project is building an excimer laser.

Boaters also have access to an amateur license study group that meets on the air, Mondays through Fridays on or about 3964 kHz. It is run by Lou Cartwright, K6SQ at 0700. He started it seven years ago for fellow campers. Each student has the recommended handbooks and textbooks. The class runs from September into June.



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For those of you who may not be familiar with this, the granddad of DX awards — the DX Century Club Award, with certificate and DXCC lapel pin, is available to members of the ARRL in Canada, the United States and possessions and Puerto Rico, and to ALL amateurs in the rest of the world.

There are six separate DXCC awards available: mixed, all phone, all CW, all RTTY, all 160-meter and satellite. There is no charge for this award, but membership in The American Radio Relay League (ARRL) is required for U.S. and Canadian applicants.

For a complete description of the rules and requirements and a country list, send your SASE to ARRL Headquarters, 225 Main Street, Newington, CT 06111.

The DX Family Award Series

The DX Family is an organization, originating from Japan, of interested amateurs involved in promoting DX around the globe. They provide QSL services to qualified DX stations upon application without charge, produce a monthly DX bulletin (in Japanese), and sponsor the following awards.

DXF "D": Issued for confirmed contact with five different members of DXF.
DXF "X": A spell-type award, spelling DXF.
DXF "F": Issued for confirmed contact with five stations sponsored by DXF as indicated by their QSL card.

The GCR rule is in effect for all DXF awards and they are issued *free of charge*. A complete information sheet can be obtained in the United States by sending your SASE to IARS HQ, P.O. Box IARS, Glendale, CA 91206-7609 or from DXF directly in Japan at: DXF, P.O. Box 12, Shinjuku-kita, Ochiai, Tokyo 161, JAPAN.

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totaling 600 contacts; at least one of these contacts must be a member of the SARC. Three different bands must be represented in the final total. Only one contact with each individual station within the 12-month period will be eligible for credit.

To apply, send a log extract, a certification by you that you, in fact, made the listed contacts, and 8 IRCs to: Sharp ARC Award Manager, T. Nishikawa, JF3MXU, 5-7 Motoyama-Kitamachi 4 Chome, Higashinada-ku, Kobe-City, 658 JAPAN.



WARM Award

The WARM Award — Worked Albany Radio Members — is sponsored by the AARA (Albany Amateur Radio Association) and is available to all licensed amateurs for contact with AARA members, and amateurs in Albany, Rensselaer and Schenectady, New York. AARA members or residents of these areas must contact 15 amateurs of which five must be AARA members. Residents of New York state must contact 10, of which one must be a member; all others must contact five which must include one AARA member.

There is no charge for this award or time restriction on date of contacts. Send your log extract along with an SASE to: Harry Hovey, KB2FC, 15 Sylvan Lane, Troy, NY 12180. A complete list of members is available from Harry for 2 IRCs.



Zone 4 Award

This award is issued by the Radio Club of St. Louis for working one station in each of the U.S. and Canadian call districts within "CQ" zone 4. VE 3, 4, 5, 6; W/K4 (TN and AL only); 5; 7 (MT and WY only); 8 (OH and MI only); 9; 0 for a total of 10 cards.

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Send your log extract (GCR), along with 50 cents to: Arthur Jablonsky, W0BK, 1022 North Rockhill Road, St. Louis, MO 63119.

St. Louis Award

Issued for contact with a total of 10 different stations in St. Louis County. Send your log extract (GCR) along with 50 cents to Arthur Jablonsky, W0BK, 1022 North Rockhill Road, St. Louis, MO 63119.

All Alaska Counties Award

Issued for confirmed contact with each of the four judicial districts (counties) of the state of Alaska in five classes: 1-CW, 2-AM, 3-SSB, 4-RTTY, 5-Mixed Modes. Your application must include contact with one member of the Moose Horn Amateur Radio Club and all contacts must have been made after 15 August 1961.

Send your log extract (GCR) along with \$1 or 3 IRCs to: AARA, Ken Smith, KL7JFY, P.O. Box 1682, Soldotna, AK 99669. Membership list available from Ken for your SASE.

Arizona Counties Award

Issued in three classes for confirmed contact with at least five counties in the state of Arizona. Endorsements for mode,

band and QRP may be requested at the time of application.

Send your log extract (GCR) along with \$4 to: CHC HQ, P.O. Box IARS, Glendale, CA 91206-7609.

Nevada Counties Award

Issued in three classes for confirmed contact with counties in the state of Nevada. The basic award is issued for confirmation of at least eight different counties. Endorsements for mode, band and QRP may be requested at the time of application.

Send your log extract (GCR) along with \$4 to: CHC HQ, (see address above).

DX Bulletin

The International Amateur Radio Society is now publishing a new DX bulletin called "DXing". Sample copies are available without cost for your review. Send your SASE to: IARS HQ, (see address above).

SAROC and Dayton

The International Amateur Radio Society and The Certificate Hunters Club will have a booth at both the SAROC and Dayton conventions. We hope you will stop by to say hello and get acquainted with these fine organizations.

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

Tallcorn DX Award

Lynn Hansen, KN00

The Tallcorn DX Award is issued by the Central Iowa Amateur Radio Club to amateurs who contact three or more members of the club. There is a fee of \$1 which provides return postage and a large envelope. This certificate is used by our club to provide funds for a very special project in which we are involved.

The proceeds go toward providing transportation costs of books and school supplies to a girl's school in Zambia. Brian Otter, 9J2BO is an instructor at the school, and says there is a shortage of supplies that we in the USA take for granted. Most of the supplies are donated to us, but the burdening costs are in the form of postage, freight, etc. It currently costs in excess of \$1 per pound to get these supplies from Iowa to Zambia. The Tallcorn DX certificate helps defray these expenses and those who apply can be assured that the funds are truly helping to promote international friendship and good will.

Our club is rather small, so we cannot provide a big list of operators, but the following are some of our more active members: AK0P, K0KQJ, KN00, WD0EIF, WA0MIT, WA0AIX, KA0D, WD0GAT, W0DX (VP2VI), WB0RMT, WB0URA, KC0HB/5, WA0AVW, WB0ZKG, WD0AFM, N0CFJ, KO0E and W0BDZ.




Confirmation may be in the form of QSL cards or a listing of log information for match-up with local logs.

Applications should be sent to: Central Iowa Radio Amateur Society, P.O. Box 42, Marshalltown, IA 50158.

Interested parties may also write to the above address to set up scheduled contacts. On occasion, get four or five local stations on a band and offer contacts for the certificate.





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preferably — in another part of the country where more people could come.

System member Richard Steele of Newport Beach gave the System a grant to fully sponsor a West Coast Radio Camp, and we set about to schedule the session for January 1982. We were able to rent Camp Joan Mier — an accessible camp owned by the Los Angeles Society for Crippled Children — which is located just 10 miles north of Malibu, California, right on the ocean.

Twenty-seven campers signed up for this session, and they came from Minnesota, Arizona, Iowa, Maryland, and of course, California. A winter storm closed down the Minneapolis/St. Paul airport the night the Minnesota people were due to leave, so they didn't arrive in Los Angeles until the following morning. Typical of the excited reaction to being out of the snow was Rachel Gomez (Golden Valley, Minnesota) who shouted, "I'M IN CALIFORNIA!" when getting out of the van at Camp Joan Mier.

A week of hectic activity followed — a fantastic tour of Jet Propulsion Labs in Pasadena, great instructions in class, lectures on radio procedures, swimming, horseback riding, fishing trips. It just couldn't have been nicer — even the weather cooperated!

The real story, however, is the way the campers dug into their studies and came

up winners. On the final full day of camp, the FCC exams for all classes of license were administered, and when everything was graded by the Long Beach FCC Field Office, 22 had passed!

This first West Coast Radio Camp was a huge success. It is hoped that we will be able to repeat this camp, as well as others in other parts of the country. □



Pam Westling of Minneapolis earned her Novice ticket at Radio Camp.



It's hard to concentrate on Amateur Radio studies with an ocean at your front door!

Malibu madness!

Regular readers of this column will have noticed it was missing last month. Only two things can keep me from getting in this column copy each month — death or a Radio Camp. Since I'm still hearing the woodpecker on 15, it must have been a Radio Camp!

And what a Radio Camp it was. Let me give you a little background. The Courage HANDI-HAM System has been conducting week-long Radio Camp sessions for about 10 years. The sessions have all been held at our two residential camps: Camp Courage and Courage North, both of which are in Minnesota. Campers from all over the country have flocked to these sessions to learn more about Amateur Radio and pass the FCC exams. Because of the camp's use during the summer months, we have always had to schedule Radio Camp sessions for late August or early September. This had caused a goodly number of folks to miss out on this wonderful experience because of school schedules, medical reasons, or what have you. What was needed was a Radio Camp session in another part of the year, and —



Dr. Tom Linde, KC0L of Knoxville, Iowa inspects the Viking Mars Lander during the JPL tour. Tom was our Morse code instructor with Doris Tompkins of Tucson, Arizona.

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Direction-finding news

There has been considerable activity of late, both in Search and Rescue (SAR) and in Amateur DF. We wish to take this opportunity to share some with you.

Rick Goodman, W5ALR and his very active crew of volunteer SAR workers are continuing their efforts to improve ground DF in New Mexico. He called to tell me about a recent test of some new techniques they are experimenting with. About 85 amateurs and SAR workers took part in a recent test of the new concepts.

With his usual humility, Rick said most of the ideas are not new; they just put to good use some of the "horse sense" things most amateurs would know if they thought about it. I will not steal their thunder by revealing all details, but they are having great success with a method of DF that gives them distance to ELT information. They are also using multiple bearing information on a base line and some computer programs that allow them to glean usable bearing information in areas of high multi-path. Once they have more solid details, they plan to share their work with others.

Rick and his crew have nearly led the nation on amateur-involved SAR activities. God bless him, his crew and the many like them all over the country who make up this great volunteer SAR community. Few realize how many lives are saved each year by volunteer SAR workers, nor how much more taxes we would have to pay if it were not for all these volunteers. Remember, if we didn't

do it free, someone would have to pay "someone else" to do it. Due to the irregularity of need and the wide geographical areas involved, it would be a real problem to replace our national SAR volunteer program with paid employees.

Doppler Systems DF unit

We commented in a recent column about the new group of doppler DF units. I have not had the opportunity to test one of them, but made a number of observations on the system probabilities. Dave Cunningham phoned me from Scottsdale, Arizona the other night and was kind enough to spend almost an hour of long distance toll charges, going over valuable details with me. He is a very nice and knowledgeable gentleman. We have exchanged much DF information and have plans to work together in the future for the benefit of the DF community. He was particularly concerned about a five-day search in his area where the elusive (80mW) ELT signal was said to be emanating from the wreckage.

Dave has not used his doppler system on the AM ELT type signal and I was able to give him some details on its operation. After reviewing his very excellent manual, I sent him some comments that I hope will help him to make some experiments before I am able to get to Scottsdale. More on AM doppler DF when we have details to share.

For years my articles have attempted to point out the folly of expecting a "single pointer needle or digital readout," to give a single answer when more than

one RF path is arriving at the DF antennas. His device has a digital readout, and also has 16 LED readouts placed every 22.5 degrees around a circle. A number of representatives of very expensive VHF DF units have tried to "con" us into believing that their device can give a correct answer (or bearing), even in the face of multiple (multi-path) signals. In a flat desert situation, almost any DF method can provide a relatively accurate bearing. Where it becomes difficult is when the direct path is accompanied by one or more reflected paths. This is when operator intelligence and experience become important, regardless of the brand or type of DF in use.

Dave is among those who are aware of this. He states that once one is experienced with his DF and has "seen" (and heard) it operate, he will quickly recognize when he is in multi-path. One of the ways is to listen to the 300 cycle antenna tone (it changes frequency in the presence of multi-path). The DF will also show random answers. I look forward to meeting with him and running some meaningful tests. We wish him well. This brings to mind the original "dopplescant" DF. I read the first article on it and commented very similar to the above. I also mentioned that Terrance had stated in his instructions that his device was for homing, not bearing plots. Too many people still seek a single DF unit for every circumstance. This was well covered in our column last month, so I will drop it here, except to say that VHF DF has so many reflection and multi-path possibilities, you must use common horse sense with whatever methods you choose to use (under the circumstances of the moment).

Computers in DF work

When the home computers appeared on the scene, many people like Rick Goodman, Lt. Col. Mattson (USAF), etc. began developing programs specifically for SAR and DF. I have only had my Apple for a couple of months and am too new to really understand all that I think I might know.

We do know that these SAR, DF and

Amateur Radio programs exist. We would love to have the information to share with other interested parties. If you have or know of programs that are available, please let us know. We will be happy to share the information with those who write to us. Send the information to either address in the column head.

While on the subject, I have discovered a group called Apple Avocation Alliance. It was started by Jim Hassler, WB7TRQ in 1980. His Apple Net resulted in acquisition of many "public domain" programs for Apples; and he found himself acting as a librarian for many programs. As he became swamped, Ron Maleika — a retired Air Force (1978) man — was pressed into helping. He now has over 2,000 on the Alliance mailing list.

They do not have any copyrighted programs, so I copied all the programs I wished from their list of hundreds of public domain programs for \$1 each. These included a number of ham programs for logging, computations, Morse code, etc. For information, drop him a line at 721 Pike Street, Cheyenne, WY 82009. We would be interested in learning about other computer/ham groups. Also, would be happy to receive any information that might help me get the most out of my new Apple.

