World Radio

Year 14, Issue 3 September 1984 • 85¢

Walter Williams, W5YUO, of Arlington, Texas, was one of the radio amateurs involved with communications for the XXIIIrd Olympiad Torch Relay. This photo was taken Saturday, 14 July, in Jackson, California. ***(N6WR photo)***

My week with the Olympic Torch

Norm Brooks, K6FO

(Part II)

Amateur Radio

I firmly believe that the Olympic Torch Relay could not successfully move across the country without Amateur Radio involvement. We used the excellent network of 2-meter repeaters that has been built by U.S. amateurs. For close vehicle-to-vehicle contacts, we used simplex (direct) communications.

The caravan could not have been taken across the country by business band or citizens band radio because those modes do not have the ability to cover the longer distances that seem to be "made to order" for amateur repeaters.

In an incident related to me, a security man wanted to contact a vehicle about 15 miles away. He tried his hand-held radio which operated in the 150 MHz business band. There was no answer. The Amateur Radio operator sitting beside him called the Amateur Radio operator of the desired vehicle, and got an immediate answer through an amateur repeater station. The security man was flabbergasted. Of course, our amateur took the opportunity to explain how our system worked, and why we were needed to run this operation.

Our communications needs between vehicles ranged as far as 30 miles, moving slowly across the country. Where there was a strong repeater with a good coverage, everything went beautifully. Where there was no repeater or where the repeater coverage was spotty, everything seemed to fall apart, because we were reduced to whatever communications we could manage simplex.

Citizens band radios had been installed in all the vehicles, but were used by drivers who had no Amateur Radio operator aboard. In my own case, after unsuccessfully trying to contact another vehicle on channel 14, I tucked the CB mike away under the floormat for the rest of the week.

Our caravan had 17 Amateur Radio operators, which I understand was a

(please turn to page 6)

FCC actions

The FCC acted on four items of interest to amateurs, at their July 12th meeting:

1) The Commission adopted rules to permit the recoupment of expenses by volunteer examiners (VE's) and volunteer exam coordinators (VEC's). The rules provide for considerable flexibility on the part of VE's and VEC's and do not require that either party be necessarily reimbursed. VEC's will be permitted to make estimates of anticipated expenses to establish a fee structure. If actual expenses are less for the year, the VEC will be allowed to simply reduce fees accordingly in the following year.

2) Acting on a number of petitions for reconsideration of its volunteer examination rules, the Commission adopted a number of minor changes. The most significant of these is that VEC's will be permitted to design their own exams in accordance with a Commission-supplied formula. The revised rules envision, two years in the future, permitting VE's themselves to design exams.

3) The FCC adopted a Notice of Proposed Rulemaking (NPRM), in which it is proposed that non-government HF broadcasters licensed by the FCC in ITU Region 3 — for example, Guam — be permitted for the first time to use 7100-7300 kHz.

4) The FCC adopted another NPRM that proposed to revise Part 73 of its rules to eliminate the existing requirement that broadcast stations obtain prior FCC permission before rebroadcasting Amateur Radio transmissions. At the same time, the FCC proposes to clarify its Amateur Radio rules to make it clear that Amateur Radio stations may not, even in an emergency situation, be used to supply communications on behalf of the media.

The full texts of these actions are expected to be released within 10 days. Both NPRM's will allow 60 days from the date of their publication for comments. Prospective commenters should refrain from filing comments until they have seen the full text. □

FCC expands 10, 15 and 75

Effective 0001 UTC, 01 September 1984

On Wednesday, 18 July, the Federal Communications Commission lowered the phone sub-bands on three of the HF bands. On 10 meters, the bottom of the phone band is now 28.300 MHz. On 15 meters, the new boundary is 21.200 MHz. On 75, the limit is now 3.750 MHz.

Extra Class licensees have exclusive use of the bottom 25 kHz of the 15 and 75-meter phone bands. Advanced licensees on 75 may operate from 3.775 up, and Generals from 3.850 to the band edge at 4.000. On 15, Advanced licensees may operate from 21.225 and up, and Generals from 21.300 to 21.450.

The FCC action came as a result of a filing by the ARRL. □

City will not limit antennas

Don Johnson, KD6DT

The Livermore, California, City Council — at their meeting on 25 June — heard and rejected two ordinances prepared by the Livermore Planning Department proposing to regulate Amateur Radio and citizens band antennas and towers plus TV satellite dishes.

The action originated after a complaint to the Livermore City Council late in 1983 by Thomas Jefferson of Livermore, that there was no regulation on either the height or number of Amateur Radio antennas in residential districts. He specifically was irritated by an 80 ft. Amateur Radio tower which is two houses away from his home, because he felt it was unsightly and dominated the horizon. In response, the City Council referred the issue to the Planning Commission and requested a review of existing ordinances and recommendations for revised or new ordinances.

At the time of the Planning Commission meetings on 03 April and 01 May, there were no limits on antennas and towers except for local building code requirements necessitating a permit and fee, structural engineering assessments, installation inspection, and assurance that the antenna would not trespass property lines.

At the Planning Commission, public hearing comments were in four categories:

1) Jefferson repeated his concern about the aesthetics of tall Amateur Radio towers.

2) Livermore Valley REACT CB and Livermore Amateur Radio Klub (LARK) members summarized their contributions in public service and emergencies such as the Livermore earthquake on 24 January 1980.

3) LARK members gave simplified technical inputs explaining the reasons for height, size and orientation of antennas and their relationship to TV interference, transmitter output power, signal polarization, and the bands of frequencies allocated to the amateur service by the FCC.

4) Commercial installers and anticipated users of TV satellite dishes indicated there is a minimum number of dishes in Livermore because of adequate direct and cable TV reception, but some dishes in the future may be installed in residential districts by religious organizations desiring to use satellite reception for their educational purposes.

The hearings resulted in the preparation of proposed ordinance amendments in two parts. The first included specific regulations for location of Amateur Radio and CB antennas (but not TV) and for satellite dishes. The second was a second was a reorganization of the height

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Worldradio

is published monthly by
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September 1984 Vol. 14, No. 3

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

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

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

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

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

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Subscription rates: $10.00 per year, $19.00 for two years, $27.00 for three years and $100.00 for life; $2.00 extra per year for surface mail delivery outside the U.S. Please remit international postal money order. IRCs will be accepted.

Second-class postage paid at Sacramento, CA.

Hams at Democratic Convention

Robert Franklin, K6TP

A plea for help from the Democratic National Committee with their complex communications problem at the mid-July convention in San Francisco, California, brought responses from nearly 100 radio amateurs.

Services were coordinated by the San Francisco Radio Club, with President Tony Dowler, N6GBM, as chief coordinator, aided by Jim Jackson, WA6DDM. Two-thirds of the volunteers, however, came from other clubs and communities in and near the Bay Area.

Two-meter FM simplex on handi-talkies (HT's) and mobile transceivers provided most of the links, with the club repeater, W6PW, used as needed and with backup circuits on 440 MHz, using the nearby waterfront-based repeater, KB6XW.

To make certain contacts possible and to minimize jamming, the portable repeater of W6PW was set in operation by Greg McCartney, WA6DQP, and Bill Dunbar, N6IMS, atop the Meridian Hotel, Mondale Campaign Headquarters, just two blocks from the convention center.

The complicated logistics of moving some 3,000 delegates, party officials and important visitors to and from a score of different hotels and the Moscone Convention Center or any of several other meeting places demanded reliable communication among all points.

Amateurs with HT's rode in the nearly 50 limousines, sedans and vans charted for this work, and maintained stations at the principal sites of convention activity.

This is the first time radio amateurs had ever provided such a public service. It was offered to all three major campaigns — of Jackson, Hart and Mondale, but the Hart advisors declined its use.

On the second evening of the convention, with most delegates and officials invited to the monster party given by California Speaker Willie Brown, two vans of the Jackson entourage became separated from their convoy. They, and their progress, were halted by police. Accompanying amateurs alerted the base station, and a special code word was quickly passed to the police via the radio circuits that got the vans on their way again.

Although most ham volunteers were men, the YL's were very much in evidence, too. Susan Tracy, WA6OCV, came up about 150 miles from Santa Cruz to help; Susie Smith, WB6UVU — a senior YL, was down from her Petaluma QTH, about 40 miles away; and Bonnie Tilton, KA6STC, came across the bay from Oakland.

"These gals all performed like veterans," Dowler enthused.

Amateurs from the Varian ARC, comprising employees of Varian Associates, long-known as high-power electronic tube makers and located about 40 miles south of San Francisco, provided the most volunteers from any one club outside the city.

When it was over, all agreed that despite the long hours and demanding shifts, it was always interesting and often a lot of fun.

Walter Mondale, Democratic Presidential Nominee, sent Dowler a gracious letter of thanks for, "your extremely valuable services . . . which allowed for quick and effective disposition of large numbers of vehicles, thereby aiding public safety during the period of high traffic congestion in the downtown area.

"This is a wonderful example of why there are service organizations," Mondale continued. "The city of San Francisco and the entire metropolitan area should be proud of the efforts of these citizens and can point to their attributes in attracting events of this scope in the future." □

Rotarians' net

John Ishkanian, WA6ZAR, is net control operator and Bob Butler, WB7RQG, is alternate control operator for the Rotary International Net, sponsored by the Rotarians of Amateur Radio (ROAR). The net meets every Sunday, at 1800 GMT, on 21.403 MHz. All Rotary members with valid Amateur Radio licenses are welcome. □

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.

Corrections

The reader who submitted "2nd district VEC's" last month (August, page 2), was Hank Goldman, WA2OVG — not WA2ONG, as was printed. Also, Phil Spencer is W5LDH, not W5LOH. (See photo caption on page 3, August 1984 issue.)

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On page 35 of the July issue of **Worldradio,** in the article entitled "YLRL YL-OM Contest winners," the winner of the Gold Cup among CW winners should have read Katarina Narozna instead of (YL) Club Station, Banovce n/ Bebravou, OK3KEG. Also, the YL CW winner for third place was Fernanda — not Fernando — Rocca, I2RLX. □

"Ohm-Brew" will be back next month.

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

CONTENTS

Carolyn Evans, NL7DH (*second from left*), is the first YL to have passed a VEC exam. The VE's who gave the exam (*left to right*): Wilse Morgan, KL7CQ; John Jones, NL7A; Martha Ogren, KL7KL; and Roger Hanson, KL7HFQ.

The first VEC examination

John Vogel, NL7P

On 17 April, you could hear something unusual on one of the local repeaters: "KL7CQ, this is KL7JGU interim AA calling." (What is interim AA, I wondered.) "Hello Wilse, I just passed my General Class license. I am no longer a Novice." The excitement was evident, and is to be understood.

It may have been only a couple of years ago — or perhaps many, many years ago — that you passed an FCC exam. It is exhilarating to have been successful!

When I passed my General Class test, we were not afforded the excitement of running home and signing interim anything. The FCC has improved our life with instant upgrading. Now we hams are even giving the exams.

That first exam session was held in Anchorage, Alaska. The Anchorage ARC became the first VEC in March 1984. By April, we had four VE's (volunteer examiners) in the Anchorage area. On 19 May, our second session in Fairbanks was held. The other new VEC's are now beginning to set up and administer examinations.

If you are interested in giving tests, remember that you must be 18 years old and hold an Extra Class license (the Advanced licensee can participate, but can only give the Technician exam). Contact the VEC in your district.

The first exam in Alaska provided the following tests: *Element 1A* (5 wpm) — FCC administered; *Element 1B* (13 wpm) — 9 pass, 13 fail (41%); *Element 2* (Novice) — 0 pass, 1 fail; *Element 3* (Tech./Gen.) — 11 pass, 1 fail (92%). Nine Certificates of Successful Completion were issued. Session Identifier was /AA.

Our second exam in Fairbanks had these statistics: *Element 1A* (5 wpm) — 1 pass, 1 fail (50%); *Element 1B* (13 wpm) — 3 pass, 9 fail (25%); *Element 2* (Novice) — 0 pass, 0 fail; *Element 3* (Tech./Gen.) — 2 pass, 2 fail (50%). Five Certificates of Successful Completion were issued. Session Identifier was /AB.

The Certificate of Successful Completion is the document which the VE provides the testee, that authorizes the new (upgraded) operating privileges (if the applicant is currently licensed).

The Anchorage Club set up a Volunteer Examiner Coordinator (VEC) Board consisting of four amateurs: Roger Hansen, KL7HFQ; Joyce Curman, KL7MQ; Tim Michael, NL7D; and David Vogel, NL7P. The amateurs participating in these exam sessions were: Wilse Morgan, KL7CQ; Roger Hansen, KL7HFQ; Martha Ogren, KL7KL; and John Jones, NL7A.

In Fairbanks, KL7CQ; Pat Moore, AL7L; and Elizabeth Nicoson, NL7O, presided over the first exam given there under the new VEC program. □

Two of the VE's who administered the first VEC exam are shown here, along with the first person to pass a VEC exam in the United States — Richard Dennis, KL7IOL (left). Examiners are Wilse Morgan, KL7CQ, and Martha Ogren, KL7KL.

DARA sponsors FCC exams at hamfest

Stephen Boch, NI8F

On 17 June, volunteer FCC examinations were given in conjunction with the Lancaster and Fairfield County ARC Ham-Computerfest in Lancaster, Ohio.

The exams were given under the supervision of the Dayton Amateur Radio Association (DARA) — the Volunteer Examiner Coordinator (VEC) for the 8th district. All exams Novice through Extra Class were given, and we believe this was the first volunteer exam session to offer all classes of exams.

Exams were by appointment only, with 110 appointments being made from a four-state area. This type of response shows the definite need for the Volunteer Examiner (VE) area.

Results of the exams: 110 appointments — 30 no shows; 27 percent no show; 49 of 80 applicants upgraded; 61 percent pass rate. *Pass rate by elements:* 1A — 100 percent; 1B — 46 percent; 1G — 80 percent; 2 — 100 percent; 3 — 60 percent; 4A — 25 percent and 4B — 100 percent.

The volunteer examiners for this session were Steve Boch, NI8F; Bill Browning, WD8RIH; Chuck Jones, WA4KGA; Gary Kanode, KD8GD; Ted Riley, WB8VOA; and Rod Tillet, KD8MV. Thanks to all for helping make this a successful exam.

Special thanks to Judy Frye KG8P, of DARA for her help in putting this volunteer exam session together. □

Amateur Radio's Newest Frontier on TV

David Pedersen, N7BHC

In my capacity as Public Information Officer for the Utah Section of ARRL, I have been working closely with a television station in Salt Lake City to get *Amateur Radio's Newest Frontier* on the air.

KUED, which is the University of Utah television station, plans to show the entire 28-minute production on Friday, 07 September, at 9:30 p.m. MDT. KUED is a PBS affiliate.

Coverage for this station is extremely large, owing to one of the most extensive translator networks in North America. KUED's broadcast is seen in the following states: Utah, Nevada, Idaho, Montana, North Dakota, Colorado, Wyoming and Arizona. □

Lance Collister, WA1JXN, gets his W5LFL/*Columbia* QSL card from Roy Neal, K6DUE, during the ARRL NW Division Convention at Seaside, Oregon. Lance's recent DXpedition to the Bahamas, where he worked 65 stations via E-M-E and numerous tropo contacts with amateurs in Florida via 2 meters, provided the subject matter for his slide talk which was part of the Seaside convention program.

