WorldRadio

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JAMES MAXWELL
P O BOX 473
REDWOOD ESTATES CA 95044
000588 0000
W6CUF

Editorial

Is the FCC just plain crazy? Strong language, but not really, for they have just made the stupidest decision in their history.

"Using an amateur station . . . in conjunction with a normal police patrol is prohibited."

If things were normal, we wouldn't need the police. Strangely enough, the FCC put the OK on marathons, bike races, firework displays, walkathons and the like with this language: Although amateur participation may incidentally benefit the sponsor, *their main purpose is to provide a service to which the public is the real beneficiary.*

One is hard-pressed to identify an organization whose actions more benefit the public than the undermanned police departments of this country.

Public safety agencies are truly an extension of the people. The chief law enforcement officer in each county, the sheriff, is directly elected by the citizens. Who elected the FCC?

In various areas of the country, Amateur Radio operators were asked by police agencies to position themselves on the roofs of buildings overlooking shopping area parking lots. What occurs in those parking lots? Burglary, robbery, knifings, rape, shootings and drug transfers. If the amateur observed a viola-

(please turn to page 2)

Oregon ARRL Section Manager Bill Shrader, W7QMU, accepts Governor Vic Atiyeh's proclamation of Amateur Radio Week. Also at the ceremony were (left to right): Al Berg, WB7SIC; Robert Brown, KA7KSK; Bryon Richards, K7AII; Tom Rickert, N7CPA, and Bob Butler, WB7RQG.

AR Week in Oregon

The first eight days in June was Amateur Radio Week in Oregon. During his noontime open house the previous Thursday, Governor Vic Atiyeh signed and issued a statement proclaiming 1-8 June as Amateur Radio Week to coincide with the annual state ARRL convention at Seaside.

While never having been a ham himself, the governor is very familiar with the trials and tribulations of the hobby, having had a son who was licensed.

"When you first start out as a ham," recalled the governor, "you have to use the key and do everything in code. After he first got on the air, he suddenly got all excited and said he had just contacted Vancouver.

"I asked him if he meant Vancouver, B.C. (British Columbia).

"He said, no . . . Vancouver, Washington!" (just across the Columbia River from the Atiyehs' home in Portland) "I wondered at the time why he was so thrilled. . . . I told him you could get on the phone and call anyone you wanted to in Vancouver for about 20 cents. But it didn't take me long to understand the thrill of radio communication."

FCC Order clarifies prohibition

An FCC Order released 12 July, clarifying the prohibition on business communications in the Amateur Radio Service, has generated considerable apprehension within the amateur community.

In response to an inquiry from the ARRL, Private Radio Bureau Chief James McKinney has emphasized that the Order was not intended to impose any new restrictions or to cut back on what amateur operators have legitimately been doing all along. It was intended to alert amateurs that the Amateur Radio Service should not be used in lieu of other radio services for the transmission of business messages.

Amateurs may still participate in the routine events of traditional public service activities. For example, hams may provide communications for municipal parades, marathons, bike races, fireworks displays, Olympic games, walkathons, Eye Bank activities, and the like.

Although amateur participation may incidentally benefit the sponsor, their main purpose is to provide a service to which the public is the real beneficiary. Direct promotion to assist in the sale of a sponsor's product is, of course, forbidden.

More on PCBs

John Minke, N6JM

The last sentence of the article written by Katherine Hevener, WB8TDA, (July 1983, page 1) leaves the amateur who has a questionable dummy load, hanging. According to the EPA (Environmental Protection Agency), PCBs can cause more than liver damage. Personally, I wouldn't have one around.

The principal manufacturer of PCB (polychloronated biphenyl) was the Monsanto Corporation, which began production in 1929 and terminated production in 1977 due to the widespread environmental concerns about PCBs. The various trade-names that contain PCBs include: Aroclor, Askarel-Pydraol, Terminol, Pyroclor, Santotherm Pyralene, Pyranol, Inerteen, Asbestol, Chlorextol, Diachlor, Dykanol, Elemex, Hyrol, No-Flamol, Saf-T-Kuhl, Aroclor B, Clorinol, Clorphen and Eucarel.

The PCBs are harmful because once released into the environment, they do not break apart into new chemical arrangements, but bioaccumulate in organisms throughout the environment.

If you have a dummy load that contains transformer oil contaminated with PCBs, do not flush the oil down the toilet! The recommended disposal method of PCBs is in an EPA-approved high-temperature incinerator. As your dummy load contains only one gallon of oil, it is suggested you contact your local waste disposal company. Most likely, they will tell you to leave it for the garbage man. But be sure the can is secure and won't leak.

If you wish to change the oil, be careful in draining the PCB-contaminated oil as not to spill any on you. Flush the can with solvent and dispose of that properly, also. Then refill your dummy load with a non-PCB type oil, such as a silicone insulating transformer oil.

There have been some reports that the EPA's report is overrated and the PCBs are not all that dangerous. Well, let me say this. The California Department of Water Resources is presently replacing all their transformers containing PCB-contaminated oils with transformers of the dry type. Most of those transformers have many years of serviceable life, as they are less than 15 years old.

If you wish to take the time to further check on the EPA or have any questions, call their toll-free number, 800-424-9065. Washington, D.C. area amateurs should call 554-1404.

(ED: Mineral oil works well.) □

Limit: 1500W PEP

The FCC has amended the Rules in Parts 2 and 97 pertaining to amateur transmitter power limitations.

Effective 29 August 1983, most amateur power limits will be expressed in terms of peak envelope power (PEP). The new rules impose a 1500 watt PEP output limit on the majority of amateur transmissions. However, operators employing AM double sideband voice may continue to use the present 1000 watt DC input terms until 1990. The new rules also place a 200 watt PEP output limit on transmitters operating in Novice subbands, replacing the present 250 watt DC input limit.

Additionally, effective radiated power has been redefined in terms of PEP output from the transmitter. The special power limits at 1900 to 2000 kHz have been specified in PEP output figures, and power limits for 450 MHz transmitters located around certain military installations have been redesignated in PEP output terms. □

New Novice exam procedures

FCC has new Novice exam procedures effective 31 August. After the applicant passes both sending and receiving tests at 5 wpm, the volunteer examiner administers a 20-question test taken from 200 questions furnished by FCC in PR Bulletin 1035 A. The names of successful candidates are certified by the examiner and sent with Forms 610 to FCC, Gettysburg, PA 17325.

Volunteer examiners must be over 18, hold FCC General or higher licenses, not related to applicant, not be in employer/employee or employee/employee relationship with applicant, or own a significant interest in or be employed by any company or entity engaged in manufacture, distribution of Amateur Radio equipment or publications used in preparing for amateur exams.

Forms 610 and PR Bulletin 1035 A can be obtained from FCC or ARRL Headquarters. Please include SASE. □

New service net

Myron Braun, K8IQB

You've heard of EASTCARS, MIDCARS and WESTCARS. Each of these are service nets for general areas of the United States. A new net can now be added to the list — NORTHCARS (a North Central Area service net), with the main net controls in the St. Paul, Minnesota area.

It is a general purpose service net, usually beginning around 8:00 a.m., Central Time, on 7250.

The net takes in many of the Central states, from Kentucky and Ohio, to Iowa, Kansas and other Midwestern states in the northern tier of the country. □

World Radio History

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STAFF

Editor and Publisher — ARMOND NOBLE, N6WR
Managing Editor — CHRIS WILSON, KA6TAL
Associate Editor — NORM BROOKS, K6FO
Advertising Director — HELEN NOBLE
Graphics Director — DIANNE DUNNING
Circulation — KAYE SCHWARTZ

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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.

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Second-class postage paid at Sacramento, CA.

Gil Sones, VK3AUI

VK ham's U.S. route

Gil Sones, VK3AUI, editor of *AMATEUR RADIO,* is making a trip to the United States this fall, and will be taking along a hand-held 2-meter transceiver. For those of you who may be interested in contacting him, his itinerary is listed below:

Arrive Los Angeles, 8 September.

Travel via Las Vegas, Salt Lake City, Yellowstone National Park, Vancouver, Portland, San Francisco and back to Los Angeles on 30 September.

Then to San Antonio (Texas), 4-5 October; Houston, 6-9 October (attending ARRL Convention); Albuquerque (New Mexico), 10-11 October; New Orleans, 12-14 October; New York, 15 October. From New York to Miami via Washington, D.C., Roanoke, Asheville, Savannah, Orlando.

Arrive Miami, 27 October. Fly to San Francisco and then back to Melbourne on 1 November.

—Info submitted by Ken McLachlan, VK3AH □

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Editorial

(continued from page 1)

tion of the law, he would call headquarters, and they would dispatch a patrol car.

Certainly the prevention of a serious crime or the apprehension of a suspect (and protection of the public) is a highly admirable utilization of a person's spare time and of the radio spectrum.

Police chiefs (appointed by an elected city council) have publicly praised the effectiveness of the volunteer radio operators.

The United States is one of the few countries in the world where (theoretically) the people tell the government what to do, and *NOT* the other way around. Did the FCC ask the amateurs for their opinion on the matter? Did the FCC ask the *PUBLIC* if they would like to (YES/NO) have a tiny slice of the radio frequencies used to help keep them from getting mugged? For whom does the FCC speak?

The police have a rather tough go out there. The public has a terrible time of it. Anything that aids the police in helping the public should be amplified, *not prohibited.*

The ruling came in conjunction with FCC steps against "business communication." There is quite a difference between pizza shops and police departments. The protection of human life itself is on a far different plane than firework displays.

The most valuable service that amateurs could continuously provide the public has been prohibited by the FCC. Ask any police officer and he will tell you, "The criminals are winning."

You are urged to write to your congressman, senator and the FCC commissioners who have apparently stopped reading the Washington, D.C. newspapers.

Refer to Report No. 2198. The FCC includes "all types of communication intended to facilitate the regular business . . . organization . . . whether for profit or not . . . whether government. . . ."

The regular business of the police is protecting you, your family and others. This is a far different scope than is expected from other government agencies. The sworn officer is the only one who is pledged to put his life on the line for you.

Let's give them all the help we can. □

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Extra Class Couples list

Those of you who are interested in getting a list of Extra Class couples, can write to Betty Baldo, KB6P, 3 Eton Court, Berkeley, CA 94705. Betty also puts out a newsletter about activities in which different Extra Class couples are involved. □

Dissertation prices

On page 6 of the July issue of **Worldradio,** was a book review written by Norm Brooks, K6FO, on the doctoral dissertation by Fred J. Elser, KH6CZ: *Amateur Radio — An American Phenomenon.* A price was not given with the review, but since then, we have received a price list for the dissertation.

Prices are as follows: *microfilm copies* — $17.50 + $2 shipping and handling ($2.50 air mail); *paper copies-soft binding* — $30 + $2.25 shipping and handling ($4 air mail). Add $5 for hard binding.

U.S./Canadian academic institutions (universities, colleges and high schools) may order dissertations at $10 each (shipping and handling same). Send check, money order or credit card information to University Microfilms International, Dissertation Copies, P.O. Box 1764, Ann Arbor, MI 48106. □

Teletype machines needed in Texas

The State School for the Deaf in Austin, Texas, is seeking donations of used teletype machines, especially Model 15's and 19's. They will go into the cabins at the State School and some other public service agencies, for use by the students. Donations of these machines will be tax deductible, and you will get a receipt showing you donated it to the state.

If you have one of these machines taking up room in your shack and you want more information about this, contact A. C. Spraggins at (713) 932-0594.

— Houston ARC, TX □

CONTENTS

World Radio History

All in a night's work

Arthur R. Lee, N6FAD

At 2100 PST on 13 March 1983, Richard Dobbs, WB6ILD, received a garbled "Mayday" over marine VHF channel 16.

Dick is a ham and a member of the Coast Guard Auxiliary Flotilla 410 of Capitola, California. As a service to the flotilla, he normally monitors marine channel 16 from a fixed-base station in his home high atop the Santa Cruz mountains near Bonny Doon.

Dick Dobbs, WB6ILD, seated in his radio-equipped truck camper.

On the night of 13 March, Dick was preparing for bed and reached over to shut down his VHF rig. As he did so, he heard a very faint call from a vessel in distress. A 25 ft. Capri-type sailboat, *Retaliation*, was in serious trouble. The boat and its crew of five were participants in the annual Monterey to Ano Nuevo Point Race and was aground on rocks in heavy breakers. The boat had been navigating by RDF in rain and fog while fighting 10 ft. seas and 45 knot winds. Due to the impreciseness of the RDF, *Retaliation* was north of its plotted position and had turned south with Ano Nuevo Island directly in its downwind path. When the boat struck the rocks, one crewmember was washed overboard but was safely pulled back aboard by two other crewmembers.

When Dick WB6ILD answered the Mayday, the crew said the masthead antenna was only 6 inches above the sea, with the boat lying on its side, filling with water. At times the boat rolled so far over that the keel was out of the water. The crew of four men and one woman frantically bailed out the partially-filled cabin, trying to right and refloat their boat.

Dick immediately alerted the Coast Guard station at Monterey. A 41 ft. cutter was sent from Monterey to assist the disabled sailboat. In addition to the smaller cutter, a helicopter and the 378 ft. cutter *Morganthau* were sent from the Coast Guard station in San Francisco. An Army helicopter was also requested to proceed to the scene.

To assist the Coast Guard in pinpointing the location of *Retaliation*, Dick called upon the Davenport CB React Team for communications and search assistance. He then went to his radio-equipped truck camper and tried to raise the Monterey and Santa Cruz 2-meter repeaters on 146.97 and 146.79 MHz. He was unsuccessful in bringing up the Santa Cruz repeater, but did get into the Monterey repeater. Unfortunately, no one was monitoring at that hour. Knowing he was in a radio dead spot, Dick proceeded to a better communications location on the cliffs near the boat's last known position.

Dick's wife, Joyce, remained at home and relayed messages by telephone and marine VHF to and from the boat, the truck camper and the Coast Guard station.

In hopes of getting a visual sighting of the sailboat, Dick and several members of the CB React Team spread out several miles above and below the town of Davenport. The crew of *Retaliation* had given their approximate position by taking visual bearings on the Christmas tree-like lighting of the Lone Star Cement Plant in the town. At plant closing time, the lights were extinguished. Losing this valuable landmark, the anxiety of the crew on the foundering boat increased.

Through the efforts of the CB React team, Dick was able to advise the company of the rescue situation in progress. To the relief of the crew on board *Retaliation*, the plant lights came back on.

Dick then requested that the boat fire one of its three flares. The flare was fired and spotted by the React team. Dick moved his group further south to the cliffs overlooking the surf area. CB React team members and Dick directed their automobile headlights seaward in an attempt to aid the crew of *Retaliation* to get a two-bearing fix with shore.

After an exhausting struggle, the desperate crew was finally able to bail out and right their boat. They were then able to get the boat off the rocks and underway again, although damaged rigging reduced their progress. The skipper and one of the crewmen were suffering from hypothermia due to the cold wind and salt water immersion.

While enroute to the rescue scene, the Coast Guard experienced difficulties of its own aboard its 41 ft. cutter. The small cutter had lost its radar and LORAN due to an electrical fault. With the failure of this equipment, the smaller cutter was ordered to stand off to await the arrival of *Morganthau*, then enroute on the four-hour trip from San Francisco. When the ship arrived at 0230, she sent the smaller cutter into the shallow water to assist the damaged sailboat. With the aid of strong searchlights and radar fixes, *Morganthau* gave radio directions to enable the cutter to locate the disabled sailboat. A line was passed to *Retaliation*, and the sailboat was safely towed to sea.

The tired and weakened crewmembers of *Retaliation* were transferred to *Morganthau* and a tow line was made fast to their boat. The two cutters and their tow proceeded to Monterey.

On the dock at Monterey, the three ships were greeted by Dick and Joyce. They had driven the 60 miles from Davenport to meet the people they had talked to throughout the night.

Dick and Joyce are not new to emergency communications. They have participated in many such rescue efforts — both at sea and ashore — by providing communications assistance through Amateur Radio, CB React Teams and the Coast Guard Auxiliary. The couple have a vested interest in giving help to mariners. Dick and Joyce hope to sell their home soon and buy an ocean-cruising ketch to tour the Pacific Ocean. □

Astronaut to be part of September TRN

NBC News' Roy Neal, K6DUE, will provide up-to-the-minute information on astronaut Owen Garriott, W5LFL's Amateur Radio operation from space. This news bulletin will be aired during the September 1 Teleconference Radio Net (TRN). All amateurs wishing to contact Garriott in space should copy this bulletin.

Roy Neal was instrumental in arranging for Garriott's operation from the STS-9 spacecraft scheduled for blast-off on 30 September.

In addition to over 100 terrestrial stations transmitting the TRN across North America, Larry Vandewater, NØBKB, with co-pilot Rich Amundson, WAØJFS, will be transmitting the net on 147.555 MHz from an aircraft flying at 12,000 feet over State Center, Iowa. The aircraft will be linked to the terrestrial network via UHF FM, using Ralph Wallio, WØRPK, OSCAR el-az tracking antennas.

Senator Barry Goldwater, K7UGA, will be the featured speaker on the net with NCS Ron Blessin, AF7A, in Scottsdale, Arizona. The teleconference bridge operator will be Lou Appel, KØIUQ, in Minneapolis, Minnesota, with assistance from Bob Clark, WØQIN, and Cornell Drentea, WB3JZO.

A complete listing of the stations (including location and frequency) which will be tied into the September 1 TRN is contained in the Compuserve "Hamnet" X10 database. Information may also be obtained from the net manager, Rick Whiting, WØTN, 4749 Diane Drive, Minnetonka, MN 55343 (SASE please). The national net begins at 7:30 p.m. CDT; local nets may begin earlier. □

Warning to Ohio

Richard Ellers
Submitted by Joe Curran, N8BZK

Amateur Radio operators in the Toledo-Detroit region are using their radios to warn fellow hams of a confidence scheme aimed at radio amateurs.

The con man apparently is a licensed radio amateur, said Defiance County deputy sheriff Pat Browns, himself an Amateur Radio operator.

The suspect is believed to be a Toledo resident. According to police and ham operators, he has fleeced as many as 50 amateurs in northwestern Ohio and southeastern Michigan of from $5 to $50 each.

Brown said hams believe the con man identifies their homes by shortwave antennas in their yards.

He tells a hard-luck story about a tire blowout that occurred after he purportedly drove someone to a hospital, said a Lucas County radio amateur who is compiling reports on the scan.

The man says he's low on money and had to leave his ham gear at a service station as a guarantee for payment for a replacement tire.

He seeks a loan to recover his ham equipment, Browns said.

"Of course, anyone who loaned him money never heard from him again," Browns added.

Peter Seible, Defiance County prosecutor, told *The Plain Dealer* that, even if caught, the con man may be hard to prosecute because victims have not filed police reports.

"We have to get him for theft by deception, which means proving the story he tells to get money is false," Seible said.
—*The Plain Dealer, Cleveland, OH* □

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World Radio History

Field Day fun with balloons and QRP

Peter Putman, KT2B

The Split Rock Amateur Radio Association, Inc. (SARA) is an active, diverse club with about 120 members, whose activities run the gamut from ATV to RTTY. The club is based in Whippany, New Jersey, and seeks to promote Amateur Radio aggressively through the use of publicity in the form of articles, press releases, and even slide programs. In this context, the 1983 Field Day exercise provided an ideal opportunity for the club to receive local and regional recognition for its efforts and for those of amateurs in general across the country.

This year's effort was in the 3A-Battery class. Several club members had access to industrial-grade high-current batteries manufactured for the military to be used in tanks. Previous experience with these batteries showed they were ideal for a Field Day operation using all solid-state equipment running 200 watts input. As we have a fair amount of members who are quite interested in antenna design and construction, the decision was made to run QRP for the extra multipliers, and use monoband antennas for every band we operated — from 80 meters through 2 meters.

Early on, the Field Day Committee came up with the idea of using two half-wave verticals on 80 and 40, supported by helium balloons. One of our members is a welder and has access to helium so it seemed like a natural set-up. The largest difficulty was in securing the balloons from Edmund Scientific in Barrington, New Jersey, due to a mail-order mixup. Yours truly eventually was dispatched to make the 200-mile round trip to procure two extra balloons showing what lengths amateurs will go to for this event! (It should be added that the original order, made nearly a month before Field Day, did arrive — only 2 weeks after the event. Thanks, Murphy.)

A local site — 900 ft.-high Sheep Hill in

Charles Rothschild III, WB2INB, keeps those QSOs rolling in on 10-meter SSB.

Boonton, New Jersey — had been secured for the operation two months previously. Arrangements were made with the local police for security at the site, which has a reputation for being a local "lover's lane". Planning the logistics began in May and at the June 2 meeting, a "Field Day Spectacular" was planned to get everyone's interest level up *HIGH*. Slides were shown from previous FD efforts, as well as the club slide program on the K2RF 1982 10-Meter Contest effort (in which our group of 17 finished seventh in the country).

After all of the images of past efforts had faded away, our Field Day chairman — Hank Rand, K2RF — made a strong sales pitch for operators and loggers, using predetermined shifts. The response was immediate, and within a week the schedule was complete. Other members — Phil Anderson, W2HWG, and Mike Crawford, WA2VUN — were hard at work finishing up a 40 ft. crankup tower-on-a-trailer to be used for monoband beams.

Pete Putman, KT2B, arranged for publicity through two local and one regional newspapers. Publication of the official SARA press release, as well as sidebars on our club, resulted in an immediate gain of 100 points to be added to our score (and we hadn't even turned on one piece of equipment yet!).

The decision was also made to try an early set-up, forsaking the extra operating time available with a set-up at 1800Z. Since this was the club's first try at QRP, it was imperative that we get the antennas up and functional ASAP.

Saturday morning, the antennas all went up, but not without some difficulty. No one had anticipated the 30-40 mph gusting winds that prevailed all day! Steve Katz, WB2WIK, and Mike Crawford, WA2VUN, showed unusual bravery in climbing up the various crankups to install monoband beams.

The final set-up consisted of three towers, two of which were on trailers supporting beams for 20 (4-el.) and 2 (11-el.), and 15 (5-el.) and 2 (11-el. FM). The third tower was made of four Rohn 25 sections bolted together and raised by 10 people using ropes. This tower held the 4-element 10-meter and 5-element 6-meter beams.

During this time, the wind was still gusting severely, and it took many tries to secure and bolt the rotators tight. The tower activities took so long that we missed the opening gun at 1800Z and decided to start up at 1900Z and work an extra hour later. Once all was in place, the three stations fired up and went to work.

Station 1 consisted of a 20-meter position, using an IC-740 cranked down to QRP. Also in this tent was a 2-meter station for SSB, CW and FM. Station 2 (in a nursing home truck) held an IC-730 for 80 and 40, as well as another IC-740 for 15 and 10, and an IC-551 for 6 meters. In addition to the monoband antennas, dipoles and inverted Vees were erected for 40 and 80. Last but not least, station 3 contained four Novice ops — two from SARA and two locals who had wandered up the hill to watch the goings-on Friday night.

The Q rates were high, and various tests with the many antennas resulted in some surprises. The verticals gave the best performance on long-haul DX to the West Coast (no surprise) but also worked better than the Vee or dipoles from about 100 miles out back to the site. (How about that, Mr. Sterba? Got an explanation?) At times, the difference between the vertical and 40 dipole was as many as two S-units (especially to 5, 6 and 7-land.)

The major problem we encountered was that the batteries apparently weren't charged, as was assumed when they were picked up. In fact, a battery used in a DX-pedition to Cadillac Mountain in Maine for the June VHF contest performed beautifully without having been recharged for Field Day! Unfortunately, two of the four cells never got a complete charge and went dead about 0030 local time.

This writer received a frantic call on the air at 0500 en route to his shift to "bring any spare batteries" as well as another rig. Initially, the rigs ceased to transmit, lending speculation to equipment failure. Once the battery situation was discovered, a cure was effected by removing the Novice battery (still working) and connecting it in parallel with the bad battery in the 20-meter tent.

A similar situation prevailed with the 40-80-15-10-6 set-up. This allowed us to go back on the air, as there was sufficient current capacity in the remaining two batteries to finish the test. (Running QRP helped!)

The two Novices returned at about 0800; by moving a bridge table to the 20-meter tent, they were able to "tap in" and go back on the air. This incident serves to show why "excess" capacity is a good idea. The Q rates were still high, and both 10 and 6 were open. In fact, one member came in on Sunday at 1000, sat down and ran off 50+ contacts on 10, using 10 watts in 45 minutes — on SSB!

The various messages to and from the Section Communications Manager were sent and copied, as was the ARRL message — more bonus points. Using the batteries resulted in an additional bonus, and at about 1100, several members set up and operated an Army field generator with a regulator and IC-2AT to make the natural power bonus contacts.

The SARA Field Day operation slowly ground down in a manner which can only be described as "bizarre". The 40-meter balloon shifted suddenly in a surprise gust and impaled itself on the 20-meter beam. The 80-meter balloon became entangled in the tower section nearby, due to another gust. Finally, another battery quit, and about 1400 local, we began to take stations off the air. One station on 20 CW was kept operating until our shut down at 1500 local and netted an additional 35 contacts. Eventually, all transmitters went still, and the tear-down process began.

How did we do? Not bad. After an initial dupe sort was done on Dave Webb, WB2HVF's computer, the total stood at 1,130 contacts — nearly half on CW. In addition, every bonus offered by the ARRL was earned with the exception of OSCAR (just too much to worry about). The raw score should be competitive in

(*please turn to page 31*)

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World Radio History

Grab a fistful of TEN-TEC's new 2 meter FM talkie

it has features never before available in one handheld, it's made in the USA and it's priced right!

COMPARE TENNESSEE TECHNOLOGY WITH THE OTHERS...

Do their handhelds have memory lockout?
Exclusive memory lockout on the TEN-TEC 2591 allows scanner to temporarily bypass channels for quick lockout of busy frequencies yet retain them in memory for normal operation on demand.

Do theirs store transmit offset?
The 10 memories of the 2591 allow stored offset for easiest operation. And memory channel 0 accepts any non-standard offset.

Do theirs offer selectable SKIP or HOLD?
When scanning with the 2591, choose HOLD to stop and stay on a busy frequency. Choose SKIP to stop for several seconds and continue.

Do theirs offer modifiable Band Scan without complete reprogramming?
With the 2591 you can scan any section of the band with user defined upper and lower limits in steps of 5, 10, 15, 25, or 30 kHz. Change step size, upper and lower limits independently. Manual Scan also, up or down, in 5 kHz steps.

Do theirs have Quick-Release NI-CAD Battery Pack?
The 2591 battery pack slides off easily, yet is secure in use, has a heavy duty 450 mAH rating at 8.4v, and the 2591 has capacitive memory retention to permit pack changing without reprogramming.

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World Radio History

• Silent Keys •

Nancy Barron

Nancy E. Barron, WA6ZAO, of La Mirada, California, passed away on 10 July 1983. She was the chairperson for the California Award Hunters Net and was very popular with all the members.

She is going to be missed very much as she was on her toes all the time and was very popular at the net's get-togethers. —*Stan Coutant, WA6BLK* □

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Don Ida

World-renowned balloonist — Don Ida, KA0JQC — became a Silent Key on 27 June in West Germany, at the age of 49. His courage, diligence and humor are warm memories for those who were privileged to know him.

Don came to our home to be tutored in Amateur Radio by my husband, Dave WB0ZID. Don smiled and explained quietly and succinctly that he needed an Amateur Radio license as part of a "special project." He apologized for not being able to share the project's nature. Don was an avid student. The pleasures and the rewards of the encounters were so great for us that his visits seemed too few.

Several local amateurs were thrilled with their first balloon flight experiences, courtesy of Don. We did antenna tests upside down and inside out!

The "special project" was to be the flight around the world in the *Jules Verne*, which ended in bitter disappointment. Don never complained; he only gave credit — to Maxie as pilot, to the ground crew for super human effort and expertise, to his "treasured" wife and daughter for courage and support, and even to us for a few hours of tutoring to aid in safety and reassurance. Our treasured memento is a hand-written thank-you note from Don on *Jules Verne* stationery, sent during the frenetic preparations for the Egyptian lift-off. Don's gratitude was boundless.

Don didn't *need* an Amateur Radio license for his project. Typical of Don's attitude toward life, he wanted to have a thorough knowledge of his equipment. His integrity required that his activities be legal and courteous.

Dave and I attended Don's beautiful and befitting Japanese-American funeral on 6 July. It is still difficult to believe that the ring of the doorbell won't bestow on our household a smiling Don with a gracious and generous gift of fruit and a quiet simple request.

His activities in the local ham community were limited, but the impact of his character was monumental. We will miss him. The Amateur Radio community extends its sympathy to Don's wife, Mae, and to his daughter, Lynne. — *Barbara McClune, N0BWS* □

Daniel Lewis

Daniel S. Lewis II, N6HY, of Paso Robles, California, was killed on 21 May when his car was struck by another vehicle.

The 31-year-old Lewis was on his way home after speaking on QRP to the Fresno ARC. The driver of the other car also was killed.

Lewis recently set a world distance record for low-power Amateur Radio communications in qualifying for the QRP ARCI KM/W Award. (See **Worldradio's** page 39 of July issue.) He also was the author of several QRP-related articles that have appeared in *The Quarterly, Southwest QRPer* and other Amateur Radio publications.

A veteran of Vietnam, Lewis taught vocational arts and was a track coach at Templeton High School. He is survived by his parents, Mr. and Mrs. Daniel E. Lewis of Paso Robles, a brother and two sisters.

—*The QRP ARCI Quarterly; submitted by Fred Bonavita, W5QJM* □

Model HF6V-Completely automatic bandswitching 80 through 10 **plus** 30 meters. Outperforms **all** 4- and 5-band "trap" verticals of comparable size. Thousands in use worldwide since December '81! 160 meter option available now; retrofit kits for remaining WARC bands coming soon. Height: 26 ft/7.8 meters; guying not required in most installations.

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U.S. QSL Service, Inc. is a *FREE* QSL bureau available to anyone who would like to send QSLs to amateurs in the USA. The bureau is known as USQS, and many of those who use the system say, "QSL via KM7Z." All 10 call areas of the USA are handled in the one location, so your outgoing cards can be sent in one packet.

Following is a list of calls for amateurs who have unclaimed cards at this bureau. This list is only a sample of the total list. There are many more calls — too many to list here. To claim cards, please send a self-addressed stamped envelope (SASE) — plus one to place on file for future cards — to KM7Z. The service is free and made available by donations. Donations are needed and appreciated. If you don't have SASEs on file, why not send in a few today?

If you would like complete information on the bureau, please include a note requesting info so that your SASE does not get filed to claim cards. Always include your call sign, and if you have changed call signs, be sure to include both old and new, and include calls of family members, if any.

Best 73, Laryl Berry, KM7Z, P.O. Box 814, Mulino, OR 97042.

KB1I	KA3IDF	AC6I	KT8I
KA1IDB	W3IDT	AF6I	W8IC
KA1IEK	KA3IEA	KB6I	WB8ICP
KA1IET	KA3IET	KG6I	W8IDM
KA1IFE	KA3IGF	KT6I	WD8IDZ
W1IFL	WB3IGT	W6IA	KA8IFB
KA1IGU	WA3IQJ	W6IAE	AI9I
KA1IHF	WB4I	KE6IB	KE9I
KA1IHI	W4IBJ	KE6ID	KF9I
N1II	2D4IBO	KA6IEC	KJ9I
K1IKN	WA4ICK	KA6IEM	KM9I
KA1IKW	W4IF	W6IH	KN9I
KS2I	WD4IGD	KF7I	W9IAI
KT2I	W4IIR	KN7I	WD9ICD
KW2I	N4IJW	KO7I	WD9ICR
KA2IEU	N4IKQ	KS7I	K9IFO
W2IFV	W4IKU	KU7I	WD9IHY
K2IIG	W4ILR	NA7I	WD9IIC
KA2IIX	KQ5I	KA7IBY	AB0I
K2IJL	N5IA	W7IHQ	AG0I
KA2INY	KD5IA	KC7IO	KE0I
KA2IRM	WD5IGF	K7IOL	KF0I
KA2IST	KD5II	W7IR	KJ0I
WB2ITR	K5IID	KA7IRP	KS0I
KF3I	WB5IJR	AD8I	KV0I
KI3I	WB5IKE	AI8I	W0IB
KA3IAE	KB5IL	KG8I	KA0ICC
N3IC	WD5ILU	KJ8I	K0IEY
WB3ICC	WD5IOE	KK8I	W0IH
WB3ICQ	W5IW	KR8I	KA0IKR

World Radio History

Special Events...

Bicentennial

Throughout the month of September, WB4TAL will operate as a special event station from within the Clemmons United Methodist Church in Clemmons, North Carolina. Believed by some to be the earliest organized Methodist congregation in the United States, the occasion is the celebration of the church's 200th anniversary.

Contacts are invited on 2 meters, FM, and on the General portions of the five HF phone bands. CW is available upon request.

For a commemorative QSL card, send an SASE to Bill Tschopp, WB4TAL, P.O. Box 366, Clemmons, NC 27012. DX contacts may QSL via the buro. □

Paul 'Bear' Bryant

The West Alabama Amateur Radio Society (WAARS) will operate a special event station on Saturday, 10 September, in commemoration of the birthdate of college football's winningest coach, Paul "Bear" Bryant.

WAARS will operate station W4WYP from 1300Z to 2400Z on that date. Frequencies will be the bottom 25kc on the General 40-15 meter phone band. The club will also work Novices on the bottom 25kc of the Novice band. The club will offer a handsome commemorative certificate of the event to any station worked; send $1 and large SASE to West Alabama ARS, P.O. Box 1741, Tuscaloosa, AL 35403. □

Jesse James Days

The St. Paul Radio Club will operate a "Railroad Mobile" special event station aboard a steam-powered train operating out of Northfield, Minnesota during their Jesse James Days celebration. KØAGF will operate from 1400 UTC until 2300 UTC each day, 10 and 11 September.

Frequencies used will be: *SSB* — 3.948, 7.267, 14.288 and 21.377. *CW* — 3.552, 7.107, 14.057 and 21.057. A special certificate and a QSL will be issued to those furnishing a 9″ × 12″ SASE (37 cents postage). QSLs will be issued to those furnishing an SASE with 20 cents postage and their QSL. QSL to St. Paul RC, P.O. Box 30313, St. Paul, MN 55175-0313. □

Antique engines

Members of the Hastings, Nebraska ARC will have a special event station at the Old Trusty Antique Engines and Collectors Show, 10-11 September, at Clay Center, Nebraska. Using the club call of WØWWV, they will be on the air from 2300Z, 10 September, to 1100Z, 11 September. (We can't run ham radio and engines at the same time.)

Frequencies: first 25 kHz of General portion of the band (75, 40 and 20 meters).

The show site is the original site of radio station KMMJ. Special QSL cards will be sent to contacts sending SASEs to WØWWV, P.O. Box 128, Hastings, NE 68901. □

Balloon festival

The Tulare County (CA) Amateur Radio Emergency Service (ARES) will again provide the primary communications support for a most exciting aeronautical event — the 1983 California Balloon Festival. The group will also provide an Amateur Radio exhibit station and an Amateur Radiogram service for the public as well as a special event station during the event scheduled for 16-18 September.

Two-way radio contacts will be made with other stations around the world by Amateur Radio from the Visalia, California site, where dozens of colorful hot-air balloons are scheduled to fly throughout the weekend event. A special attraction will be the lift-off of the helium-filled gas balloons for the "Great Sierra Balloon Crossing," a time and distance contest over the Sierra Mountains to . . . who knows where!

A colorful 8″ × 10″ certificate will be awarded for radio contacts and SWL reports during this event. Some transmissions may even be made while HAM (Hot Air Mobile)! Listen for KB6AR or KB6CC on 7.235, 14.285, 21.360 or 28.510 MHz (±) during the 48-hour period from 0100Z, 17 September to 0100Z 19 September (6:00 p.m. Friday to 6:00 p.m. Sunday, Pacific time).

QSL with a business-sized SASE to Scott Thompson, KB6CC, 4024 W. Monte Vista Ave., Visalia, CA 93277, for your certificate. □

(*please turn to page 9*)

New

INTRODUCING . . .
THE FT-980 CAT SYSTEM ! ! !

Join the computer revolution in Amateur Radio with the Computer Aided Transceiver . . . the new FT-980 from Yaesu Electronics!

- 8-Bit microprocessor for greater operating flexibility.
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- Pushbutton Offset Check feature for verification of memory-to-VFO frequency difference.
- Variable Pulse Width Noise Blanker.
- IF Monitor with front panel volume control.
- RF Speech Processor.
- Dual metering of Vcc, Ic, ALC, Compression, Discriminator Center, Relative PO, and SWR (Calibrated)
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- Separate RX-only antenna jack.
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- Optimization of audio passband for mode in use, for preservation of noise figure with changing bandwidth.
- Computer interface optional module available mid-1983, for remote transceiver control from personal computer terminal.

For a detailed brochure covering the FT-980 CAT System, call or write your Authorized Yaesu Dealer.

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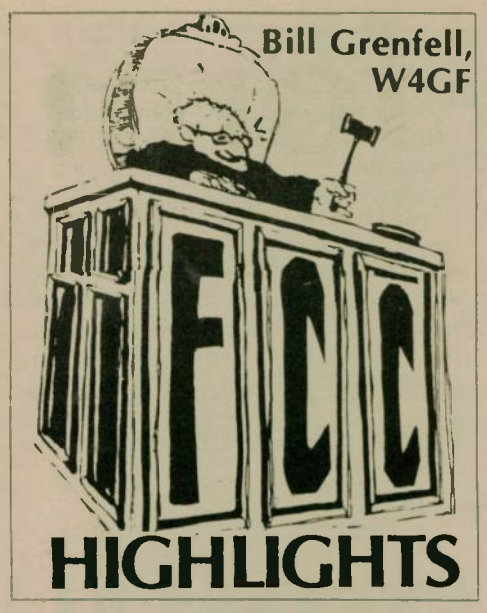
World Radio History



Should Amateur Radio be used for broadcasting? You may expect Private Radio Bureau Chief James McKinney to open this "can of worms" with a Notice of Proposed Rule Making or a Notice Of Inquiry in the near future. There have been a number of actual incidents of "broadcasting" type transmissions via amateur stations on amateur frequencies. Some were authorized by waiver (retransmitting the shuttle communications), and some have been unauthorized (such as a news reporter filing a news report with a broadcast station or newspaper). One biweekly amateur newsletter enthusiastically announces a scheduled release, by another biweekly, of a "broadcast" containing taped comments on an FCC Notice of Proposed Rule Making, and that the "broadcast" could be heard on many repeaters around the country!

McKinney has received a considerable number of requests, from amateurs as well as others, to retransmit the radio transmissions of other-than-amateur stations, such as the 162 MHz NOAA weather transmissions. He also receives quite a few complaints from amateurs criticizing broadcast-like transmissions which they believe to be improper on amateur frequencies.

The goal of an inquiry is likely to be to determine whether the rules should be modified or not, and if modified, whether they should be more restrictive or more liberal. Titled "Broadcasting prohibited," Section 97.113 of the Amateur Radio Service rules states: "Subject to the provisions of Section 97.91, an amateur station shall not be used to engage in any form of broadcasting; that is, the dissemination of radiocommunications intended to be received by the public directly or by the intermediary of relay stations, nor for the retransmission by automatic means of programs or signals emanating from any class of station other than amateur.

"The foregoing provisions shall not be construed to prohibit amateur operators from giving their consent to the rebroadcast by broadcast stations of the transmissions of their amateur stations, provided that the transmissions of the amateur station shall not contain any direct or indirect reference to the rebroadcast."