The Great Sierra Balloon Race

I received a long phone call from our old friend and HAPPY FLYER Dan Crowe, KB6AR (formerly WA6WIJ), who is looking for some volunteer help from radio amateurs and pilots. It so interested us that Janie and I plan to attend and help — as a DF plane, communicators, and for security at the site. We felt like many of our readers might like to plan to attend and/or help. It will take place 23-26 September 1982 in Visalia, California. I will quote from Dan's letter for some of the details:

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cross the Sierra Nevadas with a starting point on the floor of the San Joaquin Valley approximately 50 miles west of Mt. Whitney and other peaks. . . . Among those balloons flying will be some with a capability of reaching the east coast of the United States and Canada, given proper handling and the right winds aloft. They do have aviation VHF, transponder and encoding altimeters to operate in controlled air space, as they frequently reach altitudes in excess of 25,000 feet.

"The Valley Rally," a four-day nationally sanctioned hot air balloon event, with a series of competitions expected to draw 50 or more balloons, and with all flying in the vicinity of the city of Visalia. All coordination will be by Amateur Radio. The anticipated finale will be a coordinated mass lift-off of all contestants, with launch control by Amateur Radio. We would also like to place as many amateurs as possible with balloon chase crews, and possibly with an opportunity to fly if both they and the balloon crews so desire, for potential emergency communications.

"A festival of the arts, including artists from throughout the state, and a wide variety of art media. Concessions and display booths, covering both ballooning and non-ballooning materials.

"A nationally sanctioned chili cookoff, which in the past has been cooperatively sponsored by a local radio station. A variety of entertainment at least through the last two days, not yet specified . . . a display of antique and unusual vehicles, with the DeLorean Society, two antique car clubs and a Model A roadster group.

"Last, but certainly not least, an Amateur Radio special event station, including provisions for origination and receipt of messages through the National Traffic System, a tie through local amateurs to the telephone system, a direct connection to the radio communications system to be used for the entire event and for all emergency services, and a station operating contest-style, with the special event station. The special event station will be using a primary call sign of KB6AR (KB6 Amateur Radio) with a secondary control being KB6CC.

"We are seeking actively the participation of Amateur Radio operators from outside the area, and we would be delighted to accept assistance in the way of volunteer effort — particularly from operators with 2-meter hand-held or mobile capability. As we did last year, we will provide a multi-color certificate to all confirmed contacts with the special event station, for the customary QSL card and self-addressed, stamped envelope. We plan to award a certificate to all Amateur Radio operators who sight one of the helium balloons and report time, location and a description of the balloon to us by way of the National Traffic System, within six hours of the sighting." (Editorial note: details possibly excluding local sightings within 20-mile radius will be given closer to the event.)

"As indicated above, the primary responsibility for communications for the entire event has been placed upon Amateur Radio. This is primarily the result of our efforts in past years, and a very good rapport built up with balloonists in previous years and with local authorities, to such an extent that responsibility for all forms of communication — including public address, coordination with police and emergency services, coordination with the Federal Aviation Administration in Fresno, and with search and rescue facilities at NAS Lemoore, and area security and traffic control — have all been placed upon Amateur Radio."

Dan sent much more, but as you can see, he is enthusiastic. The area amateurs

have done quite a job in the past. This year is a great expansion, and they hope to make it one of the largest of its kind in the world. We will be there and hope some of you will plan on joining us. Contact Dan Crowe at 2222 West Main, Visalia, CA 93291 if you would like to volunteer to help somewhere, or would like further information for flying. We know some of our Canadian HAPPY FLYERS are balloon flyers. Let's get together!

Oshkosh EAA fly-in in August

Paul Hower called and a number of HAPPY FLYERS again plan to attend from different squadrons. If you wish to get in on the dorm accommodations, better get your reservations in early. This is one of the largest fly-in shows in the world. We plan to attend this year. Hope to see some of you there also. We will have an area for amateurs and pilots to get together. The local amateurs there

provide much communications for the event. Hopefully we can get some good pictures. Paul Hower, WA6GDC has all details and plans a column on the fly-in next month. I believe the 99s (International Organization of Women Pilots) will have their international convention at St. Louis, Missouri shortly after Oshkosh, Wisconsin. We hope to make both events.

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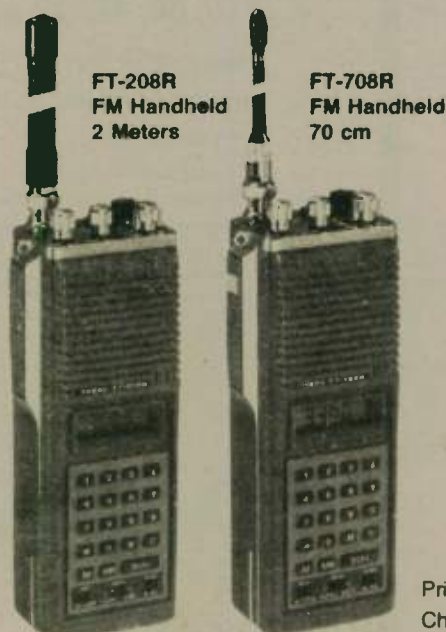
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Service is the finest tradition of Amateur Radio!

When stating this oft-repeated cliché, we think in terms of numerous hours of listening, daily monitoring and the effort traffic handlers make to please the public. How many times does the average amateur stick his neck out in making such effort? Perhaps a great many, according to what ARRL prints in their traffic handler's rule book. As an example, if there were a short-lived emergency in a certain country, some people in the United States would request amateurs to help try and locate missing persons (Americans) in such country. By such rule book, we cannot so act, since the emergency is over. I'll bet we have done so, however.

ARRL has stated, and we presume the FCC has approved of what has been written by ARRL, that the "key word is emergency." However, "emergency" communications must relate directly to the immediate safety of life of individuals or to the immediate protection of property.

ARRL has also stated that in the regular course of business — although ARRL is an amateur organization, is incorporated as a non-profit corporation, and QST is "devoted entirely to Amateur Radio" — it is illegal to send ARRL an amateur radiogram saying that you did not receive your April QST. In a like manner, you cannot send the FCC a radiogram asking for a license application form. You are expected to use the post office! You don't like such rules? Write ARRL and the FCC. Write your congressman; perhaps the latter might blast through another interpretation.

If you wish "personal" radio service, CB is the way to go!

You may not like this, but ARRL has answered:

"Your second question is, 'Do we as amateurs have the right to help make motel reservations for other amateurs and/or the public?' In an emergency, when there is clear and present danger to life or property, this can be justified. However, as a routine occurrence, it cannot be justified. One reason is that such communications can be construed as being business communications on behalf of third parties. However, there is what I believe to be a more compelling reason that radio amateurs should not routinely help make motel reservations for other amateurs or the public. There has been a trend over the last several years, dating back to the advent of repeaters and

autopatch facilities, for more and more amateurs to utilize Amateur Radio as a personal convenience. They might use it to make motel reservations while traveling through a strange town, to check with the spouse on the way home from work, or perhaps even to order pizzas. Nowhere in part 97.1 of the amateur regulations, the basis and purpose of Amateur Radio, is anything said about Amateur Radio being a personal convenience for the amateur. Amateur Radio can in no way justify its frequency allocations, which are by and large quite generous, on the basis of using the service as a personal convenience. On the other hand, the citizens radio service is specifically intended to be used as a personal convenience. This is why citizens band operators can help each other obtain motel or hotel reservations.

"This trend to use Amateur Radio more or less as a personal convenience is dangerous and should not be encouraged. Furthermore, I can think of at least two alternatives to using Amateur Radio to make motel reservations. One is for the traveler to plan in advance and make prior reservations by telephone or by letter. The other is for the traveler to pull aside to use a public telephone. Given these alternatives, and I am sure there are others, it is clear that the use of Amateur Radio under these circumstances would be purely as a convenience, and therefore not justify it. Obviously, in an emergency situation, Amateur Radio could be used. In this case the amateur must use his judgment to determine what is or is not an emergency.

Please feel free to write back if I can clarify any of these points.

Sincerely yours,
Harold M. Steinman, K1FHN
Manager
Membership Services Department"

In dipping into some of the rule interpretations, it is only my purpose to start you thinking about the fact that as amateurs, whatever we do or say is subject to some "guidelines," and in this case, likely such have been approved by the FCC staff before being published in the Washington Mailbox section of QST. As far as I know, what is printed is based upon interpretations, not upon actual test cases. That is quite usual in all matters based on laws, whether they be rules by bureaus or by legislative bodies. If you wish to enlarge upon this, write ARRL; thereafter, feel free to make use of this column — merely write to the Managing Editor of Worldradio. Remember, I assume no personal responsibility for any interpretations given by ARRL or the FCC, so direct your comments accordingly.

Too "sot" in their way?

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out Bulletin #112, which stated: "Starting October 23, 1981, U.S. amateurs will no longer be required to give the call sign of the station with which they are in contact unless international third-party traffic is being handled. Furthermore, there will no longer be a requirement to identify your station at the beginning of a transmission, so long as you identify your station at the end of the transmission or series of transmissions and at least once each 10 minutes during the communication."

It's hard to believe there are so many amateurs who don't like such relaxation of the old rules. I've retransmitted such bulletin before and after operations on some nets. One net member told me he considered it a courtesy to the Net Control to use such call of NCS and he intended doing so. Another doubted that it really meant you no longer need give the other party's call — he wasn't going to "take a chance." But as a whole, many phone nets, especially, just plod along as they have, wasting much time, having you call the net control by call sign, with much doubling.

To be successful, traffic nets need coverage!

All traffic nets need coverage; unless there are enough amateurs standing by to take traffic for their area or to act as liaison to other nets, traffic must be held over or mailed. Mailing much traffic at present rates becomes a painful activity for a busy traffic handler.

If a net member is pressed for time and knows he is going to be treated to a long series of calls and roll calls, or other time-wasting on his net, there are only two alternatives: 1) don't check in at all, or 2) risk being considered rude or too abrupt in trying to impress those handling the net that he must grab the traffic and run!

If you wish to be helpful toward your traffic net, it is unfortunate if the net controls carry on with time-wasting procedure. Rather than drop out for lack of time or adopt an attitude as expressed herein, you should talk it over with the net manager. Let me know how you come out. A radiogram addressed to Armond Brattland, c/o Minnesota State Nets will reach me. □



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Vern Hansen,

The following article entitled "Rex Rowland, W7PSX/AAR8HU reaches out by radio" appeared in the Missoula, Montana Bitterroot News, 13 January 1982, Pat Perry, Correspondent. Rex has been an Amateur Radio operator since July 1951, and an Army MARS member since March 1981.

Having spent a great deal of time in hospitals, Corvallis-area (Montana) resident Rex Rowland knows that a hospital can be the "loneliest place in the world, even a 64-bed ward with . . . people going and coming all the time."

Resulting from this knowledge was a promise which Rowland made to himself during a four-month stint in the Veterans' Administration Hospital in Salt Lake City, Utah. He promised himself that, given a chance, he would do something to help out others who had to be confined in the hospital for long periods of time. For quite some time, Rowland was stumped as to what he could do to help out on a large scale. Complicating his problem was the fact that he is partially disabled and must get around either in a wheelchair or on crutches.

Finally, and rather suddenly, Rowland realized that he had his answer right at his hand, so to speak. Realizing that it is extremely expensive for veterans in hospitals away from home to communicate with their families by phone, and rather slow to communicate by mail, he came up with the idea of helping them get messages back and forth quickly and without charge.

Putting 30 years' experience as an Amateur Radio operator to work, he built up a network to relay messages among families and their veterans who are in hospitals at Miles City and Fort Harrison, Salt Lake City, Utah, and Sheridan, Wyoming. He has been working on this project for about a year and a half.

Messages that are received from families of veterans are relayed by radio to other ham operators and then by phone to the office of the chaplain in the VA hospital. They are then delivered to the veteran, either by the chaplain or a volunteer worker. Messages for anyone in the VA hospital at Miles City can be sent directly to the hospital by Amateur Radio, as that hospital has radio equipment that was donated by the American Legion post there.

His intense interest in helping veterans has been aroused by several events in his past. First of all, he and his four brothers served in the Armed Forces during World War II. An older brother was wounded at Pearl Harbor. Rowland himself enlisted in the Navy and served aboard the USS

West Virginia, which had been sunk at Pearl Harbor, and then raised and rebuilt.

His family, according to Rowland, has always served in the military when needed. In searching out his family's history, he found that ancestors served with Washington and on down through American history. During the Civil War there were members of his family in both the Union and Confederate armies, and he discovered recently that the designer and builder of the battleship Monitor was an ancestor.

All six of Rowland's sons have served in the Armed Forces: three in the Air Force and three in the Navy. Two sons are making the Navy their career.

Rowland himself is a member of three veterans' organizations — the Disabled American Veterans at Hamilton, the Corvallis American Legion Post, and Post 1430 of the Veterans of Foreign Wars at Hamilton. He is commander of the latter.

In his desire to help hospitalized veterans, Rowland wants to improve ways in which messages can be transmitted to and from the veterans. He would like to see telephone answering machines installed in those four veterans' hospitals — at Miles City, Fort Harrison, Fort Sheridan and Salt Lake City. The way this would work is that the machines would be installed, each with its own number, in the chaplain's office. Any person could call that number and leave a message. Or

a veteran could call that number from a phone in the hospital and likewise leave a message. These messages would then be transcribed from the machine and passed along. Cost for each machine would be less than \$500. There would also be the cost of installing and maintaining the telephone lines. He would like to see veterans or groups get involved in the project.

A pilot project would be started in Miles City and, if successful, enlarged to involve the other three hospitals.

He would like anyone who might need to have a message sent to a veteran in any of the mentioned hospitals contact him at his home in Corvallis.

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TRAFFIC

Chuck Clark, K4ZN
Assistant Director
Roanoke Division, ARRL

Why not make it formal?

Formal seems to be a dirty word to many of us. It suggests suffering discomfort in a tuxedo or tripping over the skirt of an evening gown. It brings to mind an evening where everything is done so properly that nobody enjoys it. In traffic handling it suggests rules, procedures, counting checks — a lot of silly stuff thought up by that bunch in Newington. The less we have of that the better.

