Worldradio

Year 13, Issue 1

August 1983 • 85¢

FCC lifts rule restrictions

The FCC has lifted certain amateur rule restrictions. Effective 15 June, amateurs using radioteleprinter codes or fast scan TV will no longer be required to identify in International Morse Code or plain language voice. If using Baudot, ASCII or AMTOR, stations may identify using the particular digital code being used for the communication. If using other digital codes above 50 MHz, stations may identify using Baudot, ASCII or AMTOR. Fast scan TV transmissions using the U.S. 525 scan line standard described in Part 73 of the FCC rules may be identified in video.

The CW or plain language voice ID requirement will still apply to facsimile and SSTV transmissions. Amateurs will have the option to continue using CW or voice ID as at present for radioteleprinter or fast scan TV. Also, the maximum frequency shift for digital communication will be raised from 900 to 1000 Hz in the HF bands. Above 50 MHz the maximum shift will depend on the signaling rate used.

The FCC also modified the rules to permit the renewal of interim amateur permits. These changes became effective 15 June. — *ARRL* □

Goldwater to speak

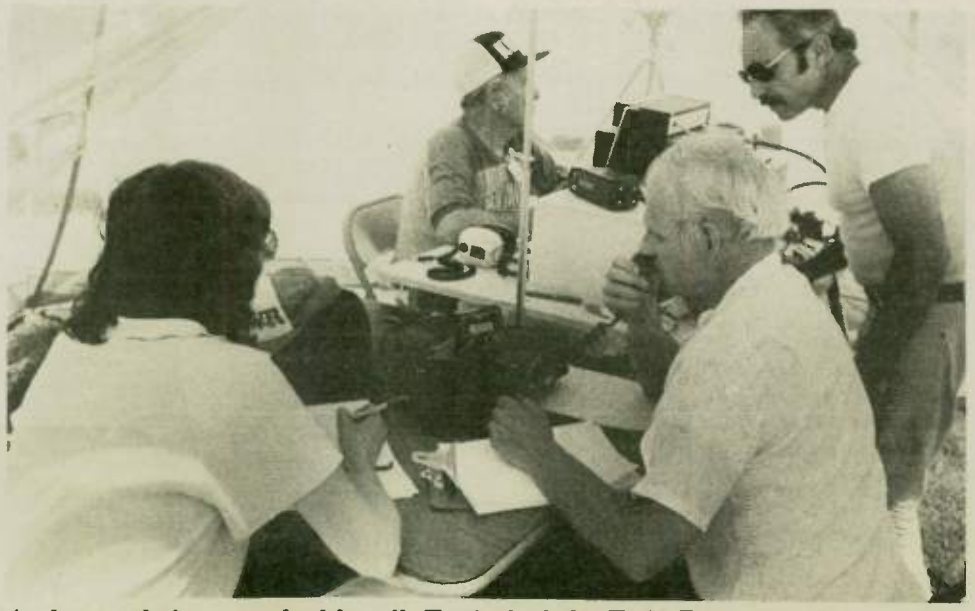
Senator Barry Goldwater, K7UGA, will address Amateur Radio operators across North America via the Teleconference Radio Net (TRN), 1 September, at 7:30 Central Time. More than 75,000 amateurs are expected to be listening to K7UGA through TRN's interconnection of over 200 repeater stations in the United States and Canada.

K7UGA's talk is planned as a question-and-answer session with amateurs on the net to allow discussion of the "hot" topics in Amateur Radio today, and to provide interaction with a large number of amateurs across North America. To borrow a line — when Barry speaks, everybody listens!

Net control station for the September 1 net will be Ron Blessin, AF7A. The teleconference bridge engineer will be Lou Appel, KØIUQ, in Minneapolis.

Then, on 1 December 1983, the featured speaker on TRN will be "Rip" Riportella, WA2LQQ, president-elect of AMSAT, speaking on "The Amateur Space Program."

For information on how to tie your repeater into the TRN, send SASE to Dick Whiting, WØTN, the net manager, 7749 Diane Drive, Minnetonka, MN 55343. The TRN is a service of the Honeywell Amateur Radio Clubs of Minneapolis, Billerica and Phoenix. □



And a good time was had by all. Typical of the Field Day operations was the merry mob from *Worldradio*. Chris Wilson, KA6TAL, logs; John Minke, N6JM, operates; Jack Schwartz, WA6TRZ, kibitzes; Norm Brooks, K6FO, waits his turn to operate CW so some serious work can get done.

Field Day 1983

"A handful of Amateur Radio operators and untrained firefighters played crucial emergency roles after the May 2 earthquake that devastated Coalinga, government, investigators said yesterday . . . . Virtually all communications with the outside were interrupted, with Amateur Radio operators handling emergency calls."
— Associated Press, 13 June 1983

The ability to perform comes by practice. And on 25-26 June, about 30,000 Amateur Radio operators — divided into nearly 2,000 groups — did practice.

From Hawaii to Nova Scotia and from Puerto Rico to the Yukon, radio amateurs spent 27 hours in the American Radio Relay League "Field Day." This year's event was a special one, as the first such exercise was in 1933.

This annual test of readiness ensures that no area would be cut off from the outside and the needs of the stricken locality would be met. In this drill, the ability to have transcontinental communications *WITHOUT* electricity furnished by utilities is rehearsed.

The amateur provides a truly unique service because, during emergencies, when governmental communications services have failed, the amateur "gets the message through."

Without exception, every situation of need finds the amateurs involved. Earthquakes, tornadoes, hurricanes, floods, power blackouts, accidents and more, are situations where Amateur Radio stations are set up and prove the highest degree of reliable communications. Every level of government and all relief and charitable agencies call on the amateurs.

When the events arise — "This is not a drill" — it is those who have been on drills that rise to the occasion.

As the League phrases it, "to learn to operate in abnormal situations under less-than-optimum conditions. A premium is placed upon skills and equipment developed to meet the challenge of emergency preparedness and to acquaint the public with the capabilities of Amateur Radio."

The mental, physical and electronic resources necessary to furnish good solid communications do not happen accidentally.

The logistics of supporting people and equipment takes planning and teamwork. The operator skills in maintaining log and dupe sheet with speed and accuracy; pulling weak signals out; articulating so as to be understood — all are developed to be called upon if necessary.

And called upon they will probably be. Hardly any area of the country has gone untouched. For example, it was the amateur's stellar role in the Alaska earthquake that led to the Amateur Radio postage stamp that was issued, (one year after the event), on 15 December 1964.

In fact, there have been occasions when the amateurs had to pull out of the drill to go into "the real thing" mode.

At the first club meeting after Field Day, there will be critiques, and planning will begin on how to do better next year. □

QSO the astronaut

Your opportunity to contact Dr. Owen Garriott, W5LFL, while he is on *Columbia* is quite possible.

Launch date for the mission is now set at 30 September, and the ARRL will be the QSL manager. You will transmit from 144.910 to 145.470 (in 20 kHz steps) and listen on 145.510 to 145.770 (also in 20 kHz steps).

Garriott will transmit on the even minutes (for one minute) and then listen on the odd minutes (for one minute). He will log all calls heard and then acknowledge the calls heard. There may also be the possibility of regular-type QSOs.

Owen K. Garriott, W5LFL, will operate a handi-talkie during off-duty time while aboard space shuttle *Columbia* this fall, to communicate with thousands of Amateur Radio operators around the world.

Ground stations should be able to make excellent contact with 10 watts to a vertical. However, a turnstile antenna — no higher than rooftop level (giving a higher angle of transmission) — may be preferable at times. In fact, it is believed that 1½ watts into a "rubber duck" will be sufficient for contacts. The signal from *Columbia* will be strong enough to be received on a scanner indoor antenna.

On a direct overhead pass, the communications time will be about eight minutes; other passes may be from three to four minutes in length.

Columbia will have an altitude of 155 miles and will circle the Earth in 90 minutes. Garriott's amateur activity will be on his rest periods. The crew will have a 12-hour work schedule and a 12-hour off schedule.

Garriott will call for areas or sections of the countries he passes over. With an inclination of 57 degrees, most of the Earth's land will be covered during a day. It is expected that Garriott's operating time will be about one hour per day. He (*please turn to page 7*)

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August 1983 Vol. 13, No. 2

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

Our goal is to be a valuable resource of ideas and experiences beneficial to the Amateur Radio community. We publicize and support the efforts of those who bring the flame of vitality into this avocation.

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

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

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

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

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Second-class postage paid at Sacramento, CA.

NEEDED: West Coast weather info

Gerald Murphy, K8YUW
Hurricane Watch Net Manager

The Hurricane Watch Net has, for many years, been dedicated to saving lives and property which are threatened by hurricanes. In the past, our capabilities were limited to only Atlantic storms; those approaching the Western Hemisphere from the Pacific side were not included because the required data and liaison were simply not there. With the rapid advancement in both NWS and amateur communications systems, I am convinced this net can and must meet the challenge to include these Pacific storms, with some help from our friends in the West.

While we have several sources for weather information concerning East Coast storms, we have no access to West Coast sources . . . yet. This letter seeks your help in asking West Coast amateurs for a volunteer or volunteers with some access to either NWS San Francisco, the western AFOS (NWS Computer Network), or RTTY capability directly from NWS networks.

I would very much appreciate hearing from volunteers with this or these capabilities by letter, radiogram or telephone. My address is 1615 Orchard Grove Ave., Lakewood, OH 44107; phone (216) 226-7497. Or contact KØIND/4 on 14.313 or K4RHL on 14.332 MHz. The three of us share the responsibility for recruiting and training net liaison and control stations. □

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

Standing in front of one of the homes that burst into flame in Van Nuys are (left to right): Hugh Davies, K6TLJ; John Olip, WB6YQT; and Perry Cohen, WA6AKU.

Hams assist after plane crash

Lenore Jensen, W6NAZ

Communications were urgently needed following the crash into two private homes by a small aircraft on 12 June in the center of the San Fernando Valley. Fourteen members of the Valley Operation Ham Watch responded promptly to the four-block square residential area roped off by police.

The Beechcraft Baron had taken off only minutes before from the nearby Burbank Airport when the pilot apparently lost control, the plane flying with its wings perpendicular to the ground, skimming across rooftops until the crash when it burst into flames, as did the two houses. The pilot and passenger were killed, but fortunately the residents on the ground escaped injury.

With parts of the aircraft scattered over a wide area, the FAA and National Transportation Safety Board personnel needed assistance in locating the parts and preventing souvenir hunters from taking them. The police were glad to have so many additional "eyes and ears" in coping with the sightseers who ringed the area.

Sgt. James Flavin, coordinator for the Valley Ham Watch, reported excellent work "as usual" by the amateurs who regularly participate in surveillance and communication teams. The group has been active for two years, helping with crime prevention and in operations which have resulted in a great number of arrests.

Emergency call-outs occur in time of disaster and also during major unusual occurrences which deplete the manpower of LAPD.

Well over 4,000 hours of surveillance have been counted, plus many hours of training given by Van Nuys Area Supervisors and officers of the police department. The Ham Watch Team is QRV!

Repeater list update

In the first three weeks since the new Henry Radio/N6BVU Repeater List has been available, N6BVU has compiled almost 80 changes or additions to the list. For your free update, send SASE (#10 business envelope) to Karl Pagel, N6BVU, P.O. Box 6490, Orange, CA 92667.

The free Repeater Directories mentioned in last month's **Worldradio** are still available. Send SASE (9″ × 12″ manila envelope with 71 cents postage) to Karl Pagel, N6BVU. □

New third-party

The State Department has informed ARRL HQ of a new third-party traffic agreement between the United States and Swaziland, prefix 3D6. This agreement became effective 26 June 1983. —*ARRL*

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FEATURES

COLUMNS

Bay Area hams jump in and help

Walter Read, W6ASH
Santa Clara County DEC

The quake was quite strong in Los Altos and surrounding cities (San Francisco, California bay area), and consequently, over a dozen local Amateur Radio operators reported in on the local repeater, W6ASH/R, within a minute. All local reports were about the same, so operators were assigned to monitor other repeaters and networks. W6ASH put out a general call on the Mt. Diablo repeater, WA6EUZ/R, and in seconds had reports of approximate strength of the shake from 20 cities stretching from Shasta to Fresno. It appeared that the strongest shake was in the Fresno area. On returning to the local repeater, and within 15 minutes of the shake, reports from Coalinga had been picked up stating "downtown in ruins and burning."

We immediately called KGO-TV with the report. Later they called back and got up-to-the-minute reports from Bill Robinson, WB6OML, our PR man, and put him on the air, on the 6:00 p.m. newscast.

Meanwhile Ted Harris, N6IIU, was monitoring our network. He passed the information to the Red Cross Division Headquarters in San Francisco. His information updated theirs, and since Coalinga is in our division, they decided to immediately send the Palo Alto radio-equipped van down with a damage assessment crew. Ted came back on W6ASH/R and called for volunteers. Walt Read, W6ASH; Jim Koski, KT6W; and Bob Tarone, WA6ZBX, responded. Walt loaded his car with HF, VHF, scanner and antennas. Jim loaded his car with a gasoline generator and antennas. Ted got the Palo Alto van loaded with cots and vital disaster kits. Through coordination on the repeater, we were on the road in a convoy by 7:00 p.m.

The repeater mentioned above, W6ASH/R, is owned by the Southern Peninsula Emergency Communication System (SPECS). It is located on the El Camino Hospital in Mountain View, and is dedicated to public service. Some other frequencies used en route and at the disaster scene were 3902 kHz and 147.33 MHz.

Ted N6IIU is Disaster Chairman for Palo Alto Red Cross. Representing the Division, he was in contact by Amateur Radio with San Francisco and Coalinga during the trip. He obtained clearance through the CHP roadblocks, got directions to the temporary Red Cross shelter and, among other things, arranged for feeding the victims!

We arrived at the Red Cross shelter in the West Hills Community College gym about five hours after the quake. Power to this area was intermittent, so we started Jim's (KT6W) generator and had HF and VHF radios in operation in 20 minutes. We checked into a network already in operation in the area.

The local amateurs had responded immediately after the shock and had coverage of the Emergency Operation Center (EOC), the airport, the police station, the Latter Day Saints church temporary shelter and the Fresno Red Cross.

Their acting emergency coordinator was Ken Henson, KV6W. Since we had established a semi-permanent, portable station on emergency power at the Red Cross shelter, he asked us to take control of the network. Bob WA6ZBX became chief operator for the next 72 hours. He was assisted by many volunteers from the Kings County and the Visalia Radio Club. KV6W assumed control on Thursday, changing from a 24-hour day to an 8:00 a.m.-8:00 p.m. schedule.

The Hanford Sentinel gave Amateur Radio many accolades for their operation, particularly to those local operators on the scene when it happened. The Fresno Radio Club had their radio-equipped van at CHP headquarters overnight Monday.

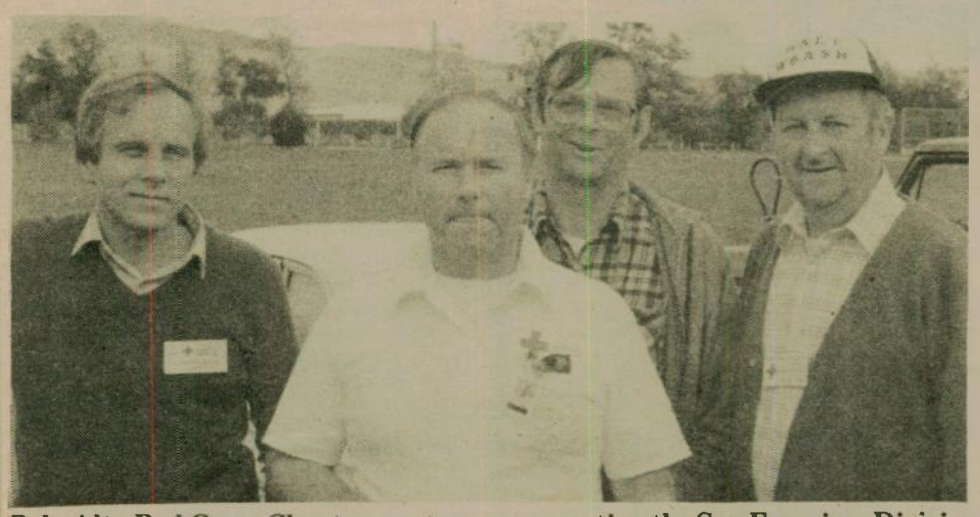
Although the four men from Palo Alto/San Francisco were amateurs, their primary mission was to spearhead the damage assessment which must be done before the Federal Emergency Management Administration (FEMA) can declare it a disaster area. Our leader, Ted N6IIU, has trained 35 members of SPECS in Red Cross Damage Assessment. They had previous experience in assessing the Alviso flood area in March of this year. Four hundred homes were under one to four feet of water for several weeks there.

At 9:00 a.m. on Tuesday, the day after the quake, Ted conducted a crash course covering the fine points of assessment. Twenty teams consisting of amateurs as leaders, assisted by county health people and building inspectors, set out. By midnight Wednesday, the survey was complete and the data tabulated. National Red Cross rushed the data to Washington and President Reagan declared Coalinga a disaster area, qualifying the victims for low-interest loans to rebuild.

When the assessment work was over, Ted assumed an official Red Cross staff duty in charge of supply and transportation at the Red Cross Field Headquarters.

Everything possible was done to coordinate incoming and outgoing Health and Welfare traffic, and when the SPECS

(*please turn to page 7*)



Palo Alto Red Cross Chapter amateurs representing the San Francisco Division Headquarters at the Coalinga (California) earthquake, 2 May 1983. From left to right: James Koski, KT6W; Robert Tarone, WA6ZBX; Ted Harris, N6IIU; Walter Read, W6ASH. *(W6ASH photo)*

Professor Kauko Rahko, OH2PZ (left) and the league president, Axel Tigerstedt, OH5NW, opened the Northern European link to the worldwide network on 1 March 1983.

OH2B beacon — new link in net

As part of national events associated with the World Communications Year 1983, marked under United Nations auspices, the OH2B beacon was officially inaugurated on 1 March 1983 in Helsinki. The Finnish beacon forms a link in a worldwide beacon net established by the Northern California DX Foundation (NCDXF).

The beacon is located at the Helsinki University of Technology at their Department of Electrical Engineering under the patronage of Professor Kauko Rahko, OH2PZ, and is managed by the Radio Amateur League (SRAL).

During the opening ceremonies, League President Axel Tigerstedt, OH5NW, and Professor Rahko expressed their satisfaction with the fact that the North European beacon was sited in Finland and, particularly, at the country's leading university. The University of Technology maintains close ties with Stanford University, where the beacon net concept was designed by Professor O.G. Villard. Rahko sees many scientific uses for the beacon net, and close reporting between Stanford and Helsinki is already being planned.

In his comments, President Tigerstedt said many League members are future students of the University of Technology and he wished to thank Rahko for good cooperation and, specifically, for maintenance of the amateur telecommunications radio station set up at the University. Tigerstedt also expressed gratitude to the Northern California DX Foundation for their confidence and hailed the Foundation on behalf of all the more than 100 Finnish radio amateurs who are members of the NCDXF, an organization held in high esteem in Finland.

At the ceremonies, the NCDXF was represented by its European advisor, Martti Laine, OH2BH, who had made all the practical arrangements between the parties involved in this program. □

The OH2B beacon equipment was furnished by the Northern California DX Foundation and designed by their board member Cam Pierce, K6RU, and his group.

Hurry, hurry, hurry, a 100 amp battery is the power source. Get it connected as fast as we can. Norm Brooks, K6FO, puts one wire on the negative and one wire on the positive.

John Minke, N6JM, attaches the feedline to the Spider antenna while K6FO holds it steady.

After the Le Mans Start to get a station on the air as quickly as possible, others put up a tent that the group moved into. As the location was the California Almond Growers Exchange, the hard-working crew did feast upon the tasty morsels.

Worldradio gang on Field Day

Worldradio has been in existence for 12 years, and this was the 12th time the staff has gone on Field Day together.

We've always preferred the standing start; that is, making the mad dash starting at 1800Z. From the point where everything is inside the car, to the time the first contact is made is how we judge our ability.

This time it took us eight minutes for the first contact with N6VY and immediately after with VE7TAR. In true "Murphy" fashion, no power to the radio at the start! It was later found that the cable's varistor had failed. Then, the second cable had an open! A quick repair job got us on the air.

As opposed to many, whose Field Day operations resemble a Voice of America-sized operation (which would not and could not be duplicated in an emergency situation), we like to see just how little will do the job.

The first antenna we put up was the very small "Spider" from Multi-Band Antennas. In a 16-minute period from 1815 to 1831, John Minke, N6JM, made nine contacts on 20 meters. Pretty good for the smallest antenna there is that will put you on 10, 15, 20 and 40. From ground to tip is 6 feet, it weighs but 2 pounds, and you don't have to change resonators.

Later on, a Butternut vertical was used as well as various dipoles. Jack Schwartz, WA6TRZ, hit a high of 15 SSB contacts in 16 minutes and veteran FDer (licensed pre-WWII) Norm Brooks, K6FO, hit a high of 11 CW contacts (counting double that of SSB) in 16 minutes.

Checking the logs after the event we see we worked every section except Maritime, West Indies, Delaware, Maine and New Hampshire. The sections we worked the most were Illinois and Washington, 31 each; Oregon, 25; Ohio, 24; Los Angeles, 17; Michigan, 15; and so as not to show any favoritism, North Texas 13 and South Texas 13. British Columbia, 13; Pacific, 11; Colorado, 11 and Santa Barbara, 11.

(Note from N6WR: I always enjoy working the Santa Barbara Club station K6TZ because I've visited the club twice and know many of the members. The call is the memorial call of Ernest Brelsford, who had been treasurer of TRW. I had the pleasure of being invited to his home. He was the true gentleman.

This Field Day, on 75 SSB at 0527, I worked K6TZ and that reminded me of him. The very next station worked, at 0528, was . . . W6TRW, in Los Angeles.)

We made 346 SSB contacts and 125 CW contacts in the 1A category for 471 QSOs. We think it's pretty fair, considering we were using the type of antennas we could actually take to an emergency situation.

While some clubs go to the same location every year, we go to a different one for the variety. This year we were right in downtown Sacramento. Through the courtesy of the California Almond Growers Exchange, we had the use of a football field-sized picnic area and softball field grounds.

A few years back, we got a station on the air and made the first contact in four minutes. We're going to try to do that (or better) next year. Look for the **Worldradio** staff in next year's FD and in Sweepstakes, California QSO Party, Radiosport and CD parties. □

The badge with #10 on it isn't any sort of comment, but rather a visitor's pass to get into the site for Field Day. Jack Schwartz, WA6TRZ, led the Worldradio phone ops.

Field Day emergency

Lou Ann Keogh, KB6HP

What started as Field Day fun and excitement became an actual emergency for members of Sacramento's North Hills Radio Club. Friday evening, the early arrivals became aware that Randy Alexander, 12, the son of Robin N6CJZ, was missing.

The site was the 4K Ranch, which is bordered by the Cosumnes River in Northern California's El Dorado County. Randy's bicycle was soon found on the river bank, nearly a mile and a half from the Field Day site. Fifteen amateurs with hand-held radios, accompanied by deputy sheriffs Jill Hallberg and John Bell, began a search along the river's edge. Groups of three combed the rugged terrain, staying in constant contact with George Connelly, N6EJH, who remained in camp to coordinate. At 10:00 p.m., the search was halted at the request of the deputies.

Early Saturday, an organized search began, with members of the sheriff's department, Forestry personnel, Department of Corrections officers with two busloads of searchers from the Growlersburg facility, five horsemen and -women, two bloodhounds and a California Highway Patrol helicopter.

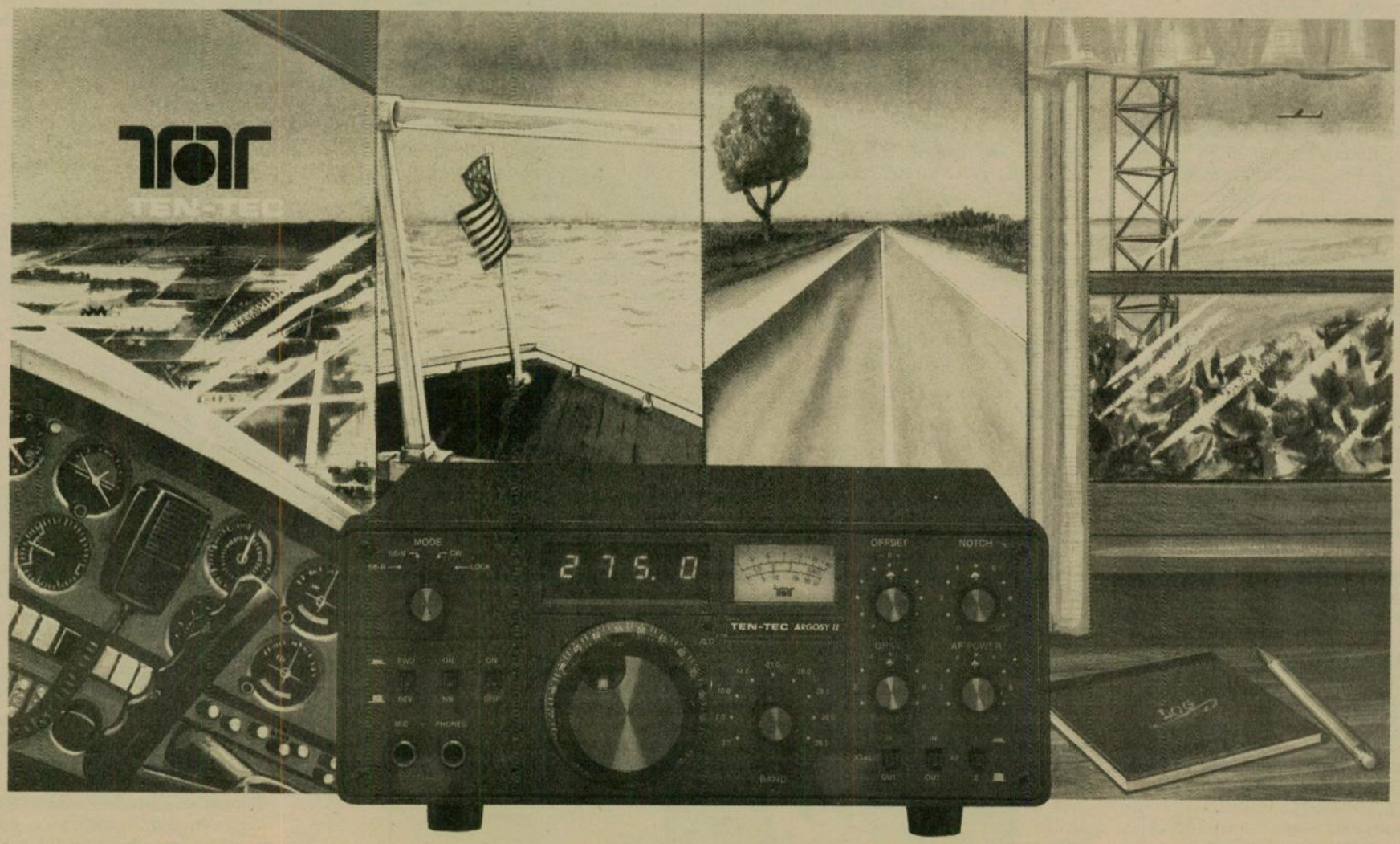
The various groups had no radio frequencies in common, and each agency used different "codes," so the value of Amateur Radio became instantly apparent. The command post — manned by Lou Ann Keogh, KB6HP, and George N6EJH — consisted of a hand truck mounted with a 2-meter rig and amplifier with 5/8-wave antenna powered by an automotive battery, all built by Jerry Bertacchi, NM6T. Hams with handi-talkies accompanied each of the groups. Low-level signals were copied and relayed by the command post.

At times, members of one agency would attempt to contact another of their group with their rigs, only to find that mountainous conditions prevented it; the amateur with them, however, quickly established communications.

Despite the heroic efforts of the law enforcement personnel and many hours of grueling work by the many volunteers, no trace of Randy has yet been found.

As the official search drew to a close, a deputy from El Dorado Sheriff Richard F. Pacileo's command came to the amateurs to say that the assembled agencies involved had never had such sophisticated and efficient communications.

This year marked the 50th anniversary of Field Day — an exercise designed to prepare amateurs for emergency service. No better example can be made of the need to keep our skills and equipment in form for such service than that experienced by the North Hills Radio Club. □



ARGOSY II
at home everywhere

Like its namesake, the ARGOSY II is a great traveler, land, sea, or air. And it has the right features to be an equally good companion at home.

Mobile/Portable/Fixed operation is easier with ARGOSY II. Broadband design eliminates receiver and final amplifier tune up. Small size permits convenient installation. Simple controls and switches make operation easy—even without looking. And its basic 13 Vdc design permits battery operation, drawing just 750 ma. on receive and 9 A max. on transmit to allow plugging into a car's cigarette lighter outlet for mobile use. Plus the easy disconnect from its mobile mount permits moving the ARGOSY II for fixed station use or safe keeping.

Two-Level Power. Switch from QRPp (5 watts output) to QRO (45 watts output). Low power for portable use from batteries, high power without a separate power amplifier. Low power for the challenge of QRP operation, high power for greater punch when conditions require it. Both power levels have ALC with optimum drive indicated by a front panel LED.

Solid-State, Six-Band Design. Covers 80-10 Meters, including the 30-meter band, in 9 segments (four for 10 Meters) with 40 kHz overrun on each band edge. Excellent sensitivity (0.3 μV), offset receiver tuning (±3 kHz), built-in notch filter tunes 200 Hz-3.5kHz, optional noise blanker, WWV reception, QSK, sidetone pitch and volume controls, and a new easy-to-read digital frequency display uses 4 large red 0.3" LEDs to indicate frequency (the bandswitch indicates band in use). Every feature you need for easy use and fine performance.

A great rig for traveling — and for staying home. Some of the features that make ARGOSY II perfect for mobile use also make it an ideal fixed station transceiver. One is its size—just 4" high, 9" wide, and 12" deep—so it fits conveniently on a desk with plenty of room left for accessories. And there's a full complement of accessories to choose from for mobile or fixed operation—microphones, filters, keyer, speech processor, mobile mount, and an ac supply. Best of all, ARGOSY II is low cost.

Check out the at-home-everywhere new digital ARGOSY II. See your dealer or write for information to TEN-TEC, Inc., Sevierville, TN 37862.

Book Review

Heil Ham Radio Handbook

Lenore Jensen, W6NAZ

Help has arrived for the new ham as well as lots of helpful hints for the old-timer in the new *Heil Ham Radio Handbook* by Bob Heil, K9EID.

Recognizing that things have changed lately in our hobby so that many a newcomer holding a fresh license is faced with getting on the air minus an Elmer, with no one to ask for advice, Bob has produced a truly valuable practical guide.

He definitely has put down "what every amateur needs to know" in putting a station on the air — and then properly operating it. All those details that took most of us years to discover are here, from choosing a rig, setting it up, deciding on an antenna type, actually raising it (and getting its transmission line indoors), to the glorious moment of making that first QSO.

One particularly priceless chapter is called, "So You Want To Be A Lid!" The author obviously cares deeply about our hobby/serivce and has given very useful tips.

The volume is loaded with useful information about SWR, TVI, connectors, insulators, guys and the myriad details necessary to keep us on the air and out of trouble. Countless diagrams, schematics and charts make it useful for anyone's reference shelf.

A chapter entitled "Simple Electronics" is a good refresher, as is another on mobile operation.

Bob Heil's profession is in sound engineering, (he's a popular speaker at clubs and conventions), so his material on microphones and their correct use is particularly valuable.

As a pioneer in VHF SSB, state-of-the-art repeater systems and 10-meter FM, his writings on these are special. The entire book is very easy reading, no doubt due to his previously authoring hundreds of articles and four textbooks.

In 1982, Bob was named the "Radio Amateur of the Year" at the huge Dayton HamVention. K9EID's newest Handbook is a treasure of details. (Melco Publishing, P.O. Box 26, Marissa, IL 62257) □

President commends deaf-blind ham

President Reagan has commended a Worcester, Massachusetts amateur for her work in helping disabled persons obtain Amateur Radio licenses. In a personal letter, the president expressed great admiration for Gayle Sabonaitis, WA10PN. Reagan told Sabonaitis, "Our nation's well-being is enhanced whenever people help each other in time of need."

WA1OPN, a deaf-blind Extra Class licensee, has provided licensing assistance to disabled persons both in United States and abroad. (WB8TDA/KN1K)

— *New England Report* □

RVZ's 'meet'

Stan Lis, WA2RVZ, of Cohoes, New York, nearly fell off his chair when greeted by Gary Stolzenburg, WD8RVZ, of Wapakoneta, Ohio recently. Gary has suggested that **Worldradio** staffer Dave Tykol, WA6RVZ, get together with him and Stan to set up an "RVZ net." □

Blackout doesn't slow down hams

Claude Green, WD5JCB

On Thursday, 9 June 1983, at about 7:25 p.m. CDT, the power grid for Austin, Texas and Travis County, and the four adjoining counties of Hays, Williamson, Burnet and Llano, experienced a power failure lasting in some parts to one hour and in others up to four hours.

The four local television stations, the cable TV service and the local radio stations went off the air. Most telephones were operational, but network systems were swamped; frequently it would take as long as five minutes just to get a dial tone, only to find out the party being called was out or busy, also.

The failure was attributed to birds building a nest near the bushings on some high voltage switch gear at a local substation on the north side of Austin. The subsequent arching — initially phase-to-ground, then phase-to-phase — shut down two complete power generating stations in Austin and another about 50 miles west of Austin, belonging to the Lower Colorado River Authority.

The University of Texas Repeater, W5EHM, 147.390 MHz, which is newly on frequency, and W5EBJ, 223.940 MHz remained operational. W5EBJ, 147.180 was also quickly brought back on the air with emergency power. NOAA weather radio for the Austin area remained operational, and carried spot news bulletins concerning the blackout.

Local Amateur Radio operators in the area immediately began net operations upon 146.520 and 146.940 simplex. The City of Austin Office of Emergency Management, chaired by Chuck Harrison, called the Emergency Operations Center (EOC) to a state of operation. Herb Nolan, WB5LXD, Travis County Emergency Coordinator, and Alvin Devane, WB5HZQ, manned the EOC. Amateur operators responded to the WX bureau, ground control approach radar, and several news agencies.

Bergstrom AFB momentarily lost power and requested information from the WX Bureau, via Amateur Radio, concerning an approaching flight of F4's. Power was restored in time for the actual landing operation.

In a critique following the return to service, the Amateur Radio operators were praised for their service. A need for amateur operator skills and service was shown to be possibly needed at Brackenridge Hospital Emergency Room area. This is to be covered again in further talks with officials later. □

Proud to be a ham

Bill Theis, N6HYU

Monday, 2 May 1983, 4:43 p.m.

I saw on this day, at this hour, the most remarkable outpouring of humanity that I have ever witnessed in person.

Needless to say, that was when the quake hit Coalinga. The 7.33 machine was the relay for history in the making, and the Kings ARC was one of the biggest parts of that.

As most of you know, I work at the newspaper, and have for more years than I should admit. The first thing I did when I heard on 2 meters where the quake was happening was to call the paper and tell the news desk where the thing hit. Then I told them to tune the scanner to 147.33. This was to open our communications literally to the world.

United Press International (UPI), one of the largest news-gathering bureaus in the world, flew several reporters, photographers, lab technicians and electronics equipment — enough to boggle the mind — into Hanford and set up in the Sentinel Building. They said that listening to 7.33 was the best source of what was really going on that they had. They were so impressed with the communications being carried on by the Kings ARC — and in particular, Ken Henson, KV6W — that they asked me how to get in touch with Ken. Later they asked about the person who was on the radio during the quake from Coalinga.

After some of the clamor had died down and things were wrapping up from a news standpoint, a UPI reporter went to the homes of KV6W and Harold Ebury, W6IYY, and did some follow-up reporting.

These are stories which we probably will never see in print here, but they will go out as feature stories all over the country and the world.

My point is this: Maybe some of the media in the valley didn't give our club our due, but by golly, you know and I know — and so will a lot of other people — what really happened the night of 2 May 1983.

I have personally never been more proud to be affiliated with a group of people in my life.

I love you all.

— *Kings ARC, Hanford, CA* □

Kings ARC installs new antennas

Ken Henson, KV6W

The Kings County Emergency Services Agency and the Emergency Medical Care Committee held a critique of their performance in the May 2 Coalinga earthquake on Thursday, 16 June.

The major complaint encountered was confusion, due to no phone service in or out of Coalinga, and their own repeaters being off the air.

Jim Carr, of Mobile Life Support Ambulance Company, stated, "Like everyone else during the crisis, the ambulance companies relied on Amateur Radio operators for information."

The Kings ARC with its club repeater (W6IYY 147.33) located in Coalinga, was praised for its quick response. KV6W activated ARES within minutes on W6IYY repeater and was control station for the Coalinga earthquake communications.