Seaside sets record for Northwest

Bob Kuhn, KC7YN

It was indeed a special weekend in June for Montana's Lance Collister, WA1JXN. Not only was he on the program to talk about his specialty, E-M-E ("moonbounce"), at the ARRL Northwest Division Convention at Seaside, Oregon, but he was about to receive a special honor as well.

Lance had already put his call sign and a little town in Montana on the map the previous year for being the first acknowledged contact with Owen Garriott, W5LFL, during Amateur Radio's first operation from space. Now, as the dinner dishes were being cleared away from the packed-to-the-gills banquet hall, 540 fellow amateurs and family members were soon giving Lance an ovation as Roy Neal, K6DUE, presented him with his QSL card commemorating the first Earth-space QSO.

Lance's achievement has been reenacted, using the actual audio track, for the ARRL's recent production, *Amateur Radio's Latest Frontier*, narrated by Roy.

League President Larry Price, W4RA, was also on hand to congratulate Lance and present him with a special commemorative mug with spaceflight insignia.

But the convention didn't end with the banquet, as 3,000 registered participants this year made the annual event at Seaside the largest of its kind in the Northwest. Retailers reported record sales, with one dealer figuring he had done at least a week's worth of normal business during the two days.

"You've got to remember that for many people in this area, a ham radio store is quite a few miles away . . . this is their only chance to actually see and touch the new gear," said one convention organizer.

One problem that has been on the increase the last two years — lack of space — will hopefully be ironed out next year with the opening of a new convention-sized hotel near the Seaside Convention Center, which will remain the hub of activity. The new facility should allow additional exhibit space, which became critical this year when all floor space was sold and a few exhibitors wanted in. Luckily, some last-minute arrangements were made and everyone was able to squeeze in.

At the ARRL Forum, President Larry Price, W4RA, was able to clarify some of the conflicting stories concerning the FCC's new volunteer licensing program. Larry reported that both the League and the FCC were moving ahead with the program and that it should hopefully be going pretty well by Labor Day. The FCC can't afford to stay in the testing business after this year.

The League plans to apply for Volunteer Coordinator status in all 13 of the testings areas once the FCC adopts administrative rules allowing the expenses to be recouped. The ARRL will join the coordinators already set up in each of the areas.

Volunteers were on hand to give examinations up through General Class. The testing sessions were conducted at a nearby church, with more than half of those involved getting a passing grade, according to Bob Orr, KB7CC, who was one of the examiners.

Also on hand for the convention was CW speedster Harry Lewis, W7JWJ, who had his computer and typewriter set up to see how fast people could copy. Harry said he had been working with the ARRL and FCC to adopt an absolute standard for CW keying. Harry, who has copied up in the 70-80 wpm rnge, said it makes quite a difference planning to make a run for the CW world record, hopefully at next year's Dayton Hamvention. □

1984 ARRL Michigan Convention

John Minke, N6JM

The Michigan State Convention, for the first time in 20 years, was held in eastern Michigan, at the Schoolcraft College in Livonia. **Worldradio** was present at this convention, with myself, my wife, Mari, and daughter, Rachel, operating the booth in the Waterman Campus Center. While I attended a few forums and took pictures, they were at the booth.

In addition to **Worldradio**, a few other major exhibitors were at this location, along with the food concession some distance from the indoor swap area, where most of the activity was. Also, we were some distance away from the program area. From this unfortunate situation, I would suggest, as a major exhibitor, that future convention committees avoid having their conventions so spread out.

ARRL Forum

The ARRL Forum was scheduled at noon and was held at the lecture hall in the Liberal Arts Building. Speakers and guests included Len Nathanson, W8RC, ARRL First Vice President and former Great Lakes Division Director; George Wilson, W4OYI, the new Great Lakes Division Director, from Kentucky; KC8KM, Public Information Officer for Michigan; Jim Seeley, WB8MTO, Section Manager for Michigan; and Dave Sumner, K1ZZ, General Manager of ARRL from Newington.

George W4OYI made his first Michigan convention appearance as Director and discussed ARRL programs. George said we will have to be working on a volunteer monitoring program as the FCC "is going to quit on us." Regarding the volunteer program, they should be ready by Labor Day weekend, although the examination process is already active in the Pacific Division.

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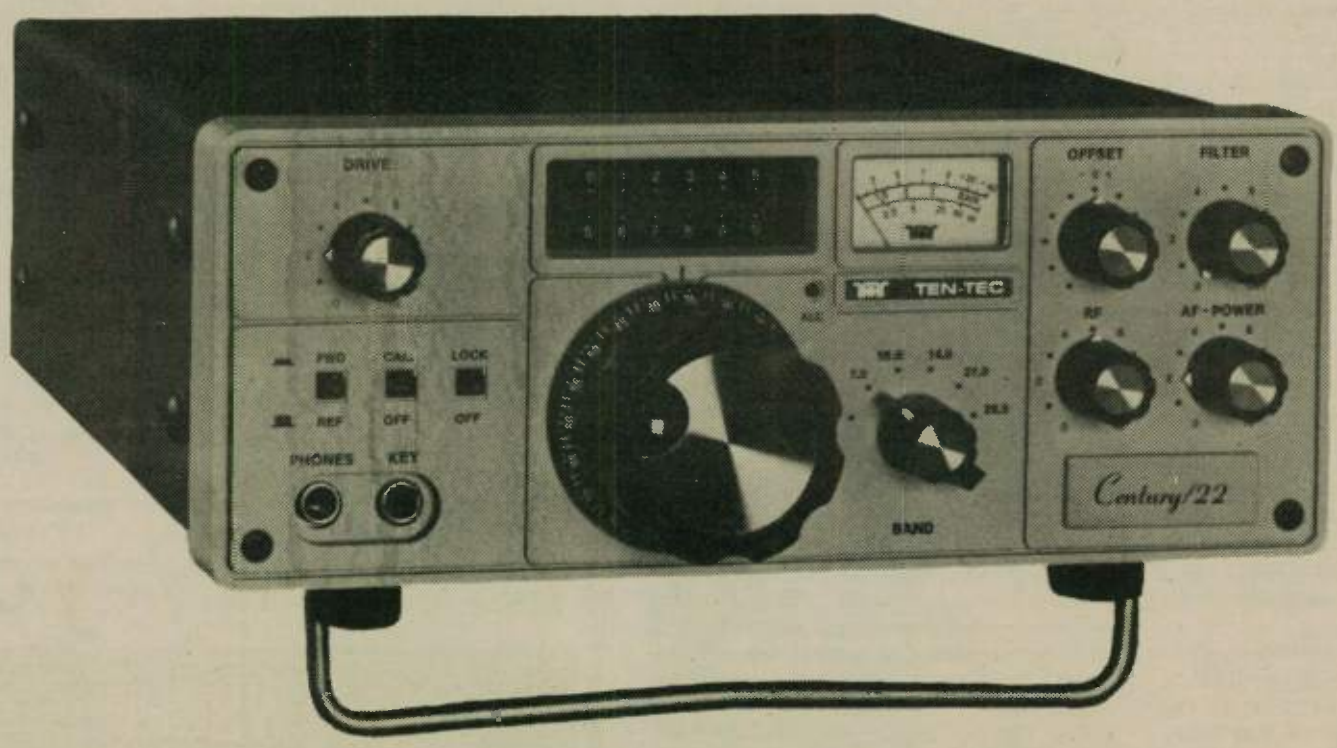

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Olympic

(continued from page 1)

luxury. Previous weekly groups had 13 to 15 Amateur Radio operators.

Amateurs who participated for the full week, starting 02 June, were:

Tom Vickers, WA2YMY, Grand Island, NY; Stephen Wesley Jr., W4OOC, Burlington, NC; Gil Mier, KA4OQT, Ponte Vedra Beach, FL; Mc Farland Wood Jr., W4PVT, Charlotte, NC; Mac McGregor, WD5HPS, Lexington, OK; Floyd Harshaw, WD5JZW, Muskogee, OK; "Dusty" Rhodes, W5OUD, New Orleans, LA; Lee Lash Jr., W5VZY, Oklahoma City, OK; Norman Brooks, K6FO, Carmichael, CA; Bill O'Brien, KG6HD, Carmichael, CA; Joe Eckels, K6TMW, Nevada City, CA; Gary Hart, W7WWI, Renton, WA; Harold Littell, WA8MRT, Akron, OH; Tom Hain, KV8Q, Powell, OH; Bob Davis, W0DAL, Raytown, MO; Bob Heitman Sr., WD0DOK, Des Moines, IA; Bob Stanek, W0HAH, Minneapolis, MN; Ken Trigg, WA0OBI, Lee Summit, MO.

Many other calls were heard on the repeaters during our operations. There were local Telephone Pioneers with assigned duties, or local amateurs who were assisting us in some way.

A long time ago, when AT&T first got the bid to run the torch across the country, we heard rumors that the torch caravan would be equipped with the latest state-of-the-art communications — via satellite and all that. Now that I have seen it, I can assure you the most sophisticated communications aboard were those through Amateur Radio 2-meter repeaters. Even the mobile telephones aboard were of the ordinary IMTS variety. There were three of them, and one repeatedly blew fuses.

There was an amateur HF station aboard Torch 1, which kept daily schedules with White Plains, New York. They even had a straight key at the operating position! The computer aboard Torch 1, however, was connected to White Plains daily by long-distance telephone.

This computer is state-of-the-art — the latest AT&T has, worth of over $12,000.

When the Torch Relay used a repeater, there was enough business that they needed the repeater exclusively. We are happy the trustees and club members put up with this total take-over of their property. We thank all of them for their hospitality and their patience with us.

The Torch 7 NCS assigned one of our Amateur Radio operators who was not otherwise busy to use another repeater and work local amateurs for QSL card purposes. AT&T has promised to provide a special commemorative card for this purpose. If you worked anyone on the Torch Relay during its travels through your territory, send an SASE to the individual operator's home address to receive a special QSL.

The torch

Each runner in the Olympic Torch Relay ran two four-mile stretches a day for seven days. That's 56 miles in the week. For this, he or she got to keep his or her torch as a souvenir.

The torch itself is an ingenious device. The basic fuel is propane, the same kind you use in a camp stove, etc. But propane burns with a light blue, almost invisible flame. To give the flame a bright yellow, smoky appearance, the propane flows over a wick soaked in naphtha. The resulting combustible mixture gives the desired effect, even depositing soot on the runner's face and hair. The fresh refueled torch is wrapped in a plastic bag to keep the naphtha from evaporating.

The handle of the torch is actually a propane tank. The propane flows upward into a metal cup through a tiny orifice. In high winds, where there is a danger of blowing out the torch, the orifice is changed to a larger one and the torch throws a surprisingly large flame.

Even if the torch is blown out by the wind, all is not lost. A flame is carried in a "miner's lamp" on the lead vehicle, and the torch can be relighted from that.

The torch is made from brass and weighs 4½ pounds, which is surprisingly heavy. One runner remarked, "They designed it to be an efficient torch, but forgot to give it balance." To make matters worse, the runners were instructed to hold it high in one hand when passing crowds. When running across the fields of Kansas, where there was no audience, the runners were glad to carry it on their shoulder like a rifle.

The torches were cleaned and refueled after each four-mile run. A special torch van, manned by three mechanics, one of whom was an Amateur Radio operator, kept up with the caravan and kept the runners supplied with fresh torches. The week's inventory was 70 torches. At one point, when there was a problem with lighting torches, the mechanics complained, "It's like telling a truck fleet mechanic to overhaul 70 carburetors."

Left to right: Norm Brooks, K6FO; Sherry Langston, KA0BNL; and Don Langston, WD0EOR; at Pauline, Kansas. The Langstons were local amateurs who helped the Torch Relay immensely as it passed through Kansas.

One of the torch mechanics was Harold Littell, WA8MRT, of Akron, Ohio. His specialty was maintenance of the miner's lamps, in which the master flame was kept. He started with the Torch Relay in New York and stayed with it all the way across the country.

Our drop-off vehicle stopped four miles ahead of the caravan and waited 20 to 25 minutes for the current runner to arrive. During this time, our fresh runners with plastic-wrapped torches mingled with the crowds, allowed picture taking, etc. I delighted in telling smokers who approached to put out their smokes or go away, because "We don't want to have to explain how the torch got lighted early."

Weather

At the beginning of the week, we were blessed with clear weather. The days were warm in the afternoon, but not unbearably so. At the end of the week, thunderstorms took over. We actually stopped the run seven miles short of its mark in Topeka, Kansas, because the runners were running in a blinding rain, and there was lightning to the ground.

Saturday was overcast, with high winds. The local people told us Kansas was having the severest windstorms in two years. Three radio amateurs kept us informed of weather radar readings as related to our positions. We learned that a tornado came to the ground where we had run through just a half-hour before.

The runners prefer to run on cool overcast days, and at night. Some of them didn't even mind light rain.

Our working conditions

We all agreed that if we were paid to do our job, we would have quit by Tuesday. But having volunteered to help move the Olympic Torch across the country for a week made us feel we were part of history. The in-house greeting to each other was, "They tell me I'm having fun."

The overnight staging areas were usually in State Park campgrounds. On Thursday night, a thunderstorm had taken out the lights in the campgrounds and we took showers by the light of a flashlight. Our mobile home had a built-in shower, but I successfully avoided using the tiny thing.

I had one of the busiest jobs. Since the runners were on the road 16 hours a day, our drop-off and pick-up vehicles had to work the same hours. If we fell behind in schedule, we continued until we met the scheduled miles — as late as 2:00 a.m. During the entire week, I had from three to five hours sleep per night. The living quarters in the mobile home that sleeps eight were so cramped, I had claustrophobia. Fortunately, we were there only to sleep.

The food-serving vehicles were open for only an hour-and-a-half each meal. Daily we had to figure out where we would be in relation to the food vehicles during food hours. If we couldn't be there for the sit-down meals, we asked for and cheerfully received our food in plastic take-out boxes. In our case, all of our dinners but one were eaten out of take-out boxes. I'll never forget eating a lobster dinner, easily worth $20 in a first class restaurant, out of a take-out box, using a plastic fork!

I feel honored to have had the opportunity to be a small part of history-in-the-making. Levi's, the official outfitters for the Olympics, gave me a handsome Olympic uniform which shall always be a reminder of my work with the Olympic Torch. □

The deadline for news releases and special announcements is the 10th of the month, *two months prior to issue date.* Example: Deadline for the August issue is 10 June.

Convention

ontinued from page 4)

To be a Volunteer Examiner no longer quires 10 signatures on the application rm. The future of Amateur Radio is in is program. The FCC examinations will phased out by 01 January 1985.

KC8KM spoke briefly and stressed the nportance of public relations. He noted at smaller publications are always look- g for articles, and we should be taking dvantage of this. With this approach, on everyone will see Amateur Radio in positive light.

Jim Seeley, WB8TMD, discussed the ichigan ARRL Information Net. This et meets Sunday afternoons at 3:00 p.m. 3.953 MHz.

Len W8RC stressed the importance of creasing ARRL membership. He sug- ested approaching non-League members nd emphasizing what the League does, ot that the League is a magazine ublisher.

Dave Sumner, K1ZZ, hinted at a ange in **QST**'s format, probably around e end of the year or early next year.

anquet

Those who attended the banquet at the lymouth Hilton Saturday evening were rved a fine meal. At the conclusion of he meal, Wayne Wiltse, K8BTH, the eneral chairman, introduced Dennis iphardt, N8AJF, Master of Ceremonies. Director George Wilson gave his eetings and stated he was looking for a ponsor for the 1985 Great Lakes Divi- on Convention.