"This is W8XYZ looking for a one-way into Podunk." "Can anyone take a one-way into Podunk?" "This is W8XWV in Podunk. I can take it, but will need a relay." "W8QSP, please relay."

"This is W8XYZ. Please ask him to call 555-6789 and tell them my Uncle Bill is in the hospital from a fall. Will be home Monday." "Roger. Confirm the phone number 555-6789." "Roger." (More on this use of "Roger" below.)

"W8XWV, this is W8QSP. He wants you to call 555-6789 and tell him his Uncle Bill will be in the hospital Monday and will be home in the fall." "No! Correction! He is in the hospital now, as a result of a fall, and will be home Monday." "Do I have it correct now, he will be home Monday and will know the results in the fall?" "No, no! He had a fall, a tumble, and had to go to the hospital, and will be home Monday." "OK, I go it now. His Uncle Bill had a fall, is in the hospital, and will be home Monday?" "That's more like it."

"W8XWV, this is W8QSP. He wants you to call 555-6789 and tell him his Uncle Bill is in the hospital because of a fall, and will be home Monday." "Roger. Say, what's the name of the party I'm sup-

posed to call?" "W8XYZ, what's the name of the party he's calling?" "Frank Johnson." "Frank Johnson." "Roger."

"W8QSP, this is W8XWV. Frank Johnson says he has no Uncle Bill." "W8XYZ, this is W8QSP. XWV says Frank Johnson has no Uncle Bill." "No, it's my Uncle Bill."

This could go on and on, but it should be obvious that a formal message could have prevented much of the misunderstanding, and would have taken much less time to handle. Formal traffic is not something thought up by folks in Newington with nothing else to do; it is something that has developed as a result of three-quarters of a century of experience in the Amateur Radio Service, paralleled by almost twice that length of experience in commercial traffic handling by wire and radio.

It has been found that using standard forms insures that everything needed is included in the message, that receiving operators know what to expect next, and that receiving operators have a means of checking the accuracy of their copying. Having the message written out in advance and copied in writing results in accuracy, and makes it possible to verify what was actually said. This can be of particular importance in an emergency. Moreover, using formal procedures often results in moving the traffic faster when operators are familiar with them, simply because things are done systematically. In any case, however, speed is no good without accuracy; formal procedures result in both speed and accuracy.

ARRL is everywhere

The tendency of amateurs to think of ARRL as a bunch of old die-hard CW types up in Newington may be the result of two things: the headquarters staff's tendency to feel that it has leadership responsibility, and the tendency of most of the rest of us to let them do their thing and then gripe because they don't do what we think should be done. But did we make our wishes known before they took action? And to the people who have to make the decision?

ARRL has a structure established for soliciting grass-root input in policy for-

mation. In fact, a sizeable chunk of the annual budget goes to this activity — travel expenses for headquarters staffers and for Directors, costs of meetings around the country, postage to answer letters from members to assure them that their input is appreciated or to ask for clarifications where needed. If your whole participation in League activity is to pay your dues and maybe vote for your Director and Section Communication Manager (SCM), you should not be surprised if things aren't done your way. If you're one of those who won't join the League because you don't agree with its policies, you shouldn't expect it to change them to suit you, a non-member.

This comment is suggested by the comments on ARRL standard traffic form, and also by a notice received in the mail a few days ago announcing the ARRL League Planning Meeting for the Roanoke Division, scheduled for 22 and 23 May in the Crabtree Sheraton Motor Inn in Raleigh, North Carolina. This is one of several such meetings being held around the country every year. It's not a hamfest or a convention. It's strictly a business meeting, and it is in such meetings as this that League policies are formulated. Most of these meetings are rather poorly attended: a Division with 10,000 amateurs may have 50 attend the meeting, and most of these are League officials such as SCMs, Assistant Directors, Emergency Coordinators and Net Managers. But it's the same in most organizations: they have their wishbones, jawbones, lazy

bones, and a few who form the backbone, with the others content to complain that the organization is run by a clique.

If you can't attend such meetings, at least let your voice be heard by contacting someone who will attend. This holds also for the National Traffic System (NTS) staff meetings. The latter meetings are not open meetings like the League planning meetings, but are restricted to the area staff of NTS. But the staff members (all region and area net managers and TCC [Transcontinental Corps] directors) are eager to receive input from other active traffic handlers in the area. Speak now or forever hold your peace.

Roger

Too many of us say "Roger" or send R on CW when we don't really mean it. They both mean "I have received everything you sent." I'm often tempted when I have several messages to send to a given station to fire number 2 at once when an operator sends R and ignore any request for fills.

Some purists insist that the amateur's use of QSL to acknowledge a message is incorrect. They say QSL is to be used only in special cases, say when net control wishes to know if a particular message has been passed. In the usual case, when a receiving operator wants to tell the transmitting operator that the message just sent has been received and no fills or confirmation are required, a simple R or Roger will do, and the purists insist that

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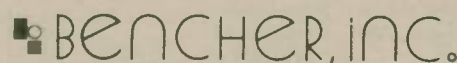
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it's the only correct way to do it.

I personally don't want to be that much of a stickler for procedure, but at least I'm sure that it's very poor procedure to say R or Roger when you don't really mean it. And saying QSL on voice circuits isn't recommended procedure either; say it in words.

Novice nets

Mike Adams, N4EVS sent me a listing he has compiled of CW nets open to Novice and Technician Class licensees. He offers to send a copy to any reader who sends him an SASE. His address: Route 4, Box 764, Panama City, FL 32405.

Or you can send a self-addressed 9-by-12-inch envelope with 54 cents U.S. postage to ARRL and ask for their net directory. It also includes a special listing of nets in the bands allocated to Novices and Technicians.

Then there is the non-controlled or free net that Armond Brattland, K6EA has been promoting without too much success, using the frequency 21,150 kHz as a general calling frequency for amateurs wishing to handle traffic. It's an idea that I've frequently encouraged here too, but has thus far only been successful in the case of ARTS on 7060 kHz, and that's outside the bands where Novices and Technicians may operate. ARTS has been quite successful, however, handling a most respectable amount of traffic every month, right up there with the top NTS nets, and doing it without much noise, and even without attracting the jammers that plague most nets directed by a net control station.

Uncle Charlie is listening

Net control stations aren't the only ones who hear jammers these days, however. The FCC has been putting the heat on the immature individuals who get their kicks from jamming the nets. Recent issues of this magazine have carried reports of licenses being suspended or revoked for such actions. The FCC warns such people that deliberate interference is always a serious offense and warrants action by the FCC, as such activity makes it clear the operator or station licensee is not a proper person to hold a license.

Why mention it here? It would surprise me very much if more than a handful of those who read these lines have ever been guilty of deliberate interference with radio communications. Such people don't read *Worldradio* or *QST*. The main purpose here is to warn readers of the danger that such antics may stimulate a response in kind. FCC monitors have cited amateurs who suffer interference and repay by deliberately interfering with the interferers. A station will call CQ on a net frequency and be told to move by a net member (not necessarily the net control station) in uncomplimentary terms. Then someone answers the CQ, and the two conduct the QSO on the frequency. Maybe they can't hear each other, or maybe each just manages to get enough of what the other is saying to be able to reply, as one can conduct a QSO in conditions that would not permit passing traffic, but net operation is completely disrupted and the net members decide to take it out on the two and try to break up their QSO to make them move.

To do this is to invite trouble. The QSO has as much right to be on the frequency as the net. It is usually possible for the net to shift frequency slightly if the other people won't. But deliberate interference, comments on people's ancestry, and the like do no good whatever. It may well be that skip conditions do not allow the interference station to hear the net, or that a sudden change in the propagation medium brings the net and interfering station within range of each other, when

they were unable to hear each other when they began operations. Give the other person the benefit of the doubt. You will usually be right. And if it is actually a case of deliberate interference, ignoring the idiot will be the best way to discourage such antics. Not getting any response to inflate his warped ego, he may soon decide to move elsewhere and try to find a more cooperative net to interfere with. And the FCC monitors will follow him too.

CW not dead yet

People have been writing obituaries for

CW ever since the advent of voice communications. But CW remains about the most efficient means of communication ever developed. You can use it with low power, under conditions when other modes fail, with a minimum of equipment, and with unsurpassed accuracy.

A recent MARS broadcast from WAR highlighted the importance of maintaining CW capability for the primary purpose of MARS — providing backup communications in emergencies, especially because emergency communication often has to contend with marginal conditions.

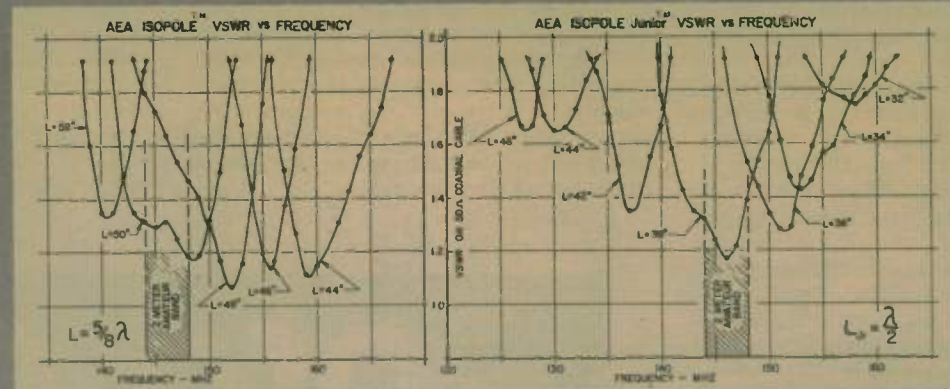
There will always be enough gear available to make CW communication possible, if it's possible to operate in any other mode, because modulation in CW is so simple — it just involves turning the carrier on and off. But operator capability, that's something else.

Handle traffic on CW occasionally at least, or copy WIAW bulletins once in awhile to keep your hand in. CW QSOs are good, too, but don't give as effective practice as copying it down and striving for 100 percent accuracy. In serious communication, nothing less will do. □

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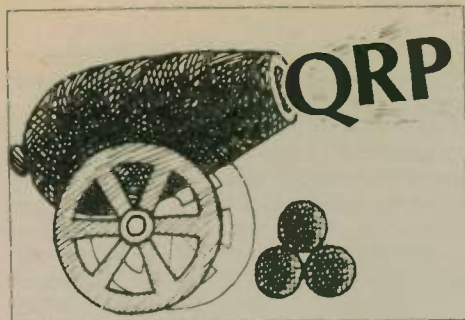
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Fred Bonavita, W5QJM

The way Jim Lammers, KC5YY tells it, the whole thing started as a routine 40-meter CW contact between his Austin, Texas home and a station some 200 miles away in a suburb of Fort Worth.

There was the traditional litany of names, locations, signal reports and the like before Jim — who is a low-power enthusiast, better known as a QRPer — asked "Bob" if he was interested in it.

Jim says the exchange went something like this:

Jim: QRP IS A LOT OF FUN X WUD YOU BE INTERESTED IN IT? BK

Bob: NO X THOSE LITTLE QRP RIGS DONT GET OUT GOOD BK

Jim: AM RUNNING QRP AT 2 WATTS AND U JUST GAVE ME A 599 SIG RPT BK

Bob (after what Jim describes as a "very pregnant pause"): SRI OM HV TO GO X SUPPER READY X 73 etc.

That encounter points up one of the popular misconceptions about low-power operating and underscores one of its fundamental truths: Those "little QRP rigs," as Bob called them, do "get out good" and with almost as much reliability as high-powered gear. They can net the user just as many solid contacts under all but the most severe conditions, when even higher-powered transmitters have trouble getting through without external amplifiers.

And QRP offers amateurs something high-power operating does not: an almost constant challenge to one's operating abilities and tenacity. As the motto of QRP Amateur Radio Club International (QRP ARCI) puts it: Power is no substitute for skill.

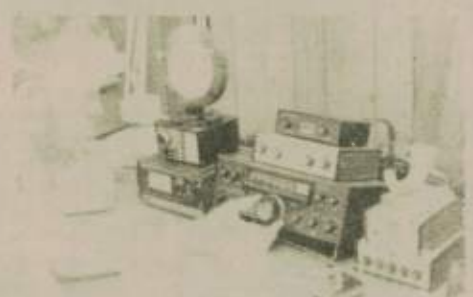
From a technical standpoint, QRP means "Shall I reduce transmitter power?" But like many other Q signals, it has become a generic term for some aspects of Amateur Radio — in this case, low-power communications. One operates QRP, QRPP or mW, depending on how low.

For some, QRP is running a basic 100-watt-output transceiver "barefoot" (without the aid of an external amplifier). But for our purposes here, QRP will be considered the generally accepted limit of 5 watts output on CW or 10 watts output on sideband. QRPP generally is regarded as not more than 5 watts input on CW and the corresponding PEP on SSB, while anything less than 1 watt output on CW falls into the milliwatt (mW) category.

These terms are said to be generally accepted because there is still some disagreement among low-power operators where the 5 watts is measured: at the input or output of the final amplifier. This debate is unresolved, although something of a truce exists between the two sides. A

word of caution, however. Read carefully the power limit rules of any QRP contest you enter, or you may find yourself in a different point category or possibly disqualified for running too much power.

Regardless of where the 5 watts are measured, the QRPer feels a justified sense of accomplishment in using low power to do what others require much more to do. It's a genuine test of skill, for instance, to wade through a pileup and snare a DX station from under the noses of others, most of whom will be running hundreds — and, in some instances, thousands — of times as much power as the QRPer squeezes from a rig.



Dave Farris, K5NT at the controls of his QRP station, consisting of a TEN-TEC Argonaut 515, an MFJ tuner and the Argonaut's outboard active audio CW filter.