The Kings ARC has installed 2-meter antennas on most hospitals in the county. Also included are plans to install standardized power plugs in all ambulances so amateurs can accompany ambulance drivers for supplemental communications. □

Bay Area

(continued from page 3)

gang left on Saturday, Ken and his crew from the Kings County ARC were still busy sending out amateurs to locate victims. Health and Welfare—or Disaster Welfare Inquiries (DWI), as the Red Cross prefers to call it—was lighter than would be expected. Normally, a large amount of it would be generated in the shelter, but of the 7,000 victims, less than 50 used the shelter. The victims stayed near their homes and slept in trailers or tents. About 5,000 per day were fed by the Red Cross and the National Guard. Blank message forms and signs were posted, but response was low.

Incidentally, a large portion of the phone service was restored in a day or two. The Red Cross was so busy with disaster-related work that they banned incoming DWI for three days. When it was accepted, it came in batches by radio and landline. Those messages that could not be phoned were delivered mostly by the local amateurs in their personal vehicles. The Red Cross policy on DWI requires that all DWI traffic be routed to and from the local Red Cross chapters throughout the country to the Red Cross chapter nearest to the disaster scene. All of these items contributed to lack of Amateur Radio H&W traffic.

During our stay in Coalinga, we kept in contact with home and San Francisco Headquarters by skeds on HF with Jerry Starkey, WA6LIJ; Bill Robinson, WB6OML; Frank Wyatt, N6FW, Steve Brunt, KE6PQ; and Dick Carson, WA6LDW.

We in the San Francisco Bay area have gone years without a real disaster; however, this is our third real emergency this year. We were lucky they were all rather small scale. It has been a gradual build-up of experience and training, and we do feel we are now better prepared for "the big one," when it comes. Of course, SPECS has many drills annually, but this year has been a real workout!

A partial list of the hams in the Coalinga area who participated was procured from KV6W (see below). The gang did a great job from the very beginning.

Ken Henson, KV6W, acting EC, Kings County ARC president, and PR, ARRL Pacific Division; Leland Rhoy, WA6YAB, Section Emergency Coordinator; Chuck McConnell, W6DPD, Section Manager (Fresno); Bill Manser, WA6SZE; Rick WB6VZF; Mike Herman, WB4WEV; Dolar Levesque, KA6AIW; Don McNeece, K6VWF; Roger KB6CNV; Bill Jamison, KA6ONN; Byron WB6BY; Jim Porter, KD6OM; John Prys, KA6LGN; Ken KA6SSH; Hank W6JJV; Jim KA6ZFN; Jim Greaser, K6RGZ; and Charlie Bischoff, N4GCD. □

Astronaut

(continued from page 1)

hopes to make contacts with amateurs in all nations.

The ARRL will furnish you with press information for your local media, and it is expected this will be outstanding publicity for Amateur Radio. You could tape record the contacts and give it to your local broadcast station.

Still being worked out are HF relays to assist amateurs in tracking of *Columbia*. Starting on 1 September, "Westlink" will have latest bulletins on the mission, available by calling (213) 465-5550. W1AW will be giving information to assist in your acquisition of the space vehicle. □

FCC waiver makes Amateur Radio history

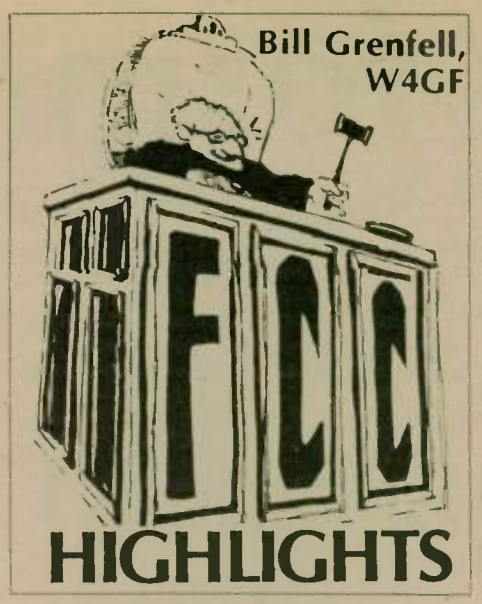
Carl Zelich, AA4MI

Amateur Radio history was made on 18 June 1983, when the FCC granted a waiver to allow transmission of NASA commentary of the space shuttle STS7 launch from the Kennedy Space Center on a 2-meter repeater frequency.

The FCC granted the Space Port Amateur Radio Club, K4GCC, permission to transmit on a frequency of 146.94 MHz of the 146.34/94 MHz repeater. All radio amateur operators were invited to participate in the progress of this shuttle mission with the first American woman in space. This waiver of Section 97.113 provides for experimental uses of radio frequencies, and encourages the larger and more effective use of radio in the public interest.

Hundreds of amateurs were able to follow the progress of the mission. This operation also was to improve operator awareness of NASA terminology and communications procedures to prepare Amateur Radio operators for the direct communications with shuttle STS9 on 30 September with Dr. Owen Garriott, W5LFL. Amateur Radio operators involved in this historic event are: Carl S. Zelich, AA4MI; John Anderson, K4GCC; Charlie Spencer, K4RXX; Walt Hicks, K4PQ, and Charlie Pugh, W4AKE. □

● Pass it on . . . WORLDRADIO ●



FCC indicates that planned and coordinated use of their frequencies by radio amateurs is good amateur practice, that interference with such use is not, and that if repeated, could be considered willful and malicious in violation of the rules. In a 27 April letter to the Tri-State Amateur Repeater Council, the Commission quoted from its Report and Order in Docket 18803 as follows:

"The Commission is persuaded by the comments and by observation that regional and national frequency planning and coordination by Amateur Radio operators themselves can result in the best spectrum untilization appropriate to the service." The letter added that the only national planning " . . . that has come to our attention is that done by the American Radio Relay League."

FCC referred to the ARRL Repeater Directory and its current list of over 5,600 repeater stations, and observed that, "In view of this widespread acceptance of their band plans, we conclude that any amateur who selects a station transmitting frequency not in harmony with those plans is not operating in accord with good amateur practice."

The Commission concluded its letter with the following: "Continued transmitting on frequencies 144.83/145.43 MHz in a manner which creates interference to W2ODV and W2ZJV in repeater operation would be cause for the issuance of an Official Notice of Violation of Section 97.78 of the Commission's Rules and Regulations for not observing good amateur practice and could be cause for an additional Notice of Violation of Section 97.125 for deliberate and malicious interference."

According to the 26 May issue of the *ARRL Letter*, the Council is still negotiating with the group operating the non-conforming repeater which currently is interfering with four repeaters.

•

Expansion of the 10-meter repeater subband down to 29.0 MHz was proposed by FCC in a Notice of Proposed Rule Making released 23 May. Expansion of the present 29.5-29.7 MHz band to include 29.0-29.5 MHz was requested by the licensee of KE7C. Citing the present subband as "inadequate" with "severe congestion" being experienced, Gosney pointed to the recent addition by commercial manufacturers of FM to their Amateur Radio circuit designs having caused a surge of interest in FM communications on 10 meters.

Regarding its action, the Commission said: "We are interested in receiving information on the need for the proposed repeater subband expansion, the impact of the expansion on existing and future repeater and non-repeater operation and whether that impact is acceptable to the amateur community. 3/ In our Further Notice of Proposed Rule Making in PR Docket 82-83 we proposed to expand the telephony segment of the 10-meter band to 28.3 MHz, which could offset most of the loss of frequencies to non-repeater operation."

Comments on this proposal to the Commission should refer to PR Docket No. 83-485 and should be filed by 25 July 1983. Reply comments are due by 24 August 1983. Comments should be directed to The Secretary, FCC, Washington, D.C. 20554.

•

Routine amateur station log requirements were eliminated by FCC in its 26 May action in Docket 82-726. Amateur operators of repeater stations who now tape-record third-party communications (such as autopatches) will be relieved of that substantial burden. Likewise, logging of international third-party traffic will not be required. However, Engineers-in-Charge of FCC's field facilities are authorized to require any station's activity to be logged.

Details as to the few records which the FCC will continue to require will be reported here as soon as they are available.

•

Additional frequencies for wartime operation of the Radio Amateur Civil Emergency Service (RACES) have been proposed by FCC in its 26 May action in PR Docket 83-524. The Commission also proposed some related changes in the operational rules governing RACES. ARRL reports that in addition to some adjustments to the HF RACES allocations, FCC proposed to open the entire 2-meter band to RACES operation, thus making it easy for a repeater group to continue its operations under the RACES banner in case of a national emergency.

More frequencies for RACES under war emergency conditions were requested by the National Telecommunications and Information Administration on behalf of the Defense Department. The Federal Emergency Management Agency supported the request. Details were not available as this was written. However further pertinent information from the Notice of Proposed Rule Making (NPRM), will be available here well before the final date for original comments, which is 2 August 1983.

•

March and April FCC license figures

Class	29 March	29 April
Extra	32,312	32,588
Advanced	94,665	94,863
General	118,994	118,872
Technician	75,461	75,596
Novice	91,717	92,918
Total operators	413,149	414,837
Club stations	2,648	2,627
Military recreation	214	213
Secondary stations	263	257
RACES	535	535
Total stations	416,809	418,469

•

FCC is interested in receiving amateur operator license examination questions for use in the volunteer examination program from individual amateurs, in addition to those submitted by the ARRL. As of early June, Personal Radio Branch Chief John Johnston advised that no proposed questions had been submitted by individuals. A study guide and procedure for submitting test questions is available from Johnston's Branch, c/o FCC, Washington, D.C. 20554. Proposed questions should be sent to the same branch.

•

FCC advises it will not reissue unassigned amateur station call signs. The Commission's 15 April 1983 Public Notice on call signs states that the only changes over prior notices are:

"1. In previous notices, the possibility of reissuing unassigned call signs was mentioned. We do not plan to establish a schedule in the forseeable future for reassignment of any call sign.

"2. We have extended the period in which secondary station call signs may be assigned to primary stations."

Included in the paragraphs explaining the "Systematic call sign assignment plan," which I believe bear repeating, are: "8. *The primary station may retain the same call sign* if the application is received in the Commission within two years of the license expiration date.

"9. *Upon request, a secondary station call sign will be assigned to the primary* station if the application is received in the Commission within two years of the secondary license expiration date. Secondary station licenses are no longer issued, renewed or modified."

This seven-page notice should answer almost any question about the make-up and assignment of U.S. amateur station call signs. Requests for copies should be directed to FCC at Washington, D.C. 20554. Ask for their Public Notice, No. 3627 "Amateur Radio Station Call Assignment System," dated 15 April 1983.

•

The personal radio operators federation petition asking reconsideration of FCC's previous denial of its petition for more citizens band radio frequencies was dismissed by FCC on 27 April 1983.

•

FCC has proposed to eliminate the requirements for General Radiotelephone Operator licenses for operation and maintenance of station equipment in most of the radio services it authorizes. The Commission is *NOT* proposing to change their licensed operator requirements in the Maritime, Aviation or International Public Fixed Radio Services at this time. FCC is proposing to issue General Radiotelephone Operator licenses for the lifetime of the holder. Also proposed is lengthening the present one-year grace period for renewal of commercial radio operator licenses to five years.

The Docket 83-322 Notice provided for filing original comments up to 20 June and to 20 July 1983 for filing reply comments.

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An order clarifying what is meant by "business communication" was to be presented to the Commissioners for approval at their meeting of 29 June. Section 97.114(c) states in part that, "For the purposes of this section, business communication shall mean any transmission or communication the purpose of which is to facilitate the regular business or commercial affairs of any party." It may be moved from 97.114, which is primarily

Amateur Radio call signs

This list (released 17 June) shows the last call sign in each group to be assigned for each district, as of 1 June.

Radio District	Group A	Group B	Group C	Group D
Ø	KZØB	KDØGU	NØESY	KAØQVH
1	KR1O*	KB1IG	N1CSB	KA1KLZ
2	NA2W	KC2ZQ	N2EJC	KA2SMY
3	KO3H	KC3IE	N3DLG	KA3LFJ
4	WR4G*	KF4ZY*	N4IVB	KB4FSC
5	NI5I	KE5BF	N5GAF	KA5RGP
6	KX6W	KG6AB*	N6IUS	KB6ASR
7	ND7H*	KD7KX	N7FIG	KA7QKQ
8	ND8Y*	KD8HZ	N8FAF	KA8SPF
9	KT9N	KD9BM	N9DYY	KA9PYK
HI	WH6H	AH6EV	KH6XL*	WH6AWQ
AK	WL7U	AL7FF	NL7BQ	WL7AZU

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

about third-party traffic, to Section 97.3 with the other definitions.

•

Also to be presented to the Commissioners at the June 29th meeting was the Order in Docket 82-624 which proposed measuring and limiting amateur station power output instead of input.

•

"Amateur Radio Service rules streamlined, clarified" the FCC announced in its 27 May 1983 NEWS Report No. 2195. Also included in the action were modification of some rules, deletion of unnecessary rules, amendment to relieve a restriction and codification of a provision of the Communications Act.

The changes include: A — Provision for renewal of Interim Amateur Permits by deletion of Rule Section 97.32(f); B — Revision of Sections 97.13(c) and 97.13(d) to permit submission of a photocopy of a license with a renewal application in place of the original; C — Deletion of Section 97.69(a)(3) and revision of Sections 97.61(e), 97.69(a)(2) and 97.69(b)(3) to rectify certain inconsistencies in the recent amendments to authorize "AMTOR" on amateur frequencies below 50 MHz; D — Revision of Section 97.99 to delete the reference to the obsolete Form 452-C; E — Adding to Section 97.81 the Communications Act specification that the Commission has the authority to inspect all radio installations "subject to the provisions of any act, treaty or convention binding on the United States;" and F — Revision of Section 97.84 to allow station identification for amateur stations to be made by video when specific transmission standards are use, or — under some circumstances — by using certain digital codes. This will relieve a number of burdens amateur operators have faced when required to identify "packet radio" transmissions, television tansmissions where audio cannot be practically transmitted on the same operating frequencies, and transmissions where international third-party traffic is exchanged and identification of the station being communicated with is required. □

ATTN: Florida

Amateur mobile operators should keep this statute and a copy of their license with them when operating mobile.

Florida Statute 843.16

Radio equipment: Unlawful to install using assigned frequency of state or law enforcement officers; definitions; exceptions; penalties.

1. No person, firm or corporation shall install in any motor vehicle of business establishment — except emergency vehicles as herein defined, or places established by municipal, county, state or federal authority for governmental purposes — any frequency modulation radio receiving equipment so adjusted or tuned as to receive messages of signals on frequencies assigned by the FCC to police or law enforcement officers of any city or county of the state, or to the state or any of its agencies. Provided, nothing herein shall be construed to affect any radio station licensed by the federal communications system.

2. As used in this section, the term emergency vehicle shall specifically mean:

a) Any motor vehicle use by any law enforcement officer or employee of any city, county, the state, FBI, or U.S. Armed Forces while on official business.

b) Any fire department vehicle of any county or city of the state, or any state fire department vehicle.

c) Any motor vehicle designated as an emergency vehicle by the Department of Highway Safety and Motor Vehicles, and said vehicle is to be assigned the use of frequencies assigned to the state.

d) Any motor vehicle designated as an emergency vehicle by the sheriff of any county of Florida when said vehicle is to be assigned the use of frequencies assigned to said county.

e) Any motor vehicle designated as an emergency vehicle by the chief of police of any city in the state when said vehicle is to be assigned the use of frequencies assigned to the said city.

3) *This section shall not apply to any holders of a valid Amateur Radio operator or station license issued by the FCC.*

4) Any person, firm or corporation violating any of the provisions of this section shall be deemed guilty of a misdemeanor. 2nd degree PUNISHMENT — Chapter 775

— *Tamiami ARC, Venice, FL* □

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Special Events...

Highest spot in Pennsylvania

The Somerset County ARC will operate AK3J from the highest point in Pennsylvania — Mt. Davis — in this 3rd annual special event, on 6-7 August. Operation will be in the lower 25 kHz of the General Class phone bands, 30-meter CW and Novice CW bands, and on 2 meters (146.52 simplex and 144.210), from 1800Z, 6 August to 1800Z, 7 August.

Certificate available from SCARC, Box 468, Somerset, PA 15501. □

Bergen's 20th year

Bergen Amateur Radio Association will operate K2TM from 1500 to 2400Z, 13-14 August, to mark BARA's 20th anniversary. Frequencies: 7.235, 14.275, 21.380, 28.610 and 146.520. Certificate for large SASE and QSL to Warren P. Hager, K2UFM, 31 Forest Drive, Hillsdale, NJ 07642.

'Longest porch in the world'

The Tri-County Wireless Group will operate N8COY from the famous Grand Hotel's 'Longest Porch in the World' on Mackinac Island, Michigan. Operation 1500-2300Z 13 August. *SSB* — 7.280, 14.280, 21.380, 28.580; *FM* — 147.480.

A QSL and regular SASE sent to N8COY will get a special QSL. DXers can QSL via Bureau. □

From mine to mine

The Los Angeles Air Force Station (LAAFS) ARC will again join with members of the South African Radio League for what has become a worldwide annual amateur communications event. The LAAFS group will set up its transceivers within the confines of an old gold mine near Johannesburg, California and establish communications with the group (call sign ZS6GMM), similarly set up in a gold mine in Johannesburg, Republic of South Africa. The event will take place from 0100 UTC, 13 August through 1900, 14 August. Frequencies will be in the lower General portion of the U.S. 20, 15 and 10-meter phone bands with CW optional and upon request.

Those amateurs who contact both U.S. and RSA "Gold Mine" stations and who send verification along with 1 IRC or legal-size SAE to WA6NKL, P.O. Box 1211, Torrance, CA 90505, will receive a special commemorative certificate.

This is the fourth consecutive year the LAAFS group has offered namesake events. Previous ones were Projects Ballarat, Australia; Johannesburg and Randsburg, South Africa — all originating in the United States from the upper Mojave Desert areas. The LAAFS ARC is composed of USAF MARS team members, who conduct simultaneous emergency communications exercises during these worldwide Amateur Radio projects.

The U.S. project leader is Paul M. Turkheimer, WA6NKL. The RSA group is headed by Irvine Green, ZS6BPE. □

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

Golden anniversary

The Marin ARC will operate W6SG on 13 August, commemorating the 50th anniversary of its founding. Operation will begin at 1700 UTC and continue for the rest of the day. Bands, modes and frequencies are as follows: 20M CW, 14.065; 20M phone, 14.265; 15M CW, 21.065; 15M phone, 21.365; 40M CW, 7.065; and 40M phone, 7.265. □

Chelsea club, WD8IEL

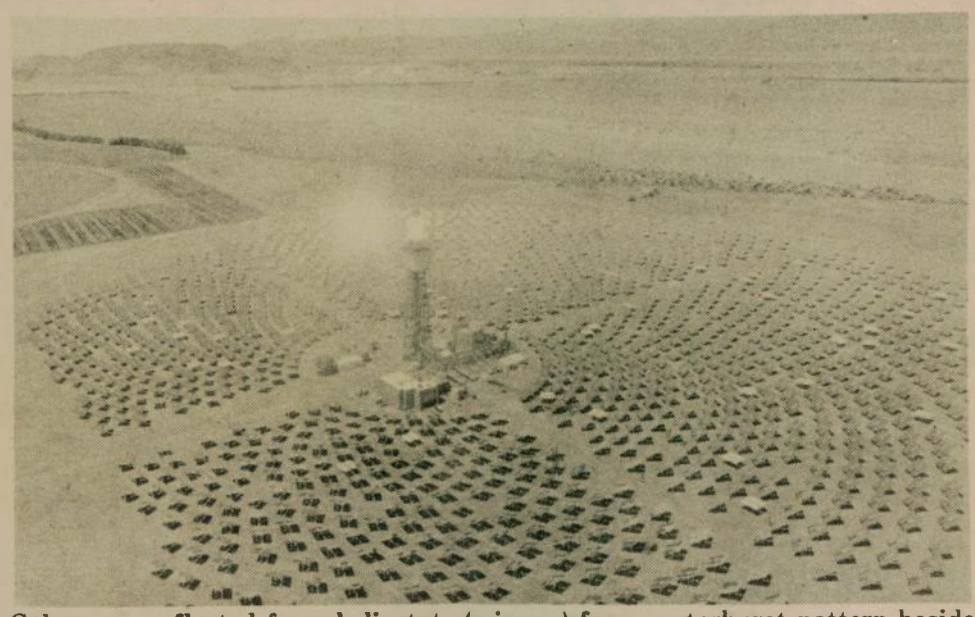
A special certificate will be presented to any Amateur Radio operator making contact with the Chelsea Communications Club from 30 August through 3 September. Contact can be made with WD8IEL on 40-meter and 80-meter phone from 2300Z to 0100Z. Send SASE to 104 East Middle St., Chelsea, MI 48118. □

Midwest Old Threshers Reunion

The Mount Pleasant, Iowa ARC will be operating a station at the Midwest Old Threshers Reunion in Mount Pleasant during 1-5 September 1983. Using club call W0MME, they will be on 10 through 80 meters throughout the event. As in the past, the Iowa 75-meter Net frequency of 3970 kHz will especially be monitored. A special Old Threshers QSL card is being issued to those who work the station, and can be obtained by sending an SASE to Dave Schneider, WD0ENR, 507 Vine, Mount Pleasant, IA 52641.

Amateurs from the Mount Pleasant area will also be handling emergency communications on the grounds and will be providing talk-in on the city's two repeaters 147.99/.39 and 449.950/444.950, as well as 146.52 simplex for those attending.

The Old Threshers Reunion is an annual event which returns to yesteryear with steam engines, antique cars and tractors, old-time electric trolleys, and other memorabilia from the past. There is ample room for camping on the grounds. □



Solar rays reflected from heliostats (mirrors) form a starburst pattern beside the "power tower" of Solar One. This 10 MW experimental generating plant will be the site of Southern California Edison's special event Amateur Radio station.

Solar One event

Charlie Basham, N6DZW

Solar One, the world's largest solar-powered generating plant, was the site of Southern California Edison Company's Amateur Radio Network special event station on 16 July 1983. The station, WB6UCD, operated from dawn to dusk in the General phone portion of HF and VHF bands, using electricity produced by the experimental solar plant.

The special event was held in commemoration of the third anniversary of the opening of Solar One's Visitor Center. Solar One is a 10 MW solar thermal generating station located in Daggett, California, about 12 miles east of Barstow in the Mojave Desert.

Solar thermal electric generating systems collect solar energy as heat and deliver it in the form of steam to conventional turbine generators. At Solar One, 1,818 sun-tracking heliostats (mirrors) — each with a surface of more than 400 square feet — reflect thermal energy onto a central receiver/boiler mounted atop a 300 ft. tower. The concentrated sunlight, equivalent to the intensity of over 300 suns, produces steam which is piped to a turbine-generator on the ground.

Solar One is now in its second year of a five-year operational test phase. When fully operational, this pilot plant is expected to produce 10,000 kilowatts for approximately eight hours per day during the summer and half that amount in the winter. At peak capacity, it should be capable of providing the electrical needs of a community of appproximately 6,000 residential customers.

Solar One's performance will determine whether a larger 100 MW solar generating station is practical.

Southern California Edison is the most active utility in the world in the development of alternate and renewable energies. The company currently produces significant amounts of electricity from nine different energy resources: oil, coal, natural gas, solar (photovoltaics and thermal), wind, geothermal, hydro, biomass and uranium.

To receive the handsome commemorative QSL certificate from Solar One, amateurs must send a confirming QSL card and a 9" x12" SASE to: Edison Amateur Radio Network, Room 455, P.O. Box 800, Rosemead, CA 91770. □

• Silent Keys •

Eric Shalkhauser

Peoria's pioneer radioman, Eric G. Shalkhauser, W9CI, maker of wireless history since 1910, died Sunday, 12 June. He was 90 on 1 June. (See photo on page 2, July issue.)

In Amateur Radio history, he is most well-known for his design and manufacture of the famous RME-69 shortwave ham receiver which was the first directly panel-switchable band changing unit which eliminated the task of plug-in coils. He was the president of the Radio Manufacturing Engineers, Inc. — a nationally known firm which was honored for outstanding contributions to the war effort. He operated this company from 1933 to 1954.

"Shaw" operated his spark transmitter in the Presidential Relays of 1916 from the Savanna (Illinois) Ordinance depot. He was a veteran of the Army, World War I and a member of AARP Peoria Chapter 10.

Shalkhauser, associate professor emeritus of electrical technology at Bradley University in Peoria, developed the first broadcast station 9YAN, which went on the air in January 1922.

In the summer of 1922, "Shaw" built station WFAP, which was operated by the Peoria Journal and himself. WMBD began in 1927 and was for several years Peoria's only radio broadcasting station. He designed and built a BC station for the Eureka College of Eureka, Illinois (east of Peoria), and had to return several times a week to operate it because there were no licensed operators available. President Ronald Reagan went to this school and probably was an announcer at the AM outlet.

Born in Hillside, South Dakota in 1893, Shalkhauser began his professional career as a public school teacher in Sterling, Nebraska in 1915. He married Emma Bergstraesser on 1 January 1919 and moved to Chicago to work for the Western Electric Co. for two years. They moved to Peoria and to Bradley University to stay until 1928, where he served as an instructor of physics and electricity and operated WBAE and developed WJAN. From 1929 to 1932, he worked as sound recording engineer for the former C.L. Vernard Studios.

In 1955, after he sold RME, Inc. to Electro-Voice Co., he went back to teaching with an assignment at Woodruff High School and rejoined Bradley faculty in 1956. He retired at the age of 76. "Shaw" belonged to the Radio Club of America as a Fellow; Quarter Century Wireless Inc.; Society of Wireless Pioneers; ARRL; Antique Radio Club of America and was named National Ham of the year in Dayton three years ago.

— Submitted by Ero Erickson, W9HRJ (ex-KA9DYS) □

John Cunningham

John Cunningham, W8JJL — an Extra licensee and a member of the Lake Erie Amateur Radio Association (LEARA) and QCWA — became a Silent Key on 15 January.

Besides his job as editor of *The Electron*, John was known in print for many excellent books he had written, including *The Complete Broadcast Antenna Handbook* and *Digital Electronics for Broadcasters.*

W8JJL was a frequent contributor to the LEARA newsletter, and was a frequent lecturer at the NAB Directional Antenna Seminars. He also was a Senior Member of IEEE and active in the Cleveland Engineering Society. *(Information sent by Jim Arcaro, WD8PFK)* □

Robert Weitbrecht

On 30 May 1983, Robert H. Weitbrecht, W6NRM, passed away in Redwood City, California, after an auto-pedestrian accident. The 63-year-old amateur was a native of Orange, California, and had many credits to his name.

He worked as a physicist for the Manhattan Project and Aeromedical Laboratory, University of California, Berkeley, California, where he worked with electronic systems for mass spectrometers and current integrators. He designed electro-optical-mechanical instruments for nuclear physics at the Berkeley Scientific Company of Berkeley and Richmond, California.

At the Communication Laboratory, Stanford Research Institute, Menlo Park, California, W6NRM worked with electronic-optical-mechanical instruments and systems, and specialized radio system for precision orbiting of an aircraft about a ground reference point. He was also the inventor of a communication system using teletypewriters in conjunction with telephones. □

AMATEUR RADIO IN PUBLIC SERVICE

Members of the Tri-Town Radio Amateur Club, the amateurs who supplied 2-meter FM mobile communications during the morning shift of the 1983 American Cancer Society South Suburban Bike-A-Thon are shown here, assembled in front of ACS Headquarters. From left to right (standing): Marion Wilcox, K9AOA:WD9KZH; Frank Lenkszus, WA9GOM; Henry Dexter, K9IJC; Greg Barron, N9DDU; Ben Butkus, WA9RFO; Clark Lembcke, W9BQL; Herman Fabert Jr., W9FHW; Robert Radkey, K9RPX; (kneeling) Glenn Whittaker, WB9TYX; Brian Denk, N9BTH; Saul Pardo, KA9GDS; Todd Schumann, KA9IUC; Mike Lowden, N9CRA.

Cancer Society Bike-A-Thon

The 1983 American Cancer Society South Suburban Bike-A-Thon was held on 15 May. Members of the Tri-Town Radio Amateur Club and other area hams supplied 2-meter FM mobile communications.

The bike route was 50km, threading through five communities and lasting over nine hours; 245 bike riders participated with pledges in excess of $24,000.

Radios and operators were placed in the "Sag Wagon" and other logistical cars. Hams worked two shifts, approximately four and a half hours each. This was Tri-Town's third year to provide communications for the ACS. Everyone enjoyed the challenge, and look forward to helping the ACS Bike-A-Thon in 1984. □

Bike-A-Thon duty

Roger Peister, KA0CRI

On 21 May, the Scotts Bluff ARES provided communications for the St. Jude Hospital Bike-A-Thon in Mitchell, Nebraska. Amateurs worked with law enforcement agencies along the bike route, reporting bikers' positions and traffic conditions.

The amateurs who participated were: Harry N0ENL; Jim Weber, WD0BQM; Shirley Rice, KA0BCB; Ted Hommel, W7LFL; and Roger Peister, KA0CRI. □

Legal Runaround

Roger Peister, KA0CRI

On 1 May, the Scotts Bluff ARES provided communications for the Legal Runaround, a 5km and 10km run sponsored by the Scottsbluff Bar Association. Association.

Both runs started at the Scotts Bluff County Courthouse parking lot in Gering, Nebraska.

Eleven amateurs using hand-helds and mobiles kept the NCS and race coordinator informed on the runners' progress throughout the event. □

Arizona Winter Special Olympics

Art Phillips, WA7NXL

Each year in late February, more than 300 handicapped young people from throughout Arizona converge on Flagstaff for the Arizona Winter Special Olympics. The residents of the picturesque mountain city open their homes to the youngsters for the weekend, winter recreational facilities in the area are taken over for the events, and the Amateur Radio operators of the Coconino County ARES gear up for their biggest public service and training activity of the year.

Under the leadership of District Emergency Coordinator (DEC) Chuck Upton, KB7XN, 20 Flagstaff amateurs participated in the activity during the weekend of 25-27 February 1983. Using a variety of simplex 6 and 2-meter frequencies, amateurs set up a net linking the Special Olympics and medical headquarters at Flagstaff High School with the downhill skiing competition at the Fairfield Arizona Snow Bowl, at 10,000 ft. elevation on the San Francisco Peaks, 10 miles north of town; the ice skating activity at the Flagstaff Ice Rink; and the cross-country skiing event at Mormon Lake, 25 miles southeast of Flagstaff.

When an unexpected snowstorm closed the steep road to the Snow Bowl for several hours late Saturday, the radio operators kept headquarters informed, and one amateur walked a mile down the road to locate the National Guard ambulance stuck in traffic while attempting to return to the Olympics site. The amateurs finally left the Snow Bowl at 10:30 p.m. when all Olympians were clear of the area, after a 17-hour day.

Over 200 pieces of traffic were logged during the weekend, including 15 emergency messages involving injuries or lost participants. Several hundred additional informal messages were also handled. □

Amateur Radio operators at the communications center at Arizona Winter Special Olympics headquarters at Flagstaff High School. Seated, left to right: Rich Ferguson, WA7LTH; Bob Wertz, WB7OPT; and Art Phillips, WA7NXL; standing (foreground): Charlie Charpentier, WB7DDN; (rear): Nancy Hogin, N7CXF; and Joe Remy, WB7CDO. ***(Photo by Chuck Upton, KB7XN)***

Regina amateurs aid runners

Bill Munday, VE5WM

On 15 May, members of the Regina Amateur Radio Association and the Regina Repeater Group provided radio communications for the "Run For Light" — an event hosted by the Saskatchewan Blind Sports Association. The 5km moonlight run followed a course through Wascana Park and kicked off the 1983 National Physical Activity Week.

Each runner carried a special green fluorescent lightstick, which created a spectacular effect as some 600 runners made their way through the park. This was the initial run of this kind for Regina, and the way things went, it appears the amateurs will be part of the "Run For Light" from now on. □

Rally 'round Amateur Radio!

John Brown, W7CKZ
ARRL Washington Section PIO

Amateur Radio operators have been involved in community and public service support activities for many years. Weekends spent furnishing communications (usually via 2 meters) for walk-a-thons, bike-a-thons, joggers, parades and many other events have been prime vehicles for practicing the fine art of public service and emergency preparedness. The organization, logistics and the sometimes "fly-by-the-seat-of-the-pants" coordination is good training ground for the members of various clubs and groups.

Once hams become involved in these activities and feel their feet are good and wet, they tend to look for bigger and more exciting mountains to climb in the public service arena.

Amateurs provide communications support for the Reno National Air Races, National Hydroplane Racing and other high energy — and usually scary — activities.

Bring on the rallyists

Here in the Pacific Northwest, a certain breed of wild and crazy guys and gals love to hurtle themselves through the daylight and hours of darkness strapped to high-speed projectiles (called rally cars). The object is to outguess maps, clocks and elements of the weather, so they cover a certain piece of countryside in the shortest time without totally destroying themselves or their car!

Friends, this is precision bombing at its best without an airplane.

Communications network needed

Starting out on a small scale about seven years ago, Washington amateurs joined with rally enthusiasts and formed the nucleus of a very efficient radio network to assist major nationally sanctioned road rallies.

The professional drivers and rally officials have given excellent marks to the amateurs and the elaborate communication network that utilizes almost (it seems) every Amateur Radio band in existence.

State capital target area

Washington's state capital — Olympia, in Thurston County — was the recent annual target for the Nor' Western and Olympus Pro Rallies. 8-17 April marked a full week of Rally Week Northwest that started with high-speed action through the streets of the state capital (the streets were secured from regular traffic), and was capped by the action using part of the local airport for the rally course.

Organization and lots of help

Radio communications coordinator again this year was Steve Dightman, K7SSC, who had the cooperation of a dedicated group of about 150 hams from six counties. These highly skilled operators put in a total of nearly 1,600 hours of practicing their art of communications, from nice warm ham shacks to sitting in mountain snow with mobile units during the wee hours of the morning.

The radio network provided information on 53 cars at numerous checkpoints, logistical support needs for rally officials, emergency medical response needs and the status of the course, or emergency closure notification of the course if needed. Believe me, you don't want to meet a rally car in the darkness at 100 mph!

Cooperation and appreciation

Each year, rally organizers treat the amateurs to a terrific dinner to show how much they really appreciate and understand the valuable service Amateur Radio provides.

If you think this kind of "front-line" communications service is your cup-of-tea, contact Steve for pointers. If you live in the Pacific Northwest, you might even volunteer. I am sure Steve can find a place for you, as he is already planning next year's action. His address is 5946 S. Sheridan, Tacoma, WA 98408.

Appreciation

I want to thank Wayne Moddison, K6DOW, Washington Section Special Event Public Information Assistant for helping with this story. And thanks to K7SSC and the 150 hams who made the story possible. □

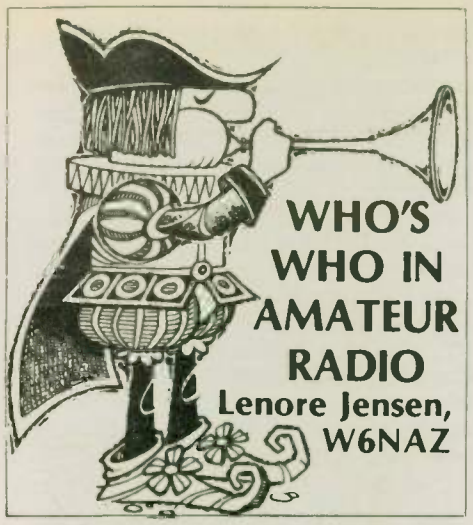
Emergency-ready meeting

Lenore Jensen, W6NAZ

A major push to improve the ability of amateurs in emergency communications was the subject of a long, serious meeting on 19 March, hosted by John Walsh, Los Angeles ARRL Section Emergency Coordinator. A special guest was Lawrence Lindstrom, Engineer in Charge of Communications Services for Los Angeles.

An agreement between the city and ARES has been worked out, soon to be officially implemented. RACES also continues to drill in affiliation with the County Sheriff Department. Of prime concern was how to provide efficient liaison throughout the entire state in case of flood, fire or earthquake. The recent heavy rains increased the motivation.

(*please turn to page 27*)



Working "where the action is"makes Jay Reisman, KB6IZ, happy — and he credits his Amateur Radio experience for its help in putting him in a very exciting job.

Jay is Electronic Newsgathering Coordinator for the CBS TV station in Hollywood, KNXT. From 4:30 to 7:00 p.m. weekdays, he is in radio contact with the many land and air mobile units and with news talent out in the field, lining up live or videotaped segments for the highly rated Channel 2 News.

However, it took a long career in several areas to put him in his interesting spot, plus a healthy imagination which always kept him alert to new opportunities.

"Early on," he says, "I learned that hard and fast rules in life don't necessarily apply; one had to be imaginative." Thus, Jay was always open to new ideas.