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WA6IJZ
Bob Cerasuolo

Titled "One-way communications," Section 97.91 provides: "In addition to beacon operation and radio control operation, the following kinds of one-way communications, addressed to amateur stations, are authorized and will not be construed as broadcasting: . . . (b) Information bulletins consisting solely of subject matter having direct interest to the Amateur Radio Service as such; . . ."

•

Identification in International Morse Code or voice is no longer required by amateurs using RTTY or fast-scan TV. FCC's Order 83-247, which became effective 15 June, included several other provisions which were not included in the last paragraph of last month's 'Highlights.'

Stations using AMTOR, ASCII or Baudot need identify only in the code they are using. If using a different digital code, which may only be used above 50 MHz, AMTOR, ASCII or Baudot may be used to satisfy identification requirements. Facsimile and SSTV transmissions must still be identified in CW or voice, as before. CW or voice may still be used, as before, to identify RTTY or fast-scan TV. Also included in FCC's "Streamline, Clarified" rules changes was provision for increase of the maximum frequency shift for digital communication from 900 to 1000 Hz in the HF bands. Above 50 MHz, the maximum shift will depend on the signaling rate. The affected rule sections are: 97.13, 97.32, 97.61, 97.69, 97.81, 97.84, 97.99 and 97.173.

•

The removal of routine amateur station log requirements reported in last month's 'Highlights' became effective 9 June 1983. This Docket 82-726 action removed the requirement to log domestic and international communications on behalf of third parties. Section 97.103 "Station log requirements" and the undesignated heading "Logs" which precedes it, . . . "are removed in their entirety." A new section, "97.92 Record of operations." is added to read as follows: "When deemed necessary by the Engineer-in-Charge (EIC) of a Commission field facility to assure compliance with the rules of this part, a station licensee shall maintain a record of station operations containing such items of information as the EIC may require under Section 0.314."

Data on non-routine operations such as repeater power above certain levels, control operator names, call signs, and remote control and auxiliary station operations are still required to be kept in the station records.

•

Expansion of frequencies available to RACES (Radio Amateur Civil Emergency Service) during declared national emergencies may include the 10 and 18 MHz bands. Frequencies in these bands " . . . may also be considered, . . . if during this rulemaking proceeding, the United States ratifies the final acts of the World Administrative Radio Conference (WARC) 1979."

As reported in last month's 'Highlights,' FCC adopted a Notice of Proposed Rule Making aimed at expanding the amateur frequency segments now available in the RACES rules. Original comments on this PR Docket 83-524 proceeding are due 2 August 1983, and reply comments are due by 1 September 1983.

•

Elimination of the requirement for the examiner to mail back any documents to FCC resulting from the code and written examination of a Novice license candidate was approved by the Commission at its June 29 meeting. The volunteer examiner will just certify the fact to FCC if both elements are passed.

At the time this was written, the tentative date for the change to the new procedure was 22 August 1983. The following day is the first day FCC will accept application Form 610 with only the examiner's certification. FCC's Bulletin 1035(a) describes the procedure and availability of the present stock of 200 element #2 questions which are in 20 groups of 10 each.

FCC welcomes amateurs' suggested questions for Novice examinations and for all of the higher class examinations as well.

•

FCC approved a waiver for Owen Garriott's amateur operation on board the space shuttle *Columbia* on the flight of STS-9 in September. The rules waived were Section 97.407, limiting space operation to stations of Extra Class licensees and Section 97.423(b)(1), which requires at least 27 months advanced notice to FCC prior to space operation. A General Class licensee, Garriott's call is W5LFL.

•

When FCC ran out of the amateur license forms, during a six-week period beginning in April and ending in June, it was giving new Novices permission to operate via the telephone! New licensees of higher class were similarly authorized. Renewals were also delayed. By now the backlog should be gone. However, those expecting a license should beware that the envelope currently used to mail the licenses looks much like typical "junk" mailings and therefore may be inadvertently thrown in the trash basket! Also, if you don't want to lose the original of the license you are renewing, send a photocopy with your renewal application.

•

FCC will probably adopt a volunteer examination program for Technician, General, Advanced and Extra Class operator licenses sometime in September. Actual implementation of the program is not likely to begin until next winter or spring. One of the several problems which need to be resolved before implementation is whether some form of compensation for out-of-pocket expenses for volunteer examination coordinators and volunteer examiners can be established.

•

Operation of an unlicensed station in the FM broadcast band has proved to be an expensive venture for a Missouri radio amateur. Served with a Notice of Apparent Liability, Ricky L. Henderson, WB0NRP, of Salem, Missouri paid a fine of $750 in January of this year for broadcasting on 102.72 MHz.

•

FCC has adoped an order clarifying the prohibition on the transmission of "business" communications via amateur stations. Adopted and effective 29 June 1983, the Order establishes a new rule Section 97.110, "Business communications prohibited," in Subpart E under the

(*please turn to page 17*)

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Amateur Radio call signs

Amateur Radio operators often ask the FCC what call signs have been assigned lately. This list shows the last call sign in each group to be assigned for each district, as of 1 July 1983.

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.

Radio District	Group A Extra	Group B Advanced	Group C Tech./Gen.	Group D Novice
0	KZ0Q	KD0HU	N0EUL	KA0RAN
1	KQ1F	KB1IZ	N1CTC	KA1KOB
2	NB2O	KC2ZZ	N2EKE	KA2SUG
3	KO3P	KC3IS	N3DMG	KA3LIT
4	NK4I	KF4BP	N4IXH	KB4GDY
5	NI5W	KE5CV	N5GCP	KA5RLY
6	KY6O	KG6BK*	N6IZE	KB6BFM
7	ND7W*	KD7MH	N7FKE	KA7QVF
8	NB8Q	KD8IS	N8FBX	KA8SVF
9	KW9L	KD9CH	N9EAT	KA9QEG
Guam	AH2R	AH2AT	KH2BD	WH2ADS
Hawaii	WH6I	AH6EY	KH6XT*	WH6AWY
Amer. Samoa	AH8B	AH8AB	KH8AC	WH8AAO
Wake Wilkes Peale		AH9AA	KH9AB	WH9AAA
Alaska	WL7U	AL7FG	NL7BU	WL7AZZ
Virgin Is.	KP2J	KP2AR	NP2AV	WP2ADK
Puerto Rico	NP4U	KP4HA	NP4IX	WP4CXG

*The computer missed the following call signs and they are loaded in the following sequence:
After KR1Z is issued Group A Block KQ1A-KQ1Z will be issued.
After ND8Z is issued Group A Block NB8A-NB8Z will be issued.
After KH6XZ is issued Group C Block KH6VA-KH6VZ will be issued.
After WR4Z is issued Group A Block NK4A-NK4Z will be issued.
After ND7Z is issued Group A Blocks KX7A-KX7Z & KZ7A-KZ7Z will be issued.
After KF4ZZ is issued Group B Blocks KF4AA-KF4DZ & KF4MA-KF4PZ will be issued.
After KG6DZ is issued Group B Blocks KF6MA-KF6PZ & KF6VA-KF6ZZ will be issued. □

World Radio History

Special Events

(continued from page 7)

Steam locomotive

The Northern New Mexico ARC will operate a special event station from the Cumbres and Toltec Railroad, 17 September, from 10:30 a.m. MST to 4:30 a.m. MST. The club will be steam locomotive mobile, on a narrow-gauge railroad, built in 1882. The train will travel between Chama, New Mexico and Osier, Colorado, crossing Cumbres Pass. At 10,015 feet, Cumbres Pass is the highest mountain pass on a scheduled passenger train in the United States.

The most notable features of the railroad are the six 2-8-2 Mikado-type steam locomotives built by the Baldwin Locomotive Works. The line also has the last operating wooden coal tipple (a coal loading tower).

The club will be active on 14.260 MHz and 21.360 MHz. A certificate will be available. For further information and QSL, please contact Tom Walker, N5ACP, club president, at 560 Bryce, Whiterock, NM 87544.

Please do not use SASE. A QSL and 40 cents postage sent to the above address will be acceptable. □

Blast Furnace

The Inland Steel Employees Repeater Association of East Chicago, Indiana is sponsoring special event station KB9PQ, the theme being "The Largest Blast Furnace in the Western Hemisphere #7 At Inland Steel."

The station will be on the air from 1300Z to 0000Z, starting 17 September and finishing 18 September, operating all bands in the first 10-15 kHz of the General and Novice portions of the band. Also, will be on 146.52/52 FM.

Certificates will be available by sending to: ARS KB9PQ, 7605 Southeastern, Hammond, IN 46324. □

Winesburg Fall Fair

The Clyde Amateur Radio Society will operate N8AGN from the Winesburg Fall Fair in Clyde, Ohio on 17 September, 1600Z to 0000Z, and on 18 September, from 1600Z to 2200Z. Frequencies: phone — 7.250-21.375; CW — 7.125-21.150.

Certificate for QSL, mail business-size SASE to Steve Karr, N8DYR, 302 Hamer St., Clyde, OH 43410. □

Northwest Corner of the World

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

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

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Thank you!

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Tell us something:

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

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

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

_____

_____

The Wisconsin Valley Radio Association will operate on the exact site of the 45° N/90° W intersection on 18 September, using the club station call sign W9SM. Operation will be from 7:00 a.m. to 7:00 p.m. CDT. Frequency of operation will be dependent upon band conditions, but will be 25 kHz up from the bottom of the General phone portion of whatever band is being used.

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

Apple Festival

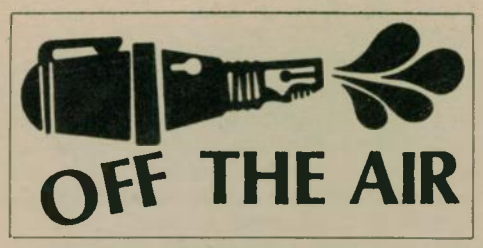
The Smithfield Apple Festival, held at Smithfield, Ohio, is sponsoring a special event station. Operation will be from 2300 UTC to 0400 UTC, 23-24 September. Operation frequencies will be: SSB, 3.900 (±) 5 MHz and Novice on 7.110 (±) 5 MHz. Station call will be N8CUX.

Special certificates depicting the bed race will be sent to those who send 4½" × 9½" SASEs to Robert Carson, N8CUX, 259 Hill St., Smithfield, OH 43948. □

Change of address?

If you are moving, we need to know your new address **six to eight weeks before the address becomes effective.**

World Radio History



Response to KA3KDF

Thank you, Barry, for your concern about deaf amateurs! I hope there is a good response to your announcement in June Worldradio (page 2). Please do not become discouraged, however, if very few come out of hiding. There have been a few similar notices before, with very few responding, in proportion to the numbers.

California alone must have a considerable number of amateurs with impaired hearing; in fact, I've known several, but they are inclined to be "loners". Usually they realize that their problems must confine them to the CW bands; however, a few use some type of amplifier that fits their rig at home and "try" to work the phone bands.

Despite whatever other suggestions Barry receives, I hope serious consideration will be given toward training the deaf to being complete masters of the code, without need for writing down what one receives, in order to interpret it. Too many amateurs with normal hearing must do that, in order to know "what's going on." It is a double handicap for someone with impaired hearing if they can't "copy in their head!"

I also hope that those with impaired hearing learn to use the traffic nets for handling radiograms back and forth to each other. This, in itself, will help form a group of such amateurs that can then be helpful to each other.

GL to your project, Barry!

ARMOND BRATTLAND, K6EA/0
Bemidji, Minnesota □

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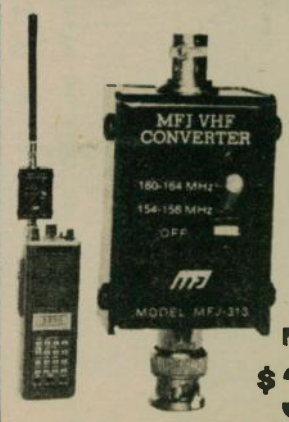
on 2 Meter Handhelds with this MFJ VHF Converter.



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Apology to McKinney

Worldradio
Editor

Dear Sir:

As per our phone call to you June 20th regarding publication of a letter of comments to U.S. Representative Jack Brooks regarding NPRM 83-28, I would like to state that I did not send you a copy and did not receive a request to publish same.

This letter contained the statement that "Mr. McKinney disregarded instructions at the WARC and asked for abolition of the code on all amateur bands." This statement *was in error.* I reread my information source and discovered that Mr. McKinney followed his instructions and stated the U.S. position.

Mr. McKinney is a very dedicated public employee, and although I disagree with the FCC and the people there pushing, he is only following instructions regardless of his views, whatever they may be.

I sent a followup letter to Rep. Brooks after I discovered my error. My source of information was a CQ magazine interview with Mr. McKinney, and in my haste in reading the article and with many interruptions, I missed the part that stated what the U.S. position was.

Please print my retraction in your next issue, as I have no desire to make false accusations about Mr. McKinney or anyone.

ARTHUR P. KAY JR., W5APX
Port Arthur, Texas □

Info needed

Does anyone have information about any crystal swap clubs or nets, or would anyone be interested in starting such a net? Please write, with SASE, to Ken Hand, WB2EUF (address below).

KENNETH HAND, WB2EUF
P.O. Box 708
East Hampton, NY 11937 □

In defense of MM operations

After reading your article, "Why chase spectrum criminals," in the June 1983 issue, I was shocked. I was shocked not so much by what the article states, because I am well aware of the vigilante type of operation of KV4FZ, but I was shocked that a responsible publication would print such speculations and/or accusations without a shred of evidence stated.

First of all, I have no comment on the Jim Jones affair as far as Amateur Radio goes, since I never heard of it in connection with Amateur Radio before. I wish to refer instead to the allegations (unproved or unsubstantiated) about maritime mobiles. There are about 12 charges made:

#1. "No country can license the operation of a radio transmitter for use on high seas on the flag vessel of another."

For this I enclose a copy of a letter dated 7 June 1982 from the FCC, Miami, Florida, in which the fourth paragraph refutes that claim.

#2. "So when you hear a foreign call sign being used aboard a U.S. vessel in Maritime Mobile Region 2, you most likely have encountered a pirate."

This statement is irresponsible (refer to letter below). KV4FZ has embarrassed many maritime mobiles by accusing them of operating illegally when, in fact, they were legal. A few of these are VP2EL, KH6NW, WA4CWG, KD8CE, P29PA, VK2EFL, VE0MJK and 8P6QM; all of these are recent examples. If we go back in the log for a few years, there are many more. All of the above can testify to the vitriolic attacks by KV4FZ completely unwarranted.

#3. "However, the maritime mobile nets are still loaded with an abundance of D68, P29, TI8, ZD7 and ZB2 stations."

With the exception of the P29PA, I have not had one of these call signs answer my call for MM's. If I had, however, I would not reject him merely on the basis of his call sign — I would want some proof of illegality. I would think in the sense of fair play, we could assume these calls are legal until proved otherwise.

#4. "However, it is entirely a different story in dealing with the cruising yachtsman anchored in Martinique, living in luxury on his $100,000 boat. He calls into a net with his St. Lucian pirate call sign, expecting you to run a phone patch to his broker, etc."

This accusation is without foundation. If it were true, KV4FZ could give you: a) the call sign; b) the name of the boat; c) the name of the yachtsman. KV4FZ tapes every net operation. He has often played back portions of tape to me, always "out of context." By and large, phone patches from MM's are the same as local phone patches in the states — *no more* and *no less.* It is very easy to check this on any of the nets.

#5. "The typical procedure of a yachting pirate is to first secure a call sign from one of the less sophisticated countries. Unfortunately, this can still be done by mail or through a friend for a few dollars. This license is then photocopied and used, contrary to law, to gain reciprocal calls from other countries."

I do not personally know of any country that will issue a call via mail. My home base, St. Lucia, will not do so, and I know of no Caribbean island that would. You can, as in the USA, get a St. Lucia license by taking an examination given by the Radio Officer in charge. This, of course, would entitle you to get a reciprocal call with any country that has an agreement with St. Lucia (as per the FCC letter we enclosed).

#6. "This so-called third-country licensing is in violation of reciprocal agreements that are meant for a citizen of country 'A' to obtain permits from country 'B' etc., etc., etc."

This is typical of KV4FZ's obfuscation and is for the most part to bully less knowledgable hams. The reciprocals he is talking about are the same as #5, and when issued, are perfectly legal.

#7. "It is clear and legally consistent that when a U.S. citizen enters a foreign country, he must have his or her valid U.S. passport."

That statement is neither clear or consistent. Many Caribbean countries do not require a passport or visa from a U.S. citizen. You can check this with any travel agency or U.S. Diplomatic Corps. Personal identification is all that's required — usually a voter's registration, Social Security card or driver's license will do.

#8. "However, when the use of amateur bands are concerned, many cruising yachtsmen openly demonstrate a contemptuous attitude toward radio regulations."

This is not true, and if you need support for my statement, you might refer to your own columnist Gordon West, WB6NOA; he seems to be cognizant of the needs and wants of MM's.

#9. "To begin with, claiming to be operating Maritime Mobile Region 2, while in a foreign country, is actually giving a false position report by radio and indeed a serious crime, not to mention the violation of a country's sovereignty, as well as Part 97 prohibitions."

This is pure poppycock. The term Maritime Mobile means only that the radio is on board a boat rather than a car, train or aircraft. You can read Part 97 forever and see that it does not make the allegations that KV4FZ claims.

#10. "Today, Amateur Radio is being used to a larger degree, in supporting drug operations, illegal alien smugglers, ad hoc missionary groups, etc., etc., etc."

This statement is not only untrue, it is completely dishonest. In the first place, illegal use of hard drugs such as heroin is almost unknown here in the Caribbean. There is some activity in marijuana use here, but much less than the United States, and the penalties for use or possession are very harsh.

I was unable here to get any support to KV4FZ's accusation of drug traffic via Amateur Radio from many people questioned here. There is no record of any drug traffic involving a mother ship or, Amateur Radio, although KV4FZ specifically mentions St. Lucia.

#11. "Drug honchos love the ham bands because they remain inconspicuous amongst a sea of other communication. With simple codes such as a recipe for English muffins etc., etc., etc.,"

This piece of brilliant information is a dart thrown directly at me. I received this recipe for English muffins from a yachtsman, Moe Goldy, KE1N, and his wife Elayne. The recipe was simple and delicious. We passed it on to the other yachtsmen, and needless to say, it was quite popular. The only dope in these

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messages was in the mind of KV4FZ.

#12. In the final paragraph of the article — A) Who is the American with the VP5 call? B) What is the VP5 call he had? C) Can he name one VP5 call that was sold and to whom? D) Can he name one P29 call and to whom it was issued by this VP5 person?

I would be very interested in this information because I believe we could do something about it, if it were true.

My copy of **Worldradio** is sent to me from a friend in Boca Raton, Florida. I have particularly enjoyed Gordon West's (WB6NOA) column. I hope you will take a second look at this article and realize that for 99 percent of the time, Amateur Radio aboard yachts is used to relieve boredom, get advice on ports of entry, customs regulations, spare parts availability, and mostly meeting sailing companions and ragchewing. Although there have been cases of pirate calls in the past, by and large, this is the exception rather than the rule that KV4FZ suggests.

BERNIE MOGAL, J6LDZ
The Caribbean MM Net — 7240 — 1130 GMT
St. Lucia, WEST INDIES

Mrs. Bonnie R. Owra (KA4HAU)
Zephyrhills, Florida

Dear Madam:

This is in reply to your letter of 8 May 1982 concerning questions about the Amateur Radio Service.

As long as a person holds a valid U.S. Amateur Radio license, he should use his assigned call sign any time he is in the United States, its territories or while outside any other government's jurisdiction. (International Waters)

Obtaining reciprocal operating privileges for operation in other countries should be granted to any U.S. licensee by any country with which we have an agreement, without regard to their citizenship. It would be advisable to make this fact (citizenship) known to the foreign government. However, final authority for operation rests with the foreign government.

There is nothing to prohibit the operation of a U.S. licensed Amateur Radio station on any vessel of U.S. or foreign registry. You must maintain a mailing in the United States.

I hope the above information will answer your questions.

Very truly yours,
JOHN L. THEIMER
Engineer-in-Charge, FCC □

Ham makes happy reunion possible

One of the finest satisfactions in providing service occurred to me while serving as a relief net controller recently on the East Coast Amateur Radio Service (EASTCARS) network. On 10 June, I had the extreme pleasure of assisting in the reunion of two former servicemen who were buddies during World War II.

Jim Richmond, KA4WM, of Front Royal, Virginia, had checked in just prior to a check-in from Carl Theis, W8BKH, of Palmyra Heights, Ohio — a suburb of Cleveland. As soon as I repeated the phonetic spelling of Carl's QTH I received an immediate "CONTACT" from the Front Royal station. Since Jim and Carl could not copy one another, the former requested that I relay information to the Ohio station. He wanted to learn if Carl might know of a Dick Boss in that QTH, whom he knew years ago. Carl did not know anyone by that name, but he referenced his local telephone book and reported that there were two names listed as Richard Boss.

Richmond then reported the following information: When he was a resident of Shaker Heights (also a suburb of Cleveland) prior to WW II, both he and Dick Boss joined the U.S. Marines on 18 July 1940. Carl made a phone call, and as luck would have it, reached a man who was asked: "Were you in the Marines and when did you join?" The reply was the 18th of July 1940! When Dick found out that his wartime buddy had located him, all pandemonium broke out.

Working under the poor band conditions at the time, the relayed service was made more clear with the assistance from Don Bjorklund, K4KCM, of Fairfax, Virginia. I was fortunate to have a short QSO with Jim a few days later, who advised that he and his long-lost friend are now in direct touch with each other with exchanges of old and new photographs and plans for an early eyeball reunion of the families being firmed after the lapse of 40 years!

This was not only a thrilling experience for both ex-Marines, but a very satisfied feeling for Don and me that a real *service* had been accomplished!

JOHN BARROWS, W1HCR
East Falmouth, Massachusetts □

Praise for CW

I get a big kick out of your publication. Some of the letters from these wild-eyed CB-jockeys shake me up at times, though. I can just see our ham bands slowly being infiltrated by these guys with no qualifications; the only vocabulary they possess is the four-letter words in short sentences, interspersed with singing and whistling on the bands.

I get very concerned about these no-code licenses. I really feel that when we lower the bars, the quality of the hams will be slowly deteriorating.

World Radio History

I am an old-time CW ham who has always loved good CW. I feel CW is the backbone of Amateur Radio, and any one can master it if they take the time and effort to do it.

I often wonder what will happen to this nation in cases of national emergency when the phone bands and RTTY will not operate due to the QRN. We need the good old CW operator to handle the traffic.

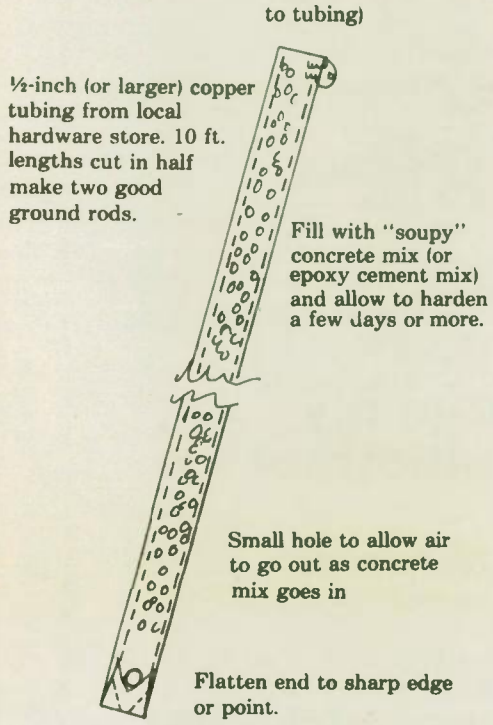
Wishing your publication the very best.

MARION CATREN, WB0VIB
Valley Falls, Kansas □

Ground rod idea

A number of amateurs have put this idea into use and thought it to be a pretty good idea. It goes along with my ground idea in ARRL's *Hints & Kinks,* page 5-3.

BILL PFAFF, K2GNC
Moriches, New York □



NOTE: A steel rod may be pushed into the wet cement to make it even more rigid.

Effective ground rod — made rigid for easier pounding into ground.

Phase IIIB questions

I've noted with interest, on the AMSAT nets and publications such as the *W5YI Report,* comments on the signals from Phase IIIB. My antenna, first off, is a 4-element vertically polarized beam up 20 feet and pointed due south. According to its specs, it has a beam width of 66° and a gain of 9dBi. Receiver is a Kenwood TR-9000 multi-mode transceiver (.25uV for 10dB signal/noise ratio).

Loudest I've heard is RST 3-3-9/QSB to 3-4-9/QSB. Earliest I've heard it is about 0030 UTC. I've noted that, near the end of June, some nights it is totally inaudible. I assume I was able to hear it fairly well at times because it was much closer to the Earth then (100 miles or so). But now, since it's much farther out, the signal naturally would drop very dramatically. I've also noted what appears to be an extreme doppler shift on the beacon. I've heard it as low as 145.806 and high as 145.813, with the receiver in the LSB mode and the RIT off. Has anyone else noted this shift?

I've noticed recently that the signal will nearly vanish (RST 2-2-8 to 9), then suddenly jump to about R-S-T 3-3-9. The signal will generally nearly vanish for about 45 minutes to an hour, then reappear.

I've also heard that when IIIB is in its final position, the access time for the West Coast (California-Oregon-Washington) will be after 0430 UTC (9:30 p.m. PDT) or so, and will only last three to four hours, and at maximum, IIIB will only be 10° to 12° above the horizon. As I heard it explained, because IIIB's angle to the equator, height and rotation of the Earth, it will appear to rise nearly south (about 175°) and set in the east (100°-110° or so) at an absolute maximum elevation of 12°. of 12°.

But then to further confuse things, I heard on one of the AMSAT nets that Hawaiian stations will have to aim their antennas at an elevation of 80°-85° above the horizon toward California (!). This strongly suggests that the satellite will be overhead (or nearly so) at a point between Hawaii and the mainland. Is there any agreement on where IIIB will be in final location? I've heard among others: "Directly over the middle of Venezuela"; "0° Lat. 10° West Long."; "50° West Long. 20° N. Lat." But then there's the comment about Hawaii ("78°-88° above the horizon, due east toward California").

Is there any agreement about how much power it'll take to access IIIB? I've heard about everything from: "Easily accessible with a 1 or 2 watt handi-talkie" to: "It'll take an absolute bare minimum of 900 watts into a 8 to 12 ft. dish (preferably) or 12-15dBi beam to put a fairly decent signal into it. Remember, it's 23,000-24,000 miles away, and the other OSCAR's about 100 to 125 miles. You could work them with QRP (150-250 watts ERP or so), but not this one; it'll take big power and big antennas to access it on 435 MHz.

On 1296 it'll take a dish with 25 to 30+dBi to gain to access it, and there is no beam available that will come close to giving enough gain to access it. So, I doubt if more than 1 percent of IIIB users will be on 1296. Why did they put 1296 on it? Who knows, but I think many will come to agree that 1296 was a total waste of time, effort and money.

Are any of the figures I've quoted on the power and antennas required correct or close to it? I wrote AMSAT and QST a few days after launch with no reply from either, so I'm hoping some of the readers of **Worldradio** know the answers.

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

Net manager asks for courtesy

As net manager of the Western Public Service System (WPSS), I feel it is my duty to write the following letter to you on behalf of the 327 members listed on our roll call, in hopes that possibly you can help to pass on the following information to the entire Amateur Radio Society.

Recently there has been an awful lot of QRM on the net frequency of 3952 kHz from sources known to be located back east and in the southeast USA. On several occasions, the QRMing stations have even announced our presence to each other and continued to go right ahead and carry on their QSOs. I feel this is very unnecessary, and probably could be eliminated if stations that operate on 75 meters were more aware of the fact that there is a nightly net on this frequency, and would please remain clear of the frequency long enough for us to continue to provide our services to the general Amateur Radio Society.

Our net has been in operation since 1969, on this frequency, and meets daily at 0100 hours UTC until approximately 0400 UTC. We do handle an awful lot of traffic and it is very difficult to do so when there is very heavy and unnecessary QRM on frequency. If there is a way the word can be passed on to others who may be interested, possibly we can eliminate an awful lot of doubling on frequency, and serve our members and non-members alike with a little less difficulty. It would really be appreciated.

Secondly, on behalf of WPSS members, and — I am sure — an awful lot of other persons involved either directly or indirectly with the recent earthquake in Southern California, I would personally like to thank both the members and non-members of WPSS for a fine job in handling the traffic from Monday evening, 2 May through Wednesday evening, 4 May.

Some of the persons who participated in traffic handling and did a terrific job were: Denny Whitney, WB6WYA; Terry Gaiser, N6UR; Bob Cowan, N6BEB; Don Westcott, WD6EWP; Herb Posner, KC7FA; Barry Todd, K6ZCE and, I am sure, many others. These are the types of people who make you glad to be a part of the Amateur Radio Society.

ALAN MICHAELSON, WB6BNA
Gardena, California □

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Ham-approved recipes

When the MARC (Marissa ARC) newsletter first came into existence — about 1977 — the ladies came smiling to me and reminded me that they were included in the "family memberships" and asked for their own column, to exchange recipes of the good things they brought to the meetings: the very best of their cookies, cakes, Hawaiian Punch slush, etc., especially for their gentlemen as they visited while their hamming husbands talked and soldered in MARC's technical corner.

When I gave it up two years ago, my precious ladies commented constantly about how much they missed being included in the newsletter. I promised them I would put all their recipes together in a booklet for them and other ladies. Many recipes include MARC potluck and family picnic recipes.

For years I have screened B&W photos from 35mm negs (color or B&W) or any print or drawing into half-tones for photo-offset and photocopy reproduction for ham newsletters and other publications, and made personal QSL cards from photos. It's time for their ladies to have something of their own. After all, what would Amateur Radio operators do without their ladies?

The little booklet is available from Tania Miller, WB9TKC (see address below).

TANIA MILLER, WB9TKC
P.O. Box 164
Freeburg, IL 62243 □

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World Radio History

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World Radio History

PUBLIC SERVICE

Cities lean on hams during floods

April showers may bring flowers to some parts of the world, but in New Orleans, Louisiana, all too often they bring floods. When the Crescent City was again deluged on 7 April, W5UK was on the air, ready to provide assistance to those stricken by the flood.

Initially, the Greater New Orleans ARC (GNOARC) station handled reports of local flooding, but when water knocked out much of South Central Bell's service, W5UK was pressed into full operation, carrying communications for the National Weather Service (NWS), Red Cross and others.

The NWS's only link to the outside was via Amateur Radio. Larry Bay, W1DOY/5, of the Ozone ARC, manned a 2-meter station at the Slidell (Louisiana) weather office, and through his station and W5UK, Weather Service personnel were able to receive instructions from the NWS regional office in Fort Worth, Texas.

Meteorologists in Slidell spoke via Larry's compact VHF transceiver through a 40-meter patch at W5UK to a Texas amateur — Edd Price, KC5GO — who had been standing by on 7290 kHz at the request of GNOARC Emergency Coordinator Ray Barard, WD5HQC. Later, W5UK took part in setting up an NWS net, which coordinated weather bureau information.

W5UK was on the air from about 5:00 a.m. to 8:00 p.m., relaying flood-related traffic. The GNOARC thanks all the amateurs in the New Orleans area and vicinity, especially members of the MTA Club, the Jefferson ARC, Ozone ARC, Southeast Louisiana ARC, Baton Rouge ARC, and all the others who cooperated with this disaster communications operation. —*Greater New Orleans ARC*

•

Mobile radios filled the communications gap when the telephone service of the small, independent Central Utah Telephone Company was interrupted on 16 April by the mudslide in Spanish Fork Canyon, west of Thistle, Utah. The radio equipment was operated by amateurs, public safety agencies and Mountain Bell.

The volunteer ham operators of the Utah County Sheriff's Communications Auxiliary Team (SCAT) were mobilized at about 9:00 a.m. on Saturday, 16 April, by Lt. Gary Clayton of the Sheriff's Office of Emergency Management.

Rich Whittaker, WB7RPF, set out in his truck, packed with radio equipment and survival gear, on the 132-mile detour through Nephi and Manti to the isolated town of Thistle, arriving there shortly before noon. Mike Griffith, KF0Q, proceeded into the mouth of the canyon to the west of the mudslide, to assist where Lt. Clayton had his Ramcharger as a temporary command post. David Martin, WA7FFM, moved to the Sheriff's Dispatch Office between Provo and Springville.

Jack Crannell, WB7BEG, at home in Provo, warmed up his high-powered fixed station with both HF and VHF transmitters and pointed his 11-element 2-meter Yagi toward Spanish Fork Canyon. He was able to establish simplex communication with Rick at Thistle, where a Ringo Ranger had been erected on a portable mast.

Radio amateurs provided emergency mobile communications to various government and railroad officials, and to the Red Cross via the Lake Mountain Repeater (W7SP/R). The amateurs worked long hours, in spite of initially inadequate drinking water, food and sanitation — especially on the remote eastern side of the mudslide.

Early Saturday morning, Mountain Bell provided a truck with a mobile VHF radiotelephone at the western side of the slide area, upon the request of the Utah Department of Transportation. This mobile unit transmitted to the Mountain Bell Repeater station located on Lake Mountain, and with similar propagation characteristics to the UARC repeater at the same site.

On Sunday, SCAT member Ollie Branam, WA7RZO, used his truck to communicate information for the evacuation of residents of the town of Birdseye, located upstream of Thistle. A helpful Thistle resident monitored the waters advancing toward Ollie's escape route. After transmitting a final status report, Ollie drove gingerly out of the area using his only escape route, a bridge already one foot under water!

Birdseye remained without telephone service up through 23 May, and amateurs maintained a station there almost continuously through the period, providing a link with the outside world. Among those helping with this effort were Francis Boyer, WA7TNZ; Ira Parkes, K7ERR; and Rob Blout, KA7ERV. —*Dick Leining, WB7DML*

•

The rains came, the winds blew and tornadoes danced all over the Houston area. Trees were uprooted, tree limbs torn down, power and phone lines were damaged, rivers and creeks were overflowing, forcing many families to move to higher grounds. Electric service to thousands of homes and businesses was disrupted. More rain, wind and tornades were on the way.

Early Friday morning, 13 May, the Civil Defense (CD) and the National Weather Service activated SKYWARN emergencies with the assistance of many volunteer hams from the Houston area. Communications were established between CD headquarters and the NWS in Alvin, Texas and with many volunteer amateurs in the field.

As the storm fronts moved through the area, their progress and intensity were reported to CD and then on to NWS from SKYWARN observers in the field using 146.88/28. Several tornadoes were spotted and checked out for possible damage. Several mobile home parks were damaged. By Friday evening, 10 deaths and many injuries were reported.

Several emergency centers were set up by the Red Cross and local communities. The danger of flooding was increasing by the hour in the affected areas. NWS was kept advised of weather and flooding conditions by several amateurs who were actually on the scene.

On Saturday morning, it was evident that there would be severe flooding as Lake Houston began to overflow at the dam. Warnings to residents downstream from the dam were issued, and many were moved to disaster centers. Saturday night and Sunday morning, the amateurs in the area reported that the many rivers and creeks were beginning to overflow their banks and areas along the river banks were being flooded. Amateurs were on duty at the disaster centers to report conditions and pass information to CD and the Red Cross. —*Dee Bittick, N5COJ*

Tornadoes keep Midwest hams busy

Several Kadiddlehoppers worked hard on 30 April, handling emergency traffic due to a tornado that had hit Springfield, Missouri the previous evening. They were congregated at Twin Bridges State Park, Oklahoma; Kent Merchant, KA0GPU, was on the air from the park, operating on battery power — about 100 watts and a dipole antenna.

Walter Thomas, N0CLO, was at the Red Cross station in Kansas City, trying to find a Springfield station. Kent was finally able to get a Springfield station, and with Kent keeping things under control, much health and welfare traffic was passed.

It was late afternoon, after about 185 stations were logged and helped, before emergency operations were terminated. —*Robert Lane, W0PIV*

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A tornado touchdown in Decatur, Illinois occurred on Sunday, 1 May. Donald Weatherford, W9OK, reports that he was advised at 0115 GMT, by Roman Martin, W9AES — a Red Cross Disaster Communication officer — to set up an emergency communications link between the Red Cross building and the ESDA headquarters located at the County Building. This would free the telephone lines at both locations for other important calls.

By 0230 GMT, Don had the rig on the air, and contact was made with net control. Several volunteers jumped in to help during the emergency.

Based on survey reports from the survey team, Red Cross set up emergency housing at the First Presbyterian Church for 50 people. Cots, blankets, coffee, etc. were moved to the church and set up. Local news agencies were notified, and this information was aired for those needing assistance.

By about 0400 GMT, the brunt of the emergency was over, and there was little need for further emergency communications. Thirty minutes later, Don packed up his 2-meter gear and headed home. —*Donald Weatherford, W9OK*

•

On 1 May, Bruce Shurtz, KA9GXT, spotted a funnel cloud at Dubois, Illinois, heading for Waltonville. He had been watching weather conditions for some time and had already alerted the local volunteer firemen. (Bruce is also a volunteer fireman.)

After spotting the cloud, Bruce called on the 147.27 MHz repeater in Centralia and the 147.735 MHz repeater in Mount Vernon and announced it. The men at the fire station heard it and set off the emergency weather siren, which really started things happening.

The tornado cut through Waltonville in a minute, completely destroyed one mobile home and two grain bins, and damaged many other homes, tearing the roof off one of them. Volunteer firemen (including Bruce) had a busy night checking for injuries, gas-line leaks in damaged or destroyed homes, "hot" high-lines, etc. Local newspapers said the funnel was spotted by "two people." Only radio station WRXX in Centralia gave Amateur Radio operators credit for their alertness.

Larry Powell, KC9GT, Emergency Coordinator for Jefferson County, sent a letter of appreciation to Bruce, stating that he had included Bruce's call in his monthly report to the ARRL, in recognition of Bruce's efforts. —*Tania Miller, WB9TKC*

•

Every year, about the time thunderstorms and twisters start appearing, members of the Sooland Repeater Association (SRA), Sioux City, Iowa, start closely observing weather conditions in the area of northwest Iowa, southeast South Dakota and northeast Nebraska. They watch for clouds, rain, hail, temperature fluctuation and, of course, funnel clouds. They report conditions directly to the National Weather Service.

Whenever severe weather threatens, weather service personnel phone the Woodbury County Emergency Management Agency (civil defense). The EMA then contacts Joe Hirschauer, Emergency Coordinator for Woodbury County, who contacts the rest of the volunteers.

Severe weather isn't the only thing that keeps SRA members working hard. They always offer help with communications during marathon races and the annual River-Cade parade. —*Info from article by Dave Bakke in The Sioux City Journal, Iowa; submitted by Glenn Holder, K0TFT*

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World Radio History

Mayors and governors throughout several states have expressed their appreciation of Amateur Radio operators' efforts in public service. Following are two examples of "thank you" letters sent by public officials.

11 May 1983

Mr. Marc Gergen, KA0JOG
Amateur Radio Emergency Service
District Emergency Coordinator
Des Moines, Iowa

Dear Mr. Gergen:

Thank you for the loan of your generator in the initial hours after a tornado struck our commmunity.

The use of your generator at our water tower repeater site helped us re-establish normal community public safety and public works communications.

We appreciate your voluntary contribution.

Sincerely,
Ken M. Forbes
City of Pleasant Hill

25 May 1983

Mr. Dave Bennett
President, Rolla Regional Radio Society
Rolla, Missouri

Dear Mr. Bennett:

I wish to convey to you and the members of your society my appreciation for your assistance in the tracking of severe weather storms during the past three months.