One active QRPer likened the situation to the social phenomenon of about 30 years ago when Volkswagens were starting their climb in popularity in this country in the face of sneers.

"VW drivers were running around town, passing what we now call 'gas-guzzlers,' smiling to themselves and assured they were right and that they did not need all that power to get where they were going," he said. "And, of course, we know now they were right. But in those days, it was sort of a reverse snobbery."

While most QRPers would reject the suggestion that their use of low power represents anything approaching "reverse snobbery," they do embrace the idea that they do not need "all that power to get where they are going."

That realization plus the daily challenge to their operating skills, patience and tenacity have whetted the appetites of amateurs around the world to the point QRP is one of the fastest growing segments of the hobby today. The appeal is across the board, with newcomers and veterans alike taking up the challenge.

William W. Dickerson, WA2JOC of Monroe, Michigan — a well-known low-power buff and record-holder — put it this way: "No one ever told me I had to run high power. I started out as a Novice with an HW-7 and have since acquired an HW-8, an Argonaut and recently an Argosy."

Warren Baker, N5CLD of Gonzales, Texas had his interest in Amateur Radio rekindled by the challenge of low-power operating.

"I was an amateur back in the 1950s and 1960s, but then was inactive for a number of years," he said. "QRP got me interested in radio again, and I got the new ticket several months ago. My only rig is a Heathkit HW-8. I have just completed my WAS using only a dipole."

The widespread interest in low-power operating is shown in the growth of various organizations and in the number of those groups. QRP ARCI celebrated its 20th birthday in 1981 and has a membership of around 5,000 worldwide, although not all are still active. The G-QRP Club in the United Kingdom has passed the 1,200 mark in its worldwide membership, and the Michigan QRP Club — with a membership of about 200 at this writing — is an example of an up-and-coming group. A loosely knit group of about 40 has formed in the Houston area.

The advent of QRP organizations in Australia, Austria, Brazil, Italy, Spain, the Netherlands, Belgium, West Germany, plus the United Kingdom and the United States has led to formation of the World QRP Federation (WQF), an umbrella organization of clubs to promote and protect interests of low-power enthusiasts. WQF will sponsor the first international QRP contest in mid-July 1982, the rules for which will appear in major amateur magazines.

Major contests and operating events now recognize the widespread interest in QRP. CQ Magazine's World Wide DX Contest was one of the first to offer a QRP section, and it regularly attracts top operators.

The ARRL now has QRP sections in its Field Day and DX contests and offers low-power endorsements for its series of awards (WAS, WAC, DXCC, etc.). The various QRP-oriented clubs have their versions of these traditional certificates plus some of their own. One popular offering, for instance, is QRP ARCI's KM/W Award, or the thousand-miles-per-watt certificate. (For a list of others, see 73, November 1981, page 138.)

Equipment manufacturers, increasingly aware of the following QRP has, market gear aimed directly at the low-power enthusiast (TEN-TEC's well-known Argonaut and Argosy series) or have modified previously introduced models to offer a low-power version (Kenwood's TS-130V).

Kit-builders have not been forgotten. Heathkit's famous HW-8 CW transceiver has been a favorite for years; Radiokit offers a compact, 2-watt CW transceiver for 40 meters; Circuit Board Specialists has an extensive line of transmitters, receivers and other items; and Direct Conversion Techniques markets a transceiver.

Other firms — including Dynaclad Industries and Communications Designs Inc. — sell printed-circuit boards based on construction articles from major amateur magazines. Their boards are usually on the market within a few days after the magazines arrive.

This is a boon for those who like to "roll their own," and dozens of firms sell parts or parts kits by mail. QRP is one of the few areas of Amateur Radio where one can experiment with a minimal investment and without the need for sophisticated and costly test gear.

(NEXT: Taking the QRP plunge without getting soaked.) □

For more information . . .

Here are the addresses of the known QRP organizations on the national and international levels. Persons requesting information should include a large, self-addressed stamped envelope with sufficient postage for 2 ounces or the appropriate IRCs. QRP Amateur Radio Club International; Edwin R. Lappi, WD4LOO, Secretary-Treasurer; 203 Lynn Drive; Carrboro, NC 27510. G-QRP Club; Rev. George C. Dobbs, G3RJV, Honourable Secretary; 17 Aspen Drive, Chemsley Wood, Birmingham B37 7QX, U.K. Michigan QRP Club; 281 Crescent Drive; Portland, MI 48875. □

Where to call and listen for QRPers

Although low-power operators may be found any hour of the day or night on almost any authorized amateur frequency, there are certain internationally recognized QRP frequencies:

CW	SSB	Novice
3560	3985	3710
7040*	7285	7110
14060	14285	
21060	21385	21110
28060	28885	28110
50360	50385	

* Formerly 7060 kHz, but was changed because of foreign broadcast interference. Some European QRP groups recognize 7030 kHz. □

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Before discussing the main topic of this month's column, I would like to mention that there has been an amazing renewal of interest in SSTV. Many amateurs who had put their gear in "mothballs" are now blowing off the dust and coming up on the SSTV frequencies. All of this can be attributed to the new SSTV privileges for Generals, the development of many new mods for the Robot 400, and the increasing popularity of color SSTV.

Because of the friendly nature of SSTVers in welcoming all into their QSOs, there have been some rather unwieldy QSOs lately with as many as 10-15 stations on frequency at one time, especially on 14.230. There are times when those sending color tend to dominate and other times when those using computers tend to go on and on discussing their programs and send little or no video. Other operators then get discouraged. There have been some ill feelings.

At this time we cannot afford any division among SSTV operators. Let us all try to be more considerate of others. There is no reason why everyone must work right on the SSTV calling frequency. Small groups can and should move 3, 6, or even up to 10 kHz away from the calling frequency when there is a lot of activity. Let's pass it around more often. Let's keep in mind whose frequency it is. Let's see that one or more stations keep a list of who is on frequency and see that everyone gets a turn. When breaking into the QSO, wait your turn. Don't just start sending video or rambling on with someone. Before breaking, listen awhile and determine what is going on in the QSO. If video is being sent, don't break in and start a technical discussion on computer programs. Wait your turn, and then move off frequency with someone if what you want to do does not fit into the QSO. A little patience and courtesy will be greatly appreciated by all.

Computers and SSTV

Computers are relatively new pieces of equipment in the ham shack for use on SSTV. Many new innovations and changes in SSTV in recent months have come via the computer. Clay Abrams, K6AEP has been the pioneer in this area and continues to be "the source" for interfacing, programs and documentation for computers on SSTV.

Before discussing computers, let's take a look at the typical piece of SSTV equipment — the scan converter, as represented by the Robot 400 — and see what it does.

The Robot 400 consists of two converters, memory storage space and associated circuitry to perform various functions. The front end of the 400 accepts standard format fast scan video from a camera or other source and displays it on a monitor in real time. This fast scan video can be snatched into the 400's memory in 1/60 of a second and displayed on a monitor in its digital form with 16 grey level shades. Incoming frequency shift video signals from a receiver or tape are changed into variable amplitude video signals by a demodulator. An analog to digital converter takes

the video signal and converts it into an equivalent 4-bit binary signal that can be stored in the memory. A digital to analog converter, FM oscillator and other circuitry allow the picture stored in memory to be transmitted out over the air in standard form. The associated circuitry provides fast and slow scan sync pulses, multiplexing of memory and memory address.

Basically, computers provide the necessary memory storage space to hold SSTV pictures and computer programs in binary form. If one is to operate a computer on SSTV without the use of a scan converter, some or all of the essential circuitry and components found in the

Robot 400 will have to be added to the computer in the form of interfacing and programs to make the computer fully operational on SSTV.

The Radio Shack TRS-80 I and the new TRS-80 color computer are the most widely used computers on SSTV. Clay K6AEP has interfacing information and has written several programs for these computers. Discussions among those using computers on SSTV are frequently found around 14.230 and 28.680. These people are very willing to discuss their experiences with you. Apple computers are probably next in popularity on SSTV. The currently available program for viewing black-and-white SSTV pictures on the

Apple is not very adequate. Tom Murray, N7AON is working on a new program and expects it to be available later this year.

The TRS-80 I and color computers, with proper interfacing and program, can provide very satisfactory SSTV operation by themselves. The vast majority of those using computers on SSTV do so in conjunction with a scan converter and have very diversified operation. The added memory storage space a computer can offer is very useful since the Robot 400 can store only one picture. Computers, with proper programming, can generate large lettered graphics as well as block type pictures and characters for special effects.

Graphics which can be sent out over the

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SSTV picture received over the air by Tommy Tomlinson, KB4MD in Pensacola, Florida was loaded into TRS-80 color computer and fed into the Epson MX-80 Grafrax printer. The printout at high density is hard copy of SSTV picture.

air as fast as you can type them onto a monitor are very useful for calling another station or just calling CQ. Graphics can also be used to title pictures. With the introduction of the Robot 800 keyboard and other computer graphics programs, it seemed for awhile that graphics were all you could find on SSTV. There is so much more to be gotten out of SSTV and your investment in equipment than just sending graphic messages back and forth. I am happy the novelty has worn off, so this practice is greatly diminished lately. Much more creative video can be seen on the air today.

Last month in this column, I described several mods for the Robot 400. Most of these mods can be created by computer and used on SSTV. As mentioned above, graphics can be inserted or overlaid upon pictures for titling or special effects. The quad mod in which four quarter-frame pictures can be stored in one memory is easily done with computers. In addition, one program permits the insertion of a fifth quarter-frame size picture in the center of each frame. Finally, the computer can take any one of the quarter-frame sized pictures and blow it up and transmit it as a full frame picture just like the Zoom mod for the Robot 400.

Several stations, including Tommy KB4MD, are using printers such as the Epson MX-80 with their computers and are printing hard copies of SSTV pictures. Depending upon the baud rate and density of printing, a 7-by-7-inch picture can be printed in three to 10 minutes. See picture. In practice, pictures received over the air are stored on tape and later loaded into the computer for printing.

If you are not yet into SSTV and thinking about it, I would recommend starting out with a Robot 400 over a computer for versatility, ease of operation and better resolution of pictures. If you have other uses for a computer such as RTTY or CW, games for the "kids", or personal and business uses, a computer will serve you well on SSTV too.

Computers and color SSTV?

No, not yet! There are basic differences between the three-memory color SSTV

systems described in last month's column and the program currently being used on the TRS-80 color computer. The quality of the digitalized composite color picture from the computer leaves quite a bit to be desired when compared to the excellent color from a three-memory Robot system.

The color picture from a three-memory system is nearly as good as fast scan video from a broadcast station with all colors and shades accurately reproduced. The color computer can only read and reproduce four colors — red, green, blue and yellow. The computer decides which of the four colors each pixel of a picture should be and produces that color. No mixing or shades of colors or flesh tones can be accurately reproduced. The computer may decide a dark green color is red or blue and a light green color could be decoded as yellow, for example. Detailed color pictures and faces of people are often unrecognizable on the color computer. The color computer is fine for black-and-white video and does a fair job of reproducing simple cartoon-type characters in the four basic colors. The color computer can also send and receive excellent color graphics in the mentioned four colors.

If you want to get into color SSTV now and want to see excellent color video, I strongly recommend going with a three-memory Robot-type system over the color computer. There is apparently a new chip — the 7220 — to be available later this year, which promises to be able to produce more colors and better resolution than what is currently available. It will still be some time after the chip is available before it and a program can be developed.

The success of color SSTV

A couple of years ago, J.R.T. Royle, G3NOX; Sam Mormino, WA7WOD; G. Klatzko, ZS6BTD and others were experimenting with color SSTV and using three separate Robot 400s slaved together. They determined that loading a color picture into three memories using three different color filters gave better results than using two memories with red and cyan filters. The three-memory system worked very well, but the costs of setting up such an operation were prohibitive. It was obvious that not many amateurs could afford to buy three Robots to enjoy color SSTV.

It is estimated that over 10,000 amateurs throughout the world are active

on SSTV and many thousands of those own the Robot 400. Sam WA7WOD and Howard McAfee, KD6HF spent many hours experimenting and developing a three-memory conversion for a standard Robot 400. They formed Interface Systems, Inc. and showed their 3000C three-memory conversion at Dayton last year. As this column is written (10 March), I estimate that 125-150 people in the world are operating full-color SSTV. Of this number, 70 to 75 percent are using Interface System's conversion. Why has this particular system been so successful and what's in the future for color SSTV?

Today relatively few amateurs either enjoy or have the knowledge and skill to design and build up a complicated project from scratch. The majority would rather purchase a product ready to go on the air. Interface System's product was the first mass-produced conversion available to amateurs. Its compatibility makes it quite easy for the thousands of Robot 400 owners to upgrade to color SSTV. The only visible alterations to the front of a standard Robot 400 are the addition of two mini-toggle switches. A skilled do-it-yourselfer can install this conversion in about six hours. More important, however, is that Sam and Howard will do the complete installation for you. All former systems were strictly do-it-yourself.

WA7WOD has been heard on the SSTV frequencies for many years. His knowledge of SSTV and the Robot 400 is well known. His willingness to offer help and information to those new to SSTV as well as old-timers has created much good will among amateurs. Sam and Howard have

put all of this into their product and the result is a quality conversion that is easy to operate and is backed by fine service.

If you have the skill and knowledge to build up a color system from scratch, you can undoubtedly save quite a bit of money. Interface System's color conversion, including an interface board to a color monitor, will cost about as much as a new Robot 400. The three-memory German SC422A scan converter will cost over twice that amount.

What's ahead?

It would seem logical that someone, perhaps Robot Research or Interface Systems, would come out with a reasonably priced scan converter with three or more memories. At least one new "system" is nearly ready to market. For any system or product to be successful, it must encompass most or all of the qualities described above.