"As a child, I noticed people were tuning their giant living room radios to shortwave bands, listening to the BBC, Hitler speeches and other worldwide broadcasts. I became fascinated.

"As a teenager I saw war surplus gear hitting our Southern California stores, and I became enthusiastic. We had an Amateur Radio club in school. In junior high, we had a very intelligent teacher, a World War II veteran, who managed to acquire a lot of that gear for teaching us about electronics. I remember a big old Navy receiver and a long-wire antenna.

"Our assignments included the logging of as many stations as possible, noting their frequencies, signal characteristics, etc. There I learned the value of listening 90 percent and talking only 10 percent. This can be of enormous help in life. One can be much more effective anywhere, if one *listens* extensively first."

But his ham license had to wait, as Jay was drafted into the Army at the time of the Korean conflict while still in junior college, majoring in photojournalism.

Placed in the Signal Corps, he was sent to Anti-Aircraft Radar school and then on to occupied Germany, ending up as both a staff and aerial photographer, due to his initiative in collecting letters of recommendation and his published photos.

Finally, back in Los Angeles, Jay had hoped for a position with a newspaper, but the failure of a local daily had put too many fine photographers "on the street."

"So I ended up in a photo mural lab up to my armpits in Elmer's Glue, wheat paste and cockroaches. The little pests loved wheat paste!

"I moved on to another studio which specialized in photographing commercial products. It was a time of black-and-white TV, so labels had to be color-corrected, as did publicity pictures of props, etc.

"An interesting opportunity appeared for which I submitted a proposal and was accepted. It was with a company designing the SAGE (Semi Automatic Ground Environment) Air Defense System, the first computerized system of its type in the USA. Originally, I did ground and air photography, but later was named a Senior Human Factor specialist, dealing with the man-machine relationship. We investigated the failings and strengths of each. Our computer was an enormous IBM with thousands of tubes."

Jay kept busy structuring test and study programs, particularly in electronic counter measures and counter-counter measures — "jamming." He wrote training programs designed for self-teaching in remote areas via books, slides and narration.

"One of our best narrators was the famous Jack Webb who was cleared for Top Secret. A great fellow!"

Another narrator was from Channel 7; he urged Jay to switch over to TV. Before long he was a writer in the news department. "My first big story was the Watts riot of 1965. I've never seen anything locally to top it."

His twin knowledge of aerospace and writing then took Jay to TRW where he wrote speeches, pamphlets, PR releases and "even submitting 100 names for satellites." But telecasting again was tempting, and he joined KNXT in 1969 as a writer — and then producer — in news. He was valuable, thinking both in pictures and words because of his wide experience.

Jay Reisman, KB6IZ, at KNXT's new "RF Suite" ***(W6VGQ photo)***

He then added another big credit — his ham license, first as WA6TXF and soon KB6IZ. As a boater, he is particularly fond of 14,313 kHz and the maritime mobile crowd. Interestingly, he once "was saved" by a simple invention which he has patented — the tiny Signal-Mate. For sailboats as well as powered boats which might lose their antennas, he designed an emergency coil-stored-unity-gain-whip antenna, the size of a walnut. It's currently sold overseas as well as in this country. "You just attach this to your antenna connector and you're back on the air," he explains.

As much as Jay enjoys his home and mobile stations, he has a full daily share of radio communication in KNXT's shiny new RF Suite — "as state-of-the-art as any in the world."

"We have command of five mountaintop sites in our area (Los Angeles is unique for its surrounding high spots), and we can receive live video from them. There are 14 ground and air units scurrying around the Southland, from Santa Barbara to San Diego and inland to San Bernardino, for news pick-ups. These, of course, have their own rigs and antenna masts which can be pneumatically raised, topped with two helical antennas.

"Also, we have a Messerschmidt helo, Chopper 2 LA, which inputs live to mountain tops and then to the studio. Too, there is the HOP plane, with airborne video and audio plus a 450 MHz repeater. It can circle up there, hanging like a picture, filled with electronics which we can control from the ground."

When all that gear was brought to the RF Suite, it became obvious it needed a coordinator. And it is natural in the hectic TV daily life for frequent lack of real communication between creative and technical people. Because of his wide background and ability to "speak both languages," plus the added feature of his Amateur Radio experience, Jay was a natural choice to become Electronic Newsgathering Coordinator.

It's rather like being an NCS, to coordinate all the incoming signals from the field for priorities, program content and the like.

The six available channels are used by newsmen on the spot, the engineering crews, the airborne units and for point-to-point relaying.

The task of aligning the various antennas is like swinging one's beam on the ham bands. For instance, a mobile truck near the ocean may be asked to pit its antenna toward a specific mountain. The RF Suite can control the higher antenna, gradually reaching maximum signal between the two.

(A Ham Heaven? "Well, it's like a blind dog in a meat market," he laughs.)

The roll cues, superimpositions, newsmen cues-to-talk and camera directions are given on these channels during the on-the-air time. Earlier, incoming signals may be videotaped on ¾ inch, then handed to a writer and an editor who select bits from it and have it transferred to another ¾-inch tape. Finally, the finished spot is handed to News Exchange which puts the segment on an amazing ACR — an Automatic Cartridge Recorder-player. (This, by the way, is threaded by air pressure, no fingers needed, and is happily available for "instant roll" — no waiting.)

Earlier in the day, of course, Jay has participated in production meetings, advising which outside areas are suitable for pick-up and which are "no way!"

With the daily, ever changing and exciting inpouring of dramatic news, Jay Reisman, KB6IZ, indeed is "where the action happens."

Always helpful to those seeking news coverage for our hobby/service, he repeats his advice: "Remember, Amateur Radio itself is not news . . . but its *effect on others* is!" □

Correction

In last month's 'Who's Who,' please note that the minimum age for a license in Italy is 16, not 18 as stated. □

OFF THE AIR

German award hunters club

IN RE: '77' = friendship, **Worldradio**, page 19, April 1983 by D.L. (Sparky) Barr, W9KJU

First, I would like to say that I enjoyed the article very much, and of course, I have this feeling of friendship for our other ham friends all over the world. We must never forget that every one of us had to work very hard to get where we are today, and when I say TNX DR OM FER UR CALL, I AM VY PSED TO MEET U, I really mean just that!

I am a CW op and quite active. I send out over 100 DX QSL cards every month so I hear many hams sign QSOs. Some are very brief, others quite lengthy. All say "73," most all will add things like GL, BEST DX, HPE CU AGN, etc. Sorry I do not know what goes on in the SSB portion of the bands.

Some European stations will add "55" (mostly German stations), which means "Best wishes, peace and friendship."

This brings us back to the "77". You see, since 1969, "77" has been in use among hams all over the world. It is used by a group of hams who are not only pleased to meet for the first time (or many times), but who have a special feeling in their hearts for each other. This group is called the Diploma Interests Group (DIG).

It is a German award hunters club; the members call it "Diplom." There are well over 3,000 members around the world, from the USSR to VK-land. Here in the USA, there are about 25 members of this fine club. We even have a member in JT-land. Membership is open to all who can meet the rules of membership (see rules below). One must have at least 25 Amateur Radio awards, including three from the DIG awards program.

So tune around, and when you hear a station sign VY 73 es 77, give that station a call; he *will* send you his card, and maybe then you will be on your way to this wonderful hobby of award hunting, new friendships and perhaps membership in the Award Hunters Club — DIG.

DIG membership rules

All German Amateur Radio operators and SWLs must be members of their National Amateur Radio Society, DARC. All foreign Amateur Radio operators and SWLs must be members of their National Amateur Radio Society. They should be able to speak or understand the German language and comply with DIG rules.

These rules for DIG membership are: 1) Proper handling and operation on all Amateur Radio bands. 2) Activity on all Amateur Radio bands. 3) Obliging attitude on all Amateur Radio bands. 4) Reliability in changing QSL cards. 5) Applicants must have at least 25 Amateur Radio awards, including three awards from the DIG awards program.

The fee is DM 5,00 or 10 IRCs for membership and membership certificate. The fee is DM 10,00 or 15 IRCs per year for the *DIGJOURNAL**, with actual information about awards and with a new DIG memberlist the first quarter of each year.

For more information, write to DIG Secretary, Eberhard Warnecke, DJ8OT, P.O. Box 10 12 44, D-5620 Velbert 1, WEST GERMANY.

(*In the *DIGJOURNAL*, information is published for all interested members about new and changed award conditions. It includes pictures of DIG members, reports about DIG meetings, invitation to participate in the yearly DIG QSO Party in SSB, CW and VHF, and reports about this party; new DIG Trophy winners; short information from around the world — all with actual pictures. This Journal is written in German language only.)

AL LIBBY, KB1FK (ex-WB1EPK)
Newington, New Hampshire □

'Destinate' wins

Each year, the Unicorn Hunters of the Lake Superior State College of Sault Ste. Marie, Michigan publish a list of words to be banished from the English language.

I am happy to report that they have accepted my nomination of DESTINATE, as in: This will be my final transmission as I am about to *destinate*.

The Unicorn Hunters awarded destinate with a dishonorable mention.

JOHN CORCORAN, KA6MFH
Playa del Rey, California □

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Off the Air

(*continued from page 15*)

'Receiver performance' corrections

I enjoyed reading the short article by Peter Onnigian, W6QEU, on receiver tests made by Rick Craig, N6ND. It is commendable to see more discussions of this subject, as much more emphasis is needed as to the importance of receiver dynamic range.

A few comments come to mind, however, as there were a few errors in the discussion, plus some areas which might be misleading to new readers of this subject.

Noise floor: The noise floor is shown in dB below 1mW, not 1mV. The *smaller* noise floor numbers (not larger) are more sensitive. -134 is smaller than -128.

IMD: IMD values are expressed in dB below 1mW, not above 1mV.

While the test equipment used was not specified, it is unlikely that noise sidebands from the generators were a significant problem, requiring some tests to be made a 100- rather than 20-kHz. Comparing our published data — using known clean generators — with Rick Craig's, shows the same pattern on the newer synthesized receivers. The noise is caused by reciprocal mixing of the receiver's synthesizer with the signal generators, not the other way around. Thus the limitation is the receiver, not the test equipment! (See enclosed flier and reprint *hr*, 1977.)

Increasing the spacing does have something to do with selectivity and is important, though not in the usual sense of final receiver bandwidth. An up-conversion receiver, with a wide (15- to 25-kHz) four-pole (4:1 shape factor) first IF filter can and usually does have a significantly different dynamic range at varying test-signal spacing. The more gain after this filter and before the next narrower filter, the greater the difference in measured dynamic range (DR).

Sherwood Engineering, Inc. strongly supports the position that DR measurements should not only be made in the 20- to 100-kHz area, but also close in at 2-kHz or so. This test procedure more closely approximates a real-life pile-up condition.

Take the TS-930S, for example. Craig shows a DR-100 kHz of 93dB, an excellent value. But because this receiver has a wide first IF filter with significant gain before the 2400- or 500-Hz second IF filter, the DR changes radically with test-signal spacing. Our measurements show the following pattern: DR-100: 97dB, DR-50: 94dB, DR-20: 86dB, and DR-3: 73dB. A 24dB difference, depending on how much much of the receiver is being tested, the first mixer only or further down the IF chain.

Generally, the data in the Worldradio article is within 4dB of our published table. Considering sample variations, test spacing differences and measurement errors, this is a good correlation level. There are, however, two examples which I believe to be in error. The TS-820 is listed as DR-20: 67dB. Yet the R-820, which up to the first IF filter is virtually identical in design, is recorded as DR-20: 78dB. A figure around the 78dB value is correct. The 67dB is either a defective radio, an error or a typo.

The R-4C stock is given as 70dB, and modified (unspecified modification) as 75dB. These values do not jibe well with any other data I am familiar with. Stock, with a Heath Dynamics discrete 8-kHz four-pole first IF filter, the R-4C should test consistently above 80dB. With the PTI monolythic filter the DR-20 is in the mid 70's, due to IMD in the filter. With the Sherwood CF-600/6, all measurements I have taken or seen are above 82dB, from 2- to 100-kHz spacing.

The ARRL data on this receiver varies from 82 to 88dB, depending on which first IF filter is used. Jim Moorman, W9TK, published DR-20 of 86dB, while Dave Soldan, NØIN, measured 84 to 86dB.

One more point concerning a dynamic range test. Both the high-side and low-side IMD product must be measured. The values are often significantly different due to varying mixer terminations, usually by filters. The lower figure should be used, as the other value is caused by cancellation at that specific spacing. (That is why swept IMD measurements on mixers are much more valid than discrete point data.) The ARRL was publishing two sets of dynamic-range values for a short time, until I pointed out that only the worst-case measurement was of value, not how much better it might be if the interfering signals were on the "correct" side of the desired signal.

Please do not take my letter as a criticism of **Worldradio's** delving into the subject. It is simply a complicated discipline. Sherwood is still refining its measurement techniques and equipment after seven years of testing. It is an ongoing learning experience.

J. ROBERT SHERWOOD, KCØZV
President, Sherwood Engineering
Denver, Colorado □

In defense of cruising hams

I am not much of a letter-to-the-editor writer, but I feel compelled to object to the article, "Why chase spectrum criminals" by Herb Schoenbohm, in the June issue (page 14) — not only for myself, but on behalf of the 1,500 members of this worldwide organization of yacht cruisers, voyagers and sea lore buffs, at least a third of whom are duly and legally licensed hams.

I might add that I am also a member of the Seven Seas Cruising Association, which has a membership of about the same number, of whom at least half are legally licensed ham operators. All of these people are of high caliber, law-abiding, serious-minded and considerate people. None that I know of is "a wealthy stockbroker" hiding out on his "$100,000 yacht" in some Caribbean anchorage, conducting business in New York via Amateur Radio.

Schoenbohm's rather paranoid harangue about "yacht pirates" smears the good name of hundreds of good honest citizens who happen to be spending a few years (or their remaining years) away from the rat race, doing the things they love most, such as sailing to far-away places — and enjoying Amateur Radio as a hobby. He tries hard to paint all of these good folk as drug smugglers, pirates, clandestine radio operators, and all of them as rich bastards who have no right cluttering up the air with illegal signals or even to own "expensive" yachts. He apparently bases his judgment on a few outlaws and bootleggers in the Caribbean area, which is notorious as one of the most lawless regions in the world.

In the first place, $100,000 doesn't buy much of a "yacht" these days. In at least 99 percent of the instances, the cruising vessels he groups under his contemptuous classification were acquired by folks who worked hard all their lives, sacrificed, scrimped, saved, and in many cases worked nights, weekends and vacations to build the boat themselves, while holding down jobs, paying taxes, and doing their bit as good citizens. In many cases — perhaps most — these people sold their homes and cars in order to acquire a vessel they could live on and cruise aboard.

A lot of them are enjoying the meager benefits of small pensions after 30 or 40 years of hard work. As a group, they are far above the average in honesty, intelligence, talent, energy and respect for law and order.

I find Schoenbohm's lugubrious harangue in very bad taste.

DON HOLM, W7PFL
Port Townsend, Washington □

Sunset Net invites amateurs to join in

I have been doing some exciting things in Amateur Radio through the Sunset Net, and I would like to share the following with you.

On Saturday, 9 January, young people and adults in 12 locations throughout North and South America joined together for fellowship through the magic of Amateur Radio. The following states were represented: Alaska, Colorado, Louisiana, Pennsylvania, Tennessee, Texas and Vermont. Jim Hobbs, VE5KQ, in Saskatoon, Saskatchewan, Canada was kind enough to act as net control.

The highlight of the evening was having Glenn OA4AYX and Janice Kramar, OA4XF — missionaries in Lima, Peru — join us.

I estimated there were at least 70 people involved that evening. One station — KØBU — operated from his dorm, using a wire out his window as an antenna. Here in Shreveport, we had 27 young people and adults at our QTH. Some stations had college students, missionaries and ministers visiting their shacks.

This was all done through the cooperation of amateurs in the Sunset Net, a group of amateurs who are members of the Church of Christ. We hope to promote the use of Amateur Radio in the church, especially in keeping in touch with missionaries.

Our young people at the Sunset Church of Christ helped write 18 missionaries to invite them to join us for this evening via Amateur Radio.

If you are an amateur and a member of the Church of Christ, or just want some good Christian fellowship, join us at the following times: Saturday morning, 1600 GMT, 21.395 MHz (net control Dale Brown, KC2PZ); Saturday evening, 0100 GMT, 14.288 MHz (net control Ray Hawk, NW4L); Monday evening 0330 GMT, 7.27-7.285 MHz (net control Dave Albert, N5COO). Or send SASE to the address below.

DAVID ALBERT, N5COO
2503 Vivian Street
Shreveport, LA 71108 □

Laryl Berry, KM7Z, talks with visitor at Oregon State Ham Convention in Seaside, June 1983. Airmail consultant "B1RD" supervises from behind.

USQS visits Seaside Convention

Laryl Berry, KM7Z

USQS went on the road again, traveling to the Oregon State Ham Convention at Seaside, Oregon, held 3-5 June. During the three-day event, attended by approximately 2,000, the USQS booth was busy handing out hundreds of flyers, QSLs and taking in SASEs. The CADO computer system owned by Explorer Post 836, sponsored by USQS, now contains all bureau records. This computer was available at the booth for hamfair visitors to check their calls for unclaimed cards or SASEs.

USQS is an independent, stateside QSL bureau. There are no fees for using the incoming or outgoing service; we operate solely on donations. Please keep self-addressed stamped envelopes (SASEs) on file to receive QSLs for your station.

Following is a sample of call signs for which we have unclaimed QSLs. We are constantly mailing out unclaimed cards, using donations received. However, *PLEASE NOTE* — the following list is only a portion of those calls having unclaimed cards on file.

To claim cards or request information, please send an SASE with call sign. Please specify how many cards you wish returned in each SASE. Our address is: USQS/KM7Z, P.O. Box 814, Mulino, OR 97042; phone (503) 829-6797.

AA1H	KA3HHG	KB6H	W8HNI
KC1H	N3HI	NF6H	KA8HSR
KA1HCP	KA3HIE	NI6H	W8HU
K1HDO	WA3HJC	KE6HB	KA8HUB
K1HEF	KA3HJX	W6HBZ	KB8HV
KA1HFT	WB3HNF	W6HCS	KA8HZO
W1HHV	NN4H	N6HCU	KA9HAC
K1HI	NZ4H	KA6HDK	WB9HAD
KA1HIG	WG4H	KA6HE	WD9HAW
WB1HJA	WN4H	N6HFH	WD9HFT
KA1HKB	K4HCG	W6HFJ	KA9HGP
KA1HNU	KB4HF	W6HFL	W9HJV
W2HBY	N4HGB	AC7H	K9HKS
WA2HCC	KA4HHT	AE7H	KC9HM
K2HF	WA4HII	KQ7H	K9HMB
WA2HFI	N4HJZ	KY7H	KA9HRJ
KA2HIS	N4HKV	KA7HAW	K9HSS
KA2HLW	N4HMH	KA7HBK	KA9HTW
KA2HMJ	KF5H	KB7HH	AFØH
KA2HMS	KJ5H	W7HHP	AGØH
W2HN	KX5H	KA7HJI	KSØH
WA2HSJ	NE5H	KC7HL	KWØH
W2HTT	KA5HCA	W7HN	KAØHDJ
W2HXF	KA5HCF	KA7HNI	WDØHDJ
AK3H	WD5HCR	AF8H	KAØHFS
KF3H	K5HD	KU8H	KBØHH
WA3HCV	WD5HDD	W8HAP	KAØHIB
KB3HE	KD5HE	KA8HDR	WBØHIY
KA3HEF	WD5HET	KA8HFN	KØHJN
KA3HFC	N5HF	KC8HJ	WØHMA

AMSAT OSCAR

Dr. Norman L. Chalfin, K6PGX

On 26 May, your correspondent was the scheduled speaker at the San Diego Amateur Radio Council meeting, to talk about Westlink and the then forthcoming Phase IIIB Launch. It was with grateful surprise that I learned — at the meeting — that a $1,000 donation had been made to AMSAT on a matching basis, so the grant should net an additional $1,000 for AMSAT. SANDARC also made a $1,000 grant to Westlink at the same meeting, so that Westlink might continue its news service.

We believe we have been involved in a first for Amateur Radio club meetings. Because of the impending launch of the AMSAT/OSCAR-10, we were unable to consummate a speaking engagement scheduled for 17 June. We had sent the set of slides to be used ahead of time, and then arranged to be available on a 220 MHz/2-meter intertie to narrate the slides and answer questions. The repeaters were located on Santa Catalina Island, California (224.42/223.82) and on a mountain near Santa Barbara, California (147.945/.345). I was in Pasadena, California.

The "first" was that a club meeting had its speaker talk via Amateur Radio. Butch Mason, W6KAG was on a hill near Palos Verdes, California. He and I fielded questions from the hand-helds of individuals attending the meeting and from a couple of other listeners-in. There ought to be more of such activities in the amateur community.

AMSAT/OSCAR-10 launched!

AMSAT/OSCAR 10 — up to now known as Phase IIIB — has been successfully launched by the ESA Ariane rocket. The new Amateur Radio spacecraft was ejected from the launcher at 12:16:53 UTC on 16 June.

During the countdown and preparation for launch, a network of Amateur Radio stations transmitted the commentary and launch communications live to the world. Among the stations were the JPL ARC station W6VIO on 20 meters beamed to Japan; WA6OPB on 80 meters, also beamed westward; and another West Coast amateur on 7170 kHz and one from Hawaii KH6SP on 7180 kHz.

From the Midwest, Ralph Wallio, W0RPK on 3850 kHz, and another Iowa station, AI0Z, carried the commentary from the Goddard Space Flight Center at the AMSAT lab located there. At Goddard, Vern Riportella, WA2LQQ, acted as net control; commentary and technical details were provided on the teleconferencing net by Dr. Tom Clark, W3IWI, president of AMSAT and Rich Zwirko, K1HTV.

Recalling the earlier launch of the Phase IIIA spacecraft which resulted in the first "submarine" amateur satellite and gags such as "Amateurs will have to go to sonar," this Ariane launch was letter perfect. However, as this is being written, we have learned that the AMSAT/OSCAR-10 was released from the Ariane rocket third stage at an angle rotated 90 degrees from the desired attitude so that before the several burns of the rocket motor can begin to bring the spacecraft from its 8.6 degree inclined orbit up to the desired 57 degree inclination, attitude corrections will have to be made. This process may take a couple of weeks, and thus delay the day when access by amateurs can start.

So, remember that until announcements are made on AMSAT nets and on W1AW that the AMSAT/OSCAR-10 bird is ready to accept uplink signals, *please do no try to access the bird!* Telemetry from the bird is being monitored in order to obtain the best data on which to determine the corrective measures.

One of the effects of the misorientation is insufficient insulation of the solar panels to provide enough battery power to do all of the tasks required.

Various types of protocol are being considered so that the necessary software can be written for use of the magnetic torquers, etc. in the AMSAT/OSCAR-10 to reorient the craft, to achieve the correct attitude for the kick motor burn operations.

While all of this sounds ominous, it should not be considered so, since many of the built-in capabilities of the spacecraft and its computer system permit AMSAT-spacecraft controllers to perform their feats of electronic wizardry, and you can be sure that all of the bright characters involved in the Phase IIIB project will get the bird into the right place and looking in the right direction to achieve the planned orbit.

Meanwhile, if you hear telemetry on 145.810 or on 145.987, copy it and decode it if you can. If you cannot, send a recording of the telemetry to AMSAT, P.O. Box 27, Washington, D.C. 20044. Of course, if you do decode the data, send the decoded report along to AMSAT.

During the period of testing and reorientation, while the AMSAT/OSCAR-10 is in the low inclination orbit, one can point one's 2-meter receiving-only antennas in a southerly direction and more than likely receive the telemetry from the spacecraft beacons on the frequencies noted above. (Also, see the August 1982 and July 1983 AMSAT/OSCAR columns in **Worldradio** for other details of the (AMSAT/OSCAR-10) transponders and beacons.)

Discussing the AMSAT/OSCAR-10 spacecraft at the Kourou ESA/CNS launch facility are (left to right): Ulrich Mueller, DK4VW; Jan King, W3GEY; and Dr. Karl Meinzer, DJ4ZC. The AMSAT/OSCAR-10 is in its protective bag (at right), awaiting mounting on the rocket.

If you were one of the many thousands of amateurs who listened to the AMSAT Launch Information News Service (ALINS) during the preparation, countdown and launch of AMSAT/OSCAR-10, and if you send a #10 SASE to ALINS, c/o AMSAT, P.O. Box 27, Washington, D.C. 20044, you will receive a commemorative plaque suitable for framing. The SASE should include 1 oz. first class postage. If you are sending your request for the plaque from outside the USA, Canada or Mexico, include an international mail coupon.

The listing below shows the stations which participated in the ALINS operation. Please mention which one you were listening to when you do send in your SASE or request for the commemorative plaque. If the station or repeater you heard is not listed below, please identify it anyway. Be sure to list the station's frequency.

W1AW	Newington, CT 1.890 3.990 7.290 14.290 21.390 28.590 50.190 147.555 (standard W1AW voice bulletin frequencies) All transmissions intended for USA coverage
W0RPK	Des Moines, IA 3.850 MHz
N0AN	Ames, IA 7.180 MHz (Audio feed from W0RPK via K0CY 146.01/.61 repeater)
AI0Z	Ames, IA 14.260 MHz (Audio feed from W0RPK via K0CY 146.01/.61 repeater)
WA6GFY	San Francisco, CA 7.170 MHz 14.250 Both transmissions intended for USA coverage
WA3TAI	Washington, D.C. 14.280 MHz 21.280 Both transmissions beamed toward Europe/Africa
G3AAJ	UK 7.080 MHz UK-Europe coverage
G3RWL	UK 3.780 MHz UK coverage (U of S command station will call teleconference bridge and link audio to G3AAJ via 70cm who will link to G3RWL via 2M)
WH6AMX	Hawaii 7.182 14.265 (Japan) 14.285 (VK-ZL)

W6VIO/R on 224.04 throughout Los Angeles Basin

W6VIO (operated by WA6MYJ) transmissions toward Japan and the West on 20 meters

WA6OPB transmitted to Japan and the West on 3845 MHz from W6VIO/R

W6FXN/R on 145.46/86 MHz covering the San Gabriel Valley in California

AMSAT/OSCAR-10 data

Size: tri-pointed star with 63cm (25 inch) arms

Weight: 128.83 kg (284.02 lbs.) launch wt. (includes fuel) 76.03 kg (167.62 lbs.) dry weight (6 kg heavier than planned)

Motor: liquid-fuel re-startable rocket

Fuel: UDMH (unsymmetrical dimethyl hydrazine) propellant nitrogen tetroxide oxidizer

Communications equipment: U-transponder (150 kHz bandwidth) *uplink:* 435.025 to 435.175 MHz LSB or CW (21.5dBW EIRP needed) (recommended: 10 W with 12dBi antenna minimum) *downlink:* 145.828 to 145.978 MHz, 50 W (inverted — USB or CW) *general beacon:* 145.810 MHz *engineering beacon:* 145.987 MHz

L-transponder (800 kHz bandwidth) *uplink:* 1269.05 to 1269.85 MHz SSB or CW (FCC satellite subband is 1260-1270 MHz) (28.8dBW EIRP needed; 3W into 24dBi antenna) *downlink:* 436.95 to 436.15 MHz, 50W PEP (10W avg.), inverting (antenna gain 13.5dBi mirimum recommended) *general beacon:* 436.04 MHz *engineering beacon:* 436.02 MHz

●

Several months ago in this column, we mentioned software which has significant uses in AMSAT/OSCAR activities. Below is a listing sent us by AMSAT/UK describing their software items available to amateurs in the United States.

AMSAT-UK software service

Following the increase in demand from our members we are setting up a members software service. The following are just the first few programmes we have managed to obtain for our members. All proceeds from the sale of software go directly to help the amateur satellite programme. All orders for software should go to the AMSAT-UK office and the envelope should be clearly marked software. This list is inserted as a separate sheet due to the problems we receive with printer deadlines. The following prices are current as of June 1983, and supersede similar tape prices on the inside rear cover.

1.) All programmes from the book *Satellite tracking for the Radio Amateur*, by J. Branegan, GM4IHJ. Includes programmes for tracking most satellites, including Phase III.	ZX81	2 TAPE SET	£ 7.00
	BBC	2 TAPE SET	£ 7.00
	BBC	40 Tk. Disk	£10.00
	BBC	80 Tk. Disk	£10.00
2.) Various tracking programmes for the ZX spectrum. Including OSCARS, Moontrack and many others. Twelve excellent programmes with extensive use of graphics. by J. Branegan, GM4IHJ	ZX SPECTRUM 2 TAPE SET		£ 6.00
3.) A real time active AZ/EL control and orbital prediction programme. Article this issue. by T.R. Stockill, G4GPQ	BBC.B.&	TAPE	£ 3.00
	BBC.B.&	40 Tk. Disk	£ 6.00
	BBC.B.&	80 Tk. Disk	£ 6.00
4.) RTTY for Commodore PET	PET &	TAPE	£ 3.00
5.) RTTY for TRS80	TRS80 &	TAPE	£ 3.00
6.) OSCAR predictions	PET	TAPE	£ 3.00
	TRS80	TAPE	£ 3.00
7.) OSCAR in range Gives Eqx,Az/El, etc.	PET	TAPE	£ 3.00
	TRS80	TAPE	£ 3.00

The suffix "&" following a programme indicates that some form of hardware interface is required. Details supplied with the programme.

All prices include UK post. European members should add 50 pence, and overseas £1.00 to cover postage.

NB. All software is supplied under the condition that any copyright or similar notice as to author's rights, etc. shall not in any way be altered or deleted. Use for other than amateur purposes is expressly prohibited.

Amateur Radio on TV

On Friday, 24 June, KTTV, Los Angeles, Channel 11 devoted its entire 11:30 a.m. to 1:00 p.m. news show to items of Amateur Radio news and information, including an interview with Astronaut Dr. Owen Garriott, W5LFL, who will be the first astronaut to talk with amateurs from space during the STS-7 shuttle flight in September. □

JPL ARC and ARRL's 50th Field Day

On the weekend of 25-26 June, from 2:00 p.m. Saturday to 2:00 p.m. Sunday, members of the Jet Propulsion Laboratory ARC participated in the 50th Annual ARRL Field Day Exercise. Their call is W6VIO, Mt. Disappointment. The location is 4 miles west of Mt. Wilson. □

VCRs cause RFI

Your (SIGNAL) editor is receiving an increasing number of RFI reports involving video cassette recorders (VCRs).

The reports have cited VCRs being produced by a number of manufacturers, suggesting that RF susceptibility is not limited to any given brand. Interference is apparently linked to operation on 3.5 and 7 MHz, though more reports are needed to better define the nature of the problem.

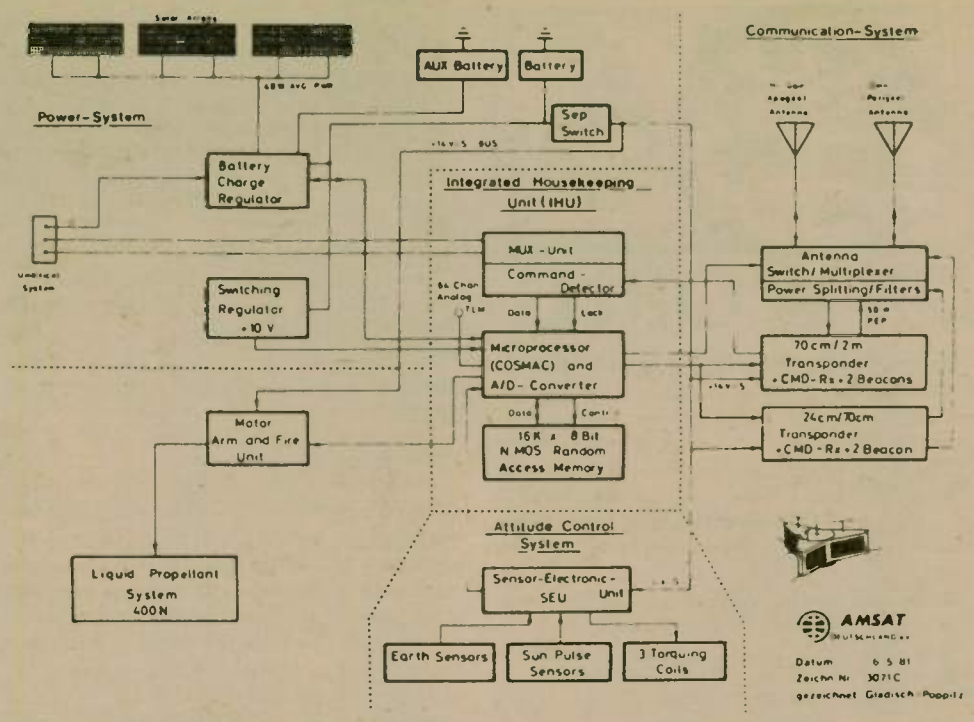
If you or your neighbors are experiencing RFI to your VCRs, you are encouraged to notify the manufacturer and the Electronic Industries Association. Copies of your letter should also be sent to the FCC and the ARRL RFI Task Group. Pertinent addresses are:

Electronic Industries Association
2001 Eye Street, N. W.
Washington, D. C. 20006

FCC
ATTN: Field Operations Bureau
1919 M Street, N. W.
Washington, D. C. 20554

ARRL
ATTN: RFI Task Group
225 Main Street
Newington, CT 06111

— *SIGNAL* □



Functional block diagram AMSAT/OSCAR-10 (from AMSAT Deutschland)

The following is our urgent report from W9KDR regarding the status of AMSAT/OSCAR-8.

Do not attempt communication through the OSCAR-8 transponders during this low-voltage emergency. Presently, OSCAR-8 is in Mode A and command stations have been instructed to return to Mode D, recharge when telemetry tests are complete. Telemetry received in Mode A indicates the battery voltage has dropped to a point that has caused the telemetry to "hang up". The present frame of 180 252 324 496 568 696, even after several days of recharge, indicates that the battery is not charging.

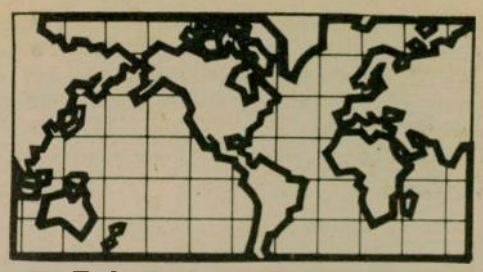
Command stations request that anyone monitoring any variation in the present frame report the readings to ARRL HQ. Observations so far indicate that OSCAR-8 is following a similar battery problem that OSCAR-7 suffered. It is quite possible that any future operation of OSCAR will be during times that the spacecraft is in sunlight. Presently, we are in a minimum sunlight period, which complicates matters even more.

Remember, no operation until further notice.

73, Bernie, W9KDR □

No-sked DX contact

Don Trayes, WB4CVH, of Eatontown, New Jersey, is excited about the coincidence he experienced on 20 March of this year. It was the second time he had worked GI3CVH in Northern Ireland. The first contact was made on 1 September 1980, when Don lived in Goose Creek, South Carolina. Both contacts were made on 15 meters SSB, no skeds involved. □



DX WORLD

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

Activities Calendar

30-31 July	Venezuelan Contest (CW)
13-14 August	DARC European DX Contest (CW)
13-14 August	SEANet Contest (SSB)
20-21 August	SARTG RTTY Contest
27-28 August	JARL All Asia Contest (CW)
10-11 September	DARC European DX Contest (SSB)

W-100-N

208. WD8RTW William B. Kephart
209. LA2AD Halvard Torgersen

Most applicants for Worldradio's Worked 100 Nations award have been stateside amateurs with the overseas amateurs a minority. With that in mind, we thought it would be of interest to list all the DX applicants who have received this award since the first certificate was issued in 1978.

2. DJ9ZB	Franz Langner (European Plaque)
4. JH1VRQ	Naoki Akiyama (Asian Plaque)
30. WA4UAZ/HC1	Steve Hawley (South American Plaque)
42. KL7JFV	Gregory G. Nightingale
53. VK6YL	Mrs. Gillian "Jill" Weaver (Oceania Plaque)
62. VK6NE	Neil Penfold
65.JH4PRU	Jiro Iseya
67. VQ9KK	Bill Hatcher (African Plaque)
69. EA8TY	Eric Lund
94. VK2FD	Bruce W. Thomas
104. VK3NSY	Ron W. O'Grady
108. VK2DEJ	John Saunders
121. VK6AJW	John A.E. Woodings
138. VK2HD	Heather Pike
143. DF2RG	Gerhard Jaeger
148. VE3FEA	Wilfried Antheunis
152. VE2AFU	Cora Kappert
158. VE3JPJ	Steven Bamber
168. DA1MV	Harvey Campbell
169. VS6CT	Philip J. Weaver
186. HC2RG	Reynaldo G. Navarrete
191. I0AOF	Giuseppe Loreti
194. VE4AEX	H.V. "Vic" McKinney
202. JR7ICN	Toshiyuki "Tom" Kommo
209. LA2AD	Halvard Torgersen

Of special interest is the award issued to Giuseppe Loreti, I0AOF. This gentleman made all his contacts on 20 meters — RTTY!