Your aid has and continues to be a vital part of our early storm warning system which would provide the citizens of the community adequate preparation time to seek shelter should a natural disaster occur.

The volunteer efforts of your group fills the void between the time that EBS broadcasts their warnings and the actual arrival of storms in the City, providing my staff with very crucial information on which to base their decisions.

During this era of severe budget constraints and elimination of services, it is gratifying to know that your volunteer agency is fully prepared and willing to assist.

Sincerely
Floyd Ferrell
Mayor □

ARES members eager to help

Maui County ARES provided communications for the 13th Annual Maui Marathon on 6 March. Seventeen amateurs provided communications between the 12 aid stations, the aid station supply truck, finish line and the race course marshall liaison mobile unit.

Amateurs kept aid stations and finish line staffers informed of the progress of the approximately 450 runners and 10 wheelchair participants. They also made sure that aid stations were kept well supplied throughout the marathon.

This year, for the first time, something new was tried to improve communications between the different groups involved in the marathon. At the suggestion of Maui Police Sergeant John Palazzotto, course marshall Wally Ornellas and Sergeant Palazzotto rode with Maui County Emergency Coordinator, Melvin Fukunaga, KH6H, so that any problems on the race course could be handled as quickly as possible. The value of this arrangement was proven near the end of the marathon when a call was received from Ray Style, KH6UQ, requesting an ambulance at the finish line medical tent. Sergeant Palazzotto radioed the police dispatcher, and a paramedic ambulance and the fire department were immediately sent to the scene.

The Emergency Amateur Radio Club's 146.34/94 repeater KH6AH/R, and the KH6H/R, 147.63/.03 — both atop 10,000 ft. Mount Haleakala — were used for Maui Marathon Net communications. *—Melvin Fukunaga, KH6H*

•

The Scotts Bluff ARES provided communications for West Nebraska General Hospital North and South Units on 3 May, during their planned disaster drill.

At about 1:30 p.m., a building on First Avenue in Scottsbluff was said to have collapsed. Emergency Coordinator Jim Weber, WD0BQM, was notified that the hospital needed emergency communications between the disaster site and the North and South Units. Hand-held-equipped amateurs reported to each location and provided the necessary traffic between the disaster site and both hospital units.

At one point in the drill, a fire department van which was helping transport the injured (made-up high school students) was without communications. An amateur was quickly dispatched with the van and communications were complete with the hospital.

The Scotts Bluff ARES repeater, which is located on top of the West Nebraska General Hospital North Unit,* was operating on emergency power during the entire disaster drill.

The heart of the system is a Spectrum Communications SCR 4000 with VHF transmitter and receiver which gives the Scottsbluff-Gering area a 50-mile radius of emergency communications. The machine switches to battery back-up power automatically if the AC lines fail. The Scotts Bluff ARES welcomes all amateurs to use the machine. The ARES Net meets weekly on Thursdays at 8:00 p.m.

**See "Repeater installed," Worldradio, April 1983, page 33 —Roger Peister, KA0CRI* □

Amateurs act fast in hospital crisis

Dave Tyler, N6DRT

Suppose they called a CODE BLUE emergency in your local hospital and nobody came to help the patient? That crisis was successfully avoided at Pittsburg, California's Los Medanos Hospital on 26-27 April because local radio amateurs substituted for that hospital's internal telephone system which had failed completely.

Bill Van Voorhis, WA6ZFZ, Emergency Coordinator (EC) for ARES/RACES in the eastern reaches of Contra Costa County received a call from the East Bay Section EC, Dwayne Eskridge, W6LKE, asking that local RACES units be activated immediately and go to Los Medanos Hospital to replace the "crashed" internal phone system. Van received that call at 3:07 p.m. and put out a call for help on the local 2-meter simplex frequency. At 3:24 p.m. the first four amateurs arrived at the hospital accompanied by Van, their EC. Before 4:00 p.m., internal communications had been restored in the hospital via a 2-meter Amateur Radio system.

Fortunately, the hospital's internal paging system could still be operated from the central communications room. This facility became the hub of the Amateur Radio system. An amateur operator was stationed "back to back" with the hospital's own page operator. The page 2-meter station was in communication with all high-priority locations elsewhere in the hospital. Each was now provided with an amateur and 2-meter rig. Hospital staff and administrators were all extremely impressed with how swiftly and efficiently the local amateurs responded to their communications crisis.

The amateurs, themselves, were a little surprised at how smoothly skills they had learned in flooding and fire disasters were transferred to this new situation. The only hitch was that some of them had to be told that "Stat!" is medical jargon for "Immediately!"

On the day the internal phones collapsed, the first amateurs on the scene were: Bill Van Voorhis, WA6ZFZ; John Widener, WB6UMT; Art Horton, N6QS; Joe Lesniewski, WA6GFT; and Vincent Hochderffer, WB6JDO. These were followed that afternoon and evening by: Richard Barber, WB6EZI; Jim Snell, KE6RV; and Mike Thomas, WB6FBI. Operations the first day were secured at 10:00 p.m., as traffic was very light by that hour. At 7:45 the next morning, the hams resumed the operations at all the posts staffed the day before. The same amateurs provided communications that day, although the last two hams listed above were replaced by Charles Dowell, WA6YVH; Clay Stiles, WD6GDG; and Ed Roach N6EIK, who served for all or part of the second day.

As it happened, there was, indeed, a "Code Blue in the ER" call while hams manned the internal "phones." WB6UMT was the page radio operator at the time. Van was explaining the amateur operation to a "visiting fireman" (this author, an EC in West Contra Costa County) at 'UMT's elbow when the call came in on Amateur Radio from the ER (emergency room). The call was passed immediately to the hospital paging operator by 'UMT and was broadcast on the PA system within 10 seconds of the transmission from the ER.

During the two-day Amateur Radio performance at Los Medanos, service personnel from the internal phone system vendor were working constantly to repair that system. The internal phone system was restored to operation at 4:15 p.m. of the second day. All Amateur Radio operators were secured by 4:30 p.m.

The swift response by Van and the other amateurs provide several lessons. First, amateurs in their area consistently monitored a single calling and alerting frequency. Second, close rapport between the SEC, EC's and County Office of Emergency Services and the county sheriff's office gave those officials the confidence to call on the local ARES/RACES group to "bail out" the hospital's communications system when the need arose.

Most of the amateurs who so successfully carried off the task were people who regularly take part in the local Amateur Radio emergency training sessions and nets — certainly enough to set the example for those with less training and experience.

Congraulations are in order for all who took part. □

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We have been in existence five years and have very fine amateur stations installed in our Spokane, Washington Hospital, as well as in the Portland Hospital.

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We pass and receive message traffic from the patients to their loved ones, and occasionally a phone patch as well. At present, our net meets Sunday mornings at 1600Z, 3925 kHz and is well attended to by Shriners as well as welcome visitors.

Just a little rundown on our activities.
GENE TOMLINSON, WA7ILO
Northwest Shrine ARC Sec.-Treas.
Seattle, Washington □

World Radio History

Stuck with a problem?

Our TE-12P Encoder might be just the solution to pull you out of a sticky situation. Need a different CTCSS tone for each channel in a multi-channel Public Safety System? How about customer access to multiple repeater sites on the same channel? Or use it to generate any of the twelve tones for EMS use. Also, it can be used to access Amateur repeaters or just as a piece of versatile test equipment. Any of the CTCSS tones may be accessed with the TE-12PA, any of the audible frequencies with the TE-12PB. Just set a dip switch, no test equipment is required. As usual, we're a stickler for 1day delivery with a full 1 year warranty.

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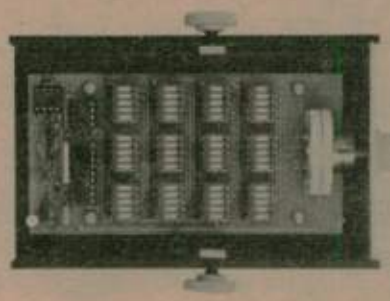

TE-12PA

67.0 XZ	85.4 YA	103.5 1A	127.3 3A	156.7 5A	192.8 7A
71.9 XA	88.5 YB	107.2 1B	131.8 3B	162.2 5B	203.5 M1
74.4 WA	91.5 ZZ	110.9 2Z	136.5 4Z	167.9 6Z	
77.0 XB	94.8 ZA	114.8 2A	141.3 4A	173.8 6A	
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1000	770	1336	1650	1900	2200	2450
1500	852	1477	1700	1950	2250	2500
2175	941	1633	1750	2000	2300	2550
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- Tone length approximately 300 ms. May be lengthened, shortened or eliminated by changing value of resistor

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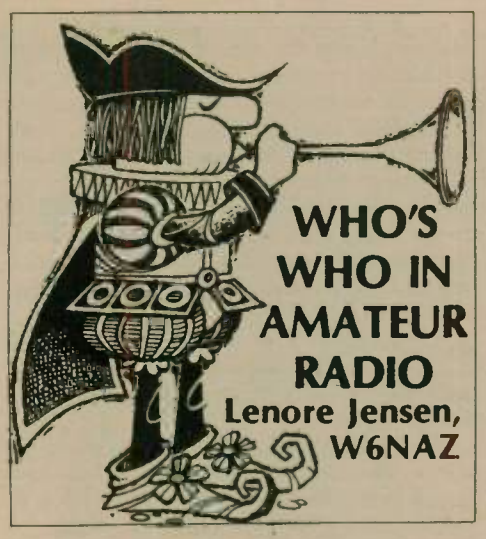
World Radio History



Robots dominate the world of John DiPonio, W8JRW, and he considers them "the most under-utilized devices he's ever seen!"

John will tell you, "There are countless numbers of applications they could do immediately." He should know, having been selected as president for the first two years of Robotics International (of the Society of Manufacturing Engineers). Now he serves on the Board of Directors of this 8,000-member organization with its 33 chapters.

Also, as the Manufacturing Specialist to the Vice President of North American Automotive Operations of Ford Motor Company (for whom he's worked 35 years), John has been making friends with robots for more than 20 years and urging their use.

Unlike the chatty one in *Star Wars*, most modern robots are more like "arms and wrists" trained for specific tasks. In difficult or boring jobs, they are willing, untiring workers. They do welding, machine loading and unloading, can handle all sizes of material, spray paint and finish, do visual inspection — and some smart ones can identify as many as 300 parts per minute. Grinding and polishing are other robot talents. Of course, microprocessors serve as the brains, and such control systems "teach" robots; some are able to handle hundreds of different sequence steps.

But John says it wasn't always so easy. When he was first assigned the problem of finding a new way to build cars, John installed a Unimate 2000 in the Kansas City plant. "We put it on a job," he remembers, "that people didn't want. It was required to handle 50 percent more weight. For a year, around the clock, we logged this job and got the data base we required." And he took it from there.

John laughs to think of some of the problems in those early days. "Hams will appreciate this one," he says. "The electrical spikes in the plant caused those young robots to lose their minds and they started throwing parts all over the place!"

Although his main office is in Dearborn, Michigan, John travels often. He's made many trips through Europe, three to Russia and — count 'em — 47 to Japan!

He's very well acquainted with Japanese methods of manufacture and, in particular, their use of Robotics. (Japan has many more robot-producing companies than we have, although our software and electronics are considered superior.)

John's familiarity with the Japanese and their language has given him a fine insight. He observes, "The employees and the company are devoted to each other in a long-term arrangement. New hirees understand they will not be evaluated nor promoted for the first 10 years, but will receive a raise on their birthdays. And the employees of a major company are committed with mind, body and spirit. Also, families usually are a productive unit, closely allied."

He points out that the head of the unit never forces a decision; he makes people *want* to achieve the goals of the group. This system is similarly used in industry.

As for Amateur Radio, he tells us that Japan has many science centers that are set up for eight or 10 ham stations which visiting licensees may operate. One friend is Hisato Ichikawa, JR4WWT, in Hiroshima, who is with Toyo Kogyo, a company with a radio group of 200 ham members. Wherever John travels, he enjoys looking up local amateurs, of course.

Robotics expert John J. DiPonio, W8JRW

And for the $64,000 question: How does he feel about robots displacing our workers? (Currently we have more than 6,000 robots in use in American factories; some predict that, by the end of this decade, possibly 100,000 friendly robots may be helping people with boring or dirty work.)

"Over the years," he feels, "the same hue and cry has come whenever new devices are developed. But ultimately, automation has created new jobs through greater productivity."

John points out that our inability to adopt some of the latest technology (which certain other countries have welcomed) has worked against us in the marketplace. Thus, John feels we should take advantage of the new Robotics. "In the future, research labs are creating new fields. I see robots working in fast foods, in various pharmaceutical applications and, believe it or not, in surgeries!"

His credits are impressive. He was the first person in the world to receive the Joseph F. Engelberger Award in 1981 for Robotics applications; he is a registered professional engineer in the field of manufacturing, as well as a certified manufacturing engineer in the Society of Manufacturing Engineers and he holds Certificate #1 in the field of Robotics.

John and Mary DiPonio have been married 40 years and have three fine sons. Amateur Radio has been a part of their home since 1950. "It's been a great help in my understanding of manufacturing processes and systems which are basically computer-controlled." He was attracted originally by the prospect of talking to individuals with a common interest throughout the world.

With all his wide knowledge of Robotics, John has found one problem: He hasn't yet been able to figure out how to use the mechanical talents of a robot at W8JRW. □

Field rep thanks radio operators

A note of thanks to Bill Dodge, treasurer of the Great Bay Radio Association, Dover, New Hampshire:

Dear Bill,

On behalf of the New Hampshire/Vermont Easter Seal Society, I thank you and your radio group for all that you did to make the "Wheels for Easter Seals" Bike-a-thon a success. A total of 450 riders participated to raise more than $25,000 in pledges!

Thanks to competent volunteers, radio communication and the long-awaited sunshine, we were able to hold 17 safe bicycle rides around the state. The Great Bay Radio Association did a super job in Dover and Rochester! Your suggestions for improvement of the event are also very helpful. It has been a pleasure to work with you.

It is only with the money raised by the Bike-a-thon that we can continue to provide special services for thousands of handicapped children and adults each year.

Again, thank you for your time and all your extra effort. I look forward to working with you to make next year's Bike-a-thon even better.

Gratefully,
Judy Normandin
Field Representative
Easter Seal Society
Goodwill Industries □

FCC

(*continued from page 8*)

heading of "Prohibited Transmissions and Practices." At the time this issue of 'Highlights' was written, the text of the new rule was not available. However, it is likely to be a revised version of Section 97.114(c) and may supplant part of paragraph (c).

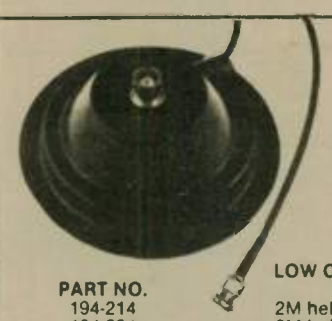
•

An FCC order to change the term of Amateur Radio operator and station licenses from five to 10 years is expected in September of this year.

•

FCC consideration of its Docket 82-624 order concerning amateur station power output measurement and limits slipped from the June 29 meeting to the July 14 agenda. Last September, the Commission proposed a limit of 1500 watts CW and RTTY power output, and 1500 watts peak envelope power output when using single sideband emission. □

UP YOUR ERP



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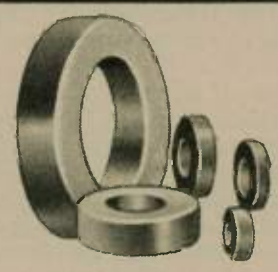

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T-106	135			1.06	1.75
T-80	55	45		80	1.05
T-68	57	47	21	68	95
T-50	51	40	18	50	70
T-37	42	30	15	37	60
T-25	34	27	12	25	45

RF FERRITE TOROIDS:

CORE SIZE	MIX Q1 u = 125 1-70 MHz	MIX Q2 u = 40 10-150 MHz	MIX H u = 850 to10MHz	SIZE OD [in.]	PRICE USA $
F-240	1300			2.40	9.00
F-114	1500			1.14	2.50
F-87	900	300		87	1.25
F-50	750	250	5000	50	80
F-37	550	200	4000	37	60
F-23	250	100	1500	23	50

Chart shows uH per 100 turns

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World Radio History

American Radio Relay League

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

Recent comments in this column relative to the attitude of some CB operators toward the proposed "codeless" Amateur Radio license, brought replies from some readers who either feel this author favors "illegal" CB operation or failed by not turning known illegal CB operators in to the FCC.

Neither of these viewpoints is correct. This author does not favor illegal radio operation in any radio service. The point made was that some CB operators — I suspect there are many — do not want a codeless license on the amateur bands above 30 MHz. Such individuals want a codeless license for operation on the amateur bands below 30 MHz, on 160 through 10 meters.

In fact, there are probably many CBers who want a codeless, and perhaps even a "no exam" license for operation on *all* Amateur Radio bands.

Most of the CB operators I come in contact with are involved with organizations and functions other than Amateur Radio: lodge meetings, rifle and pistol ranges, professional circles, where I work, etc.

Yes, sometimes CB operators I meet tell me they operate on frequencies outside the 27 MHz citizen band, and some even admit to having operated without a license on the 10-meter band.

Personally, I don't condone such operation, and in my mind I "bristle" when I hear about it.

Since these contacts are at functions other than Amateur Radio, there is not much I can do without causing unnecessary disturbance, other than quietly expressing my feelings and pointing out that such operation is not legal. These individuals already know this fact.

"Turn them in to the FCC," you say?

Well, I guess I have done this on more than one occasion, but I personally cannot testify that any of the individuals in question have *ever* operated illegally in any way, since I have not heard them myself. I don't listen to or work on the citizen band.

I do have friends and contacts within the FCC, particularly in the San Francisco Bay Area, and have discussed such out-of-band CB operation with them. In such discussions, I'm told the FCC is doing what it can. FCC officials thank me for the information, but before they can take any action against an individual, they themselves must monitor the infractions. Even if I had heard it myself, it would not be enough evidence to warrant any action by the FCC.

Therein lies a major problem which has faced ARRL and Amateur Radio for several years, not only regarding illegal operation on CB, (which is really none of our business unless such operation is on our amateur bands), but also in regard to many recent cases of malicious interference on our own amateur bands.

Complaints of possible malicious interference cases, particularly on the 40-meter phone band and on amateur 2-meter repeaters, have grown in large numbers in the last 15 years.

As early as 1968, I found that the problem of malicious interference was bad enough on the West Coast to warrant my making a motion at the annual board meeting of the ARRL to look into the problem.

The League has grappled with the problem since that time. There have been numerous discussions between League officials and officers and the FCC in Washington.

ARRL has tried a number of approaches, including use of Official Observers, articles in QST about direction finding, and the establishment of a special ARRL committtee to find ways of solving the problem.

The FCC has taken some action, but legal action sometimes takes much time, and sometimes malicious intent is difficult to prove. In many parts of the country, the problem remains.

As in the case of the CBer who tells me he has operated outside the citizen band, the FCC must themselves monitor such infraction of the rules on amateur bands before they can take action.

Part of the problem lies in the way the U.S. Communications Act was written. The League has been successful in getting Congress to make some changes in the Act, making it easier for the FCC to take action in such cases.

Even so, any action by the FCC is limited simply because the Commission has limited budget and resources.

Concern for interference by radio amateurs, mostly concern that amateurs would interfere with other radio services, is not new.

To better understand the problem, we must go back in the history of Amateur Radio to the years just after World War I, when Hiram Percy Maxim, as ARRL President, was working hard to get radio amateurs back on the air after the ban which took amateurs off the air during the war.

This history is well documented in *Two Hundred Meters and Down* by Clint DeSoto. One of the concerns expressed by those who opposed the re-establishment of amateur operation was that it would be impossible for any federal agency to monitor and control any citizen radio operation.

Maxim's major point to counter this was that we radio amateurs could and would monitor and police ourselves. This self-policing idea became a tradition in Amateur Radio that has generally held for over 60 years.

Perhaps because radio amateurs must pass a somewhat stringent code and technical test to obtain a license, they tend to be more dedicated and take more pride in operating according to the rules and regulations. However, in malicious interference cases that seem to plague certain frequencies and bands, it seems we can no longer police ourselves. We appeal to the FCC, but find that the FCC seems to be powerless in some cases to do much about illegal operation — on ham bands as well as on CB.

After all, to a great extent, rules and regulations can only be effective if the majority of people will agree with and follow them.

Fortunately, most radio amateurs do favor and follow the FCC rules and regulations, and it is a small minority of radio amateurs who cause problems — especially in the cases of malicious interference.

I cannot speak for the attitude of CB operators except that it would appear large numbers of them do operate illegally on frequencies outside of the citizen band.

This is, of course, a problem for the FCC and radio service of the frequencies involved. It only becomes our business if such illegal operation is on the amateur bands.

I suspect that the FCC wishes the CBers who do operate in Amateur Radio fashion outside the citizen band would become radio amateurs and operate within the FCC rules and regulations. Perhaps this is behind the FCC proposal for a codeless Amateur Radio license.

I don't believe such a license will solve this problem at all. One's ability to follow rules and regulations depends on one's attitude, and the illegal operations of such CB operators show their attitude toward any kind of regulation.

Let's not sacrifice Amateur Radio by lowering the standards for obtaining a license in order to try and solve a problem that does not belong to Amateur Radio in the first place. □

Do you remember your first QSO?

Mike Peterson sure does! His exciting first contact was the beginning of a new world for him — a world without restrictions — a world supported by the Courage HANDI-HAM System.

The Courage HANDI-HAM System is an organized group of disabled and able-bodied licensed hams, who help individuals with physical handicaps become involved with Amateur Radio.

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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STATION APPEARANCE

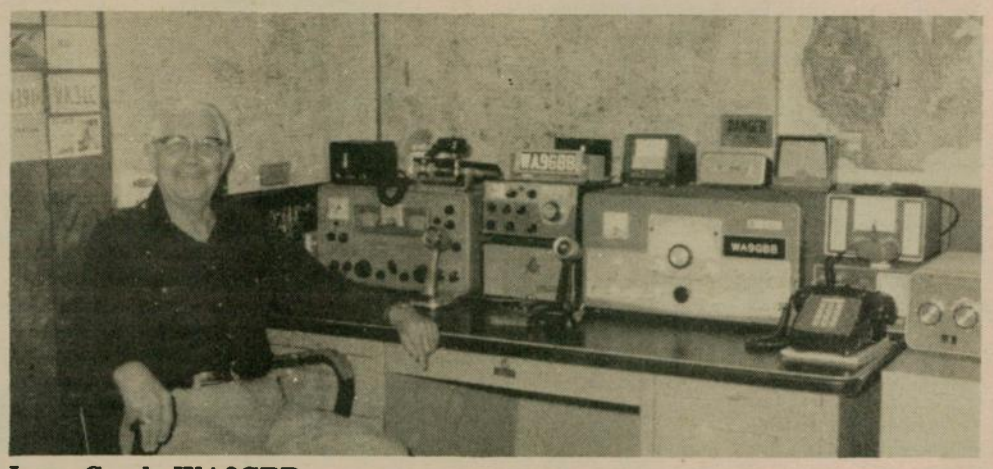
Lynn Crook, WA9GBB, of Bement, Illinois wins the Station Appearance award this month. He received his Novice license in December 1962. Since then, he's held a Technician, Conditional, General, and is now an Advanced licensee.

Lynn's worked for the Bement Fire Department since 1930 — the last five years as radio operator.He also serves as communications officer for the local Emergency Services and Disaster Agency, and is a member of the Picorams — the local Piatt County Radio Club.

His station consists of a Johnson Viking Valiant II transmitter; Hammerlund HQ 180 receiver; Drake TR4 transceiver with Turner microphones; Heath SB200 amplifier and Heath phone patch; Regency HR2B 2-meter on base; Regency in the car and pickup truck; and a generator for backup emergency power.

His antenna system is made up of an 80-meter dipole, 40-meter inverted Vee and a 2-meter vertical — all about 40 feet up; and a Mosley TA33 Jr. at 45 ft., turned by a Ham-M Rotor.

LYNN CROOK, WA9GBB
Bement, Illinois □



Lynn Crook, WA9GBB

World Radio History

AMSAT OSCAR

Dr. Norman L. Chalfin, K6PGX

The successful launch on 16 June of the Phase IIIB Amateur Communications Satellite, now designated AMSAT/OSCAR-10, placed it into an orbit which was inclined to the equator at about 8° with a perigee of some 200 km and an apogee of some 36,000 km. The attitude of the spacecraft, however, was not optimum for the first rocket firing which was designed to place the bird into an orbit of some 17° inclination with a perigee of 1,500 km. So it was necessary to allow natural astrophysical forces to bring the attitude around closer to the desired attitude. This was not possible until 11 July, when the first burn occurred. It was to have been a 107 second burn, but in fact went for 190 seconds so that the perigee was raised to 3900 km and the inclination went to 26°. The higher perigee brings the spacecraft into the Van Allen belts, which subject the bird to radiation. Error correction and sensing circuits aboard the OSCAR-10 have indicated a loss of two bits each orbit in the telemetry . . . no big deal, since there is automatic correction circuitry aboard in the computer.

Nevertheless, the perigee should be lowered, and the next burn that was scheduled for the last week in July should bring the craft into a lower perigee and an inclination of about 51.1°. This is not the optimum, but it is believed that that is as far as the remaining fuel will permit. A 57° orbit was the target. The optimum orbit would be 64°, at which the precession of the apogee to the Southern Hemisphere will take the longest time.

The firing of the kick motor on AMSAT/OSCAR-10 represents a world first for Amateur Radio, as well as for space technology. It is the first time a rocket motor firing in space was accomplished by non-governmental or private sources.

The attitude error of the spacecraft is believed the result of a "bump". It was described in a news release jointly from AMSAT and European Space Agency as follows (as received by AMSAT telemail at John Fail, KL7GRF's QTH):

Posted: Friday, 15 July 1983 11:07 p.m. GMT
Msg: AGEO-1593-9860
From: RZWIRKO
To: DOCS
Subj: Third-stage bangs into A-O-10

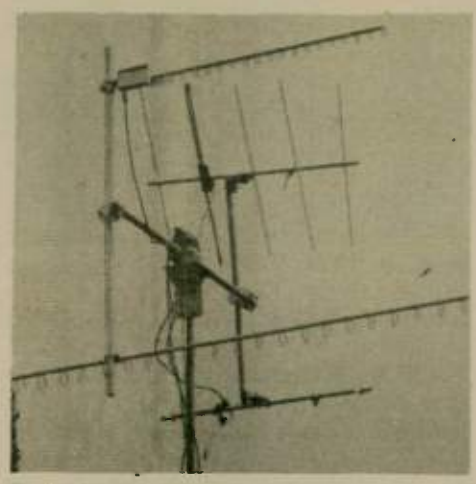
A visit to the Washington offices of the European Space Agency today (15 July) produced the following document which many of you have been patiently waiting to see. The text, produced jointly by ESA, Arianespace, CNES and AMSAT, explains what really happened to the AMSAT/OSCAR-10 spacecraft after the separation from the Ariane L6 third stage. It is being posted here with no further editorial comment (at this time).

73, Rich Zwirko, K1HTV

Ariane launch L6
Orbit injection of OSCAR-10 satellite

(13 July 1983)

The apogee motor firing of (AMSAT) OSCAR-10, the radio amateur satellite



This is K6PGX's antenna array for AMSAT/OSCAR-10.

Two members of the AMSAT Deutschland contingent adjust the kick motor aboard AMSAT/OSCAR-10.

launched on 16 June, took place during the night of 11-12 July and injected the satellite successfully into an intermediate orbit of approximately 3900 km perigee, 35,800 km apogee height and 26° inclination. A second and final apogee motor firing is scheduled within the next fortnight. All equipment on bord (sic) of the satellite checked out so far including the main transponder with its antennas is working perfectly.

The firing had been delayed by about three weeks since the satellite's attitude and spin rate after separation were not as expected.

Indeed, whilst separation and orbital injection of the ECS 1 satellite were perfect, the first acquisition of telemetry from the OSCAR-10 satellite five hours after launch indicated that there were gross errors in attitude and spin rate. The satellite authority took rapid and effective action to guarantee the immediate survival of the satellite so that the situation could be analysed and further corrective action taken.

During the past weeks, the AMSAT project authority has established full control of the satellite and brought it into the correct attitude for a first firing of the restartable liquid propellant apogee motor. In doing so, the AMSAT project authority has demonstrated the extraordinary operational flexibility of the design of its satellite and of the people who operate it.

Examination of the launcher telemetry has shown that the dual launch system SYLDA had functioned nominally and that the original separation parameters (including satellite attitude and spin) had been correct. This fact has later been confirmed by stored satellite telemetry data.

Detailed investigation of both launcher and satellite data indicates with a high degree of probability, that 53 seconds after separation the third stage caught up with the satellite; this would explain the attitude and spin rate anomalies observed subsequent to separation. This supposition of a physical contact is reinforced by observation of small shocks registered at that time by launcher vibration sensors and by indications that at least one of the satellite's antennas is slightly damaged.

The most likely reason that the third stage caught up with the satellite is that the thrust due to programmed venting of the oxygen tank was significantly higher than predicted and annulled the margins taken for setting up the sequence of orientation manoeuvres.

Following separation of each satellite, the Ariane third stage performs an attitude and spin change programme, which is then followed by a lateral distancing manoeuvre of this stage.

This sequence includes opening and closing of the third stage oxygen vent valves to control residual tank pressure and to provide thrust for the distancing manoeuvre.

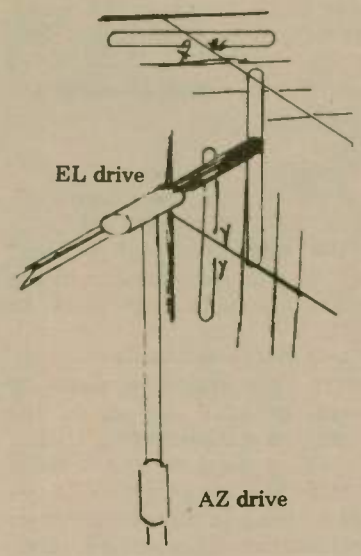
For future launches, the higher residual thrust level and additional margins will be taken into account, and the sequence of operations will be adjusted accordingly so that this kind of problem will not be encountered again.

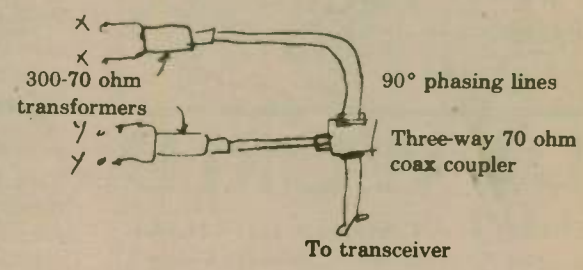
We have been listening to the AMSAT/OSCAR-10 beacons every evening, using our ICOM 260A and the pair of canted 5-element 2-meter beams shown in the illustration on this page. The beam is on an AZ-EL mount which also includes a loop Yagi for the 23 cm, L- band and another for the 10 cm band. The latter band is occasionally used by the AMSAT/UK OSCAR-9.

To obtain data one listens to the AMSAT nets which give the Keplerian Elements for the orbit of the AMSAT/OSCAR-10. As an example the listing below was for 17 July:

Satellite: OSCAR-10 Catalog No. 14129 DC-9
Epoch time: 83 198.0 July 17 00;00
Inclination: 25.8731°
RA of node: 250.0137°
Eccentricity: 0.6043432
Arg of perigee: 187.3701
Mean anomaly: 333.5787

(please turn to page 23)





Two-meter circularly polarized beam construction

AMSAT

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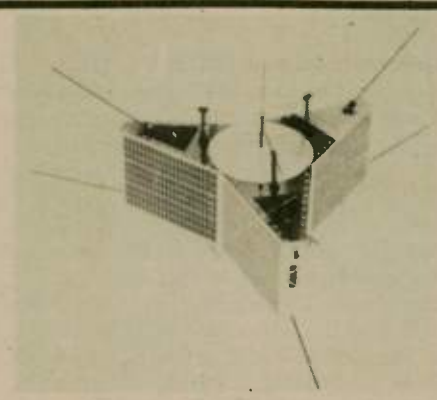

Dear Fellow Radio Amateur:

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

Yes, I want to be a member of the AMSAT Team and receive ORBIT Magazine. Enclosed are my dues of $24 ($26 overseas) for 1983 ($600 for Life Membership).

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World Radio History

DX WORLD

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

Activities Calendar

27-28 August	JARL All Asia Contest (CW)
10-11 September	DARC European DX Contest (SSB)
29-30 October	CQ World Wide DX Contest (SSB)
12-13 November	DARC European DX Contest (RTTY)
26-27 November	CQ World Wide DX Contest (CW)

W-100-N

210. YB2BLI	Niko Indarto
211. W8UMP	David T. Holmes, Jr.
212. KK2J	Hugh P. Dickinson
213. WA4GFG	Frank C. Goodell

Niko is the first station from Indonesia to apply for this award and he was the second station to apply for this award using only RTTY.

Uzbek (UI8)

The Soviet republics are always in demand, especially those rare Asian regions. This country is represented by such active stations as UI8ADF, who has been worked 14.018 to 14.027 MHz around 0100 UTC; UI8LAC on 14.018 MHz from 0200 UTC; UI8CB on 14.027 MHz after 0100 UTC; UI8AEK on 14.032 MHz after 2300 UTC; UI8OK on 14.027 MHz from 0100 UTC; and UI8LBA on 14.036 MHz at 0100 UTC.

Anti-CW types might check 14.203 MHz after 0100 UTC for UI8OAA. There are other stations operating SSB from Uzbek, although none have been reported in the various DX newsletters.

Kazakh (UL7)

UL7EAQ, UL7PEI and UL7FD have been busy on 20-meter CW between 14.013 and 14.045 MHz after 0200 UTC, while on 15 meters we have UL7MAR on 21.031 MHz from 0200 UTC, UL7LAW on 21.027 MHz from 1500 UTC, and UL7MG on 21.016 MHz from 1500 UTC.

Chad (TT8)

Othmar TT8AD appears to have routine operating habits as reported in *DX News Sheet*, which is as follows:

Wednesday	21.060 MHz from 2100 UTC for North and South America
Friday	21.060 MHz from 1700 UTC for Europe 14.075 MHz from 1800 UTC for Europe
Sunday	28.060 MHz from 1000 UTC for all

He is flexible as he has been reported on 21.017 MHz at 0200 UTC, and has been found on 40 meters at 0300 UTC operating on 7.025 MHz.

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2-BAND NO TRAP DIPOLE 80 & 40M • 84 ft. long	$ 49.00 frt ppd

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Prefixes

The period 17-19 June saw the operation of EJ0WCY from Aran Island. The group operation was to have consisted of 12 operators and was another one of the World Communications Year special event stations.

As of 1 November, Senegal will modify the prefix of 6W8 and convert it into eight call districts, 6W1 through 6W8, with 6W9 and 6W0 reserved for club stations. Also, from that date until the end of the year, Senegal amateurs may elect to substitute the 6V1 through 6V0 prefix in lieu of the new call assignments.

The Soviets have also been throwing some unusual prefixes out on to the bands. Recently, a station signing UU2M was busy working the deserving — most likely the same station as UK2BBB. A couple of weeks prior to that there was an RM9M. This station requested QSL cards via Radio Club, Omsk, UK9MAA.

Soviet oblasts

Willy UA4WBJ and Alf UA4WCE were scheduled to activate Oblast 141, Komi-Permyak Autonomous Region, during the month of July. This operation, UK4WAE/U9G, was reported to have been set up in Kudymkar City, the capital of the oblast.

If you worked any of those EK9 stations, (EK9C/1, EK9D/1 or EK9E/1), you may have worked one of the rarer oblasts. The calls were used by a six-man DXpedition, including 50 dogs, that made the entire trip around the north coast of the USSR.

Egypt (SU)

The Kansas DX Association reports a newcomer to Amateur Radio. Maggi SU1MR is the daughter of Ezzat Ramadan, SU1ER, and is 15 years old — the youngest of Egypt's three YL operators. Look for Maggi and her father near 7.080, 14.280, 21.380 and 28.580 MHz. QSL cards for SU1MR and SU1ER should be sent to P.O. Box 33, Air Port, Cairo, EGYPT.

Clipperton Island (FO8)

Club Oceanien de Radio et d'Astronomie is to sponsor a DXpedition to Clipperton Island during the month of August. *The ARRL Letter* reports that the operators will include FO8GM, FO8IW, K1CC, N6PO, W6OAT, W6SZN, WA6AHF and WB6GFJ. We have no other information as of this writing.

The last DXpedition to Clipperton Island was the latter part of March 1978, that included F5II, F6AOI, F6AQO, F6ARC, F6BBJ, F9JS, HB9AEE, HB9AHL, HE9SWL, WA4WME, W6HVN, N6IC, W6QKI, W6SO and WA9INK. Several different calls were used, two of them being FO0XF and FO0XH. The last of those listed calls was that of the former DX Editor for **Worldradio.**

Pribilov Island (KL7)

The *DX News Sheet* reports that the Alaska DX Association is planning a visit to the Pribilov Islands near the end of September. The islands are located approximately 300 miles north of the Aleutians and about 300 miles from the Alaskan mainland.

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Are you tired of the same old standardized QSL cards? Do you have your own idea for a card? Do you want a photograph QSL? You can have a card that fits you, for less than you might think. Call or write for details and free samples. Standard styles also available.
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Here is that VK9ZR Mellish Reef/ Willis Island DXpedition team from last year. From left to right: Franz Langner, DJ9ZB; Harry Mead, VK2BJL; Fernando Martin, EA8AK; and Bruce Johnson, VK3DHT. Not pictured is Jack Binder, KB7NW. The Coral Sea Expedition 1982 made 20,133 contacts on all bands, 80 through 6 meters, on CW and SSB. ***(Photo courtesy of VK2BJL)***

Applications for separate DXCC status have been denied on the grounds that they were part of the Aleutian chain and there was insufficient separation by open water. A new application is to be filed with evidence that the Pribilovs are distinct from the Aleutians, in the hope that the 250-mile rule can be invoked.

Jarvis Island (KH5)

Jarvis Island counts the same as Palmyra Island, which is private property. The last DXpedition to Palmyra Island was not accepted for DXCC credit as the group failed to obtain proper clearance for landing. The owners of the island are a bit cool to DXpeditions due to the crash on landing of the K6LPL team a few years back; as a result, the owners have been sued by the injured party.

Rumors are out that a group of DXers are planning a visit to Jarvis Island, but when and who is unknown at the time.

Guantanamo Bay (KG4)

When the FCC came up with their new call sign assignments, many a DXer thought he worked one of those rare KB6 calls, when he really only worked a new Advanced Class holder in California. The same applied in the fourth call area with the KG4 block. The only thing is that it only applied to the "two by one" block of KG4. The "two by two" KG4 calls are still Guantanamo Bay, Cuba.

There are several active stations from Guantanamo, including Gary KG4DX, who is active in contests and 160 meters; Gary KG4GN, who is mostly on 20 meters with phone patches; Tony KG4AW, who is a daytime operator between 10 and 20 meters; Charlie Grall, KG4CC, who likes the pileups on 15 and 20 meters. RTTY fans should look for KG4AH and KG4WS. Another station, KG4TM, is active on 40 meters.

Another call, not in the above list, is KG4CD, who was active on CW in the recent IARU Radio Sport.