I would hope that those working to improve the color SSTV program for the TRS-80 color computer will make it compatible with the existing R-G-B format in use on three-memory systems today. The prospect of eight-second single-frame color SSTV is very exciting. I am not sure of the format it would follow. The use of NTCSS tones has been widely mentioned with perhaps only a two-color format instead of R-G-B. Maybe the answer will be found at Dayton?

Recommended frequencies

There has been quite a lot of SSTV activity on the General Class portions of 15-80 meters since the expanded SSTV privileges became effective 22 February. After monitoring all sections of the bands, checking net operating frequencies and conducting a survey, A-5 Magazine is recommending the following frequency ranges for SSTV operation in the General Class bands: 3.990-4.000 MHz; 7.290-7.300 MHz; 14.340-14.350 MHz; and 21.440-21.450 MHz.

On 28 February 1982, a new SSTV net was started in the General Class portion of 20 meters. The net was started to help establish an SSTV calling frequency in that area and to provide information and help to newcomers and veterans of SSTV. The net meets each Sunday at 1800Z on 14.340 MHz. Net control stations are Tom N7AON and Bob Jett, W7KPW, with Mike Stone, WB0QCD as alternate. All are welcome.

Next month — Graphics overlay mod for Robot 400 and first sync mod for Robot 400. 73s. Please send your comments and SSTV activities to Ron Flynn, KB8IU, Rt. 2 Box 204 67th St. Bangor, MI 49013.

Polish memories

Members of the MITRE-Bedford Amateur Radio in Club in Bedford, Massachusetts enjoyed hearing Walt Ciesluk, WA1JKK's presentation at the club's March meeting. The presentation was on Walt's 1980 journey to the 10th European Microwave Conference in Warsaw, Poland. While in Poland, he visited with friends he had met through Amateur Radio; these friends were instrumental in helping Walt find relatives and to move about the countryside. Besides showing slides, Walt shared his impressions of Amateur Radio in Poland.

Poland writes

Dear Dr. "Mert": Very pse with QSL from VR6TC (Tom Christian). I was looking at your foto in Worldradio, July 1980. It was "Pitcairn Nosey News." Best wishes to Mrs. Ruth. 73! from SP8AWL

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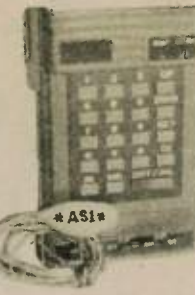
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"I was just about to give my FT-207R away, when I decided to give it one last chance, and I ordered the BS-1 battery saver kit. Well, it made all the difference in the world. I can't believe it is the same rig. I used to carry around an extra battery pack all day, but now my batteries last about twice as long. I no longer have to worry about dead batteries. I used to worry about turning the memory off to conserve power, but with the BS-1 it doesn't matter any more. The audio has improved, and I really like my rig again."

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Chuck Clark, K4ZN

Assistant Director
Roanoke Division, ARRL

CONSTRUCTION

Putting it all together

Almost all of us have to do some construction to get on the air. A receiver, transmitter, key, microphone and antenna, are all parts of a station, but when you get them all you still don't have a station. You have to put them together. About the only amateur who can get on the air without doing some construction is one who purchases a hand-held VHF rig with batteries already installed, and no crystals to buy. If you do that, you can just push the button and go on the air.

The rest of us have to put things together, whether we are putting parts together to make components of our station, burning fingers on soldering iron and getting zapped by B-plus, or merely plugging cords into outlets. And where we construct, we also express ourselves. Furthermore, the arrangement of our station will largely depend on our major interests in Amateur Radio. A DXer's station will differ from a traffic handler's, for instance, as will a CW operator's from a voice operator's.

The operating position

The trend in recent years has been to transceivers, so the question of where to put the receiver and where to put the transmitter is simplified. Whether a transceiver or a separate receiver is used, however, its place is in the middle of the operating table, as it is the most important piece of equipment to be used. The operator's hands will likely be on it more often during an operating session than on anything else in the station. It should be far enough back from the edge that the operator's forearm can rest on the table when adjusting the tuning knob, and the knob should be high enough above the table to permit comfortable adjustment of frequency. In some cases, this may require raising the unit a few inches. If so, one can build a small platform with space beneath for pencils and the like. Some operators prefer to tilt the equipment so that one looks at it squarely. That's a matter of personal preference.

A separate transmitter can be set beside the receiver if it's small enough to fit on the operating table. An external VFO would also be placed alongside the transceiver. It may be necessary to build a shelf above the table to hold a separate power supply if the rig requires one, or the supply could be placed on a shelf under the table or elsewhere if it does not also contain the speaker in the same cabinet. But most amateur stations consist of more than just a single transceiver, and most also continue to grow and expand as the years go by (and the operator's midsection expands to match!). It may contain two HF rigs, one or more VHF rigs, antenna switches, a beam rotator, a frequency counter, oscilloscope, and in some cases a teletype, computer, SSTV equipment, OSCAR equipment. And most stations soon add an amplifier.

Where to put all this? You will have to determine which controls you need to adjust most often while operating, and put them where it is most convenient. You can cover a good part of a band, for example, without touching the tuning of your amplifier, and probably also of your antenna coupler if you use one. So these items need not be so readily accessible. At least in most cases; some DXers who do a lot of band-hopping may need to adjust

them frequently during an operating session.

The placement of the microphone and key will depend to some extent on whether the operator is right or left-handed. Incidentally, it is advantageous if an operator can learn to send CW with

the hand not used for writing. In that way, one can hold a pencil in one hand and transmit with the other, and even in time learn to write and transmit at the same time. This can be a significant advantage during a contest, making it possible to make contacts and log without either activity interrupting the other. It also speeds up traffic handling, as you can note the station receiving the traffic, date and time as you send the next message, or when copying longhand, you can break the transmitting station with the free hand to ask for fills.

If you use a typewriter for copying traffic or for keeping your log, you will find the usual 30 inches a bit too high for com-

fort if you put the typewriter on the operating table. Probably the best solution is to get yourself a regular typewriter table. Besides, the mill sitting in the middle of the table takes up a lot of valuable space, and if your rig is not mechanically stable, the vibration from typing will make it jump around in frequency, and that can be exasperating, to put it mildly.

In addition, you will need a place for supplies, pencils, paper, logbook, reference material, Callbooks, maps and operating aids. A piece of plate glass laid on top of the table can cover materials frequently used for reference, such as prefix lists, schedules, net rosters and Q signals.

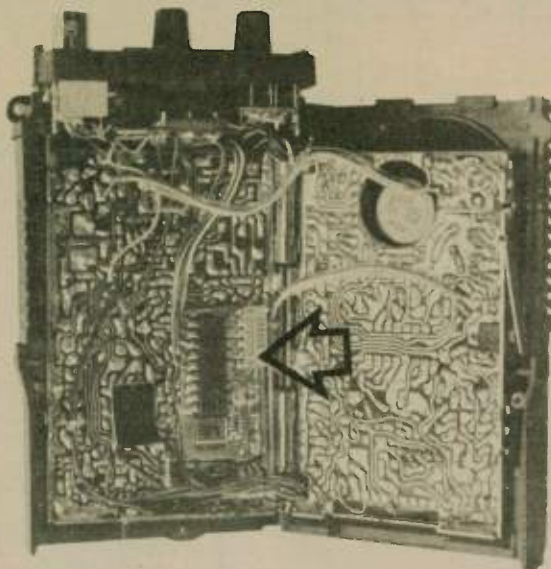
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key at the rear of the table beside the rig, while others place it near the front edge so that they sit with the table at their side and their forearm rests on the table. This is particularly handy for those who copy out on a typewriter.

Other handy furniture for the station includes filing cabinets, card files, chairs for visitors, and a large wastebasket. If you're addicted to the weed, a large ash-tray is essential too. The station should be comfortable, both as to temperature and as to the furniture, and should have adequate lighting. You don't want to have a kink in your back or a headache after a long operating session.

The decor of the room I'll leave to the reader. Do you want to paper the walls with QSL cards or framed certificates, or do you prefer something else? Many amateurs like a large map over the operating table. Suit yourself; don't feel that you have to decorate your station the same way as "everybody else."

A clock is no longer a legal requirement, as we aren't required to log our contacts now, but it is essential for many kinds of amateur operation. A digital clock is probably more useful, as you simply have to copy off the figures as they stand, no mental effort needed. Set it to GMT, UTC, Z time, or however it's designated — they all mean the same thing in practice for us. (No, Dora, you don't need a special clock to keep GMT, any clock can do it. But it is nice to have one with a 24-hour format instead of a 12-hour one, if you can find it.)

The most important piece of furniture in the station, however, is the operating table. It should be large, and strong enough to support heavy equipment. A good-sized desk will do, but many amateurs — including myself — attach legs to a door and use it as a table, giving almost 18 square feet of space. Or you may want to buy or make something more elaborate, with equipment set into a panel on the rear of the table, perhaps. Look at the pictures of amateur stations that appear in publications like this one, especially in those featured in the "Station Appearance" section, for ideas on operating desks.

Wiring the station

The widespread use of commercially-built greatly simplifies the problem of wiring the station, and the general use of single-sideband in voice operation has resulted in linear amplifiers running a kilowatt that do not require any special wiring; they can be plugged into any ordinary outlet. So the problem is reduced to making connections to the inputs and outputs of the various pieces of equipment — the mike, key, phones, speaker, antenna — and to bringing the necessary power to the unit to make it work. The antenna question will be discussed later. The other inputs and outputs simply require the use of the proper connector. (Sad to say, the day when you simply wrapped wires around terminal screws has long passed; you now need the correct one of a few thousand connectors.) Just follow the instructions given in the operating manual.

It's better to install a multiple-outlet terminal strip either on the operating table or on the wall behind it, and not depend on a stack of cube taps to provide power for all the various pieces of equipment on the table. In fact, many suggest installing two such strips — one of them to be energized at all times for items that run continuously (like the station clock), the other to be switched on and off by a switch at the operating position. When you come into the station, you merely have to turn on this one switch and everything is ready to go. Go a step further, if you wish, and make it a locking switch if you want to be sure nobody turns the station on in your absence. This could be especially important if there are small children in your household who might learn about the power of electricity the hard way.

One simple scheme for doing this has been presented in the ARRL Handbook for decades: you just wire an ordinary outlet in series with the ungrounded side of the line. To turn the station on, put a plug into the outlet with its prongs shorted. The shorted plug acts as your key. A non-amateur would probably not guess the purpose of the outlet.

Grounds

Two kinds of ground are needed at most stations: a protective ground and an operating ground. The first is to protect the operator and equipment, the second is to help the antenna radiate. There are several protective grounds at an amateur station, some of which are integral to the power circuit. There is the ground at the distribution transformer, the sole responsibility for which lies with the power company. Its function is twofold: 1) it provides a path for lightning to reach the ground, and 2) it protects the users against insulation failures that might put voltages up to and over 7,000 on the house wiring.

There is the protective ground at the service entrance that performs the same two functions; in addition, it serves to ground any conduit or cable armor used in the house, and also to ground any appliances that are equipped with three-prong grounding plugs. This ground insures that if any live part of the wiring or appliance comes in contact with the external metal enclosure, the breaker will trip instead of shocking anyone who contacts the enclosure. For more hazardous locations — such as in bathrooms, around swimming pools, or on outdoor construction jobs where the presence of water can make an electric shock much more dangerous — there are breakers with *ground fault interrupters*, which trip when the leakage current exceeds a certain value. A salesman told me you can touch the hot wire of the circuit and the breaker will trip before you even feel it. However, he didn't demonstrate, and I don't intend to try it!

If your station operates off the commercial power circuit, you should have all the metal cabinets connected to this protective ground, usually by using three-prong grounding plugs. You'll operate much more safely if you do.

The operating ground is part of the radiating system of the antenna. How important it is depends on the type of antenna you are using. If you have a horizontal dipole, the ground connection is relatively unimportant. But if you are using a vertical antenna, a good ground is essential. Amateurs who have tried a vertical without a good ground usually have concluded that a vertical radiates equally poorly in all directions.

The radiation resistance of a quarter-wave vertical antenna is about 36 ohms, and much less for shorter antennas. A

poor ground can have a resistance close to this, resulting in much of the energy being used to heat the ground. The preferred way to get a good ground when one is needed is to bury radials, wires radiating from the base of the antenna. Sixteen of them — each a quarter-wave long — are needed to do a good job, although fewer and shorter ones help. Or you might suspend a counterpoise above ground, a network of wire coupled capacitively to the ground. It should extend a quarter-wavelength in all directions from the antenna if possible.

In some cases, you might be able to set the vertical antenna above a large metal roof which can serve as a groundplane. When the antenna is located high enough above the ground, you can use a groundplane — radials at the base of the antenna. But when an antenna is elevated, the currents induced into the actual ground are much lower and thus the losses are also lower. A groundplane consisting of but four quarter-wave radials will perform well in this case. If your vertical antenna doesn't perform, however, you can almost be certain it's the ground system that is the problem.

Antennas that don't require a ground to function properly, such as a horizontal dipole, do not make the operating ground unnecessary, however. It's impossible to generate RF efficiently without at the same time generating spurious signals, especially harmonics. And these harmonics, even if very weak, can be strong enough to generate TVI. A good ground and tight shielding of the transmitter helps reduce the amount of spurious radiation that leaks out into the neighborhood.

Don't depend on the protective ground to serve also as your operating ground. Unless your station is quite close to the point where the house wiring is grounded, the ground circuit in the house wiring will have entirely too much impedance to ground your rig for RF. An 8-foot piece of wire is a quarter-wavelength at 10 meters, for example, so it is just as effective as a ground whether it is made of copper or of a good insulator like polystyrene. The operating ground must be short and direct. Using several grounds can compensate for longer ground leads, and you can also use an open-ended piece of wire a quarter-wavelength at a given frequency to act as a ground for that frequency.