Recently I sent the wrong certificate to the wrong person. The two amateurs in question swapped certificates. If I make an error in your call, name, mail it to the wrong person, etc., please don't hesitate to let me know about it, as I will send a corrected certificate.

New Caledonia (FK8)

Several calls from this one have been reported with activity on 20-meter CW from FK8DP on 14.030 MHz around 1100 UTC, FK8EJ on 14.020 MHz from 1200 UTC, and FK8CE, who was worked on 15 meters on 21.014 MHz at 0300 UTC.

FK8EJ also works the SSB circuits, being reported on 14.208 MHz at 0600 UTC with FK8AX on 14.223 MHz around 1100 UTC.

Reunion Island (FR7)

Less than a handful have been reported from Reunion Island. Active station FR7BP has been reported near 14.026 MHz from 1300 UTC, with FR7ZS being reported worked on 14.033 MHz around 1400 UTC.

French Oceania (FO8)

From 10 July through 17 July, the Radio Club of French Polynesia will again participate in their annual Tiurai. All amateurs who work at least three stations in French Polynesia on at least two different bands will qualify for a certificate.

This year, look for the participating stations to be using either their regular FO8 calls or the special TO8 prefix. Visiting amateurs will also be participating, using either the FO0 or TO0 prefix.

To help you qualify for this certificate, look for French Polynesia stations on the following "Special Tiurai 83" frequencies: 28.600, 21.300, 14.240, 7.090 (listening on 7.250) and 3.800 MHz.

To be valid for this certificate, all contacts must take place during the Tiurai activity period. The fee for this certificate is 12 IRCs. (Ross Forbes, WB6GFJ, says it is worth the price.) No QSL cards are required. Send your application to: Special Tiurai '83 Award, c/o Radio Club of French Polynesia, B.P. 5006, Pirae, Island of Tahiti, FRENCH POLYNESIA, South Pacific Ocean. Again, that is three stations on two different bands, and the same station worked on two different bands does count as two different stations.

Other activity from French Ocean includes FO8EM, who has been reported on 14.215 MHz at 0800 UTC, and FO8HG on 21.333 MHz from 1700 UTC.

Gabon (TR8)

One multiband station operating recently out of Gabon is TR8JD. This station has visited 75 meters and has been reported on 3.795 MHz around 0400 UTC, 7.002 MHz at 0200 UTC, and 14.043 MHz at 2400 UTC.

Hot on his heels is TR8JLD. This station has been reported numerous times on 21.025 and 21.064 MHz, 2200 and 2000 UTC, respectively, 14.012 MHz at 2400 UTC, and many other spots on the 20 and 15-meter bands.

Other stations reported include TR8IG, who was reported working Europeans on 80 meters near 3.502 MHz at 2330 UTC, 14.033 MHz at 0400 UTC and 21.033 MHz at 1600 UTC; TR8DC on 21.011 MHz from 1900 UTC; TR8DR on 3.501 MHz at 2330 UTC, 14.002 MHz from 1800 UTC, and 28.015 MHz from 1600 UTC; TR8DX on 21.036 MHz at 2100 UTC, and TR8MYA on 21.295 MHz from 2200 UTC.

Jim Smith, VK0JS, and Kirsti VK0NL, of the HIDXA DXpedition to Heard Island. Jim says, "We had three operating positions in the kitchen. The walls were unlined and it was pretty cold and pretty drafty. The reason you don't see my left hand in that picture is because there's a glove on it. The fourth operating position — where we did RTTY, satellite and video — was apart. We had four generators in a tent. I worked all my W6's on the long-path, 1600Z, because when I was a G, I can remember you 6's coming over the top of my head to get into the southern Indian Ocean." *(Photo courtesy of "Bulletin"/SCDXC)*

Lesotho (7P8)

Near the lower end of 20 meters operating SSB, look for 7P8CL on 14.201 MHz around 1330 UTC. His operating habits on this band, no doubt, may change with the recent 20-meter phone band expansion. This station has also been reported on 21.205 MHz from 1630 UTC and 10-meter CW at 0800 UTC working Europeans on 28.020 MHz.

Try hunting for 7P8CM, who has been worked on 28.549 MHz at 1600 UTC and 7.039 MHz at 2000 UTC. 7P8CT, whose home call is G3ABK, has been found on 28.480 MHz at 1500 UTC and also just within the American portion of that band.

DX News Sheet reports that there is a group of amateurs operating from Lesotho that meets on 21.160 on Saturdays and Sundays at 1615 UTC. This, unfortunately, is off limits for us — unless you try CW.

Tunisia (3V8)

This DX editor still needs this one. Maybe if I read my column I will work this one. 3V8PS has been found in the lower reaches of 20-meter SSB, (14.203 to 14.235 MHz) after 0200 UTC working into the western reaches of the United States, while 3V8AA has been keeping the CW DXers happy by showing just below 14.025 MHz from 2200 UTC.

That 3V8AZ/AM that was operating in May was a station at the International Air Rally.

Niue Island (ZK2)

That ZK9WCY that many of you may have worked on 22 May was one of those special World Communications Year calls. This call should be QSLed via ZK2NU. It has been reported that other stations in Niue may use the special ZK9 prefix until the end of the year.

Other activity from this one includes ZK2JS, who has been reported on 21.232 MHz from 0800 to 0830 UTC, and ZK2ST on 14.044 MHz at 0430 UTC.

Prefixes

The *DX News Sheet* is a good source for prefixes, which all of the following were extracted from. That CN30FIC was a special station operating from the 30th International Fair in Casablanca. IR2ITU was the headquarters station of ARI and was to have changed to II2A in June, (that's weird on CW).

On 21 June, to celebrate Prince William's first birthday, there was a special call of GB1BOY that was activated. Those Brazilian calls, ZV2ADV and ZV2ACZ, were for "Fire Prevention Week." For QSL cards, try P.O. Box 07-0004, Brasilia, DF, 70.000 BRAZIL (or via the bureau).

Netherlands Antilles (PJ)

Mike Manafo, K3UOC/YV4, wrote to us describing his recent DXpedition to the Netherlands Antilles, (see March 1983 **Worldradio**), where he had operated from several of the islands. Mike writes:

In the nine days of operation, we hopped to eight different islands, on 10 flights. The reason being that many Caribbean flights make more than one stop, and also that due to the current economic problems in Venezuela, two of our direct flights were cancelled; thus we visited several places that were not anticipated. Certainly am not complaining, although it did shave a few hours from our operating time.

Our final tally for the trip (K3UOC/PJ6 — Saba, K3UOC/PJ5 — St. Eustatius and K3UOC/PJ7 — St. Maarten) was 2143 contacts, 80 through 10 meters, phone and CW. We did manage to put time on the 15-meter Novice segment.

Although we did manage to log operating time each of the nine days, we did squeeze in time for a fair bit of hiking and "volcano-climbing." Also, when operating, when the pile-ups were not severe, we did indulge in a fair amount of ragchewing. We made a lot of good friends on this trip and found a number of guys that followed me amongst the frequencies, modes and islands.

Saba is a true gem. Unlike anything else in the Caribbean. It is quaint, friendly and the kind of place one could easily return to. St. Eustatius is yet unspoiled by commercialism and has a rich historical background. St. Maarten, although much more developed, offers two contrasting cultures and scenery that is breathtaking. It would be difficult to pick a favorite, although — if pressed to — I would go with Saba.

I have been investigating the possibility of a YV0 operation. Although my request has been denied, I will let you know if my petition is ever approved. The local government is very protective of Yves Island, and if I could ever pull this off, it would be a major miracle.

The other islands that Mike operated

from include K3UOC/PJ2 — Curacao, K3UOC/PJ3 — Aruba and K3UOC/PJ4 — Bonaire.

Atlantic Award

The Eletronica Popular Atlantic Award (EP-AA) is sponsored by the Brazilian electronics magazine, **Eletronica Popular**, which was established in 1956. To qualify for this award, you must have confirmed contact of at least 60 different countries that border on the Atlantic Ocean. One of these must be a Brazilian oceanic island. (PY0). The minimum report is RST 338 on CW or 33 on phone. Only countries of the Atlantic border proper are valid for the EP-AA. (Interior seas such as the Mediterranean Sea do not count.)

All contacts must be made since 31 March 1967, and all modes count. All contacts must be made from the same call area, (or if no call area exists, from the same state or county).

Do not send QSL cards, but include a certified list of confirmed contacts, along with a small donation of 5 IRCs, (there is no fee, but it is suggested there be some help to defray costs), and send to: Antenna Editorial Group; Caixa Postal 1131; 20001 Rio de Janeiro, RJ; BRASIL.

A special sticker is available to any applicant who uses QRP. The applicant must include a signed statement that he operated with no more than 10 watts input for all contacts.

More on the old WAZ

Herb Becker, W6QD, of Los Alamitos, California, adds a few comments to the report on the original WAZ in the June issue of **Worldradio**.

R/9 was published by K.V.R. Lansingh in Los Angeles and they did bring up the idea of WAZ in 1934. The magazine **Radio** was first published as **Pacific Radio News** in 1917. Later on they changed the name. Sometime later H.W. Dickow took over the magazine and in 1935 he sold it to Lansingh of R/9, with his first issue under the name of **Radio** being January 1936. Dick, K7DVK, was right in that the whole WAZ system was described in the February 1936 **Radio**.

I am not sure when Scratchi started, but I have several old copies; 1921, 1922, 1923 and 1924, and in the 1924 issue Scratchi had a column. Of course, those early issues for DX were mainly Calls Heard and some worked . . . but with Spark being in style DX was a few hundred at the best. I was one of those. Then CW was creeping in . . . changing from the beautiful musical sound of the rotary spark gap to the silent keying of CW rigs.

Again on Scratchi, I don't believe Lansingh went along with it but when he sold **Radio** to Sandy Cowan in New York, at the end of World War II, Scratchi popped up again in **CQ**. Larry LeKashman, W2IOP, was editor and ran the show. At that time, Larry asked me to continue on with my column "DX". By the way, "DX" started in the October 1935 issue of **Radio**. I think this was the first 100 percent DX column around. Then in 1952, with business pressure, I felt it best to give up the column and turned it over to my good friend KV4AA, and I'm sad to think now a Silent Key.

ON4AU was the first to make WAZ pre-war, and I think G2ZQ was the first post-war. Not having the records handy, I am not sure of this.

St. Pierre (FP8)

Vacation time is here again, with St. Pierre often visited by many amateurs this time of the year to give this one out to the deserving. Unfortunately, this one is often pirated by New England Slim. A station signing FP8SL has been reported on 14.027 MHz at 1355 UTC working the Ohio DXers. We see no listing for a FP8SL, (perhaps the "SL" is for Slim), or perhaps it was FP8HL that was worked.

The IARU Radiosport should have included several visiting amateurs signing FP0HSH, FP0HSP, FP0HSQ, FP0HST, FP0HSV, and FP0HSW. All QSL cards for these stations will be handled via Tom Tonneberger, KC8A, 9487 Tonneberger Dr., Tecumseh, MI 49286.

No doubt there will be other stations signing from St. Pierre this summer.

Moldavia (UO5)

One of the rarer Soviet republics is little Moldavia next to the Ukraine. This one is not worked that often, although I did work two Moldavian stations in a row one time. Take a listen for UO5OHS, who has been worked on the East Coast on 7.014 MHz around 0200 UTC.

Tadzhik (UJ8)

This is another one of those rare Soviet republics, usually the last holdout on obtaining those coveted QSL cards. Look for UJ8BQ on 14.016 MHz from 0100 UTC, or UJ8JLB on 14.037 MHz from 2300 UTC. Club stations from this country will sign with the UK8J or UK8R prefix.

Brazilian prefixes

In the March issue, I listed all the Brazilian prefixes that are presently in use. Gilberto Affonso Penna, PY1AFA, recently wrote to us regarding that listing. Gil, who is editor and publisher of **Electronica Popular**, says one is missing. Therefore, add to your list: PT9 Mato Grosso do Sul (MS). The map shown in the last issue is correct.

Mount Athos (SV/A)

The DX Bulletin reports the Mount Athos operation at the end of April was legitimate, according to SV1JG, who himself had applied for operating permis-

Not many years ago, most visiting DXers to Africa were American amateurs. Not so today. Here is a picture submitted by Nana Ihara, JI1VLV — one of the many Japanese amateurs on the go. Nana and friend Key spent one month in Kenya a few months ago and posed with one of the locals, Milton Ertelt Jr., 5Z4CL. Both Key and Nana were assigned the calls 5Z4JA and 5Z4NN, respectively. Nana reports that he made about 1,000 contacts while operating as 5Z4NN, which included 100 on RTTY. Key also made about 1,000 contacts.

sion in 1983 but was turned down. Only about 200 contacts were made on 20 meters SSB only, and apparently only Europeans were worked. The station operating on 15 meters CW was probably Slim.

China (BY)

BY1PK has been back working the deserving DXer as late as 0630 UTC on 14.023, 14.029 and 14.040 MHz. *Westlink Report* states that the station has a new operator named Liu. In the same report, two new calls have been put on the air, those being BY1QH and BY7RA.

BY8AA is still around and has been reported worked on 14.049 MHz at 0100 UTC, and on 15 meters on 21.039 MHz around 0100 UTC.

There was a guest operator at BY1PK last May. Tom Dugec, YU2DX, who had just finished operating at 9N1MM, rattled off QSOs contest-style and worked many a DXer who needed this one. I even worked him with my 100 watts. Tom left China on 26 May.

Overseas DX Bulletin

Want to receive more DX mail? Try subscribing to the *DX News Sheet* published by the Radio Society of Great Britain. This is the original *DX News Sheet* that was edited and published by Geoff Watts. The newsletter is published and mailed weekly for a subscription rate of 15.60 pounds per year, (sorry I do not have the dollar conversion). Interested DXers may contact David Evans, G3OUF, Secretary, Radio Society of Great Britain, Alma House, Cranborne Road, Potters Bar, Herts, ENGLAND EN6 3JW, Attention: Subscription Dept.

If you prefer stateside DX bulletins, see elsewhere in this issue for subscription details for *The Long Island DX Bulletin* and *The DX Bulletin*. If you take DX'ing seriously, subscribe to at least one of these newsletters.

Spratly shockwaves

The following is an editorial by Mike Crabtree, AB0X, editor of the Kansas City DX Club Newsletter. It was printed in the May issue of their newsletter.

The recent loss of two lives (Diethelm Mueller, DJ4EI and Gero Band, DJ3NG) on the fateful German Spratly DXpedition was a hot topic of discussion among DXers at Dayton. In brief discussions with two of the three principals of the last Spratly DXpedition, (1979), both K4SMX and K1MM reported they had not been contacted by the Germans for information or suggestions prior to their trip. K4SMX summed up the mistakes of the German group with one word: "Unforgiveable."

Of course, it's easy for us, armchair quarterbacks, to point out their mistakes as we sit safe and sound 9,000 miles from Spratly. However, it appears one glaring mistake may have cost the German group two lives. It seems apparent that they trusted someone who claimed he knew how to reach Spratly safely and could keep them away from the known military base at Amboyna Cay. Obviously, the Germans were not totally naive. They were experienced and had pulled off a successful DXpedition from PY0 just a short time before heading to the Pacific. One can only speculate that they placed a great deal of trust in someone who lacked the skills or knowledge to be anywhere near a dangerous spot like Spratly.

It may be pessimistic, but I'm really surprised that more DXers in the recent past haven't been killed, injured, or possibly imprisoned considering some of the locations that have been visited. The Hensons' pictures of Chad confirm this point of view. All those bullet holes we saw in Carl and Martha's operating position were real, and the people who fired them are presently in control of that country! Luckily their trip came off without any problems. Yet, a wrong answer to the wrong person in a military dictatorship like Chad, could have a DXpeditioner up against the wall with a blindfold, smoking his last request.

Maybe we just don't realize how dangerous some DXpeditions really are. Besides the great expense of going to a rare spot, it's apparent that many DXpeditions are really risking a lot to put a new one on for us. It seems that the people who activate some of the really rare ones deserve more respect than they generally get from the average DXer.

Nevertheless, the deaths of two fellow DXers at Spratly have shocked most DXers back to reality and made us much more aware of the risks involved. Even though at the time of this writing, all the details of the attack on the ship have not been released, it's certain that it will have a very discouraging effect on DXpeditions planned in the near future.

The shockwaves from this mishap will certainly influence the thinking of DXers for quite some time. 73, Mike

Thanks, Mike, for your words. I might add there is at least one injury that resulted in a recent DXpedition, that one being to Jan Gould, WA6YQW — a member of the 1980 DXpedition team Palmyra Island and Kingman Reef. Jan was seriously injured when their aircraft crashed on landing on Palmyra Island 5 January 1980 and had to be airlifted by the Coast Guard to Hawaii. Six days later, Dave Gardner, K6LPL, seriously injured his hand upon return to Palmyra from Kingman Reef. It is reported that the situation is now in litigation, and the owners of Palmyra Island are a bit cool to any possible DXpedition from Palmyra Island.

DX'ing from the "other end"

The following was taken from a past issue of *The Sine Wave*, the newsletter of the King ARC, and was written by James Hill, K6OZL, one of their members.

There I was — antennas had been received, gear packed, shipping company contacted and rates to Rarotonga in hand. Then it happened: 7:30 a.m. Friday, 14 May. The union dispatcher needed someone in a hurry to fill a radio operator's position at Diego Garcia, Chagos, Indian Ocean on Monday the 17th. That was not all; I had to have a Military Sealift Command physical by the 17th! Seems the other operator picked for this job did not pass the MSC physical because he had a glass eye, something MSC could not forgive.

After three or four frantic calls to Houston, Texas, I was able to obtain some sort of a physical at Lemoore NAS on Monday afternoon. That was the good news; the bad news was that I was told by people in Texas *NOT* to take a ham rig because MSC would not allow ham gear on the island! After a heated exchange with the voice at the other end of the line, the rig was left behind still packed. What the voice didn't know was this operator was very knowledgeable as to what Diego Garcia was like-in respect to ham radio operation. I did not know how the British would react to taking ham gear into D.G.

Check-in at Oakland Airport was a big fluke; everything I had been told by the "voice of authority" over the phone did not happen. I was furious; the more I thought about the "voice" the more steamed I got. No one is going to put this DXer down. I got on the phone and ordered an ICOM IC-730 to be sent ASAP via the FPO San Francisco address. The plane left the runway at Oakland about 2:25 pm on the 18th. We arrived tired, frustrated and not wanting to put up with the military at 8:00 a.m. on the 20th. (Don't try to figure it out.)

The fun began the next day, obtaining a true-blue DX call for the first time. My buddy, N6ZO, had been out to D.G. one year prior to my arrival and his one-year license had expired; since I was the QSL manager, I thought it would be a good idea to keep VQ9XX in the family. Thus, on 21 May, operation began with the familiar sounds to any DXer "QSL and QRZ, VQ9XX." Contacts were plentiful with the West Coast with the elusive 6's flexing their muscles to work someone new on the band. Sooner or later, you run out of DXers to work on one band and then they start asking you to QSY, and it means spending longer hours in the ham shack. The Europeans always wanted a contact on 80 meters, and suprisingly, 80 was open to Europe right in the middle of summer. Same for 10 meters, and a handful of Europeans made it on five bands for 5BDXCC. After 80 meters they had the nerve enough to want me to QSY to 160 meters; I couldn't believe it.

I have attended the DX conventions here in California for years, and most of the fellas say the same thing about horrendous pile-ups from Europe and Japan. No amount of words can describe what it is like to be stuck on transceive and watch the S meter hang at three-quarter scale. You just sit there and wait for the pile to subside, then start picking out the ones who call the longest. I had my fill of working one per minute one night and made the statement that I could work four or more per minute on CW and that I was shifting to 21.010. By the time I got down there, I could hear the horde tuning up and just waiting to pounce.

Antique QSL Department

As Heard Island has been a major topic in DX circles recently, Mal Geddes,

Propagation

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(courtesy of W6LS)

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SEPTEMBER 1983

UTC	AFRI	ASIA	OCEA	EURO	SO AM
0100	21.5	26.0	29.4	11.5	24.8
0200	16.8	24.9	29.5	10.6	22.5
0300	14.8	23.3	29.0	10.4	19.4
0400	15.6	21.1	27.1	10.4	17.5
0500	14.2	18.7	23.6	10.9	17.2
0600	13.3	16.7	21.0	12.8	17.4
0700	12.2	15.5	19.6	12.3	16.9
0800	11.0	14.7	18.9	11.5	13.9
0900	10.0	14.3	18.3	10.8	15.0
1000	9.6	14.2	17.9	10.5	15.9
1100	10.2	13.6	17.3	11.3	14.6
1200	11.9	12.6	15.9	12.2	15.1
1300	14.4	12.5	14.5	13.4	18.2
1400	17.2	14.3	15.7	16.2	22.1
1500	19.3	16.0	17.4	18.7	24.6
1600	20.6	15.7	15.9	21.6	25.4
1700	21.3	15.6	13.7	22.1	26.2
1800	21.9	15.9	13.0	21.8	27.9
1900	22.4	17.2	15.4	20.8	29.8
2000	22.8	20.2	20.1	18.9	29.9
2100	23.3	23.8	24.6	16.8	29.0
2200	24.0	26.3	27.2	14.9	27.9
2300	24.6	26.7	28.3	12.7	26.4
2400	24.2	26.7	29.0	12.1	24.9

Z23JO, supplied a QSL for a contact made with Heard Island some time ago. The contact was made on 19 September 1950 with VK1YG on 20-meter CW at 1455 UTC. Mal was using his former call of ZE3JO, when Zimbabwe was still referred to as Rhodesia. At that time, the Australian Antarctic Territories and Cocos (Keeling) Island were all in the 1st call district. Mal sent the card in reference to the Heard Island history in the March issue of **Worldradio** and stated that this chap was not mentioned. The operator at VK1YG was Leo.

Northwest DX Convention

It's still not too late to make plans for the 31st Annual Northwest DX Convention, this year hosted by the Western Washington DX Club at the Double Tree Plaza Hotel in Seattle. The banquet speaker this year is Hugh Cassidy, WA6AUD. Cass is of *West Coast DX Bulletin* fame and is presently DX Editor for **CQ Magazine**. Terry Baxter, N6CW, will be the breakfast speaker. See last month's column for further details.

QSL information

"I am no longer managing KC4AAA QSLs," writes Larry Antonuk, WB9RRT. Larry only has the logs for November 1981 through November 1982, the duration of his stay at KC4AAA.

Charles Moraller, K2CM, who handles BV2A QSL cards for Tim, has another change of address. Charlie says, "The USPS, in its infinite wisdom, has changed around the whole rural route system in this part of West Virginia, giving me a whole new address including a new post office." Charlie's new address is: Route 1, Box 43, Grantsville, WV 26147.

A note was received from Shelby Haukos, KB0JW, who had received a QSL card for VP8AOH from a DX station. It was for QSL manger K0JW, but sent to KB0JW. Shelby says this is not the usual Callbook error as there is a N0JW and W0JW between the two listings. Let this be a suggestion to all who look up calls in the Callbook to double check to see if you have got the calls to the proper addresses. Also, be sure you have the manager's call correct.

QSL routes

A4XYF	—GM3ITN	TO8HI	—WB6GFJ
A6XJA	—PA0LP	TO8HL	—WB6GFJ
AX3ITU	—VK3AH	TO8HO	—WB6GFJ
C31XS	—F6CQU	TO0FB	—WB6GFJ
CR4YN	—CT4YN	TR8DR	—W2PD
CX7BY	—W0IJN	TR8MYA	—JA8ATG
DA1WA/HB0	—DJ0LC	V3WTM	—WD5CKF
DL5DAB/3X	—DL1QD	VK9ZS	—VK6YL
ED1ILT	—EA1MC	VP2M1U	—AB1U
FK8CE	—K2ROR	VP8AEN	—GM3ITN
FO8DF	—WB6GFJ	VP8AQA	—GM4GRC
FO8HI	—WB6GFJ	VP8AQD	—G6RBG
FO8HL	—WB6GFJ	VP8AQT	—G6KFR
FO8HO	—WB6GFJ	YP3A	—YO3KAA
FO0FB	—WB6GFJ	ZB2HO	—G4SOL
FY7BC	—F9LM	ZK9WCY	—ZK2NU
FY0HVL	—F6AJA	ZL7WCY	—ZL2AAG
FY0HVM	—F6AJA	ZP0PX	—W3HNK
JX6BAA	—LA7JO	ZS5RSA	—ZS5L
OF0BA	—OH2BAZ	3V8AZ/AM	—F6NW
PF1WCY	—PA0FHG	4K1QAV	—UA1QAV
PF2WCY	—PA0ATG	5B4MN	—VE7DLM
PF3WCY	—PA0MTE	5Z4CQ	—KA7KSY
PF4WCY	—PA0GAM	5Z4CS	—J11VLV
PG1ITU	—PA0ABM	5Z4DR	—YU3TU
PG2ITU	—Bureau	5Z4JA	—JA8CDT
PG6ITU	—PA2TMS	5Z4NN	—J11VLV
T30AT	—G3XZF	6U1WCY	—DF7ZH
T32AB	—N7YL	6U0WCY	—DF7ZH
TG9EW/YS2	—I0WDX	7P8CT	—G4GEE
TO8DF	—WB6GFJ	9V1VP	—*(See Note 1)*

C21BD	—P.O. Box 225, NAURU
CE7AQK	—P.O. Box 206, Ancud, CHILE
CE0ZAD	—P.O. Box 3016, Valparaiso, CHILE
CN30FIC	—P.O. Box 299, Rabat, MOROCCO
DL6GBO/TY	—P.O. Box 136, Bohicon, BENIN
FM7BX	—P.O. Box 152, Fort de France, MARTINIQUE
GB2LYL	—P.O. Box 73, Leeds, ENGLAND LS1 5AR
GB2WCY	—P.O. Box 73, Leeds, ENGLAND LS1 5AR
H5AK	—P.O. Box 147, Mafeking 8670, BOPHUTHATSWANA
H44SA	—P.O. Box 350, Honaira, SOLOMON ISLANDS
HC1JB	—Cailla 691, Quito, ECUADOR
HZ1AJ	—P.O. Box 6177, Jeddah, SAUDI ARABIA
JX5DW	—Bjorn Dommersnes, Jan Mayen N-8013, NORWAY
KD8CE/J6L	—P.O. Box 101, Castries, ST. LUCIA
SU1ER	—P.O. Box 33, Airport, Cairo, EGYPT
SU1MR	—P.O. Box 33, Airport, Cairo, EGYPT
TR8AHO	—P.O. Box 13, Mayumba, GABON
TR8JLD	—P.O. Box 484, Libreville, GABON
VS5RB	—P.O. Box 161, Solo City, BRUNEI
YB6MF	—P.O. Box 232, Medan, INDONESIA
ZF2CM	—P.O. Box DX, Colby, KS 67701
ZP0MJO	—P.O. Box 512, Asuncion, PARAGUAY
5H3TM	—P.O. Box 1426, Mbeya, TANZANIA
6Y5AM	—P.O. Box 90, Kingston 19, JAMAICA

Notes
1. Contacts made with San (K5YY) during the period 15-17 March go via K5YY. Contacts with 9V1VP made by NCDXC members *only* should go via KR6O. All other go direct to: 5, Jalan Harum, SINGAPORE 1026.

DX World contributors for this issue include DXers such as W2PD, K2CM, WD5CKF, W6QD, WB6GFJ, N7AIF, WB9RRT, KB0JW, JI1VLV, PY1AFA, K3UOC/YV4, and Z23JO. Items were also gleaned from the newsletters of the Southern California DX Club, the King Amateur Radio Club, the Stark DX Association, the Kansas City DX Club, the Redwood Empire DX Association and the Western Washington DX Club. Most of all, a special thanks to the editors of *The Long Island DX Bulletin*, *The DX Bulletin* and *DX News Sheet*.

In a recent issue of **Amateur Radio Action**, there was an article by Tony Gilbert, VK3CE, entitled: "What *REALLY* happened on Spratly Is.?" Many DXers are asking that same question. How is it when the *Sidharta* was sunk by cannon fire, they didn't or couldn't sink the dinghy too? Another question is, how did they manage to be picked up 350 kilometers from where they were fired upon, drifting for 10 days (with temperatures exceeding 104°F) without food or water against the winds and currents?

So far, I have been enjoying my new IC-740. Operating on CW is great — all I have to do is hit the key and the relay changeover is instantaneous, almost as good as operating with a TR switch.

I should be in Seattle for the convention. (I had better be there as I'm supposed to meet the XYL there on their return tour from back East.) Hope to see some of you there. Very 73 de John N6JM

9N1MM helps celebrate king's birthday

Fr. John Dahlheimer, S.J.

Precious few are the people blessed with having worldwide birthday greetings delivered by Amateur Radio operators, but such was the case when the 38th birthday of His Majesty, King Birendra Bir Bikram Shah of Nepal, was uniquely celebrated 28-30 December with 72 continuous hours of triple-handed shortwave traffic handling congratulatory messages from all over the world.

And yet, there is but one regularly operating amateur shortwave radio station in the kingdom of Nepal — that of Father Marshall Moran, S.J., pioneer educator.

In 1951, Pradyumna Rana — Nepali-born Virginian (Alexandria) amateur, WB4NFO ("Nepal's Friendly Operator") — was one of the young students from this Himalayan state who came back home from Saint Xavier's in Patna, India — where Father Moran had been principal — to continue his education in the new Saint Xavier's Father Moran that had just opened at Godavari, some 10 miles from the capital of Kathmandu.

Student and teacher kept in touch through the years, through their mutual interest in and use of shortwave radio.

Father Moran, be it noted, has the same birthday — 29 May (1906) — as Mickey Mouse (1928). It was only natural that from the last units of his call letters, 9N1MM, he should come to be known most affectionately, on and off the air, as "Mickey Mouse." With an encouragement of his old mentor, Rana originated and activated the idea of commemorating His Majesty's birthday by demonstrating the adaptability and utility of shortwave radio in a country such as his native land.

His Majesty's birthday is a joyous occasion for all the people of Nepal, but the country and its monarch have also known disaster — e.g., the devastating earthquakes of 1833 and 1934, when just such a capability would have been a veritable godsend for the stricken nation. Shortwave radio has, in fact, been a matter of life and death for some individuals here in the Snowy Range.

Father Moran recalls the 1963 American Everest expedition that, enroute to set up their base camp, encountered a horribly and near-fatally burned Nepali woman in one of the villages. They were able to contact the U.S. Embassy in Australia via their shortwave radio and from there, their call for a chopper airevac was relayed back to Father Moran in Godavari. Thanks to the whirlybird, and the men at the mikes, the woman lived.

One has only to do a wee bit of trekking among these beautiful but never-to-be-taken-for-granted mountains to become acutely aware that the best of the peaks is often far, far away, horizontally or vertically, from just about anything else. Even a tiny incipient blister can be a very serious matter, for under no circumstances and at no time whatsoever do you play games with the Himalayas. So no one would agree more that it is so very, very nice to have a shortwave radio around than the U.S. Peace Corpsman who busted up on one of the Annapurnas — real vixens, for the lowest of them is 24,688 feet. He, too, was airlifted out thanks to an in-the-area Italian climbing expedition — "Mickey Mouse" linkup.

Amateurs around the world, God bless 'em one and all, tie the world together in compassion for the International Red Cross and in understanding for the Sister Cities International organization. One of the first birthday greetings logged was from the mayor of Eugene, Oregon, sister city of Kathmandu.

So Rana headed up a five-man, one-lady team to handle the facilities of the three stations set up specifically for the occasion in what the ITU (International Telecommunications Union) designates 9N (i.e., Nepal). Number One in 9N, Father Moran, was all set up and ready to go. He, with one of the teams, was manning his station in St. Xavier's, Godavari, and as dean of the team received the first birthday greeting.

Another of the team's mobile units had been set up in Thamel near the Royal Palace in Kathmandu.

The third, to the bemusement of the Jesuits there who at this time of year were expecting Christmas trees in their library but not antennas sprouting from the roof and a broadcasting facility in the lady teachers' powder room, was sited at St. Xavier's, Jawalakhel. The personnel of this unit were guests of the Fathers, the men camping out with their electronic gear in their not-so-high but certainly chilly enough "little Himalaya." The 19-year-old Japanese lady team member enjoyed the warm hospitality of the Daniel Lord Jesuit Volunteer Center.

The team was an interesting mix, with a Nepali-American and an American-Nepali — Rana and Father Moran; the Japanese students — Nanako Ihara, 19, and Tadashi Miyashita, 22; Attorney C.K. Epps from California; Ron Payne of the U.S. Embassy staff in Delhi; and finally, for that really exotic flavor, Val Popof, "... son of a Russian Orthodox priest sent to San Francisco to keep the Californians in line ...."

A temporary in-Nepal-only call sign was issued to each of the visitors to affix to their regular home-use calls; they could be reached at a similar temporary "Happy Birthday" call letter assigned for the occasion, 9N (Nepal) 38 (His Majesty's birthday). Transmission of felicitations to Nepal's monarch were by voice, Morse code and — with a lighter and more delicate touch, that of the young Japanese lady — radioteletype.

When all was said and done, 80 countries and some 5,000 individuals in all had contacted 9N38 with congratulatory messages.

Well done, "Mickey Mouse" and friends.

Fr. John Dahlheimer, S.J. is presently teaching Tibetan refugees in Kathmandu and stays in St. Xavier's, Jawalakhel. □

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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.

IC-25H
45 Watts

The New 45 Watt IC-25H. Only slightly longer than its companion IC-25A, the IC-25H packs a powerful 45 watt punch. This 45 watts of power eliminates the need for an external power amplifier in fringe areas and gives a savings of space and wiring.

The IC-25H has all of the standard features of the IC-25A that have made it the most popular 2 meter mobile ever, plus the new green LED readout, new HM14 microphone and extra power. These new features make the IC-25H the best 2 meter mobile value on the market.

ICOM

The World System

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

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

The ART of Contesting

Some thoughts on contesting and DXCC

(Here is the second half of a two-part article. The first part dealt with contests; for those who may not have seen the first half, the introduction has been included.)

Yardley Beers, W0JF
(Excerpts from a letter to the ARRL Contest and DX Advisory Committees)

Introduction

During the past year, I have become increasingly distressed by the trivial nature of many QSOs, especially in contests, and by the obsession of many amateurs to establish communication with barren islands and sandbars — places that are of trivial concern in human affairs. Because of this trivality, the Amateur Radio Service is not carrying out its obligations to the public. Therefore, steps must be taken to reverse these trends and to cause amateurs to adopt a higher set of values.

Amateur Radio legally is called a "service," and as such it has obligations. In my opinion, these are as follows — not necessarily in order of importance:

1) To provide communication, especially when no other means is available, and most especially in emergencies.

2) To provide training in operating radio stations.

3) To acquire and disseminate information concerning: a) electronic technology as applied to telecommunications, and b) propagation of radio waves.

4) To promote better understanding between the peoples of the world. In earlier times Amateur Radio was not such a victim of triviality. The Appendix at the end of this letter contains some historical notes concerning the earlier situation.

DX operation and contests are intimately related. For one thing, DX has been called "An ever-continuing contest," which it is. For another thing, QSL cards obtained on the basis of contest QSOs commonly are submitted for the basis of awards, such as WAS and DXCC. For another thing the multipliers in DX contests are based upon DXCC countries. Therefore, it is appropriate that (DX and contests be discussed together).

DX awards: WAZ and DXCC

A DX award recognizes, in the form of a certificate or plaque, that an amateur has submitted proof that he has made two-way contact with stations in specified award areas. There are two bases for specifying the award areas: geographical area and national groups of people. The former is of significance from the point of view of technology, the second from the point of view of promoting national understanding. In view of the fact that much of the Earth's surface is water and that population is unequally distributed on land, these objectives are incompatible and compromises must be made. In the WAZ program, the compromise is made to place emphasis on geographical distribution; in the DXCC program, at least in its original concept, the compromise is to place emphasis on national groups.

The present liberal rules which qualify many sparsely inhabited or uninhabited islands and reefs as separate DXCC countries are contrary to the public interest because they place a premium upon making contacts with areas where people are not, while promoting international understanding requires making contacts with areas where people are. There are many cases where persons living in remote areas with a serious need to communicate have been hindered by rude callers interrupting their contacts to try to get a QSL card to confirm a new DXCC country. Few, and probably none, of the contacts with these barren islands have made any significant contribution to our knowledge about technology or radio propagation.

Another reason I feel that giving country status to uninhabited islands is contrary to public interest is that the existence of these countries leads to very large pile-ups, occupying a significant portion of a band when a DXpedition visits such a location for a very brief time. Such situations cause unreasonable interference to other users of the band. Participation in such pile-ups is an exercise in rudeness rather than self-discipline of good operating.