ATTN: World Travelers
AT Last! A monthly publication for the frequent globetrotter. Latest news on customs, currency, laws, air fares, charters. Columns on cruises, sports, lodging, tours, shopping, health, solo travel, dining, art and much more. Observations by our readers exchanging the good and the bad. We "tell it like it is." One-year subscription only $10.00. Your satisfaction is guaranteed. **International Travel News**, 2120 28th St., #189 Sacramento, CA 95818.
international travel NEWS

Kiribati (T3)

This country is divided into three DXCC type countries, with a distinctive prefix for each. West Kiribati, formerly Gilbert and Ocean Islands, is defined by the prefix T30; Central Kiribati, formerly the British Phoenix Islands, is defined by the prefix T31; and East Kiribati, formerly the Line Islands, is defined by the prefix T32.

On West Kiribati, T30DB has been very active and has been found on 21.157 MHz at 1230 UTC working Europeans, 14.195 MHz at 1200 UTC, 21.292 MHz after 1900 UTC, and 14.310 MHz between 0300 and 0400 UTC. Keeping him company is T30AT, who has been down on CW on 14.019 MHz after 0800 UTC.

Look for T32AF, who has been worked on 14.215 MHz at 0730 UTC and on 7.008 MHz at 0500 UTC. Also from East Kiribati is T32AB, who has been worked on 21.006 MHz at 2400 UTC. Central Kiribati has been represented by T31AF on 14.015 MHz after 0800 UTC.

Papua New Guinea (P29)

Much activity is on the bands from this former Australian Territories of New Guinea and Papua Territory, formerly with the prefix of VK9. Only thing is that to work these stations you should be on the bands after 1000 UTC. After 1100 UTC, you might make contact with such stations as P29SO in the 14.150 to 14.175 MHz slot, P29AX near 14.170 MHz, or P29LB on 14.225 MHz.

Then after 1200 UTC, check the YL Open House on 14.332 MHz for P29JM, or possibly P29RM on 14.175 MHz. Down on CW, look for P29BR on 14.039 MHz.

If that 1100 to 1200 UTC period is unrealistic on your part, you might try looking for P29CF on 14.216 MHz after 0700 UTC. And if you wish to work a Novice station, look for P29NSF. This station was reported working Europeans on 21.157 MHz around 1050 UTC.

West Malaysia (9M2)

These stations seem to be active those same hours. 9M2MO works both modes and has been found on 14.025 MHz at 1200 UTC and an hour or so later working SSB on 14.206 MHz.

Near the 14.200 MHz mark, look for 9M2RD from 1200 UTC, 9M2OK from 1400 UTC and 9M2HZ from 1500 UTC. Further up the band near 14.211 MHz, 9M2BB was working the deserving after 1500 UTC with 9M2HB working on 14.225 MHz.

Indonesia (YB)

Check the 15-meter band between 21.290 and 21.325 MHz after 1500 UTC for YC1WS, YC5AK and YC0CN. On CW near 21.030 MHz after 1200 UTC, YB5ASO has been found. This station has also been active both CW and SSB on 20 meters, near 14.025 and 14.195 MHz. Also look for YC6TT who has been found on 21.242 MHz at 1800 UTC.

Other active SSB stations on 20 meters include YB0ARK near 14.211 MHz from 1100 UTC, YB2CR on 14.218 MHz from 1200 UTC, YB0ARC on 14.228 MHz from 1100 UTC and YB0ADW on 14.180 MHz from 0100 UTC.

Twenty-meter CW stations include that of YB0AFA who has been found between 14.023 and 14.027 MHz after 1200 UTC.

The DX Bulletin reports that recently 2,000 prospective "YD" licensees showed up to take their exams one weekend.

World Radio History

Greasing of palms is part of the r' especially where the CW test is cerned, so a great amount of CW from i. donesia should not have been expected.

Another NCDXF beacon

The Northern California DX Foundation (NCDXF) recently announced the addition of another NCDXF beacon at Helsinki University of Technology. As part of national events associated with the World Communications Year 1983 under United Nations auspices, the OH2B beacon was officially inaugurated March 1983, which will be the North Europe link in a worldwide beacon net established by the NCDXF.

SRAL President Axel Tigerstedt, OH5NW, stated that many league members will be future students at the University, and he thanked Professor Rahko, OH2PZ, for the excellent cooperation extended and for ongoing maintenance of the beacon station. As spokesman for the more than 100 Finnish radio amateurs who are members of NCDXF, Tigerstedt expressed gratitude to the Foundation for locating its beacon in Finland. (See August 1983 **Worldradio**, page 3.)

So, you think you are a DXer!

The following quiz appeared in the May issue of *The Beam*, the official newsletter of the Stark DX Association, and was prepared by Bob Fain, KC8PX, president of the SDXA. Bob says that he had given a great deal of thought to the following questions, and admits not everyone will agree with the answers. Although the questions in some cases are directed at SDXA club members, they should be applicable to anyone anywhere. The answers will be printed in the next issue of **Worldradio**. Now, the test.

1. You tune across the band, find a large pileup on 14.220. After a few minutes you still haven't heard the DX call yet. Your first reaction is to:

A) Call on the frequency and ask what country the list is for.

B) Run your receiver down to 14.200 to see if the DX station is working split.

C) Start throwing your call into the pileup.

D) Tune in on 146.51 (or your own club's frequency), and get the information from your friends.

2. Your buddy across town is in contact with TN9DX, and is about to say 73. You should:

A) Break into the QSO.

B) Ask your buddy to have the DX station stand by for you.

C) Ask your buddy to run a list for the TN9.

D) Get ready to call the TN9 when your buddy is done.

3. You are an 8. The W6's and W7's are working 9V1VP on 20 SSB with 5 and 9 both ways. You hear him 5 and 3. You should:

A) Try to get a W6 to ask the DX to listen for the 8th district.

B) Call as much as you can, hoping to get your call through the mess or to scare off the competition.

C) Bide your time and throw in your call at well-placed intervals.

D) Wait until the propagation changes, or until he calls for 8's.

4. AH9AA on Wake Island has shown up on the West Coast DX Net. The net control is taking three calls from each district. You have a tri-bander and 100 watts. The best thing for you to do is to:

A) Try to get on the list.

B) Wait until one of your friends with a KW can dump your call in.

C) Listen to the net process, and if the AH9's plans change, be prepared to act accordingly.

D) Call to the DX station whenever you can — net or no net.

5. You are trying to work a UA1PAA in Franz Josef Land on 20 SSB. All of a sudden he disappears. You should:

A) Keep calling; he might come back in five or 10 minutes.

B) Tune around the bands in case he made a change of frequencies.

C) Tell everyone you just worked the UA1 on 15 CW so you can have the frequency to yourself in case he comes back on.

D) Realize that he went QRT; he's gone.

6. ZK1NC on North Cook has just shown, up 3 kHz from the Morning List Net. You should:

A) Ask him to stop QRMing the net and to QSY in a nice way.

B) Work him and move him up 5 kHz more.

C) Work him and leave; 3 kHz is enough separation for the list net anyway.

D) Ask him to join the net.

7. It is 10 minutes before YI1BGD in Iraq comes on the frequency for a schedule to work a list. It is being taken by a K4, so you should:

A) Call in and get on the list, even if you can't hear the K4.

B) Move down from the scheduled frequency just a little and call the YI1; maybe he will think it was planned that way and you will work him first.

C) Listen on the frequency to see if the list will be taken by someone you can copy.

D) Tune up on the frequency; say OOOLA three times; make random noises and then tell everyone on the net you will volunteer to be the policeman for the net frequency today. You will earn everyone's respect and keep all entertained.

8. You have made it through a big pileup to

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• Broadband • No Tune Up • Full Break-in CW • 150 Watts PEP, SSB or CW Input •
• High Dynamic Range • Excellent Sensitivity/Selectivity • Digital Readout •
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A passive double balanced mixer is employed in the receiver front end. This stage is preceeded by a low noise high dynamic range bipolar rf amplifier to provide good, strong signal performance and weak signal sensitivity.

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A rugged, solid-state PA provides continuous duty in SSB and CW modes. A cooling fan (FA7) is available for more demanding duty cycles, such as SSTV or RTTY. The PA also features very low harmonic and spurious output.

VOX GAIN, VOX DELAY, VOX disable, QSK, selectable AGC time constants, RIT and noise blanker selection are front panel controlled for ease of operation.

The TR5 is designed with modular construction techniques for easy accessibility and service.

GENERAL

Frequency Coverage: 1.8-2.0*, 3.5-4.0, 7.0-7.5, 10.0-10.5, 14.0-14.5, 18.0-18.5*, 21.0-21.5, 24.5-25.0*, 28.0-28.5*, 28.5-29.0, 29.0-29.7* MHz. (*With accessory range crystal).

Modes of Operation: Usb, Lsb, Cw.

Frequency Stability: Less than 1 kHz drift first hour. Less than 150 Hz per hour drift after first hour. Less than 100 Hz change for a ± 10% line voltage change.

Readout Accuracy: ± 10 ppm ± 100 Hz.

Power Requirements: 13.6 V-dc regulated, 2 A. 12 to 16 V-dc unregulated, 0.8 V rms maximum ripple, 15 A.

Dimensions:
Depth: 12.5 In (31.75 cm), excluding knobs and connectors.
Width: 13.6 in. (34.6 cm).
Height: 4.6 In. (11.7 cm) excluding feet.

Weight: 14 lb. (6.35 kg)

TRANSMITTER

Power Input (Nominal): 150 Watts, PEP or Cw.

Load Impedance: 50 ohms.

Spurious and Harmonic Output: Greater than 40 dB down.

Intermodulation Distortion: Greater than 30 dB below PEP.

Carrier Suppression: Greater than 50 dB.

Undesired Sideband Suppression: Greater than 60 dB at 1 kHz.

Duty Cycle:
Ssb, Cw: 100%.
Lock Key (w/o FA7 Fan): 30%, 5 minutes maximum transmit.
Lock Key (w/FA7 Fan): 100%.

Microphone Input: High Impedance.

Cw Keying: Instantaneous full break-in, adjustable delay.

RECEIVER

Sensitivity: Less than 0.5 uV for 10 dB S + N/N except less than 1.0 uV, 1.8-2.0 MHz.

Selectivity: 2.3 kHz minimum at – 6 dB. 4.1 kHz maximum at – 60 dB (1.8:1 shape factor).

Ultimate Selectivity: Greater than – 95 dB.

Agc: Less than 5 dB output variation for 100 dB input signal change, referenced to agc threshold.

Intermodulation: (20 kHz or greater spacing) *Intercept Point:* Greater than 0 dBm. *Two-Tone Dynamic Range:* Greater than 85 dB.

I-f Frequency: 5.645 MHz.

I-f Rejection: 50 dB, minimum.

Image Rejection: 60 dB, minimum below 14 MHz. 50 dB, minimum above 14 MHz.

Audio Output: 2 watts, minimum @ less than 10% THD (4 ohm load).

Spurious Response: Greater than 60 dB down.

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World Radio History

9X5RH on SSB. You should now:

A) Ask him if you can run a list for him.

B) Make your call with him as short as possible so others can work him also.

C) Talk to him about the new rig you are planning to purchase.

D) Ask him to listen for one of your friends.

9. You have been looking for A76XD on CW for several months now with no luck. You are at home; right time of the day and conditions are right, but he isn't on the frequency as usual today. You should:

A) Tune around the band and see if he is elsewhere to be found.

B) Write him and ask for a schedule.

C) Chase everyone else off the frequency by claiming it's busy; you need a clear channel for this one.

D) Listen on his usual frequency and call him occasionally; he might be listening.

10. You hear VK9XJ on Christmas Island on 14.025 working "up". You should:

A) Just find a place up a few kHz and call him until you get him.

B) Try to determine his tuning pattern and call him only after you have a clue to it.

C) Always tail-end on top of the guy he's working.

D) Always call him 1 kHz up from the guy he's working.

11. JA6EDZ/S2 is 4 and 3, and you hear him come back to what you think is your call, but you're not sure. You should:

A) Give him a report, and ask him to confirm your report once more.

B) Forget it; work another S2 on a list.

C) Keep on calling him to get a more solid QSO.

D) Try again next week.

12. You are working a weak one with lots of QRM in a big pileup. You've heard him come back to your call, but you haven't gotten his report to you. You should:

A) Write down what someone else relays to you and let it go at that.

B) Just forget it; if he came back to your call, that is sufficient to count.

C) Keep asking him to repeat your report until you get it.

D) Ask him to QSY off frequency so you can exchange reports without QRM.

13. You worked 3V8AA last month. There he is again, 5 and 9 plus. There is a big pileup so you should:

A) Look for someone else while the rest are busy trying to make contact.

B) Work him again to flex your muscle in a pileup and to thank him for a QSL.

C) Stick around to keep the frequency clear.

D) Work him again and offer to run a list to help him with the pileup and to show the others how good you are.

14. You hear C21DF call QRZ, and all hell breaks loose on the band. After a few minutes of almost non-stop calling, you still aren't sure who he has answered. You should:

A) Assume that he called YOU; call him and give your info so that the rest of the guys on the band will think you got him and stop calling.

B) Ask everyone on the band to "SHUT-UP" so that you and the others will hear him come back.

C) Be patient; wait until the commotion dies down and throw in your call again.

D) Ask the DX station to work by call districts so all will have a chance.

15. Someone is QRMing OJ0XX on 14.145 while he is working in the USA part of the band. You should:

A) Go down to 14.145 and tell the turkey that is QRMing to "shut-up".

B) When you work the OJ0, ask him to QSY so the others will be able to copy and work him.

C) Stick it out, and call when you hear the OJ0.

D) QSY to the OJ0's frequency and very politely ask the interfering station to please not QRM; he will be impressed by your sincerity and will stop.

Circle only one answer per question as there are no two "correct" answers per question. The answers will be given next month and broken down into four categories to classify your DX abilities. The categories will be as follows:

D. DXer First Class and definitely "Honor Roll" material.

C. On your way to becoming a *REAL* DXer.

B. You are not trying very hard.

A. A lid and *CLOSET* CBer.

Clubs

New officers of the Northern California DX Club (NCDXC) include Chuck Patterson, K6RK, president; Lou Beaudet, K6TMB, vice president; Josephine Clarke, WB6ZUC, secretary; and Dick Letrich, WB6WKM, treasurer. The NCDXC meets the second Friday of each month at a San Francisco Bay Area restaurant — usually Harry's Hofbrau in Palo Alto.

Phone band expansion gripes

Jim Cain, K1TN, in his *The DX Bulletin* asked for comments on the recent expansion of amateur Extra Class licensees into the 20-meter SSB "DX Window." He got one reply that is incredible, and we have reproduced it below:

"effective immediately, cancel my subscription . . . and refund my money.

"The ARRL has took away my only interest in ham radio. I am interested only in SSB DXing. Most of my new countries are worked on the lower 25 kHz of the 20-meter band. Without this privilege, I don't need your publication.

"I agree with most of your comments, but I don't like them. The Advanced Class operators got a rotten deal. You have a good publication. I picked up several new countries based upon your information. I hope there are enough Extras to support it."

We have omitted the amateur's name and call as it would serve no purpose. I guess it never occurred to him that with the expansion, most likely the "DX Window" would also move down below 14.150 MHz.

Spratly news article

John W2HGX sent us a copy of the Spratly DXpedition news story that appeared in the **Bangkok Post Sunday**, 29 May 1983. It is the same story that appeared in the May 24th issue of **Straits Times**, a Singapore newspaper. Rather than rerun the article here, we will send a photocopy (reduced in physical size) to interested parties who will provide an SASE. Copies of the story in **Straits Times** appeared in the June issue of the *Kansas City DX Club Newsletter*, Mike Crabtree, AB0X, editor.

The Torshavn Award

The Torshavn Award (TTA) is available to all licensed radio amateurs for working stations in the Faroe Islands. All contacts must take place between 1 May 1983 and 1 January 1984. All modes count, and contacts may be made on any band, 3.5 MHz through 432 MHz (except contacts made on 10.0, 18.0 and 24.0 MHz). A total of 75 points must be collected and is broken down as follows:

MHz	European stations	Other stations
3.5	25	40
7.0	25	40
14.0	20	30
21.0	20	30
28.0	20	30
144.0	40	75
432.0	40	75

All contacts with club station OY6FRA count double on all bands.

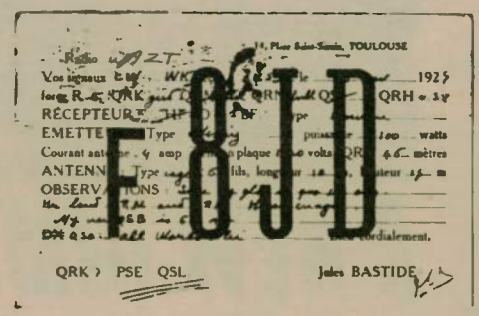
To apply for this award, sponsored by FØROYSKIR RADIOAMATØRAR, send a certified list of confirmed contacts with a fee of 10 IRCs to: FRA Award Manager, P.O. Box 343, 3800 Torshavn, FAROE ISLANDS.

Leon Tallman, W1JTI/OY1KH

Martin Haasen, OY7ML, reports that Leon Tallman, W1JTI, became a Silent Key on Sunday morning, 5 June, after a long time of illness. Martin says it was always a pleasure to have Leon visit him while in the Faroe Islands, operating under the call of OY1KH.

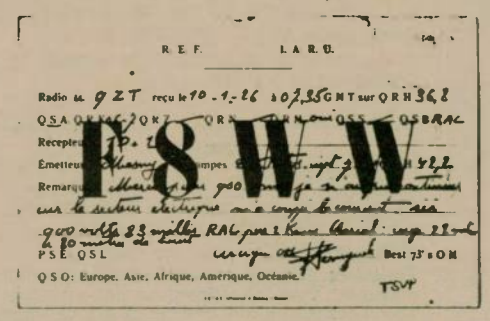
Antique QSL Department

There is nothing unusual about the two QSL cards this month. They are both from France and very old. Mr. DX himself, Don Wallace, W6AM, submitted these two items for contacts he made back in the 1920's.



The first card, F8JD, is for a contact Don made back in 1923. The station was located in Toulouse and mailed to him by 8CFT in Lewisburg, Pennsylvania. Don was living in Minneapolis at the time and came to California in September 1926.

The second card is for a contact Don made on 10 January 1926 with F8WW.



Notice that the call Don was using was U9ZT (or just plain 9ZT). The "U" was the unofficial addition to indicate United States, where the French unofficially added the "F". In those days there was no Ø call area; therefore, the 9 for Minnesota.

Don was a DXer long before most of us were born. I wonder if Don has a "TT" QSL in his collection from Tannu Tuva. This one was on the post-war DXCC list. Does anyone have one of those?

A letter was received from Henry Poole, K4MH, in regard to the NY2AE QSL that was in the July issue. Henry writes:

"I made the original linoleum plaque from which this card was printed. The 'NY' prefix was used by Navy Amateur stations, the 'K5' prefix was used by the Army Amateurs. NY1 was assigned to the Balboa side, and NY2 was assigned to the Coco Solo side of the Canal. In addition, NY2AE was assigned for phone work, and NY2AC was assigned for CW.

"Fritts was a warrant officer attached to the Submarine Base. I have pictures in my files of the station which was built in a shack on the Submarine Base, near the water tower. The original antenna was 160 feet high at one end, 70 feet high on the other, a 266 foot end-fed Zepp, open wire feeders. The transmitter used a pair of 860's and about 4000 volts on the plate. The power supply consisted of eight receiver-type transformer cores, each wound with 500 volts, stood up on insulators, hooked in series and bridge-rectified with mercury vapor tubes."

QSL information

In the July issue, Chuck Kerney, W6ONX, mentioned working William

Propagation

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

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

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

OCTOBER 1983

UTC	AFRI	ASIA	OCEA	EURO	SO AM
0100	22.4	29.9	31.0	11.7	24.4
0200	17.2	26.1	31.4	11.7	20.5
0300	14.8	22.3	27.8	10.3	17.7
0400	13.7	19.2	23.8	9.1	16.2
0500	12.6	16.7	20.9	9.4	15.7
0600	12.3	14.9	19.2	10.7	16.0
0700	12.1	13.8	18.2	11.8	16.7
0800	11.6	13.2	17.2	12.0	16.8
0900	10.9	13.1	16.2	11.8	17.0
1000	10.0	13.6	16.1	11.2	15.3
1100	9.6	14.0	16.1	10.4	13.5
1200	10.6	13.4	15.0	10.6	14.0
1300	13.6	12.5	13.5	12.7	18.2
1400	17.5	13.5	14.6	16.5	24.0
1500	20.7	15.3	19.6	20.3	28.3
1600	22.7	14.9	17.5	22.8	30.1
1700	24.3	14.4	15.8	22.7	30.7
1800	26.1	14.7	16.3	20.6	31.6
1900	27.6	16.5	19.6	17.9	32.9
2000	28.7	20.3	23.7	15.1	33.6
2100	29.4	25.6	26.5	13.1	32.1
2200	29.5	30.7	27.8	12.1	30.1
2300	28.3	32.2	28.6	12.7	28.2
2400	25.8	32.1	29.8	11.8	26.8

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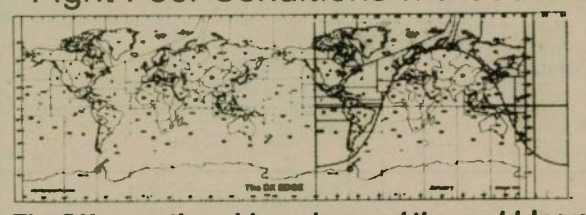

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World Radio History

Bartow Sr., W2DJY/MM, who he thought was to be off of "Ankros Island." Reader, Pierce Jensen, NB6Y/C6A, responds: "W6ONX probably worked a yacht off Andros Island, not Ankros Island, which is in the Bahamas." Also, in the same mail, I received a note from Chuck, who said he has worked W2DJM/MM twice since then. Chuck also corrects the error with Andros Island, the largest island in the Bahamas. W2DJM/MM is reported to be on the M/Y *United Nations,* a $52 million luxury yacht used by foreign diplomats and that he is a United Nations technical advisory chairman to the Republic of China.

Chuck also forwarded an old QSL card from Peter Onnigian, W6QEU, one of Worldradio's reporters. Chuck says the contact took place around 1939 or 1940. I gave it to Peter and you should have seen his eyes light up when he saw this old card of his. This got me to thinking: do any of you readers have one of my old K2IKS QSL cards?

San Hutson, K5YY, forwarded a note from an amateur who thought San was QSL manager for 9V1VP. It seems I listed San as QSL manager in the June issue. San only operated from 9V1VP during the period of 15-17 March, and handled QSL cards only for the contacts he made himself. The last issue of Worldradio should have the latest QSL information for 9V1VP straight.

Elsewhere in Worldradio's June issue, San's picture was printed with the caption of receiving a special award. That special award was a plaque honoring San's induction into the CQ DX Hall of Fame. We apologize at Worldradio for not giving San the due credit he deserves. This was brought to our attention by John Attaway, K4IIF, chairman of the CQ DX Awards Advisory Committee.

QSL routes

A22BW	—DK3KD	I2DMK/IG9	—I2MQP
A22BY	—DK3KD	I2BVS/IG9	—I2MQP
A35EL	—OE2DYL	I8UDB/ID8	—I8UDB
A35MJ	—KA7GLS	IJ6ONU	—I6FLD
A89LC	—SM4CWY	IO9GSF	—IT9GSF
AX1ITU	—VK1MM	J28AZ	—I8JN
C6ACZ	—WB4OSN	J39AA	—WB2LCH
C30LAA	—EA5AQX	J39BS	—WB2LCH
C30LAB	—EA5AQX	J39CM	—WB2LCH
C31NP	—EA3BNX	J88AQ	—W2MIG
C31XS	—F6CQU	JW0A	—LA5NM
C53AL	—KA2CDE	JY4MB	—WA4HNL
C53DF	—G3LQP	K8ZBY/J8	—K8ZBY
C53R	—G3LQP	KA4JRY/DU0	—KA4JRY
CE0ERY	—WB6WOD	KA8RCR/ HH5	—KC8JH
CE0ZAD	—WB6WOD	KA9IBG/PJ4	—WB2LCH
CE0ZZ	—CE2DZ	KB7IJ/KH2	—N7RO
CO2HS	—WB6QPG	KC6DT	—JE1CKA
CO7AM	—WB6QPG	KC6YA	—W9GW
CP6EL	—WB1DQC	KC7UU/5N6	—K6EDV
CR2CR	—CT2CR	KH0AC	—K7ZM
CT2EE	—WA7GXD	KP2AJ	—WB1GZW
CY1YX	—VE1AVX	KX6OA	—K6DSI
DA1WA/HB0	—KN6G	LG5LG	—LA7XB
DJ5PX/3A	—DJ5PX	LU4MDO/Z	—LU7MAY
DU7RLC	—VE2FGS	N4FHD/C6A	—N4FHD
EH3ITU	—EA3AOC	N5DNX/KH2	—N5FG
EI1CN	—W2KQJ	N6YK/V2A	—N0DH
EI8EK	—WA9AEA	N7EDK/5N7	—W7DHS
EK9D/1	—UK9CAE	NF5V/DU2	—K0LST
EL7A	—DL2GA	OD0A	—4X6DX
EL9B	—KD4ZS	ON5UM/LX	—ON5UM
FB8WH	—F6BFH	P29LB	—WB2FLB
FB8ZP	—F6KNO	PA3BZO/HB0	—PA3BZO
FB8ZQ	—F6GXB	PJ9EE	—WA2SPL
FG0DDV/FS	—W2QM	PP8ZAT	—KC8YW
FG0EQC/FS7	—PJ7ARI	PY0ZSD	—DA2ZH
FG0HVL/FS7	—F6AJA	RM9M	—UK9MAA
FK8CE	—K2ROR	T30AB	—W7YL
FK8DZ	—F6BFH	T30AT	—G3XZF
FM7CP	—FM7WQ	T30CJ	—VK3DAK
FM0HTR	—F6BEE	T77C	—M1C
FM0HVL	—F6AJA	TF5TP	—DL7MQ
FY7ESE	—DJ5KQ	TK6JUN	—F6AEV
FY7RKU	—DK4VW	TL8DR	—W2PD
G6ZY/EA6	—G6ZY	TL8GE	—F6FYD
GB2PG	—GM3DJS	TO2VX	—F2VX
GU4/N5RM	—N5RM	TO5RV/FC	—F5RV
GU5EOO	—DK9ZL	TO6DZU	—F6DZU
H44SH	—AD1S	TO7GAS	—FG7AS
HH2CQ	—W4MGX	TR8JD	—F6AJA
HH2MC	—KB4IT	UK1PGO	—UK3SAB
HH2VP	—W1FJ	VE8YQ	—WA9AEA
HI8CH	—WB2LCH	VK2WU	—WA2BFW
HI8RAU	—WB2LCH	VK5ATB	—WB2LCH
HK7UL	—N7RO	VK7AE	—W5ACE
HL9KE	—K4WSB	VP2M	—WB2LCH
HP1XEX	—DL1HH	VP2MIX	—W0IJN
HP1XJC	—NR4V	VP2MKM	—VE3DUS
HV3SJ	—I0DUD	VP2MKY	—KY5R
HW83BFI	—G6BFI	VP2MN	—WB2LCH
HZ1AB	—K8PYD	VP2MRA	—VE5RA
HZ1TC	—OE3YLK	VP2VA	—VE3MJ
VP5WJR	—KA5BPE	1S1CK	—DU1CK
VP8FX	—K4UEE	3D2CJ	—GW3JI
VQ9CI	—KE4OC	3D2ER	—W5RBO
VS6KH	—G4ISK	4K1D	—UF6FFF
VU2JXO	—WA3TLB	4K1F	—UQ2OC
W3TB/TF	—K1LJJ	4K1GDW	—UQ2GDW
W5RK/HP1	—W5RK	4N7M	—YU7GST
W6YB/3D6	—KB7VD	4N7NS	—YU7BPQ
WA8ZLJ/HB0	—DA2PP	4U8ITU	—F6EYS
XE1VIC	—KV8U	5B4MN	—VE7DLM
XT2AT	—OE8ENK	5H3DM	—G3NXR
XT2AW	—KN1DPS	5H3TL	—K8ZH
XT2BM	—WD4RHL	5V7WD	—WB4LFM
YB5AES	—W4BBP	5W1DZ	—WB2LVB
YB5ASO	—W4BBP	5Z4MX	—SM3CXS
YJ8TT	—K8TBW	6W8DR	—DJ4AS
YN4RCB	—WB8SSR	6Y5JT	—WB2LCH
Z21GN	—NY4X	6Y5MJ	—K8ZBY
ZB2CJ	—G3ATU	7P8CL	—SM5GOJ
ZD7WT	—ZD8TM	7P8CT	—G4GEE
ZF2CM	—K0BJ	7X5AB	—W2KF
ZK1CK	—ZL3AFH	8P6GG	—N4CTC
ZK1MA	—W6KNH	8P6KY	—K2QIE
ZK9WCY	—ZK2NU	8Q7BG	—DK4BY
ZL1AMO/C	—ZL1AMO	9K2BE	—G4GIR
ZL3TZ/C	—ZL3TZ	9M2HB	—N4FFN
ZL0AGS	—K7RDG	9U5JM	—F3LQ
ZP5XDW	—N4DW	9X5WP	—WB6VKD
ZY1JF	—PY1DOQ	9Y4IH	—WB3AKI

C21BD	—P.O. Box 225, REPUBLIC OF NAURU
EA5YU/EA8	—P.O. Box 789, Las Palmas, CANARY ISLANDS
EA9KQ	—P.O. Box 21, Melilla, SPAIN
EA9KS	—P.O. Box 278, Melilla, SPAIN
EL2FB	—American Embassy, APO New York, NY 09155
FM7WD	—P.O. Box 879, Fort de France, MARTINIQUE
J73YB	—P.O. Box 266, Roseau, DOMINICA
JY5HY	—P.O. Box 1977, Amman, JORDAN
K2KTT/PJ7	—George I. Rand, K2KTT, 313 East 10th Street, New York, NY 10009
KX6OB	—P.O. Box 1266, APO San Francisco, CA 96555
PZ1DV	—P.O. Box 9006, Paramaibo, SURINAM
SN0JP	—P.O. Box 150, Poznan 9, POLAND
T70A	—P.O. Box 1, REPUBLIC OF SAN MARINO
TJ1AF	—Lee Richter, B.P. 2878, Douala, CAMEROON
TR8CR	—P.O. Box 4356, Libreville, GABON
TR8JLD	—P.O. Box 484, Libreville, GABON
TT8AD	—Othmar Wigger, B.P. 815, N'Djamena, CHAD
TZ6BMA	—A. Povin, B.P. 198, Bamako, REPUBLIC OF MALI
UK4WAE/ U9G	—P.O. Box 15, Izhevsk, 426064, USSR *(See Note 1)*
VK9ND	—P.O. Box 279, Norfolk Island, 2899 AUSTRALIA
VS5GF	—P.O. Box 914, BSB, BRUNEI
YB0ARC	—P.O. Box 63, Jakarta, INDONESIA
YS9RVE	—P.O. Box 05-43, San Salvador, EL SALVADOR
3D6AK	—P.O. Box 361, Mbabane, SWAZILAND
5N2LED	—P.O. Box 4587, Kano, NIGERIA
5V7WI	—P.O. Box 1499, Lome, TOGO
5Z4CQ	—P.O. Box 444, APO New York, NY 09675
5Z4DA	—P.O. Box 35, APO New York, NY 09675
8P6QT	—P.O. Box 68, Bridgetown, BARBADOS

Notes

1. Normally all QSL cards for Soviets go via P.O. Box 88, Moscow. Perhaps there is a change of thinking over there.

Contributors this month included DXers W6AM, K4MH, W2HGX, KC8PX, K5YY, W6ONX, W9LNQ, K4IIF, OY7ML, DJ9ZB and VK2BJL. Several DX clubs also support this column by sending me their newsletters and I wish to thank those fine clubs: The Southern California DX Club, The Northern California DX Club, The Redwood Empire DX Association, The Stark DX Association, The Kansas DX Association, The Kansas City DX Club and The Western Washington DX Club.

Other sources of DX items come from the DX publications of *The Long Island DX Bulletin, The DX Bulletin* and the *DX News Sheet.* Lastly, I wish also to credit *The ARRL Letter* and the Northern California DX Foundation.

The bands sure have been stinko this summer and probably will be that way for a couple of years now. This can be an asset for 5BDXCC types as now we can concentrate on 80 and 40 for DX. That is where it's all at — where DX separates the men from the boys. 73 de John, N6JM

KB7HB is no longer QSL manager

In the summer of 1981, Rod Hallen, KB7NK (ex-WA7NEV), went to Ghana, Africa. He got the call sign of 9G1RT. In his travels he also picked up calls C5AZ, EL2AE, 5T5AZ and TU4BB. Rod was active from September 1980 until August 1981. I was his QSL manager for this period of time, for all his operations.

Rod has since left Africa, and my duties as QSL manager ended in August 1981. I still handle the QSLing for this period of time, but nothing after. I am now receiving cards for EL2AE, and I am not the manager.

PLEASE NOTE that I am no longer handling these station, as of August 1981. Thank you.

BOB CLAY, KB7HB
Sierra Vista, Arizona □

AMSAT

(continued from page 19)

Mean motion:	2.054847913
Decay rate:	0
Epoch rev:	71
Semi-major axis:	26106.267 km
Anom period:	699.545591
Apogee:	35505.270 km
Perigee:	3951.028 km

The elements listed above will permit the calculation of azimuth, elevation and range of the spacecraft from your location by adding your latitude and longitude into the computations if you also have the computer program for the highly elliptical orbit. Among other data being derived and transmitted on the ARRL W1AW and AMSAT nets are the orbital position of the spacecraft, its location for acquisition of the beacon signal (AOS) and the location of the Loss of Signal point (LOS). You might consider these OSCARTENRISE and OSCARTENSET ephemerides.

At the acquisition of the beacon, you will hear what sounds like a warbling low-frequency rumble (about 100 Hz). The General beacon on 145.810 MHz USB will transmit five minutes of CW on the hour and half hour, followed by 25 minutes of PSK Telemetry. Data processing boards have been designed by AMSAT and should soon be available for those interested.

From time to time, the General beacon will go off the air, and at that point — if you tune to the Engineering beacon on 145.987 MHz USB — you should hear it. It is several DB (perhaps as much as 6dB) louder than the General beacon. The signal is unmistakable and it seems that once you have pointed your antenna in the general direction of the spacecraft, the signals will be received from that general direction for at least five hours. When the spacecraft has been moved to its intended orbital inclination of about 51°, there will be about nine hours of access time. This probably will have occurred by the time you read this.

The dual 5-element beam was fabricated by cutting down a pair of FM antennas to length for the 2-meter band. They are interconnected by phasing lines between pairs of 300 and 70 ohm transformers used normally for TV sets and available at any TV parts store. The antenna array has been arranged for right-hand circular polarization.

If the final burn and orientation of the spacecraft have been completed by the time you read this, the transponder for the U-band (70cm to 2M) should be active, and you may be hearing CW and SSB communications in progress in the passband 145.825 to 145.975 MHz. Some of the checks being made currently by computer simulation indicate that West Coast to Europe, South America and Africa may become commonplace through A/0-10 for all of the nine-hour access time, any day. New Zealand, Australia and Japan may be in view at the same time. Get yourself ready for lots of DX via amateur communications satellite.

Second burn fails

A second burn attempt of the apogee kick motor aboard AMSAT/OSCAR-10 failed to ignite the engine rocket system. This occurred 26 July. As a result, the present orbit at an inclination of 26° referred to the equator will be the orbit of AMSAT/OSCAR-10 henceforth.

With this orbit at apogee, the communications through the transponders can be expected to permit Europe and Africa to contact the USA's East Coast and South America. At other times, New Zealand, South America, Japan and the USA will be able to communicate. Windows will be open for from five to eight hours. The transponder for U-band should be in operation by the time this reaches print. (70cm uplink — 2 meters downlink).

In our next column, we expect to have full operating details for accessing the U-transponder. Hopefully we will be able to report on personal contacts. hi hi □

When submitting photos, please *DO NOT* write on the backs of them — they often stain the fronts of other photos, making them unusable.

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IN THE NEW 25H MODEL

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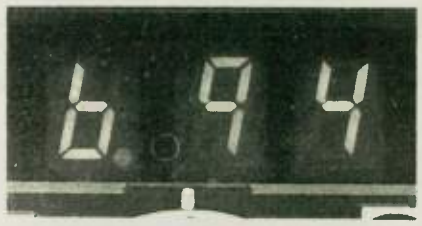

New Green LED. Easier to read in bright sunlight, and not glaring at night, the IC-25A(H)'s new readout provides good visibility under all conditions.

5 Memories. Instant access to most used frequencies. VFO A information is transferred to the selected memory by pushing the write button.

Priority Channel. Any memory channel may be monitored for activity on a sample basis, every 5 seconds, without disruption of a QSO conducted on a VFO frequency.

New HM14 Microphone. Smaller and lighter . . . the HM14 microphone provides a 16 button touchtone® pad as well as up and down scan buttons adding easy frequency control of the radio and additional tones for repeater control.

NOR/REV Capability. Use of this button in the duplex mode allows one touch monitoring of the repeater input frequency. If simplex operation is possible you will know instantly.

Scanning. Pushing the S/S button initiates the scan circuitry. With the mode switch in a memory position the unit will scan all 5 memories plus the 2 VFO frequencies. With the mode switch in a VFO position, the unit will scan the entire band or the portion of the band defined by memories 1 and 2. Full band scan or program band scan is selected from the front panel and internally switched scanning choices of adjustable delay period after a carrier is received then resume scan, or resume on carrier drop, are standard.

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45 Watts

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Only 3.7 in (H) x 9.5 in (W) x 10.8 in (D) will fit into most mobile operations (compact car, airplane, boat, or suitcase)

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Priced right to meet your budget as your main HF rig or as a second rig for mobile/portable operation.

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- Electronic dial lock, deactivates tuning knob for lock on, stay on frequency operation.
- One memory per band, for storage of your favorite frequency on each band.
- Dual VFO system built in standard at no extra cost.

Full Featured.

- 200W PEP input—powerful punch on SSB/CW (40 W out on AM)
- Receiver preamp built-in • VOX built-in
- Noise blanker (selectable time constant) standard
- Large RIT knob for easy mobile operation
- Amateur band coverage 10-80M including the new WARC bands
- Speech processor—built-in, standard (no extra cost)
- IF shift slide tuning standard (pass band tuning optional)
- Fully solid state for lower current drain
- Automatic protection circuit for finals under high SWR conditions
- Digital readout • Receives WWV • Selectable AGC
- Up/down tuning from optional microphone
- Handheld microphone standard (no extra cost)
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World Radio History

AWARDS

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

This month I would like to present to you some of the fine awards offered by the Radio Society of Great Britain, known to most of us as just RSGB. The major awards that appear in their program are: Commonwealth DX Certificate (CDXC), Commonwealth Transmission Award (BCRTA), British Commonwealth Certificate (WBC), DX Listeners Century Award (DXLCA) and IARU Region 1. There are other awards avaiable, but they are mostly designed for amateurs residing in the UK and using UHF, although some can be obtained by amateurs stateside via satellite.

I would suggest that if some of the awards described below have tickled your fancy, send to the RSGB for a complete up-to-date country listing. If you have the Directory of Certificates and Awards, the latest list also appears there.

CDXC

This award may be claimed by licensed amateurs worldwide who can submit evidence of two-way communications with amateurs located in 50 different commonwealth call areas on 14 MHz and 50 different commonwealth call areas on the rest of the bands for a total of 100 different confirmations. In the case of the "other" amateur bands, a particular call area may be claimed only once, irrespective of the band.