A YL Award of the Year was presented Ginny Jaikins, KA8CPS, by Beverly toner, K8ZJU. Ginny has been active in any service nets; is a net liaison, assis- nt manager, and is on the Public Ser- ce Honor Roll; is a BPL recipient; is ac- ve in SET and Field Day; and is from a mily of radio amateurs.

The Michigan Field Day Award is warded annually to the top ARRL- ffiliated club for their performance in ield Day. This year, the winner was the rand Rapids group, but no one from the ub was present to receive the award.

The keynote speaker, Al Pribish, VB8YRU, was introduced. He discussed he simplicity of the metric system. ollowing Al's talk, the prize drawing for he ICOM IC-02AT was held. The winner as Al Durecki, WB8BHI.

onclusion

We were rather surprised by the lack of pport the Michigan amateurs showed ward their state convention. The ARRL orum, held at noon, attracted only about wo dozen interested parties. With the ew Great Lakes Division Director pre- nt, one would think many would be pre- nt to hear what is happening.

It was the first time in 20 years that is convention had been held in the etroit area; it had been held previously Muskegon, in western Michigan. The swap-n-shop" portion of the convention as the most popular, which the Livonia RC had handled for the past 20 years. erhaps this was the problem — most onvention attendees were only in- rested in the swap and not the onvention.

As this DX editor has attended many onventions (and also co-chaired the 1969 acific Division Convention), I would like o suggest some ideas for all conventions.

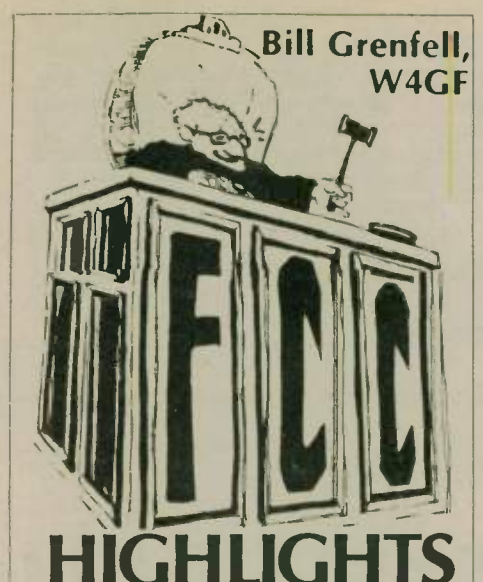
Avoid conflicts or competing events. During the ARRL Forum, the QRP Forum was scheduled. As this was an ARRL convention, there should have been no other meetings scheduled during the ARRL Forum. Also, do not schedule a major event during lunch time. There was no contest forum, but there were two different DX forums.

Checking the program, we noticed that during one period, there were three different meetings scheduled at the same time. The best approach would be to try to schedule one activity or meeting at a time — even if it meant shortening the meetings or eliminating some entirely.

One example was the scheduled Michigan Novice/QMN Net. This was of interest only to the "hot shot" CW traffic handlers already involved with the net, and of no interest to anyone else. They could have held their meeting after hours.

How to get the amateur interested in the convention and away from the swap is a problem. We have no answers for that one, except perhaps to not push the swap sales as a major event. Then again, perhaps many were unaware there was a convention with forums in progress.

The attendance at the banquet was also poor. Surely, for an area as large as Detroit, more amateurs could have shown up for the banquet. □



Early entry of amateur operation into the 24 MHz amateur band could, and indeed should be permitted, according to FCC's chief scientist, Dr. Robert S. Powers, at a June 20th lunch meeting of amateurs attending the Armed Forces Communications and Electronics Association's (AFCEA) 38th annual convention. An ex-W5, Dr. Powers was one of several FCC and other notables in and out of government who spoke briefly to those present about matters of mutual interest.

Ted Cohen, N4XX, presented the speakers and otherwise managed the meeting. Some other highlights of the meeting follow.

•

ARRL's petition asking that the FCC deny use of cable channels E (144-150 MHz) and K (222-228 MHz) by cable operators because of their interference to operation in the amateur bands, was denied, reported FCC's Mass Media Bureau Chief James E. McKinney, at the AFCEA/Amateur June 20th lunch meeting. However, the FCC will double its effort to check cable leakage, reported FCC's Field Operations Bureau (FOB) Chief, Richard M. Smith (ex-WA4AMX), at the meeting.

•

The November quarterly examinations this year will be the last amateur operator license examinations supervised by the FCC, warned FOB Chief Smith at the AFCEA/Amateur meeting on 20 June.

•

In addition to at least one in each region, there were three VEC's coordinated in the third, and five in the fourth regions, reported FCC's Private Radio Bureau Chief, Robert S. Foosaner, at the AFCEA/Amateur June 20th meeting.

•

Comments regarding the RM-4774 ARRL petition to the FCC for use of F1 by amateurs in the 1800-2000 kHz band, opposing such use from 1900 to 2000 kHz, have been filed by two commercial radiolocation services.

ARRL's reply comments point out that gaining access to 1900-2000 kHz by non-goverment radiolocation is by no means a foregone conclusion. Prior to the 1979 World Administrative Radio Conference, the U.S. position was that radiolocation use of the band be secondary. (ARRL 06/14/84).

•

"Do amateurs really want a lot of their fellow amateurs using Amateur Radio as a cordless telephone?" That is the reaction of John Johnston, W3BE, Chief of FCC's Personnel Radio Branch, to questions about the legality of simplex autopatches. ('FCC Highlights,' 04/84 *Autocall,* 05/84 **Worldradio**)

Beginning with the August 1984 issue, **QST** advertising which discusses the features of simplex autopatch devices will include the following disclaimer: "Use of this device with a transceiver operating in the 2-meter band, or on any other frequency below 220.5 MHz, is not permitted unless a separate control link is provided." (*The ARRL Letter* 06/07/84)

Section 97.3(1) of the FCC's Amateur Rules defines "Auxiliary operation" and Section 97.61(d) describes the frequency bands available for such operation.

•

An arrangement to permit the exchange of third-party communications between Amateur Radio stations and United States Amateur Radio stations became effective 22 June 1984.

•

19 June 1984 was the 50th anniversary of the Federal Communication Commission. On 19 June 1934, President Franklin D. Roosevelt signed the Communication Act of 1934 which created the FCC.

Prior to FCC, 1934, the Federal Radio Commission established the ". . . regulations for amateur stations . . . under the provisions of Section 4 of the Radio Act of 1927. . ." Also, the FRC issued the station licenses. Separate and apart from the FRC, the Radio Division of the Department of Commerce conducted examinations for and issued Amateur and "Commercial" operator licenses.

The Radio Division also operated the Monitoring Stations, inspected all classes of non-government radio stations, and published a call book of *Amateur Radio Stations of the United States* (the 30 June 1930 edition could ". . . be procured from the Superintendent of Documents, Government Printing Office, Washington, D.C., at 25 cents per copy.")! As of the 30 June 1930 date, the Radio Division reported a total of 11,541 licensed amateur operators and 18,402 licensed amateur stations.

•

An officer of a D.C. area power squadron advises that a firm is soliciting the business of helping boat owners to renew radio station licenses for operation in the 156 MHz recreational boating band, for a fee! ($35 for a straight renewal, $50 for renewal with changes.) He advises that the appropriate FCC Form 405B, Renewal Application Short Form takes less than a minute to fill out!

•

"It is not permissible for a repeater to be automatically identified every three minutes or other interval when it is not retransmitting signals," wrote FCC's Compliance Branch, Special Services Division, Private Radio Bureau. "Such transmissions are prohibited by Section 97.113 of the Commission's Rules (broadcasting)."

•

A West Palm Beach, Florida amateur, Eugene B. Sykes, W4OO, suing the FCC for conspiring to harass, harm and annoy him for accepting complaints ". . . knowing the complaints were false or without any foundation." He is suing for damages, costs and attorney's fees and demands a jury trial.

Sykes has been assessed a fine of $550 for transmitting with excessive power in the 40-meter Novice band. A neighboring amateur — Henry Luhrman, W4PZV — complained that Sykes was using the high power to deliberately interfere with his 20-meter reception. As Sykes has failed to pay the forfeiture penalty, the United States Attorney has brought action in the U.S. District Court, Southern District of Florida, for recovery of the penalty.

•

About $12,000 worth of radio equipment seized by the Norfolk, Virginia field office was crushed into a 400 lb. billet of scrap metal on 11 June, according to an FCC news release. The equipment included illegal transmitters and amplifiers that were used in the CB Radio Service. (*The ARRL Letter,* 06/21/84)

•

In addition to previously reported Zimbabwe (Z2) and Hong Kong (VS6), Indonesia (YB, YC, YD) is the third country with which a temporary third-party agreement has been concluded. This will allow U.S. amateurs to exchange third-party traffic between the Los Angeles Olympic Village and the three countries during the period of 01 July through 31 August.

•

Importers and brokers who bring radio

frequency devices into the United States must report these devices on FCC Form 740. Computers, industrial heaters and ultrasonic equipment are among the "radio frequency" devices included. The purpose is to ensure that imported RF devices meet FCC technical standards, thus minimizing the risk of harmful interference to existing radio services. (*The ARRL Letter*, 06/21/84)

•

Last month's Amateur Radio Volunteer Examiner Coordinators (VEC's) list in 'FCC Highlights' should be revised as follows:

CORRECTIONS: Region 3, Laurel ARC, Inc., P.O. Box 3039, Laurel, MD 20708; Mountain ARC, P.O. Box 234, Cumberland, MD 21502. Region 4, Western Carolina Amateur Radio Society VEC, P.O. Box 16189, Asheville, NC 28816. Regions 1 through 13; *The W5YI Report*, P.O. Box 10101, Dallas, TX 75207. (FCC Public Notice, 06/22/84)

ADDITIONS: Region 2. Schenectady Amateur Radio Association, Alplaus, NY; Region 4. Charlotte VEC, Charlotte, NC; Region 10, P.H.D Amateur Radio Association, Liberty, MO.

•

Late in June, four rule-making matters of concern to amateurs were all prepared and coordinated for FCC's open agenda for consideration by the Commissioners at their July 12th meeting. The items were: 1) Reimbursement of volunteer examination expenses; 2) High-frequency phone band expansion; 3) A petition to reconsider the volunteer examination program; 4) A petition for reconsideration of the recently adopted power output method of measuring and limiting amateur station power.

At the time this was written, there was some doubt as to whether these items would be considered at the open meeting, as it was quite crowded with many other items. If bumped to the circulation agenda (circulated by internal mail to each Commissioner for approval or rejection), it may take several weeks to pass the desks of a majority of the Commissioners.

•

FCC Commissioner James H. Quello was re-appointed by President Reagan to continue his service on the Commission for a seven-year term beginning 01 July 1984.

•

When the FCC denied the ARRL's RM-4040 request to bar cable TV from using channels in the amateur bands, saying the relief requested is excessive, the order admonished the cable industry to perform "continuous and vigilant maintenance."

While the order tells amateurs they should tolerate squelch breaks and minor noise, it then goes on to forcefully remind cable operators that under Section 76.613(b) of the cable rules, they must cure cases of harmful interference regardless of whether they meet the emission standards imposed by Section 76.605(a)(12).

The Commission also pointed out that in cases of interference to communications involving the immediate safety of life or immediate protection of property, cable systems may be required to suspend operations. (ARRL, 06/21/84)

•

Dave H. Meehan has been issued an order proposing to suspend his amateur operator license and to revoke his amateur station license, W7IVK, for causing malicious interference, in violation of Section 97.125, on frequencies in the vicinity of 7255 kHz. □

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_____

_____

"Amateur Radio call signs did not arrive in time for this issue."

Special Events...

Submarine veterans

The DuPage ARC will be operating a special event station, W9DUP, in honor of the 30th Annual Convention of the U.S. Submarine Veterans of World War II.

The event will last from Wednesday, 29 August through Saturday, 01 September, and will operate from the submarine, *USS Silversides*, which is docked as a war museum, alongside Navy Pier in Chicago.

Hours of operation will be from 1100 to 0300 UTC daily, on 10-80 meters and also 2 meters.

For a commemorative certificate, send $1 and a #10 SASE to DARC, P.O. Box 71, Clarendon Hills, IL 60515. □

WINO weekend

The Wireless Institute of New Orleans (WINO) will be operating a special event station from the World's Fair ham station, K5WF, from 10:00 p.m. (CDT), 31 August, to 2:00 a.m. (CDT), 01 September, at or near 7.240 MHz.

K5WF is usually on the air during the Fair's open hours of 10:00 a.m. to 10:00 p.m. During WWWWF (Wonderful WINO Weekend at the World's Fair), night owls and DX stations will have a more convenient opportunity to make contact with K5WF and receive special QSL/certificates (SASE please), commemorating the event.

Operators of the station will be Ray Dodson, KB5PX; John Kennedy, WD5HIS; and Buddy Massa, W5VSR.

Send SASE's to: Wireless Institute of New Orleans, P.O. Box 6541, New Orleans, LA 70174. □

Steam locomotive

The Northern New Mexico ARC will hold its 2nd annual steam locomotive mobile operation on the Cumbres and Toltec Railroad, 08 September, from 1000 MST to 1630 MST.

Frequencies of operation will be 14.225 MHz and 7.225 MHz. The train will travel from Antonito, Colorado to Osier, Colorado, and back, crossing the New Mexico/Colorado border 10 times.

If you wish to join us, contact Daryl Grant, W7LHO, 1865 Camino Lumbre, Sante Fe, NM 87502. □

Battle of Lake Erie

The Radio Association of Erie (W3GV), Erie, Pennsylvania, will commemorate Admiral Perry's victory at the Battle of Lake Erie during the War of 1812 on 08-09 September.

Operation will be from 1200Z to 0100Z on Saturday and from 1200Z to 2100Z on Sunday, on 7.235, 14.235 MHz (phone) and 7.090, 14.090 MHz (CW/RTTY).

Special QSL and historical data on the flagship *Niagara* via W3GV, 4572 Southern Dr., Erie, PA 16506 or the W3 QSL bureau for DX station. A business-sized SASE would be appreciated. □

Contact Worldradio for hamfest prizes.

OK Corral shoot-out

A special event station will again operate from the heart of the OK Corral, in conjunction with the 3rd Annual Rendezvous of The Gunfighters, 01-03 September.

The OK Corral was the site of the famous shoot-out between the Earp and Clanton factions in 1881. Operations, co-sponsored by KB7KZ and the Old Pueblo Radio Club, will begin at 1500 UTC, 01 September and run through 2200 UTC, 03 September on CW and SSB.

Frequencies: *SSB* — 28680, 21380, 14280, 7280; *CW* — 21130, 7130.

A certificate will be awarded to all who work us as well as SWL's. Please send a large 8½" × 11" SASE (40 cents postage) to: A.J. Pawlowski, KB7KZ, P.O. Box 36032, Tucson, AZ 85740. □

Paul 'Bear' Bryant

The West Alabama Amateur Society (WAARS) will operate the 2nd annual special event station on Saturday, 08 September, in commemoration of the greatest college football coach in history, Paul "Bear" Bryant.

The Bear Bryant special event station will operate from the campus of the University of Alabama. WAARS will operate using the call sign KE4TN from 1300Z to 2400Z on that date.