For these reasons, I feel making contacts with these locations should be deemphasized by removing country status of many of them. DXCC country status should be more rigorously defined. For DXCC status, I think "country" should mean the same as it does to the non-Amateur Radio public: a) an entity that is recognized by the United Nations, or b) an entity that issues currency and postage stamps on a regular basis. I would make an exception in cases where countries are divided between two or more continents, and would consider the parts on the two continents as being separate countries.

I have confined my remarks to the major awards. I have given considerable thought to proposing a new award that would be in better public interest and yet would offer a challenge to amateurs. I have been unable to suggest one that could be administered in any sensible way. However, the matter deserves further thought and discussion.

Financing of DXpeditions

Another way of deemphasizing contacts with uninhabited islands would be to discourage DXpeditions by requiring that they be self-financed (except for reimbursement for direct QSL costs) if contacts with them are to qualify for awards.

Another reason I think DXpeditions should be self-financed is that I feel acceptance of contributions is on the borderline of being unethical. I contend that those who go on DXpeditions do so because they enjoy it. Otherwise, why do the same people go time and time again? Such activities usually operate at a huge financial deficit. Nevertheless, the participants derive other benefits. First of all, they are on vacations — although strenuous and sometimes hazardous ones. In addition, they gain prestige, and their experiences provide the basis for slide shows and magazine articles. The fact that by giving others contacts with a new country and by so doing, making many others happy, provides a rationalization for their doing what they want to do. Then there is the theoretical question of what would happen to the surplus if contributions exceeded costs.

On the other hand, I feel it is legitimate and proper to reimburse a DX station for direct QSL costs in reasonable amounts (SASE plus a green stamp or 2 IRCs, on the assumption that the card will be sent by air mail or equivalent) after a contact has been made. At the same time, under such circumstances, a DX station should feel obligated to reply in this way and not by a bureau.

Concluding remarks

In spite of growing disenchantment with the trivialities in vogue, working DX still intrigues me. Sometimes I find pile-ups hypnotic; apparently others do, too. Contrary to better judgment, at times I jump into them even when I do not need the QSL. However, I feel that working DX will bring much greater satisfaction if the superficial aspects could be eliminated. What is far more important than my satisfaction is that these superficialities be eliminated if the present DX bands are to survive intact in future international conferences. Therefore, I feel it is imperative that the recommendations I have made be generally adopted.

Since my ideas are contrary to popular thinking, I am sure my ideas will not meet immediate approval. No doubt, some will call me a killjoy. Others will call my ideas old-fashioned products of obsolete technology. In reply, I can say that a sailboat is a product of an obsolete technology, but there are many people devoted to it and who find a great deal of pleasure from it.

Appendix: Historical notes

The use of a cipher in radio communications dates back to the legendary use of the letter "S" by Marconi in his first transatlantic transmission. I have never felt that such a simple cipher was very definitive. Fortunately, the amateurs concerned with the early transatlantic and international tests were much more rigorous.

In the Transatlantic Test of 1921 (when a group headed by Major Armstrong set up a special station 1BCG and when Paul Godley set up a receiving station in Ardrossan, Scotland), all transmitting participants were given a five-letter cipher in a sealed envelope by the ARRL. They were not supposed to open the envelope until their first transmission, and a station was not considered as having been received unless its cipher was copied correctly. (See QST, February 1922, pages 9-10.)

These tests were not contests in the modern sense. At pre-arranged times, the amateurs at one end of a DX path maintained transmitting silence while listening for stations at the other end of the path. In some of the tests, at other times the two groups interchanged their roles, but the 1921 tests were west to east only. The reason for these tests was that nearly everyone used regenerative receivers that had good weak signal sensitivity but had very poor selectivity with regard to loud local signals.

In a preliminary test leading to the first transatlantic QSOs of USA stations 1MO and 1XAM with French 8AB in November 1923, a cipher was used, but almost immediately, high quality two-way communications was established, and complete messages of greeting were passed back and forth. (QST, January 1924, page 9)

As far as I know, the first contest in a modern sense was the ARRL International Relay Party of 1927. (Announcement, March QST, page 28). However, the rules had little resemblance to those of modern contests. The format of the exchanges was that of full-fledged messages with preambles and texts. The W/VE participants had to apply in advance to the ARRL to obtain the text of the message each would send. On receiving a message from a W/VE station, a foreign station would draft a reply with a minimum of eight words in the text (a far cry from "599KW"!) and give it to a second W/VE station.

The rules contained what I call "Birth Control clauses." A W/VE station could

originate only one message to each country. To work a second station in a country it would be only to receive a message originated by an amateur in that country. For a W/VE station to originate another message, it would have to work a station in another country. The objective was to give the lower powered stations a better chance to make at least a few contacts. At the same time, foreign stations could originate only those messages that were in reply to ones they had received from W/VE stations.

"Birth Control clauses" were to be a feature of ARRL DX contests for many years to come. Later, when the exchange was in the form of a six-digit serial number, they were in the form of three contacts per country, and then later, when separate multipliers were given for contacts on each band, they were in the form of a limit of three contacts per country per band. One effect of such clauses is to discourage strong W/VE stations from calling CQ. It is questionable that such clauses help the QRP stations. The high-powered ones enter the contest to win; the lower powered ones usually enter to work new countries. If the high powered stations were limited to three JA's or DL's, they would be in even greater competition with the QRP stations for the rare prefixes than they are now.

As far as I know, the first amateur to visit a foreign country with the primary purpose of setting up an amateur station there was the late Jack Du Bois, W3BXE, later K2CPR, when he set up FP8AA in 1979. It is interesting to read of his relaxed attitude and the relaxed attitude of the stations he worked, as contained in his account in November 1979 **QST** and compare this situation with the hysteria that has accompanied recent DXpeditions. Incidentally, he has been said to have coined the word "DXPEDITION," although I am unable to support this statement with a reference.

--Rocky Mountain VHF Society, Boulder, CO □

Help for DXers

Bill Welsh, W6DDB

Language	Thank you	And	Best Regards
Finnish	paljon kiitoksia	ja	73
German	danken du	und	73
Greek	eyfcharisto	kai	73
Hungarian	koszonom	es	73
Icelandic	thokk	og	73
Italian	grazie	e	73
Netherlands	veel dank	en	73
Norwegian	mange takk	og	73
Portuguese	obrigado	e	73
Romanian	multumuri	si	73
Russian	spasibo	y	73
Spanish	gracias	v	73

Emergency

(continued from page 13)

The upcoming Olympics will require great cooperation by amateurs, and plans are progressing with the committee.

It was pointed out that the Los Angeles Section has a unique situation with its 8 million residents.

Among the speakers were ARRL SW Director Jay Holladay, W6EJJ; Section Manager Stan Brokl, N2YQ; Vice Director Fried Heyn, WA6WZO; Herbert (Pete) Hoover III, W6ZH, of Red Cross Communications; and Bob Dyruff, W6POU, Section Manager of Santa Barbara. All reported on readiness within their jurisdictions and pointed out the need for increased communication between the various groups.

Jim Varner, AE6N, Assistant Director for Emergency Communications, presented a 10-page directory of names, calls, phone numbers and addresses which is of great value. It lists net frequencies and managers, state and city officials of particular interest plus all elected and appointed officers of the entire SW Division, including Emergency Coordinators in the Pacific Division as well. Cooperation between the two Divisions was shown to be of extreme importance from a statewide point of view. Jim Verner will be liaison.

Liaison between ARES and the City of Los Angeles is Bob Burns, N6ZH, Assistant District Emergency Coordinator of NW L.A. County ARES, who also is very active with the ongoing AREST amateurs working with L.A. Police Department. Frank Pettinato, WB6ELR, is the coordinator.

Among the points emphasized was the awareness of the need to expand and strengthen ties between all amateurs. More frequent meetings were urged, as well as the increased use of computers to expedite information.

Also participating in the gathering were Sandi Heyn, WA6WZN, Section Manager for Orange County; Don Best, N6ALD; Ellsworth Fullmer, WB6MKA, Eastern LA County ARES District Emergency Coordinator (DEC); Ben Vickers, WB6FRM, an ARES Emergency Coordinator (EC) of that area; Ben Cronkhite, K6QQN, and Norman Friedman, W6ORD, repeater owners; Bill Carpenter, WA6QZY, an EC; Len Drayton, WA6LAU, DEC of Northwestern Los Angeles County; and the Assistant Coordinator of the MARS net, Betty Wallin, KD6CY. □

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

AWARDS

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

To start out this month let's take a look at some of the awards sponsored by the DIG (Diploma Interests Group) of West Germany.

European Prefixes Award

Available to licensed amateurs and SWLs worldwide for confirmed contact with 100 different prefixes (ie: DL1, DL2, G3, G4 etc). The award is issued for mixed band/mode or for CW only. Endorsement stickers are available for each additional 50 European prefixes confirmed.

To apply, send your log extract (GCR) in alphabetical order by prefix, along with the award fee of $3 or 10 IRCs to the award manager: Alfons Niehoff, DJ8VC, Ernst-Hase-Weg 6, D-4407, Emsdetten, WEST GERMANY.

Two Mode Award

Available to licensed amateurs and SWLs worldwide for confirmed contact with 50 different countries representing all six continents in CW and phone modes for a total of two cards per country, one each phone and CW. Only contacts made after 1 January are considedred valid.

To apply, send your log extract (GCR) in alphabetical order by country along with the award fee of $3 or 10 IRCs to the award manager: Henry Bielinski, DC6JG, Alter Kupfermuhlenweg 78, D-2390 Flensburg, WEST GERMANY.

Worked German Large Cities

Available to licensed amateurs and SWLs worldwide for confirmed contact with cities of West Germany where the population exceeds 100,000. The award is issued in three classes as follows: Class 3= 10 different cities, Class 2= 20 different cities and Class 1= 30. In your application, each city can be listed only once regardless of band or mode. The award is issued for mixed band/mode or CW. Only contacts after 1 January 1962 are considered valid.

To apply, send your log extract (GCR) in alphabetical order by city along with the award fee of $3 or 10 IRCs to the award manager: H.W. Schutte, DB3OR, P.O. Box 810660, D-3000 Hannover 81, WEST GERMANY.

International Airport Award

Available to licensed amateurs and SWLs for confirmed contact with 50 different cities worldwide where an international airport is located. All six continents must be represented, and only contacts made after 1 January 1973 are considered valid.

To apply, send your log extract (GCR) in alphabetical order by city, along with the award fee of $3 or 10 IRCs, to the award manager: Walter Hymmen, DL8JS, P.O. Box 1925, D-4980 Bunde, WEST GERMANY.

While we're in Europe, let's stay there and look at some other awards issued from this region.

LX Award

Available to licensed amateurs worldwide who can amass a total 20 points (for applicants in the states), by contacting various LX amateurs on all bands and modes. Contacts (for us stateside) on 14, 21 and 28 MHz count for 1 pt., contacts on 3.5 and 7 MHz count for 2. Reports must not be less than 3/3.

To apply, send your log extract (GCR), along with the award fee of $2 or 10 IRCs to the sponsor: Reseau Luxembourgeois des Amateurs d'Ondes Courtes, Hausemer Ch., Grand'rue 71, Differdange, LUXEMBOURG.

Worked All British Counties Award

Issued to licensed amateurs and SWLs who can confirm contact with all of the counties in the UK, including GU, GJ and GD. To apply, send your log extract (GCR) along with $2 to the award manager: Alec Brennend, 76 Deneley Ave., Todmorden Via, Lancs, ENGLAND.

SM 1 Award

Available to licensed amateurs and SWLs here in the states who can confirm each of the eight call areas of Sweden. Only contacts made after 1 November 1945 are considered valid. To apply, send your log extract (GCR), along with the award fee of 20 IRCs, to the award manager: K.O. Friden, 1084 Morup, S-0310 56, Langas, SWEDEN.

Now let's answer a couple of questions received from you about awards. Most often the new amateur asks:

How should I start? The best way is to get on the bands and work eveything you can. If one day you happen to work 50 JA's and 30 other different contacts, and the next time you're up you work a bunch of Europeans, you are well on your way. The thing to remember is that every contact is going to be good for some award, and when starting out, anything helps. If you have been on the bands for awhile, this is still a good way to proceed because for some of the more difficult awards, you will require a quantity of QSLs from a particular region.

The best way to QSL is through the bureau and to be a 100 percent QSL'er. The direct method is too costly and time-consuming if you are going to pursue awards with a measure of vigor. Sure, you will want to go direct for a new country, but after that the bureau is best.

What quality of QSLs should I have? I would suggest you use a simple, well-printed, easy-to-read, one-sided one-color card like you have received from some DXpeditions you have worked. High-quality QSLs will be wasted and will probably only end up in the DX station's shoebox while you pay a stiff price for them. Many amateurs have two different QSLs they send. One is classy for the new country; the other is as described above for general QSLing.

Should I concentrate on a particular award? NO, not in the beginning. Remember what we talked about earlier.

Should I start on stateside awards first? You can if you are new to the hobby or are interested in some of the fabulous awards offered by the ARRL or CQ Magazine. However, *I recommend working everything at the same time,* and you will find that you will end up with a total variety. Then when you are real close to a desired award, you can concentrate on a given situation.

How do I make an application out? The best guide is your station log. It contains all of the information required by the sponsor and presents it in a format that is easy for everyone to work with. Remember that most often you are requested to list contacts in some order to facilitate the processing by the sponsor.

What is GCR? Many award sponsors

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.

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.

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

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

CONNECTICUT

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

FLORIDA

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

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.

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.

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, KA0KPO (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, WA0ZQG, 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

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

NEW YORK

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
Da olees Restaurant, West Liberty, OH, 7 p.m.

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.

SUBSCRIBE TO WORLDRADIO; see page 9

now realize that their award programs suffer because amateurs dislike sending their valued cards through the mails to an unknown receiver and the cost (two-way registered mail) is prohibitive.

To correct this situation, most award sponsors now accept applications under what is termed "General Certification Rules." That boils down to this: you can now have your cards sighted and verified by your local radio club or two licensed amateurs or a notary public in lieu of sending the cards if so stated by the sponsor. I believe the Certificate Hunters Club originated this concept and was the first organization to put this idea forth. Anyway, it was they who labeled the term GCR, and it stuck.

Why are so many amateurs interested in awards? Simple — the certificates you receive for your labor are, for the most part, highly decorative and symbolize a large quantity of QSLs. They also testify to the fact (acknowledged by someone else) of your achievement.

It is much nicer to display a quantity of awards that denote your accomplishment and beautify your shack than to hang hundreds of QSLs which often are not of the quality to display. My wife actually enjoys the ham shack now that it has an interesting atmosphere and a neat look. Also, your participation in an organization's award program supports their effort and helps insure that organization's continuation.

Well, that's all for this month. I hope I have answered the questions to your satisfaction, and I look forward to receiving more from you in the future. The questions you ask are of interest to everyone, and your suggestions help all of us.

If your club has an award they would like to see appear in this column, please do not hesitate to submit it to me at the address heading this column. Be sure to include a sample for reproduction and a complete rules sheet. Till next month, 73.

The Ozone Club

You will recall we told you about the Ozone Club in our June 1983 column. This is an exclusive organization of amateur spark operators who once had legally licensed amateur spark stations, and who are still currently licensed.

In the paragraph which told of some of the members, our typesetter dropped one line of the text, and the resulting text read smoothly; thus, the omission was not picked up by the proofreader.

I heard about this from both Ray Meyers, W6MLZ, whose name was omitted, and from Ralph Hasslinger, W2CVF, Ozone Club Recorder.

Here is the paragraph, correctly (we hope) set with all the lines:

"Among the members, we are proud to list such very distinguished, outstanding amateurs as Senator Barry Goldwater, K7UGA; Frank Gunther, W2ALS; Clarence Seid, W2KW, all of whom were former presidents of the Quarter Century Wireless Association (QCWA); Hal Sears, W5NC, former QCWA vice president; Judge James H. Brown, W6VH, president of the Society of Wireless Pioneers; Ray Meyers, W6MLZ, president of the Old-Old-Timers Club (OOTC); Gus Gironda, W2JE, secretary-treasurer of OOTC; Gar Anderson, K0GA, ARRL vice president; our oldest member, Professor Eric Shalkhauser, W9CI, who still climbed his tower at 89 (W9CI died on 1 June 1983); the three Mumford brothers, Bill W2CU, Royal W3CU, and Hal W6CU."

In his letter to me, Ray Meyers added:

"Speaking of clubs, tomorrow I am to be at the U.S. Coast Guard Headquarters, Governor's Island New York Harbor, to meet with the Veteran Wireless Operations Association as the oldest member holding a valid First Class Radio Telegraph license and look forward to seeing many of my old pals. My first shipboard ship was aboard one of the Clyde Line ships with Dave Sarnoff as the other operator. After that trip, I sailed with Willard Wilson — ex W3DQ and Pete Podel as a passenger to Jacksonville to take on a job with Henry Flagler building the Florida East Coast Railroad and owner of the Hotel Palm Beach at Miami and the Royal Poinciana in Palm Beach. Guess that was the Royal Palm at Miami, it's been a long time since 1913. Hi.

"VWOA awarded me the 'Marconi Medal' the year before it was made out for Sr. Marconi for my work in the rescue of the submarine *Nautilus* crew in mid-Atlantic using an oscillating receiver to send my SOS. We were requested by the battleship *Arkansas* to stand by until the *USS Wyoming* could pick us up and tow us to Questown, Ireland. Some experience, to say the least.

"Keep up the good work with **Worldradio** it's the best on the market.

73,

Ray Meyers, W6MLZ"

Thanks for the nice letter Ray. I'm sorry we had to err to hear from you.

Demonstrations

From *Ham Shack,* newsletter of the Rio Hondo Amateur Radio Club, Whittier, California:

"We have obtained a permit to demonstrate Amateur Radio in the Village Festival to be held 9-10 July in downtown Whittier. This will be a good time to promote our hobby, so come and join us in the fun. Rick KF6RP, will be our demonstration chairperson. Let's all give Rick a hand in working a shift in the booth."

•

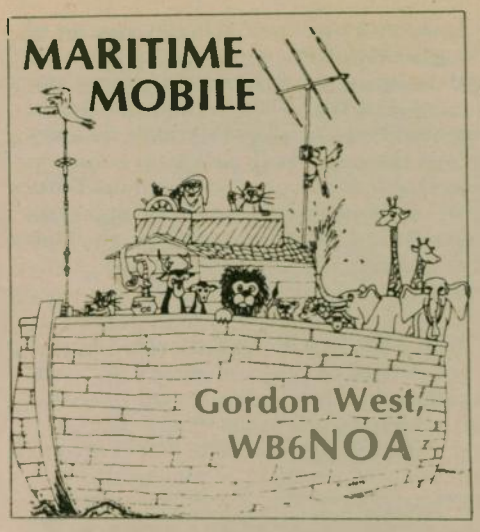
From *State of the Arts,* newsletter of the Allen County Amateur Radio Technical Society, Inc., Fort Wayne, Indiana:

World of Amateur Radio display (Three Rivers Festival)

Location: Glenbrook Square; Date: Friday, 8 July through Sunday, 10 July; Time: 9:00 a.m.-9:00 p.m. Friday and Saturday, noon-6:00 p.m. Sunday; Length of shift: 3 hrs; People per shift: 6 min.; Radio or other equipment required: none.

Duties: Answer questions by the general public on Amateur Radio. Pass out literature. Sign up people for code and theory class. Demonstrate 2-meter equipment. Accept messages from the public, format into NTS form and ensure traffic gets into the NTS system, either via nets or handed to a traffic handler. Keep an eye on the exhibit and equipment.

Some persons will be required on Thursday evening to help set up the exhibit and the last shift on Sunday will be required to help take down the exhibit. The exhibit will remain in the evenings but the equipment will be locked up to prevent theft. No one person will be assigned to all these duties. □



Two-meter super range

The month of August is always a great one for long-range DX on the 2-meter band. Extraordinary weather conditions provide some great excitement if you have a mobile 2-meter set connected to your masthead antenna, or even operating a 2-meter hand-held over the water to a distant repeater station.

Regular range

The range of your maritime mobile 2-meter station is dependent on the type of antenna you use. If you are operating on just a small hand-held transceiver, you will find you can generally work repeaters up to 50 miles away over the water. Repeaters at higher elevations might give you a whopping 70 mile range.

If your boat is a sailboat, chances are you may be using your masthead VHF marine antenna for a 2-meter antenna. As I have suggested in past articles, use a two-position antenna switch. This would prevent you from accidentally transmitting from your hand-held directly into your marine VHF set and ruining it. The two-position antenna switch will allow either your marine VHF or your 2-meter radio to operate from the masthead antenna.

I know, I know — a masthead marine antenna is not matched very close to the Amateur Radio 2-meter band. However, it's close enough for a 2:1 match. The sheer height of the antenna will far outweigh any slight mismatch it may have. Your masthead marine antenna will generally do a banner job on any 2-meter signal, whether it be from a hand-held or a mobile 2-meter setup.

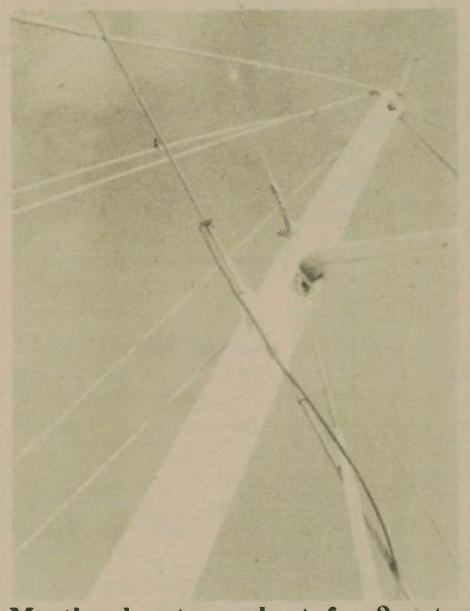
The range to distant repeater stations when using a masthead antenna might be as much as 90 miles. A more powerful 50 watt 2-meter set could increase that range up to 110 miles. Once again, the height of the repeater station is what will determine the actual range you will achieve.

Powerboat whips

Some powerboat 10 ft. and 20 ft. marine VHF antennas will work out fine when used with a 2-meter set. Others won't work worth a darn! You almost have to try it to find out whether or not the antenna will accept your signal.

The higher the gain of the antenna, the narrower the Q of the antenna circuit. Some 20 ft. antennas offer such a high Q that they simply won't allow any signal on 2 meters to pass through and get out to the airwaves. You can easily detect this by listening to a familiar repeater on your powerboat whip antenna.

If the repeater gets stronger than your rubber ducky antenna, chances are your fiberglass whip is going to work out well. However, if you connect the outside fiberglass whip antenna to your 2-meter set, and then notice that most stations abruptly disappear, chances are your particular marine fiberglass whip is not matched close enough to do the job on the 2-meter band.



Masthead antenna best for 2-meter DX.

Spring cleaning of 2-meter beams at WB6NOA QTH

Simply use a portable antenna on your hand-held and compare it against the results on your shipboard antenna. You should find that the shipboard antenna will far outperform your hand-held antenna in most cases.

August ducts

During the month of August, large high pressure systems develop along the Pacific Coast, Gulf Coast and East Coast. These high pressure systems are a ragman's demise! They usually contain little or no wind. Some call them the summer doldrums. The high pressure system usually remains fairly stationary, and may extend up to 1,000 miles across. The average millibar reading might be as high as 1030 millibars.

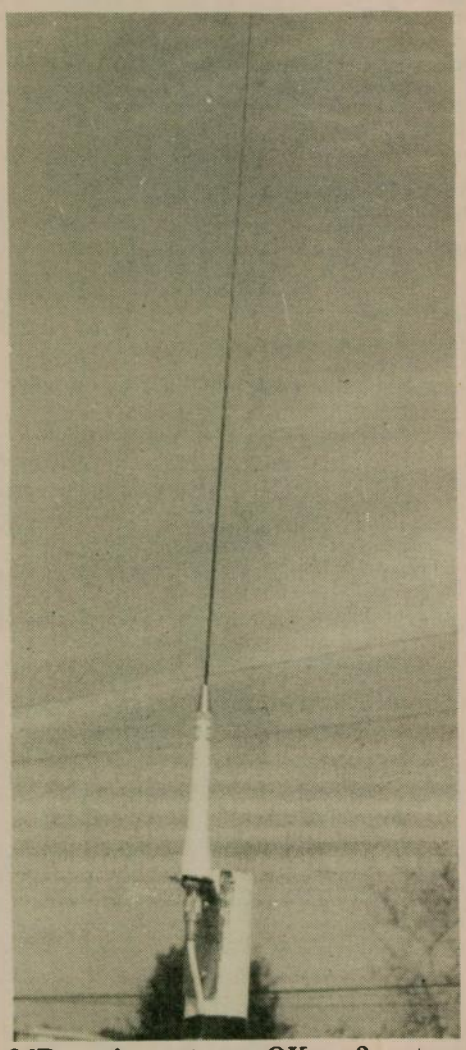
This high pressure system will usually create an effect called tropospheric bending. A warm air inversion develops within and along the boundaries of a high pressure system. This warm air inversion traps cool seawater-moist air below it. The actual height of the inversion zone may be anywhere from 1,000 feet to 10,000 feet.

VHF and UHF signals entering the tropospheric duct may sometimes be carried up to 2,000 miles away to a distant repeater station. The longer the duct, the longer the range. The sharp temperature/barometric pressure/moisture level maintains your radio signal within the duct.

It is quite possible for two ship stations to intercommunicate on simplex up to 1,000 miles away through this high pressure system duct. Repeaters have been worked as far away as 2,000 miles. Many times the opening is first experienced on 450 MHz repeaters, then 220 MHz repeaters, and then finally on the 2-meter band.

This tropospheric ducting is a fairly common phenomena in the August months. It is possible for stations on VHF to intercommunicate between California and Hawaii, Texas and Florida, and finally the Northeast Coast down to the Bahamas. Wherever these stationary high pressure systems sit, stations at each end of the tropospheric duct will experience some very exciting super range.

You don't necessarily need high power over the water to work these distant stations. I have confirmed reports of a station en route to Hawaii working a California repeater station at 1,500 miles away with just a 2 watt hand-held. He even did it with his rubber ducky antenna.



3dB marine antenna OK on 2 meters.

Is this condition sometimes called skip? If so, it's a misnomer. Ionospheric skip on VHF frequencies usually occurs only during periods of high solar activity when the E layer produces E clouds that reflect VHF signals momentarily. The sporadic E skip is usually short-lived, and the characteristic fading is most always attributed to E cloud reflection. Tropospheric ducting is characterized by strong signal strength with little or no fading.

For you land-lovers without a boat, try tuning in distant repeaters over the water from where you are. Yes, try some up to a thousand miles away. Watch your weather chart for that characteristic high pressure system that might signal a band opening.

Watch your television set for distant UHF and VHF TV signals. Aim your antenna in the direction of the high pressure system. This warm stable air mass will usually trigger a UHF/VHF tropospheric duct.

On your marine VHF radio, listen for distant Coast Guard stations and marine operators. These stations are generally high power and use antennas near the 1,000 ft. mark. It's easier to work a tropo duct when our antenna is at the actual height of the duct. However, it's not absolutely necessary.

Finally, expect more from your 2-meter marine radio setup than just local contacts this summer. Try listening in on some frequencies that are not local ones for distant repeater stations. Generally, if you can hear a distant repeater station, you can work through it.

Tropospheric ducting and sporadic E ionospheric skip are just two of the many exciting "extras" we receive each summer on the VHF band. Maritime mobile stations, free of surrounding buildings and foliage, usually have the first chance of working some easy DX.

The hardest part is just staying alert to recognize when the band is open to another station up to a thousand miles away!

Ed note: Gordon West and five other stations in Southern California were first to receive signals from Hawaii on 1296 MHz at 3,000 miles away. This occurred in August of last year, and these UHF/VHF experts plan to make this year a new record for the first two-way contact on 1296 MHz.

Net frequency change

Due to QRM from slow scan television operation on 14.340 MHz by a station in Texas, the Manana Net will shift up approximately 2 or 3 kHz. This frequency change is necessary in order for net control stations of the Manana Net to hear clearly stations checking in from Baja California.

Although the Manana Net has used the frequency 14.340 MHz for many years, the inconsiderate operation of a brand new slow scan television net and the uncooperative attitude of one Texas Amateur Radio station necessitates this move. Although no Amateur Radio operator or net has exclusive rights to any frequency at any particular time of day, deliberate idle occupancy of a frequency generally used by a maritime net to provide safety at sea broadcasts is truly out of the spirit of good Amateur Radio operation.

It is unfortunate that any Amateur Radio operator who has the time to operate 24 hours a day on any frequency would not give up at least one hour for a scheduled maritime mobile net. The latest incident involved this same Texas station calling CQ on slow scan television on 19 April 1983, during which time the United States Coast Guard was attempting to communicate emergency messages to a vessel with emergency traffic over the Manana Net frequency. This very well could lead to an investigation by the FCC or deliberate interference to emergency communications when designated by the maritime mobile net control operator. □

Contact Worldradio for hamfest prizes.

Fiber-optic systems

As announced in **MICROWAVE & RF** magazine, "Times Fiber Communications of Wallingford, Connecticut, will install the world's largest fiber-optic CATV network next year under contract to United Cable Television."

The network, which will provide service to over 24,000 single and multi-family dwellings in the Alameda, California area, will accommodate 120 channels and will be fully interactive.

Of interest to amateurs and other users of the RF spectrum is the fact that fiber-optic systems are virtually free of the radio-frequency interference problems which are associated with systems using coaxial cable for signal distribution. In such systems, signal leakage resulting from cable deficiencies has been responsible for interference to the Amateur 144 and 220 MHz bands and for alleged interference to cable channels E and K by amateurs.

It is hoped that other CATV systems will follow United Cable Television's lead and upgrade their distribution networks at the earliest possible date.

— *SIGNAL* □

TEACHER

Alan Kline, KB1DJ
P.O. Box 54
West Lynn, MA 01905

As I try to take my ham radioing seriously, I like to stay informed on current events and trends as much as possible. I enjoy reading **73, QST, Worldradio** and the *W5YI Report* every month. By reading these four different publications, I get a good overview of what's going on in all facets of the hobby.

For the last six months, I've had this gnawing feeling about the Volunteer Examiner Program. Hopefully, by the time you read this column, the FCC will have selected or assigned the Volunteer Examiner Coordinator (VEC). If they haven't, it will be announced soon.

In reading the FCC's proposal, I think the ham community blew it in that they didn't respond to this proposal as they should have. With all the excitement about the no-code proposal, the Volunteer Examiner proposal got less exposure and thought. In retrospect, I remember thinking the FCC was going to give us the privilege of administering the amateur exams to our fellow amateurs. Sounds great to most hams, and might mean less traveling to exam points. On the other hand, they were trying to force something on us we didn't want — the no-code license.

Was this some kind of trade-off? The FCC would force a license class on us, which the majority of hams were opposed to, but then give us the trusted job of examining ourselves. Since I like to be in 100 percent control of all situations, my initial reaction was to upgrade to Extra and form my examining team immediately.

As a head examiner, I could enforce my own requirements, and the code would be a definite part of passing the exam. You must remember, these were my initial, emotional thoughts. But while I pondered on some intelligent answers to the no-code question and proposal, sent them off to the FCC and finally got up on my soapbox and talked about it on the air, I lost track of the VEC proposal. I can only blame myself for not responding to it properly — or can I? The Amateur Radio media said the VEC and no-code proposals generated more activity than any previous FCC proposed rule. I disagree.

Other than a few editorial comments from the ARRL and **73 Magazine**, the Amateur Radio media carried many comments, letters to the editors and statements about only the no-code proposal, much less on the VEC question and the U.S. amateurs' reactions to it. Now that the VEC program is law, we are stuck with it.

The FCC had a fiscal problem to solve. They did not have funds to support the Personal Radio Division in a manner it deserved, so they took the easy way out; they dropped as much of the program as possible, right in our laps. What they should've done was change the federal laws so that the FCC could not only charge for amateur exams, but accept money from the amateur community.

They could have charged $25 a try on the ham exams, to the age group between 21 and 61; kids and seniors free. People would study harder for the exams and take them more seriously. Many of you might be appalled by this idea, but you're kidding yourselves about how much money it costs to just get on the air as a Novice.

As far as accepting money from the ham community, I know you who have run conventions have had this problem. You invite the FCC to come and give exams, offer them room and board, and they decline.

I am concerned about the legal implications of the FCC giving the VEC to the ARRL, QCWA or whoever, There is a question of conflict of interest here. How can the ARRL get the VEC job as long as they are in the study guide publishing business? As soon as the FCC announces the VEC, watch for a few lawsuits. Problem is, who else but the ARRL has a field organization that can come close to the requirements of giving exams? No one.

I also want to know, where are all these volunteer examiners going to come from? I remember a conversation I once had with Gordon West, WB6NOA. He runs some very sizeable ham classes out on the West Coast. We discussed how rare it is to find a good code and theory teacher, especially the one who has a special insight into people and the ability to teach new amateurs.

I find that a lot of you out there who do teach a Novice class on a yearly basis are the only ones who can truly appreciate the time spent teaching new amateurs. Most of the code and theory teachers I talk to are also active in running their local ham clubs. Many of you who have QSO'ed me on the air have told me about your other activities, as well. After families and jobs come Little League, Scouts and church work. Now you get to add the title of "Examiner" to the ends of your names.

No matter what the FCC, ARRL or anyone else involved with examining process does — or even what my opinion of the whole matter is, we are all going to have the same problems. We are going to have to find the right place to teach our classes and give the exams on a regular basis. The Novice exams will be easy exams to administer. The Technician, General, Advanced and Extra are going to be held about once every three months, all year, in an easy-to-find place.

I have made more than one mistake when contracting rooms for my ham classes.

The mistakes not only cost money, but turned some students off to the idea of coming to upgrade classes. Even though Amateur Radio is supposed to be a hobby, I try — as in my business — to please as many as possible. Remember — a happy customer returns, or at least tells a friend.

After teaching ham classes for the first three years, I had tried classrooms in four different towns and one hospital in our repeater's area of coverage. Classroom selection was in relation to the instructor's QTH. I was so grateful when a fellow club member would volunteer to teach a Novice class that in trying to please him, I would have the class meet as close to his QTH as possible. I did not want the instructor to be inconvenienced, but I was wrong — the students were the ones who needed to be catered to.

Since that year of change, we have found a permanent home for our classes, and it will make a great location to give exams in, as well. After some thought, I've decided there were many contributing factors that make this teaching location very special. In this month's column, I am going to discuss all the factors in finding that perfect location.

Access

The town of Danvers, Massachusetts has let us use three classrooms and a small storage area (for our station) at the high school for over three years now. Danvers is located 10 air miles north of the capital of Boston. One interstate highway and one major state highway run parallel to each, at opposite ends of the town, from north to south. Another state highway crosses east to west and travels all the way to the seacoast. As the high school is centrally located, driving access is great. The only transportation drawback is that there is no form of public transportation nearby.

Because of the central location, we draw students from a driving radius of 20 miles to the south and 40 miles to the north, well into southern New Hampshire. I try to discourage potential students who live too far away. For them, I keep a list of other classes being held all over the state.

As the high school is a relatively new building, wheelchair access is provided. The parking lot and first floor are on the same level; there are ramps and wide doors. Even though it is a federal law that all new buildings be built for wheelchair access, older buildings are not always converted for the handicapped.

Since it is a public school, the building is open from 7:30 a.m. to 10:00 p.m. every day, including Saturday. During the school year, there are many civic meetings held in the building every night, plus an adult evening education program, so access is never a problem.

The parking lot is large and well lit. The police have a regular patrol car swing through the parking lot throughout the day. The local police are well aware of our activities there. As many students have mobile gear in their cars, the students like to know the parking lot is secure, day and night.

Rooms

One year, I actually paid to use a classroom. I didn't know to tell the school department I worked for a non-profit, public safety-concerned group. The adult evening school director charged us $200 per room for 10 weeks, plus some extra bills for late janitorial fees. It seems we were late leaving the building and left paper on the floor of the classroom, so they charged us for a half hour of janitorial time. I learned quickly to get rooms for free and keep them clean.

Remember, we serve the public in time of emergency, and now that the FCC will be giving us the responsibility of giving our own exams, the school departments should be more than glad to help you. Maybe the FCC will give towns that loan their rooms and auditoriums for the exams some kind of federal funding for their schools — who knows?

Don't use junior high school and elementary school rooms — the desks, seats and restroom facilities are designed for children, not adults. Also, the smaller the school, the smaller the auditorium and cafeteria — both of which you might need for exam giving.

When I contract for my annual use of the rooms, I try to get them in the science department section. They have larger blackboards, movie screens, plenty of AC outlets and larger desks. You might also consider the rooms used for teaching home economics (cooking and sewing). They have larger desks, too.