BCRTA

This award may be claimed by licensed amateurs worldwide who can submit evidence of two-way communications with at least 50 different commonwealth call areas as per the RSGB listing. There is also a 5-band version available for those interested in a real challenge.

WBC

This award may be claimed by any licensed amateurs worldwide who can submit evidence of confirmed contact with at least one commonwealth call area in each of the five recognized continental areas as defined by the IARU.

DXLCA

Here is one for our SWL fellowship. This award may be claimed by any person who can submit evidence of having received at least 100 different countries as per the RSGB countries list. Endorsement stickers are available for each additional 25 countries confirmed.

BCRRA

This SWL award may be claimed by any person submitting proof of reception of at least 50 commonwealth call areas. It is also available in a 5-band version.

IARU Region 1

This award is available to licensed amateurs worldwide who can submit evidence of two-way communications with at least 20 member countries of this region for Class 3. For Class 2, 35 different countries are required, and for Class 1 you must have confirmed them all.

Just a note on the CDXC. This is surely one of the most beautiful awards I have ever received. It measures 12-½" × 16" and is printed on a fine bond in at least six different colors. Well worth the work!

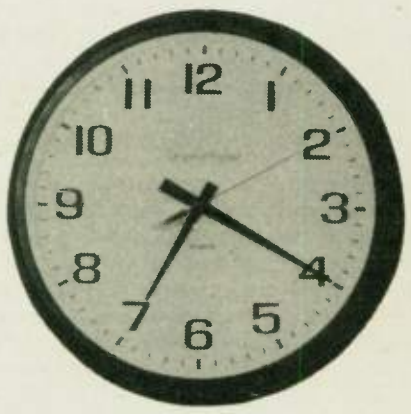
To obtain full details of the described awards, check your directory or write the Radio Society of Great Britain, 35 Doughty Street, London, WC1N 2AE, ENGLAND. Be sure to provide funds for return postage (2 IRCs should do it) and an SAE capable of holding the 8-½" × 11" information flyer with country list.

For those of you who are interested in their UHF award series, be sure to ask for the information on 4-2-70 Squares Award, 4 meters and down, the Microwave Award and the Microwave Squares Award.

Well, that's all from here for this month. Let's hope that by the next issue of our paper, the band conditions have gotten better. Until then, Best 73, Scott□

New Hawaii beacon

Paul Lieb, KH6HME, has added a new beacon to his collection on Mauna Loa, with 48 watts on 144.052 MHz, beaming to the mainland. (—Corky Kirk, W6ORS) *—Big Island ARC, HI* □



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65 E. Palatine Road
Prospect Heights, IL 60070
312-459-5760

JARL Awards program

Awards issued and requirements

All Japan Districts (AJD), SWL - All Japan Districts (SWL-AJD) — May be claimed for having contacted (heard) and received a QSL card from an amateur station located in each of the 10 call areas (1 through 0) of Japan.

Worked All Japan prefectures Award (WAJA), Heard All Japan prefectures Award (HAJA) — May be claimed for having contacted (heard) and received a QSL card from an amateur station located in each of the 47 prefectures of Japan. A list of QSL cards should be arranged in order of WAJA reference number; names of prefectures omissible.

Japan Century Cities (JCC), SWL - Japan Century Cities (SWL-JCC) — May be claimed for having contacted (heard) and received a QSL card from an amateur station located in each of at least 100 different cities of Japan. JCC-200, 300, 400, 500 and 600 will be issued as separate awards. A list of QSL cards should be arranged in order of JCC reference number; names of cities omissible.

Japan Century Guns (JCG), SWL - Japan Century Guns (SWL-JCG) — Same as the rules of JCC, cities replaced by guns. *WHAT IS THE GUN?* Japan has, as administrative districts, 47 prefectures, which are divided into cities, towns and villages. The gun, not being an administrative district, is a regional congregation of towns and villages.

Heard All Continents (HAC) — May be claimed for having heard and received a QSL card from an amateur station located in each of the six continents. The continental boundaries for IARU's WAC are standard, with a few exceptions in Asia which are shown in the Asian Countries List (listed with the JCC List).

Asian DX Award (ADXA), SWL-Asian DX Award (SWL-ADXA) — May be claimed for having contacted (heard) and received a QSL card from an amateur station located in each of at least 30 Asian countries including Japan. DXCC countries are standard, the Asian ones lumped in the Asian Countries List (listed with the JCC List). A list of QSL cards should be arranged in order of the listing of the Asian Countries List.

Worked All Cities Award (WACA), Heard All Cities Award (HACA) — May be claimed for having contacted (heard) and received a QSL card from an amateur station located in each of all the cities of Japan that are in existence on the day when the final contact (reception) claimed for the award is made. A list of QSL cards should be arranged in order of JCC reference number; names of cities omissible.

Worked All Guns Award (WAGA), Heard All Guns Award (HAGA) — Same as the rules of WACA; cities replaced by guns.

VU-1000, SWL-VU-1000 — May be claimed for having contacted (heard) and received a QSL card from each of at least 1,000 different amateur stations on the 50 MHz, 144 MHz and/or 430 MHz. For contacts with an additional 1,000 different stations, VU-2000, 3000 . . . will be issued. A list of QSL cards should be arranged in alphabetical order of prefix and then suffix. Only contacts made on and after 29 July 1977 will be acceptable.

In addition, the following awards will be issued. They may be claimed for having contacted (heard) and received a QSL card from each of different stations of the number required, on the frequency band

World Radio History

concerned: 50 MHz-100; 144 MHz-100; 430 MHz-100; 2300 MHz-10, 50, 100, 200, 300; 1200 MHz-10, 50, 100, 200, 300; 5600 MHz-10, 50, 100, 200, 300.

List for WAJA/HAJA

JA-JS, 7J, 8J District — Prefectures

1 Tokyo, Kanagawa, Chiba, Saitama, Ibaraki, Tochigi, Gunma, Yamanashi
2 Shizuoka, Gifu, Aichi, Mie
3 Kyoto, Shiga, Nara, Osaka, Wakayama, Hyogo
4 Okayama, Shimane, Yamaguchi, Tottori, Hiroshima
5 Kagawa, Tokushima, Ehime, Kochi
6 Fukuoka, Saga, Nagasaki, Kumamoto, Oita, Miyazaki, Kagoshima, Okinawa
7 Aomori, Iwate, Akita, Yamagata, Miyagi, Fukushima
8 Hokkaido
9 Toyama, Fukui, Ishikawa
0 Niigata, Nagano

*Cities and Guns list together with Asian countries list available for 3 IRCs.

General rules

Japan Amateur Radio League (JARL) awards will be issued to amateur stations and SWLs, but the HAC award is available only to SWLs. Each claim must be accompanied by a QSL card list, including call signs of stations worked (heard), dates, bands and modes of the contacts (receptions) that meet the requirements of the award concerned. The form of list will be specified, when required, in the rules of each award.

Each list must be accompanied by a statement from the applicant's national society or from any two amateurs other than the applicant that the QSL cards are correctly listed. If such a statement is not available, the applicant must submit all QSL cards concerned.

A fee of 8 IRCs will be charged per award; an additional 2 IRCs for air mail delivery, regardless of the number of awards claimed. If QSL cards are submitted, sufficient funds for return postage will also be required.

Endorsements may be requested for the following operating distinctions.

Awards: AJD, WAJA (HAJA), JCC, JCG, WACA (HACA), WAGA (HAGA); **Endorsements:** 1.9 MHz, 3.5 MHz (including 3.8 MHz, etc.), 7, 10, 14, 21, 28, 50, 144, 430 and 1200 MHz; CW, AM, SSB, FM, SSTV, RTTY, ATV, FAX, SATELLITE, QRP (1W input or less)

Award: HAC; **Endorsements:** 1.9, 3.5, 50 MHz; SSTV, RTTY, FAX

Award: ADXA; **Endorsements:** 1.9, 3.5; SSTV, RTTY, FAX

Awards: 1200, 2300 and 5600 MHz; **Endorsements:** CW, RTTY, SSTV, ATV, FAX

Award: VU-1000; **Endorsements:** 50, 144, 430 MHz; CW, RTTY, SSTV, ATV, FAX

Only contacts (receptions) made on or after 29 July 1952 will be acceptable, except in the following cases:

HACA, HAGA on or after 1 January 1970; endorsement for SATELLITE on or after 15 December 1972; endorsement for SSTV on or after 10 April 1973; endorsement for RTTY on or after 8 August 1968; contacts with amateur stations in Okinawa prefecture on or after 15 May 1972; VU-1000 on or after 29 July 1977; cities/guns out of existence, in case of JCC/JCG before the date of deletion mentioned in the JCC/JCG List.

Only contacts with land stations (including mobile stations on a river or lake) will be acceptable. Those with maritime and aeronautical stations, however, will be acceptable for the 50 MHz-100, 144 MHz-100, 435 MHz-100, 1200 MHz-10, 50, 100, 2300 MHz-10, 50, 100, 5600 MHz-10, 50, 100 and VU-1000 awards.

Only contacts with amateur stations authorized by the administration will be acceptable. Contacts with the Far East military auxiliary stations (KA prefix) in Japan will not be acceptable. All contacts must be made on land (river/lake) within a same call area or, if no call area exists, within a same country.

All correspondence should be sent to: Japan Amateur Radio League - Award Section, 1-14-2 Sugamo, Toshima, Tokyo 170, JAPAN. □

Bip Bachman receives NCDXC award

Peter Onnigian, W6QEU

The Northern California DX Club gave its 1982 DXer of the Year award to W.E. "Bip" Bachman, W6BIP, at the DX Convention in Visalia, California, last April. Bachman — who is 73 — is an active DXer, having worked 245 countries in the club's annual three-month summer DX Marathon in 1980.

The award reads, "NCDXC DXer of the Year Award, 1982. For Outstanding Contributions to DX and the NCDXC." It is that club's highest award.

Many will recall Bip's dedication in presenting talks to help the Amateur Radio fraternity clear up RFI problems. He has written much on its causes and cures, and is ready to help those who still experience such interference. □

The ART of Contesting

The long and short of a call

George Leone, K6SG

One day, while listening across the 20-meter/CW band, I came across a station calling CQ and decided I would give him (or her) a call, being in the mood for a good ragchew. After three CQs I expected to hear his call, but didn't, so I waited for one or two more. When he didn't sign, I decided to start counting how many CQs he would send before he signed his call, just for the fun of it! I was just about to give up after the 38th CQ when he signed his call. The urge was to answer him and read him off. Then I decided that maybe it was best to leave him alone. After all, I have been guilty of calling at least four consecutive CQs before signing my call, haven't you? And maybe four CQs is a long call for someone listening! So, what is a "long call"? I suppose it depends upon who's calling, who's listening and the conditions prevailing at the time.

If you listen around much, you'll find that the length of a CQ call is often related to the response. The first CQ may be two series of 3 × 2 or 3 × 3. No response! Next CQ call will invariably be longer, probably like series of 5 × 3 or more. No response! The next call will be even longer, etc. But if a response is received on that first CQ, when that QSO is over, chances are you will hear QRZ?, which will prompt another reply! Why is it so difficult, then, to limit CQ calls to, say, one or two series of 3 × 2, 3 × 3 or even 2 × 1 calls? If you don't get results on the first round, keep sending these short calls. The results will be gratifying.

Of course, it's an entirely different ballgame when calling in a pile-up. It seems that one prevalent belief is that if you're the last one to stop calling, you're the one the DX station will answer! Maybe yes, and maybe no. Yes, I suppose, if you happen to be "King of the Mountain" of QRM and obviously the only call the DX station can get out of the mess. But most likely no, because he will have already picked out a call and gone ahead with the QSO while you're still calling, much to the consternation of all listening.

A long call in a pile-up may consist of sending one's call more than two times. Often, these long calls prompt a series of actions not exemplary of good operating practices, such as calling the offending station "Lid," "SOB" and other expressions of despair which I will not repeat. This additional QRM adds salt to the wound, and occasionally some disgruntled individual will deliberately QRM the DX station's frequency. And, as you well know, QRM begets QRM. Along comes the well-meaning person with "Pse QSY"; another with "you lid QSY" etc., etc., etc. and now nobody can work the station!

Somehow, things usually get back to normal, thanks to the majority of operators who have kept their *COOL!*

Long calls or CQs do not get replies from me. By the time the long caller signs, I can find another station and be in QSO. Even if conditions are poor, one or more short calls are more likely to produce results before one long call.

Equaling or exceeding the effect of the "long call" is the "slooow looong caaall." Generally, most operators transmit at speeds they are capable of receiving. Some callers believe the slower and longer they call, the more apt a DX station is to hear them. (I used to think so. I remember in the early '30s when I was just a kid, I'd stay up when the moon was full, to work DX in the small hours of the morning, with 10 watts, straight key and Zepp antenna. I'd send those long, slow CQs. I felt great, but I don't think I worked any more or better DX than if I had sent at my usual 18-20 wpm! And sent shorter CQs! Live and learn.)

I have found that sending one's call once or twice at the DX station's speed on CW, or once phonetically, consistently produces results.

It is a good idea to listen for a moment or two before entering into a pile-up to get the pattern of the operation. Generally, in a contest it is best to give your entire call rather than just the suffix letters. If he misses part of your call, he will let you know. If he comes back with your full call, all you have to do is give him the exchange and you are both off and running.

In routine DX pile-ups, you play as the DX station desires. Some take suffix letters from four, five or more stations and then call the roll. Give yours once or twice at well-timed points, and you will be almost sure to get on the roll call. DX stations working one station at a time generally prefer your full call. If he is picking out suffix letters only, the first time around, he will generally say so. If he is working by districts, wait for him to call yours, as painful as it may seem to wait.

No "tail" about the long and short of a call would be complete without a few words about "tail-ending." Now, what is "tail-ending"? Some operators believe tail ending can take place any time after a QSO has started — i.e., at the start, middle or end of a QSO. So they begin to drop their calls anytime they feel like it, whether the DX station is listening or transmitting doesn't seem to matter. You know what happens. Everybody starts to call and the result is bedlam and often, the DX station is driven off the air! If the DX station is working tail-enders, the appropriate time to drop one's call in would be when the station being worked is signing off on the QSO and not before.

All of us know how to operate, but I'll wager there isn't one of us who hasn't, at one time or another in our ham careers, crossed the line into the area of poor operating practices. With more and more active opeators, if we follow simple, good operating procedures, we can all benefit. How about it? I'll try harder. Will you? □

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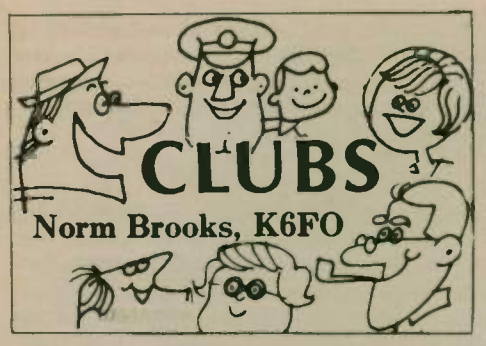


Honorary members

These letters speak for themselves:

Dear Chris (Worldradio editor):

Enclosed is a copy of a letter recently sent to one of your California hams. He is more than just another ham. He is well known throughout the ham world, and also to the rest of the free world in general.

Our repeater association took my suggestion and really ran with it. All I did was give the idea. I am proud to have been a part of it. The enclosed letter is very self-explanatory. Please note that Mr. Neal is the first to be so honored by our group, which is comprised of hams that are and/or have been very involved with the space program here in Florida. We are the nearest club to the space center.

By the way, we all enjoy your Worldradio. We have a raffle at most of our meetings, and we give free subscriptions to your journal to some lucky winner.

Thanks again for a great newspaper and keep up the good work. This hobby of ours is such a great one that we should all spend more time letting all the world know about it.

Sincerely yours,
Joseph P. Rubino, WA4MMD
Cocoa Beach, Florida

Mr. Roy Neal, K6DUE
Woodland Hills, California

Dear Roy:

It is with pleasure that I inform you of your selection as an Honorary Member of The Brevard Repeater Association, Inc. This selection was approved without dissenting vote at a regular meeting of the association on 7 March 1983. A letter of nomination initiated by Joe Rubino, WA4MMD, triggered a unaminous vote of approval by our Board of Directors and the above indicated vote by our members.

Your truly outstanding contributions to Amateur Radio in general and the ARRL in particular have been cited as justification for your membership. This justification was considered by all concerned to be more than adequate. Your current efforts to include Amateur Radio personnel, equipment and operations aboard STS-9 are considered especially significant. This action constitutes our way of saying "thanks" for your numerous valuable and selfless contributions to our hobby.

I trust you will accept your honorary membership and that you may someday soon join with us at one of our meetings. Incidentally, regular meetings are convened at 1930 hours, the first Monday of each month, at the First National Bank building, corner of SR 520 and Courtney Parkway, Merritt Island.

Congratulations, Roy. I note that you are our one and only Honorary Member and we have been in existence for over 10 years!

73's es Gud DX,
Bob Anderson, W4PRK
President
Brevard Repeater Assn.

More postal info

From the Mecklenburg, (Charlotte, North Carolina) Amateur Radio Society News:

A "third class" newsletter for the club?

From time to time, some economy-minded member comes up with the idea, "Why don't we send out the newsletter by third class mail and save a lot of money?" Perhaps these people will be interested in the following excerpt from the November *Smoke Test*, published by the Western Carolina ARS Inc.:

Does Your Newsletter Arrive Late?

"There have been some gripes from members about their newsletters arriving late (after the club meeting). The editors would like to clear the air on some misunderstandings regarding these mailings.

"The newsletter is normally mailed a week before the meeting. *Most* of the newsletters arrive within two or three days after being mailed . . . *and* before the club meeting.

"However, the primary reason for delays is the post office and the type of mailing we use. The WCARS uses third class bulk mailing as a way of saving money. This type of mail, of course, will take a "back seat" to first class mail. There is no way for the WCARS to have any control over distribution of the newsletter after it is delivered to the post office. If your newsletter has not been delivered, ask your mail carrier . . . *not* the editors, *not* the club president, etc. The post office can give you the answer. . ."

Perhaps this will help to answer the question as to why the Mecklenburg ARS uses first class mail for its newsletter. It is our understanding also that Mecklenburg ARS tried third class bulk mail in the past, and late deliveries were only one of the reasons why that type of mailing was discarded.

The newsletter has been used in the past to give members legal notice of an action on the agenda — something that would not be appropriate with third class mailing — and thus has saved the expense of a separate mailing.

Third class mailing would save the club *less* than $1.80 per member per year. We think that getting your newsletter to you each month *on time* — and with some assurance that it will be delivered — is worth that difference. Besides, what are dues for?

A *first class club* deserves a first class newsletter.

Emergency exercise

From Crescenta Valley Radio Club, La Canada, California:

CVRC "GEARS" members will meet with the Glendale OES (Office of Emergency Services) Committee, headed by John Korkis, coordinator, at the Glendale Red Cross, on Wednesday, 18 May at 9:00 a.m. The discussion will center on planning for the multi-hospital, multi-shift exercise slated for approximately September this year.

"GEARS" radio operators will play a major part in providing primary and back-up radio communications for the hospitals, ambulance dispatching, and for police, fire department and other city services.

Any CVRC members interested in participating are invited to attend. See Gene Baron, W6MHI or Lou Barnes, WA6TFR or call 248-3495 for information. — Gene Baron, W6MHI

Are you concerned with safety?

Thanks to the ARNS, which originally provided the statistics, many club newsletters are urging members to "play it safe."

Guide to dangerous activities

DO NOT ride in an automobile . . . they cause 20 percent of all fatal accidents.
DO NOT stay at home . . . 17 percent of all accidents happen in the home.
DO NOT walk around on the street . . . 14 percent of all accidents happen to pedestrians.
DO NOT travel by air, rail or boat . . . 16 percent of all accidents are a result of these activities.
ONLY .001 percent of all accidents happen at Amateur Radio club meetings.
THEREFORE: The safest place to be on

VISIT YOUR LOCAL RADIO CLUB.

ALASKA

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

Borealis Amateur Radio Club
Mission Road
P.O. Box O
North Pole, AK 99705

ARIZONA

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

CALIFORNIA

Amador County Amateur Radio Club
PO Box 598, Pioneer, CA 95666
Pioneer Elementary School, Pioneer, CA 95666
1st Thursday/monthly - 7:30 p.m.
Talk-in 146.235/146.835

Antelope Valley Amateur Radio Club, K6OX
Lancaster School Board
44711 N. Cedar Ave., Lancaster, CA 93534
4th Wed/monthly-7:00 p.m.

Conejo Valley Amateur Radio Club
Home Federal Savings and Loan
454 W. Hillcrest Drive
Thousand Oaks, CA
1st Thursday/monthly — 8:00 p.m.

Contra Costa Communications Club WD6EZC/R
Box 661, San Pablo, CA 94806
Meet 2nd Sun. at 9:00 a.m.
Hickory Post Restaurant/Lucky Lanes
Info call Carl KA6OLK (415) 237-2621

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

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

Gabilan Amateur Radio Club
Monterey Savings & Loan Public Room
Corner First & Westwood
Gilroy, CA 95020
2nd Thursday/monthly - 7:30 p.m.

Livermore Amateur Radio Klub
2441 Heatherlark Cr., Pleasanton, CA 94566
Meets: Valley Memorial Hospital
Multi-purpose room, Livermore, CA
2nd Saturday/monthly - 9:30 a.m.

MT. Wilson Repeater Association
P.O. Box 977
Yorba Linda, CA 92686
WA6KOS Repeater — input 146.40 output 147.435
Amateur Radio QST Net — Monday at 7:00 p.m.

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

Sacramento Amateur Radio Club, Inc.
Contact: Chet Almond, N6DRU, (916) 967-4295
Meets: MARS Building, Sacramento Army Depot
Troop gate, Florin-Perkins Road
2nd Wednesday/monthly - 7:30 p.m.

San Fernando Valley ARC (W6SD)
Red Cross Building
14717 Sherman Way
Van Nuys, CA 91704
3rd Friday/monthly - 7:30 p.m.

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

S. Counties Amateur Teleprinter Society (SCATS)
2nd Sat/monthly — alternates in L.A. & Orange Counties.
60 WPM RTTY Net, Wed. 8 p.m. on 146.10/.70 W6IWO/RPT.
For info. call Jean Carter, KA6HJK, (714) 523-9519

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

Simi Settlers ARC (SSARC)
PO Box 3035, Simi Valley, CA 93063
3rd Thursday/monthly - 7:30 p.m.
Bank of A. Levy (across Larwin Sq.)
K3HZP/R 147.165/.765 Simplex 147.48

Six Meter Club of Chicago, Inc.
Land of Lincoln Savings
6655 W. Cermak Rd.
Berwyn, IL 60402
2nd Friday/monthly — 8:00 p.m.

Sonoma County Radio Amateurs, Inc.
Box 116, Santa Rosa, CA 95402
Hank Davis, W6DTV (707) 823-7885
County Office of Emergency Service
1st Wednesday/monthly - 7:30 p.m. rpter 146.13/73

South Bay Amateur Association
P.O. Box 91 • Fremont, CA 94536
Fremont School, 40230 Laiolo Rd
3rd Wednesday — 7:30 p.m.

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

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

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

Valley of The Moon Amateur Radio Club
358 Patten St., Sonoma, CA 95476
Darrel Jones, WD6BOR (707) 938-8086 For Info.
Meets: odd months, 2nd Tuesday, 7:30 p.m., Sonoma
Police Dept.; even mo., 2nd Sun., 11 a.m., bkfst.

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

CONNECTICUT

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

FLORIDA

Fort Myers Amateur Radio Club, Inc. W4LX
Jeff Beals, WB2OUK, President, (813) 334-4004
Meets 1st Wednesday/monthly-7:30 p.m.
First Federal Savings and Loan of Ft. Myers
121 Pondella Rd., North Fort Myers, FL

Platinum Coast Amateur Radio Society, Inc.
American Red Cross Building
1150 S. Hickory • Melbourne, FL 32901
Dan Yelverton WA4RGK President
Call-in 25/85 Rptr. • Meets 2nd Mon/monthly 7:30 p.m.

ILLINOIS

Fox River Radio League
Valley National Bank, Lower Level
Northgate Shopping Ctr. & RT. 31, Aurora, IL
(312) 898-2779 for more information
2nd Tuesday/monthly - 7:30 p.m.

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

World Radio History

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

INDIANA

Indianapolis Repeater Assoc.
4th Monday/odd numbered months
Carson Manufacturing
5154 N. Rural St., Indianapolis
146.10/70 147.12/72

Northeastern Indiana ARC
John E. Zumbaugh, WD9CVI
507 E. Quincy St., Garrett, IN 46738
Daily 6 p.m. net on 147.96/.36
2nd Tuesday/monthly - 7:30 p.m.

IOWA

Muscatine Amateur Radio Club
Info: Jere Yanek, KAØKPO (319) 264-5490
Meets: Basement Meet. Rm., Public Safety Bldg.
Muscatine, IA
1st Monday/monthly - 7:30 p.m.

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

Sooland Repeater Association (SRA)
KD Stockyards Station
2001 Leech, Sioux City, IA
Classes Thursdays 7-9:30 p.m., Sept-May
Club meets 3rd Tue. 7:30 p.m.

MARYLAND

Frederick Amateur Radio Club
Frederic Electronics
Orville C. Bowersox, N3AGM
(301) 662-4550
2nd Tuesday/monthly — 2000

MICHIGAN

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

MISSOURI

Heart of America Radio Club
3521 Broadway
Kansas City, MO 64111
3rd Tuesday/monthly

NEW HAMPSHIRE

Great Bay Radio Assoc.
Dover District Court, Dover.
(603) 332-8667/332-8015
WB1CAG/Talk-in 147.57
2nd Sunday/monthly — 7:00 p.m.

NEW JERSEY

Central New Jersey Chapter No 138, QCWA
Net: Ea Tue. evening-10:00 p.m. 147.645/147.045 MHz
Mtgs: Quarterly; Membership or more info:
Bob McKinley, W2OMR, Sec., 89 Stratford Rd.,
Tinton Falls, N.J. 07724 (201) 542-2113

Gloucester County ARC, W2MMD
PO Box 370, Pitman, NJ 08071
VFW Post #2117, Woodbury, NJ
1st Wednesday/monthly - 8:00 p.m.

NEW YORK

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

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

Long Island Mobile Amateur Radio Club (LIMARC)
146.25/85, 147.975/375, 223.22/.224 .82, 444.125/449.125
Membership: Tom Koutsis, WB2IQT, 1341 Harry Ln.,
No. Merrick, NY 11566. Net Mon. 8:30 p.m. 146.25/85
Meets 1st Tues/8 p.m., H.B. Thompson, JHS, Syosset

Staten Island Amateur Radio Assn. (SIARA)
P.O. Box 495
Staten Island, New York 10314
Third Friday/monthly — 8:00 p.m.
Rm. B-127, College of S.I. — Sunnyside

Suffolk County Radio Club
Meets 1st Tues. monthly, 8 p.m.
Bohemia Recreation Center
Smithtown Ave., Bohemia, Long Island
More info! Jim Heacock, KA2LCC, (516) 473-7529

Westchester Emergency Communications Assoc.
Little Theater — County Center
White Plains, N.Y.
Talk-in WB2ZII/R 147.66/06
2nd Monday - 8 p.m.

OHIO

Ashtabula County ARC
Ken Stenback, AI8S (964-7316)
County Justice Center
Jefferson, OH
3rd Tuesday/monthly-7:30 p.m.

Champaign-Logan A.R.C., W8EBG/R
Joe Palmer, KS8M, President
2 Meter Net, 147.60/00, Tuesdays, 8:30 p.m.
Dinner Meeting, 1st Thursday/monthly
Dajolees Restaurant, West Liberty, OH, 7 p.m.

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

NOARS-Northern Ohio Amateur Radio Society
P.O. Box 354, Lorain, OH 44052-3rd Mon. 7:30 p.m.
K8KPG-Home of the WW II Submarine USS COD WB8JBM-
Noars Contest Station — K8KRG/Repeaters:
146.10/70; 144.55/145.15; 449.8/444.8; 223.10/224.70

Xenia Weather Amateur Radio Net (XWARN)
2nd and 4th Monday — 7:30 p.m.
Xenia PD, City Bldg.
call in/147.165-147.765
Xenia, Ohio

OREGON

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

TENNESSEE

Lakeway Amateur Radio Club
Randy Hall, Activities Mgr.
Box 1636, Morristown, TN 37814
State Area Vocational School
Last Thursday/monthly - 7:30 p.m.

VIRGINIA

Eastern Shore ARC (ESHARC)
110 Church Street
Chincoteague, VA 23336
Repeater WA4TVS 147.855/.255
Net Mon. 9 p.m. Mtgs. as announced

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

WEST VIRGINIA

Jackson County Amateur Radio Club, Inc.
Bob Morris, WA8CTO, Sec.-Treas.
308 Edgewood Cir., Ripley, WV 25271
First National Bank of Ripley, WV
1st Thursday/monthly - 7:30 p.m.

WISCONSIN

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

the _____ of each month is the _____ Amateur Radio club meeting!

You fill in the blanks with *your* club info.

Wallet card

The Twin City FM Club, Minneapolis, Minnesota provides its members with an excellent wallet-size card with emergency calling information.

TWIN CITY FM CLUB
P.O. BOX 555, MINNEAPOLIS, MN 55440

KØHB/R—146.16/146.76
AUTOPATCH ★ ON # OFF

EMERGENCY NUMBERS

EMERGENCY SERVICE	SPEED DIAL NO.	PHONE NO.
RAMSEY CTY. SHERIFF	2	484-3366
MINNEAPOLIS POLICE	3	348-2345
SAINT PAUL POLICE	4	291-1234
STATE PATROL	5	541-9411
ANOKA CTY. SHERIFF	6	427-1212
SCOTT CTY. SHERIFF	7	445-1411
AREA-WIDE NEWSLETTER	8	
HENNEPIN CTY. SHERIFF	9	544-9511

YOUR MEMBERSHIP IN THE TWIN CITY FM CLUB WILL HELP TO KEEP A WIDE AREA, OPEN ACCESS, EMERGENCY-OPEN AUTO-PATCH, REPEATER ON IN THE TWIN CITY AREA.

(OVER)

ADDITIONAL EMERGENCY NUMBERS

AIRPORT POLICE	726-1177
APPLE VALLEY	432-2911
BLOOMINGTON	887-9600
BROOKLYN CENTER	561-5440
BURNSVILLE	890-2460
CHASKA-CHANHASSEN	448-2111
EDEN PRAIRIE	866-3333
EDINA	925-2233
ELK RIVER	441-2323
FARMINGTON	432-2911
GOLDEN VALLEY	546-1321
HOPKINS	935-3321
JORDAN	445-1411
LAKEVILLE	469-3424
NEW BRIGHTON	298-4451
RICHFIELD	866-3333
ST. LOUIS PARK	920-2345
SAVAGE-SHAKOPEE	SPEED DIAL 7
UNIV. OF MINN. POLICE	373-3550
WATER PATROL (HENN. COUNTY)	471-8528

EMERGENCY AMBULANCE—ST. PAUL F.D.	224-7371
EMERGENCY AMBULANCE—MPLS. MEDICAL CENTER	347-3151
POISON CENTER—MPLS.	347-3141
POISON CENTER—ST. PAUL	221-2113

For Cities Not Listed Use Appropriate County or City Speed Dial—Opposite Side

TCFMC—KØHB/R—146.16/146.76

Members of Des Moines Radio Amateur Association, Des Moines, Iowa wouldn't dare fail to open the club's newsletter *Static Sheet* when it comes in the mail. Editor Ron Kinton puts the following CAUTION near the mailing label:

CAUTION

IF YOU THROW THIS IN YOUR WASTE BASKET UNOPENED A CAPSULE OF WATER INSIDE WILL BREAK, SPILLING ONTO A DEHYDRATED BOA CONSTRICTOR. HE WILL THEN CRAWL OUT OF THE ENVELOPE AND CRUSH YOUR LITTLE BODY.

From *Rocking Chair Copy,* Clark County Amateur Radio Club, Inc., Vancouver, Washington:

Reid Blackburn Scholarship

This scholarship has now been officially established at Clark College. It will be administered by Clark College and supported by our club activities. Promoting scholastic achievement in the electronic field will be the scholarship's intended purpose. Our Mt. Saint Helens award program has netted $1,000 for the 1982-'83 school year.

Constitution and bylaws

Do your members have copies of the club's constitution and bylaws? Here's an easy way to get them into members' hands.

Southern Counties Amateur Teleprinter Society, Westminster, California publishes a neat club paper — *Scatter.* It is made up in booklet form, 5½" × 8½", which is 8½" × 11", folded and stapled. Editor Hugh Washburn, WA6IEX, recently dedicated the center 12 pages of the publication to their constitution and bylaws. Good work!

Explorer Posts

Your reporter was the adult adviser to Explorer Post 600 for three years. Our post was sponsored by a local 50kW FM station and was a "Broadcasting and Electronics" post. Of course, Amateur Radio was a subject I covered in some detail, and we had code classes. Several of the members got their Novice licenses, and I occasionally run into one of them on the amateur bands.

The Suffolk County Radio Club of Centereach, New York sponsors an Explorer Post. Their newsletter *QTC* tells us:

"We are pleased to announce that Bill Frish, KA2JMA, has accepted the position of advisor to our Explorer Post No. 521. Bill is very active and interested in scouting as well as being a very active member of our executive committee. Bill replaces Adam KA2GOO, who — along with Bob KA2HRX — helped form the post."

Keep up the good work, fellows. Are there any other clubs out there who sponsor Explorer Posts?

Cause for concern

The Oregon Tualatin Valley ARC, Beaverton, Oregon, recently ran this item in its newsletter, *OTVARC:*

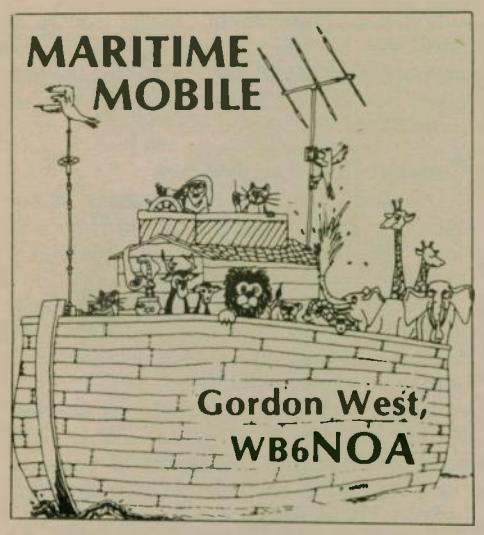
Cause for concern

We recently received a check for dues, and along with it a letter. The letter was a complaint, and I only wish it could be here in this rag. It points out the fact that many newer members are being overlooked at meetings and not made to feel at home. This gentleman states that he was brought to a meeting by a member and then was ignored. Nobody made an effort to say hello or introduce themselves. He joined at his first meeting, April 1983, and has not been back since! The person who brought this gentleman made no effort to follow up and make sure his guest was made to feel welcome.

There are several ways to look at this. The person who complained blamed the *club.* What is a club? It is made up of individuals! Each individual does his or her own thing. Should we undertake a project to meet and greet newcomers or should we just rely on individuals to promote themselves? One quick comment: People who *ACTIVELY* participate in club functions seem to become rapidly known!! Just in case, say HELLO! □

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

World Radio History



Reed Caughey, NF6X, Long Beach Yacht Club station chief operator

Nancy Lopossa (left) and Sibyl Keirns, Extra Class operators, operating the exclusive, Long Beach Yacht Club station for net check-ins.

New products, nets and emergencies

Since emergency traffic always takes priority, let's begin with emergency calls this month. Maritime mobile radio nets are literally your lifeline for help when an emergency strikes at sea.

In order to take full advantage of the maritime nets in an emergency, it's best to review some basic operating procedures. Let's first talk about calling in emergencies on your high-frequency worldwide radio setup.

On a daily basis, check into several regional maritime nets. This allows you to "get the feel" of the net, be recognized as a regular check-in, and also receive signal reports which will indicate whether or not your marine radio installation is working as usual.

Checking into several nets each day will allow you to recognize the time frame that will allow you to make an emergency call anywhere, any time. If it's late at night, you'll probably call in on one of the lower frequency nets. If it's high noon, you may wish to place your emergency call on a 15-meter or 20-meter net. The frequency 14.313 and 14.314 MHz is one of the best 24-hour "channels" to call help on. For Pacific Coast mariners, a call during daylight hours to the Manana Net (14.342 MHz) or to the Pacific Maritime Net (21.404 MHz) will surely bring an immediate response during the day or afternoon.

Such was the recent case of Jim Roberts, N6GLS, aboard the yacht *Suzanne*. His sails were destroyed; food, water and fuel were down to the minimum. This mariner calmly announced his predicament on the Manana Net. His call for assistance went smooth as silk. He was immediately tied into the United States Coast Guard Rescue Coordination Center by a phone patch from the Long Beach Yacht Club Station. There was no fumbling around for the phone number; the folks in Long Beach had the Coast Guard on the patch within 30 seconds.

Over the phone patch, the United States Coast Guard talked to the vessel requesting assistance. The patch was loud and clear, and the Coast Guard began to develop plans on how to assist the mariner in making landfall over 1,000 miles away.

The United States Coast Guard Office in San Francisco has the capability of transmitting on any frequency between DC and daylight! Over the phone patch, it was decided that the Coast Guard would talk directly with the vessel in distress. They should have stayed with the phone patch!

The United States Coast Guard personnel on duty that day did not really understand Amateur Radio nor ham radio sets. Valuable time was lost encouraging the mariner to switch over to Coast Guard frequencies that the mariner's ham set simply didn't cover. It was more than apparent that the Coast Guard radio operator did not understand Amateur Radio or ham radio lingo. When the mariner indicated he had capabilities for 15, 20 and 40 meters, the Coast Guard thought that meant 15, 20 and 40 MHz. The frequency 14.340 MHz couldn't be found by the Coast Guard with their super high-frequency transceiver — except for the frequency 14340 MHz!

One thing, for sure — when the Coast Guard finally comes up on the ham bands, you know they are there! They must run at least 10 gallons! Although their signal sounded like 200 percent extra speech processing, it boomed in loud and clear and the mariner was hooked up directly with the Coast Guard on Amateur Radio frequencies.

The end of this episode was not pleasant. A large cargo ship was diverted to render assistance to those aboard the sailboat. As the cargo ship attempted to come up alongside of the small sailboat, heavy seas caused the sailboat to crash into the cargo ship and in less than three minutes, everyone aboard the sailboat had to abandon ship. Although the lives of everyone aboard *Suzanne* were spared, radio reports indicate the sailboat was destroyed.

The main lesson learned here is that a game plan must be developed when communicating with the Coast Guard. As ham operators, we know frequencies and propagation much better than most Coast Guard operators. I believe it's up to us to suggest the frequency that is best between the participating Coast Guard station and the vessel in distress. At that time, we let the professional Coast Guard organization take over and do what they do best — assisting with vessels in distress at sea.

Keep the phone number of your local Coast Guard Rescue Coordination Center at your fingertips in case you receive a call for help. Know how to deal with the Coast Guard, and know that, as a radio amateur, you probably have more skills in frequency selection and radio wave propagation than anyone else around.

Please don't judge the comments as being harsh on the Coast Guard radio operation; they do a magnificent job! Their men are well trained in radio communications practices. However, a tremendous amount of time and frustration would have been saved if the communications officer on duty that day would have also been a knowledgeable high-frequency Amateur Radio operator, too.