Try to get a good ground for your working frequencies, and then add quarter-

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wavelength wires (they need not run in a straight line) to ground your station for any frequencies that prove troublesome.

The antenna

Although it's being discussed last, the antenna is the most important part of your station. And it's one place where you will probably have to do some construction unless you hire a contractor to erect it for you. The topic is too vast to treat here, however, so I'll merely make a few comments.

Bringing the lead into the station is simple when coaxial cable is used, as it has no external field and can be run anywhere. Open wire line and TV twin-lead must be kept free of conductive materials which might absorb energy from the line or alter its characteristic impedance.

For safety, use adequate supports, and be sure there is no way the antenna can come in contact with power lines. The National Electrical Code specifies #14 wire up to 150 feet, and #10 copper or #12 Copperweld over 150 feet, to provide adequate strength for wire antennas. If you want an antenna that can stand a direct hit by lightning, use at least #6 copper or #4 aluminum wire. Some amateurs use much smaller wire than the Code requires — even #30 magnet wire (.01 inch in diameter), a so-called invisible antenna —

to make their station less conspicuous.

Also, for safety and to protect your expensive station equipment, provide a good substantial lightning switch that will disconnect the antenna from the rig and connect it to a good ground. The Code calls for a grounding conductor no smaller than #10 copper wire, and as large as the largest wire in the antenna system. You may, in addition, wish to install some kind of lightning arrester or EMP (electromagnetic pulse — from nuclear explosion) protector. The switch is the best protection of all, however, Modern solid-state gear is more subject to damage from lightning, but even tube gear can be blown to smithereens by a good blast from the skies, and it doesn't take a direct hit to do it, either. A near miss is enough.

Wire sizes

For convenience, here is a table of the current-carrying capacity of wires according to the National Electric Code. This is only approximate; the Code has many details about different types of insulation and number of wires, but this can be used as a guide.

Size	Amps	Size	Amps	Size	Amps
18	7	12	25	6	50
16	10	10	30	4	70
14	15	8	40	2	95

Hope to see you on the HF bands. If you can't find me on the CW bands and would like to meet, just send a sked time/freq (I am available most any time). Traffic sent via OSN Oregon Section Net will get to me guaranteed! 73 Larry KM7Z (ex-N7BMY), U.S. QSL Service, Inc., P.O. Box 814, Mulino, OR 97042.

K1AFS	W1KEE	KA21OK	KM2W
W1AMB	W1KFY	KA21OV	WA2YSJ
WB1ARJ	WA1KX	K2IK	KA3AHY
AK1B	KA1LC	KA2JAT	W3AJH
N1BDB	KA1MF	K2KGG	KA3ALZ
N1BMM	W1QLF	KA2KSY	N3AOG
WA1BOE	WA1QQQ	KA2LJN	N3ARV
N1BOM	KA1SO	WA2JVD	KA3AVX
N1BPC	KD1U	KA2K	KA3BAL
K1BPN	K1VOF	KA2KAT	N3BGY
WB1BQJ	AIIZ	KA2KLJ	KA3BPR
KA1CDC	W2ATJ	KB2KN	N3BRT
WA1CVF	WA2ATR	WA2KRO	N3CEU
KA1CZF	N2BAT	KC2KV	KA3CJ
K1DBP	KA2BEO	KA2LEB	W3DCN
KA1DLA	WB2BFD	KA2MIG	KA3EEG
W1DLQ	N2BNP	KA2MOO	WA3ELE
N1DM	KB2CB	KA2NDO	K3EW
WB1DQD	KC2CK	K2NGS	WB3FUM
WB1DQN	K2CMG	KA2NLY	KA3FWB
KA1EHK	N2CPU	W2NPU	KA3FWW
KA1EHO	N2DBS	KA2NSE	KA3GQW
KA1EQ	N2DCH	KA2NYQ	WB3ICQ
K1EPT	W2DFE	W2NZH	KA3JIM
KA1ETR	K2DSV	KN2O	AJ3J
KA1FMA	KA2DWL	KO2O	WB3JLC
WB1FMH	WB2EBS	K2OD1	W3JZP
WB1FMH	KB2EF	KB2OM	N3KV
WB1FOI	KA2EQF	WB2PTH	K3LR
WA1FYW	K2FW	WB2QAX	AK3M
W1FZ	K12G	KD2QV	KB3M
KA1GBB	WA2GKF	KJ2R	KB3OA
KA1HE	KA2GNF	WN2SG1	W3OG
KA1HFY	W2GQC	WA2STO	KC3Q
KA1HFC	W2GVX	KN2T	KU3Q
KA1HPK	WA2GWS	WB2TDK	V3SCS
W1HA	K2GXT	WB2TJN	N3ST
N1ITZ	W2HAE	WA2USA	KD3T
K1IVA	KC2HL	KO2V	WA3TRI
WA1JGK	WA2HMM	W2VKR	WA3UNX
KA1JP	KA2INY	W2VLI	KB3WA

USQS

(continued from page 9)

to send an SASE to USQS. This list has to be written up a bit ahead of time to meet the publication deadlines. Many of those calls listed may have complimentary mailings on the way. I will only mail complimentary envelopes one time per person. If you receive cards from USQS and wish to claim future cards, please send SASE to be put on file. If you would like to send \$1 and your address, we will provide the envelopes and postage for four SASEs for you. Please put past calls on your correspondence; we have cards dating back to 1979 (before we started) which amateurs have sent in, requesting your card, perhaps under an ex-call.

If anyone can help the cause by donations, making flyers available to clubs or hamfairs or in newsletters, or any other of the things that contribute to running this bureau, it would be appreciated. I have said that before, but again — as a free service we support it ourselves. Let your friends know if you see their calls.

A list of unclaimed (as of this writing) cards that we have received this month follows. This list is only one month's worth, so if your call does not appear here and you don't have an SASE on file, don't relax because there have been almost two years of Worldradio articles prior . . . and some that have never been listed!

FCC

(continued from page 11)

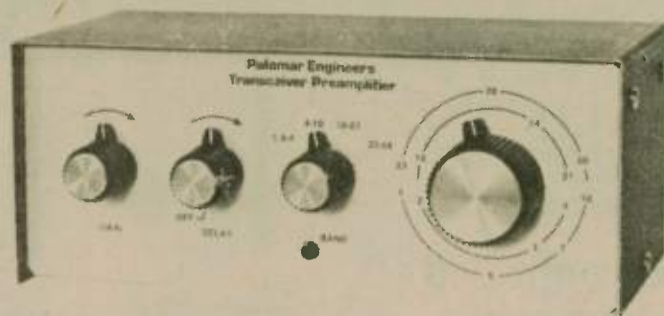
change because transmitting a concluding phrase, after the call sign had been given, would not be a violation of the rule." The amended rule, adopted last October, provides that amateur operators need only transmit their station's call sign at the end of each communication and at 10 minute intervals during a single communication of more than 10 minutes in duration.

Obscene indecent or profane language by David Dayyan, WA6SUD and Max Sudds, WA6QAG, in violation of Rule Section 97.119, has been alleged by FCC. Failure to identify, Section 97.84, was included in the Order issued to each. Dayyan waived a hearing and his case has

been certified to the FCC Judge. A final Order had not been issued at the time this was written. On 3 February 1982, Sudds' application for renewal of his license was designated for hearing. In addition to 97.84 and 97.119, he is alleged to have transmitted unidentified communications in violation of Section 97.123 and willfully interfered with other communications in violation of Section 97.125. The date of his hearing had not been announced at the time this was written.

The effective date of the suspension and revocation of the licenses of Leonard Boucher, K4MME and Gerard Morin, W1GM was 28 January 1982. Boucher has filed a petition for consideration and had not turned in his license, as directed, at the time this was written. His order of suspension and revocation remains in effect.

Preamplifiers



Don't wait any longer to hear those weak DX signals. Add the P-310X preamplifier to your rig.

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- Tunes 1.8 to 54 MHz.
- Covers all amateur bands 160 to 6 meters.
- Up to 20 db gain.
- Reduces image and spurious response.
- Automatic bypass switching on transmit.

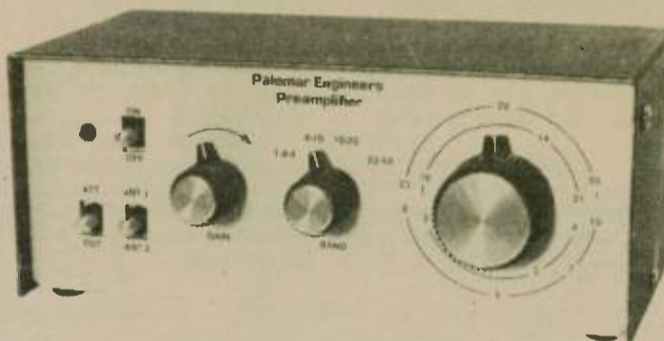
The P-310X Transceiver Preamplifier connects between your transmitter and your antenna. It gives improved reception with up to 20 db gain, lower noise figure, and better selectivity and overload capability. When you transmit, a sensing circuit automatically connects your transceiver directly to the antenna. At the end of transmission it switches back to receive with a delay that is adjustable with the delay knob.

Model P-310X (115-v ac) \$129.95
+ \$3 shipping/handling

Operate mobile? Extra gain where you really need it. Same outstanding performance in a 12-v dc powered preamplifier.

Model P-312X (12-v dc) \$129.95
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SPECIFICATIONS: Frequency Range: 1.8 - 54 MHz in four ranges 1.8-4, 4-10, 10-23, 23-54 MHz. Controls: Gains, On-Off-Delay, Bandswitch, Tune. LED pilot. Gain: 20 db nominal with 50 ohm input and output. Variable by front panel control over 15 db range. Delay: Variable 1/2 sec. to 3 sec. by front panel control. Power: Model P-310X 115 volts 50/60 Hz AC. Model P-312X 12 volts dc negative ground. Connectors: SO-239. Size: 8" x 5" x 3" high. Weight: 2 1/2 lb. Cabinet: Brushed aluminum panel; black vinyl cover.



Weak signal reception for the SWL with this receiver preamplifier. This is one you read about in **WORLD RADIO TV HANDBOOK!**

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- Improved reception.
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- Reduces image and spurious response.
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- Up to 20 db gain.
- Both 115-v ac and 9-v dc models available.

The receiver preamplifier connects between your receiver and your antenna. When turned on it adds 20 db gain and additional selectivity. Gain is controlled by a panel knob. Also, a 20 db attenuator can be switched in. A switch selects either of two antennas for best reception.

Model P-308 (for 115-v ac) \$109.95
Model P-305 (for 9-v dc) \$99.95
+ \$3 shipping/handling

SPECIFICATIONS: Controls: Tune, bandswitch, gain, attenuator, antenna select, on-off. LED pilot. Gain: 20 db nominal with 50 ohm input and output. Power: Model P-308 115 volts 50/60 Hz ac. Model P-305 9-volts dc (battery clip provided). Connectors: SO-239. Size: 8" x 5" x 3" high. Weight: 2 lb. Cabinet: Brushed aluminum panel; black vinyl cover.



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2M micro-controlled portable transceiver

The SANTEC ST series of radios (both the 2-meter and the 440 MHz versions) are the first units to incorporate accurate digital clocks within the programs to control the operation of the radio. The ST-144 contains at least a baker's dozen of the finest features and easy-to-use functions to be found in a 2-meter portable.

The 10 memories store both the frequency information and the instructions to the transmitter as to which way to offset the transmit frequency for repeater use. Once this information is set, the operator no longer has to worry about the offset switches.

Bandscan is handled by three different programs of the microprocessor. The manual mode is for stepping through the band one step at a time, while the search mode will automatically find the first station talking and stop scanning further. In addition, there is the scan mode which steps through the band and pauses for a while at each busy station to sample the conversation and then moves on. The upper and lower frequency limits of this scan are settable by the user through stored values in the microprocessor.

The microprocessor itself is a very versatile CMOS 4-bit CPU. This means that it doesn't eat much current (because it is CMOS); can handle any of the data functions; can drive the crisp, clear Liquid Crystal Display; and can process all the commands given it by the user through the keyboard.

In addition, if you turn the radio off and put it down, it can stay there for about six months before it needs to be recharged and it can still remember what you told it to memorize six months before!

For those of us who are involved in the public service programs of MARS or CAP the ST-144/uP provides frequency coverage external to the 2-meter amateur band down to 142.000 MHz and up to 149.995 MHz. In this



band range there are three selectable power levels of 100mW for low and 1 watt for medium and the full rated 3.5 watts in the high position.

In memoryscan the modes of manual, search, and scan are also effective *plus* memory one is treated as a priority memory in the SCAN mode and signals on this frequency (whatever you stored there) are given priority treatment. When just listening to one channel at a time the computer detects an absence of activity and turns off the unneeded circuitry of the unit. At a later time the computer checks to see if the circuitry is again called for and returns the radio to normal operation. This results in a very, very low receiver current drain in quiet standby of only 8mA. Add to this the full 16-key keypad, the variable offsets and the BIG 500mA-hr (8-cell) NiCad pack plus the easy installation of tone burst or subaudible tone and you have the most exciting, most versatile radio to come along yet. You must see one to believe it. At your SANTEC dealer's today of course. □

HF transceiver

Trio-Kenwood has just announced the new top-of-the-line model TS-930S all solid-state high frequency transceiver. Designed to cover all Amateur Radio bands from 160 through 10 meters, the TS-930S also incorporates a 150 kHz to 30 MHz general coverage receiver having an excellent dynamic range.