Contracts

Don't be surprised when the governing body that controls the use of the school after hours asks you to sign a simple contract. They must establish exactly who is using the room, when you occupy the room (hours and number of weeks), and who is responsible for damages. It helps to have done your pre-class PR by having as many friends of your classes talk to those who might review this contract.

Allies

I make sure our ham classes have many allies before I even walk into the classrooms. I contact the school superintendent and make sure the school has adequate general knowledge about Amateur Radio. They must also understand exactly how our program works. All amateurs who work in the school system are briefed annually about the next year's classes and projects. The Civil Defense radio officer is contacted; the police department and school board members who are amateurs are also warned about our activities.

I say warned because one night we had 100 show up for a Novice class, when we had told the school to expect maybe 20. I like to be prepared for anything.

Our repeater group has 275 members, 15 of whom teach in school systems that we would be willing to have classes in. So I try to let all of them know what we can and cannot do for them. Three high schools have stations we sponsor now; maybe some of those other teacher/hams will get the idea to start school stations.

In our classes, depending on the individual instructor's lesson plan, we use various forms of AV equipment — from tape cassette recorders to 16mm projectors to VHS machines.

One of our "allies" is the assistant department chairman for the AV department. Jon Hannaford, K1SPI, also teaches the TV production course, fixes AV equipment, and acts as our daytime liaison officer. Having him around during the day has facilitated getting our antennas up on the roof and securing a permanent room for our Novice club station.

(Continued next month)

Robert "Red" Reynolds, K5VOL, an unreconstructed QRPer from Lake Zurich, Illinois, has come up with an inexpensive way to breathe new life into that HW-7 gathering dust on the shelf.

He has come up with an easy modification to get the rig on the new 30-meter band with up to 1½ watts output at the cost of the 20-meter band and a handful of components that set him back less than $3.

These little CW-only transceivers for 40, 20 and 15 meters offer an easy and inexpensive way to get on the new 10.1 MHz band where the low-power output is more than enough to rack up solid contacts. Red operates his HW-7 at a whopping 900mW output. He found the rig at a Chicago-area hamfest for $20, which is not an uncommon price.

Says Red: "Since the HW-7's VFO uses the same inductor and capacitor network for 20 and 15 meters, any permanent shift of the VFO would cause the loss of both bands. My idea was to trade 20 meters for 30 meters — not 15 *and* 20 for 30!

"The solution is to add capacitance to the unused terminals on the bandswitch for 20 meters. This lets the oscillator remain on 7 MHz to triple to 15 meters and shift to 5 MHz for doubling to 10 MHz with the bandswitch in the 20-meter position."

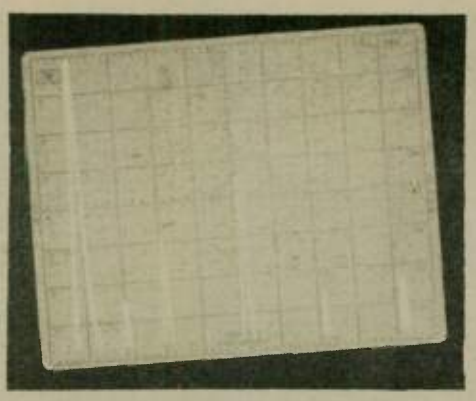
OSCILLATOR: On the top side of the PC board (switch side), mount a 460pF polystyrene capacitor (Red used a 360pF and 100pF in parallel) in parallel with a 5-100pF air trimmer, and connect the whole thing between pin 23 on the 40-meter switch and pin 18 of the 20-meter switch. This assembly can be supported with a small piece of perf-board held in place by stiff wire leads soldered to the appropriate pins. Ground pin 17 on the 20-meter switch to a solder lug added under the existing nut on the front panel just above the 20-meter switch.

Depress the 15-meter bandswitch and adjust L13 for proper alignment on 21 MHz. Now depress the old 20-meter bandswitch and adjust the new trimmer so that 10.1 MHz shows up on the dial at the 14.0 MHz point. The 30-meter band (10.1-10.15 MHz) will occupy approximately 14.0-14.14 on the 20-meter scale of the HW-7 dial. Now check the 40-meter band and adjust the calibration, if needed. This completes the oscillator modification.

DOUBLER/TRIPLER: On the bottom side of the PC board, add a 100pF polystyrene capacitor in parallel with C30 on the 20-meter doubler coil.

With the VFO dial at 14.070 MHz, adjust L4 for maximum output. This is most easily done with a voltmeter and an RF probe. This completes the multiplier modification.

OSCILLATOR/DRIVER: Add a 68pF polystyrene capacitor in parallel with C37 on the under side of the PC board. Adjust C37 for maximum output. This completes the driver modification.



A spectrum analysis of the modified HW-7 is seen in this photograph. From left are: 1) the 10 MHz fundamental; 2) the receiver oscillator backwave at -65dB; 3) the first harmonic, -50dB, the second harmonic at -34dB; 4) the third harmonic, -65dB; and 5) the fourth harmonic, -63dB.

FINAL AMPLIFIER: Because of the need to keep harmonics well within limits, it's necessary to replace L8 and L9 in the output network. Both new coils are wound on T50-2 toroids and with No. 22 wire. L8 consists of 20 turns, while L9 requires 15 turns. Add a 68pF capacitor (polystyrene or silver mica) between the junction of L8 and L9 and ground. This completes rewiring of the output circuit. With the signal from the HW-7 fed into a dummy load through a wattmeter, readjust L4 and C37 along with the loading capacitor. The 10.1 MHz output should be between 1 and 1½ watts.

Says Red: "The cutoff frequency for the output tank is about 12 MHz, with a Q of 3. This is consistent for about 1 watt output. A small increase in output power can be realized by removing two or three turns from L8 and one or two from L9. This will degrade the harmonic suppression somewhat but probably not enough to cause problems. A spectrum analyzer test of my HW-7 (see photo) showed the first harmonic down 50dB from the fundamental, with the second harmonic at -34dB. The backwave is 65dB down."

Silver mica capacitors may be substituted for the polystyrene units, and the 5-100pF air trimmer need not be exactly that size as long as the one used will permit the oscillator low frequency to be adjusted to 5.05 MHz.

A final note of caution: Don't forget the no-no portion of 30 meters from 10.109-10.115 MHz, where Amateur Radio operations are prohibited. □

Two watts out

John MacKenzie, KA7FEE

While driving and sending CQ one fine day
Luck came along and I happened to hear
A "windy city" man a-trying for my ear;
I gave him a shout with my 2 watts out
And started a contact along the way.

But woe is me, alas and alack,
For all the power that came from his shack
Nothing could carry my spritely code
Past hordes of S9'ers who staked their turf,
With waves of QRM a-crashing like surf.

Hail to that heroic Chicago ham
Who tried three times to copy my name —
He deserves a medal, he deserves some fame;
73, take care, cul, it's not fair!
Come on, QRO types! treat your own with more care.

Teacher

(*continued from page 32*)

Jon is also on the air during his lunch break, which attracts the passing students into the ham shack for a listen.

Whether we need a VHS machine or need to smooth out problems with the school administration, Jon is always there. You should make every effort to find yourself someone who works in the building you teach in, too.

Permanent station

As I try to make it as easy as possible for the instructor to teach Novices and Generals about Amateur Radio, we have a permanent station set up in a storage room near our classrooms. I plan to let all potential Novices make a CW QSO as soon as they learn enough code. Our planned final exam for the Novices is going to include successfully completing a CW QSO; after all, this is what we are supposed to be teaching them.

As we keep an oscilloscope, VTVM, SWR meter and various other ham gear at school all the time, right near the station is a large, lockable steel cabinet. This way, the instructor does not have to worry about bringing his own gear to class.

Our station is located in a very small room, big enough for three or four people at a time to enter. We compromised on the space due to the fact it is next to the library, in a highly-traveled corridor in the center of the school. By having a few OM's there during the day operating, with the door open, we attract a lot of interest. The rig is a used Heathkit HW-101 with a Mor-Gain dipole — a very simple, efficient setup. With all the accessory items, the whole station cost under $500 — a reasonable figure new amateurs can relate to.

Fee justification

If you have read my previous columns, you know I believe in charging people who take my classes. I try to get $25 in advance from all those between 21 and 50 years old. The money is spent on buying the stations, accessories, test gear, videotapes, slide programs, and a yearly donation to HANDI-HAMS of Minnesota. The money is also well spent on our 1,000-name mailing list.

I hope this has given you some ideas about rooms and having classes. While you are reading this, we will be announcing our fall schedule of classes: one Novice, one Tech/General, one Advanced/Extra and (hopefully) an after school program for high schoolers. Good luck and 73's. □

More proclamations

If you're keeping track of states and cities that have proclaimed 19-25 June 1983 Amateur Radio Week, here are five more to add to your list: the city of Englewood, New Jersey (Mayor Steven Rothman), the state of New Hampshire (Governor John H. Sununu), the county of Hawaii (Mayor Herbert T. Matayoshi) and the state of Hawaii (Governor George R. Ariyoshi), and the city of Simi Valley (city fathers). □

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

Happy Flyers
HAMS & PILOTS

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

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

One of the fringe benefits of being a Scout Aviation Counselor, was being able to fly the C5 simulator at Travis Air Force Base, Fairfield, California. Captain Borter was the Air Force volunteer.

Mountaintop/repeater DF

Letters and phone calls continue, with questions on remote-controlled direction-finding (DF) techniques and equipment. I have been working long hours on my regular job and must apologize for the long delays in responding to letters. Sometimes my mail for our volunteer work is piled over a foot high when I return from my trips. If you need quick answers, feel free to call my home in the evenings — phone number (415) 341-4000. I cannot afford to pay long distance charges to return calls if you miss me. We will cover some basics of remote DF this month, since some states can only work at repeater sites in good weather.

No true VHF ADF available

No discussion of VHF DF should ever be undertaken without being adequately reminded there is *NO single answer automatic direction finding* possible at VHF frequencies. We have produced free slide/sound shows and many articles giving details why this cannot be done (in the same connotation as ADF at HF's lower frequencies).

To restate briefly, "Murphy's Law" indicates that whenever a VHF signal can bounce, *IT WILL!* Reflections and multipath at VHF are the *rule*, rather than the exception. Since more than one RF signal will, most likely, arrive at a DF antenna array, (from various directions), the resulting answer *must* be some compromise indication.

If you use a form of voltage-averaging DF and all arriving signals are reflections, (due, perhaps, to some obstruction preventing a direct path), the resulting averaged meter or digital indication could be the opposite direction from the real transmitter. If you use some type of phase DF system and "four" actual paths exist to the DF antennas, only one can be indicated at any given moment. No matter what system you use, if more than one path of RF is arriving at the DF, it would have to tell all of them, to be a true VHF automatic DF system. All single answers (from multiple signals), by pure use of the English language, *must be a compromise of some type.*

This is not necessarily an insurmountable problem. Sometimes, you are able to use the idiosyncrasies of a certain type DF to learn important facts — by reverse logic and observation of known characteristics. Our research indicates there is still *no single type or brand of DF that is best for all DF situations!* As an individual, I *never* go without more than one type DF, whether on Search and Rescue DF or jammer hunting. At a repeater site, some compromises should be considered, and the best all-around system (for your site circumstances) should be chosen.

There are companies that claim to have ADF at VHF, but none we have tested show all paths simultaneously. No "always true" answer is possible with a single meter, digital readout, or LED direction pointers. Remember, we are speaking of absolute "LOB" (line of bearing), from a fixed point (such as a repeater, your home, or a parked car on a hilltop). The four-element electronically rotated (fixed position) arrays are *NOT* accurate for LOB if *ANY* reflection is present and detected by the DF unit. They do a good job on a vehicle, when used for homing, since the constant movement of the vehicle changes the angular, geometric relationship to reflections more rapidly than it does to a direct path.

The resultant, continually updated averaged answer will tend to keep you traveling in the correct general direction. Since repeaters are stationary, believing there is value to an LOB taken with any averaging device at a repeater, is to say one believes it is impossible to receive a VHF signal by reflected path *only.* Remember, if no direct path exists, then any average of the reflected paths does not have to be in the direction of the site of the real originating transmitter. It could be the opposite direction!!

Proper remote DF equipment selection

In view of the foregoing, one can easily see that the first step will be proper equipment selection for your site, the geographical terrain, *and all factors* that can possibly cause reflections and multipath. The flat desert areas can achieve good results with most any method, whereas downtown metropolitan sites must choose carefully. A repeater on a single high mountain by itself has different requirements than repeaters on a group of mountainous ridges of near equal height.

Known target experiments

The best advice we can offer is to suggest you borrow some DF equipment, of various types and brands. Try multi-element beams, voltage averaging, phase, various patterns, etc. First check the accuracy of incoming information against the known locations of the various repeaters in the area. Then have members in known areas transmit on simplex. Send volunteers to other locations of interest and have them accurately tell you where they are. See if your findings agree. After each experiment from one spot at your site, move 50 feet or yards and see if you still get the same answer.

One can be amazed to see the difference that having a tree nearby can cause to your readings. When you think you have a system to fit your needs, try to locate some members in unknown areas. Known target DF is the most essential step to successful DFing, once you have equipment. If you cannot find known targets in *all* compass directions, how do you expect to locate unkowns?

ARRL Pacific Division Reno

As of this writing, I have been asked to conduct a two-hour DF seminar in Reno. I will be demonstrating a remote-controlled DF unit, and will stand in the back of the audience and find myself by rotating the antenna remotely. We will then demonstrate what happens when someone raises their hand into the RF field from my handi-talkie. A good DFer must be aware of the truths of VHF RF propagation. We will continue with information for the remote-controlled DF information next month.

Volunteers continued

In the past few issues, we have been covering different ham volunteers. Anyone reading **Worldradio** is aware by now of how much public service involvement exists in the Amateur Radio community. There seem to be areas of public service to suit every personality. Janie and I have become involved with the Boy Scouts, since our son Hartley graduated from Cub Scouts with the highest number of awards in his pack. It has been many years since either of us have been involved in Scouting. We again realize the need for some of the talented men and women in the Amateur Radio community as counselors.

One thing we have noticed is that those who become amateurs usually have many talents. We went to sign up as aviation and electronics counselors, and I ended up as counselor for 18 badges. Janie is involved in many of them, including beekeeping. One does not have to go to regular meetings to be a counselor in subjects they're familiar with. Special dates are arranged, at your convenience. It is very rewarding. Contact your local Boy Scout (or Girl Scout) leaders to see if you could help.

Our first field trip was to Travis Air Force Base, Fairfield, California. Their Volunteer Aviation Counselor, Captain Borter, was a SAC pilot (who flies the in-flight fueling tankers). He put on a superb all-day course for the Scouts working on their merit badge. In the afternoon, as part of the tour of the base facilities, *ALL* of us had the opportunity to fly the C5 simulator. What a thrill to sit in the pilot seat and feel like you are flying a plane the size of a 747. The view outside the window was of our area, and it was so real it was frightening (when there was trouble). Because they knew I was a pilot, the sergeant cut valuable things (like engines and generators), and I had to land off airport. (I am being slightly untruthful when I call it a landing.) Later, they let me fly again normally, thanks to Janie. I made it to the runway this time, but not as well as Janie did. □

Southern Texas emergency frequencies

Health & Welfare
Day — 7.290 MHz; *Night* — 3.961 MHz
Civil communications (Civil Defense, Red Cross, etc.)
Day — 7.240 MHz; *Night* — 3.935 MHz; *Back-up* — 3.943 MHz
Emergency traffic stations in disaster area
3.967 and 7.283 MHz
Disaster weather information (So. Texas Emergency Net)
3.955 MHz
Dept. of Public Safety (Region 2A Headquarters)
7.253 MHz
— *Tidelands ARS, TX* □

WITH THE HANDI-HAMS

Maureen Pranghofer, KF0I

It is hard to believe that by the time this goes to press, Field Day, the ARRL National Convention in Texas, and many summer hamfests, flea markets and picnics will be over. The dog days of August are approaching and folks are thinking about getting into their fall schedules again. Getting back to school for some, back to winter propagation cycles and yes, back to ham classes.

It seems that many ham clubs start Novice and upgrade classes in the fall, so now is the time to prepare new curriculums, update materials and recruit students.

And so it is with us at HANDI-HAMs. In the latter part of August (20th-27th), we will again be conducting a Radio Camp to be held in the northern woods of Minnesota, near beautiful Lake George. We, like you, are preparing an exciting curriculum — and maybe some of our ideas may give you and your club some teaching tips.

It seems that there are two very general ways of teaching radio theory: 1) cram everything into a student that is required for the exam so he passes, and 2) give the individual a deeper understanding of what is involved so he can research his thoughts and knowledge in order to come up with the right answers.

Now, each of these systems has its own merits. If someone is eager to get on the air, but is — for example — raising a family and working 60 hours a week, they may not have time to spend on study with much depth. Or those who hate studying and have good memories can cram to get on the air. On the other hand, there have been individuals who have used the cramming method and passed the test with flying colors, but then forgot the basics of station operation and are too frightened to ever successfully operate. Then there are those who have studied, reading and re-reading materials until they have a good working knowledge of what is going on inside their rig. Even though these folks have had no electronic background prior to getting their tickets, some of them turn out to be fine technicians. The results of understanding what they are doing — not just knowing the right words — opens up whole new areas for new hams, such as building, experimenting, being able to participate in many on-the-air discussions, and feeling confident they are good operators. It is the philosophy of the HANDI-HAM System that students should not only have the opportunity to upgrade their tickets but to gain a good understanding of the basics of hamdom.

In order to perpetuate this goal, the System will be switching from a past curriculum at Radio Camp of persons being divided into classes according to their upgrade goal, to one which has less stress on the upgrade and more stress on learning. Seminars will be given during the day on a variety of topics such as antennas, DC theory, DX operation, test equipment, etc.

All seminars will be given on two levels, one geared for those in the Novice and General level and one geared for those on the Advanced and Extra Class level. Students will have an opportunity to choose seminars they would like to attend and on which level of difficulty. Therefore if, say, Joe Blow comes to camp hoping to learn more about the Advanced level and possibly take the Advanced exam, but discovers he has forgotten how to convert megohms to ohms, then he can plan to attend the beginning seminar on basic units of measurements used in Amateur Radio. Students will be given a chance to upgrade at the camp if they so desire. Time will be provided for individual tutoring, and examples of simple questions like those discussed in the seminars and on the exams will be available.

Since a significant number of blind persons will be attending camp, some unusual adaptations have been added to assist them. These work for sighted people too — like some of those in your club. A list of formulas to be used will be provided for each student. They will be listed by topics such as antennas, DC theories, etc. Each one will be numbered and the instructor can simply say, "please refer to number one under antennas." Raised-line drawings will also be available and will be handed out during class discussion, which students can follow as the instructor lectures. In your club, print handouts work just as well.

Components will be available for all persons to pick up, look at and examine. A station will be used as a teaching aid for small groups so students, especially beginners, will have a chance to find out what being on the air is all about.

These are the basic general plans for attack, but watch **Worldradio** for subsequent details. If you have any handicapped students attending your radio club classes during the fall, we would be glad to give you a hand if you have any questions. □

MARS

Vern Hansen, AAA9W WB6UWQ

The following article appeared in the March 1983 edition of the 7th Signal Command Western Area Army MARS Bulletin. The article was prepared by Norm Brooks, K6FO/AAR9NI.

Chet Almond, AAT9OO/N6DRU

Meet Chet Almond, AAT9OO/N6DRU, Northern California Army MARS emergency officer. Chet started in the MARS predecessor organization — the Army Amateur Radio System (AARS) — in 1940 in Antlers. Oklahoma. His amateur call sign then was W5IXS. World War II came along and — as it did for many radio amateurs — established electronics as a lifelong career. In a Civil Service status, Chet was a radio engineer at Ft. Sam Houston; taught radar at the Presidio of San Francisco in 1942 and did radar developmental work at the Signal Corps Laboratories at Belmar, New Jersey.

It was an assignment at the Los Angeles Ground Electronics Repair Shop in Beverly Hills, California that greatly changed his life. It was 1944, and he was in charge of radio repair on the swing shift. A cute girl who worked for him caught his attention. He and Frances were married. He jokingly says "up to then I was her boss, but she has been the boss ever since!"

After WWII he went into private enterprise. He opened a radio repair shop on Market Street in San Francisco. His amateur call sign then was W6VNV. He then accepted a job with Philco as service manager for Northern California. Those were the days when every radio repairman wanted to become a TV technician. Chet set up schools for them in Sacramento and Stockton.

Later, he was sales manager for Hoffman TV and Admiral TV in Northern California. His territory went from Modesto to the Oregon border and into Northern Nevada. He was on the road so much he and Fran decided he should stay home and open Chet's TV shop in Orangevale. Fran ran the administrative end and became known as "Mrs. Chet." They employed from four to eight TV technicians. After 12 years of this, they phased out the business to retire. But did he retire? No! Back to Civil Service at the Sacramento Army Depot, whence he finally, really retired with 17 years federal service credit.

During the 1950's, Chet let his amateur license expire. Now that he was retired, he looked forward to getting back to the "new" AARS — now Army MARS. His amateur call is N6DRU, received in 1981, and he immediately applied to MARS.

Wife Fran is not an Amateur Radio operator, but is helpful to Chet in his activities. Son Jim, who is a CPA, is N5PP. His brother Bob in Tecumseh, Oklahoma, is K5LZF. Nephew John Hunter in Shawnee, Oklahoma is K5TMX. Chet keeps schedules from time to time with the family.

Chet has accepted responsibility for Emergency Operations in Northern California Army MARS. He has a lot of good ideas to help us do a better job in emergencies. We're fortunate to have such a live-wire member on this job — one who has such an excellent administrative and electronics background.

Chet has circulated a questionnaire to properly appraise our emergency capability in Northern California. So far, he has information on stations in 15 counties. He assures all members that information given him about equipment will remain confidential and will be known only to him.

Immediately after the plane crash near Mather Air Force Base in Sacramento recently, Chet was on the spot to help. He had trouble getting past CHP and sheriff's guards, but he persevered. Once at the Command Post, he was able to provide the Air Force Colonel in charge with valuable communications through Chet's hand-held 2-meter radio. □

TRAFFIC

Chuck Clark, K4ZN
Assistant Director
Roanoke Division, ARRL

Business traffic

This question keeps coming up in the mail, and the ARRL must be getting a load of it, too, the way it seems to find its way into almost every issue of **QST** of late. A typical letter will say something like, "Now that I have my RTTY going, I'm disgusted with what I'm copying. Some of these people are using their machines to operate a business and making no bones about it. It's downright illegal.

"Please say something about business traffic. Some missionaries are the worst offenders, and when I tell them what they are doing is not legal they tell me to mind my own business."

Some of it is clearly illegal, and some practices that I've heard criticized are well within the law. And then there's the vast gray area in between.

Restrictions on amateur operating have taken different forms down the years. In the early days, when patents covering the basic equipment for radio communication were still in effect, amateurs were permitted to operate without paying royalties to the patent holders because amateurs were not using radio to make money.

The Marconi Company, for instance, held the patents on tuned circuits, so that an operator with a Marconi rig could slide out from under interference and operate on a clear channel, while others would have to wait until everybody else quit before they could communicate. Amateurs adopted the tuned circuit too, not having to worry about infringing on Marconi's patent. The U.S. Navy, however, not using Marconi gear, suffered such interference that it asked Congress to grant it a monopoly on radio communication in the United States. That would have meant the end of Amateur Radio.

There was no ARRL in those days. Amateurs' clout was zero, but fortunately the Marconi Company went to bat for us; they persuaded Congress that granting a monopoly was unwise, would restrict technical development, and that instead the Navy should get modern gear like the amateurs were using, which of course the Marconi people would be delighted to supply.

By World War II, the basic patents had all expired, and by that time it was the law that restricted amateur operation, using words much like present Section 97.112 (a): "An amateur station shall not be used to transmit or receive messages for hire, nor for communication for material compensation, direct or indirect, paid or promised." But note that there is no mention of the *contents* of the communication; all that is prohibited is for amateurs to receive any payment or promise of payment for their services.

Incidentally, our amateur status didn't entirely protect us from patent problems. There was an incident in the early '20s when RCA advertised in **QST**, warning amateurs that some tubes were not licensed for use in Amateur Radio and that for amateurs to use them would render them liable to suit for infringement of the patents. The ads provoked an outpouring of letters not unlike those triggered by many another issue since that date, but no lawsuit ever developed.

Why this prohibition? Several reasons. The FCC didn't want fly-by-nights taking advantage of our amateur bands to set up rinky-dinky communication systems that would in most cases be merely ways to make a fast buck and then disappear. And neither the FCC nor the amateur community wanted commercial operators moving into our bands and crowding us out. It's easy to see what could have happened; just listen to 40 meters any evening, particularly now that we're on the downswing of the sunspot cycle.

Everything went peacefully (well, comparatively speaking, anyway) until the advent of autopatch and the Jonestown incident. Once amateurs were easily able to make phone calls from their mobile stations, the old danger of having commercial users move in returned. At that time, Technician Class amateur licenses were obtained by a mail examination, and the FCC was aware of a significant amount of fraud in connection with some examinations. It would have been easy for someone to get amateur licenses for all persons involved and set up a commercial operation in our bands.

The second thing that caused the FCC to take a long look was the fact that the Jonestown "church," a cult that ended in a mass suicide, made extensive use of Amateur Radio to coordinate its operations in the United States and Guyana. To stop the latter abuse, the FCC discovered a forgotten phrase in our rules that an amateur station license will not be issued to an organization other than a bona fide amateur club, *nor for its use,* and on that basis ordered the cult to cease and desist.

It was immediately apparent, however, that this interpretation would prohibit much of the public service activities of Amateur Radio. We would be forbidden to help the Red Cross, Salvation Army, Scouts or March of Dimes, for example. Once the Jonestown incident was over, the FCC, rather than admit that its interpretation was forced, amended its rules, removed the phrase and gave us our present third-party traffic rules which are more restrictive than the old ones, because they regulate the content of the messages and other communications which we may handle for third parties.

The Rules, 97.114

Before condemning an amateur's activity as illegal, we should be sure exactly what the rules prohibit. So here they are:

"The transmission or delivery of the following amateur radiocommunication is prohibited:

"(a) International third-party traffic except with countries which have assented thereto.

"(b) Third-party traffic involving material compensation, either tangible or intangible, direct or indirect, to a third party, a station licensee, a control operator, or any other person.

"(c) Except for an emergency communication as defined in this part, third-party traffic consisting of business communications on behalf of any party. For the purpose of this section, business communications shall mean any transmission or communication the purpose of which is to facilitate the regular business or commercial affairs of any party."

To complete the presentation of the rules, here is the definition of *emergency communication* from Section 97.3 (w): "Any Amateur Radio communication directly relating to the immediate safety of life of individuals or the immediate protection of property."

Paragraph (a) is clear, it merely insists that the International Radio Regulations be observed, prohibiting third-party traffic unless there is an agreement permitting it. There is one exception, not mentioned in the FCC rules but included in the International Regulations: All radio stations are obliged to handle communications directly related to the safety of human life.

Paragraph (b) repeats in greater detail the long-standing prohibition of Section 97.112 (a), forbidding compensation for the operation of amateur stations, and adds that this prohibition applies not only to the station licensee and control operator but also to everyone else. If anybody makes money out of our operating, it's illegal.

Tangible compensation is that to which at least an approximate dollar value can be set. Intangible compensation has a monetary value, but one that is difficult to specify. An example would be, "If you handle this traffic for me, I'll tell folks your store has the best bargains in town." Direct compensation is paid or promised to the person performing the service; indirect is paid to someone else. An example, "If you handle my messages I'll keep your brother's boat in good repair." But you don't need to worry about these details. If anybody profits from the deal, it's a no-no.

Paragraph (c) is a new regulation and is the one that is most often involved. Many of us are really going beyond the prohibitions it contains. That may be a good idea, as it will mean less risk of trouble with the FCC, but we should beware of accusing others of violations which in fact they are not committing.

The main problem is the definition of business communications contained in the paragraph. Note that it says the *purpose* of business communications is to facilitate business. If the purpose is something else, it's legal to handle the traffic, even if it incidentally facilitates business. Thus, to tell someone where the nearest gas station is would be permissible, as the purpose is not to facilitate the business affairs of the gas station but to help a motorist keep an auto running. But to suggest that the motorist would get a better deal "at my brother's station" would definitely be illegal. It might even be argued that to order pizzas would be allowable because you're not using Amateur Radio to facilitate the pizzeria's business but to have it ready to pick up when you arrive. But here you're skating on thin ice, and it's better not to do it.

The other key word in the definition is *regular* — "the regular business or commercial affairs." This is opposed to occasional. Thus, it's OK for amateurs to negotiate trades of radio gear or anything else, provided no person involved is a dealer in those items.

One question that comes up occasionally is whether using Amateur Radio to assist police and other government functions would fall under the prohibition. Are these functions business? In the absence of an explicit ruling of the FCC, I would say no. That's the usual norm for interpreting law — limit prohibitions to what they explicitly prohibit. But even if they do fall under the prohibition, often they would come under the exception for emergency communication. Thus, assisting the police at a stakeout would certainly be "related to the immediate safety of life of individuals or the immediate protection of property." Still, as a regular thing the police should use police frequencies for such activity. That's why their frequencies were allocated.

A loophole

Note that Section 97.114 applies only to third-party communications. There is no prohibition anywhere in the amateur regulations of handling business communications within the United States where no third party is involved. Thus, if I'm working someone who is in the furniture business and tell him of potential customers, or even if he has a 2-meter rig in the store and uses it to communicate with his truck (driven by a licensed amateur), it's within the law, unless there's a repeater involved. But this is

another place where we would be advised to avoid asking for trouble, and I believe the FCC has plans to plug that loophole before long.

A final note: Don't write the FCC to ask whether a particular bit of traffic is legal on the amateur bands. The FCC expects us to figure that out, and too many questions of that kind could result in more restrictive regulation.

Net bulletins and rosters

Many nets make use of bulletins to keep in touch with the members, and some of these bulletins are high-quality newsletters. They don't have to be expensive productions, either, and they often are an important part of keeping interest high. They usually contain statistics, how often each one checked in, how much traffic was handled, how long the net was in session — items probably skipped by most readers. More important, the bulletin acts as a means of keeping in contact with members, particularly of reminding those who check in occasionally what they are missing. Personal news about the members is most important here.

In addition, the bulletin provides a channel for making observations on procedures, suggesting ways to expedite traffic, educating new (and sometime old) members, announcing frequency changes and special events, especially those that may throw an extra load on the system.

Some nets publish rosters of members. At the Roanoke Division League Planning meeting, the roster of the South Carolina Single Sideband Net was the subject of much favorable comment. It contains the names, addresses and telephone numbers of all active members, a list of cities with amateur stations, a list of all ARRL appointees in the section, ARRL numbered texts and message form, and a list of the exchange prefixes of all the telephone numbers in the state in numerical order.

The biggest problem with a bulletin is financing it, and the same holds for an elaborate roster like South Carolina's. Who pays for it? There are several possibilities. Depend on contributions. A good bulletin will usually be supported by the membership if the editor gives a regular accounting of receipts and expenditures and makes the needs known. True, most of the contributions will come from a few individuals, but that's always the case. These will probably be the people who check in most regularly, take regular appointments as net control and liaison stations, and supply material for the bulletin. Every organization has its bones — funny bones, lazy bones, and fortunately, backbones.

Set a subscription fee. To spread the cost more equitably, some nets set a fee for their bulletins.

Sell advertising. Great, if you can do it.

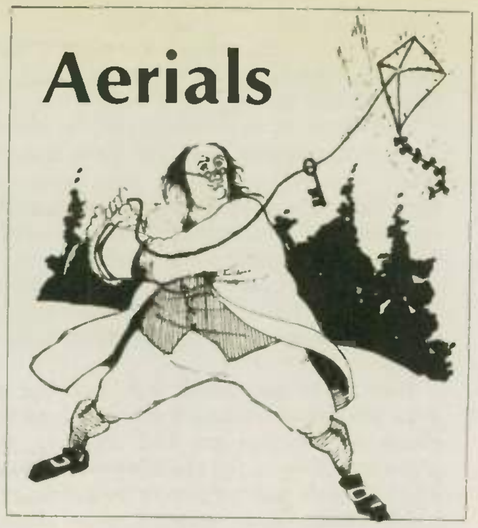
Combine with other nets. Florida is a good example of what can be done. *Florida Skip* carries columns on each of the various nets operating in the state.

Get donations. Some managers and editors have been able to get their bulletins prined by donated labor, paying only for the paper and ink. In some places, trade schools will do it to give the students practical experience.

Postage is the big cost these days, however, and few nets will have the circulation needed to qualify for bulk rates, so it's 20 cents a copy for postage. The only way around that is Florida's example where enough read the paper to qualify for the lower rates because readers are not limited to the members of a single net.

If a bulletin *can* be produced, it can help immensely in keeping activity high on a net. □

Aerials



Kurt N. Sterba

Unbelievable!!! A hammag which has as part of its title **Amateur Radio's Technical Journal** ran a review of Hy-Gain's TH7DX tribander and said:

"The maximum forward gain claimed on 20 meters is 8.0dBi; on 15 meters, 8.7 dBi; and on 10 meters, 9.6dBi. These gain claims appear to be fairly accurate according to just-calibrated S-meter readings and numerous on-the-air reports."

Fascinating! One can only assume they were running "A-B" tests with the TH7DX on top of one 100 ft. tower and an isotropic radiator on top of another 100 ft. tower.

I sure wish they had taken a picture of that isotropic antenna! The TH7DX sells for $375, and according to their review is but (on 20) only 1-½ "S" units stronger than the isotropic. Or, put another way, 6dB better than a dipole. So instead of being 20dB over 9 with the TH7DX, you would be 11.15dB over 9 with the isotropic. That seems like a lot to pay $375 for.

Tell you what I'm going to do. If you believe what you read in *A.R.'s. T.J.*, just send me a $10 bill and a stamped self-addressed #10 envelope and I'll send you an isotropic antenna.

Also, I see an antenna advertised for $150 that claims to have a low SWR at all points across the 80/75-meter band. (Yes, it is a single-band antenna.) Funny, you can accomplish the exact same thing they promise with an antenna tuner. Which you could use on all the bands. Or just cut two pieces of wire. One for the lower part of the band, one for the higher end of the band. You now have essentially two dipoles. Feed them in the center and you will have the same effect as the $150 antenna. For saving you all that money, I will humbly accept your donation of $5.

Now we move to something that truly boggles the mind. Bob Heil, K9EID, has come out with *Heil Ham Radio Handbook*. At $9.95 it is the greatest collection of misinformation ever compiled. Strange, because Bob is a really nice guy and has technical feats to his credit.

He says this book is for Novice Norman, and on the first page of text, tells him to dig a 50 cubic foot hole and put in an 8 ft. copper rod and a *dozen* quarter-wave ground radials for *each* band out like spokes in a wheel. First, who's got that kind of room? Second, you just frightened the poor kid away from Amateur Radio, and third, for what real purpose???

A couple of pages later you are told to run out a 135 ft. radial from your antenna tuner. How will this help your dipole?

A few more pages, (remember this is for Novice Norman), there is a discussion of a dual diversity receiver system along with analog switches, comparator and on.

The kid reading this figures he'll have to get to about 35 before he can even afford two HRO-50's and chucks the book in the trash can.

(But yet, there is nothing in this whole book on GMT or tuning up a transmitter.) Heil tells us that foam dieletric constant is .08 (ouch) starts to talk about velocity factor but never completes the discussion so no one knows what to do. He tells you to check out a chart that isn't there. The book is filled with typos and the spacing dimensions for the Yagi are wrong.

Heil says that an antenna tuner only "fools" the transmitter and does not make an antenna work across the entire band. Wrong statement.

The type size in the book is very small and it is a constant irritation to see a lower case "m" used in place of the upper case "M" as it should be in MHz.

He says the only place to measure SWR is right at the feedpoint. Wrong! Multiples of a half-wave (with velocity factor cranked in) will be just fine.

He mentions the noise bridge, but never tells how to use it. Shows a picture of the Omega (not even sold any more), and doesn't mention the Palomar or the MFJ, which are far, far more useful than the Omega.

Due to typos, he tells that equipment was not capable of working on 10 meters, where there were the Loran signals.

We are told that a sloper has 3dB gain. (relative to what?)

Novice Norman may go searching for the "transformer" that loads into fence wire for an antenna.

The Hustler antenna is written about with a lower case "h". If you are interested in shunt-fed antennas, you are told to find a May 1975 issue of **Ham Radio Magazine**.

The formula for a loop antenna is wrong. The inventor of the Quad antenna is called Claude Moore instead of his real name, Clarence Moore. And who really has switches on their Quads to go from vertical to horizontal polarization?

No dimensions or spacings are given for building a quad but you are told how to construct a remote base VHF station — just what Norman Novice wants to do tomorrow. And of course, this rank beginner is equipped with a "calibrated field strength meter that will give you the exact gain in decibels."