Phone frequencies will be the bottom 25 kHz on the General 40-10-meter phone band. The club will also work Novices on the bottom 25 kHz of the Novice band. The club will offer a handsome commemorative certificate of the event to any station worked by sending $1 and a large SASE to the West Alabama ARS, P.O. Box 1741, Tuscaloosa, AL 35403. □

Mark Twain event

The Mark Twain Amateur Radio Association will operate W0KEM from 1400Z to 2300Z, 08-09 September, in celebration of the dedication of the 20,000-acre Mark Twain Lake and Clarence Cannon Dam in east central Missouri.

Phone operation in lower 25 kHz of 40, 20 and 15-meter General band; also, Novice operation in the 40-meter band.

For certificate, send a legal-sized SASE to: Mark Twain ARA, P.O. Box 56, Center, MO 63436-0056. □

Winesburg Fall Fair

The Clyde (Ohio) Amateur Radio Society will operate station NF8E from 1600-0000Z, 15 September, and 1600-2200Z, 16 September from the Winesburg Fall Fair.

Frequencies: *Phone* — 7.250, 21.375, 144.750 FM; *CW* — 7.125, 21.150. Certificate via Steve Karr, NF8E, 302 Hamer St., Clyde, OH 43410. □

Marconi Memorial Tower

The Ocean Monmouth ARC (OMARC) will operate KC2Q from 1600Z, 22 September to 1600Z, 23 September, from the Guglielmo Marconi Memorial Tower used during early transoceanic receiving experiments.

Frequencies: 3.965, 7.265, 14.265, 21.365, 28.565. QSL by SASE or certificate and QSL for $1, via Harry Polhemus, KN2B, 18 Gardners Ln., Manasquan, NJ 08736. □

Paul Bunyan Festival

The Paul Bunyan Wireless Associatio and the Brainerd Area ARC will be spor soring a special event station from th site of the Paul Bunyan Festival nea Brainerd, Minnesota.

Operation will be from 1800Z on 2 September until 2100Z on 23 Septembe Operation will be in the lower portions c the General Class phone bands 40-1 meters.

Send QSL and SASE to, Rick Pain KC0YG, for commemorative QSL. Ad dress: Box 354, Pequot Lakes, MN 5647

Novice Sprint Special

Amateur Radio of Southeast Conne ticut will operate a Novice Sprint Speci station KA1LDB from the finish line the East Lyme Marathon.

This marathon is a qualifying race f the Boston Marathon and is the only ra in the East run entirely in one tow Operation will be from 1300Z to 1800Z o 30 September, using 7.130 and 21.1 MHz.

QSL via Tri-City ARC, P.O. Box 68 Groton, CT 06340.

USS Intrepid event

On 09-10 June, the Teaneck (NJ) PA ARC held its third special event oper tion aboard the aircraft carrier *US Intrepid*, using the call W2IVY.

For confirmation, QSL's and a # SASE should be sent to Bud Weisber K2YOF, 62 Harriet Ave., Bergenfiel NJ 07621.

Work is now being done on restoring room aboard the *Intrepid* for use as permanent ham station with "visitin ham" operating privileges. As the wo is being done on an "as available" bas by volunteers from the Kings Coun Radio Club (Brooklyn, New York) estimate of a completion date is availab at this time.

Pennsylvania station contacts Michigan

The Suburban ARC Contest Stati K3MTK, operating from the Big Poco State Park near Tannerville, Pen sylvania, made contact with stati W8YIO in Manchester, Michigan. Co tact was established first on 1296 MHz approximately 9:15 p.m. EDT on Sunda 10 June, during the ARRL-sponsor June VHF QSO party.

After the initial contact on 1296 MH both stations switched over to 2304 MH where contact was made again. Inform tion was exchanged in the CW mode about five minutes, then both statio switched to the SSB mode and continu to talk with Q5 signals for another fi minutes. The distance covered by th QSO was 440 miles.

W8YIO used an 8 ft. dish and 400 wat transmitter power. K3MTK used a 16 dish and transmitter power of 100 wat

This contact is believed to be the fir Michigan-to-Pennsylvania contact 2304 MHz and also ranks high in distan covered on 2304 MHz. Needless to say good time was had by all, and mu celebrating was done after the QSO.

• *Pass it on . . . WORLDRADIO* •

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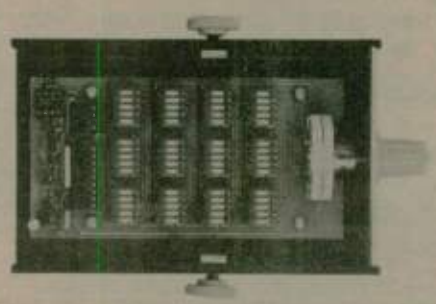

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77.0 XB	94.8 ZA	114.8 2A	141.3 4A	173.8 6A	
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Military does need CW operators

I enjoyed the July 1984 issue of Worldradio; as usual, it was jam-packed with good articles, ads, photos, etc.

I would like to share with you some information that is often put out mistakenly. This would be in reference to the article on page 7 of the July issue, entitled "Wayne Green". The article is continued on page 12, where a very popular mistaken belief is often quoted by otherwise knowledgeable hams.

Wayne Green states that "Military communications are high-speed digital, eliminating the need for CW operators by the military." The first phrase is correct; the second is a mistaken fallacy and could not be further from the truth.

CW operators are still actively and currently needed and sought by *all* branches of the U.S. military! I repeat very emphatically: *THE U.S. MILITARY STILL NEEDS PERSONS EXPERIENCED IN MORSE COMMUNICATIONS.* The need will not decrease in the near future!

Perhaps I should have earlier stated my qualifications. I am a petty officer in the U.S. Navy, with 18 years active duty. My job is called by the Navy "Cryptologic Technician". I use Morse code almost every day of my life, in connection with my duties in the Navy. I work alongside members of the sister services — Army and Air Force — who also employ Morse code in their daily duties. In off-duty hours, I hold amateur Extra Class license K1QKJ.

I assure Mr. Green and others that Morse code is far from being a dead issue with the U.S. military. It is a fact in my job field that persons entering the military, holding Amateur Radio licenses, make far superior Morse operators than those starting from scratch.

This is also very cost-effective to the U.S. government, as it cuts training hours, thus saving taxpayers much expense in training military Morse operators. Once in the field, Amateur Radio operators train quicker and understand radio communications faster than the person with no prior experience.

GEORGE ARSICS JR., K1QKJ
Wahiawa, Hawaii □

Information needed

I have TS-520 2-meter rigs, plus Commodore 64 with monitor, disk drive and MP8-801 printer. Would like to know how to mate them for receiving CW/RTTY and where necessary equipment is obtainable.

MON WEBB, W7LRP
7004 E. 252nd St.
Graham, WA 98338 □

Earhart's last flight — info sought

I have been researching the last flight of Amelia Earhart and the mystery connected with it. I would like to hear from anyone, radio amateur or not, who was connected with the flight or the search in any way, and especially any who might have a boat and/or be interested in a search.

Of course, I would also be interested in any ideas, opinions or theories which might be explored, and in the addresses of anyone to whom I might be referred for more information.

ROBERT TOWNSLEY, W6RCR
5939 Almaden Lane
Oakland, CA 94611 □

RCA challenges WIA's 'oldest club' claim

(In re: "WIA welcomes non-VK's", May Worldradio, page 17)

Can you pass the world to our Australian friends of The Wireless Institute of Australia that there is another claimant to the title of oldest radio club?

The Radio Club of America was founded in 1909, and celebrated its 75th birthday last November.

The Junior Wireless Club was organized on 02 January 1909. It was an outgrowth of the Junior Aero Club, which had been for some time experimenting with wireless, hoping to develop remote controls to keep their planes from crashing against the walls of the armory in which they were flying them.

At a special meeting on 22 April 1911, it was unanimously decided to change the name to The Radio Club of America — a name it has held ever since.

FRED SHUNAMAN
Executive Secretary, RCA
Highland Park, New Jersey □

•••••

Check your license expiration date.

Help fight software piracy

There is a problem in the Amateur Radio fraternity ... software piracy. Whether by ignorance or simple disregard for the law, many amateurs are stealing copyrighted programs. Most do not consider their theft a crime or a serious problem, but unless this practice is discontinued, Amateur Radio will suffer.

With the influx of computers into the hobby, a degree of software piracy was inevitable. Unfortunately, the problem has become a blemish on Amateur Radio. Thousands of dollars have been spent in litigation involving software piracy outside the hobby, and I had hoped Amateur Radio would police the problem internally and not require legal action. Sadly, this is not the case.

I recently confronted two hamfest exhibitors who were selling copies of a Kantronics program. These people were copying and selling our programs to any amateur willing to pay the price. I bought one of the programs for evidence and informed the seller that legal action would be taken. This person was not a ham, but those buying the programs were. We have several other examples of programs copied and sold.

There are a few simple steps we can all take as those interested in seeing the problem solved.

1) Never buy copied software.

2) Report pirates to the software manufacturer.

3) Don't allow illegal sales at your local hamfest.

Kantronics plans to prosecute those who steal our programs, as we have in the past, but without the assistance of the entire amateur community, the manufacturers will not be able to stop pirates from stealing their profits. If manufacturers are not able to sell enough products to make a profit, other new and improved programs will not be written.

Don't let the greed of a few deny the hobby of future expansion. Let's throw the bad apples out before they ruin the whole barrel.

MIKE FORSYTH
Marketing Director
Kantronics, Inc.
Lawrence, Kansas □

DXpedition log discoveries

In the past, when DXpeditions have returned, they have claimed a certain number of contacts by multiplying the number of calls per page by the number of log pages. We originally did just that for the VK0CW Expedition to Heard Island in 1983, and gave a figure of 30,000 QSO's.

Being retired and having plenty of spare time, I decided to try and make my life less dull, colourless and boring, by extracting some statistics from the logs. I believe this is the first time this approach has been made by any DXpedition.

The overall duplication figure for VK0HI SSB was 17.58 percent and VK0CW on CW was 27.28 percent. Overall, the 6,280 duplicated call signs out of a total of 27,937 call signs in the logs represent 22.48 percent duplicated calls.

Maybe there is some justification if a call sign appeared in the logs twice in a period of 10-15 minutes, if the guy could not hear the DX station give his call the first time due to the QRM being made by the policemen and other sick ones, etc. I regard it as reprehensible when a certain K6 with a two-letter suffix appeared in the VK0CW 14Mc/s CW log on pages 5, 13, 27, 45, 59, 72, 83, 92, 101 and 103. The actions of a "big gun" like this can only be construed as robbing nine "little pistols" of a QSO with the (then) most wanted country in the world.

It is galling to listen on the transmit frequency of a DXpedition working split and hear "Who's on the frequency?", "What's his call?", "What's his QSL info?", "Where's he listening?", and to hear all these questions obligingly answered by a friendly policeman, and all this interspersed with shouts of "Turkey", "Shadap" and other unprintables.

The European scene is just as bad when they have the propagation, as a lot of them seem to adopt the attitude, after their third call, "If he won't work me, he won't work anyone," and so the carriers start to QRM.

But back to the dupes. In a great number of cases, a call sign appears seven, eight or nine times, coming up every few days. This happens with the figures for most countries, so it can only be assumed that there are some amateurs who are so selfish, they do not appreciate that every time they call after their initial contact, they could be preventing the DX station from hearing a weaker signal from a fellow amateur who has not as yet worked the station, and if they are answered by the DX station, then one more amateur misses out on a contact.

Is it because some people are just naturally garrulous, or do they have such an inflated ego that they must prove to the peasants that "they" have the best black-box and can break a "pile-up" at any time they choose? These types are about as much use to Amateur Radio as an ashtray would be on a motorcycle.

As an example, on the page where a certain WD9 claimed a CW contact on 31 January, at around 0300Z, 28 of the 100 calls on the page had appeared previously and two of these calls were appearing for the fourth time. The poor old WD9 did not make the log. Was it because he could not be heard because of the QRM being made by the 28 greedy ones who did appear? I wonder how many others who had had a previous contact were also calling but were not picked up? I bet the WD9 would like to have a list of these call signs!

I could go on. I think the statistics, as I have presented them, will tell the story of the Heard Island Expedition 1983 by VK0HI and VK0CW adequately.

Best of luck and DX to your readers.

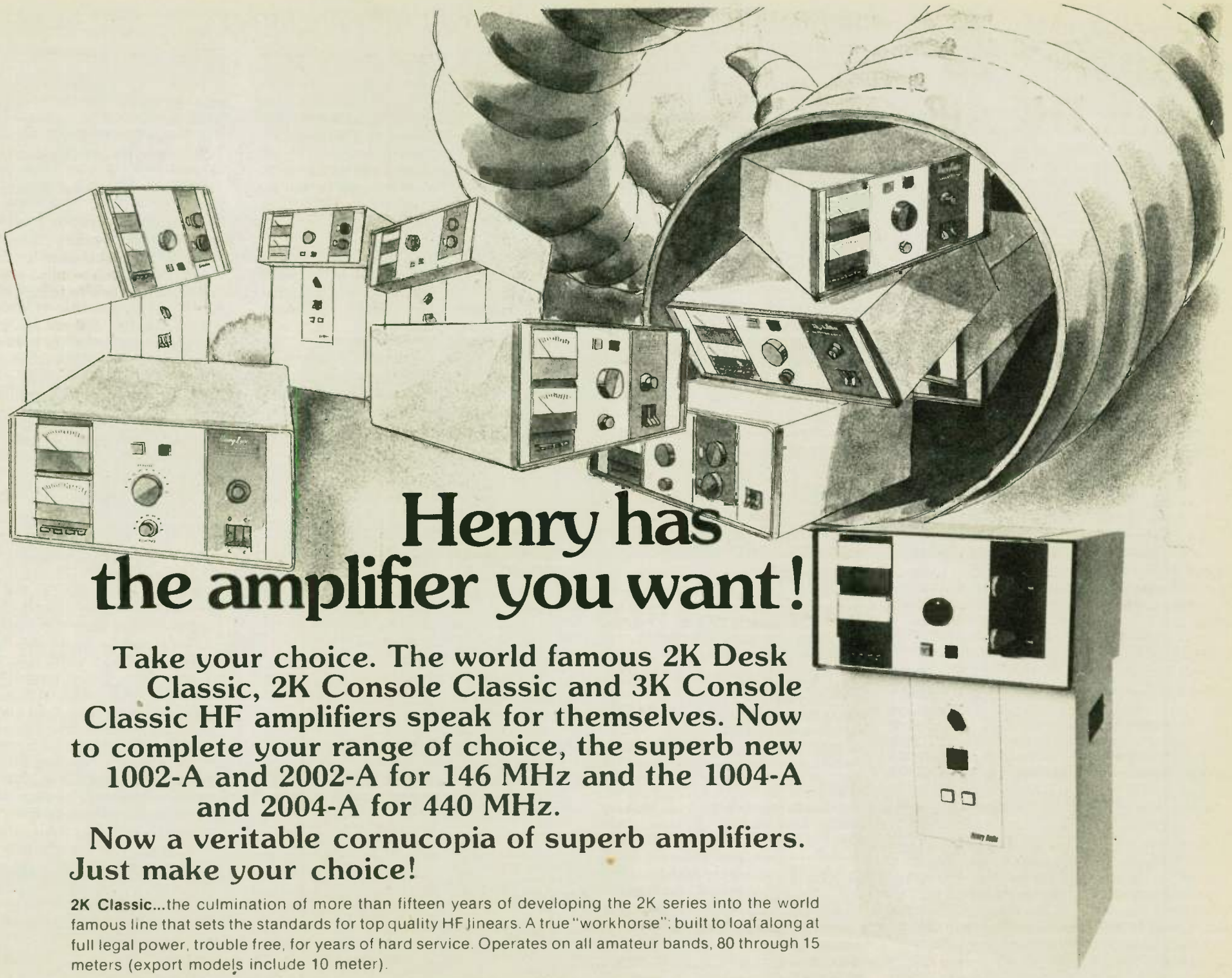
HUGH SPENCE, VK6FS
(VK7DS 1938-1967)
Shelley, WESTERN AUSTRALIA □

Old-timer for no-code

I am a ham who is 75 years old, and I've been involved in radio ever since the days when a "breadboard" was just that — a breadboard, literally.