For emergency calls on the 2-meter band, it's best to use a repeater that is marine-oriented. Almost every seacoast sports repeaters that are used mainly by mariners. It's generally on these systems that there are shoreside operators who have the U.S. Coast Guard telephone number at their fingertips. The most universal emergency pro-word on the 2-meter band is "break break break." Same thing for high frequency, with the addition of "May Day" to get everyone's attention.

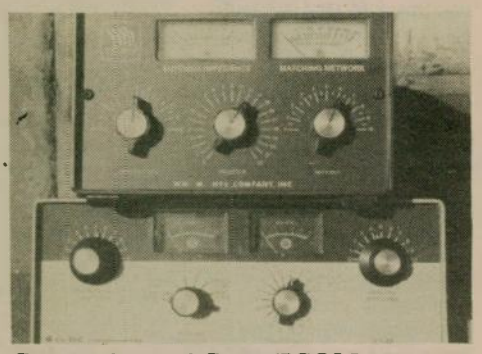
On any radio band, if it's imminent that you will only be on the air for another minute, declare your emergency, give your position, number of people on board, vessel or life raft description, hand-held frequencies if you have them, and any other items that might assist the Coast Guard and fellow mariners in finding you when you step off your main vessel.

Let's hope none of us ever have to handle or call out an emergency.

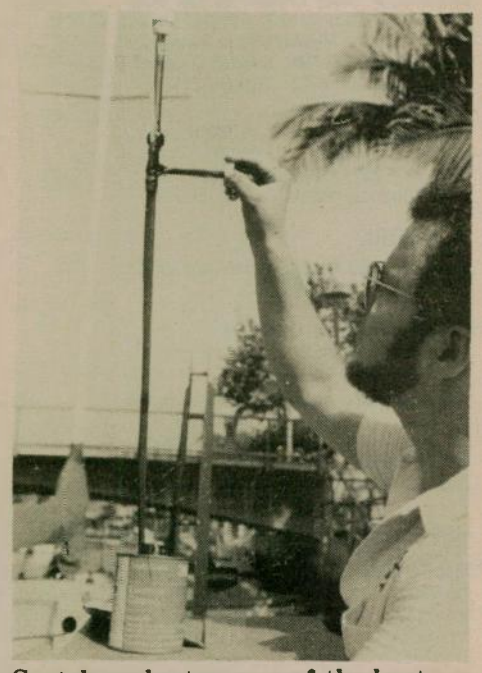
New rigs for mariners

Kenwood with their popular 430S transceiver is now having some stiff competition from Yaesu, ICOM and Ten-Tec. Each company is offering full coverage transceivers with plenty of memories, out-of-band transmit in an emergency, and a small size for tight marine installations.

The new Yaesu FT-757GX is an all-mode, all-frequency HF transceiver with 100 watt output in a compact size. It operates on any frequency between 500 kHz and 29.999 MHz — continuous! It has just as many memories as the Kenwood 430, and will operate split frequency, FM (included without additional cost), and continuous duty cycle. The boys at Yaesu really did a nice job when they developed this set. Although no official price has been hinted at, everyone says it



Comparison of Swan/ICOM tuners



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This panel will provide over 50 watt hours of power on an average day of sunshine, keeping the 12 volt battery pack for a ham radio rig topped off and available for mobile use.

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Durham, N.C. 27701, USA
(919) 489-6224

Dealers inquiries invited

World Radio History

will be quite competitive to the popular Kenwood 430.

The boys at ICOM did exactly what we had hinted — produced a new transceiver ideal for maritime mobile use, called the IC-751. If you are not content with eight memorized frequencies, would you believe more than 30! Not only does this set memorize the 32 frequencies, but also the mode, category, order, and just about anything else you may wish to program into each memory channel. One hundred watts output, all-band coverage, split-channel transmit and receive, FM, AM, and everything else. They mean business with this radio, and especially from mariners. Although it will ring out higher than the Kenwood — probably around $1,500 — it's bound to be a terrific performer if you need the many features that are packed into this tiny set. ICOM is big in the marine electronics business, and I am sure they don't want to see any marine business lost to their competitors.

It's this type of competition among the "Big 3" that brings us state-of-the-art transceivers especially designed for maritime mobile use. Let's hope the friendly competition keeps on going so that we may have the latest at the lowest prices.

Nets

No folks, I didn't have any *specific* net in mind when I talked about a maritime net that couldn't take a little extra time to help out the newcomer on the frequency. However, several maritime nets called me and asked as to whether or not I was talking about their net! Maybe this is a guilty conscience? The point I'm trying to make is that one responsibility of net control operators is to be firm but friendly and sympathetic to the newcomer to Amateur Radio. There is a polite way of telling someone about how one conducts himself on a net channel, and there is a rude way which will discourage newcomers to ever coming up on that frequency. I think it is every net controller's responsibility to be sympathetic with the first-time ham and to politely but firmly let them know what the proper net operating procedures are for a particular maritime net frequency. If any maritime net publishes a list of do's and don't's, I would be more than happy to republish that list here in Worldradio.

In the meantime, if you are new to HF operation, listen before transmitting on a maritime net. Get a feel for the cadence of the check-ins. Some nets have so many members that they need a quick response and no lengthy dissertations from those that check in. Similar to air traffic controllers, some nets have little time for chatter.

However, other nets may not have the volume of calls, and it's quite common to give a one-minute dissertation as to where you are, where you're going, and how in the world you're going to get there! This "local color" is fine for local nets that don't have a high volume of traffic.

Always allow a second or two between transmissions to make way for emergencies.

More new products for mariners

When you are out there at sea, your all-band transceiver can make an exciting shortwave set, too. Two new books from Universal Electronics, Incorporated, 1280 Aida Drive, Reynoldsburg, OH 43068, make shortwave listening easier.

Their *World Utility Frequency and Call Sign Guide* ($12) lists more than 8,000 frequencies of stations between 3 and 30 MHz. This makes tuning in unknown stations a snap with easy identification. Whether or not you wish to monitor Air

Code and RTTY reader from AEA

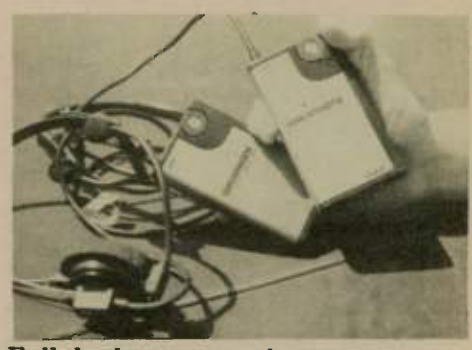
Force One or the local Voice of America Broadcast, this book tells all!

The *Radioteletype Press Broadcasts* guide ($12) lists stations that transmit RTTY on shortwave frequencies for worldwide reception. What a great way to find out the latest news! The only problem is that you will need a RTTY decoder that will spell out everything you are listening to.

The new Advanced Electronic Applications (P.O. Box C 2160, Lynnwood, WA 98036) RTTY decoder is just the answer. It operates off of 12 volts, and is ideal for marine installations. It will read CW, and RTTY, as well as ASCII. It hooks up to the audio output, and when you tune in the station, the letters appear on the moving screen. Thirty-two characters are displayed from the vacuum fluorescent readout.

Bob Heil, K9EID, also has a new book out that describes Amateur Radio in total. Written for the layman, his new 170-page book gives us the basics of Amateur Radio, plus some valuable construction projects for playing with do-it-yourself ideas on the boat. (Melco Publishing, P.O. Box 26, Marissa, IL 62257)

Another item I have received plenty of letters on are those headset communicators. Most of you wish to know which one is best for marine applications. There is only one — the Ohra "Walk-phone". Sold in pairs, these units operate full duplex as opposed to half duplex. There is no vox circuit. They talk and listen simultaneously at 49 MHz (two channels). The range is incredible over water. Although they only radiate about 10,000 microvolts at 3 meters, over-the-water tests indicate a three-mile range. When going ashore and walking in between buildings, the range gets substantially less — but never less than one-quarter mile, under most circumstances.



Full duplex communicators

Ohra 49 MHz communicators for marine use

They are expensive, about $225 for a pair, but there is no other company that offers full duplex communicators like these.

Many of you have also written as to where you can purchase copper foil. Two-inch 12 mil foil for grounding purposes is available from the following organization for 85¢ a foot: It's called Sheppard Marine, P.O. Box 5186, Huntington Beach, CA 92646, Attention Mark Sheppard. Phone (714) 964-4600. They can also supply you with the 3M product "Scotch-Kote".

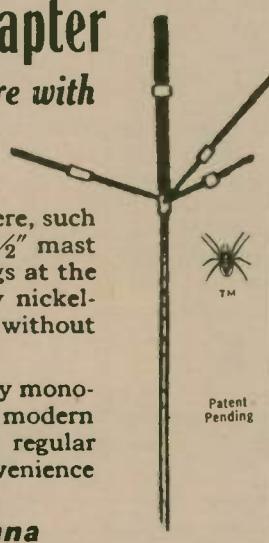
Next month, we get back to antennas, grounding and worldwide setups. We hope everyone had a good cruising summer, and let's hope for fair weather for more sailing this fall. □

NOW—for the Maritime Mobile Operator!

The Spider™ *Maritimer*™ Antenna

or The Spider™ *Maritimer*™ Adapter

can be mounted where it will not interefere 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 ½" 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 ½" 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

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Field Day

continued from page 4

3A battery, and in fact, was the winning total three years ago.

Other than some fingers caught in a tower section, a foot caught under a dropped cooler, and sunburn cases, everyone had a great time! We gathered some impressive publicity, including a full page article with photos in the Daily Advance, written by local ham, Jack Russel, K2RS. Two new members were added to the club as our new Novice contest champs (50+QSOs) came aboard, itching for more action. □

World Radio History

Ten-Tec's famous Power Mite (PM) series of CW transceivers qualifies as a "sleeper" rig for those looking for an easy and inexpensive way to get into QRP or who are looking for a second rig to drag along on vacation or business trip.

These little gems — the forerunners of the now-deleted Argonaut series — surface fairly frequently at swapfests or in the advertising sections of this and other Amateur Radio publications. I know of two that sold for $25 each in outstanding condition in recent months, although a price range of $40 to $50 is neither unusual nor unreasonable. Even at $50, it's still a good buy, depending on condition.

Ten-Tec made the PM-2 — which covered 80, 40 and 15 meters, and the PM-3 and the PM-3A — both of which covered 40 and 20 meters only, with the PM-3A offering a form of break-in keying. In many ways, the circuits of the PM-3 and the Health HW-7 are similar. The PM-3A, with which we will deal here, can be squeezed for at least 2 watts output and with a very clean signal.

However, as Doug DeMaw, W1FB, pointed out in his fine piece on repackaging the PM-3A[1], the rig has some weak spots, and he offered some practical, easy and inexpensive cures, whether one wanted to repackage the rig or not.

In addition to reading the October 1974 QST piece on repackaging the PM-3A, see also Doug's piece in the January 1974 QST on a new front end for the direct-conversion receiver in the HW-7 and the PM-3A. Read both thoroughly and familiarize yourself with the project before starting work.

I repackaged my PM-3A to make the VFO more stable, to enhance receiver selectivity and sensitivity, and added the TVI filters to give me added peace of mind. The PM-3A's output was well within FCC requirements on harmonics, however. I chose a slightly larger, commercially made aluminum box than Doug recommended for his revamped rig but one that still was smaller than the orginal, roomy enclosure Ten-Tec used. The extra room can be put to good use, however.

One of the first things you will find is that Doug replaced the original variable capacitors with physically and electrically smaller units. He got them from Radio Shack, which has long since dropped them from its line of parts, so some of that extra room in the new enclosure will be consumed by using the original capacitors (10-409pF). The original VFO capacitor is used, regardless of what is done with the others, however. I have found one source of 13-365pF capacitors[2] that are smaller physically and might suffice, although some padding might be required on lower frequencies.

Ten-Tec's original circuits boards are, if anything, overly generous in size. They measure 2 by 4 inches, with components spread out in an unnecessarily large area by today's standards. Additional room can be had by making these more compact. Move components to some of the inch-and-a-half square, dual in-line IC boards sold by Radio Shack (#276-159) at about 75 cents each. These are terrific boards to have around the shack for experimenting and homebrewing. For an idea of how easy they are to work with, see the QRP column in the May 1982 issue of CQ.

I moved only the non-RF circuits to these smaller boards, however, since I was hesitant to tamper with the positioning of some components. Except for the changes Doug DeMaw recommends, the VFO, the mixer half of the mixer-sidetone oscillator and the transmitter boards are left as is.

I transferred the sidetone oscillator components to one of the Radio Shack boards, lopped off the half of the original board it occupied, and left the mixer circuit untouched but on a board half the original size.

One of the original drawbacks to the PM-3A was the necessity to throw three front-panel switches to change bands. Luckily, I found a rotary switch at a swapfest that let me perform all the band-change functions, including switching between the sections of the TVI filter, and this greatly eased the operation. The extra room in the enclosure I used allowed me to mount my TVI filters inside, which enhanced the appearance of my revamped PM-3A.

Other ingredients you might want to consider for this updated version are a 25 kHz crystal calibrator and/or an automatic keyer. The only major item missing thus far is an RIT (receiver incremental tuning) for the PM-3A, and I have been unable to come up with a suitable circuit for one. Those recommended for use with the HW-7 will not work for the PM-3A.

One point I forgot to mention: When you dismantle the PM-3A, save the

(Continued on next page)

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World Radio History

TEACHER

Alan Kline, KB1DJ
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It is 9:23 p.m. EST, I've tuned around the CATV channels to find some mundane program to listen to. After finding one, I start to relax and think about the events of the evening. I am really not in the mood to do an Amateur Radio demo tonight. It was a long day at work.

I have vowed to myself that I will do an Amateur Radio demonstration at every Cub Scout pack and Boy Scout troop in my hometown. This is to be number four of seven. The first three went relatively smooth. But this one was to be different. Old Man Murphy was lurking out there in the ionosphere, just waiting for me.

Doing Scout demo's can be pretty easy. I take my boys — Danny, age 9, and Todd, age 6 — with me on all of them. They like to help out with the lugging in of the gear, setting up the antenna and bragging about their dad. I can't afford to let down my biggest supporters.

Last night, I quickly threw together the needed equipment: ICOM IC-740, mike, key, headphones, TVI filter, 50 ft. coax, TENNA-TAPE portable dipole, a few QSL cards, the poster about our regular ham classes, a log sheet, extension cord, GMT digital clock and plenty of rope. I always have my 2-meter rig in the car, so that goes along too.

The non-ham gear includes: 16mm movie projector, screen, another extension cord, ARRL movie and my briefcase (which contains paper, pens and my call sign badge).

Tonight we are the featured entertainment for Swampscout Massachusetts Cub Pack #59's Blue and Gold Banquet, the last meeting of the year. The dinner is Colonel Sanders for all. I hope the grease that leaked through the top of my rig doesn't hurt it.

We arrive at the designated time, 6:00 p.m. My boys help me unload the station wagon into the meeting room at the back of the church. We set up the screen and projector before the rest of the kids and parents arrive. It is impolite to run around, setting up gear while they are trying to conduct their meeting. When 7:00 p.m. arrives, I only want to have the antenna left to set up.

I had already scouted out the layout of the church grounds, for antenna supports and ways to route the coax into the meeting area. I have chosen to set up the station in a corner of the room, so that I am away from them while they are eating. I only have to put up my dipole antenna.

While they start to enjoy dinner, I am out behind the church, feverishly laying out the antenna setup. The church is new, and the surrounding woods were left as natural as possible, so there are trees all around. It looks real simple, but time is running out.

I lay out the TENNA TAPE dipole to make a 20-meter inverted Vee. I think about the compass directions, guess where the north-south line would be, and align the antenna — while still on the ground — to favor the western part of the United States.

As the trees are very high, I stretch out two lengths of 5/16-inch diameter nylon-braided rope. These are veterans of many hoisting parties, and due to their strength and reliability, will last a long time. I have never mastered the art of the bow and arrow, so I have to throw the ropes over the tree limbs. To weight them at one end, I've tied a 1½ pound steel weight — a scaffold coupling pin.

I wind up, twirling the weight in a circle, letting it all go in an underhand swing. I am not known for my athletic prowess, so I miss on the first three tries. On the fourth try, Murphy took over. The weight went over the tree limb I was aiming for, and kept right on going around another limb, ending up in a tangled mess, 40 feet above my head. Yes, there is an art to getting these support ropes into the trees.

I decide to leave the rope up there and try to get the other support rope up into a tree much farther away than I had originally planned. I was lucky I had two more lengths of cheap plastic rope in the car. After awhile, I did manage to hoist the inverted Vee up there, but the good nylon rope was doomed to be left up in the tree. I guess I will have to practice weighted rope throwing.

The Scoutmaster is now looking for me. It is time to introduce me. I am not surprised, but it is a very small audience. The kids number about 20 and there are less adults. I quickly explain why I'm there and start the movie. The movie is too long for the kids' attention span. Someday, I would like to edit it down to only 15 or 20 minutes.

I take the 35 minutes that the movie runs to put on my headphones and make a few contacts, both CW and phone. This gives me a jolt of confidence, because I work Otis Beasley, N9BLE, in Chicago (Illinois) and Richard Reguero, KP4EZ in San Juan (Puerto Rico). Both give me good signal reports, so I know all is working.

The movie is over and I grab an envelope that contains some of my more exotic QSL cards. The envelope is not where I thought I left it. Immediately I recognize Murphy again, for I watched some Scout's little brother playing with them along with his Colonel Sanders' mashed potatoes. Well, maybe they will dry without too many stains. I show them anyway and explain that the best way to learn about Amateur Radio is to experience it.

Everyone gathers around the table my gear is on, and I get on the repeater and ask for a roll call. Murphy again. It seems I had interrupted an RDF exercise that was for real. A sailboat was lost and they didn't have time for a roll call. The group there weren't interested in hearing hams giving compass readings.

I decided to QSY to 20 meters; it was 8:30 p.m. and the band should be still hopping with activity. After just two minutes of no answer to my CQ, I lost half the crowd. After five minutes, only five Scouts were left to hear me call CQ in vain. I did manage to tune around for them to hear some strong Midwesterners talk to the amateurs on the West Coast, but I heard no one talking to those of us in the East. It was Murphy's last one of the night.

My kids were great: they assured me we still had accomplished something — at least they saw the movie. And maybe someday, one of those Scouts will become a Boy Scout and want to take the electronics or communication merit badges. All demo's can't be perfect.

All that's left to do, after I put the rig back in the shack and check it out, will be to figure out a way to retrieve the nylon rope up in that tree.

Afterthoughts

As perfect as I try to be, I realize I need your help. Those of you who check in to any regular 20-meter nets at night, if you would welcome us poor souls who are doing demo's at night, let me know. It would be great to be able to check into a national net and then call a roll call of check-ins. That would really impress the kids, what say?

PLEASE NOTE: Alan Kline's August 'Teacher' column was run in its entirety in the August issue. The statement "Continued next month" should have read "Continued on next page." □

QRP

(*continued from page 32*)

mounting hardware to use again in the repackaged unit. That will save you many headaches.

For those planning to revamp the receiver front end, a PC board pattern and parts placement guide are available from the ARRL for 50 cents and a large SASE, but you *must* mention DeMaw's January 1974 QST article as a reference. If you want a ready-made board, one for the receiver front end and the 750 Hz active audio filter is available from Dynaclad Industries[3]. Again, mention of the original DeMaw piece is necessary.

In any event, the PM-3A offers a fine opportunity to do some QRPing as well as some modifiying and repackaging that can give the little rigs a whole new lease on life and provide you with many fine hours of enjoyment.

Footnotes

1) DeMaw, "Repackaging the Ten-Tec Power Mite," QST, October 1974

2) Circuit Specialists, Inc., P.O. Box 3047, Scottsdale, AZ 85257 for copy of catalogue

3) $1.50 for catalogue to Box 296, Meadow Lands, PA 15347 □

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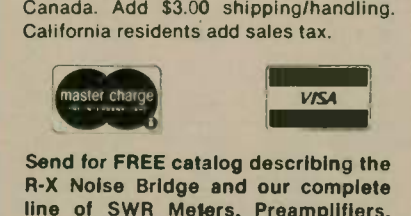

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Another ECC

Judy NS4C and Ken Tolliver, NQ4P, of Lady Lake, Florida can be added to the list of Extra Class couples. Judy tells us they were also Novices, Generals and Advanced together. □

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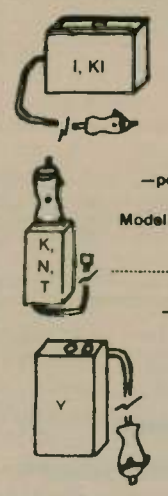

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Mountaintop repeater DF continued

Last month we began a discussion on remote-controlled repeater DF. Please read that column if you missed it. Be reminded, we believe that no automatic DF is possible at VHF, unless you display (or indicate) all of the arriving *RF paths simultaneously*. You should carefully select the best-suited DF equipment on the basis of your repeater site — not on what someone else can do with a specific DF unit or system, from other areas and in other situations.

Known target experiments

As explained last month, the first step in proper DFing (at VHF), under any circumstances I can think of, is to test *ANY* intended DF concept — on known targets. This will reveal its strengths and its weaknesses, since you already know the true direction. In those nearly four years that Janie and I toured the United States and Canada, about three-quarters of the airplane DF installations we checked *DID NOT WORK!* We finally realized that most search groups practice on unknown targets (hidden transmitters — or the actual lost aircraft with its ELT signal bouncing everywhere). In most cases, the DF installations that did work had been tested on known targets, usually by a ham pilot — or someone who realized that was the best way to see if it worked. Had more people tried to find known targets, we would not have found so many non-working DFs. Even working units have idiosyncrasies, and known target experiments are the only reliable way I know to discover them, outside a test range.

Various equipment observations

There can be advantages and disadvantages associated with each method and type of DF device. If you are in a desert of flat ground, your needs are different than those in cities and mountains. Your choice should take into consideration the system that has the least problem, or one whose strong points far outweigh the weak points and problem areas.

Most people are more comfortable with the "Voltage Averaging Systems." This is more common and includes many different designs. Most amateurs are familiar with the beam antenna. A beam at 20 meters, however, should be considered in a different light than one at 2 meters. At 20 meters, the strongest "S" reading is usually found when pointing *AT* the true target (forgetting that most beams read slightly one side of their physical point direction). A 2-meter beam will not necessarily be pointing in the true direction of a signal when it produces the highest "S" reading. As I pointed out in a recent article, if no direct path is possible to your beam, and all information is from some reflected point, your highest "S" reading will be when you are aimed at the highest average RF point, regardless of where the true signal originates. It could theoretically be 135 degrees off.

The more elements in a beam, the narrower the aperture (as a rule). Some beams will be narrow enough to tell you reflective points as you rotate, since they do not include reflections outside their aperture, in the strength you see. Beams can be an excellent choice in many cases and sites. Proper use of them then becomes very important. Always remember what the *best* answer they could give you can represent; then compare it with the worst error it might be giving, and take other steps to determine which you presently have.

How many times have you heard someone proudly state on the air that they have a heading to a jammer with their beam? Some will even state that bearing as if to frighten the jammer away. Problem is, the jammer knows where he is, and often knows where you are. Given Murphy's law, your reading could be so far off that you just make the jammer feel much safer and encourage more jamming.

Another aspect of the beam, quad and loop antenna DFing, is the question of using "peaks" and "nulls." Many people have strong thoughts both ways. In reality, if the station is weak, the peak reading will be the sharpest indication of direction. On a weak station, the null can be very broad, depending on the gain of the antenna system. At VHF, in a very strong and reflective area, the null can be the sharpest indication. I use nulls when looking for ELTs at airports, when I get close.

A number of the switched antenna DF systems fall into the same general category as the beam, quad and loop, insofar as they can also provide a zero reading that is an average of all RF information seen while pointing in a given direction. At some of my Search and Rescue (SAR) ground classes, I would set up conditions to prove that any method of DF could be accurate when I put the test transmitter in an open field. I then would move the test transmitter in by a row of hangars. Using the same technology as billiards, I would have people DF from spots that I knew would cause certain reflective problems. People were amazed to see their unit pointing in the wrong direction, even though we were only 50 feet from something they could see without any obstruction. This was due to the reflections I had arranged with the metal hangars.

Part of the new switched antenna DF systems operate by sending a DC square wave up the coax to switching diodes. This creates a buzzing noise. Other circuitry uses differential amplifiers to display minimum buzzing noise, which occurs when the antenna array is pointed properly. As with the beam, this may have no actual relationship to the true transmitter location. Voltage-averaging DF methods have great difficulty telling you the difference between an "emitter" and a "transmitter."

Next month we will discuss the differences, as well as other DF possibilities, for remote-controlled repeater DF. Remember, all of these truths are applicable to your own personal DF needs at VHF.

ARRL Reno Pacific Division

Some of the DF statements we have made over the years have resulted in letters of disagreement. If you come to Reno for the convention, plan to attend the DF seminar and demonstrations. You can see some of the things actually happen. Actions speak louder than words. I will be glad to spend whatever time is necessary with all interested parties — for our mutual benefit. I have been unable to answer all the letters recently; not because I do not want to, but because there are not enough hours in the day. Do plan to visit with Janie and me at Reno — or if you pass through San Francisco sometime.

HAPPY FLYERS membership

For those who have been wondering, and to save you writing, the HAPPY FLYERS is a no-dues, no-membership fee organization. Our membership is made up of hams, pilots or FLYERS (those who are neither hams or pilots, but like to fly or are interested in flying). If you fall into any of those categories, you can be a HAPPY FLYER at large. Any five HAPPY FLYERS may charter a squadron in their area by writing Paul Hower, WA6GDC. Some squadrons have patches and pins. Calgary, Canada (VE6LH) and Orange, California (WA6SFP) have pins (our winged mic), and San Francisco, (WA6SCM) has hat and shoulder patches. We are happy to count you among our volunteer fraternity.

I believe that well over 30 squadrons have been started around the world. Free DF shows have even been translated for other countries. Paul Hower is in charge of our free lending library of films. (You must pay postage both ways.) □

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World Radio History

Wayne cries 'ouch!'

Dick AAR4PP

Wayne Green just wrote us an indignant letter about the February Army MARS column. I'll try to summarize it for you while responding to it.

First, if you remember, this column chided Wayne for failing to print a report we'd sent to him for his letters column in 73 magazine. That report had been of an Army MARS evaluation of CW; it said that CW was consistently getting messages through when sideband and RTTY were not. We had suggested that this report be printed in 73's letters column, so that readers might be shown both sides of the pro-anti CW question.

Wayne's letter defends his failure by passing responsibility to a "staffer" who "judged" the material to be "without merit." (Evidently, these "staffers" are trained to judge factual reports by "merit" instead of accuracy.) Therefore, Wayne explains, he never got to read the letter and couldn't *answer* it.

Answer it? Who asked Wayne to answer anything? My letter to 73 hadn't requested an answer. Nor had this column complained of any lack of an answer. We had ridiculed him for failing to *PRINT* the material, for hiding from his readers a report that might invalidate his own anti-CW polemics.

Now you know why Wayne Green keeps forever complaining that people misquote him: he doesn't know what he's reading! If you debate with him, you'll find yourself repeating, "That's *not* what I said, Wayne."

Well . . . what I *said*, Wayne was, "Evidently (Wayne) only has the courage to give exposure to two kinds of letters: 1) those which agree with him, or 2) those which disagree so foolishly that they make him seem reasonable by contrast." That's "give exposure to," Wayne — not, "answer," and I still stand behind that statement.

Since Wayne's letter to us covers more than two single-spaced pages, we can't fit it here. It just runs on and on, responding to things nobody said and calling them smears, prattling about what a busy executive he is, listing his travel itinerary and programs for new magazines, and accusing those who oppose him of being "fuddy-duddies." If you've read any of his public-martyr defensive stuff in 73 you know the whole routine — there's nothing new here.

What's to be learned from Wayne's behavior? Perhaps this: Amateur Radio is supposed to be fun. The moment a ham gets his ego soldered into his equipment, he becomes a detriment to the hobby, a source of annoyance. Well, if that described Wayne Green, what would you say about all those vocal, resentful hams who are forever taking Wayne Green seriously?

— Florida Skip □

Special Olympics

Paul Turkheimer, AFF6P/WA6NKL

Due to major construction in the Los Angeles area in preparation for the International Olympics in 1984, the California Special Olympics will be held at Berkeley for the next two years.

This event is traditionally centered around the University of California campus at Los Angeles, with communications provided by the LAAFS MARS Base Support Team. With the change of location, this event will be supported by USAF MARS members from Northern California. The new Project Manager, Jerry Pixtan (Col. USAF ret.), AFB6CV, is no stranger to these events, having been closely associated with this program and Air Force MARS while on active duty at Los Angeles AFS.

Your cooperation with AFB6CV will be appreciated. Mail your questions to him at P.O. Box 70458, Sunnyvale, CA 94036.

Letter of thanks

Paul Turkheimer, AFF6P/WA6NKL

Once in a while, a recipient of the USAF MARS traffic service takes the time to thank us for our service. Early in February, Bob Kline, W6LED/AFB6GW received such a letter. In part, it read:

"Dear Sir:
Thank you so very much for relaying the message to me from my daughter. You all are real hearts, and I will never be able to repay you or forget this wonderful service. I am 100 percent better having received your message when I arrived from work, believe me."

In addition to traffic handling, Bob is the Emergency Coordinator for the LAAFS Base Support Team and a key member who relays traffic from the Region traffic net into the Los Angeles VHF system. □

MARS ties the knot

Jim Farley, AFA6HD

On Wednesday, 26 January, at approximately 4:10 p.m. PST (Thursday, 27 January, 0100Z), Staff Sergeant Martha (Marty) Byerley and Senior Airman Carlos Paez were married. This may appear to be nothing unusual, but when you consider that Marty was at Osan AFB in Osan, Korea and Carlos was at his mother's home near Keywest Naval Air Station in Florida, it becomes a different story.

The ceremony was handled on a phone patch by MARS Station AFC6RI at Rockwell International in Anaheim, California. The telephone service from Anaheim to Florida was provided through the courtesy of Rockwell.

We believe this to be a first on MARS radio, and possibly the longest distance for any marriage by radio phone patch. We are all grateful to Rockwell International for making this event possible.

Pacific Phone Patch Manager, Russ Hudson, AFF6PC, did the preliminary work in getting things set up in Florida and with MARS station AGA8OS in Korea. When everything was ready, Jim Farley, AFA6HD, operated the phone patch. Although propagation was not as good as usual, everything worked out quite well and we were able to say "Mission Accomplished."

Maxine Haun, Manager of the Rockwell Employees Service and Recreation Center, was also present for the ceremony.

Our congratulations to Carlos and Marty. □

MARS monitors river conditions

Bart Sommers

When the river began rising recently, the Army Corps of Engineers in Baltimore (Maryland) was quickly alerted because dedicated MARS Amateur Radio operators have planned for this and other emergencies.

The local amateurs who are in the Susquehanna Emergency Network, part of the MARS organization, have as one duty the constant monitoring of the river. When the water rises above 15 feet, a routine message is sent to the Corps in Baltimore advising them of that fact. At 20 feet, things start hopping, again with the amateur responsible for communications.

Locally, five amateurs are members of the Susquehanna Emergency Network, 10 are in Army MARS; there are 50 Army MARS networks alone in Pennsylvania.

The Susquehanna Emergency Network is a section of MARS. It has one function: dealing with river emergencies. Its amateurs cover the watershed from New York state to Baltimore, providing the Corps of Engineers with up-to-date and detailed information, including hourly river readings and incidents. The amateurs tell the Corps what is going on, so it can get personnel up quickly if needed.

This local concern comes since the 1972 flood, so the Corps in Baltimore knows far more about Wyoming Valley river conditions than any other area of the river.

— Wilkes-Barre Citizens' Voice, PA □

Train your dog!

Yes, you can train your dog with it. Or you can swat mosquitos. Just look how versatile it is — you can get a campfire going with it and also line a birdcage.

What else has so many varied uses? For example: it can wrap fish and also be made into a fireplace log. Pretty terrific, huh? You can use it to mask paint jobs or shield the sun from your eyes. Marvelous!

Just think about it. You could turn it into a kite and then put it at the bottom of the kitty litter box.

Pack glassware with it or use it for insulation. It can clean your windshield and spank your children.

Look at all the things you can do with it, and at such a low price. Think of it; you could use it as a napkin, for collages and many other uses.

And best of all, you could read it. Yes, look at all that Worldradio can do for you. Just see page 9. □

Following is a reprint from the Spring 1983 edition of *HANDI-HAM World.*

Dear Bruce,

I received my call in July 1982 and was thoroughly elated to think I had actually passed an FCC exam! As you know, there's no feeling quite like that. I was anxious to try out my new-found skill, but alas — no rig! I called Maureen at HANDI-HAM headquarters to see if she could put me on a waiting list for a transceiver, which she graciously did. I prepared myself for what I thought would be a long wait, all the more anxious to get on the air.

When the Century 21 arrived, I was simply beside myself! At long last I could QSO. I cannot find the words to explain the utter joy I felt having finally operated a rig.

Well, just when I thought nothing else could be better, lo and behold it did! One of my best friends was responsible for what has to renew all our faith in our fellow man. My friend knew of a lady who owned a Tempo One SSB transceiver, complete with key and a microphone. He had heard the rig was up for sale and went to see her. It seems her first husband had been the original owner of the rig. This man was handicapped too, a victim of ALS. He later died of a heart attack.

By the time my friend came in contact with the lady, she had remarried. That nice lady, her second husband, my friend and I all sat down and had a nice short talk. We talked about my handicap and my love of radio. The lady then took me into her kitchen, where she had displayed the rig. She assured me that it hadn't even been turned on since the death of her husband. She wrote up a certificate of ownership and asked me to sign it. She said the rig was mine for free. She was happy for me to have it. I will never forget her for what she did.

In closing, I would like to note that my first logbook is dedicated to her first husband, and I only hope I can be as good an operator as she was generous! Thank you, Maureen and Courage Center for putting purpose in the place of emptiness.

73's and 88's,
WILLIE S. PORTER, KB4BLL
Nashville, Tennessee □

World Radio History

TRAFFIC

Chuck Clark, K4ZN
Assistant Director
Roanoke Division, ARRL

Break-in

If you have ever handled traffic on CW using a rig equipped for full break-in, and then have to use one not so equipped, you sorely miss the feature. It's downright disgusting to send a message and then after several minutes' work to be told, "I didn't get a word of it; someone came on top of you and started to call CQ." If your rig had break-in capability, you might have heard the CQer, or at least you would have heard the receiving station telling you that you weren't getting through.

VOX break-in is not quite as good, but it does fairly well if the hold time is kept to a minimum so that the rig switches back to receive at least during the space between words. Full break-in lets the receiver come on within a few milliseconds of the end of a character, so that you can hear the other station even during the spaces between the parts of a letter. Incidentally, your rig will have to switch that fast if you plan to use AMTOR, because the receiving station gives automatic acknowledgement or requests a repeat after every three letters.

VOX break-in as a minimum is almost standard for the CW traffic station these days; few serious operators don't have it. Voice break-in is almost universal not only among traffic handlers, but among amateurs from 160 meters through UHF; however, few traffic handlers use it. That is regrettable, because it has the potential to make voice traffic handling much more efficient.

Many of our rigs come with VOX capability. Probably most of us use push-to-talk, however, even if we do have VOX. But either way we have break-in capability if we use our rigs correctly.

If you are using VOX, set the delay control for a short hangover, so that your rig will switch back to receive between words. If you're using push-to-talk, take your finger off the mike button when you're not talking. You'll hear the tuner-upper who plops his carrier right in the middle of your passband. When that happens, ask the receiving station if it's causing interference. If so, you can move off frequency and keep on going; if you had not been listening between words, you would probably have read through the whole message before you learned the receiving operator was having trouble.

When moving to avoid a carrier, sometimes the best thing to do is to move your carrier to zero beat with that of the tuner-upper; just tune until the offending carrier drops out at the low frequency end of the audio spectrum.

I've never been able to figure out why more phone operators don't use break-in procedures. Instead, many make an unnecessary pause after saying "break" at the end of the address; in fact, many won't continue without a response from the receiving station at that point. Break-in is much more efficient, and it's actually simpler on voice than it is on CW. Maybe if readers of this column who handle traffic by voice will start to use it, the idea will catch on.

When you need to have something repeated, when the transmitting station is going too fast for you to copy, when somebody starts using an electric drill or a blender that wipes out your reception, push the button and say *break* during a pause in the transmission. I'll bet that about 90 percent of the time the transmitting station will keep on talking, but you will be dropping hints to other stations who may be listening, and in the other 10 percent of the time you will be able to get what you need on the spot instead of having to repeat much of the message later. When more people see what a time-saver it is, you will see more using it.

The QRU Net

The net manager reports, "For the past month we had 528 check-ins, handled 34 pieces of traffic, had 30 sessions."

Is that good or bad? It depends. Statistics are in themselves neither good nor bad. They are accurate or inaccurate. Good or bad has to be determined by some norm.

One thing that is good according to most people's standards in the above statistics is the 30 session total. That would mean the net met every day of the month. The only way it would be bad would be if the net was supposed to meet twice daily.

The daily check-in total averages out to 13.2 per session, which would be exceptional for some nets, good for many nets, and quite poor for others. How about the traffic total? Again, that depends. Some nets would call it excellent, some poor, and some would say it doesn't matter one way or another. It depends on how important traffic handling is to the net's members.

Particularly on the phone bands, many nets handle traffic as a sideline. Their main function is to provide a meeting place for amateurs of like interests to chew the rag. They function like the pot-bellied stove at the small-town general store of the early years of this century. If you wanted to give a message to somebody at the store, the group would be happy to assist, but that wasn't its purpose. For nets of this kind, traffic statistics are irrelevant.

But for a traffic net, the traffic total given above would be poor indeed. Probably 30 of the 34 messages would have been reports to the net manager, leaving only four other pieces of traffic handled during the month.

What to do when everybody checks in every session with no traffic? Throw up your hands and say, "Somebody had better start bringing traffic to this net or people will be dropping out"? That somebody had better be you; too often we expect somebody else to keep things going.

Bill Smith, W7GHT, has some ideas on ways to liven up a traffic net that has no traffic to handle. Here are a few oddball messages you can send:

"Please disregard my last message." Then a recipient might ask, "Please send me your last message so I can disregard it," or reply, "Your last message will be disregarded as soon as it is received." Or one might ask, "How will I know that a message will be your last?"

When away, send a QNC to all stations on the net: "Having a wonderful time, glad you aren't here."

Or more seriously, how about sending a message to a relative or friend somewhere, preferably one that asks for a reply, so that you generate two messages instead of one? Use Amateur Radio's traffic service for your correspondence where appropriate; you save money and keep the system alive.

Of course, the ideal thing is to solicit traffic from non-hams. In addition to keeping the system oiled, you can make friends for Amateur Radio, and we certainly need all the friends we can find.

Getting traffic from non-hams involves a bit of selling, however. Sometimes it seems harder to persuade someone to take something for nothing than to sell it. Our mercantile economy has led us to equate the value of something with its cost, forgetting that often the best things of life are free. But with a little persuasion you'll usually find a few "customers" for our service, maybe someone who wants to send a birthday greeting or something similar. When it is delivered and the word gets back to the sender, "I though that was a great idea, sending it that way, it was something different," Amateur Radio has two new friends.