This poor unsuspecting beginner is told to start his construction projects at VHF because "parts are smaller" and "much less involved." Now, that will be real news to many!

And why, pray tell, is this "lowly little Novice" (as Heil calls him) given groundplane dimensions for 110, 120, 130, 150, 160 and 170 MHz? Are there some ham bands there that nobody has told me about?

Many pages are devoted to boosting products that Heil sells, but in this beginner book there is no mention made of any of the contests, where to obtain the periodicals, QSL bureaus, etc.

The book has analog to digital converters, decade counters, and on and on, but nothing on keeping a log.

Heil says it is because of "Madison Avenue marketing boys" we have dummy loads instead of using the good old lightbulb. He tells you to tune out the reactance of the bulb by using a series capacitor. (Of what value, Bob?)

Here's a real gas. On one page is how to build a 2-IC tome burst generator and on the next page is a grid dipper with a TUBE!

Just what you need, out working on your antennas trailing a wire back to the shack so you can get 150 volts for the plate and 6 volts for the filament of your 12AU7. Bob, you've got to be kidding!

And then, just what you've always wanted — a diagram for a crystal set.

Then poor, hapless Norman is given a diagram of a 1-transistor, 1.5 watt, 40-meter transmitter and told, "You're ready to talk to the world." Well, Novice Norman may be ready to talk to the world but the chance of the world talking back is rather slim.

Then Bob, who really should know better, tells us that the smallest minimum volume change that the human ear can detect is 3dB. Bob, you've spent too much time around rock bands and they've ruined your hearing.

I could go on, but you get the point. People who write books about Amateur Radio do really have a serious responsibility. What they should do is let some other people read their book before they send it out to market. If one truly has sympathy for the already befuddled, one had best not add to their confusion.

There is a place for a proper beginner's book. One in which the new Novice is not pictured as some cartooney-looking kid or in which the author of the book is not pictured climbing up the top of a monstrous tower with 128-elements. Such makes the newcomer wonder, "Do I have to have something like that up to talk to people?"

And if Norman Novice's lady sees the book with nine pieces of Collins gear on the cover and goes, "Are you going to buy all that, too?" there will be troubles in the household.

If anyone out there has a burning itch to write books about Amateur Radio, I'd certainly suggest you let as many other people read it before you embarrass yourself (and have Novice Ned pounding on the top of his receiver, trying to get it to work) with statements like, "20 meters . . . usually good 24 hours a day."

A few words about the sunspot cycle would be more useful than a half page about a liquid level detector or voting latch board. And I just can't imagine Novice Norman getting too excited about meteor scatter right off. One would be doing him/her a better service by telling about the ARRL Worked All States award.

(Kurt N. Sterba goes by that alias specifically so he can speak his mind, sometimes about people he likes, and still remain friends.) □

6-meter beacons

Dennis Blum, KA7AWD

If you are active on 6 meters, you probably have wished for some way to know when the band is open. It's easy — use your TV set. One evening while watching channel 3, I noticed "beat bars" running through the picture, indicating two stations having their signals mixed in my receiver. I switched to channel 2 and was surprised to hear fluttering sound and see weak video, since we have no "local" channel 2.

Since channel 2 is broadcast on approximately 57 MHz and 3 is on 63 MHz, I reasoned that the MUF must be greater than that necessary for 6-meter operation on 50-54 MHz. Sure enough, a trip out to the shack yielded two new states on 6!

This method has proved reliable over the last two months, really saving wear and tear of the power switch on the 6-meter rig. □

Ron Flynn, KB8LU

I have received word that a new magazine is to be published soon. The magazine, called **SSTV Today**, is to be published monthly and will be devoted entirely to SSTV.

Regular SSTV news and activity columns will be included in each issue. Feature and technical articles on SSTV equipment, mods and new developments will be published. The magazine was founded by active and concerned SSTVers. **SSTV Today** will seek input from its readers and adapt its format to publish what its readers want.

1250 copies of the first three monthly issues of **SSTV Today** will be mailed and distributed *FREE* to known, active SSTVers. If you have not yet received the August issue of **SSTV Today** and would like a complimentary copy of the magazine, send a postcard or QSL to **SSTV Today**, P.O. Box 39, Bangor, MI 49013. You will be put on the mailing list for the next issue.

TRS-80C revisited

Over past months, I have mentioned the SSTV hardware and software that is available for the TRS-80 Color Computer (CoCo). Originally, the CoCo was promoted as an easy and inexpensive way to get into SSTV. The results, with early hardware/software packages when the CoCo was used as a stand-alone system, were only fair when compared with the popular Robot 400. The CoCo could easily be interfaced with a Robot 400. The combination of CoCo and 400 circuitry gave satisfactory picture display, but no money was saved.

Last year Clay Abrams, K6AEP, wrote his latest 7.6 program and designed hardware circuitry for it. The 7.6 program features improved B&W and color SSTV picture display and accommodates several color SSTV formats. Bob Blackstock, WB5MRG, built up the hardware, and he and Clay spent countless hours on the air testing and perfecting the "system." Multimode was selected to build and market PC boards to go with the 7.6 program.

Over recent months, I have talked to and received letters from many CoCo owners. I had the opportunity to see 7.6 at Dayton and talk to more CoCo owners there. The consensus now seems to be that 7.6, along with the Multimode boards, works quite well. However, it is no longer a simple, inexpensive way to get into SSTV.

If you are contemplating going the CoCo route to get into color SSTV, there are a few things you should know. The 7.6 program is indeed very versatile and has many new features included in it. It has RGB plus 25.5 second SFC included, as well as a couple of experimental formats. The CoCo must be upgraded to 64K for color SSTV, and that costs an extra few bucks.

There was never any question that you could receive color or B&W SSTV pictures into the CoCo and retransmit them in the same format and quality as sent by the originator. The question has always been, how good a picture could be displayed using this system?

The B&W picture display is as good as the Robot 400. Some say better, some say not quite as good. The color display is pretty good when compared to popular Robot 400 color conversions.

The Robot conversions display 16 different grey level shades in each of three different memories. When overlaid, the RGB color picture can display a possible 4,096 different color shades (16×16×16). The 7.6 program displays eight grey levels in the red memory, eight levels in the green, and four in the blue. A possible 256 different color shades can be displayed with 7.6 (8×8×4). The displayed color SSTV picture using 7.6 is good, but does not equal that displayed by a Robot color conversion. The blues suffer and the picture is described as being coarser or more digitized.

Apparently, several companies will be making hardware to use with the 7.6 program. The Multimode boards are the most widely used and discussed. They were very slow to develop and become available. However, the quality of the boards is excellent. The whole "package system" now consists of five separate PC boards plus an enclosure with power transformer. You can buy the bare boards and acquire your own components. Semikits, kits, as well as assembled and tested boards are also available.

The whole hardware package purchased in kit form sells for $542. Assembled and tested packages cost $675. To this you must add the cost of the CoCo plus 64K upgrade and the software, not to mention a color TV or monitor. This is no longer an expensive alternative. When all that is paid for and assembled, you still have an incomplete SSTV system.

A sixth board, cost unknown, will be available later this year to enable you to use your camera and frame grab or snatch SSTV pictures into your computer for transmission.

Many people have expressed concern that the whole system is much too slow in coming and too expensive for the quality of picture displayed. It is sort of a hodgepodge of boards and cables. Unless you buy it wired and tested, it is far from an easy task to wire up. Many hundreds of solder connections are required. Think twice about tackling this job unless you are a medium-advanced skilled builder. People are regularly on the air seeking help because they are having problems getting it up and working.

I have said many times that I would not buy any computer solely for the purpose of geting into SSTV. The versatility of the microprocessor and software insures that they will be a part of SSTV for a long time to come.

The TRS-80C was not designed and built for SSTV. Brilliant and dedicated men have devised hardware and software to enable the CoCo to operate on SSTV and other Amateur Radio modes. The CoCo may or may not be the way you want to go, but you should know a little about what you are getting into and what to expect. 73s □

New SSTV net

A SSTV net for the western United States has been established to promote slow scan activity on the 75-meter band. Tests conducted over the past two months have brought excellent results and the net is now in full operation. The net meets each Tuesday and Thursday at 0430Z (9:30 p.m. California Daylight Time) between 3.9 MHz and 3.95 MHz. CQ SSTV is called on video for eight minutes at 0430Z so that members can locate the net and center their video equipment. Basic format is B&W. Net control is Larry McCartin, KH6ITY, with Gary Gross, KE6QR, as a backup net control.

From time to time, the net schedules exciting side trips for its members. Last week, after all check-ins were completed, the net was treated to a trip to the 20-meter band where KX6PO in the Marshall Islands was waiting to treat net members to an outstanding video show from a rare location.

So come on down to the 75-meter band and really enjoy yourself on the "Western Slow Scan Net." □

Microcomputers big in West Virginia

Ted Wolfe, WD4KHL

One thing radio amateurs in southern West Virginia can look forward to in 1983 is increased activity on the ham bands for computer-assisted CW (Morse code) and radioteletype (RTTY). This prediction is based on the observation that nearly three dozen amateurs in the region have recently purchased microcomputers to mate with their ham gear.

Over two dozen of that number during the fall quarter of 1982 purchased the Commodore Vic 20. Their interest increased when manufacturers lowered the prices for many of their personal or home computers. The Vic, for example, went from around $300 in the fall to $160 dollars around Christmas. They found they could buy the Kantronics "Hamsoft" program plug-in module for CW/RTTY (both Murray/Baudot and ASCII) for the Vic, plus a terminal unit and immediately get on the air with a computer-assisted Morse or RTTY station.

Judging from contacts I've had on the air, this interest in mating micros to ham gear is not restricted to this area. Hams traveling through our area during the Christmas vacation told me over 2 meters that the same thing was happening in Georgia and North Carolina.

Many amateurs have enjoyed RTTY for years, using old mechanical teletypes taken out of commercial service or using surplus military machines. But the transition to modern, solid-state electronics and lightweight equipment is now underway. Even the printers for "hard copy" are no longer the boat anchors of yesteryear.

Around here you can tune in several simplex 2-meter FM frequencies and hear the familiar "deedle-deedle-deedle" of radioteletype as ham neighbors fire up their devices.

Some of the repeater owners have even indicated that RTTY is welcome over their machines, giving amateurs a greater geographic coverage but still mostly "local" in nature. Many seem to prefer testing their wings among friends before moving onto the low bands for worldwide RTTY contacts.

So many amateurs in the lower Kanawha Valley got into computers that they arranged for informal instruction in BASIC computer language and some elementary programming. Those classes, begun in November, are held each Monday evening at 7:00 at the Hansford Community Center, Washington Street and Washington Avenue, St. Albans. Tom Miller, WB8ICT is the instructor.

A word of caution is in order. An amateur bringing home a microcomputer expecting to have exclusive use of it is just daydreaming. Often the wife and children want a turn at the computer.

I've mentioned the Vic 20 because that's the microcomputer I'm most familiar with. But I've found there are quite a few other amateurs with various Radio Shack models in their shacks; also a sprinkling of Apples and Texas Instruments units.

Worldradio invites readers to submit circuits and information on the VIC 20 interface for CW and RTTY. □

CONSTRUCTION

Chuck Clark, K4ZN
Assistant Director
Roanoke Division, ARRL

Thirty meters

This is an idea article, as are most items that appear in this department, the primary purpose of which is to stimulate amateurs to keep alive and develop the skills of building and improvising, which have been Amateur Radio's unique contribution to the art. The CW transmitter and receiving converter described here were designed to make use of what was available in this writer's junk box. Anyone who would go out and try to find exactly the same parts to duplicate it would be missing the whole point of the article.

Semiconductors

Two 7400 quadruple NAND gates, U1 and U2, are used as oscillators and buffers in the transmitter. More about the oscillator circuits below.

Q1, Q2, Q3 and Q5 are small-signal type NPN silicon transistors. I selected them from an assortment of mongrels, the kind you can buy from surplus dealers for 1 or 2 cents each. To pick them out, I haywired together a crystal oscillator circuit like that shown in the schematic at the bottom of the drawing, around Q5, only I used the 11740 kHz crystal. I tested each transistor in the circuit and selected those that gave the highest RF voltage output. (Make an RF voltmeter with a DC voltmeter and a diode.)

Q4 is a VN67AF VMOS power transistor, available from Radio Shack. Q6 is a dual-gate MOSFET transistor such as the 40673. And CR1 can be almost any rectifier diode. Its purpose is to block a DC reverse current through the protective diode built into the VN67AF when the gate swings negative.

Oscillators

U1 and U2 are crystal-controlled oscillators operating on 6673 and 11740 kHz, approximately. Y2 is a crystal picked from a bargain assortment, a third-overtone type marked 35,221 kHz, originally intended for use in a CB synthesizer circuit. Both crystals operate in the series mode.

The 100pF capacitor in series with Y2 tunes the circuit over a range of nearly 15 kHz and permits the transmitter to cover half the 30-meter band with this one crystal, an unusually wide frequency range for a VXO (variable crystal oscillator).

The range could have been extended more by adding a capacitor in series with Y1, but the crystal used here was not as "rubbery" and only shifted about 4 kHz. Generally, crystals in hermetically sealed holders, such as HC6/U and overtone crystals, will swing through a wider range than fundamental crystals and crystals in FT-243 and similar holders. This happened here. Y1 is a fundamental crystal in an FT-243 holder, and Y2 is an overtone crystal in an HC18/U holder. The third crystal oscillator circuit using Y3 and Q5 is discussed below in the section on the receiving converter.

The transmitter

The two outputs from the oscillators are heterodyned in Q1, giving a nominal frequency of 5067 kHz, which is doubled in the push-push doubler using transistors Q2 and Q3, giving a nominal frequency of 10134. It's risky, particularly in a band as narrow as our 10 MHz allocation, to trust nominal frequencies. The FCC measures actual frequencies, and if yours is even a few hertz outside the band, you will hear about it.

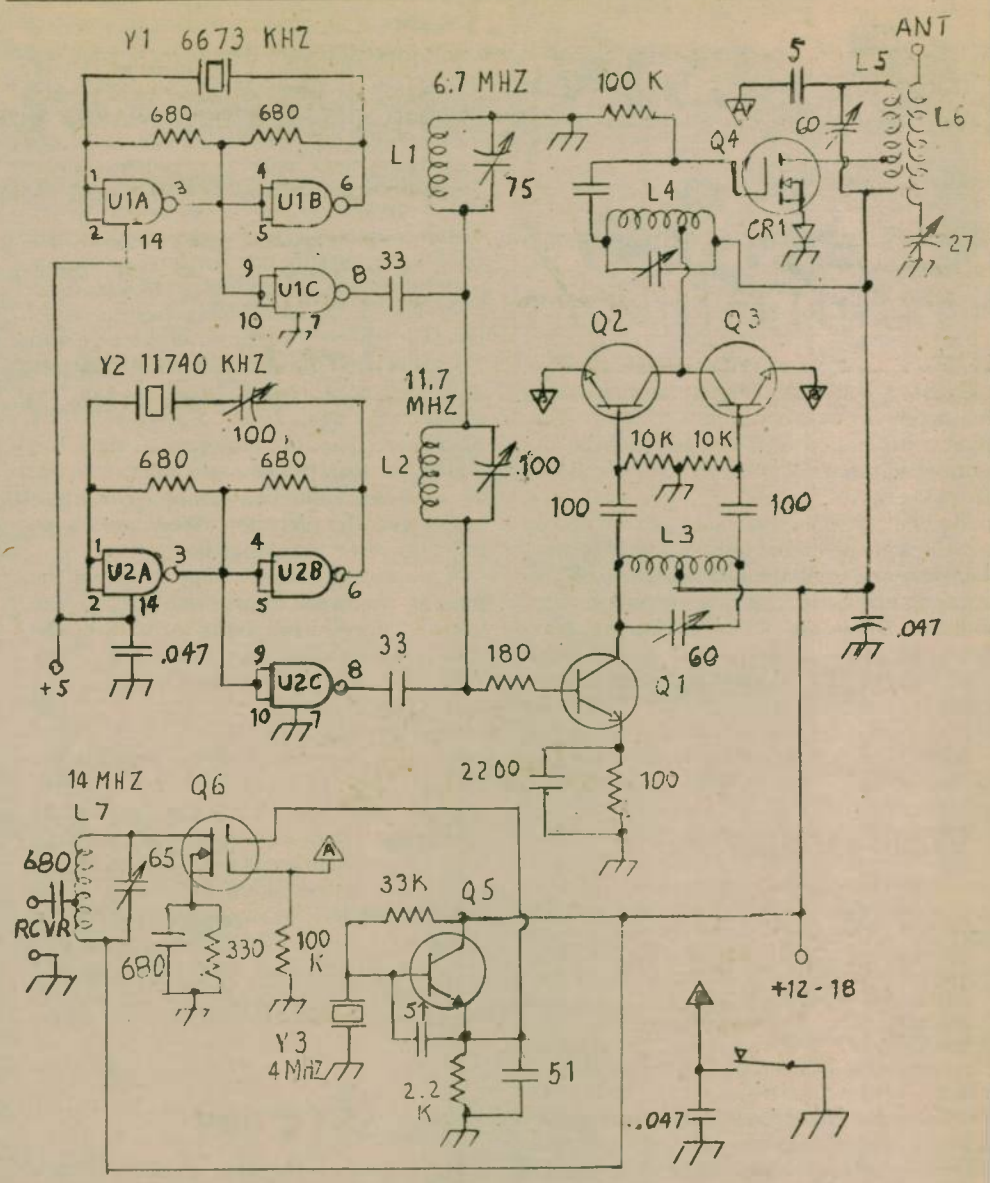
So it's important to measure the actual frequency and not trust in the value stamped on the crystal holder. This is true even when the manufacturer guarantees the crystal to be accurate within a tolerance that will put the actual frequency within the band. If it's not, you — not the manufacturer — will hear from the FCC.

When you use crystals manufactured for unknown rigs, and especially when you use crystals on frequencies other than those for which they are calibrated, as when you use an overtone crystal on its fundamental as we do here, the final frequency may be far different from the one you expect. In this case, the measured output ran from 10,096 to 10,124 kHz, thus including 10 MHz off limits to amateur stations, 10,096 to 10,100 and 10,109 to 10,115.

The final amplifier uses the VN67AF VMOS transistor. As built, it delivered about a half watt of RF output, but with some experimenting should be able to put out several watts. The VMOS transistor is more forgiving of improper loading than are bipolars, and actually has most of the advantages of tubes without the disadvantages — no heater power needed, no high voltage to zap you, much smaller size, greater mechanical strength. The sole disadvantage is that, like other solid-state devices, it is not as rugged electrically as a tube.

The receiving converter

Q5 and Q6 at the bottom of the schematic form a receiving converter which changes the 10.1 to 10.15 MHz band to 14.1 to 14.15 MHz — making it possible to receive the band on an amateur-band-only receiver or transceiver. And if you tune down to 14.00 MHz, you will be able to receive WWV's 10 MHz transmission as a bonus. You may need it to check your frequency meter or counter.



The crystal oscillator, Q5, is a simple and handy circuit, uses a minimum number of parts, and is handy to check crystals for activity and frequency, and transistors for high-frequency performance. In this circuit, the crystal oscillates in the parallel mode.

Q6 is connected as a MOSFET mixer, with the signal injected via gate 1 and the local oscillator via gate 2. With the low power delivered by this rig, the built-in protective diodes should be enough to prevent RF from the transmitter damaging the transistor. For better protection, connect two diodes — one polarized positive to ground, the other negative to ground — between gate 1 and ground. They present a high resistance at microvolt levels and so have negligible effect on reception, but become short circuits when the voltage reaches 1 volt or so, diverting any energy that might ruin the transistor.

Coils

The variable capacitors shown in the tuned circuits have the approximate capacitance at resonance indicated. L5 and L6 are wound on a ⅝ diameter form 3 inches long, L5 on one end, L6 on the other, meeting in the middle. L5 has 20 turns number 20 wire, with tap five turns from the cold end. L6 is 30 turns number 24 wire. Space the turns on both coils to make the windings 1¼ inches in length.

The other coils are toroids, wound with number 30 enameled wire, according to the following table:

Coil	Core	Turns	Tap
L1	T-25-2	45	None
L2	T-25-6	20	None
L3	T-50-2	44	Center
L4	T-25-2	16	4 from cold end
L6	T-25-6	27	7 from cold end

REMINDER.....
INCLUDE FIRST AND LAST NAMES WITH CALL SIGNS.

Wall clock

Benjamin Michael Industries, Inc. announces the Model 193A Digital Military Time Format Wall Clock. Used by the U.S. Air Force, this modern, all solid-state instrument features a huge 1" digital display for excellent visibility in large areas. The 193A also features quartz accuracy and total immunity to power line failures and disturbances. The clock will operate for well over one year on a single, readily available AA battery.

Housed in a hand-made solid walnut case, the Model 193A will enhance any flight planning or communications room decor. When used with the matching Model 192A 12-hour format wall clock complete time information is provided. Labels indicating "LOCAL" or "ZULU" are available.

The price of the 193A or the 192A is $129.95 plus $3 shipping. The clocks may be ordered from: Benjamin Michael Industries, Inc., 65 E. Palatine Road, Prospect Heights, IL 60070. □

Send/receive terminal

DGM Electronics, Inc. has introduced the SRT-3000, a compact automatic send-receive terminal for Baudot, ASCII and Morse codes. It is a complete, self-contained RTTY terminal with all of the features demanded by the serious RTTY operator. The SRT-3000 comes ready to operate and easily connects to your transceiver and video monitor.

The SRT-3000 features a high performance built-in demodulator and AFSK modulator using the latest switched capacitor active filter technology. It will copy 170, 425, and 850 Hz shifts using either the high or low-tone pairs that are keyboard selectable. The SRT-3000 will copy 60, 66, 75, 100, 132 wpm Baudot, 110 and 300 Baud ASCII, and 1-99 wpm Morse codes.

There are three display formats available that can be selected through keyboard commands: the standard 24 lines of 72 characters per line, which has two pages, an easy-to-read 24 lines of 36 characters per line, which has four pages; and a 16 line by 36 characters per line format containing six pages which can be displayed on a TV set (using an external RF modulator). The large 1000-character text buffer includes a BREAK feature that allows you to break into your pretyped message to transmit a response without clearing the buffer. Ten 80-character programmable message memories include battery backup to retain messages when the power is turned off. A built-in charging circuit charges the built-in NICAD batteries when the power is on.

The SRT-3000 has split-screen operation which allows you to see what you are typing into the text buffer on the lower portion of the screen while incoming text is being printed on the upper portion. A status line is always displayed on the top line of the first page. It displays an on screen tuning indicator, mode, speed, demodulator settings, buffer count, and 24-hour clock. The internal 24-hour clock allows you to insert the time and date in your text and message memories. WRU, SELCAL and AUTOSTART features are also provided.

A built-in cassette interface can be used in conjunction with the AUTOSTART and SELCAL features for unattended message storage operations. A printer output is provided for hard copy and can be keyboard programmed for ASCII or Baudot printer operation.

The SRT-3000 is housed in an attractive aluminum RFI proof case and includes a built-in power supply. The SRT-3000 is manufactured in the United States and comes with a one-year warranty on parts and labor. For further information, contact DGM Electronics, Inc., 787 Briar Lane, Beloit, WI 53511; (608) 362-0410. □

Base station transceiver

The IC-471A is a 20 MHz coverage base station transceiver for 430-450 MHz. It features 10 watt output, 32 full-function memories, and built-in sub-audible tone selectable from the main tuning dial.

ICOM systems accessories work with the IC-471A. This unit also features ICOM's new two-color display, showing frequency digits in white and control functions in red, for easy visibility in all lighting conditions. With the IC-471A, it is possible to scan all frequencies, memories or modes. Pricing will be announced shortly.

For more information, write to ICOM America, Inc., 2112-116th Ave. NE, Bellevue, WA 98004. □

Keyer trainer

The AEA Basic Trainer Model KT-3 is a computerized Morse code instructor contained in an attractive metal enclosure. Character speeds are given at 20 wpm, with a three-second interval between letters or letter groups.

This method of learning combats the plateau so many Morse code students encounter at 10-12 wpm. This system does not encourage the student to learn dot dot dash dot for F, but rather one cohesive sound of dididahdit (at the character speed of 20 wpm). As a result, a student does not have to unlearn bad habits such as counting dots and dashes in order to copy the code.

When you begin learning the code at a 20 wpm character speed, the sound of any given letter will not change from 0-20 wpm, thereby making it so much easier for the student to increase his (her) copying speed. To facilitate this learning technique, the minimum programmable speed on the Basic Trainer is 18 wpm character speed. After learning the code, the user can progress up to 99 wpm with the KT-3! Each character is taught separately by repetition. The student progresses only after he is confident he knows the letters being presented by the KT-3.

After the first letter (F, in this case) is learned, a student may progress to the letter K. After learning K, the student activates the computer to present the letters F and K in random sequence at a 20 wpm character speed. This technique continues as the student learns each subsequent letter in the alphabet.

The sequence of characters has been selected to minimize confusion with previous characters. For this reason you will find the alphabet presentation quite different from typical code training programs. When a new character is practiced along with all previous characters learned, the new character appears 50 percent of the time (50 percent weighting).

The KT-3 is very easy to operate; it requires absolutely no computer programming skills. An earphone monitor jack is provided for private practice sessions.

In addition to the unique Morse trainer features, the KT-3 incorporates a full feature Morse electronic keyer that can be used with any popular keyer paddle. Monitor tone, dot/dash memory and speed are all selected with the keypad, which significantly reduces the complexity of operation for so many features offered.

The KT-3 operates from 12VDC (or117VAC with optional AC-1 Wall Adaptor) which makes it the ideal trainer for the commuter.

As with all AEA keyers and trainers, extra precautions have been made to maximize RF immunity. Each unit is also subjected to a burn-in and full test prior to shipment.

For more information, write to AEA, P.O. Box C2160, Bldg. O&P — 2006-196th SW, Lynnwood, WA 98036-0918. □

Apple computer program

The COTEC company has announced the availability of CODE MACHINE, an APPLE II computer program which both transmits and receives Morse code. An easy interface with Amateur Radio equipment allows the APPLE II to function as a Morse code terminal unit.

Written in machine language for the APPLE II or APPLE II plus using DOS 3.3, CODE MACHINE features a tunable audio filter (performed by the software) which improves the noise rejection over the simple slower BASIC "on/off" programs. The filter center frequency is keyboard tunable from 600 to 1300 Hz. A novel tuning indicator at the top of the screen assists the operator in matching the program center frequency to the input signal frequency. The receiving speed of the program automatically adjusts to the sender's speed from 6 to 60 wpm. The buffer displays the last eight lines (320 characters) of received text.

CODE MACHINE also converts the received Morse code to ASCII and provides two convenient methods of interfacing with a variety of printers.

During transmit, the APPLE II keyboard is used to send. The operator types ahead of the sending speed and the characters are temporarily stored in the transmitting buffer which holds up to 320 characters. As each character is sent, it is changed to inverse video on the display. As each line is completed, the display scrolls up. Simple back space editing is done with the left arrow key. The actual transmitting speed of the code is variable in 5 wpm increments from 15 to 60 wpm. A sidetone monitor may be switched on to hear the code as it is being sent.

CODE MACHINE comes double-sided on a 5.25 inch diskette with full instructions for installation and use. Installation requires the user to provide two patch cords between the Morse code transceiver and the cassette ports of the APPLE II. Game port interface is also available for DC trasmitter keying.

CODE MACHINE is available for $29.95 including postage and handling. California residents add 6.5 percent sales tax. Please, no COD orders. Write to: COTEC 13462 Hammons Ave., Saratoga, CA 95070. □

European DX Contest

The Deutscher ARC (DARC) has the honour to invite amateurs all over the world to participate in the annual European DX Contest. The contest periods will be as follows: *CW* — 13-14 August; *Phone* — 10-11 September; *RTTY* — 12-13 November. Operating times will be from 0000 GMT Saturday to 2400 GMT Sunday.

Bands: 3.5, 7, 14, 21 and 28 MHz.

Classifications: Single Operator - all band; Multi Operator - Single transmitter. Multi-operator/single-transmitter stations are only allowed to change band one time within a period of 15 minutes. A quick band change and return for working new multipliers is allowed.

Rest period: Only 36 hours of operation out of the 48 hours are permitted for single-operator stations. The *12 hours of non-operation* may be taken in one, but no more than three periods, at any time during the contest and have to be marked in the log.

Exchange: A contest QSO can only be established between a non-European and a European station. Exchange the usual five or six-digit serial number RTS/RS report plus a progressive QSO number starting with 001. W/K-stations in addition give their state (e.g. 599011 MA).

Points: Each QSO counts 1 pt. A station may be worked once per band. Each confirmed QTC — given or received — counts 1 pt. (See below.)

Multipliers: The multiplier for non-European stations is determined by the number of European countries worked on each band. Europeans will use the last ARRL countries list. In addition each call area in the following countries will be considered a multiplier: JA, PY, VE, VO, VK, ZL, ZS, UA9Ø. (See special regulations for RTTY below.) Each W/K-state will be considered a multiplier. The multiplier on *3.5 MHz* may be multipled by 4; the multiplier on *7 MHz* may be multiplied by 3; the multiplier on *14/21/28 MHz* may be multiplied by 2.

Scoring: The final score is the total QSO points plus QTC points multiplied by the sum total multipliers from all bands.

QTC-Traffic: Additional point credit can be realized by making use of the QTC traffic feature. A QTC is a report of a confirmed QSO that has taken place earlier in the contest and later sent back to a European station. It can only be sent from a non-European station to a European station. The general idea is that after a number of European stations have been worked, a list of these stations can be reported back during a QSO with another station. An additional 1 pt. credit can be claimed for each station reported. (Note special regulation for RTTY below.)

a) A QTC contains the time, call and QSO number of the station being reported; i.e.: 1300/DA1AA/134. This means that at 1300 GMT, you worked DA1AA and received number 134.

b) A QSO can be reported only once and not back to the originating station.

c) **Only a maximum of 10 QTCs to a station is permitted.** You may work the same station several times to complete this quota. Only the original contact, however, has QSO point value.

d) Keep a uniform list of QTCs sent. QTC 3/7 indicates this is the third series of QTCs sent and that seven QSOs are reported. Europeans may keep the list of the received QTCs on a separate sheet if they clearly indicate the station who sent the QTCs.

Contest awards: Certificates to highest scorer in each classification in each country, reasonable score provided. Continental leaders will be honored. Certificates will also be given to stations with at least half the score of the continental leader.

Disqualification: Violation of the rules of this contest, or unsportsmanlike conduct, or taking credit for excessive duplicate contacts will be deemed sufficient cause for disqualification. The decisions of the contest committee are final.

Logs: It is suggested to use the log sheets of the DARC or equivalent. Send large SASE to get the desired number of log and summary sheets (40 QSOs or QTCs per sheet). Use a separate sheet for each band. All entrants are required to submit cross-check (dupe) sheets for each band on which they worked more than 200 QSOs. For each duplicate contact that is removed from a log by the checker, a penalty of three additional contacts will be crossed out.

Special regulations for RTTY: In the RTTY section of the European DX Contest, contacts between all continents and also one's own continent are permitted. Multipliers will be counted according to the European and ARRL countries list. QSO as well as QTC traffic with one's own country (district) is *NOT* allowed. SWLs apply to the rules accordingly.

Deadline: *CW:* 15 September; *Phone:* 15 October; *RTTY:* 15 December.

European Country List

C31, CT1, CT2, DL, EA, EA6, EI, F, FC, G, GD, GI, GJ, GM, GM Shetland, GU, GW, HA

RF speech processor

The Magicom RF processor will increase the average signal power to the antenna by as much as 6dB. In addition, a significant "talk power" improvement will be realized over the existing processing methods used in the TS-430S. Installation of the Magicom into the 430 is straightforward. The only tools required are a low-wattage soldering iron, a needle nose and diagonal pliers, and a small Phillips screwdriver. Supplies required are a small length of flux solder and a small piece of "solder wick". The installation of the Magicom into the TS-430S does not require drilling any holes or other nonreversible modifications to the equipment. The processor is wired, tested and with complete instructions with pictorials. The processor mounts on top of the IF Unit board to the left of the crystal filters.

The Magicom is available directly through the UIRC (Users International Radio Club) for $47.50 plus $9 shipping and handling. Write to UIRC at 364 Kilpatrick Ave., Port St. Lucie, FL 33452. □

HB9, HB0, HV, I, IS, IT JW Bear, JW, JX, LA, LX, LZ, M1, OE, OH, OH0, OJ0OK, ON OY, PA, SM, SP, SV, SV Crete, SV Rhodes, SV Athos, TA1, TF, UA1346, UA2, UA Franz Josef Land, UB5, UC2, UN1, UO5, UP2, UQ2, UR2, YS, YO, YU, ZA, ZB2, 1A0, 3A, 4U1, 9H1.

Criteria for awarding of certificates and trophies in WAEDC

Minimal requirements for a certificate or a trophy are 100 QSOs or 10,000 pts. Also, at least one of the following conditions must be fulfilled:

Certificates: 1) top score in a country resp. district; 2) in countries or districts with high participation, an additional certificate will be given for each full block of 10 participants; 3) members of the Top Ten or Top Six (multi-op) lists; 4) continental winners; 5) stations with at least half the score of their continental winner; 6) participants with at least 250,000 pts.

Trophies: 1) continental winners in the single-op category are awarded plaques; 2) continental winners in the multi-op category will be awarded plaques if they have at least 100,000 pts. or at least the score of the winner in the single-op category in their continent; 3) a station may receive a plaque in the same category only once within a three-year period; 4) special plaques will be presented to all members of the Top Ten/Top Six if they have been on this list at least five times; 5) the WAEDC Committee reserves the right to honour outstanding achievements in the contest by additional plaques.

Mailing address: WAEDC Committee, Postbox 1328, D-895 Kaufbeuren, GERMANY. □

New Jersey QSO Party

The Englewood Amateur Radio Association, Inc., invites all amateurs the world over to take part in the 24th Annual New Jersey QSO Party. The time of the contest is from 2000 UTC, Saturday, 13 August to 0700 UTC, Sunday, 14 August, and from 1300 UTC, Sunday, 14 August to 0200 UTC, Monday, 15 August.

Rules

Phone and CW are considered the same contest. A station may be contacted once on each band; phone and CW are considered separate bands. CW contacts may not be made in phone band segments. New Jersey (NJ) stations may work other NJ stations.

General call is "CQ NEW JERSEY" or "CQ NJ." NJ stations are requested to identify themselves by signing "DE NJ" on CW and "New Jersey calling" on phone.

Suggested frequencies: 1810, 3535, 3900, 7035, 7135, 7235, 14035, 14280, 21100, 21355, 28100, 28610, 50-50.5 and 144-146. Suggest phone activity on even hours; 15 meters on the odd hours (1500-2100 UTC); 150 meters at 0500 UTC.

Exchange: QSO number, RST and QTH (ARRL section or country). NJ stations send county for their QTH.

Scoring: Out-of-state stations multiply number of complete contacts with NJ stations times the number of NJ counties worked (21 max.). NJ stations — W-K-VE-VO QSOs count as 1 pt.; DX stations count 3 pts. Multiply total number of points times the number of ARRL sections (including NNJ and SNJ — maximum of 74). KP4, KH6, KL7, etc. count as 3 pt. DX contacts and as section multipliers.

Awards: Certificates awarded to first place station in each NJ county, ARRL section and country. In addition, a second place certificate will be awarded when four or more logs are received. Novice and Technician certificates will also be awarded.

Logs: Logs must show UTC date and time, band, emission, and be received no later than 10 September 1983. The first contact for each claimed multiplier must be indicated and numbered, and a checklist of contacts and multipliers should be included. Multi-operator stations should be noted and calls of participating operators listed.

Logs and comments should be sent to: Englewood ARA, Inc., P.O. Box 528, Englewood, NJ 07631. A #10 SASE should be included for results. Stations planning active participation in New Jersey are requested to advise the EARA by 1 August of their intentions so we may plan for full coverage from all counties. Portable and mobile operation is encouraged. □

FSTV UHF contest

Over $750 worth of prizes will be awarded in the 1983 **A5 Magazine** North American FSTV UHF Contest, to be held from 0001 EDT, 19 August, to 2400 EDT, 21 August. This 72-hour ATV contest is designed for the UHF specialized communications operator to work as many FSTV contacts as possible with rewarding bonus multipliers and additions for quality picture transmissions, DX distance accomplishments, and bands utilized. All ATV stations in the United States, Canada and Mexico are eligible for entry. Even stations without transmit capability can participate, utilizing a secondary frequency for voice confirmation of received video.

Contacts must be made on authorized amateur bands and within power limitations as set forth by the governing agency. Transmission of TV signals in recognized SSB, EME, FM or satellite portions of the UHF bands will not be recognized and becomes grounds for immediate disqualification of entry. No station may claim another station more than one time per band. Crossband contacts are encouraged and authorized.