In 1918 the word "wireless" sounded exciting and implied communicating by way of a hand key, and dots 'n dashes. (My dad was Morse telegrapher for the railroad.) Subsequently I got "on the air", though still a kid, and it was with spark. Yeah, spark is not even in the book now,

(please turn to page 14)



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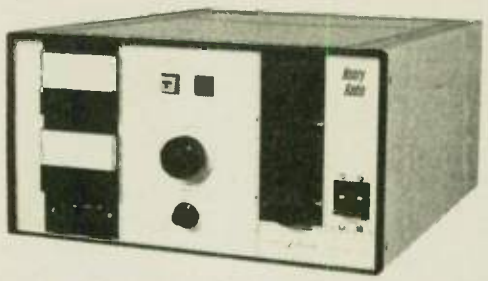

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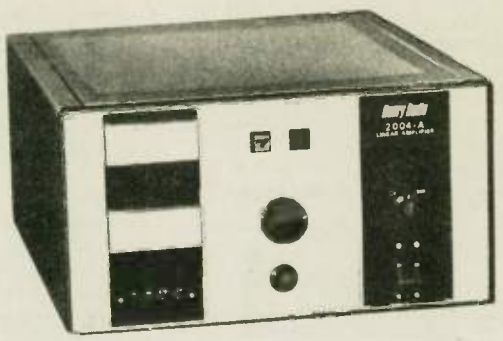

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Off the Air

(continued from page 12)

and it was kinda frowned on even back in 1922.

Then I became licensed and upgraded to vacuum tube continuous wave telegraphy. Now it's called "CW". The reason I'm giving you all this background is to show that if there's anyone who should feel romantic about CW telegraph, it should be me.

Well, I do not feel that way. I like progress, and it's my feeling that all hams should push for progress in communications while they are having their fun. Early on, it was obvious to me that more information was being exchanged by those using voice than there was by using Morse code. So, AM modulation became my objective — and goal.

Then, in the early '50s, I began to read and hear about single sideband and its advantages. Well, wouldn't you know, there were die-hard AM boys who fought SSB tooth and nail! Then, in the meantime, NBFM and repeater techniques were being perfected and put into service on VHF.

What I'm getting at, fellows, is that I feel the requirement for code be dropped and instead, set up exam requirements that would demonstrate the candidate's knowledge of basic electronics, operating capability, rules, and laws. I don't feel that the applicant should have to send and receive 12 wpm in Morse code just because I was required to do so, in order to qualify for his/her ticket. Personally, I'd like to see him exhibit an ability to wield a soldering iron and engage in home fabrication of electronic projects, but anymore, this sort of Amateur Radio activity is less prevalent because of the availability of advanced design factory-built two-way radio sets to cover any part of the useful spectrum. (Who needs a "Q-multiplier" these days, ha)

It is difficult to see how CW Morse would serve in an emergency situation, as some claim. Inclusion of voice capability in radio units is practically universal today, and under extreme emergency conditions, it would be much easier to find a qualified voice operator than it would one who could send and receive CW Morse.

There is one application of CW Morse that I think demonstrates some degree of merit in these modern times. That is the case of a ham who owns a computer and copes with the technical challenge of building interfaces for his computer and transceiver. He then programs to send and receive Morse via keyboard and video screen. I feel the same way about computerized RTTY, but the most progressive is packet.

In closing, I'll say that perhaps someone can come up with a convincing argument that will prove to me there's something psychological about demonstrating code proficiency that results in a better quality and more dedicated Amateur Radio operator. He'll have to explain, also, why so many drop the use of telegraph, once they get their ticket.

I was active as W6ZOW in the Southern California area for 30 years. I retired in 1974, after 20 years with Rockwell in Anaheim.

HARRY MINSHEW, W6ZOW
Saginaw, Texas □

City

(continued from page 1)

reorganization of the height regulations in an existing ordinance covering "Heights of Building and Structure."

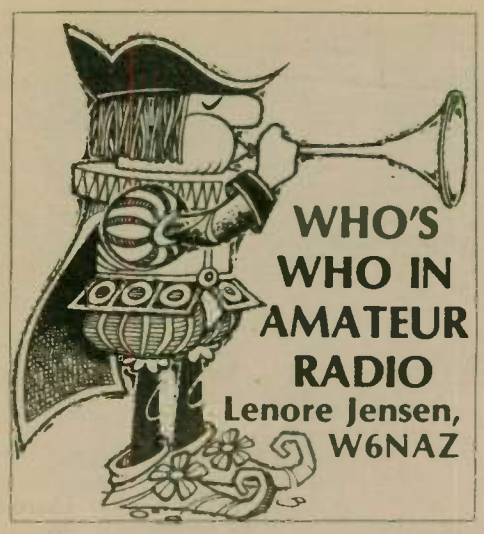
The proposed ordinance would have limited Amateur Radio and citizens band antennas to not more than one supporting tower or structure on each lot, setbacks of antenna towers on residential lots to conform to the principal use of the site, antenna setbacks of at least 5 feet from property lines, and covered the aesthetics of features desired for satellite dish receiving antenna installations.

The proposed ordinance revision would have restricted antenna supporting towers and structures which transmit and receive Amateur Radio and citizen band signals and furthermore would prohibit the overhanging of these antennas above public utility and transmission lines. Television antennas would have been limited to 45 feet maximum height in residential districts. Also, the height of all structures within 5,000 feet of any airport runway could not exceed 40 feet.

The two proposed ordinances were included on the agenda of the City Council at their monthly meeting on 25 June. After review of the contents and questioning of the Planning Director as to the intent and omissions, members of the audience were permitted an open forum. Speakers, generally the same people who provided inputs at the two Planning Commission hearings, questioned the need for regulation and what the impact would be on abridgement of First Amendment constitutional rights.

Since there was no height limit for antennas and towers used in the Amateur Radio and CB services and since there was nothing in the proposed ordinances covering the visual impact of towering structures in neighborhoods, the City Council felt the proposed legislation was confusing and unenforceable. Furthermore, since there had been no new complaints since the issue was raised, the City Council declined to act on the proposed legislation and completed the record by indicating that the proposed ordinances had been noted and filed. □

Pass it on . . . WORLDRADIO



An extra 24 hours each day would help Howard Lipstone a lot. In addition to holding call sign WB6ZRC, he's also president of Alan Landsburg Productions and is deeply involved in turning out some of your favorite TV shows. They include *In Search Of, That's Incredible, Those Amazing Animals, Gimme A Break* (NBC), as well as two new ones — *Kate and Allie* (CBS) and *People Do The Craziest Things* (ABC.)

Special presentations, too, such as the highly acclaimed, very poignant *Adam*, a TV movie which won many honors as a film that evoked public interest in finding missing children.

Also, *Bill*, with Mickey Rooney, and its sequel, *Bill On His Own*, have been widely heralded and brought increased compassion for the plight of the mentally retarded.

All that takes an enormous amount of time, of course. But Amateur Radio is mightily important to Howard, too. He takes it very seriously and credits it with great help to his endeavors, mainly through association with other hams in the entertainment industry.

Howard Lipstone, WB6ZRC, fits Amateur Radio into his busy schedule.

He says. "We all help each other through our common interests, through friendly consultation, recommendations and the like. We share our problems frequently and ask advice. It's like having a large family upon which to depend."

His "family" are those on repeaters in West Los Angeles and Hollywood. They include writer/director/producer Mel Shavelson, W6VLH; screenwriter Ernest Lehman, K6DXK; optical effects expert Joe Westheimer, N6VL; actor/writer/director/producer Byron Paul, WA6RNG. Also, Art Nadel, W6TZY, who is a writer/director/producer for Filmation; cinematographers Fred Gately, W6LNH, and Bernie Abramson, W6PJX; production manager Mel Epstein, WA6IJF; musical composer/conductor Al Glasser, K6RFU; ad agency executive Murray Bolen, W6ABR; and the well-known winner of Dayton's Ham-of-the-Year award — Dave Bell, W6AQ, who has produced ARRL films as well as countless programs for TV.

Several other members of these repeaters are happily retired from the hectic pace of the entertainment world.

In the Landsburg organization are two other licensees. "Our head production manager is Marty Gold, WA6UVD, and the VP in charge of our world-wide distribution service is Stan Golden, WA1ILH. I remember the day the bright young man in our mailroom spotted my handi-talkie and exclaimed, 'I'm a ham, too!'. Both of these are valuable executives."

His business needs tie in with some of his ham operating hours. "Around 6:00 in the morning I usually telephone our offices in England and New York. In between, I find time to check into a 20-meter group which is very important to me. For more than 12 years, seven days a week, we have chatted together, including the late Phil Kahan, XE1FFF; Joe McConville, WD4MFA (formerly XE1YH); and Dick Mansfield, WA5WWV. Several other close friends frequently join in.

"I find Amateur Radio marvelous for maintaining very close friendships despite our distance apart."

Howard even keeps in touch with them on trips, holding calls in England, France, Australia and the British Virgin Islands. Earlier this year, he and his wife, Jane N6KIW (who runs her own public relations firm), enjoyed a vacation on a sailboat in the Virgin Islands. "And we even kept in touch with the group via an excellent rig aboard. You see, the ship belonged to a ham!"

In fact, travel is so interesting that he, Dave Bell and a few of his ham pals have just formed a company called DX Travel. "It's a travel agency dedicated to serving the Amateur community, including unusual group trips enjoyable not only to hams but to wives and families at especially favorable prices. (There will be a mailing to all Amateur clubs and organizations announcing forthcoming trips.)

"We are very excited because we feel there is a true need. It'll be one more opportunity to make more friends within our hobby."

Howard didn't reach his executive position overnight; he worked long and hard in early TV after graduating from the USC School of Cinema.

"At KTLA in Hollywood, in the early '50's, I did *everything* around the studios for shows such as *Bandstand Revue, Spade Cooley, City At Night, Ina Ray Hutton* and the popular wrestling from Hollywood. From there I went to ABC, starting as a film editor, then as head of the film department, then on to program director for Channel 7, and finally as executive producer for certain in-house productions, including the popular *General Hospital.*"

In 1970, Howard and Alan Landsburg teamed to start their own production company. "We worked out of a wonderful roomy house in the Hollywood Hills, turning out documentaries."

The industry liked what it saw, bestowed awards, and the company grew. "Gradually we went into special films, TV movies and series." The honors grew again.

Today they have well over 200 employees and supervise all production details, both for film and videotape. Their present large building was formerly owned by Harry Gartsman, W6ATC. (Keep it in the "family.")

Howard's other interests are varied. As a youngster, he played piano and percussion with the California Junior Symphony Orchestra. Frequently, he worked in films when young musicians were required. (He's a life member of the American Federation of Musicians.)

"One of my happy memories is playing in the Hollywood Bowl for an entire summer! But I hung up my tympani sticks for good in 1950."

However, his natural and developed rhythm came in handy when he finally got around to studying for his ham license. Musicians seem to shine at CW — and he is one.

Amateur Radio had been calling to him since age 17, when his father took him to visit a friend with a "roomful of 6 ft. racks and DX QSL's." However, he didn't find time to earn his ticket until 1967, when he visited a business associate — producer/director Bert Gordon, K6APL. "At parties in his home, they'd find me spending all my time in his radio shack. I was hooked!"

Howard went all out, working his way up to an Advanced ticket and taking Amateur Radio very seriously. He points with pride to his tower and its noble array. "I put that up myself with help from friends." He works all bands and all modes — including RTTY, and has made friends all over. He and his attorney brother, Ron N6APT, can be heard on 2 meters discussing their computers which are linked by phone.

Not only have his wife and brother followed him into Amateur Radio, but son Lewis, a videotape editor, is N6FOA;

(*please turn to page 26*)

PUBLIC SERVICE

Nebraska club pitches in with communications

Communications for the annual March of Dimes WalkAmerica in Lincoln, Nebraska was provided by members of the Lincoln ARC on Saturday, 28 April.

The net started at 7:45 a.m. and closed shortly before 5:00 p.m. Twenty-five amateurs participated.

•

A week later, on 06 May, 35 members of the Lincoln ARC provided communications for the 7th Annual Lincoln Marathon. Nearly 900 of the 1,300 entries finished on this damp, windy and cold day.

In addition to the normal range of entries, this year's marathon was also a national championship race for runners over 40, sponsored by TAC of the National Athletic Congress, as well as a national contest for the Army National Guard, drawing Guard runners from throughout the United States and Guam.

Members of the Lincoln club provided communications between all aid stations, which were at three-mile intervals over the 26-mile course. They also linked the police/safety net, press vehicle, timers and race officials.

In support of the public address system, club members on bicycles tracked the leader as well as other key runners. As runners entered the track at the end of the race, a third net passed numbers to the data processing group so that the public address announcer had immediate detailed information on each runner as they crossed the finish line.
— Reynolds Davis, KØGND, Lancaster County EC □

The San Mateo Radio Club's Mobile Communications Center

Former 'SWAT' van serves amateurs

J.D. "Knock" Knochenhauer, K6ITL

In 1975, the City Manager of San Mateo (California) requested the assistance of the San Mateo Radio Club in establishing an emergency communications system which would supplement the official city communications system in the event of a major natural disaster or other emergency. Since that time, a dedicated group of local amateurs has developed an effective joint operation under RACES and ARES.

In 1982, this group devoted more than 1,500 hours to the total reconstruction of a one-time "SWAT" van. Upon completion of the work, the van contained a complete duplicate of the central communications center and includes six operating positions for the RACES/ARES operations. Included are one HF and two fixed 2-meter transceivers, with the capability of expansion to five VHF and three HF positions.

The van is unique in that it contains four "fail-safe" power sources which assure operation under the most difficult conditions. A 3.5kW gasoline generator provides both 120VAC and 12VDC. Through a diode network, two heavy-duty 12 volt batteries also supply power to both the city and the amateur equipment, with automatic switching if the generator fails. In addition, outside power may be used either to operate heavy-duty chargers or, through a series of portable power supplies, provide 12 volts DC to all equipment.

The batteries have an anticipated life of 12 hours with no charge under usual emergency operations. As a last resort, the entire bank of both city and amateur equipment can be run from the vehicle battery. In any case, all systems are tied together through the diode system to assure continuity of power should any of them fail.

The Mobile Communications Center is available to the San Mateo Radio Club for any occasion and is frequently used for Field Day, drills, and parades or other special events. A special telephone installation permits immediate connection to the commercial lines with five incoming/outgoing lines. A television monitor, 250-channel scanner for VHF/UHF and an AM/FM receiver permit the operators to keep abreast of any developing situations.