When soliciting traffic, don't over-promise. We're a volunteer organization, and it often happens that we don't have an outlet for a message, or that an amateur somewhere along the line misses a schedule and delays the message. And there's always the possibility of a garble. But I'd say our record is at least 95 percent in getting it through. That's not bad, but of course, it's not good enough, either. Remember the limitations imposed by law on commercial traffic and international traffic.

However, even with our weaknesses, we have a service that we should have no trouble selling. One thing I've found people appreciate about traffic handled by Amateur Radio is that it's all done by people. Commercial communication is, for the most part, completely mechanized these days, with direct dialing on the telephone, automatic switching on the telegraph and other systems; but in Amateur Radio, one human operator passes the message to another human operator and eventually to the human operator who will deliver it.

A few other possibilities for generating traffic: the net manager can send a message of welcome to new net members; send messages to Novices informing them of the existence of the Amateur Radio traffic service, and inviting them to check into a suitable net; send get-well messages to amateurs and others who are ill.

Get it right!

As mentioned above, our record is generally good, probably better than 95 percent. But not good enough. It won't be good enough until we take care of that other 5 percent, too. One hundred percent is not an ideal to be aimed at; it's the minimum acceptable performance.

Gene Filipponi, AG2R, tells of the following conversation with the addressee of a message *(New Jersey Traffic Bulletin):*

"Is this the Benson residence?"

"NO!!! It ain't!"

"Uh, well, is this 346-1234?"

"Yeh, but there ain't no Benson here."

"Well, let me explain. My name is Gene and I'm a ham radio operator and I have a radiogram for Mr. and Mrs. Theo Rivera Benson of Oak Road, Wayne. Do dat name ring a familiar tune?"

"This is Theo Rivera of Benson Oak

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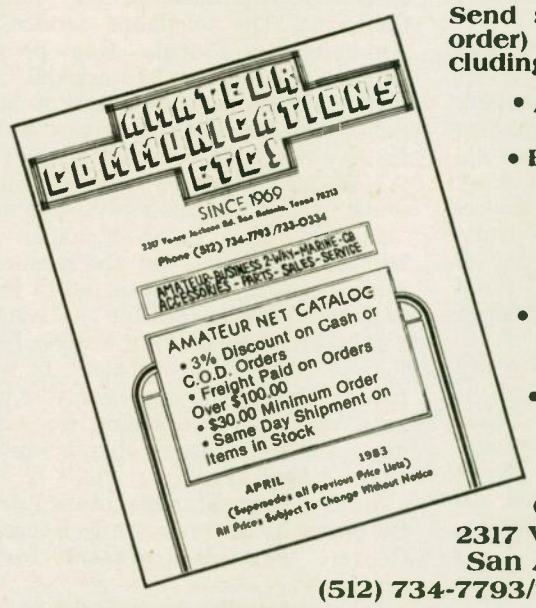

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World Radio History

Road in Wayne, so sit on that turkey . . ."

Seems that somewhere along the line, the Benson got moved from the front of the street name to the back of the addressee's name. Mistakes like these take up time and don't put us in the best light with the public, Gene concludes.

I'm reminded of one that happened to me about 10 years ago. I sent a message to my mother in California, requiring several relays. Somewhere along the line, the ARN at the end of the message, following the signature CHUCK, was tacked on the signature and my mother received it signed CHUCK AND ANN. A couple of days later, I received a message from Mother asking me to explain the Ann. I had to assure her that somebody goofed, that I was still a bachelor, a Catholic priest in good standing, a monk in his monastery, and not running around with Ann or with any other lady.

Stand by for emergency traffic?

"First, we'll take a stand by for emergency, priority or other time-valued traffic." Bob Weingaertner, WB2VUF, writing in the *New Jersey Traffic Bulletin*, calls this "utter nonsense," although it's a procedure frequently heard on voice nets (I've never heard it or its equivalent on CW). He's not referring to the fractured English, "take a stand by," one could write a regular column on the subject of the mutilation of the English language by amateurs, but to the misunderstanding of what these precedences actually mean.

If you have real emergency traffic, you would ordinarily use the telephone. If for some reason you can't, and Amateur Radio is your best bet, you wouldn't wait for a net to start; if you can wait that long, your traffic may not really be emergency at all.

No, when you have emergency traffic you should break in on any QSO or any net that can help. You may violate all the rules of net discipline in such a case, interrupt two stations who are in the middle of passing traffic — even priority traffic, calling MAYDAY, PAN, CQ EMERGENCY, SOS. When you have traffic that is of life-and-death urgency, the rules give you absolute precedence. So for a net control station to ask about emergency traffic at the beginning of a net is unrealistic.

As for priority traffic, there might be some reason, but what priority usually means is that it's a message to be handled ahead of welfare and routine traffic. It might be a help to the net control station in some cases to have it listed first, but if ordinarily all the traffic listed is passed during the net session anyway and in time to meet liaison with other nets, special treatment for priority traffic accomplishes little. Calling for priority traffic would make sense on a busy net with many check-ins and much traffic to handle, where routine traffic may be delayed an hour or two before it can be handled.

Time-valued traffic? I've never seen a definition, but I suspect this classification comes from a misunderstanding of the nature of priority traffic. Time-valued traffic seems to be understood to be traffic that needs to reach its destination before a given date to be meaningful, but not important enough to be called priority. The misunderstanding comes from thinking that designating a message as priority means it's more important than routine traffic. Actually, it's not a measure of the importance of the message — a routine message can be more important than a priority one, but is still designated routine because a delay of a day or two won't affect it. In other words, if it's time-valued, it should be listed as priority.

One exception must be made to the statement at the beginning of this section about giving emergency traffic absolute priority, and that is that stations with emergency traffic should not interfere with other stations which are also handling emergency traffic. In such a case, which might happen in a major disaster, net discipline must be observed, and more strictly than ever, as human lives are at stake.

So I agree with Bob; asking for emergency and priority traffic at the beginning of a net makes little sense. What often *would* be helpful is to call for stations which must close shortly ("on short time") and give them a chance to clear their traffic first. □

FD success

The Clark County ARC (Vancouver, Washington) enjoyed beautiful weather during its Field Day this year. Using 100 percent emergency power, they kept all their stations in continuous operation; 764 contacts were made, including ones from Japan and the Yukon. □

Radio classes

The Institute of Radio Communications (IRC) teaches the full radio course, consisting of the International Morse Code, theory, radar and teletype, to prepare the student for any grade of amateur or commercial FCC license. The course covers 40 three-hour lessons. Day and evening classes can be arranged.

If you want to learn about radio communications, this is the school for you. Contact IRC, 6108 Old Silver Hill Rd., District Heights, MD 20747. (Classes held at Citizens Bank Building, Room 211; phone 301-568-3185.) □

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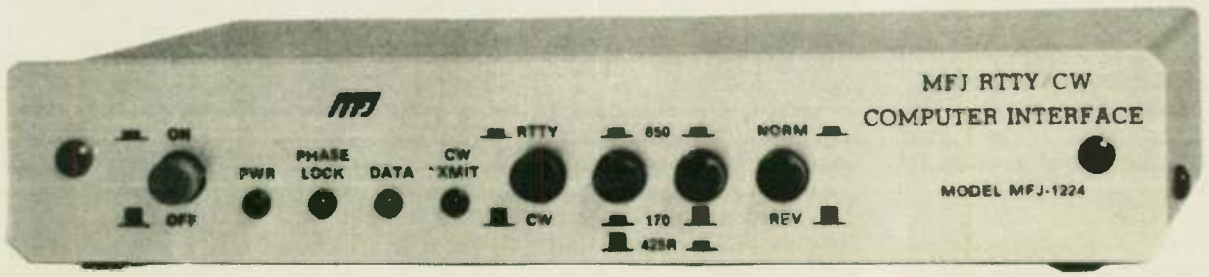

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It plugs between your rig and your VIC-20, Apple, TRS-80C, Atari, TI-99, Commodore 64, and most other personal computers.

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You can also use most other RTTY/CW software with nearly any personal computer.

A 2 LED tuning indicator system makes tuning fast, easy and positive. You can distinguish between RTTY/CW without even hearing it.

Once tuned in, the Interface allows you to copy any shift (170, 425, 850 Hz and all shifts between and beyond) and any speed (5 to 100 WPM on RTTY/CW and up to 300 baud on ASCII).

Copies on both mark and space, not mark only or space only. If either the mark or space is lost the MFJ-1224 maintains copy on the remaining tone. This greatly improves copy under adverse conditions.

A sharp 8 pole active filter for 170 Hz shift and CW allows good copy under crowded, fading and weak signal conditions. Uses FET input op-amps.

An automatic noise limiter helps suppress static crashes for better copy.

A Normal/Reverse switch eliminates retuning while stepping thru various RTTY speeds and shifts.

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A +250 VDC loop output is available to drive your RTTY machine. Has convenient speaker output jack.

Phase continuous AFSK transmitter tones are generated by a clean, stable Exar 2206 function generator. Standard space tones of 2125 Hz and mark tones of 2295 and 2975 Hz are generated. A set of microphone lines is provided for AFSK out, AFSK ground, PTT out and PTT ground.

FSK keying is provided for transceivers with FSK.

High voltage grid block and direct outputs are provided for CW keying of your transmitter. A CW transmit LED provides visual indication of CW transmission. There is also an external hand key or electronic keyer input jack.

In addition to the Kantronics compatible socket, an exclusive general purpose socket allows interfacing to nearly any personal computer with most appropriate software. The following TTL compatible lines are available: RTTY demod out, CW demod out, CW-ID input, +5 VDC, ground. All signal lines are buffered and can be inverted using an internal DIP switch.

For example, you can use Galfo software with Apple computers, or RAK software with VIC-20's. Some computers with some software may require some external components.

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World Radio History

Aerials

Lil Paddle

I say! Now even the usually proper **QST** has gone off into the land of make-believe. In an overly-long article outlining the search for an antenna that would exhibit broadband characteristics across the 80-metre band, the stately journal printed a most interesting SWR curve.

The notation read, "Curve B shows the SWR response of a broadband dipole discovered in the computerized search described in the text. This antenna has yet to be constructed and tested."

Why not, pray tell? Now, I shall spare you five pages of math, computer analysis, nine footnotes (one dating back to 1932), and tell you this: how to do it.

Simply, cut two dipoles — one for the low end of the band and one for the high end of the band. Join them in the center and feed them in the normal manner. It works!

Worldradio was sent a review copy of *The Radio Amateur's Handbook* and it was forwarded to us to comment on the antenna chapter. No, this is not the ARRL Handbook which we have all grown to know and love, but something put out by the giant Harper & Row publishing company of E. 53rd St., New York City.

Whoever supervised this book must have been mugged on the subway and never quite recovered. There is probably no worse way to spend $12.95 than on this bad joke.

Out of 387 pages, only 21 are about antennas. SWR is never mentioned. The vertical antenna rates two paragraphs, and it is *NOT* mentioned that without *radials,* a vertical is horrible. This book takes up a full page to give you the Greek alphabet (really!) but can't spare the space to tell about radials. However, on the same page as the tiny text about verticals is a picture of a 27 ft. parabolic dish.

How do you like this sentence? "It is impractical to use full doublets on 40 and 80 meters, because these would require large-diameter tubing 65 and 125 feet long." One hardly can comment on that!

The discussion on beams tells you that "If a second dipole slightly longer than the basic radiating antenna is placed parallel to and a critical fraction of a wavelength behind the latter. . . ." No actual figures or dimensions are given. *SOME* "Handbook" this is!

A picture of a quad is shown, but there is no text to explain that it has a full-wavelength loop, etc.

A picture of an antenna tuner is shown with this text: "Connected between a transmitter and almost any length of wire, this little matching coupler usually works wonders in coaxing signals out of the combination." Sadly, it is not explained *HOW* one accomplishes this feat. And wasn't that "almost any length of wire" just too cute? How about 12 feet on the 80-metre band?

The reader of this book is told he may acquire an "antenna analyzer." What on earth is an "antenna analyzer"?

At my age, I shouldn't let things upset me so, but when I read that amateurs are "bouncing their signals off" satellites it almost makes me say naughty words.

The amateur satellites receive signals and retransmit them. "Bouncing" signals was last done with a balloon called "Echo" back in the '60s.

In a book copyrighted in 1983, we're told, "Most amateurs use a method of voice modulation known as amplitude modulation (AM)." Also, you get first notice here that Extra Class amateurs have exclusive rights to 14,000-14,205. (I wish it were true.)

Probably the least harmful advice in this travesty is, "When going to take the FCC test, make sure you have a loaded fountain pen." *Fountain pen?* Even I don't use one any more.

Now, if you have ever wondered why there are so many "Kerchunckers" on 144, it is because they have read earlier editions of this book in which you are told to "Press the push-to-talk button on your mike and release it. If you hear a rushing noise that lasts about half a second, then press the mike bar again and start talking." Excuse me for a moment — I have to go take some pills.

However, this tome does solve the question of why you hear so many rotten signals on 2 meters — prior readers are talking into their loudspeakers as per the advice given.

Tears practically came to my eyes when the trusting reader was told to go on the air with, "Hello CQ, CQ, CQ, CQ, CQ, any 20-meter phone, CQ, CQ, CQ, this is. . . ." and then the whole thing is repeated with that total abomination "any 20-meter station" etc. Just who do you expect to answer you when you are on 20? A 6-metre station?

This is unbelievable . . . when you release your mike switch after the above, your "carrier will go off the air."

The author states, when talking about the ICAO phonetic alphabet compared with the older one, "this offers no advantage . . ." WRONG!! The Alpha, Bravo, Charlie, Delta, instead of Able, Baker, Charlie, David, was the subject of intense testing. This was done by the international airlines which has a rather high interest in all parties understanding each other.

First, they wanted words that all peoples of the world could *SAY.* Then, they ran the word lists through to people with noise introduced to see which words could be best discerned during poor conditions. Use It!

The photographs illustrating mobile operation bring back memories, but I really don't think there is an Elmac transmitter in any amateur's car today.

Another photograph is obviously an advertising PR picture, because I have serious doubts that anyone with a Knight-Kit receiver worked DU, VK, ZL, G, PY, EA, FP, YV, and more as the QSL cards on the wall would indicate.

The author relates a pointless anecdote about working England, Germany and North Africa from a mobile station in New York City. Later, while parked on a Denver hill a full mile above sea level, he shouted himself hoarse without getting a single reply after more than an hour of "dial twiddling." Why not explain how come?

Then we get some babbling about two stations using the same carrier frequency without interfering with each other, because one is on USB and one is on LSB, and this is "actually equivalent to doubling the width of the ham bands!"

My question is: what band is it that this occurs on? With so much left out of this book, why spend the space talking about "hand capacitance" which no one any younger than I can even remember?

I could go on and on. You may ask why do Kurt and I lash out at such books? First, we don't think such sloppy and slipshod work should be purchased when there are such things as the ARRL Handbook and the ARRL Antenna Handbook, as well as Bill Orr's Handbook, which are highly professional indeed.

We believe books are precious things. Books are forever. People will throw away magazines and newspapers. They will keep books. Therefore, the level of responsibility on the part of book publishers is far greater.

I see the cover picture of **CQ** has someone totally befuddled in trying to put up a dipole. No joke. Not his fault. He just read some of the books on the market today that added to his befuddlement. I'd suggest that before anyone attempts to write a book about this hobby, they go out and teach a licensing class so they can relate to what it is that a new amateur wants and needs to know.

The August issue of **CQ** does have some very interesting ideas in it — recommended. Probably one of the most important things in their special antenna issue is the ad on page 121 for the Palomar Noise Bridge. Anyone seriously interested in antennas should have one, or they are just kidding themselves.

An admonition is in order. Should you be one of those who write to **Worldradio** to complain that something we say is wrong, please approach it scientifically. You should say *HOW* we are wrong and how you are right. Name your references, (Kraus, Jasik, or even Maxwell) or quote from your own experimentation. Certainly you should clearly identify what it is exactly that you are referring to. A simple "they're wrong" is exactly that — simple.

(Lil Paddle goes by her alias for a very good reason — to protect people from themselves. This way she can go to hamfests and club meetings without someone coming up to her and arguing with her. She then would whip her slide rule out of her purse, prove the challenger wrong, and send him home crying.) □

See you in *Worldradio*

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

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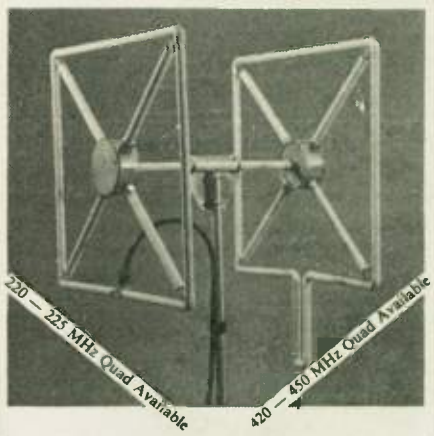

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1. Models with G suffix have GaAs FET preamps. Non-G suffix units have no preamp.
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World Radio History

Although the new Robot 400C color SSTV retrofit for the Robot 400 is not yet available from dealers as this is written in early July, more details of the new system are available. It is not known when the new 450C and 1200C scan converters will be out.

Two minor corrections to my July **Worldradio** report on the 400C. The old 400 width control does indeed become a camera gain control, but is not necessary to rewire the pot. In B&W, the camera gain control adjusts the contrast levels. Brightness levels are adjusted automatically by internal circuitry. In the color mode, the camera gain control adjusts the levels of color saturation.

The other four pots on the front of the 400 are removed. Two new switches are installed in the front panel and wiring connections are made. A front panel overlay covers the old holes and provides labeling for new and old switches. The new MODE switch has positions for each of three memories plus a composite and graphics position. The 400C is in the B&W mode when this switch is in any of the three memory positions. The 400C is in the color mode when the mode switch is in composite. The graphics position enables the 400C to utilize the new color graphics capabilities of the 800C when it is connected to the 400C.

The new SPEED switch has five positions. In B&W, the 400C can send and receive SSTV pictures at 8, 12, 24 and 36-second frame rates. In color, the 400C can send and receive SFC at 12, 24, 36 and 72-second frame rates. Four of the speed switch positions are labeled 8/12, 12/24, 24/36 and 36/72, and have a dual function depending on whether you are in B&W or color modes. The fifth speed switch positon is labeled AUTO, and on receive it will automatically load and display a full-screen SSTV picture at any of the new frame rates. Horizontal line tracking is automatic. The width control adjustment is no longer needed.

Other 400C features

A full screen 4 × 3 aspect ratio is included instead of the old 1 × 1 square picture. There are three separate 128 pixel by 120 line by 16 grey level shade memories. The four-bar grey scale at the bottom of pictures has been eliminated.

There is an automatic fine-tuning circuit built into the 400C. It will automatically lock onto the correct video receive frequency, even if your VFO is off-tuned to a more pleasant sounding voice frequency. The old grey scale switch positions are relabeled COLOR BAR. A full-screen color bar generator is included. The first frame sync mod has been incorporated, plus a transmit position cursor is displayed on the monitor.

The heart of the system is the 8051 microprocessor. The software is in an 8K EPROM and 2K of RAM. There are many SSTV color graphic capabilities when the 800C is connected to the 400C. I'll report on them in an upcoming column. It is interesting to note that the color graphics set is built into the 400C. Also, the patent application that is pending covers not only the new Robot SSTV equipment, but the new SFC SSTV transmission and reception system or format. I'm sure much time and many thousands of dollars went into this project.

How does it work?

In the space I have here, I will present only a general description of how the new SFC SSTV system works.

As mentioned earlier, the 400C has three separate 4-bit memories. Using a color camera, a color SSTV picture can be loaded into all three memories with one push of the snatch button. Using a B&W camera with RGB color filters, a color SSTV picture is loaded manually with three separate snatches. Irregardless of which method is used, once the color picture is in memory, it consists of luminance and chrominance picture information.

There is luminance and chrominance information in all three memories. Though technically not the same, luminance is often referred to as the B&W picture information. It provides the detail and sharpness in the picture. Chrominance is the color information in the picture.

Because there is luminance and chrominance information in all three memories, there is duplication of picture information amongst the three memories. When you transmit an RGB frame sequential or 25.5-second SFC SSTV picture, you are transmitting a certain percentage of the picture information more than once.

Using the microprocessor under software control, the Robot 12-second SFC system eliminates this duplication. The luminance information from all three memories is extracted, the duplication is eliminated, and the remaining primary luminance picture information is transmitted as a unit in approximately the first 66 ms. of each horizontal line of each 12-second picture. At the receiving end, the microprocessor reconstructs this picture information and places it in the correct memories. If you are copying these 12-second SFC transmissions on a standard B&W Robot 400, you can see a full-frame B&W picture.

The chrominance information is processed and transmitted in a similar fashion. However, it is sent as alternating lines of R-Y and B-Y in approximately the last 30 ms. of each horizontal line of the 12-second frame rate. The picture information and picture lines are further coded. Each line of video in the 12-second frame rate is approximately 100 ms. long.

The microprocessor of the receiving 400C take the luminance and chrominance information it receives, reconstructs the picture, and places the picture information in all three memories. The full-screen color composite SSTV picture is then seen on a color monitor.

New magazine

I reported in last month's column about a new SSTV magazine, SSTV TODAY, that is being published. I wish there was space in this column to report on all the activities, products and happenings in SSTV each month.

I have seen the first issue of this magazine and am quite impressed. There are regular SSTV News and On The Air columns, plus a monthly Who's Who in SSTV feature. Feature and technical SSTV articles are included each month.

You can receive a sample copy of this new magazine by sending a note or QSL card to: SSTV TODAY, P.O. Box 39, Bangor, MI 49013. □

Product Review
Micro-RTTY

CARS Technical Staff

Again, Kantronics brings another innovation into our marketplace, this time with their Micro-RTTY, which is a CW-to-RTTY converter and RTTY (radioteletype) receiver.

Micro-RTTY is ideal for the CW operator who wants to operate RTTY but doesn't want to spend an arm and a leg to get on. Kantronics suggested retail for Micro-RTTY is $299.95. Also to our surprise is that the unit supports hardcopy.

Hookup: Micro-RTTY is attached to your transceiver and keying equipment via connectors and jacks on its back panel. Seven connections are possible: power, audio input, external speaker, key-in and -out, printer, and the circulation mic-jack connector.

Kantronics recommends you use a shielded cable for at least the afsk lines. A printer attaches to Micro-RTTY via a 12-pin printer connector; the cable and connector are optional.

Operation: Micro-RTTY is controlled by four front-panel switches and Morse codes sent to it via the key-in jack on the back. Generally, the unit will be controlled automatically via the Morse codes sent to it; hence, this mode is called the automatic mode. Alternatively, you can switch between receive, transmit, and ID modes manually from the front panel. Either way, the Baudot or ASCII messages generated by the unit are a direct result of Morse codes inserted at the key-in jack.

It is possible, other than setting receive/transmit speed, to control the entire operation of Micro-RTTY with special Morse codes. Sending a dash will place the unit in transmit mode. Additional Morse characters sent to the unit will then be converted to Baudot or ASCII. Once you stop sending, the unit will delay for about three seconds and then return to receive mode.

Code input: Micro-RTTY will follow the speed of code sent to it; however, after power on, a dot and dash are needed to set initial speed. If code speed then changes, the unit will adjust to it.

Afsk: The afsk two-tone generator in the unit drives the mic-jack input of your transceiver. For best results, the audio level from this generator should be set as high as is practicable while maintaining a low audio gain level with your transmitter mic-gain control. The afsk level setting on the unit, on leaving the factory, was about -30dBm. We found this setting about right.

Attaching a printer: Micro-RTTY has a Centronics compatible printer interface consisting of seven data bit lines, a negative data strobe line, and a printer busy line. Many other printers besides the Centronics can use this interface, including the Epson MX-80 and the IDS Paper Tiger. We attached an MX-80 with good success.

Receiver tuning tips: In tuning radioteletype, the operator simply tunes his receiver until a desired signal is heard. Once the signal is found, the operator should then watch the tuning eye on the front panel. The operator should first tune to the low-tone side of the signal, in LSB. That side is found by tuning the receiver until the pitch goes lower and then nothing is heard. After the low-tone side has been found, the operator must tune upward in frequency very slowly while watching the tuning eye. When the tuning eye first begins to blink with the RTTY signal, the operator should stop. At that time, text should appear on the 10-segment display. Some fine adjustment might be necessary.

All in all, we found the Micro-RTTY a ball of fun! Sending code but receiving in RTTY was pleasing to this CW operator!

●●●

If you are involved in any emergency communications incident, send story and photos to *Worldradio*, 2120-28th St., Sacramento, CA 95818.

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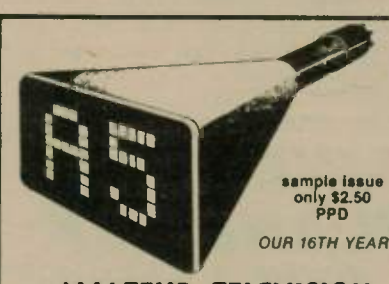

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World Radio History

Chuck Clark, K4ZN
Assistant Director
Roanoke Division, ARRL

Where can I get the parts?

Few amateurs build their stations any more. Is that because it's hard to get parts? Or is it hard to get parts because few of us build our rigs? Probably both statements are correct, but both together don't give us the whole picture.

One could build a station back in the 1920's using three to five tubes. But then there were only about 25,000 amateurs on the air and our bands were wider: the 40-meter band, for instance, extended from 7 to 8 MHz, and there weren't any foreign broadcasters in it, either. It was entirely CW.

Pack 10 times as many amateurs into less than one-third the space, add foreign broadcasts to two-thirds of the band that remains (plus the bootleggers in the bottom 100 kHz), equip most stations with phone rigs and kilowatt linears (the average station ran less than 100 watts 50 years ago), and the simple gear of those days won't measure up to the job at hand.

The result? We have at quite reasonable prices manufactured gear far superior in performance to the best available back then, so few amateurs see any point in trying to "roll their own."

Second, the readily available source of parts for home building has, to a great extent, dried up. Radio equipment in those days was mostly handmade, assembled from discrete resistors, capacitors, wire, terminal strips, tube sockets and the like. The price reflected the fact.

I remember when my father bought a TRF (tuned radio-frequency amplifier, not a superheterodyne) broadcast receiver — back around 1928 — that cost $65 and used nine tubes. You can buy a better receiver these days for $6.95. With that much money invested, the owner would find it worthwhile to have it repaired when needed. And repair was easy. Parts were large and accessible. Particularly, it was easy to change tubes. As a result, a radio service industry developed and a radio parts business supplied the service industry, and became a source for parts for amateurs as well.

The volume of business enjoyed by the service industry made it profitable to produce and distribute parts efficiently and inexpensively. Any community of any size had one or more radio parts stores.

Then television came along, and these businesses increased and multiplied. Things began to change when solid-state appeared, and went from bad to worse as circuit boards replaced chasses, as integrated circuits took the place of discrete transistors and other components, as the increased reliability of solid-state gear made fewer repairs needed, as the price for a repair job rose so high that it became cheaper to buy a new unit and junk the old one. Radio stores that had been in business for half a century closed their doors.

Why build?

With the parts situation what it is, a lot of us ask the question: why build? It seems there are two possible reasons: because I have to, or because I want to.

People with very limited budgets may find the only way they can get on the air is by the home-building route. It is possible to do it for practically nothing, thanks to the current practice of junking old electronic equipment. But I suspect that anybody who knows enough about electronics to go that route isn't doing it out of necessity. Such a person should find it easy to get work and soon would be able to buy ready-made gear. There is one good argument for doing some building even when you don't have to: there could come a day when you do have to build something — in an emergency for instance — and it could be important to know how to do it.

The previous sentence is an example of why one might build because one wants to. Other reasons could be to be able to brag that "I built it all myself;" to achieve performance better than is ordinarily available; to operate on frequencies not usually found in commercially-built amateur equipment, such as for MARS; to fit a special place where no commercial equipment is suitable; to enable handicapped people to use it. Saving money could also be a valid reason, even if one can afford to purchase ready-made gear.

Stores

There are still a few radio parts stores in business in the larger cities and in places where there is a market for industrial electronics. But when you see the prices, you're in for a shock. Variable capacitors that used to sell for a quarter or so now might cost more like $25, if you can find them. Many of the costs of designing, manufacturing and marketing are the same for a hundred units as for a million. Plus, it costs money to catalog, inventory and warehouse a part that may remain in stock for years before it is sold. You know who pays all these costs — you, the customer.

All the same, there are times when your local parts store is your best source. There are also the chains, like Radio Shack, where you can get some parts at fairly reasonable prices.

Radio Shack sells two ways. You can buy individual parts, and you can buy assortments. Say you want a 10 microfarad 15 volt electrolytic capacitor. The Radio Shack catalog lists one at 59 cents. But there is also a bargain assortment of 20 capacitors for $1.98, which figures out to 9.9 cents each. If you can use four of the capacitors in the assortment, they cost you less than they would if bought individually.

While Radio Shack is a good source for parts, the line is far from complete. You will often find you'll have to look elsewhere for a few things to finish your project.

Surplus dealers

When we were fighting in World War II, the word was *Produce!* More equipment was constantly needed to replace what was lost in battle and to equip additional personnel. As a result, when the war ended, enormous quantities of electronic gear became available at very low prices. Much of it is still around, and can often be used as a source of parts. You'll find, however, that material of that vintage won't work so well with today's circuits.

The old gear used tubes; today, tubes are becoming museum pieces. Tubes used high voltages and are high-impedance devices. Most solid-state gear uses low voltages and operates at low impedances. Tubes use resistors in the hundred-thousand ohm range, while a thousand ohms is more typical of low-level transistors. While you certainly can use a 600-volt mica capacitor in your transistorized equipment powered by a 9-volt battery, the capacitor could be as big as the rest of the circuit all together.

But surplus dealers also sell more recent equipment, manufacturers' overruns, discontinued items, defective parts, and sometimes items purchased as bankruptcy sales. If you do much building, it pays to collect catalogs from surplus dealers.

Where do you find the surplus dealers? You don't find much advertising of parts in amateur magazines any more. Your best source for names and addresses is ARRL's *Radio Amateur's Handbook,* which contains a listing of suppliers in the chapter on construction practices. I have dealt with several on the list, and have had nothing to complain of.

Amateur ingenuity

With new parts costing what they do, you can save a bundle by going the junk route in your construction projects, using untested transistors and integrated circuits, bargain assortments of other components, parts salvaged from surplus gear or from discarded electronic equipment salvaged from the trash heap, and parts you make yourself. But I believe the exercise of amateur ingenuity that this represents is of greater value than the monetary savings.

When you go this route, you are not following in someone else's footsteps; you have to blaze your own trail. You look at a discarded transistor radio and see how you can use it as an IF amplifier for a receiver. You test an IC chip and find that it has one bad gate, so you work out a way to make use of the other three.

Solving the problem at hand is important, but more important is the practice you get in developing new solutions to problems, in seeing further possibilities in what someone else has discarded as of no further use. That is perhaps the most sought-after skill in the labor market. People who can do that effectively are the ones who can name their own salaries. And they are also the ones who are able to make the most significant contributions to the art. □

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World Radio History

Information in "New Products" is supplied by the manufacturers to acquaint *Worldradio* readers with new products on the market.

Kenpro products

Once again, Kenpro Rotators and the entire Kenpro product line are available here in the United States, through full-time Amateur Radio dealers. This is especially good news to satellite and EME interests who know well the KR 500 elevation rotor, the only dedicated elevation rotator available in the world on a retail basis. In addition, there is a good supply of the huge KR 2000 RC, the strongest azimuth rotator available. With over 10,000 kg/cm torque and the ability to hold over 30 square feet of wind load in a tower configuration, this is the one to use where the wind blows and the ice and snow falls.

The KR 2000 has been chosen by most of the U.S. oceanographic fleet because of its durability. There are some units that have been in operation continuously, 24 hours a day, through pitching seas, tracking satellites, for over one year. Think about having your rotator turning continuously for a full year.

The well-known KR 400 and KR 600 are also available for your antenna turning chores. Handling 12 and 14+ square feet respectively, these fine rotors find their dependability from the same stock as the KR 2000. The KR 400 comes with two sets of mast clamps, while an extra set for the KR 600 can be ordered for mast mounting.

Kenpro also offers a fine line of accessory products for all amateurs. The KP 200 Memory Key, which operates off of 120 or 12VDC, is one of the most sophisticated keyers available today. With a 4K Bit programmable memory, as well as beacon and repeat functions, this is an outstanding piece of gear for the CW operator.

Other products include a 50 and 75 ohm balun handling up to 2kW and covering 160-6 meters: 2 and 6-meter GaSFet pre-amps ready for tower mounting — both have 12dB gain.; half-wave, 3.8dB gain flexy-ducky antennas for 2 meters and 432 (no more telescoping antennas to snap off); a complete line of AC and TVI filters; and a full-range tone encoder for the base or mobile station when using sub-audible tone devices.

To round out the line, Kenpro is offering their outstanding Thrust Bearings, handling 2" and 2½" OD masts respectively. The KS050 and KS065 are built like the rotators for long continuous service.

Kenpro products will be available through your local full service radio dealer. Suggested list prices are: KR400 — $149.95; KR 500 — $189.95; KR 600 — $259.95; KR 2000RC — $459.95. □

Power amplifier

The PAC30-130C is the latest addition to KLM's line of FCC type-accepted mobile power amplifiers. Power output is 130 watts with 30 watts drive, 115 watts with 20 watts, and 80 watts with 10 watts drive. The PAC30-130C is tuned at the factory for any 6 MHz, 150-174 MHz, at less than 1.5:1 VSWR. Bias is class "C" for FM and CW use.

Keying is RF-sensed or direct. In the "OFF" mode, input power is relayed directly to the antenna. In any mode, idling current drain is less than 10mA. Circuitry protection includes an over-temp sensor.

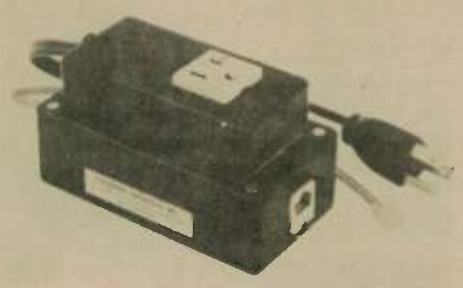
Ruggedly designed for mobile use, the PAC30-130G can also be run "fixed" with an appropriate 13.5VDC supply. For more information on KLM Electronics commercial power amplifiers or antennas, contact Everett Gracey-Vice President, Marketing at KLM Electronics, Inc., P.O. Box 816, Morgan Hill, CA 95037; (408) 779-7363. □

Modem protection

Electronic Specialists' expanding product line now includes KLEEN LINE MODEM protection. Models are available for standard 4-pin telephone modular connectors (RJ-11) and the wider 8-pin connectors (RJ-45).

Intended to suppress damaging telephone and power line spikes caused by lightning, spherics or phone office switch gear, the KLEEN LINE security system uses modern semi-conductor, Metal Oxide Varistor and Gas Discharge Tube suppression techniques.

Model PDS-11/SUP has suppression on red and green phone lines (pins 3 and 4) with yellow and black lines brought straight through. A 6500 amp suppressor protects the AC power line. Standard modular 4-pin telephone connectors provide simple, trouble-free hook-up. PDS-11/SUP at $81.95.



Electronic Specialists, Inc., 171 South Main St., P.O. Box 389, Natick, MA 01760; (617) 655-1532. □

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Package includes software on cassette, special user port connector, and complete instructions. $19.95 plus $2 shipping and handling. Order from RAK Electronics, P.O. Box 1585, Orange Park, FL 32067-1585. □

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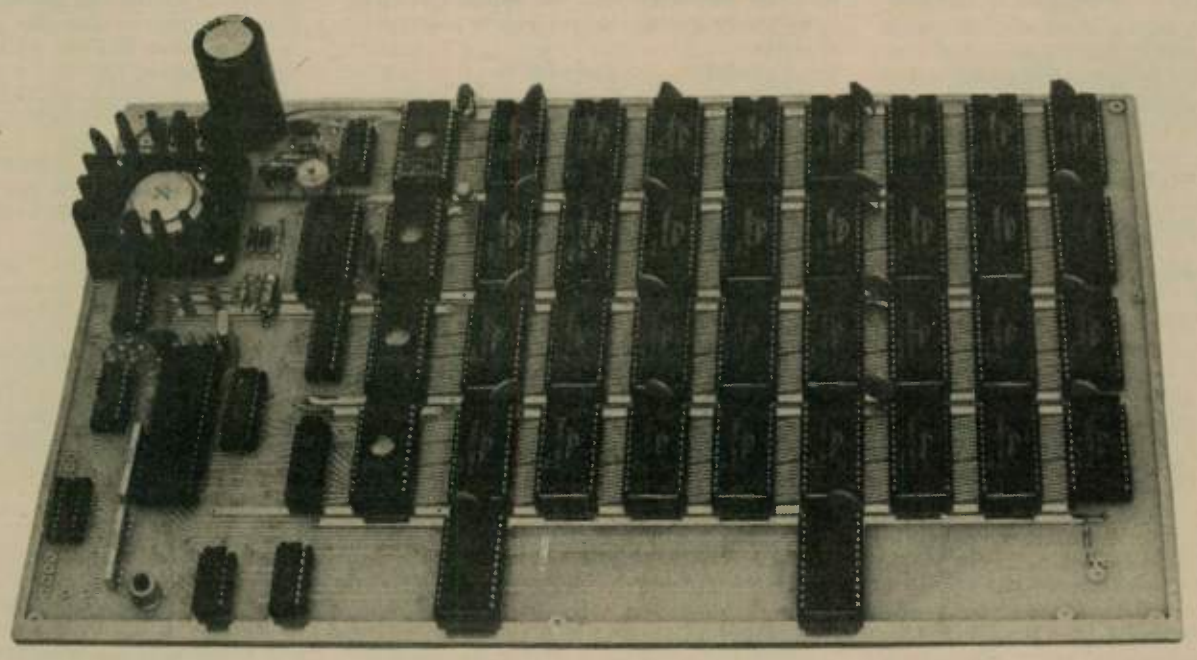

INFO-TECH M-700A
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The M-700A is a full-featured RTTY REPEATER CONTROLLER and MAILBOX. It is NOT an add-on to a home computer.

FEATURES:

Zilog Z-8 Microprocessor	Three modes of operation (user specified)
8K Program ROM	Over 30 commands
64K CMOS RAM	User Friendly operation
CMOS Real Time Clock	On-Board regulated power supply

Provisions for battery back-up of RAM and RTC

The M-700A is NOT a kit. It is furnished as an assembled, populated, and tested board with your semi-custom software installed. (Terminal unit and housing not furnished.)

PRICE $699.95

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Digital Electronic Systems
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World Radio History

Weather boot

No more sticky tape, no more messy rubber products! Kilo-Tec announces a new custom weather boot for use with RG-8X, RG-59, RG-59 and RG-8 coaxial cables and PL-259/SO-239 combinations. Simply slip the weather boot over the coaxial cable before soldering on the connector, then slide the boot over the PL-259/SO-239 for a good weather seal.

The boots are manufactured with a flexible vinyl material that resists moisture and breakdown from the sun's rays. The boots are designed to keep the connections clean and dry and keep moisture out of coax cables.

We offer three models to choose from, depending on the cable type used: Model KTB-58 for RG-58 cables; Model KTB-8 for RG-8 cables; and Model KTB-8X for RG-8X or RG-59.

Ask your dealer or order direct from Kilo-Tec, P.O. Box 1001, Oak View, CA 93022; (805) 646-9645. We offer a kit of two of each type (total of six each) for $5.95 plus shipping and handling.