Portable, mobile, air-mobile, etc. contacts are allowable as long as verification of location and simplex transmission is used. Contacts via repeaters or any type of relaying device are prohibited. This is not to discourage ATV repeater use, but merely to establish operator and station self-accomplishment. Secondary audio frequencies for signal coordination are recommended, such as 144.90 MHz FM, 7.290 MHz and 3.990 MHz. Any locally-utilized secondary voice frequency may be used.

For a valid contact to occur, verification must be established by both the receiving and transmitting stations. This can be accomplished by video return, voice communications, hard-copy photography, or lettered QSL. Proof of contact to be included as logbook entry with required information or enclosed photographs to A5.

Video pictures transmitted must contain as a minimum the station call sign and location, along with a signal report of the video received. Standard "P" signal reports will be used.

Quality multipliers, DX distance additions, and band usage multipliers will be used as shown later. Standard air or road maps may be used to determine recorded distances. A circle radius should be drawn from the location of the operating station with increments of 25 miles and dots showing locations of stations worked. The map used must be submitted to the **A5 Magazine** contest editor along with all log entry information.

Winners with the highest score in each U.S. call area, Canadian province, or Mexican XEI,

XE2 or XE3 areas will receive a free one-year subscription to **A5 Magazine**, a copy of the new ATV book *Everything You Always Wanted To Know About ATV But Were Afraid To Ask*, and a gold Specialized Communications Achievement Award certificate suitable for framing. All entries, regardless of placement, will receive a gold certificate showing participation.

All entries are encouraged to send photos of station operation and contacts received, which will be returned by **A5 Magazine**.

Entries must be postmarked no late than 1 September, allowing one week for lettered verifications. All logs will be returned. Please include **A5 ATV Magazine** subscription expiration date information with your entry. Send to P.O. Box H, Lowden, IA 52255-0408.

Scoring

The base points awarded are determined by the type and strength of signal received. Many times on long-distance contacts or weak band conditions, only the sync bar level is seen, without a video picture. If verification can be accomplished by both stations on a secondary frequency, utilizing the "on-off" method with the receiving station stating the actual "on-off" reception test signals, low-level points can be achieved.

Base points: *Receive:* Verified Video Sync Bars — 5 pts.; Locked-up B/W Picture — 10 pts.; B/W Picture with Audio — 15 pts.; Color Picture — 20 pts.; Color Picture with Audio — 25 pts. *Transmit:* Verified Video Sync Bars — 5 pts.; *Locked-up B/W Picture* — 10 pts.; *B/W Picture with Audio* — 15 pts.; *Color Picture* — 20 pts.; *Color Picture with Audio* — 25 pts.

Picture quality multipliers (base point × P signal quality level): Base × 1 = P−0 to P−1 picture — not usable, lost in noise, limited use; Base × 2 = P−2 picture — passable picture, high noise level; Base × 3 = P−3 picture — fair picture, noticeable noise; Base × 4 = P−4 picture — good picture, slight noise visible; Base × 5 = P−5 picture — excellent, closed circuit, no noise.

DX distance addition (base point = P-signal quality multiplier × DX distance multiplier): distance in miles, rounded to nearest marker, × multiplication factor. Less than 10 — no multiplier; 10 × 2, 25 × 3, 50 × 4, 75 × 5, 100 × 6, 125 × 7, 150 × 8, 175 × 9, 200 × 10, etc.

Band-used multipliers (base × P-signal multiplier + DX × band used): 1200 MHz = times 2; 2300 MHz = times 3; higher frequencies = times 4. Ex.: W9ZIH Chicago works N9BMH Milwaukee, two-way B/W ATV video with sound, P-3 level quality at a distance of 52 miles on 1200 MHz. Scores would be: base points — 15R + 15T = 30 × 3 (P3) = 90 × 4 (50 miles DX) = 360 × 2 (band multiplier) = 720 pts. □

New Mexico QSO Party

The 1983 New Mexico QSO Party, sponsored by the Albuquerque DX Association, will be held 20-21 August, from 1800Z Saturday to 2100Z Sunday.

Frequencies: Any amateur band except 30 meters. (No repeater QSOs permitted.) Suggested frequencies: *Phone* — 1.835, 3.985, 7.230, 14.280, 21.370, 28.570, 147.510. *CW* — 1.805, 60 kHz up from low end. *Novice* — 25 kHz up from low end.

Valid QSOs: Work stations once per band and mode; except repeat QSOs are allowable for credit only if the New Mexico (NM) station changes counties. Contacts with, or by, NM stations operating on county lines count as a single QSO, but multiplier credit is allowed the non-NM station for both counties. CW QSOs are not permitted in phone bands.

Exchange: NM stations send signal report and county; all others send signal report and state, Canadian province or DXCC country.

Scoring: Count 2 pts. for each phone QSO, 3 pts. for each CW QSO. NM stations multiply by total number of NM counties, states, Canadian provinces and DXCC countries worked. All others multiply by total number of NM counties worked (33 max.).

Entry categories: Single operator and multi-operator. (Entry category is independent of whether operating fixed, portable or mobile.)

Awards: Plaque to highest scoring NM station and highest scoring non-NM station in each entry category, and to highest scoring NM club with three or more members submitting scores.

Certificate to highest scoring NM station in each entry category and NM county, and to highest scoring non-NM station in each entry category and state, Canadian province and DX-CC country. A special certificate will be awarded the highest scoring NM mobile or portable station.

Entries: Mail entries by 1 October to NM QSO Party Chairman. All entries shall include summary sheet; entries with over 200 QSOs shall include dupe sheet. Include large SASE for results. Mail to Ed Graham, N5HH, 12449 Regent NE, Albuquerque, NM 87112. □

24th All Asian DX Contest

The purpose of this contest is to enhance the activity of radio amateurs in Asia and to establish as many contacts as possible during the contest between Asian and non-Asian stations.

Rules

Contest period: CW — 48 hours from 0000 UTC, 27 August, to 2400 UTC, 28 August.

Bands: Amateur bands under 30 MHz

Entry classification: single operator — 1.9 MHz; single op — 3.5 MHz; single op — 7 MHz; single op — 14 MHz; single op — 21 MHz; single op — 28 MHz; single op — multi-band, multi-op — multi-band.

Power: Type of emission and frequencies are within the limits of own station licenses.

Contest call: *Asian stations* — "CQ CONTEST"; *non-Asian* — "CQ AA"

Exchange: OM stations — RS(T) report plus two figures denoting operator's age; YL stations — RS(T) report plus two figures "00 (zero zero)."

Restrictions: 1) No contact on crossband. 2) For participants of single operator's entry — transmitting two signals or more at the same time, including cases of different bands, is not permitted. 3) For participants of multi-operator entries — transmitting two signals or more at the same time within the same band, except in case of different bands, is not permitted.

Points and multipliers:

Asian stations — perfect contact with non-Asian stations will be scored as follows: 1.9 MHz — 3 pts.; 3.5/3.8 MHz — 2 pts.; other bands — 1 pt. Multiplier will be the number of different countries in the world worked on each band. According to DXCC countries list.

Non-Asian stations — perfect contact with Asian stations (excluding U.S. auxiliary military radio stations in Far East, Japan: KA stations) will be counted as follows: 1.9 MHz — 3 pts.; 3.5/3.8 MHz — 2 pts.; other bands — 1 pt. Multiplier is the number of different Asian prefixes worked on each band. According to WPX rules.

JD1 stations — JD1 stations on Agasawara (Bonin and Volcano) Islands belong to Asia; JD1 stations on Minamitori Shima (Marcus) Island belong to Oceania.

Contacts among Asian stations and among non-Asian stations will not count as points or multipliers.

Scoring: The sum of the contacts points on each band and the sum of the multipliers on each band.

Logs: Keep all times in GMT; use a separate sheet for each band; list multipliers by countries or prefixes, only the first time on each band. Logs and summary sheets must arrive at JARL, P.O. Box 377, Tokyo Central, JAPAN, on or before 30 November 1983. □

Alabama QSO Party

The Chattahoochee Valley ARC will be sponsoring the Alabama QSO Party 27-28 August. Operation times: 1600Z, Saturday to 2300Z, Sunday.

The same station may be worked once on each band and mode, and mobiles on each county changed. Alabama-to-Alabama contacts permitted.

Exchange: RS(T) and QTH. County for Alabama stations. State, province or country for others.

Scoring: 1 pt. per QSO. Alabama stations multiply by total states, provinces and countries worked. All others, multiply by number of Alabama counties worked.

Frequencies: *CW* — 3565, 7065, 14065, 21065, 28065; *Phone* — 3965, 7265, 14285, 21365, 28565; *Novice* — 3725, 7125, 21125, 28125.

Awards: Certificates to top score in each state, VE province and DX country. Also to anyone contacting 15 or more Alabama stations. Plaques to top Alabama score and to top out-of-state score. This year there will also be an award to the Alabama club with the top aggregate score.

Mailing deadline is 30 September 1983. Include SASE for copy of results. Mail to: Johnny Royster, WA4VEK, P.O. Box 494, Fairfax, AL 36854. □

Occupation Contest

The Radio Association of Erie is sponsoring the 3rd Annual Occupation Contest on 27-28 August. Operating times are 1800Z, 27 August to 2400Z, 28 August.

The Occupation Contest rules have been changed this year so that individual occupations will be of greater importance. This change should make this year's contest less confusing and more enjoyable.

Scoring: 3 pts. to each *new* occupation worked; 1 pt. to all similar occupations worked; and 2 pts. to all retirees worked. There are no multipliers.

Exchange: R, S, (T); occupation; state, province or country.

Frequencies: *Phone* — 1.820, 3.920, 7.250, 14.300, 21.400, 28.600 MHz; *CW* — 40 kHz from the bottom of each band.

Deadline for logs is 1 October 1983; send to: Chris Robson, KB3A, 6950 Kreider Rd., Fairview, PA 16415.

A plaque will be given to the winner and certificates will be given to the highest scoring stations in each state, province and country. □

4-land QSO Party

The 1983 4-land QSO Party will last from 1800 GMT, Saturday, 3 September to 0600 GMT, Sunday, 4 September; and from 1300 GMT, Sunday, 4 September until 0100 GMT, Monday, 5 September. This 13th annual event is sponsored by the Brightleaf ARC of Greenville, North Carolina, and will make the many counties in the eight 4th district states available to county hunters.

The same station may be worked on each band and mode, fixed, and again if portable or mobile. 4th district stations may work others in district stations. The mobiles may be worked again when changing counties.

Exchanges: *4th district* — 1 pt. per QSO multiplied by number of states, provinces and countries worked. Contacts with BARC club station W4AMC count for 5 pts. *All other districts* — 2 pts. per QSO multiplied by number of 4th district states, plus 4th district counties. *COUNT* states and counties *ONCE ONLY*. QSOs with HARC club stations W4AMC count 5 pts.

Frequencies: *CW* — 3575, 7055, 14070, 21070 and 28090 kHz; *Phone* — 3940, 7260, 14290, 21360 and 28600. All frequencies (±) 10 kHz. *Novices* — 3710, 7110, 21110 and 28110 kHz.

Awards: Certificates to top scorers in each state, province and country with second and third place awards when warranted. Also, county awards to 4th district states and awards to Novices.

Mailing deadline: Thirty days after end of the contest, send to Contest Chairman, Bob Knapp, W4OMW, 105 Dupont Circle, Greenville, NC 27834. SASE for results. □

Howdy Days

Howdy Days will be held from 1800 UTC, Saturday, 10 September, to 1800 UTC, Sunday, 11 September. All licensed women operators through out the world are invited to participate.

Procedure: Call "CQ YL".

Operation: All bands and modes of emission may be used. No crossband operation. A station may be counted only once for credit.

Exchange: YLRL member or non-YLRL member. Entries in log must also show date, time, band and call of station worked.

Scoring: Score 2 points for each YLRL member worked and 1 point for each non-YLRL member worked. *NO* multipliers.

Logs: All logs must show if operator is YLRL member or non-YLRL member to be eligible for awards. *DO NOT* send carbon copies of logs. Please print or type. Logs must be signed by the operator. No logs will be returned. Logs must show score and be received by 12 October 1983.

Send log to: Rose Ellen Bills, N2RE, 17 Craig Place, Pennsville, NJ 08070 — with your return address marked clearly.

Duplicates: For each duplicate contact that is removed from the log by Vice President Rose Ellen Bills, a penalty of 3 additional and equal contacts will be exacted.

Awards: Top scoring YLRL member will receive her choice of a YLRL pin, charm or stationery. Top scoring non-YLRL member will receive a one-year membership in YLRL.

Suggested contest frequencies

Several members have requested that spotter frequencies be designated to make it easier to find participants in YLRL contests. The following list of frequencies has been compiled. Factors considered were Novice/Technician availability, avoidance of known interference to other activities (i.e., RTTY and SSTV calling frequencies), and similar frequency spreads on the different bands.

Please study the list and make any recommendations for change or suggestions to the YLRL Vice President, Marilyn Backys, WB9TDR, 3939 N. Firestone Dr., Hoffman Estates, IL 60195. Contest contacts would not be limited to these frequencies; they would be listed only to help contest participants locate other contesters.

CW: 80 — 3.540-3.570, 40 — 7.040-7.070, 20 — 14.040-14.070, 15 — 21.180-21.210, 10 — 28.180-28.210.

SSB: 80 — 3.940-3.970, 40 — 7.240-7.270, 20 — 14.280-14.310, 15 — 21.280-21.310, 10 — 28.580-28.610. □

Alabama

The HUNTSVILLE HAMFEST will be held on Saturday and Sunday, 20-21 August, at the Von Braun Civic Center in Huntsville, Alabama. There is no admission charge.

There will be prizes, exhibits, forums, an air-conditioned indoor flea market, and non-ham activities. Tours of the Alabama Space and Rocket Center are available for the family. A limited number of camping sites with hookups are available at the VBCC on a first-come first-served basis. Flea market tables are available for $4/day and should be reserved prior to the hamfest.

Talk-in on 3.965 and 34/94.

For more information, write: Huntsville Hamfest, 2804 S. Memorial Parkway, Huntsville, AL 35801.

●

The CENTRAL ALABAMA AMATEUR RADIO ASSOCIATION will hold its 6th annual hamfest on Saturday and Sunday, 27-28 August, at the picturesque Huntington College Del Champ Student Center in historic Montgomery, Alabama.

There will be free admission, free parking, and 20,000 square feet of air-conditioned activities, including a flea market, DX forum by avid DXer, noted world traveler, member of DXCC Honor Roll Ed Richmond, W4MGN, Ph.D.; continuous live RTTY demonstration and much more.

Setup at 0600, doors open from 0800 to 1700 Saturday and till 1500 Sunday. Saturday night dutch treat buffet with an ICOM 2AT door prize courtesy of the Hamfest committee in appreciation of your attendance and featuring Peter Weatherall, G3MLO, of Canterbury, England as honored guest. Sunday drawing at 1400 CST. On-premises "homebrew" chow and special motel rates.

Talk-in on 146.04/.64; ragchew on 146.31/.91, 147.78/.18 or 146.25/.85.

For further information or market reservations, write Hamfest Committee, 2141 Edinburgh Drive, Montgomery, AL 36116 or phone Phil at 205-272-7980 after 1700 CDST (2200 UTC).

California

The TRI-COUNTY AMATEUR RADIO ASSOCIATION is having its annual hamfest/picnic on Saturday, 13 August, from 7:00 a.m. to 1:00 p.m. and will be held at the Los Angeles County Fairgrounds in Pomona.

All buyers, sellers and computer buffs are welcome. Prizes, exhibits and refreshments planned.

Talk-in on 146.625/025.

For more information, write to TCARA Hamfest Chairman, Tony Skvarek, W6ELZ, P.O. Box 142, Pomona, CA 91769.

●

The 5th Annual Swapmeet, put on by WA6TCG (formerly WR6ACV), will be held at Louis Park in Stockton on Saturday, 13 August, at 9:00 a.m. Bring your own tables and sell your gear. No charge for selling and no admission charge. Louis Park is on Mt. Diablo, just one-half mile west of I-5.

For more information, contact Frances Keenan, WD6BFJ, 92-24221 South Chrisman, Tracy, CA 95376.

Delaware

The 8th Annual NEW DELMARVA HAMFEST will be held Sunday, 21 August, at Gloryland Park, 5 miles south of Wilmington. Admission is $2.25 in advance, $2.75 at the gate. Tailgating is $3.50. Bring your own table. Limited space available under the pavilion — first come, first served. Many prizes. Food and drinks available.

Talk-in on 52 and 13/73.

For more info and a map, send SASE to: Stephen J. Momot, K3HBP, 14 Balsam Rd., Wilmington, DE 19804. Make checks payable to Delmarva Hamfest, Inc.

Illinois

Illinois' oldest hamfest — established in 1929 by the FOX RIVER RADIO LEAGUE — will be held on Sunday, 21 August, at the Kane County Fairgrounds in St. Charles, Illinois. Located midway between Elgin and Aurora in the Fox River Valley, the FRRL Hamfest can be easily reached from either the Northwest or the East-West Tollways via the State Route #31 interchanges and driving south or north respectively to St. Charles.

ARRL Central Division Director, Ed Metzger, W9PRN, will be on hand to discuss the current hot topics such as "no-code," "amateur-administered licensing," and "new sub-band allocations" at the ARRL booth. There will be black box (guess the circuit inside), hard copy CW, and antenna frequency contests with cash prizes for the winners.

All commercial exhibits, contests, demonstrations, and part of the flea market will be indoors. Additional flea market will be outside, adjacent to the main hall. Overnight parking on Saturday, 20 August, for self-contained campers and motorhomes is available by prior arrangement for a fee of $3.

Talk-in on 146.94 simplex or 147.21/.81 (Aurora).

Campers, commercial exhibitors, and flea marketers contact: George R. Isely, WD9GIG, 736 Fellows St., St. Charles, IL 60174. Advance tickets $2 prior to 10 August; send business SASE to: Gerald Frieders, W9ZGP, 1501 Molitor Road, Aurora, IL 60505. Tickets at gate: $3.

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The SHAWNEE AMATEUR RADIO ASSOCIATION is sponsoring the 26th Annual SARAFEST '83 on 11 September — rain or shine — on the beautiful campus of John A. Logan College, located near Carterville, 9 miles east of Carbondale on Illinois State Route 13, near Crab Orchard Lake. The fest will be held in the gym, in air-conditioned comfort. The first three tables are free to dealers; easy access to gym floor for loading and unloading.

Prizes, auction, indoor and outdoor flea markets, club photos, forums, computer activities, ladies activities and displays are only a few of the things to be offered. Lunch available 11:00 a.m. to 1:00 p.m. (Need not be present to win major prizes.)

For more information, contact: Bill May, KB9QY, 800 Hilldale Ave., Herrin, IL 62948; (618) 988-8063 evenings, (618) 942-2511 days.

Iowa

The IOWA 75-METER NET will hold a hamfest and picnic in Iowa City, Iowa on 28 August, at the Iowa City Park. A potluck meal will be held at 12:00 noon, and a program to follow afterward.

For more information, contact Dennis Kahler, WB0MCX, 316-4th Ave., Iowa City, IA 52240; or Lovelle Pedersen, WB0JFF, 2327 W. Reinbeck, Hudson, IA 50643.

Missouri

The ST. CHARLES ARC, Inc. invites your attendance at the 8th Annual Hamfest, to be held 28 August at the Wentzville, Missouri Community Club. There will be a large open-air flea market and an array of dealers and distributors in the newly air-conditioned exhibition building. Prizes, contests, food and fun are planned for those who partake.

Admission is $1 per car. Tickets in advance are $1 each or four/$3. At the door, tickets are $1.50 each or four/$5.

For tickets, motel or camping information, prize lists, dealer reservations, etc. write to: SCARC HAMFEST '83, P.O. Box 1429, St. Charles, MO 63301.

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The OZARKS AMATEUR RADIO SOCIETY announces the 2nd Annual Ozarks ARS Congress and Swapfest, which will be held Sunday, 11 September. Swapfest begins at 11:00 a.m.; picnic begins at 1:00 p.m. at Monett (Missouri) City Park, located at the junction of State Highway 37 and U.S. Highway 60, about 40 miles southwest of Springfield, Missouri.

No charge for admission or for swappers and tailgate traders, with space available on first-come, first-served basis. Country-style picnic — bring single, covered dish and share in buffet. Area clubs are urged to attend as a group in hopes of forming an alliance to expand the event in years to come.

Talk-in on 146.37/.97, 7.250 and 146.52 simplex.

For more information, contact Gary Presley, KE0I, Box 327, Aurora, MO 65605.

New Jersey

The GLOUCESTER COUNTY ARC announces the 5th Annual GCARC Ham/Compfest, to be held Sunday, 28 August, 8:00 a.m. to 3:00 p.m., at the Gloucester County College, Tanyard Road, Sewell, New Jersey.

Doors open at 7:00 a.m. for set-up. Indoor and outdoor spaces available. (In case of bad weather, the hamfest will be held entirely indoors.) Tickets $2 in advance, $2.50 at the door; tailgaters and dealers — $3 per parking space. Seminars, contests, FCC exams, speakers and prizes.

Talk-in on 146.52, 147.78/18 and 223.96/224.36.

For more information, contact: GCARC Hamfest Committee, P.O. Box 370, Pitman, NJ 08071; (609) 456-0500 or 338-4841 days, (609) 629-2064 evenings.

New York

The LAKE ERIE INTERNATIONAL HAMFEST ASSOCIATION will be holding its 5th Annual Lake Erie International Hamfest. The event will be held at the Chautauqua County Fairgrounds in Dunkirk, New York on Saturday, 13 August.

There will be indoor dealer exhibits, a large flea market and door prizes. Gates open at 8:00 a.m. Admission will be $3 at the gate and $2.50 in advance, plus $1 per flea market space.

Talk-in on 146.25/.85 and 146.52.

For more information, write: Lake Erie International Hamfest, P.O. Box 455, Dunkirk, NY 14048.

(Continued on next page)

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Check your license expiration date.

HAMFESTS

(*continued from page 45*)

Pennsylvania

The MID-ATLANTIC ARC announces its annual hamfest, to be held on Sunday, 14 August, 9:00 a.m. to 4:00 p.m., rain or shine. Tailgate setup begins at 8:00 a.m. Route 309 Drive-In Theater, ¼ mile north of Route 63, Montgomeryville, Pennsylvania (6 miles north of the Fort Washington interchange of the Pennsylvania Turnpike).

Admission: $2.50 with $1 additional for each tailgate space. Ample parking, refreshments, raffles, door prizes and more.

Talk-in on WB3JOE/R, 147.66/06 or 146.52 simplex.

For further information, write the club, P.O. Box 352, Villanova, PA 19085. □

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The CENTRAL PENNSYLVANIA REPEATER ASSOCIATION, INC. 10th Annual Hamfest/Computerfest will be held on 28 August, adjacent to Hersheypark, Chocolate Town, USA. Registration $3, wives and children FREE! Special reduced admission to Hersheypark for families of registrants.

Large indoor dealer and flea market area; large outdoor tailgate area; food and refreshments available. 10 ft. indoor spaces $8 each; 8 ft. tables $4 each; single electric plugs $1 each.

Talk-in on 145.47, 146.76 and 146.52 MHz. Advance registration recommended.

For further information or to register, contact: Timothy R. Fanus, WB3DNA, Hamfest Reservations, 6140 Chambers Hill Road, Harrisburg, PA 17111; phone 717-564-0897 (12 noon to 8:00 p.m.). □

Wyoming

The 4th Annual HIGH PLAINS HAM ROUNDUP will be held Saturday and Sunday, 9-10 September. 10 miles east of Laramie, Wyoming, Interstate 80, Lincoln Monument turn-off to Yellow Pine and Pole Creek Campgrounds, Medicine Bow National Forest. Reserved for amateurs and their families, no camping fee.

Enjoy a real Western Ham Roundup. Bring your own food and drink, and stay as long as you wish. Roast beef will be furnished for pot-luck supper Saturday evening. Bluegrass band, barbershop quartet and sing-along. This Ham Roundup is for all hams and guests, but especially for hams in the Colorado, Nebraska and Wyoming area.

Talk-in on 146.25/85, 146.22/82 or 146.52 simplex.

For further information, contact Mick Marchitelli, P.O. Box 731, Laramie, WY 82070. □

QSL SAMPLES — 25¢ SAMCARDS, 48 Monte Carlo Dr., Pittsburgh, PA 15239.

AUTO-CALL KEEPS UP WITH THE LATEST Ham info from Washington, DC area. Subscription $5.00 a year, sample copies $1.00. Address: AUTO-CALL, c/o W2GHK, 2417 Newton St., Vienna, Virginia 22180.

FULL COLOR QSLs from your slides — $77.00 single thousand. B/W 250 — $23.00. Subject to discount. Samples. Get a better return with PICTURE CARDS, Box 5471, Amarillo, TX 79107.

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SOLID BRASS BELT BUCKLES. Name or call. One line — name or call — $8.50. Two lines, name and call — $9.50. Add $1.00 postage. S. Slonim, 320 Rose St., Massapequa Park, NY 11762.

MOBILE IGNITION SHIELDING, provides more range with no noise. Available most engines in assembled or kit forms, plus many other suppression accessories. Free literature. ESTES ENGINEERING, 930 Marine Drive, Port Angeles, WA 98362.

QSLs & RUBBER STAMPS — TOP QUALITY! State Outline, Straight Key, Space Shuttle QSLs and More! Sample Pack - 50¢ - EBBERT GRAPHICS, Dept. 1, Box 70, Westerville, OH 43081.

VLF-HF EXPERIMENTER active antenna preamps, coupler, traps, boards, and housing kits. Loran-C RF-GRI boards. For info send 20¢ stamp. BURHANS ELECTRONICS, 161 Grosvenor St., Athens, OH 45701.

WANTED — old radio transcription discs. Any size, speed, subject. Send full details & price. W7FIZ, Box 724, Redmond, WA 98052-0724.

HAMS FOR CHRIST - Reach other hams with a Gospel Tract sure to please. Clyde Stanfield, WA6HEG, 1570 N. Albright, Upland, CA 91786.

WORLD TRAVELERS: Send for your free sample copy of "International Travel News." P.O. Box 160568, Sacamento, CA 95816.

ABOUT YOUR SUBSCRIPTION

When does it expire?
Printed on your address label in the upper right-hand corner is a 4-digit number, such as 0284. This tells you that the last issue of your subscription is February, or the second month of 1984.

Why does my renewal notice come so early?
Advance planning is essential in producing a periodical. We have to plan for the time the issue will be in the mail, the time it takes to get ready to mail, and also the time it takes to process new subscriptions and renewal information at the computer house. If you wish uninterrupted service, we need to have your renewal instructions at least six weeks prior to the beginning of the month in which your subscription expires.

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QSLs by W6BA — "Customized" $19.75 per 1000. Star Route 2, Box 241, 29 Palms, CA 92277.

CDE ROTOR OWNERS — You need a "D-Lay-5"! This easy-to-install circuit protects the rotor from damage caused by accidental braking. Works with the Ham II, Ham III, Ham IV, and Tailtwister models. Provides a five-second safety factor in your rotor brake. Incredible value at $19.95 — Postage paid world wide. LANCE JOHNSON ENGINEERING, PO Box 7363, Kansas City, MO 64116.

TELETYPEWRITER gears, ribbons, manuals, parts, supplies and toroids. SASE list. Buy unused parts. TYPETRONICS, Box 8873, Ft. Lauderdale, FL 33310 N4TT.

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QSLS. QUALITY AND FAST SERVICE FOR 23 YEARS. Include call for free decal. Samples 50¢. Ray, K7HLR, Box 331, Clearfield, UT 84015.

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SUBSCRIBE TO THE *DXers Magazine.* Gus Browning, W4BPD, editor. Only $15.00 per year. The DXers Magazine, Drawer DX, Cordova, SC 29039.

BUYING OR SELLING? An ad in **Worldradio** makes it happen FASTER.

WANTED — VARIABLE VACUUM CAPACITOR, 15-200 mmf, 10,000 v peak (Jennings type ATCS), final tank condenser for Collins KW-1. Leo Tevlin, W0TV, 7702 Circle Dr., Normandy, MO 63121.

CRYSTALS: FT-243 holder type customed to your frequency (3-9 MHz). We specialize in NOVICE and the new bands. SASE to: Ev. Taylor (W7BYF), 2921 Loyola Dr., Davis, CA 95616.

1984 CALLBOOKS. PREPUBLICATION ORDERS before August 31, $19 either, $35 both, any 10 or more, $17 each. Close-outs: 1982 Callbooks, both $25. 1983 Callbooks, foreign only, $16. Buckmaster Call Directories, all 3, retail $65, only $55. All postpaid. CA 6% tax. CENTURY PRINT, 6059 Essex, Riverside, CA 92504. 714-687-5910.

SELL ANTENNAS: San Diego area Hustler 10m beam, new — $95.00. W6XM, (619) 459-5527.

A classified ad placed in Worldradio will reach the most active Amateur Radio operators. Your ad will be seen here before it will be seen in any other Amateur Radio publication. We get the news out first.

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PO Box 173, Huntington, NY 11743

CENTRONIX Model 700 printer for sale, removed from service in good working condition. Parallel or serial interface available. $200.00 FIRM. TNX-Mike, KA6ZPL, (619) 296-6313.

ELECTRONIC PARTS CATALOG. IC's, transistors. Send first class stamp to ALDELCO, 2789 Milburn Ave., Baldwin, NY 11510.

MIRROR IN-THE-LID, and other pre-1946 television sets, picture tubes, parts, magazines wanted for substantial cash. Especially interested in any RCA "TRK", G.E. "HM", or Westinghouse "WRT" series set. Arnold Chase, 9 Rushleigh Road, West Hartford, CT 06117. (203) 521-5280.

CERTIFICATE FOR PROVEN TWO-WAY RADIO CONTACTS with amateurs in all 10 USA call areas. Award suitable to frame and proven achievements added on request. Send $2 (USA) or $3 (DX) to cover certificate cost. W6LS, 2814 Empire Ave., Burbank, CA 91504.

CODE PROFICIENCY DRILLS are transmitted from WB3IVO, BRASS POUNDERS ARC, each Saturday and Tuesday starting 0200Z on 3560 kcs. Each Saturday and Sunday starting 2000Z on 7060 kcs. Monday thru Friday starting 1930Z on 14060 kcs. Speed ranges from 20 to 60 WPM.

SELL NEW COILS AND VARIABLE CAPACITORS. B&W type 3034 coils, 120uH, $9 each. B&W type 3035 coils, 198uH, $9.50 each. Miller type 2152 variable capacitors, 40-1,000pF, rated at 1,500 volts, $32 each. Groth type TC-3S turn counters with spin dials, for ¼ inch shafts, $13 each. All items brand new, in original boxes, shipped prepaid by UPS. Send check to Peter Onnigian, W6QEU, 1236 40th Ave., Sacramento, CA 95822. (916) 392-8964.

STOP LOOKING for a good deal on Amateur Radio equipment — you've found it here — at your Amateur Radio headquarters in the heart of the Midwest. Now more than ever *where* you buy is as important as *what* you buy! We are factory authorized dealers for Kenwood, Drake, Yaesu, Bencher, Ten-Tec, ICOM, Mirage, MFJ, Tempo, Hustler, Hy-Gain, CushCraft and Satellite Earth Station equipment. Write or call us today for your low quote and try our personal and friendly Hoosier Service. HOOSIER ELECTRONICS, P.O. Box 3300, #9 Meadows Center, Terre Haute, IN 47803. (812)238-1456.

COLLINS STILL BEST. KWM-380's bought, sold, serviced. K1MAN, (207)495-2215.

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VIC-20 PROGRAMS: Send SASE to: 17589 Birch, Romulus, MI 48174

DX APARTMENT for rent. Tower, tribander, dipoles. Glendale, CA area. (213)243-7306.

LEARN CODE THE EASY WAY! Former USAF code champ gives unique, simple system allowing all ages to learn quickly. No tapes, etc.! "You learn by doing it yourself!" Booklet — $4.00 ppd. includes $2.00 discount coupon toward purchases of GLOBALMAN hand keys, electronic keyers. Code practice oscillators — $5.00 including batteries, postage. 100% money back guarantee — you can't lose! GLOBAL AMERICA CORP., P.O. Box 400WR, El Toro, CA 92630.

NEW 2KW ROLLER COIL, 28 micro-h, limited quantity at $47.50 p.p. USA. KILOTEC, P.O. Box 1001, Oakview, CA 93022. (805)646-9645.

TRS-80C COLOR COMPUTER PROGRAMS and hardware, Morse Code and RTTY send-receive programs with interface hardware FSK, 20-line parallel I/O card for ROM slot, EPROM programmer, baudot printer patch, single board 6809 control computer with KIM Buss. Send SASE, Frank Lyman, P.O. Box 3091, Nashua NH 03061.

LIKE NEW, SACRIFICE! ICOM IC740 with deluxe AC and mike, only $750. New factory-sealed FT101Z Yaesu, only $595. Joe Valentino, 41 Canal St., Landing, NJ 07850; (201) 347-3206.

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

ADVERTISERS' INDEX

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HAM-TENNA'S CUSHCRAFT BONANZA A4-$221.50, A3-$170.50; 7 and 10 MHz kits-$62.50; R3-$221.50; D40-$141.50; D3-$111.50; D4-$141.50: DW3-$121.50; 214B or FB-$66.50; ARX-2B-$35.50 Consumers RG-8U foam 97% shield — 30¢/ft. U.S. made PL-259-10/$5.85. Shipping additional, NY residents add sales tax, No COD — P.O. Box 4414, Utica, NY 13504.

VIC-20 HAM SOFTWARE: MUF calculator, coil design, beam headings, much more; SASE appreciated: Walt, KA9GLB, 4880 N. 49th St., Milwaukee, WI 53218

PENNSYLVANIA HAMS — Subscribe to Keystone State Ham News and be aware of all the events taking place at nearby clubs. Send $4 for one year (six issues) to KSHN, Box 276A, Pleasant Gap, PA 16823.

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ATTENTION KENWOOD AND ICOM OWNERS. We have a great newsletter for you! And four years of back issues — send SASE to USERS INTERNATIONAL RADIO CLUB, 364 Kilpatrick Ave., Port St. Lucie, FL 33452; (305) 335-5545.

FREE! Annual, new (1984 edition) Callbook distribution. Recipients randomly selected; notified Christmas. Purchases unnecessary. Each licensed ham with USA zip code. Mail only one QSL plus 10¢ registration, during September 1983 only. Other months' postmarks disqualified. K4CLA decisions final. WCCN, 562-84 Oak, Lexington, SC 29072-9059.

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SATELLITE TV: Great bargains 100° LNA only $285. Also 120° LNA only $235. Proline receiver only $299. Fantastic 8 ft. dish $299. Much more. Free catalog. JV SATELLITE, 41 Canal St., Landing, NJ 07850; (201) 347-3206.

AMATEUR RADIO REPAIR calibration — experienced, licensed, reasonable. ROBERT HALL ELECTRONICS, W6BSH, P.O. Box 8363, San Francisco, CA 94128. 408/292-6000.

MFJ-312 VHF band expander. Excellent for home or car; page 12, June **Worldradio,** $45. Vic N8TN, 143 Longford, Elyria, OH 44035

ULTIMATE CITY QTH: KT34A with HD-300 rotor, 68-foot Rohn 25-G tower, double guyed with roof bracket and has city legal permit. Stacked 16 element 2-M KLM's above, MK-II Ringo 2-M on tower at 40 feet, 2 inverted "V"s (40 & 80), KLM 160 vertical counterpoised, long wire counterpoised for 6 bands. Messenger harnessed coax through ceiling drop to switchgear. 18 x 22 shack has 220 volt plus 2 extra 120 volt circuits, phones, with ½ bath adjacent, located above valley floor with fine propagation. Fully air-conditioned throughout with electrostatic filtering. 2-bedroom, 1½ bath, cathedral beam ceiling living room and dining, large fireplace, well-vented modern kitchen. WA7KSW & WB7AWO, Box B, Medford, OR 97501.

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TEKTRONICS SCOPE Model 310, 4 MHz, small, compact, $150. Model 503, .5 MHz, $165. Yaesu FT101ZD with CW filter, fan, YD148 mike $525. Addmaster paper tape readers, Model 601-2, new, $35. SOLA constant voltage transformers, 120/140 input 120/240 output, 2 kVA $350, 3 kVA $400, all postpaid. Dave Roscoe, WIDWZ, 49 Cedar, East Bridgewater, MA 02333; (617) 378-3619.

TIMEX/SINCLAIR — Design your own antennas. 3-element Yagi, 2-element quad and inverted Vee. All on one cassette. Only $7.95. KANTRONICS, P.O. Box 586, Vernon, AL 35592.

KLM KT34XA 6-element tri-band beam with extra LEXAN element-support insulators. Usual price about $460, but will sell for $300 o.b.o. W6MUO, Oceanside, CA (619) 724-0323.

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