Twelve VHF and UHF antennas are permanently installed on the roof of the van and are totally accessible through a patch panel on the inside. This permits any piece of equipment to be connected to any antenna. It also permits the addition of new equipment without any changes to either the power or antenna system. HF antennas are mounted on the front and rear of the vehicle. (It really does resemble an overgrown porcupine!)

In addition, outside antennas may be patched to the interior through an external panel in a rear compartment.

Each year, the City Council holds an award ceremony in recognition of those who have significantly contributed their time to the city. In 1983, the RACES/ARES members contributed over 3,700 hours, far in excess of any other group in the city.

Those who contributed the most to the city were given Certificates of Appreciation at the award ceremony in May. They are: Bill Gielow, WA6FXC; Louis Hoff, KE6HG; Jim Muiter, W6KXG; Art Nelson, WA6SWK; Wilber Roake, W6SER; Tom Spinelli, KQ6E; John Steinert, WB6IDT; Edwin Stephenson, W6MKM; and Ed Turner, W6NVO.

It goes without saying that a great many amateurs in the San Mateo area have contributed a great deal of time and effort to this venture and are very proud of their work. As both the RACES Radio Officer and the ARRL Emergency Coordinator for San Mateo, I feel that such pride is well deserved. It is unfortunate that the city was not able to provide certificates for all the RACES/ARES members, as they each deserve one. □

Amateurs take part in weather nets

The Lancaster County area in Nebraska was placed under a tornado watch on Thursday, 26 April, at 2:00 p.m. Conditions deteriorated until 3:00 p.m., when spotters were called to man pre-assigned points.

Steve May, WAØASM, Assistant Emergency Coordinator for the county, was called by civil defense officials and asked to provide spotters at certain points. As the front moved through the city after 4:00 p.m., hail pelted areas of Lincoln, but no damage was reported.

Later that evening, a second rapidly developing front moved into and threatened the Lincoln area. The front was an oddity in that it was being observed on radar and quickly moved from a level one to a level four, at which point civil defense asked that spotters be deployed at 9:30 p.m.

Luckily, the storm collapsed as quickly as it built up, and the weather net closed by 10:15 p.m.
— Reynolds Davis, KØGND □

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

Amateurs provide race splits in marathon

Harold S. (Sam) Farney, KL7HQJ, and Marriner Berthols, NL7AF, of the Anchorage ARC, made split-time records available for the TAC certified out-and-back course of the 8th Annual Glacier Marathon, to and from Girdwood and Portage, Alaska, on Mother's Day, 13 May.

The runners' times (in minutes) from starting were transmitted by 2-meter hand-helds by NL7AF at the 7-mile and 19.2-mile station to KL7HQJ, with KL7DG at the 13.1 mile turn-around point. Bib numbers were piped and recorded for times by KL7DG.

After two hours 10 minutes from race start, at 7:00 a.m. KL7DG returned to the starting line, but continued to copy in the blind from NL7AF with hand-held operating in car. This method provided after-the -race data for all runners with a minimum of race officials. Thus, Amateur Radio provided the first race splits at 7, 13.1 and 19.2-mile points in the eight-year history of the Glacier Marathon. — *John Trent, KL7DG* □

Start of the 8th Annual Glacier Marathon, 13 May, 7:02 a.m. Cars are parked on the Aleyeska Ski Resort road that intersects with New Seward Highway.

The turn-around (13.1 miles) station of the 8th Annual Glacier Marathon.

Bike-a-thon raises funds for bikeway

Charles Stouth, W3ZPP

On Sunday, 20 May, the Philmont Mobile Radio Club provided the necessary communications for the 4th Annual Freedom Valley Bike-a-thon. The event is sponsored by the Philadelphia-Valley Forge Trail Committee of the local Sierra Club, local American youth hostels, the Greater Philadelphia Bicycle Coalition, Schuykill River Greenway Association and The Wheelmen.

The project for the bikeway that connects Independence Hall with Valley Forge National Park started as a bicentennial project, section by section since 1979.

The bike-a-thon is held each year to raise funds for the project. □

Maine hams promote HANDI-HAM System

The HANDI-HAM System is the answer to a prayer for many handicapped people throughout the world.

The international system is used not only for handicapped people, but has many non-disabled amateurs who donate their time and talents to help the new students, because it is necessary to have a license in order to be a ham operator.

HANDI-HAM membership is composed of people with physical handicaps who are studying for their licenses and those who have already obtained them. It also includes disabled and non-disabled hams who volunteer their time, effort and service to help the students.

Often, the world of a person with a physical handicap is limited, possibly to a single room. HANDI-HAM members say it does not have to be that way. With Amateur Radio, a world that might be bounded by four walls can be expanded to the farthest reaches of the world.

A room in the home of John Squiers, KA1JSF, of Topsham contains the setup for the Courage HANDI-HAM System for this area.

Squiers, Herb Merrill, KA1JSE, and Ed Ciampa, N1CSU, of Brunswick pooled their expertise in the area of communications, studied and passed the test for licenses, and now are in operation on River Street in Topsham. They will help anyone interested in Amateur Radio work.

Morse High School offered a night course necessary for ham operators, and Squiers, Ciampa and Merrill attended classes there, working toward their licenses.

Ed Ciampa recently was named president of the Brunswick American Association of Retired People. He is retired from the U.S. Navy after working many years as a radar instructor. Ciampa says he likes to keep busy and likes to help others to help themselves. He believes that HANDI-HAM System can brighten the world of many shut-ins.

Herb Merrill is a man extraordinaire. Anything anyone else can do, Herb can do better. Last year he was given the Jefferson Award for his work with disabled people. He wants to get this operation in motion in order to catalog the various operations in this area.

John Squiers is well known for his

work with disabled people. A native of Greenville, he said that many times there was no way to communicate with the outside world, and that the amateur operator answers a need in this state, especially in rural and isolated areas. He wants to aid other handicapped people so they will not be in the same predicament. *— Marion Watson; Brunswick Times Record, ME* □

Walkers and runners aided by hams

Reynolds Davis, KØGND

Members of the Lincoln ARC (LARC) monitored the 15-mile course for the 27 walkers who participated in the White Cane Walk on Saturday, 19 May.

Sponsored by the local chapter of the National Federation for the Blind, the walk raised money through pledges for Federation activities. LARC members also assisted when any of the sightless walkers strayed from the course with appropriate mid-course corrections.

Since the walkers stayed in one group, a very small number of operators (seven) was necessary to work the event, which started at 9:00 a.m. and concluded after 4:00 p.m.

The following day, LARC members provided all information for the public address (PA) system in conjunction with the Lincoln Mile, sponsored by the Lincoln Track Club.

The Lincoln Mile competition includes 11 separate classes, each running a mile. A club member with the starter was able to transmit the sound of the gun so that course timers were all in sync.

LARC members at the quarter, half and three-quarter mile marks transmitted the numbers and times of the first runners through their point. This report was put directly on the PA system, and the PA announcer filled in the names and covered each finish. □

STATION APPEARANCE

Alan R. Trueblood, KA2KGD, of Sewell, New Jersey, wins this month's Station Appearance with this neat station.

Alan's main interests in Amateur Radio are DX'ing and contesting. He's very active in all contests. Alan is 45 years old, a member of the Gloucester County ARC, and has been licensed since September 1980.

The equipment KA2KGD uses, as shown in the photo, left to right, consists of: *(Bottom row)* front — Microcraft keyboard; Heath SB-604 speaker; Heath IM-4100 frequency counter; Heath SB-201 amplifier; Heath HW-101; Heath HD-1410 keyer; Heath SB-614 monitor; Field Day 2. (*Second row*) Drake MS-4 speaker and power supply; Heath SA-2040 antenna tuner; Drake T-4XB; Drake R-4B; Alliance Beam Rotor; Heath HD-1426 field strength meter. (*Third row*) Heath IM-105 VTM; Heath IM-5228 VTVM; Lumitime 24-hour clock; Heath HM-2140 SWR and power meter; Heath HM-102 SWR and power meter; 10-meter antenna switch box. (*Top row*) Hallicrafter HT-40; Eico 720; Eico 722 VFO. (*Not shown*) Hallicrafter SX-62 and teletype; Johnson Viking 2 with VFO. □

California wedding is a ham affair

A nearly-all ham wedding celebration centered on the marriage of Eva Gordon, WA6YQT, and John Olip, WB6YQT.

They've known each other 11 years and together decided to join the radio class of Ted Ryan, WB6JXY, and came up with closely related call letters, five years ago.

Currently, they are devoted members of the Los Angeles Police Department's Ham Watch in Van Nuys, and both have earned the title of Specialist Reserve Officer.

They work together daily in their own insurance agency. □

Almost all of the people attending John and Eva Olip's wedding were Amateur Radio operators. *Top row* (left to right): Scott Aldrich, KB5CHT; Bill Jones, K6HWZ; Joe Celentano, K6LLD; Howard Burch, WA6ELA; Perry Cohen, WA6AKU; Hugh Davies, K6TLJ; Larry Ngou, AC6Q; Ed Khoury, WB6NHO; Frank Gunnell, WB6BPL; Jess Alexander, AC6U; Bill Hopkins, WA6CWB; Richard Corvi, N6CMQ; Sam Birken, WD6GYQ; Bill McGee, N6HOV; Rod Joffe, NK6S; Floyd Lehman, WD6BER; Doug Austin, WD6EKD; and Bill Sturgis. *Bottom row* (left to right): Mike Feffer, W6KWJ; Herb Bann, WB6USA; Bill Warner, N6GIC; Terri Moore, N6CZA; Suzi Olip (groom's daughter); John Olip, WB6YQT (groom); Eva Olip, WA6YQT (bride); Heather Olip, KA6VJK (groom's daughter); Eddie Birken, KA6LBA; Lou Ronne, KB6BGN; Richard Schwab, N6BBW; and Tom Soumas, WA7PDV.

Share your knowledge with your fellow amateur and Worldradio reader

Focus on Amateur Radio

J.A. "Doc" Gmelin
W6ZRJ

In a recent ARRL news release, I read that Canada is considering dropping its phone sub-band allocations and allowing Canadian amateurs to operate on any part of the amateur bands, on any mode.

Such news will be viewed by amateurs in the United States with mixed feelings, depending on their own particular interests in Amateur Radio and on the communications modes they use.

The problem of sub-bands in the United States and the problem of restricted bands for CW and phone is not new. Many U.S. amateurs wish to see such restrictions removed for U.S. amateurs.

The problem of phone sub-bands is complex. While many phone operators want to see unlimited phone use of the amateur bands, these same amateurs ask that the code requirements for obtaining amateur licenses be retained. CW operators want to see the CW band restrictions continued, feeling that they cannot compete with the phone signals.

My first knowledge of another reason why many amateurs want to see CW restrictions removed came in my first year as a Director of the ARRL.

I was asked by DX interests in the Pacific Division to have the League petition Canada to make their sub-band restrictions the same as those in the United States. Many feel that Canadians who are also able to be full members of the ARRL (now CRRL), have an unfair advantage in being able to work DX stations on phone outside the U.S. phone bands.

I brought up this subject informally my first evening at the Board meeting and the Canadian Director came down on me hard, saying that Canadian band restrictions were none of my business, that Canada is a sovereign nation and that Canadian amateurs would decide what band restrictions they want by themselves.

When I found that other directors agreed that Canada makes its own regulations and such matters are not the concern of the ARRL Board, I dropped the subject.

I did ask the Canadian Director why Canadians want an extra sub-band segment outside of the U.S. bands. I learned that Canadians want to go somewhere on phone where they can escape U.S. operators. In fact, this is the situation worldwide, and this is one of the major problems with eliminating U.S. phone band restrictions.

A good friend of mine who is an avid DX'er explained that he wants to see band plan agreements like those in Europe instead of restrictions like those in the United States. The only problem with this concept is that there is no guarantee U.S. operators will respect these agreements any more than amateurs in other parts of the world.

Most DX'ers don't want to eliminate CW bands, but they want to work the DX at all times on any frequency, no matter where the DX station operates on the band. It's as though U.S. amateurs feel that DX stations exist only so we Americans can make DXCC and head toward the "top of the heap."

And why do U.S. phone-only operators want to continue the CW requirement when, at the same time, they want to eliminate CW bands? Not so they can work CW. They want to use it as a bar to keep out others who want to become amateurs but won't spend the time to learn the code and pass the necessary tests.

And they are probably right. If the amateur bands were open to everyone without the need to take a stiff code and theory test, the bands would soon be chaos.

What phone operators who work no CW don't realize is that CW is a very good way to communicate. This can be seen by the fact that so many amateurs use CW for passing traffic.

Why? Well, in the long run, traffic can be sent only as fast as you can write it down, and that is well within easy CW speed which can be learned with a minimum of practice.

The other reason CW is a good mode is that we amateurs must use such low power.

A KW is high power you say? Then how come the commercials use 50, 150 or more KW and still have difficulty maintaining a 100 percent circuit?

Try maintaining a nightly circuit on the amateur bands where you can send perfect copy with loud signals all of the time. Even with the added bands we will be using, it can't be done on the high frequencies.

You definitely can't do it on RTTY or SSB. Yes, you can communicate enough to make a contact, but try to send letter-pefect word-for-word traffic. It's hard enough to do it on CW, even with KW rigs.

Would opening the entire amateur bands to any mode of operation destroy CW operation? In the long run, I suspect it would.

Who cares? Well, if we are going to

have a code requirement for obtaining an amateur license, we had better find some way for at least some amateurs to be using the code. In fact, why not find some way for all amateurs to be required to use the code, since they have to learn it. The majority of amateurs seem to want to see the requirement kept; let's see them required to put code into action.

I doubt I'll have much support for such a proposal, and I suspect there will always be pressure to expand U.S. phone bands until there are no CW bands left. That will be a sad day for Amateur Radio.

I didn't want to learn the code when I first got interested in Amateur Radio nearly 40 years ago, but I had to do it to become a radio amateur, and now I'm sure glad the FCC made me do it.

I work phone, RTTY and FAX in my own amateur operation as well as CW, but my first love is now CW. Why? Because it's a skill not everyone can do. Not everyone can run a 35 wpm CW net and enjoy the thrill of high-speed CW operation.

As my friend, — Albert Gaetano, W6VZT — says, "Any idiot can learn to spit into a microphone and say 'by golly' if he's a ham or 'A big 10-04' if he is a CB'er."

I'm proud of my CW skill. That's real Amateur Radio to me. □

Code in the head

John Davidson, KA0NPN

Learning the code is no problem. The problem is *how* you learn it! Most old-timers learned it the wrong way, and even today the teaching methods might be improved. Let me offer my credentials for teaching code. First of all, I learned it in the wrong way, of course, in the mid-'30s. I picked up the alphabet and numerals plus normal ham punctuation and then hit a plateau of about 8 wpm, and was told that this was normal and I could get over this with continued practice. Eventually, I did, and passed the 10 wpm code test in Canada and was assigned the call VE5GL. I operated for a couple of years until September 1939, when we were closed down due to hostilities.

Shortly thereafter, I was teaching physics in an RCAF (Royal Canadian Air Force) school in Vancouver, when the brass discovered I held an amateur license. I was immediately assigned the job of teaching code to the incoming airmen, several of whom had been told they couldn't learn code! I inadvertently hit upon a teaching system that worked. I didn't know why at the time, but I do now, after 40 years of teaching at all levels from kindergarten through Ph.D. Our record of teaching success is shown by some thousands of airmen who took the final exam, and every one of them scored 100 percent. We never did have a single error in copying — on the final!