Custom weather boots can be made for other types of cables and connectors. Contact Kilo-Tec for a quote on your special requirement. □

FM modification kit for IC-730

We are pleased to announce the availability of an FM modification kit that will make the IC-730 a true FM transceiver. After modification, you will have an 80W FM transceiver with dual VFO capabilities, allowing duplex operation for 10-meter FM repeaters, switchable to simplex on any frequency at the push of a button. The circuit described below also includes an option which allows you to maintain the AM operation, if desired. The IC-730 RIT pot becomes the squelch control during FM, and works as an RIT during SSB and CW. The added FM module fits on top of the RF unit.

The circuit uses a Motorola quadrature detector, for FM receive, A SK3223 TV-FM sound IF limiting amplifier for FM transmissions, and one transistor for DC switching. To receive the FM carrier, an MC3369P high-gain, low-power FM IF IC is used. This device was chosen because it was designed for narrow-band FM communication and data link. This IC has a built-in squelch and operates at 455 kHz.

The FM-730 is available directly through UIRC for $79.95 plus $3 shipping and handling. The FM-730 module is prewired and tested, and comes complete with a six-page instruction manual, with three pages of schematics and pictorials to make this modification a simple operation.

We have a good supply of these units in stock, so if you were thinking about getting on FM, now's the time. The UIRC (Users International Radio Club) evaluated this mod, and they recommend it. The FM-730 module is professionally designed, and the instructions are easy to understand; at least 25 IC-730's are now in operation using this modification.

For more information, contact UIRC, 364 Kilpatrick Ave., Port St. Lucie, FL 33452; (305) 335-5545. □

When submitting photos, please *DO NOT* write on the backs of them — they often stain the fronts of other photos, making them unusable.

ARRL Dakota Division Convention

The ARRL DAKOTA DIVISION CONVENTION will be held 23-25 September, at the Howard Johnson Motor Lodge in Sioux Falls, South Dakota. Registration and entertainment begin Friday evening.

On Saturday there will be forums, exhibits, flea market, code and voice recognition contests, 3900 Club luncheon, and ladies activities. ARRL President Vic Clark will lead the ARRL Forum. The Saturday night banquet promises to be a fun-filled evening for the ham and non-ham alike. Guest speaker will be KELO-TV agri-business commentator Jim Woster.

The convention will end Sunday morning with a worship service and 2-meter transmitter hunt.

Convention pre-registration prior to 1 September is $5; $6 at the door. Convention and banquet pre-registration is $15; $16 at the door. Banquet only is $10. Reduced motel convention rates are available.

Talk-in on 16/76 and 52/52.

For additional information, write to Sioux Falls ARC, P.O. Box 91, Sioux Falls, SD 57101. □

A5 Magazine/USATVS Fall ATV Conference

In cooperation with the 28th Annual York, Pennsylvania Hamfest (sponsored by the YORK ARC, KEYSTONE, ARC, HILLTOP TRANSMITTING SOCIETY and PEN/MAR ARC), A5 ATV Magazine proudly announces its 4th Annual Fall ATV Conference, to be held at York County Fairgrounds in York, Pennsylvania. The event will be held 23-25 September.

Conference will feature displays, speakers (subjects include SSTV, ATV, FSTV, RTTY and AMSAT), dinner banquet. Friday and Saturday evening sessions and Saturday day session $5; dinner banquet $10; total package price $25.

York County Hamfest opens 7:00 a.m., Sunday. Hamfest tickets $3, tables $5 each (two days).

Talk-in on 146.37/.97.

For more information, send SASE to John Shaffer, W3SST, RD 5, #9 Sharps Village, York, PA 17402. □

California

The 6th Annual Grass Valley Fly-in and Avionics Swapmeet will be held on 11 September, according to fly-in coordinator Fran Mitchell. The event will be held at Grass Valley — Nevada County (CA) airpark.

The fly-in, featuring the world's only swapmeet for aviation electronics, will begin at 8:00 a.m. and will conclude "sometime in the afternoon, when everyone has sold their radios," according to Mitchell. There are no fees of any sort.

Pilots of home-builts and antiques flown in will be entitled to free coffee and donuts in the morning, and a free bratwurst lunch at noon. Refreshments will be available for all. In addition, there will be free transportation for any visitor wishing to tour the gold mines and downtown areas of Grass Valley/Nevada City.

Co-sponsors of the fly-in/swapmeet, GOLDEN EMPIRE FLYING CLUB and RADIO SYSTEMS TECHNOLOGY, remind pilots that Nevada County Airpark is a mountain airstrip, and that density altitude can exceed 6,000 feet on a warm day. Nevada County (CA) Airport is 35 DME west of Lake Tahoe VOR on the 257 radial.

For more information, contact: Fran Mitchell, c/o RST, 13281 Grass Valley Ave., Grass Valley, CA 95945; (916) 272-2203. □

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SONOMA COUNTY RADIO AMATEURS, Inc. will be holding their giant indoor Amateur Radio flea market Saturday, 17 September, from 9:00 a.m. to 3:00 p.m. at the Sebastopol Community Center, 390 Morris St., Sebastopol, California, 5 miles west of Santa Rosa, just off Hwy 12.

Admission and parking are free. Indoor flea market spaces are $3 ($6 with table) at the door, or $2.50 ($5) in advance — reserve early for the best spots. Vendor set-up starts at 8:00 a.m. Radio clinic, refreshments, prizes, auction in the afternoon.

Talk-in on 146.13/73. Radio clinic, refreshments, prizes, auction in the afternoon.

For tickets and information, write: SCRA, Box 116, Santa Rosa, CA 95402. □

Colorado

The BOULDER ARC will sponsor its fall swapfest "BARCFEST" on 25 September. It will be held at the National Guard Armory, 4750 N. Broadway, Boulder, Colorado from 9:00 a.m. to 3:00 p.m.

Admission is $3 per individual or $3 per family. The admission price includes one seller's table. Free parking. This is the biggest swapfest for amateurs in the Colorado Rockies and features an indoor and outdoor swapfest and a snack bar.

Talk-in on 146.10/70 and 146.52.

For more information, please contact Tim Groat, KRØU, phone 303-466-3733; or write him at 1000 East 10th Ave., Broomfield, CO 80020. □

Georgia

The Rome, Georgia Hamfest sponsored by the Coosa Valley ARC will be held at the Rome (Georgia) Civic Center on Turner-McCall Boulevard on Sunday, 2 October. Barbecue and all the trimmings will be available. Admission will be the purchase of a prize ticket including ladies and children's prizes, too. Come enjoy the fun, food and fellowship.

For further information, contact Libbie Steadham, WD4PTE, 18 Poplar St., Rome, GA 30161; (404) 291-4658. □

Illinois

The PEORIA AREA ARC announces Peoria Superfest '83, to be held 17-18 September in the Exposition Gardens, West Northmoor Road, Peoria, Illinois.

Gate opens at 6:00 a.m.; commercial building at 9:00 a.m. Admission $3 advance, $4 gate. Activities include Amateur Radio and computer displays, huge free flea market, free ladies' bus to Northwoods Mall on Sunday. Full camping facilities on the grounds.

Talk-in on 146.16/76 (W9UVI).

For info and reservations, send SASE to Superfest '83, 5808 N. Andover Ct., Peoria, IL 61615. □

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RADIO EXPO 83 will be held 24-25 September at the Lake County Fairgrounds, just north of Chicago in Grays Lake, Illinois.

This event will feature displays of the latest in person-to-person communications, how-to and technical sessions, discussions with FCC and ARRL spokesmen, flea market, prizes, ladies' program and free camping. Camp area and flea market open Friday night.

Tickets are $4 for both days; $3 in advance.

Talk-in on 146.16/76, 146.52 and 222.5/224.10.

For more info or tickets, contact Mike Brost, WA9FTS, Box 1532, Evanston, IL 60204; (312) 582-6923. □

Indiana

The 4th Annual GRANT COUNTY (Indiana) ARC Hamfest will be held on Saturday, 10 September, at McCarthy Hall, St. Paul's Catholic Church, Marion, Indiana.

Doors open at 8:00 a.m. with refreshments, free parking and hourly prizes. Table reservations: $2 for 8 ft. table. Donation $2 advance; $3 gate.

Talk-in on 146.19/79 or 146.52 simplex.

For information/tickets, SASE to: Jerry Richards, KA9DLJ, P.O. Box 1146, Marion, IN 46952. □

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The HOOSIER HILLS HAM CLUB will have its 22nd Annual Hoosier Hills Hamfest Sunday, 9 October, at the Lawrence County 4-H fairgrounds, 4 miles southwest, on U.S.

VISIT YOUR LOCAL RADIO STORE

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2620 W. La Palma
Anaheim, CA 92801

Henry Radio
931 N. Euclid
Anaheim, CA 92801

Ham Radio Outlet
999 Howard Avenue
Burlingame, CA 94010

Jun's Electronics
3919 Sepulveda Blvd.
Culver City, CA 90230

Fontana Electronics
8628 Sierra Avenue
Fontana, CA 92335
(714) 822-7710 or (714) 822-7725

Jun's Electronics
7352 University Ave.
La Mesa, CA 92041

Henry Radio
2050 S. Bundy Dr.
Los Angeles, CA 90025
(213) 820-1234

Ham Radio Outlet
2811 Telegraph Ave.
Oakland, CA 94609

The Radio Place
2964 Freeport Blvd.
Sacramento, CA 95818
(916) 441-7388

Ham Radio Outlet
5375 Kearny Villa Road
San Diego, CA 92123

Quement Electronics
1000 S. Bascom Avenue
San Jose, CA 95128

Tele-Com/Alltronics
15460 Union Avenue
San Jose, CA 95124
(408) 377-4479 or 371-3053

Ham Radio Outlet
6265 Sepulveda Blvd.
Van Nuys, CA 91401

HAWAII

Honolulu Electronics
819 Keeaumoku Street
Honolulu, HI 96814
(808) 949-5564

ILLINOIS

Aureus Electronics, Inc.
1415 N. Eagle
Naperville, IL 60540

MASSACHUSETTS

TEL-COM Communications
675 Great Road
Littleton, MA 01460
(617) 486-3400 or 486-3040

MICHIGAN

Purchase Radio Supply
327 E. Hoover Ave.
Ann Arbor, MI 48104
(313) 668-8696

MISSOURRI

Henry Radio
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Butler, MO 64730

NEVADA

Jun's Electronics
460 E. Plumb Lane, #107
Reno, NV 89502

NEW YORK

Radio World, Inc.
Oneida Cnty. Airport Terminal Bldg.
Oriskany, NY 13424
(315) 736-0184
(800) 448-9338/out-of-state

OHIO

Universal Amateur Radio, Inc.
1280 Aida Drive
Reynoldsburg (Columbus), OH 43068
(614) 866-4267

TEXAS

Appliance & Equipment Company
2317 Vance Jackson Rd.
San Antonio, TX 78213
(512) 734-7793

World Radio History

Highway 50, of Bedford, Indiana.

Registration (or admission) charge $3 per person, swap shop $2.50, bring your own tables. Free fish fry, campfire, entertainment, coffee and overnight camping Saturday, 8 October. The gate will be open 10:00 a.m., Saturday, 8 October for campers and flea market setup (registration required). There will be registration prizes Sunday, prizes Saturday night, ladies' free bingo, and a raffle prize of a Commodore 64 with disc drive and printer. Food served on the grounds Sunday, 9 October.

Talk-in on 146.13-73; set-up on 3910 kHz.

For further information, contact Dick Reister (secretary), KA9JTZ, Hoosier Hills Ham Club, Box 891, Bedford, IN 47421. □

Louisiana

How radio amateurs correspond computer-to-computer will be demonstrated at Amacom '83, the New Orleans hamfest-computerfest, 15-16 October, at Delgado Community College's City Park campus.

Dr. Lawrence Levy and two other amateur operators from Metairie, Louisiana will explain a new activity of their hobby — the use of radio-teleprinters and computers for message storage operations and radio bulletin board stations.

Also on the agenda for visiting Gulf Coast radio amateurs and computer hobbyists will be a demonstration of a simple way to convert citizens band radios for 10-meter band Amateur Radio use, by Robert G. Heil, a loudspeaker manufacturer from Marissa, Illinois. He also will explain audio processing and audio equalizers for single-sideband equipment.

The convention is the 10th consecutive meeting of electronic hobbyists arranged by the JEFFERSON ARC. Other New Orleans Amateur Radio clubs are co-producing Amacom '83, including the GREATER NEW ORLEANS ARC, the DELTA DX ASSOCIATION, and the NEW ORLEANS VHF CLUB.

People interested in joining the Amateur Radio hobby are invited to a program by Craig R. Roberts, a New Orleans broadcaster, who will also show the film, "Introduction to Amateur Radio."

Theodore Saba of Metairie, an electronics engineer, will explain the designing of transistor amplifiers.

Dr. Paul J. Azar, Jr. — of Lafayette, Louisiana — will describe methods for predicting the best frequencies to use for communicating with various parts of the world on the lower shortwave frequencies, as a result of the diminishing sunspot cycle.

Radio amateurs wishing to upgrade their licenses may take tests offered by the New Orleans staff of the FCC.

Among the groups planning to meet during Amacom '83 are the QCWA, Army and Navy Military Affiliate Services, American Red Cross, and representatives of other southern hamfests.

An expanded flea market for the exchange of used electronic gear, commercial electronics exhibits, a banquet, tours of New Orleans, and awards for participants are being arranged.

Amateurs looking for directions or information about Amacom may use the Jefferson ARC's repeaters, W5GAD/R, on 147.285/.885 MHz or 449.0/444.0 MHz.

Reservations and more details may be obtained by writing Amacom '83, P.O. Box 73665, Metairie, LA 70033, or by calling W.D. "Bill" Bushnell, WA5MJM, chairman, at 504-887-5022. Advance reservations should be made before 5 October.

Admission will be $5 per person advance, including two tickets; $5 at the door, no tickets; family member $1, no ticket; and additional tickets, $5 for six.

Host hotel will be Howard Johnson's Motor Lodge Airport, 6401 Veterans Memorial Blvd., Metairie, LA 70003. □

Michigan

The GRAND RAPIDS AMATEUR RADIO ASSOCIATION, INC. will hold its annual Swap and Shop on Saturday, 17 September, at the Hudsonville Fairgrounds. There will be prizes, dealers and food concession. Indoor sales area and outdoor trunk swap area. Gates will open at 8:00 a.m. for both swappers and the public.

Talk-in on 146.16/76.

For more information, write: Grand Rapids Amateur Radio Association, Inc., P.O. Box 1248, Grand Rapids, MI 49501. □

Ohio

The big event of the summer hamfest season will be the Original 46th Annual 1983 Cincinnati Hamfest, to be held Sunday, 18 September, at Stricker's Grove on State Route 128 in Venice (Ross), Ohio.

Exhibits and booths, prizes, flea market, hid-

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TRS-80C Board	$59.95
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Hamtext™ Prices

VIC-20 Board	$99.95
Commodore 64 Board	$99.95

Suggested Retail $169.95

For more information contact your local Kantronics Dealer or:
Kantronics 1202 E. 23rd Street Lawrence, KS 66044

World Radio History

den transmitter hunt, good food and good fellowship will be offered. Entertainment will include a sensational and thrilling air show by the HAWKS.

For more information, contact Hamfest Chairman Elmer Schubert, W8ALW, 3965 Harmar Ct., Cincinnati, OH 45211. □

●

The Cleveland Hamfest 1983 and the ARRL Great Lakes Division Convention will be presented by the CLEVELAND HAMFEST ASSOCIATION.

On Saturday, 24 September, the ARRL/Cleveland Hamfest banquet. On Sunday, 25 September, Cleveland Hamfest, 8:00 a.m. to 5:00 p.m.

New location: Cleveland Aviation High School by Burke Lakefront Airport North Marginal Road between E. 55th St. and E. 9th St., off I-90 or I-77.

Special air mobile check-in prize, door prizes and grand prize. A prize drawing from last year's tickets too, but you must be present to win. Overnight parking available, plus forums, commercial exhibits, ladies activities, breakfast and lunch, and free parking in a secure area. Flea market opens at 6:00 a.m. at $2 per space. General admission $3.

Mobile check-in on 146.52, W8QV.

For advance tickets send a check or money order for $2.50 before 31 August to: Cleveland Hamfest Assn., P.O. Box 93077, Cleveland, OH 44101. □

Pennsylvania

The Pack Rats (MT. AIRY VHF ARC) cordially invite all amateurs and their friends to the 7th Annual Mid-Atlantic VHF Conference on Saturday, 1 October, to be held at the Warrington Motor Lodge, Route 611, Warrington, Pennsylvania, and our 12th Pack Rat HAMARAMA on Sunday, 2 October at the Bucks County Drive-In Theater on Route 611 in Warrington. Admission to the flea market is $3, with selling spaces $5 each. The gate will open at 7:30 a.m. *RAIN or SHINE* — bring your own tables. Advance registration for the conference, including a HAMARAMA admission, is $4.

Send to HAMARAMA "83", P.O. Box 311, Southampton, PA 18966, or Lee A. Cohen, K3MXM; phone (215) 635-4942. □

Texas

The 2nd Annual WICHITA AMATEUR RADIO SOCIETY Hamfest will be held 24-25 September, at the National Guard Armory, Wichita Falls, Texas. Activities will last from 8:00 a.m. to 6:00 p.m. Saturday, and from 8:00 a.m. to 2:00 p.m. Sunday.

Featured will be commercial dealer displays, computer dealers and demonstrations, large inside flea market (reserve your table *NOW*), prizes, 24-hour security, concession stand and free RV parking without hookups. Ladies' activities and prizes, too.

Local talk-in 146.34/94 and 147.75/15.

Pre-registration closes Wednesday, 21 September. Register early and join the celebration — $4; at the door $5. Swap tables $3 each. Mail pre-registration to WARS Hamfest, P.O. Box 4363, Wichita Falls, TX 76308. □

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Virginia

The TIDEWATER 8th Annual Amateur Radio Hamfest-Computer Convention-Electronic Flea Market will be at the Virginia Beach, Virginia pavilion on Saturday and Sunday, 8-9 October. Featured are dealers, special displays, forums, computers and satellite equipment.

Bring the XYL and stay at beautiful Virginia Beach. Free bingo and jitney bus from the pavilion to the beach. Visit the fantastic new Waterfront Festival Marketplace at nearby Norfolk Waterfront. She will love the specialty shops and restaurants. Show time is 9:00 a.m. to 5:00 p.m.

Admission $4 — good for both days. Advance ticket drawing for a transceiver, plus valuable door prizes. Flea market tables $5 one day, $8 both days. Commercial table space in exhibition area $15 both days; commercial booths $30 both days.

For info and tickets, write or call Jim Harrison, N4NV, 1234 Little Bay, Norfolk, VA 23503; 804-587-1695. □

Washington

The WALLA WALLA VALLEY ARC invites one and all to their 37th Annual Hamfest, to be held 24-25 September at the Milton-Freewater, Oregon Community Building.

Swap and shop at this hamfest. You'll be able to enjoy contests, new gear displays, antique, repeater and homebrew displays, and prizes. Ladies' activities as well as refreshments will be featured. Noon potluck dinner on Sunday — bring plenty of food and your own table service. Prize drawing tickets 50 cents each. Free registration. Camp and trailer space at Fort Walla Walla Park.

Monitoring 52-52, 20-80, 04-64, 16-76 and 3960 kHz.

For more info, write to Walla Walla Valley ARC, Hamfest Chairperson Pat Stewart, W7GVC, WWVARC, P.O. Box 321, Walla Walla, WA 99362. □

Wisconsin

The ST. CROIX VALLEY REPEATER ASSOCIATION will sponsor its 7th annual hamfest on Saturday, 24 September, in the American Legion Hall from 9:00 a.m. to 2:00 p.m. in Baldwin, Wisconsin. Admission is $2.

Talk-in on 147.93/.33 and 146.52 simplex.

For further information, please write to Bruce Olson, N9BLU, Box 91, St. Croix Falls, WI 54024. □

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RTTY Art Contest

The Southern Counties Amateur Teleprinter Society presents the World Wide RTTY Art Contest, to be held 1 September through 30 November 1983.

1) All licensed radio amateurs and members of their immediate families (except as otherwise provided in these rules), worldwide, are eligible to participate in this contest.

2) Entries must have been originated by means of manual input to a teleprinter using standard communications keyboard, and may be submitted only by the originator of the art, or by the amateur on behalf of a family member.

3) Submitted art may be of any subject suitable for transmission via Amateur Radio.

4) Entrants may submit as many entries as desired.

5) Each entry shall be given a short title.

6) Submitted art may contain overline shading.

7) Tapes of entries shall be formatted to permit a reasonably short running time, and to be compatible with machines which do and do not downshift on space. Compatibility with machines which interchange the bell and apostrophe is not required. At least three functions must be used between each line; normally: carriage-return line-feed letters.

8) Each line of the art shall be limited to a maximum of 68 characters (including spaces). Prints may be in two panels, no splices. Tapes must be limited to a maximum running time of 40 minutes for each panel at 60 wpm for the art itself, exclusive of any other information on the tape and contain no splices.

9) Each entry must have been transmitted for the first time via Amateur Radio after 1 September 1983 and must be accompanied by a confirmation of at least one receipt of its transmission, identifying the title of the art and the call letters of the receiving and transmitting stations. All confirmations must be in writing (not by RTTY transmission), and must have been obtained by the entrant from the receiving station. Entrants may obtain necessary transmission of their entry by any Amateur Radio station.

10) The tape and prints of each entry shall carry the full name of the author, call letters of the submitting station, and mailing address. This information shall be both written upon a beginning leader of the tape and punched in the tape to appear on page copy when reproduced.

11) Entrants must submit one five-level paper tape and five prints of each entry, and by such submission agree that the tapes and prints may be used, duplicated and published for any purpose. Tape submissions shall be of the 11/16th width only.

12) Tape, prints and transmission confirmation information should be securely packaged and sent to: RTTY Art Contest, c/o Norm Koch, K6ZDL, P.O. Box 1351, Torrance, CA 90505 USA. Entries must be postmarked on or before 30 November 1983. Entries will not be acknowledged or returned. Winners will be announced as soon as possible after the closing date. (Since mail-damaged tape will be of little value, it is suggested that tapes be wound tightly upon a hard core.)

13) Entries will be judged on the originality of the author in selection of subject matter; on excellence of technique in producing the art and formatting the tape; on overall appearance of the art when viewed from a distance; on suitability for publication; and on the entrant's compliance with these rules.

Amateur Radio makes the world that much closer. Get close to Amateur Radio; read **Worldradio**.

14) If an individual is the first place winner in a given year, they will not be eligible for nor considered for first place in the immediate following year.

They will be eligible for first place every other year. This does not preclude a station from entering and being considered for second, third or honorable mention places.

15) A committee of judges, made up from those amateurs who have exhibited an interest in RTTY Art, will select first, second, third and honorable mention winners. Winning entrants will receive a plaque for their particular places. Winning entries will be published in various Amateur Radio journals. The decisions of the judges shall be final, and no correspondence will be entered into regarding their decisions.

16) Officials and judges of this contest and members of their families shall not be eligible to participate herein. □

CAN-AM Contest

The CAN-AM (Canadian-American) Contest will be held the third and fourth weekends of September. The phone portion will be held Saturday, 17 September, 1800 GMT to Sunday, 18 September, 1800 GMT. The CW portion will last from 1800 GMT, Saturday, 24 September to 1800 GMT, Sunday, 25 September.

Multi-operator stations can operate full 24-hour period; single-operator stations can operate maximum 20 hours, with one or two rest periods, totaling minimum four hours and must be clearly marked in the log. Any further rest periods do not need to be logged.

Objective: Sponsored by the Ontario Contest Club to increase the friendship among Canadian and American Amateurs and to provide a means of measuring the performance of the operating skills and equipment.

Categories: 1) Single-operator — All band, Single band and QRP, stations operated by the station licensee; 2) Multi-operator, single transmitter — stations operated by more than one operator, or single operator other than the licensee, or club stations; 3) Club competition.

Bands: All SW bands, 1.8 through 28 MHz are permitted; U.S. General portion of the bands is recommended to use.

Number exchange: Signal report, use RS on phone and RST on CW, plus sequential QSO number starting with 001, plus multiplier area (MX) abbreviation, in that order (i.e., 59001CT, 599021NY). Multiplier area abbreviation is the usual two-letter postal abbreviation for 50 U.S. states, CN — for Caribbean (KC4, KG4, KP1, KP2, KP4, KS4, KV4 and their A- and W-prefix equivalents), PC — for Pacific (rest of U.S. possessions and Antarctica). Canadians will use: NF — VO1, VO2; NB — VE1 New Brunswick; NS- Nova Scotia; PE — Prince Edward Isl.; SI — Sable and St. Paul Isl.; PQ — VE2; ON — VE3; MB — VE4; SK — VE5; AT — VE6; BC — VE7; NW — VE8 NWT; YU — VY1 Yukon.

Multipliers: 50 U.S. states, 2 U.S. possessions (Caribbean, Pacific); 10 Canadian provinces, 2 territories (NWT, YU), 1 Islands (Sable, St. Paul). Total of 65 multipliers per band, maximum possible on all 6 bands is 390.

Points: 1) Americans to Americans, Canadians to Canadians QSOs count for 2 points; 2) Americans to Canadians and vice versa QSOs count for 3 points. The same station can be contacted once on each band and mode. Stations operating from outside of their own call area must sign slash and the area they are operating from (i.e. W6AM/7, NP4A/W4, W7RM/KH6, KHØAH/W6).

Scoring: The final score is the result of the total QSO points from all bands, multiplied by the sum of the multipliers from all bands. Phone and CW sections of the contest are considered separate contests. However, combined score for phone and CW will be used for overall competition. Combined score will be calculated by the contest committee as a result of the addition of phone and CW scores.

Awards: Handsome first place certificates will be awarded in each multiplier area on both modes in single operator category. Top five multi operator stations in each country will receive certificates for high combined phone and CW scores. All scores will be published in the CQ Magazine.

Trophies and plaques: *Single-operator, combined* — Canadian Champion, American Champion; *Single-operator, phone* — Canadian

World Radio History

Champion, American Champion; *Single-operator, CW* — Canadian Champion, American Champion; *Multi-operator, combined* — Canadian Champion, American Champion; *Club Competition Champion* — awarded to the club having highest score as a result of addition of five best scores on phone and five best scores on CW made by its members. A club officer must submit the summary showing the call signs and scores. Each station is eligible for one trophy only. In a case where one station qualifies for another trophy, the less significant trophy goes to the next eligible station.

Log instructions: All times must be kept in GMT. Indicate multipliers the first time only on each band. Log must be checked for duplicate contacts, correct QSO points and multipliers. Do not use separate logs for each band. Rest periods must be clearly marked in the log. Each entry consists of: log sheets, summary sheet showing all scoring information, category of competition, operator's name and call sign, address of the station and signed declaration. Entries with over 200 QSOs must include check sheets for each band. Official logs, check sheets and summary sheets with multiplier tables are available from the Contest Chairman, a large SASE with Canadian stamps (or U.S. stamps not glued to the envelope) will bring you the samples. Contestants are encouraged to use them; they greatly help with the processing of the entries.

Single band: Any band can be selected for the single-band category. All single-band entries will be judged in one category. It is up to the contestant to select the one that could bring him the highest point score for his particular situation.

QRP: A maximum of 10W input is allowed to use during the entire duration of the contest.

Disqualification: Violation of national Amateur Radio regulations or rules of the contest, unsportsmanlike conduct, taking credit for excessive duplicate contacts, unverifiable QSOs or multipliers will be deemed sufficient cause for disqualification. Incorrectly logged calls will be counted as unverifiable contacts. Actions and decisions of the CAN-AM Contest Committee are official and final.

Deadline: All entries must be postmarked no later than 30 days after the contest and mailed to: CAN-AM Contest Chairman, VE3BMV, Box 65, Don Mills, Ont. CANADA M3C 2R6. Please send your log regardless how small or big your score is.

The trophy winners of the 1982 CAN-AM Contest are as follows: John Sluymer, VE6OU (Canadian champion, combined); Bruce Draper, AA5B (American champion, combined); B.J. Madsen, VE5ADA (Canadian phone trophy); Mike Hart, AH6BK (American phone champion); Ken Dixon, VE3DZV (Canadian CW trophy); David Hachadorian, K6LL/7 (American CW champion); Prince George CC, VE7ZZZ (Canadian multi-op champion); Harvey Mudd College RC, N5FA/6 (American multi-op champion); Albuquerque DX Association (club competition). □

IARS/CHC

The International Amateur Radio Society and Certificate Hunters Club are pleased to announce their semi-annual contest. Dates will be 10-11 September (CW) and 17-18 September (SSB). Operating time for both weekends will be a 48-hour UTC period, starting at 0000Z.

Frequencies: CW — 70 kHz from the bottom of the band; SSB — 3960, 7260, 14300, 21360, 28600.

Exchange: Work stations calling "CQ CHC." Signal report, IARS and/or CHC number, and state/province or country. (Example: 599 IARS 955 CHC 1404 CA)

Scoring: Work stations once per band, no repeater or cross-mode. Multiply QSOs times countries times IARS/CHC members worked. (A member of both divisions will count as 2 multipliers.)

Entries: Mail by 1 December 1983 to Ted Melinosky, K1BV, 525 Foster St., South Windsor, CT 06074 with large SASE for results.

Awards: Engraved plaque to highest overall score. Certificates awarded to highest scorer per band and to the top 10 runner-ups.

Logging: Must show date/time in GMT, station worked, exchanges sent and received, QSO points claimed and claimed score. All entries with 100 or more QSOs include check sheet. □

Kansas State QSO Party

The 2nd Annual Kansas State QSO Party, sponsored by the Boeing Employees' Amateur Radio Society of Wichita (BEARSØ), will be divided into three operating periods as follows:

0100 UTC, 17 September to 0700 UTC, 17 September
1300 UTC, 17 September to 0700 UTC, 18 September
1300 UTC, 18 September to 0100 UTC, 19 September

All amateurs are invited to participate.

All bands and modes may be used. Stations may be worked once each band and each mode for contact points, and more than once each band/mode if they are additional multipliers. Kansas stations score 2 pts. for each phone contact and 3 pts. for each CW contact (including contacts with other Kansas stations), multiplied by the total of different states, Canadian provinces and other foreign countries worked. All others score 2 pts. for each phone contact and 3 pts. for each CW contact with a Kansas station multiplied by the total of different Kansas counties worked (maximum of 105). Multipliers are only counted *ONCE*, regardless of how many bands or modes they are worked on. There will be an additional multiplier of one for each group of eight contacts with the same Kansas county for all non-Kansas stations.

Kansas stations send QSO number, RS(T) and county. All others send QSO number, RS(T) and state, Canadian province or foreign country.

Certificates will be awarded to the highest scoring station (both single and multi-operator) in each state, Canadian province, foreign country and Kansas county. Additional certificates may be awarded at the discretion of the Contest Committee. Worked Five Kansas BEARS awards are also available to anyone working five club members before, during or after the QSO party. All QSO party entries will be screened by the contest committee for possible Worked Five Kansas BEARS Awards. All Kansas BEARS awards are administered by Mike Thornton, WAØTAH, Contest Chairman.

*Suggested frequencies: CW — 1805, 3560, 7060, 14060, 21060, 28160; Phone — 1815, 3925, 7260, 14280, 21380, 28580; Novice — 3725, 7125, 21150, 28160.

Logs must show dates, times in UTC, stations worked, exchanges sent and received, bands and modes used, and scores claimed. Include a dupe sheet for entries with more than 200 QSOs. Each entry must include a signed statement that the decision of the Contest Committee will be accepted as final. No logs can be returned. Results of the QSO party will be submitted to all usual amateur periodicals for publication.

Log sheets and summary sheets are available for an SASE. Log sheets and summary sheets must be postmarked no later than 20 October 1983 and sent to: Boeing Employees' ARS of Wichita, c/o Mike Thornton, WAØTAH, 1001 Munnell Ave., Wichita, KS 67213.

**Do not use the 10 MHz band.* □

Washington State QSO Party

The 18th Annual Washington State QSO Party, sponsored by the Boeing Employees' Amateur Radio Society (BEARS), K7NWS, will be divided into three operating periods as follows:

0100 UTC, 17 September, to 0700 UTC, 17 September
1300 UTC, 17 September, to 0700 UTC, 18 September
1300 UTC, 18 September, to 0100 UTC, 19 September

All amateurs are invited to participate.

All bands *(EXCEPT 10.100 to 10.150 MHz)* and modes may be used. *No CW contacts in phone bands!* Stations may be worked once each band and each mode for contact points, and more than once each band/mode if they are additional multipliers. Washington stations score 2 pts. for each phone contact and 3 pts. for each CW contact (including contacts with other Washington stations), multiplied by the total of different states, Canadian provinces and other foreign countries worked. All others score 2 pts. for each phone contact and 3 pts. for each CW contact with a Washington station, multiplied by the total of different Washington counties worked (maximum of 39). Multipliers are only counted *ONCE*, regardless of how many bands or modes they are worked on. There will be an additional multiplier of 1 for each group of eight contacts with the same Washington county for all non-Washington stations.

Washington stations send QSO number, RS(T) and county. All others send QSO number, RS(T) and state, Canadian province or foreign country.

Certificates will be awarded to the highest scoring station (both single- and multi-operator) in each state, Canadian province, foreign country and Washington county. Additional certificates may be awarded at the discretion of the Contest Committee. Worked Five BEARS Awards are also available to anyone working five club members before, during or after the QSO party (unless previously issued). All QSO party entries will be screened by the Contest Committee for possible Worked Five BEARS Awards. Worked Three BEARS Cubs Award is also available for working three Novice club members. All BEARS Awards (except QSO party certificates) are handled by Doyel Burleson, WA7HKD, Award Chairman. See page 28 of the August 1979 issue of 73 magazine.

Suggested frequencies: CW — 1805, 3560, 7060, 14060, 21060, 28160; Phone — 1815, 3925, 7260, 14280, 21380, 28580; Novice — 3725, 7125, 21150, 28160.

Logs must show dates, times in UTC, stations worked, exchanges sent and received, bands and modes used and scores claimed. Include a dupe sheet for entries with more than 200 QSOs. Each entry must include a signed statement that the decision of the Contest Committee will be accepted as final. No logs can be returned. Results of the QSO party will be mailed to all entrants. *SASE is NOT* required.

Log sheets and summary sheets are available for the asking. Log sheets and summary sheets must be postmarked no later than 19 October 1983 and sent to: Boeing Employees' ARS, c/o Willis D. Propst, K7RS, 18415-38th Avenue South, Seattle, WA 98188. □

Oregon QSO Party

The Hermiston ARC will be sponsoring the Oregon QSO Party from 1700Z, 1 October until 0800Z, 2 October; and from 1500Z, 2 October until 0000Z, 3 October.

Exchange: *Oregon stations* — signal report and county. *Others* — signal report and state/province/country. A station may be worked once per band and once per mode.

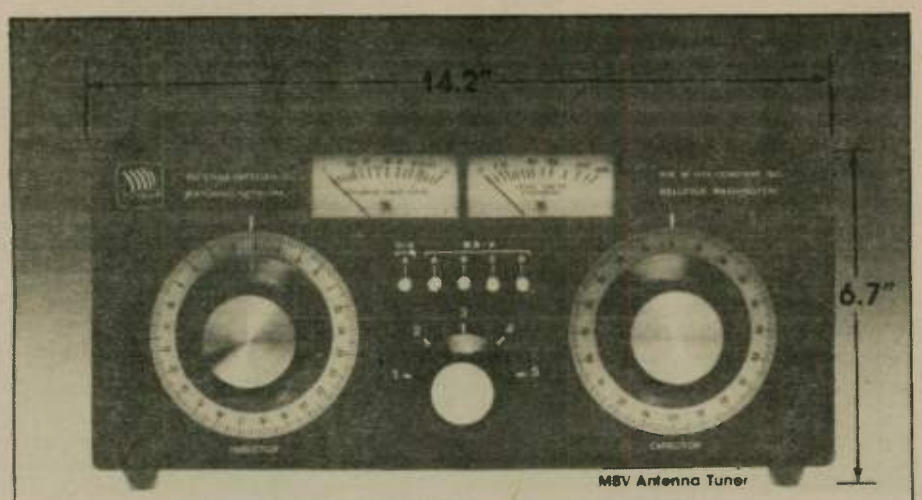
Categories: Mixed mode, or CW only.

Suggested frequencies: *Phone* — 1810, 3929, 7260, 14300, 21370 and 28600. *CW* — send CQ OR, 60 kHz up from bottom of each band. *Novice* — 10 kHz up from bottom of each Novice band.

Count 1 pt. per QSO. Oregon (OR) stations multiply QSO points by the sum of OR counties, states, provinces and countries. All others multiply by the sum of Oregon counties worked. There are 36 OR counties.

All entries must have a log and summary sheet. (Our summary sheet is available from KA7IXH for SASE.)

Logs must be received by 4 November 1983. Mail to Bob Franklin, KA7IXH, Rt. 3, Box 3783, Hermiston, OR 97838 (send large SASE for results). □



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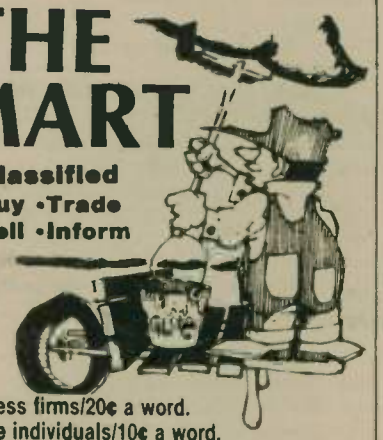

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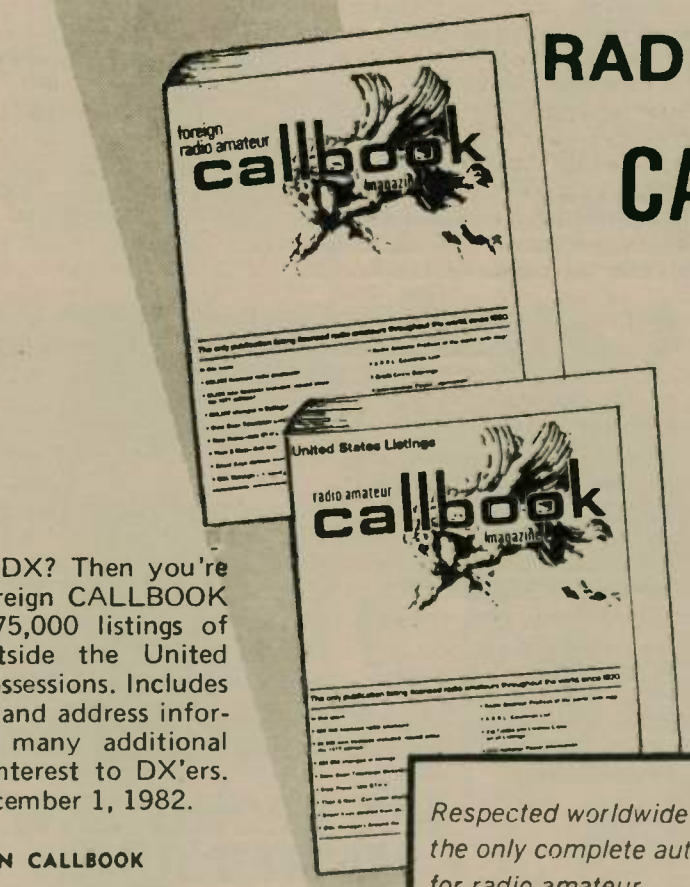

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