Among the more interesting features to be found on this model are an automatic antenna tuner (built-in); dual digital VFOs; 8-memory channels; dual mode noise blanker; IF notch filter; fluorescent tube display; RF type speech processor; RF step attenuator; 100 kHz marker; and voice-controlled operation. Special circuitry is also incorporated that allows operator adjustment of the IF passband characteristics for best rejection of interfering signals, as well as a tunable audio filter for CW reception. Power input is 250W PEP SSB, 250W DC on CW, 140W DC on fsk, and 80W DC on AM. The built-in power supply operates on 120, 220, or 240 VAC only.

For further information, write Trio-Kenwood Communications, P.O. Box 7065, Compton, CA 90224. □



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Code and theory tapes

The West/Coast Amateur Radio School produces computer-generated code tapes — ideal for FCC license test preparation.

A complete series of "Westapes" is available, from learning the code at 5 wpm to successfully passing the amateur Extra Class license. Each premium quality 90-minute cassette advances the student 1 or 2 wpm higher than the previous tape.

Each tape is computer-generated to the exact tonal frequency used by the FCC field offices. The "dit-da" speed is also precisely that used by the commission in its 5, 13 and 20 wpm exams. This technique assures students that there will be no surprises in speed or tone frequency when they go down to take the test.

The code test preparation tapes contain sample messages in the exact format that the FCC gives in its test. This way, students will recognize common abbreviations, and know the importance of spelling and ham pro-words.

"The West/Coast Amateur Radio School works with local colleges to prepare students to take the Amateur Radio license test. We are not a memory school, nor do we recommend rote memory classes. Our tapes are based on proven teaching techniques that turn out qualified Amateur Radio operators. Our code tapes are patterned precisely around sample FCC messages. We stress the importance of accuracy and letter-by-letter perfect copy. As an example, placing a period in between an abbreviated state may cost the applicant an incorrect answer even though the abbreviation was correct. The CW exam answers must be ab-



solutely word perfect, and this is what we train students for in our tapes," comments Gordon West, WB6NOA, nationally known writer and instructor.

Theory tapes for test preparation for each grade of license are also available to Amateur Radio instructors. Theory tapes will only be sold to instructors engaged in ham class teaching.

"We are not in the business of selling answers. Somebody else is doing a fine job of that. We are only interested in bringing instructors up to date with what is being asked for each exam level. This is why we restrict the sale of our theory test questions and answers only to those involved with teaching others," adds West.

For a complete catalog of West/Coast Amateur Radio School code and theory tapes, write West/Coast Amateur Radio School, Attention Gordon West, WB6NOA, 2414 College Drive, Costa Mesa, CA 92626.

Quantity discounts are available to schools, stores and clubs. □

Avionics catalog

Radio Systems Technology, Inc. — pioneer designer and marketer of low-cost, high technology, light aircraft avionics and test equipment kits — announces the availability of its Spring 1982 catalog.

The 16-page illustrated catalog contains over 200 different build-it-yourself kits, including: several different audio panels; two- and four-station aircraft intercoms; marker beacon receivers; six-channel communications transceiver; unicom stations; and more. Headsets, radio antennas, and several of their kits may also be purchased fully assembled. Various miscellaneous equipment and supplies of interest to general aviation aircraft owners and pilots are also featured in the new catalog.

Copies of the catalog may be obtained free by writing Radio Systems Technology, Inc., Airport Industrial Park, Grass Valley, CA 95945-RR5. Or (outside California), call toll free 800-824-5978. The firm's service number is 916-272-2203. □

Vertical antenna

Cushcraft has introduced R3, the no-radial 10, 15 and 20-meter gain vertical antenna.

R3 is perfect for limited space applications like condominiums, apartments, mobile homes and small urban lots. It is a half-wavelength end-fed 22-foot radiator with remote tuning for broadband coverage. Installation is very simple with only one square foot of space needed. It can also be telescoped for easy carrying and storage.

Because of its unique design, R3 does not need tower, rotator, large support mast or tuner. It is a complete antenna system for amateurs who are concerned about neat appearance and maximum performance.

R3 antennas are available through all major Amateur Radio dealers worldwide. For more information see your local dealer or contact Cushcraft Corporation, P.O. Box 4680, Manchester, NH 03108, USA. TELEX 953050. □

Micro-RTTY

Kantronics is introducing the latest development in RTTY send/receive devices with the Micro-RTTY.

The Micro-RTTY converts CW from any keyer or keyboard into standard afsk two-tone RTTY or two-tone CW ID. Micro-RTTY sends and receives RTTY at 60, 67, 75 and 100 wpm, plus ASCII 110 baud.

Special CW characters allow for entering Morse ID mode or sending a carriage return/line feed character without ever touching the unit. A printer attachment is also provided via a back panel connection.

The Micro-RTTY receives any shift of RTTY and displays the message on a 10-character, 3/4 inches high, vacuum-tube fluorescent display.



The package is small, just 2 1/2 by 5 by 5 1/2 inches, and the 9VDC power supply is included.

For more information, write to Kantronics, 1202 E. 23rd Street, Lawrence, KS 66044. □

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Shure catalog

Shure Brothers Inc. announces the release of their newest Microphone and Circuitry Products Catalog, the most comprehensive in the company's 57-year history.

The introductory and closing editorial of the new catalog creatively explains Shure's commitment to excellence, detailing the rigorous testing and retesting involved in maintaining the company's high standards of quality.

For ease of product selection, the catalog explains in detail "microphone specifications ... what they mean," and has an easy-to-use selection guide offering suggestions for application. The catalog also implements a new indexing style that cross-references each product by model, and it contains a data sheet reference guide for easy ordering.



The 72-page catalog describes over 150 microphones including professional, general purpose, communication and special purpose models. The catalog also covers microphone accessories, circuitry products and their corresponding accessories.

To receive the Microphone and Circuitry Products catalog, contact a Shure representative or write Shure Brothers Inc., 222 Hartrey Avenue, Evanston, IL 60204.

Double zepp vertical antenna

In an unprecedented move, Telex Communications, Inc. has announced that its Hy-Gain division will guarantee the new 2-meter V-2 amateur antenna to "equal or surpass the electrical performance of any competitive two stacked 5/8-wave antenna, regardless of gain claims, or your money back." If not satisfied the purchaser is required to return the antenna to the place of purchase within 30 days.

The antenna is a 2-meter extended double zepp vertical consisting of two stacked 5/8-waves decoupled inside the antenna for complete weather-proofing. The decoupling system allows no RF on the coax feedline. The V-2 is a complete antenna that is easy to assemble and will mount on any mast up to 2 inches in diameter.

Two sets of quarter-wave radials and a centered feedpoint produce an excellent radiation pattern that is very close to the horizon with a minimum of power loss into the sky. Radiation pattern testing was achieved on a ground-reflection-range designed according to IEEE standard 149-1979 and the test results of the V-2 and various competitive products are available from Telex/Hy-Gain.

The V-2 is designed to operate from 138 MHz through 174 MHz and obtains a VSWR of less than 1.5:1 at resonance and has a 2:1 VSWR bandwidth of at least 7 MHz. The antenna's isolation from the support mast is 20dB minimum.

Telex/Hy-Gain is a prime manufacturer of communication equipment including base and mobile antennas for marine, amateur, CB and land mobile as well as headsets, microphones, antenna towers and rotators.

Etorre's observation — The other line moves faster.

Morse-Matic™ keyer

Advanced Electronic Applications, Inc. is pleased to announce the latest generation of MorseMatic™ keyer — the MM-2. The MM-2 is a full feature paddle input keyer that offers virtually all the features of the MM-1 predecessor plus CMOS memory and a new *low price*. The MorseMatic model MM-1 keyer earned the reputation for being the finest paddle input keyer on the market at any price. The new MM-2 also features two powerful pre-programmed microcomputers with copywrit-ten AEA firmware.

Like the MM-1, the new MM-2 offers more exclusive features than any other keyer on the market such as: an automatic serial number generator, an automatic beacon mode, and an automatic speed increasing Morse trainer mode.

The most common comment made by MorseMatic users is how easy it is to operate for being such a sophisticated keyer. This is no accident, it was planned that way! AEA also put in *every* feature they could think of that any Novice or skilled expert could want in an

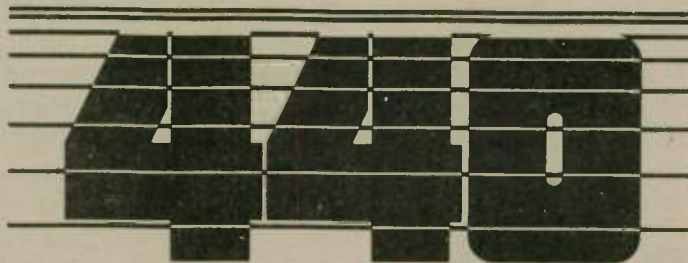


electronic keyer. But no keyer is any good if it does not work. So AEA implemented a full elevated temperature burn-in for each and *every* microcomputer-based product before a complete final test of each unit.

Basic keyer features

The MM-2 offers the operator the ability to tailor all of the following parameters from the control keypad to suit individual performances: stepped variable monitor tone; dot ratio; dash ratio (for full independent weighting control); dot memory enable or disable; dash memory enable or disable; semi-automatic ("bug") or full automatic operation; speed select from 2 to 99 wpm in 1 wpm increments; automatic tune disabled by pressing any keypad button or the paddle; and independent + and - output key-

(please turn to page 54)



SANTEC'S ST-7/T

SANTEC•NOLOGY breaks into the 440 band with style! The new ST-7/T synthesizes the entire band in 5 kHz steps, works both up and down repeater splits and does it all right from your hand, with versatile power options of 3 watts, 1 watt or even 150 milliwatts (all nominal), to reach out to where you want. The high power mode of 3 watts radiates on 440 like 5 watts on 2 meters ... and that's a handful!

Tones? This one has them ... tones and subtones! The 16 button tone pad is a SANTEC Standard at no extra cost, and the ST-7/T's optional synthesized subtone encoder is controlled by the radio's front panel switch.

All the regular SANTEC accessories used with your HT-1200 fit the ST-7/T as well, meaning that you can enjoy both bands fully with a smaller cash investment. Grab the new SANTEC ST-7/T and join the fun on 440 MHz.



Accessories for SANTEC Handheld Radios clockwise from upper left:

- Leather Case (ST-LC)
- Base Charger & Power Supply (ST-5BC)
- Remote Speaker (MS-505)
- Mobile Charger (ST-MC)
- Speaker Microphone (SM-1)



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HAMFESTS



Alaska

The Arctic Amateur Radio Club of Fairbanks, Alaska will have a "hamfest" on 5 June at the Tanana Valley Fairgrounds, the Kiwanis AG Hall.

There will be door prizes and a raffle. There will be a \$5 fee for all sellers and a left-footed key for a code contest. Doors will open at 8:00 a.m. for selling and contest will stop at 5:00 p.m. to allow everyone to get ready for a good ole' fashioned potluck dinner.

Alaska QSL Bureau will be there, so pick up your cards — and don't forget that postage has increased. Again, we expect an ARRL representative to be there.

Further information, contact Herb Walls, KL7JLF, P.O. Box 1625, Fairbanks, AK 99707. □

California

The ARRL Southwestern Division Convention (HAMCOMP 82) — sponsored by the San Diego County Amateur Radio Council, and

the San Diego Computer Fair — sponsored by the San Diego Computer Society, will be held 4-6 June at the Town & Country Convention Center.

Nine technical sessions will be held per hour. Also featured will be 111 exhibits, prizes, an ARRL forum, a ladies' luncheon and a banquet. One main prize is an Osborne 1 computer, donated by Creative Computer Products of San Diego. Featured banquet speaker will be Roy Neal, K6DUE, NBC news correspondent.

Advance registration is \$6 for all except the banquet. The banquet will be \$14, so for \$20 you can take it all in. After 15 May, the registration goes up to \$7 and the banquet goes up to \$15. The main preregistration prize will also be a computer, so be sure to register early. For registration forms, write to HAMCOMP 82, P.O. Box 81537, San Diego, CA 92138.

Get your room reservations early by calling

the Town & Country Hotel at 714-291-7131. Talk-in on 04/64, 75/15, and 222.94/224.54.

For information, write to Dr. Mel Zeddies, P.O. Box 81537, San Diego, CA 92138; or call (714) 274-4087. □

California

The Satellite Amateur Radio Club will hold its annual barbecue/swapfest on 13 June 1982 at the Union Oil picnic grounds just south of Santa Maria, California. This is the largest swapfest on the central coast with big prizes, contests for everyone and a Santa Maria-style barbecue prepared this year by the world-famous Santa Maria Elks Club chefs.

Admission is free for the swapfest; dinner tickets are \$7.50 for adults, \$3.50 for children 6-12 years of age. Prize tickets are \$1 each and swap tables are \$2.50 for each area.

Talk-in will be on 146.34/94.

Write to Santa Maria Swapfest, P.O. Box 2616, Orcutt, CA 93455 for tickets and more information. □

Colorado

The Boulder, Colorado Rocky Mountain VHF Society will hold the annual spring hamfest on Sunday, 23 May from 9:00 a.m. to 3:00 p.m., rain or shine. The hamfest will be at the Boulder National Guard armory at 4750 North Broadway. The admission donation will be \$2 per family, and there is no seller's charge. The gates open for sellers at 8:00 a.m.; there will be no admission before 8:00. We suggest that sellers bring their own tables.

The door prizes will include a synthesized FM transceiver; extra raffle tickets will be available. In addition to the big ham swap, we will again hold our popular technical demonstrations and seminars, covering topics such as fast-scan ham TV, microwaves, satellite communications, etc.