In the introduction to the class on our first meeting, I asked the men to write down the letters as I dictated them. Then I simply spelled out "MORSE CODE" in plain language. When I found that nobody had made any errors, I promised them that they would pass the code test. All we were going to do was change the name of the letters. Instead of "M" that letter was going to be "Dadah," etc. At no time did we allow, or even admit to the existence of "dots" or "dashes." To prevent students from "breaking down" the letters into their component parts, the letters were sent at approximately 25 wpm, *but* for copying practice they were spaced — well spaced in terms of time, poorly spaced in terms of good code.

So-called "recognition runs" were made from time to time, where the student was not expected to copy, but just listen for "oddball" letters. For example, during the first half-hour session, the class was taught the 'dit' sequence from E to 5. After a half dozen runs, with the five characters well spaced, a 25 wpm run of "S's" was presented with the occasional I or H inserted. The students' job was to pick out the "oddballs" in the run, both letter and the number of them. Five half-hour sessions were used to teach the characters needed.

In subsequent lessons, the drills always contained some "oddball" speed passages, and the men liked them very much. After the alphabet had been learned, every session ended with a "formal" final exam. We used the official examination form and conducted the test just as the final would be given. They scored their own tests and deducted 5 points for each error. Scores typically ranged from minus 125 down to minus 350 or so. They kept a graph of their progress, and we had marvelous celebrations when the men got up to zero!

Speed was picked up, of course, by merely shortening the spaces between letters, and this was quite insidious. So much so, that I sneakily sped up their daily finals and other speed tests. I'd tell them, "OK, men, let's try 6 wpm." Then I'd send the passage at 7½ or 8. We had them copying 12 and 13 wpm and believing it was 8! They were supposed to leave us at 8 wpm, but all were capable of 15, and most were up to 20 in 30 hours of instruction time. By the way, we started the program with one hour every second day, and changed to a half hour each day, five days a week. That was the program, and now after many years, I know why it was successful.

What we did was to proceed directly from sound to letter. No intermediate interpretation was permitted. If we were teaching copying by typewriter, we would go from sound to *key* and not even bother (*please turn to page 26*)

DX WORLD

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

Activities Calendar

08-09 September	DARC European DX Contest (SSB)
13-14 October	PPC Rio DX Party (CW)
27-28 October	CQ World Wide DX Contest (SSB)

What is a DXpedition?

It is just what it looks like from the combination of words. If refers to amateurs going some place, usually a rare spot, with a radio and talking from there to other amateurs around the world (or as far as possible!).

The DXpedition is the "piece de resistance" of DX'ing. For the DXpeditions, it is perhaps a chance to participate in some high adventure — boats, jeeps, mules — perhaps to some inaccessible, remote corner of the globe. For the DXpeditionees, the people who stay home, it is the chance to work a new or rare country or fill in a few blanks in their 5-band DXCC. It's fun for everybody. Most DXpeditions to new or rare countries are well advertised in advance and everyone waits for them to show up.

When a DXpedition finally gets on the air, the worst in Amateur Radio operating procedure often prevails with the calling stations stacked 10 deep over 20 to 30 kHz of the band. After a day or so, however, most of the more frantic operators who are trying to get on the Honor Roll, or the others trying to stay there, have worked the station and the pressure to get in the DX log has subsided. Partial sanity returns. The lesson here is, don't call aimlessly and continuously; use a plan. Begin by *listening*.

On the other end of the circuit, imagine the cacophony heard by the DXpedition operators! Most often, however, the DXpedition members are excellent operators and can pick out and work the calling stations at rates of three to four per minute for hours on end.

It is a funny thing, but many people rate the quality of the DXpedition by whether they were able to work it or not. If they worked it, it was a great, well-run DXpedition with sharp operators. If they failed to get in the log, the DXpedition was poorly handled and the operators were all deaf lids.

Many DXpeditions are centered around vacations. In fact, many of the Caribbean operations are from vacation resorts, some of which have complete amateur stations available for licensed operators to use. Other vacationers prefer to travel and take along their own equipment. Some just visit amateur friends in those DX locations and operate their equipment.

Credit for this article goes to the TARW Research Group of *The Amateur Radio World*, published in the Philippines.

DXPO 84

Mark your calendars for the dates of 13-14 October, for DXPO 84, to be held at Tysons Corner in northern Virginia. This affair is sponsored by the National Capitol DX Association, which they have done every other year since 1974.

More details on this event next month, or if you can't wait, contact Stuart Meyer, W2GHK, 2417 Newton St., Vienna, VA 22180.

You don't have to be a Big Gun

In our June column, I promised that I would include some comments by a member of the Western Washington DX Club. The article, "That Humble Feeling," was written by Bradley Wells, KR7L, and was printed in the April 1984 issue of *The Totem Tabloid*, club newsletter of WWDXC.

Was there ever a DX'er who did not spend some of his time wishing for bigger and better equipment? At one time or other, we all have wanted a maximum legal amplifier and stacked moncbanders on a 200 ft. tower. We have the firm belief that these things are required to make the Honor Roll or crack big pile-ups. In order to maintain a proper perspective and prevent financial ruin, I keep the following tidbits on my desk.

Howard Bradley, W2QQH, has 7-Band WAS, 6-Band WAC and 351 confirmed countries. In itself, this is a respectable showing. But Howard has done it with nothing more than an end-fed Zepp antenna, 35 watts of power and a General Class ticket.

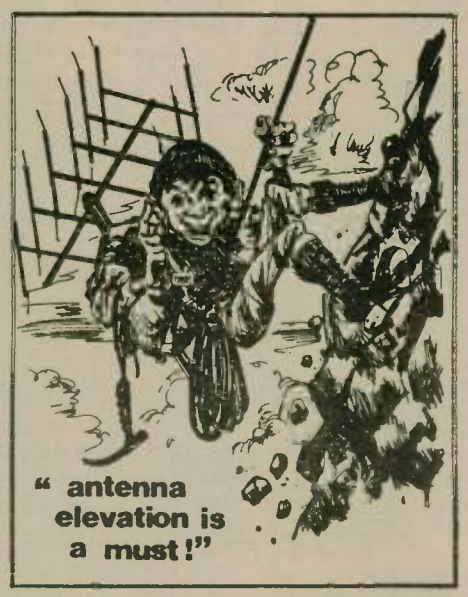
Victor Paounoff, HH2VP, won the Single Operator, All Band DX Trophy in the 1981 ARRL DX Contest (CW) with over 2.5 million points. He had a total of 2,878 QSO's and 297 multipliers. Not too bad for a DX station — but it has been done before. Right? Well, consider that he was using a 200 watt transceiver and a trap vertical (with an additional 160-meter dipole), and didn't even use earphones.

Think that only DX stations can win trophies running low power in a contest? No way. Ron Moorefield, W8ILC, running his Ten-Tec Argonaut at its full 5 watts, established a new world record in the 1982 CQ WPX Contest. Operating QRPp All-Band, he racked up 1,044,012 points with 970 prefix multipliers and 459 country multipliers!

Brice Anderson, W9PNE, has done some amazing things with very low power. So far, he has WAS and 32 countries with 280mW output, 37 states and nine countries with 100mW, and 11 states and two countries with 25mW output! All this with only a single-wire antenna.

According to Ade Weiss, K8EEG, 64 stations have claimed DXCC QRP (5 watts output), four have claimed over 200 DXCC countries QRP, and eight stations have qualified for DXCC MilliWatt (less than 1 watt output). And W8ILC (mentioned above) has worked 297 countries — and confirmed 292 — with 1 watt of SSB!

All of which proves that patience, perseverance, tenacity and time will make up for most things.



Courtesy of *The Amateur Radio World* of the Philippines, Susan B. Bongalon, DW4AN, Publisher-Editor.

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The following article was written anonymously by a member of the Kansas DX Association. Perhaps you might enjoy reading this.

We are members of an enlightened society. It is a hard thing to accept sometimes. Almost every night our televisions are filled with pictures of tribal warfare taking place in the Middle East and elsewhere. Worse, an end to such conflicts is not in sight.

Such examples are more the exception than the rule. In other areas we have made significant progress. Consider for a moment society's attitude toward those less fortunate individuals among us who are afflicted with various diseases. We no longer find it necessary to banish those who have contracted tuberculosis to some isolated island. Persons suffering from certain mental disorders are often allowed to remain in the community while undergoing treatment. That sort of thing was unheard of a few years ago.

Sandra Murray, VK4NUE, and her OM, Phil, pose for their photo at a Golden Bear Chapter — of 10-10 International — brunch last fall, during the couple's 1983 tour of the United States. *(Photo by N6JM)*

We have opened our minds to the realization that sick people are not necessarily sinful. One of the most dramatic shifts in public opinion has been in the area of alcoholism. Not long ago, alcoholics inhabited a niche in the social strata somewhere between criminals and hoboes. Alcoholism, when it was spoken of at all, was spoken of in hushed terms. We now know that alcoholism is a disease. It is a disease from which a person can recover.

I think it is high time we brought another taboo subject out of the closet. It is a subject we should all be able to discuss. There may be one or two who feel a bit uncomfortable discussing it. Nevertheless, nothing is going to be accomplished until we get this thing out in the open and begin dealing with it honestly.

The subject is: *The DX Junkie*. Some of you are individuals who fit in this category. All of us know *of* individuals like this.

The DX junkie has been widely cursed by DX'er and non-DX'er alike. The frustration left on the bands in the junkie's wake nearly defies explanation. I can give a couple of examples, however. I remember listening to a station try to take a list for a PY0 on 15 meters. In the midst of the chaos, a very well-known DX'er — who has confirmed everything there is to confirm — managed to get a spot on the list. This same junkie worked the VU7 at least four times on 20-meter SSB alone.

When YI1BGD began making a habit of appearing on 20 meters in the mornings, there were a handful of junkies who worked Saad and Majid *every* time possible.

I could go on. Everyone has a few stories like these. More stories probably won't help us answer the real question, "Why do people do such things?" A precise explanation obviously needs to be offered by a professional. A simple explanation is at hand; *these people are sick.* They need help. They are not able to cure themselves. Their well-being depends upon the charity and understanding of the rest of us.

Having recognized the problem, we need to take steps to deal with it. I propose that all organized DX clubs set up a taxing structure to provide funding for a treatment center. Individual, "lone wolf" DX'ers should also be encouraged to participate. A staff consisting of professionals from all disciplines should be available to help the junkie break the terrible circle of dependency.

There is a dark side to all of this. Recovering DX junkies cannot allow themselves to operate a radio ever again. That will be a bitter pill for many. Maybe a way can be found to sweeten things up somewhat. The formation of support groups might be helpful.

Look on the bright side, though. If we are successful, there may be writers and movie producers wanting to cash in on the concept. I can see it now . . .

. . . Ray Milland shuffles into the radio shop looking bedraggled and unshaven. He staggers to the counter and hoarsely whispers to the salesman, "Please Bud, give me a microphone."

"No," says Bud, "It's always the same with you. One microphone is too many and a hundred microphones aren't enough."

"Please Bud, please," Milland says. "Can't you give me just a CB microphone."

Bud eyes the quivering, wretched mass of humanity. There is no charity in his voice as he speaks, "Go on. Get out of here you bum."

Any profits from the sale of rights to Hollywood should be turned over to the treatment center, except — of course — for a small fund we can draw on for social occasions.

Region 1

Country		Allocation	Notes
Andorra	(C3)	1810-1875	Phone permitted only in 1825-1875
Austria	(OE)	1810-1850	SSB only allowed 1832-1835
Bahrain	(A9)	1800-2000	
Cyprus	(5B)	1800-2000	Phone permitted only in 1900-2000
Denmark	(OZ)	1830-1850	CW up to 10 watts only
Djibouti	(J2)	1810-1850	
East Germany	(Y2)	1810-1950	Up to 10 watts, phone only allowed
		1900-1950	
West Germany	(DL)	1815-1835	SSB only allowed 1832-1835
		1850-1890	CW only
Finland	(OH)	1820-1845	Up to 10 watts
		1915-1955	Up to 10 watts
France	(F)	1830-1850	
Gibraltar	(ZB)	1800-2000	
Lesotho	(7P)	1800-2000	Up to 10 watts
Luxembourg	(LX)	1830-1850	
Malta	(9H)	1810-2000	Up to 10 watts
Netherlands	(PA)	1825-1835	Up to 10 watts CW and SSB
Nigeria	(5N)	1800-2000	Up to 10 watts
Norway	(LA)	1802-1850	CW up to 15 watts
Oman	(A4)	1800-2000	CW up to 10 watts only
Poland	(SP)	1750-1800	Up to 10 watts input
		1810-1930	Up to 10 watts except 1830-1850
Portugal	(CT)	1830-1850	CW and RTTY up to 60 watts only
USSR	(U)	1850-1950	Low power, phone only allowed
		1875-1950	
San Marino	(T7)	1830-1850	
Senegal	(6W)	1810-1850	
South Africa	(ZS)	1810-1850	
Spain	(EA)	1830-1850	
Sweden	(SM)	1830-1845	10 watts CW only
Switzerland	(HB)	1810-1850	
Syria	(YK)	1830-1850	
United Kingdom	(G)	1810-2000	

Region 2

Country		Allocation	Notes
Antigua	(VP)	1800-2000	
Argentina	(LU)	1800-1850	1800-1810 CW only
Bahamas	(C6)	1800-1825	
		1975-2000	
Bermuda	(VP)	1800-1825	CW and Phone
		1875-1900	CW and Phone
Bolivia	(CP)	1800-1850	
Brazil	(PY)	1800-1850	
Canada	(VE)	1800-2000	
Colombia	(HK)	1800-2000	
Costa Rica	(TI)	1800-2000	
El Salvador	(YS)	1800-2000	
Grenada	(J3)	1800-2000	
Guatemala	(TG)	1800-2000	
Honduras	(HR)	1800-2000	
Mexico	(XE)	1800-2000	
Montserrat	(VP)	1800-2000	CW and SSB only
Curacao	(PJ)	1800-2000	
Nicaragua	(YN)	1800-2000	
Panama	(HP)	1800-2000	
Peru	(OA)	1800-2000	
Surinam	(PZ)	1800-2000	
Trinidad	(9Y)	1800-2000	
United States	(W)	1800-2000	

Region 3

Country		Allocation	Notes
Australia	(VK)	1800-1866	Phone 1825-1866
		1874-1875	
French Polynesia	(FO)	1800-2000	
Hong Kong	(VS)	1800-2000	CW only
Indonesia	(YB)	1800-1900	Phone
		1900-2000	CW
Japan	(JA)	1907-1912	Add ½ kHz to limits
Malaysia	(9M)	1800-2000	
New Zealand	(ZL)	1803-1857	
		1863-1950	
Pakistan	(AP)	1800-2000	
Papua New Guinea	(P2)	1800-1866	
		1874-2000	
Singapore	(9V)	1800-2000	Up to 10 watts
Solomon Islands	(H4)	1800-2000	
Western Samoa	(5W)	1800-2000	Phone 1850-2000

Diplome de la Region Parisienne

The DRP Award is issued to all Amateur Radio stations or SWL's who can confirm two-way contacts (or heard) with Paris region stations. This region contacts the department numbers 77, 78, 91, 92, 93, 94 and 95. The department number is on the QSL card. (This is the first two numbers of the French postal code; i.e., 77645 would be department number 77.)