Food and drink will be available. The talk-in frequencies will be 146.16/76 and 146.52 MHz. For more information, contact Richard Ferguson, KA0DXM, 1150 Albion Rd., Boulder, CO 80303; (303) 499-2871. □

Idaho

Kootenai Amateur Radio Society presents Hamfest '82 at the Kootenai County Fairgrounds North of Coeur D'Alene on old Highway 95, Saturday, 12 June, starting at 8:00 a.m. to 4:00 p.m.

Many prizes, food on premises, and flea market; no pre-registration and free tables available at no charge.

Talk-in on .38/.98.

For further information, send SASE to: Avon Anderson, WB7WBZ, N. 1035 Highland Ct., Post Falls, ID 83854. □

Illinois

The 13th annual Danville (Illinois) Area Hamfest will be held Sunday, 23 May 1982 at the Georgetown, Illinois Fairgrounds. Sponsor is Illiana Repeater Systems. The outdoor flea market will be free; indoor area available at additional cost. Please bring own tables, chairs and power cords.

Advance tickets (for adults) \$2.50; \$3 at gate. Children under 14 years old free. Gates open at 6:00 a.m. Overnight camping with or without water and electric hookup is \$5 per vehicle per night by authority of the Fair board. Free parking, forums, family entertainment, refreshments, prizes and much more will be offered.

Talk-in on 22/82 and 146.52.

For more information on tickets and/or tables, contact Wendell Lyons, KA9AYS Hamfest Chairman, 930 Polk St., Danville, IL 61832; (217) 431-2124. □

Illinois

The Six-Meter Club of Chicago, Inc. is pleased to announce its 25th annual hamfest to be held this year on Sunday, 13 June at Santa Fe Park, 91st Street and Wolf Road, Willow Springs, Illinois (southwest of downtown Chicago).

Registration is \$2 in advance, \$3 at the gate. A large swappers row, displays in the pavilion, an AFMARS meeting and refreshments among the goodies to be offered. Plenty of parking space and picnic grounds will be provided.

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Advance tickets can be ordered from Val Hellwig, K9ZVW, 3420 South 60th Ct., Cicero, IL 60650.
Talk-in on 146.52 or K9ONA/R 37-97. □

Indiana

The Wabash County Radio Club Hamfest will be held in the 4-H Fairgrounds at Wabash from 5:00 a.m. to 4:00 p.m. Sunday, 16 May. Advance tickets are \$2.50 and at the door \$3. Get advanced tickets by sending SASE and check to Dave Spangler, 45 Grant St., Wabash, IN 46992. □

Indiana

The 3rd annual MAARC Hamfest will be held 23 May 1982. The location is the Ball State University indoor-track building in Muncie, Indiana. All activities are inside. There will be parking, refreshments, forums and prizes. Flea market tables are \$4 on a first-come basis. Set up Saturday from 6:00 p.m. to 1:00 a.m., and Sunday from 6:00 a.m. to 7:45 a.m. Talk-in frequency 146.13/73, 146.52, 223.10/224.70.

Tickets \$2 advance or \$3 at the door. Hamfest hours will be 8:00 a.m. to 3:00 p.m. For further information, contact Terry Evans, W9D9HQH, 522 S. Brotherton, Muncie, IN 47302; phone: 317-282-0615. □

Michigan

The Independent Repeater Association will hold its annual Grand Rapids Festival Swap & Shop on Saturday, 5 June 1982, from 8:00 a.m. to 3:00 p.m. at the Kentwood Field House, just south of 60th Street on Kalamazoo Avenue.

Admission is \$3. Eight-foot swap tables \$7 or half-size. Dealers reserve your tables early for the "hot spots." There will be prizes and refreshments. For information or dealer reservations, write IRA SWAP, 562-92nd St., SE, Byron Center, MI 49315 or call (916) 455-2926. □

Michigan

The Chelsea Swap and Shop will be held on Sunday, 6 June 1982 at the Chelsea Fairgrounds, Chelsea, Michigan. Gates will open for sellers at 5:00 a.m. and for the public from 8:00 a.m. until 2:00 p.m. Donation is \$2 in advance or \$2.50 at the gate. Children under 12 and non-amateur spouses are admitted free.

Talk-in on 146.520 simplex and 147.855 Chelsea repeater.
For more info, write to William Altenberndt, 1322 Timberline, Jackson, MI 49201. □

Michigan

The Saginaw Valley Amateur Radio Association presents its electronic and hobby expo, to be held Sunday, 13 June 1982. The event will be held at Bridgeport High School (take I-75 Exit 144, west 200 yards to Brown Street, and turn under the light to the high school).

Features will include: ARRL and FCC booths, NET meetings, films, consumers power energy trailer; for the YL/XYL: fashion show, make-up demos, fabric and material swap; and prizes for the kids.

Admission is \$1 for adults; kids free. All tables \$5; trunk sales \$2. A main prize (cash) will be given away, as will a special YL/XYL prize. Saturday evening setups for commercial exhibitors will be provided Saturday, 5:00 to 8:00 p.m., with building security and overnight parking near the arena. Power will be available inside the building the day of the show with advance reservations. Prime table locations will be assigned by earliest postmark. □

Minnesota

The North Area Repeater Association will sponsor the state's largest swapfest and exposition for radio amateurs and computer hobbyists on 5 June at the Minnesota State Fairgrounds in St. Paul. Free overnight parking of self-contained campers on 4 June. Exhibits, booths and prizes. Admission \$3.

Call wide area repeaters 25/85 or 16/76 for directions.
For information or reservations, write

Amateur Fair, P.O. Box 30054, St. Paul, MN 55175. □

New Jersey

The Fort Monmouth Amateur Radio Club and Chaverim are sponsoring the Jersey Shore Hamfest and electronic flea market on Sunday, 6 June 1982, 9:00 a.m. to 3:30 p.m. at the Jewish Community Center, 100 Grant Ave., Deal, New Jersey.

Refreshments will be available and door prizes will be given out. Admission is \$3 per person (children under 12 and XYLS free). Indoor space — 8-foot tables are \$5; Outdoor tailgating — \$2 per space. Reservations must be made by 25 May. Send with SASE and check to Jersey Shore Hamfest, P.O. Box 2078, Ocean, NJ 07712.

Talk-in on 147.045 + .6, 146.775-6 and 146.52. □

Ohio

The Sandusky Valley Amateur Radio Club of Fremont, Ohio is teaming up with the Ottawa County Amateur Radio Club to bring area amateur dealers the best hamfest ever on 23 May 1982, at the fairgrounds in Fremont.

Gates open 8:00 a.m.; dealer setup 7:00 a.m. Advance tickets \$2.50; \$3 at door. For table reservations and tickets, send SASE to John Dickey, W8CDR, 545 North Jackson St., Fremont, OH 43420.

Talk-in on 31/91 and 52. □

Ohio

The Champaign Logan Amateur Radio Club, Inc. annual hamfest and flea market will be held Sunday, 13 June 1982 at the Logan County Fairgrounds in Bellefontaine, Ohio. Gates open at 7:00 a.m. EDST. Prize drawings start at 9:00 a.m. and on every hour until 3:00 p.m., when the major prizes of \$200, \$100, and \$50 will be drawn. You need not be present to win one of the major prizes.

Tickets are \$1.50 in advance, \$2 at the door. Tables \$3 in advance. Contact M.A. (Bud) Griswold, W8JXM, P.O. Box 301, Urbana, OH 43078 for information, tickets or tables.

Check-in and information on W8EBG/R Club repeater 147.60/00. □

Oregon

The Oregon State Ham Convention co-sponsored by the North Coast Repeater Association and the Oregon Tualatin Valley Amateur Radio Club will be held at the Seaside Convention Center, Seaside, Oregon on Friday, 4 June through Sunday, 6 June 1982.

Hours are 12 noon to 5:00 p.m. Friday; 8:00 a.m. to 9:30 p.m. Saturday; and 8:00 a.m. to 2:00 p.m. Sunday. Registration is \$5 per single, \$7 per couple, and \$1 for children. Registrations between 1 April and 30 April will receive one extra ticket for main prize drawing.

Seminars will be held on receiver design, construction, satellite earth stations, contests, radio and TV boo-boos, ARRL forum, traffic nets and emergency services, ham satellites, and many others. Banquet speaker will be a NASA space shuttle astronaut. Master of



Mt. Saint Helens

The Clark County Amateur Radio Club, W7AIA is pleased to announce the second annual Mt. Saint Helens QSO Party, which will be held 22-23 May 1982. This QSO party will mark the second anniversary of the cataclysmic volcanic eruption of Mt. Saint Helens. This disastrous volcanic eruption took the life of Reid Blackburn, KA7AMF, who was an active member of this club. Reid was monitoring a USGS observation station near the base of the mountain at the time of the eruption.

Any amateur station making one contact with W7AIA during the two days starting 0001 UTC, 22 May through 2359 UTC, 23 May 1982 will be eligible to apply for the Mt. Saint

HAMFESTS

Ceremonies will be Mel Ellis, K7AOZ, Vice Director, ARRL Northwest Division. Banquet cost is \$12.50 per person.

Talk-in on 146.52 (simplex) and local repeater 145.45 (-600). For more information and/or reservations, write to: Doc McLendon, W7GWC, P.O. Box 920, Seaside, OR 97132. □

Tennessee

The 1982 ARRL Delta Division Convention and 16th Annual Greater Knoxville Hamfest will be held Memorial Day weekend — 22-23 May 1982.

The exhibits and forums will be at Bearden High School, Knoxville, Tennessee. The air-conditioned building features two large open indoor exhibit areas fully adequate for a Division Convention. Convention Headquarters at Cedar Bluff Sheraton, Knoxville, Tennessee. (800-325-3535)

Admission will be \$2 advance, \$3 at the door. Table rentals will be \$8 per 8-foot table for both days and \$5 for one day.

Open to the public Saturday, 9:00 a.m. to 5:00 p.m.; Sunday, 10:00 a.m. to 4:00 p.m. Open to exhibitors Saturday at 7:00 a.m. School board rules prohibit Friday night access. Uniformed security personnel on duty Saturday night.

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Information, advance bookings, banquet tickets, assistance with accommodations, and all inquiries are handled by: Ray Adams, N4BAQ, 5833 Clinton Highway, Suite 203, Knoxville, TN 37912. Day: 615-688-7771; Night: 615-687-5410. □

Helens Award, a beautiful color certificate featuring a photograph of the awesome eruption of the volcano on 18 May 1980.

Look for W7AIA on the following frequencies (plus or minus QRM): SSB — 3.895, 7.230, 14.280, 21.360, 28.505; CW — 3.705, 7.105, 21.105, 28.105; VHF — various Vancouver and Portland area repeaters.

To apply for the award, send log information or QSL card and \$2 (or 8 IRCs) to: Award Manager, W7AIA, P.O. Box 1424, Vancouver, WA 98668.

All proceeds from the award will go to the Reid Blackburn Scholarship Fund, which has been established by The Columbian — a Vancouver newspaper. □

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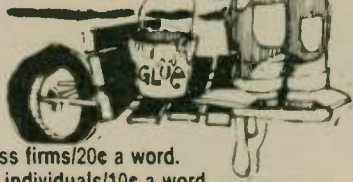
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New Products

(continued from page 51)

ing for virtually all amateur transmitter keying circuits.

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Like its predecessor, the new MorseMatic MM-2 keyer offers a message storage mode with many exclusive AEA features never before offered. Some of these include: 10 soft-partitioned memory locations; selectable real time message loading or automatic word space loading mode; additional word or character space insertion for perfect formatting in the automatic words space mode; an automatic serial number generator for contesting or transmission counting (can be placed anywhere in a message; can be repeated easily in case of "dupes"; up to 9,999; can be reset to one or any number in a couple of seconds); exclusive AEA editing feature for easy loading of a long error-free message.

The message can be programmed at any speed and played back at any speed. An exclusive AEA beacon mode allows for automatic transmission of any memory message with precise transmission and pause "windows." There is an external remote switch output for activating memory location 1. "Memory full" LED indicates when approximately 20 characters are left unused in memory, and memory overflow is indicated by a significant decrease in the monitor tone frequency. A CMOS memory with internal holder for keep-alive batteries (not supplied) allows for extended periods of memory retention. An optional memory expansion kit allows for storage of up to 2,000 memory characters in up to 40 different soft-partitioned locations.

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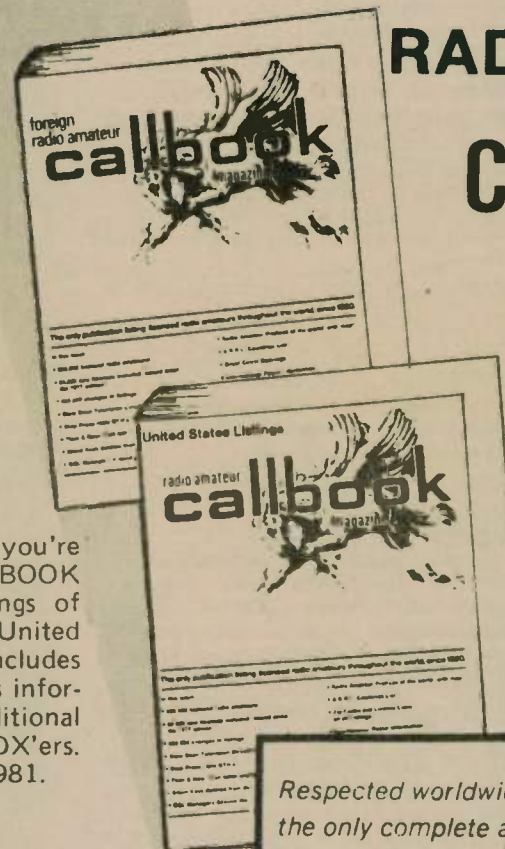
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For further information, contact Mr. George Raymond, Advanced Electronic Applications, Inc., P.O. Box 2160, Lynnwood, WA 98036. (206) 775-7373.

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