The award is available in three classes and can be all CW, all Phone, or mixed for Class 1 only. All contacts must have been made since 01 January 1970. **Class 1:** 5 stations in each of 7 departments, (35 contacts); **Class 2:** 3 stations in each of 7 departments, (21 contacts); **Class 3:** 1 station in each of 7 departments, (7 contacts).

To apply for this award send a certified list of QSL cards, (certified by two other licensed Amateur Radio operators), with a fee of 8 IRC's to: DRP Award Manager, FE6377 Georges HOUY, 16, Rue A. Bossu, 93700 Drancy, FRANCE.

160-meter frequency allocations

In a recent issue of the *DX News Sheet* were the frequency allocations of the various countries by IARU regions. Only IARU member societies are included.

Access to this band is still denied in Belgium, Hungary, Italy, Lebanon, Liberia, Monaco, Morocco, Romania, Sierra Leone, Turkey, Belize, Chile, Bangladesh, Fiji and Philippines. In Region 2, the segment 1800-1850 is an exclusive allocation where 1850-2000 is shared. In Region 3, 1800-2000 is a shared allocation.

In an effort to encourage personal communications among peoples around the world via Amateur Radio, **Worldradio** offers the *Worked 100 Nations Award, Series II* to those confirming two-way amateur communications with permanent stations in 100 distinct countries having a permanent, native population.

The purpose of the **Worldradio** Worked 100 Nations Award, Series II (hereafter referred to as W-100-N) is to demonstrate the unique opportunity Amateur Radio offers for communications between international borders to further worldwide understanding.

The W-100-N is not a radio sport award as such, but a token of achievement in communication. At the same time, it offers all Amateur Radio enthusiasts several features not found in other awards.

1) W-100-N virtually eliminates the need to work geographic areas heard only during DXpeditions. Almost all national entities have amateur stations consistently active on the air.

2) Since almost all national entities are active, W-100-N will be of perennial interest, since the advantage of those having worked a national entity long since inactive on the air will be minimal.

3) W-100-N is difficult to achieve, yet it is within reach of all moderately well-equipped operators utilizing good communications skills. There is no need to wait for a station in a single area of the world to appear on the air to qualify for W-100-N.

Rules

1) The Worked 100 Nations Award is available to any licensed Amateur Radio operator who can prove confirmation of two-way communications with government-authorized Amateur Radio stations in at least 100 different nations of the world.

2) No contacts with stations using reciprocal calls will count toward this award, such as N6JM/UL7.

3) All contacts must be with land-based stations. Contacts with ships, at anchor or otherwise, and aircraft cannot be considered.

4) All contacts shall be made from the same country.

5) Only contacts made on or after 01 January 1978 will count.

6) The application shall include the following:

(a) Letter of transmittal requesting the W-100-N.

(b) List of contacts in order by prefix showing nation, station call, date, band and mode.

(c) A signed statement by two other licensed radio amateurs that they have inspected the required QSL cards.

(d) A fee of $5 to cover the cost of the award.

All applications and requests shall be addressed to: W-100-N Award Manager, **Worldradio**, 2120-28th St., Sacramento, CA 95818 USA.

8) There are no special endorsements to this award. All modes and bands may be used.

Upon approval of an application for W-100-N, a certificate will be issued and the issuance of the award will be noted in a future issue of **Worldradio**.

W-100-N nations list criteria

1) In all cases, each "nation" will be both a political and a geographical entity at the same time.

2) In all cases, each "nation" will be a geographical and political entity independent enough to issue distinctive postage stamps acceptable in international mail.

3) In all cases, each "nation" will be a geographical and political entity whose amateur stations are

(a) identifiable by a specific call sign prefix series allocation assigned to that entity by the International Telecommunications Union, or

(b) identifiable by a specific call sign prefix or suffix series normally used in the issuance of amateur licenses to new amateur licensees under ITU prefix allocations by the sovereign government of the entity.

4) No geographical or political entity that does not have a permanent, native population will be considered for "nation" status.

5) Geographical and political entities which do not issue distinctive postage stamps but have permanent, native populations will be considered to be part of the same entity that issued postage stamps for use in that area.

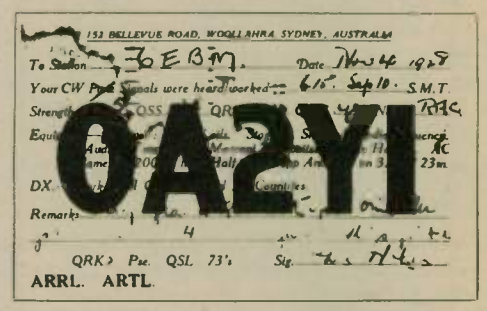
6) Geographical and political entities that issue postage stamps but do not have permanent, native populations will be removed from consideration as "nations" entirely.

Nations List

A2	Botswana
A3	Tonga
A4X	Oman
A5	Bhutan
A6X	United Arab Emirates
A7X	Qatar
A9X	Bahrein
AP	Pakistan
BV	Taiwan
BY	China
C2	Nauru
C3	Andorra
C5	The Gambia
C6	Bahamas
C9	Mozambique
CE	Chile
CM, CO	Cuba
CN	Morocco
CP	Bolivia
CR9	Macao
CT	Portugal
CX	Uruguay
D2	Angola
D4	Cape Verde Is.
D6	Comoro State
DB-DL	West Germany
DL7	West Berlin
DU	Philippines
EA	Spain
EI	Eire
EL	Liberia
EP	Iran
ET	Ethiopia
F, FC	France
FK	New Caledonia
FO	French Polynesia
FP	St. Pierre & Miquelon
FW	Wallis & Futura
G	England
GD	Isle of Man
GI	Northern Ireland
GJ	Jersey
GM	Scotland
GU	Guernsey
GW	Wales
H5	Bophuthatswana
H4	Solomon Is.
HA	Hungary
HB	Switzerland
HB0	Liechtenstein
HC	Ecuador
HH	Haiti
HI	Dominican Republic
HK	Colombia
HL, HM	Korea
HP	Panama
HR	Honduras
HS	Thailand
HV	Vatican City
HZ	Saudi Arabia
I	Italy
J2	Djibouti
J3	Grenada
J5	Guinea Bissau
J6	St Lucia
J7	Dominica
JA, etc.	Japan
JT	Mongolia
JY	Jordan
K, W, N	USA
LA	Norway
LU	Argentina
LX	Luxembourg
LZ	Bulgaria
M	San Marino
OA	Peru
OD	Lebanon
OE	Austria
OH	Finland
OK	Czechoslovakia
ON	Belgium
OX	Greenland
OY	Faroes
OZ	Denmark
P2	Papua New Guinea
PA	Netherlands
PJ	Netherlands Antilles
PP-PY	Brazil
PZ	Surinam
S2	Bangledesh
S4	Basothoqwaqua
	Ciskei
	Kwa Zulu
	Lebowa
	Swazi
S7	Seychelles
S8	Transkei
S9	Sao Tome, Principe
SM	Sweden
SP	Poland
ST	Sudan
SU	Egypt
SV	Greece
T2	Tuvalu
T3	Kiribati
V9	Vendaland
TA	Turkey
TF	Iceland
TG	Guatemala
TI	Costa Rica
TJ	Cameroun
TL	Central African Empire
TN	Congo Republic
TR	Gabon
TT	Chad
TU	Ivory Coast
TY	Benin
TZ	Mali
U, R	USSR
V2A	Antigua
V3A	Belize
VE, VO	Canada
VK	Australia
VK9	Cocos Islands
VK9	Christmas Island
VK9	Norfolk Island
VP2E	Anguilla
VP2K	St. Kitts, Nevis
VP2M	Montserrat
VP2S	St. Vincent
VP2V	British Virgin Is.
VP5	Turks — Caicos Is.
VP8	Falkland Islands
VP9	Bermuda
VQ9	British Indian Ocean Territory
VR6	Pitcairn Island
VS5	Brunei
VS6	Hong Kong
VU	India
XE	Mexico
XT	Voltaic Republic
XU	Cambodia
XV	Viet-Nam
XW	Laos
XZ	Burma
Y, DM	East Germany
YA	Afghanistan
YB	Indonesia
YI	Iraq
YJ	Vanuatu
YK	Syria
YN	Nicaragua
YO	Romania
YS	El Salvador
YU	Yugoslavia
YV	Venezuela
ZA	Albania
ZB2	Gibraltar
ZD7	St. Helena Is.
ZD8	Ascension Is.
ZD9	Tristan da Cunha
Z2	Zimbabwe
ZF	Cayman Islands
ZK1	Cook Islands
ZK2	Niue
ZL	New Zealand
ZK3, ZM	Tokelau
ZP	Paraguay
ZS	South Africa
ZS3	Namibia
1A0	Sovereign Military Order of Malta
3A	Monaco
3B	Mauritius
3C	Equatorial Guinea
3D2	Fiji
3D6	Swaziland
3V	Tunisia
3X	Guinea
4S	Sri Lanka
4W	Yemen
4X, 4Z	Israel
5A	Libya
5B	Cyprus
5H	Tanzania
5N	Nigeria
5R	Malagasy Republic
5T	Mauritania
5U	Niger Republic
5V	Togo
5W	Western Samoa
5X	Uganda
5Z	Kenya
6O	Somali Republic
6W	Senegal
6Y	Jamaica
7O	South Yemen
7P	Lesotho
7Q	Malawi
7X	Algeria
8P	Barbados
8Q	Maldives
8R	Guyana
9G	Ghana
9H	Malta
9J	Zambia
9K	Kuwait
9L	Sierra Leone
9M	Malaysia
9N	Nepal
9Q	Zaire
9U	Burundi
9V	Singapore
9X	Rwanda
9Y	Trinidad & Tobago

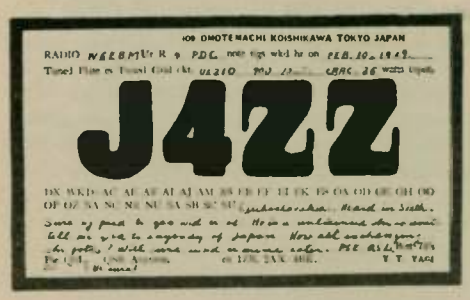
Antique QSL Department

Ashod Hovsepian, W6EBM, an old friend of local DX'er Peter Onnigian, W6QEU, provided the following antique QSL's for us. They go back a few years, before many of us were born.



No, that OA2YI card is not from Peru. Ashod worked that station back on 04 November 1928. The station was located in Sydney, Australia, and was operated by Phil Holan. The equipment at OA2YI consisted of: "Receiver: Aero Coils. Stage of Shielded Radio-frequency. 2 Audio. Transmitter: Marconi 250 watter. Series Hartley. AC Filament. 2000v. MG. Half wave Zepp Antennae on 32 and 23 m."

Phil's DX included 30 countries and all continents. That OA prefix is self-explanatory: "O" for Oceania and "A" for Australia.



The second card, J4ZZ, was for a contact Ashod made with Y.T. Yagi of Tokyo in Japan on 10 February 1929. This station was running 35 watts. The operator of J4ZZ lists the DX he has worked, which of course, has no correlation with the present-day prefixes. "AC" here would have been China; "NC" would not have meant North Carolina, but Canada; etc.

CR QSL information

Ever wonder what happened to those CR7 calls (the former prefix for Mozambique)? The following list includes many of those former CR7 calls and where the operator may be or who the QSL manager is.

CR3AD	—CT1AEO	CR7FJ	—CT1CGK
CR3CO	—CT1KJ	CR7FM	—CT1UP
CR3KD	—CT1KD	CR7FR	—CT1AV
CR3ON	—CT1ON	CR7FS	—CT1QV
CR3RY	—CT1RY	CR7FV	—CT4FI
CR3WB	—CT1WB	CR7GE	—CT4VD
CR4AC	—CT1CH	CR7GF	—CT4JF
CR4AF	—CT4RZ	CR7GJ	—CT1FL
CR4AX	—CT1RX	CR7GK	—CT2CL
CR4BA	—CT1OK	CR7GO	—CT4IX
CR4BB	—CT1CH	CR7GQ	—CT4CY
CR4BH	—CT1YO	CR7HC	—CT1AHC
CR4BO	—CT4CD	CR7HF	—CT3BC
CR4BR	—CT2BQ	CR7HM	—CT1KC
CR4BT	—CT1KY	CR7IA	—CT4JX
CR4BV	—CT1AEO	CR7IH	—CT1KY
CR5AD	—CT1AEO	CR7II	—CT4IZ
CR5AJ	—CT1ADP	CR7IJ	—CT4RR
CR5CA	—CT1ALD	CR7IK	—CT1CSN
CR7AA	—CT1UI	CR7IM	—CT1AGE
CR7AC	—CT1VY	CR7IZ	—CT1AZ
CR7AG	—CT1AWS	CR7JB	—CT1EFN
CR7AP	—CT1SD	CR7JC	—CT1DJ
CR7AQ	—CT1FR	CR7JD	—CT4CZ
CR7AT	—CT1EZ	CR7JF	—CT1GI
CR7AU	—CT1LJ	CR7JK	—CT1AKI
CR7AW	—CT4DV	CR7JO	—CT1AOZ
CR7BA	—CT4PZ	CR7JZ	—CT1AFE
CR7BM	—CT1VM	CR7KA	—CT1CF
CR7BN	—CT1QL	CR7LI	—CT1DB
CR7BQ	—CT1AHS	CR7LM	—CT1AEI
CR7BU	—CT4SB	CR7LU	—CT1YH
CR7CD	—CT4TE	CR7LZ	—CT1WS
CR7CJ	—CT1BLJ	CR7MA	—CT1MF
CR7CK	—CT4TN	CR7MC	—CT4GR
CR7CR	—CT4DC	CR7MD	—CT1HR
CR7CS	—CT4ID	CR7MO	—CT1BQJ
CR7CT	—CT4FJ	CR7ND	—CT4PW
CR7CZ	—CT1CJU	CR7NS	—CT4KP
CR7DB	—CT4VS	CR7PC	—CT1AQH
CR7DQ	—CT4GX	CR7PI	—CT4AP
CR7DV	—CT1AJ	CR7PK	—CT1NK
CR7EE	—CT4BL	CR7PT	—CT4JP
CR7EH	—CT1LL	CR7QV	—CT4OU
CR7EX	—CT1AHH	CR7RB	—CT4DT
CR7SA	—CT4LT	CR8AK	—CT1XF
CR7SC	—CT1ABE	CR9AJ	—CT1ADP
CR7SR	—CT1ALD	FO8CX	—WB6GFJ
CR7TF	—CT1HV	FO8DF	—WB6GFJ
CR7TO	—CT4AK	FO8HI	—WB6GFJ
CR7VL	—CT1WM	FO8HL	—WB6GFJ
CR7VM	—CT1JN	FO8HO	—WB6GFJ
CR7VR	—CT1GG	FO0FB	—WB6GFJ
CR8AC	—CT1XB	FO0KI	—KA6LAF
CR8AC	—CT2BE	VK4BZZ	—WB6GFJ

Contributors for this month's column include DJ9ZB, W6EBM, WB6GFJ, Western Washington DX Club, Kansas DX Association, *Amateur Radio World* and *DX News Sheet.*

I hope you are all enjoying your summer. Very 73 es GL DX de John, N6JM.□

Understanding propagation

Bob McGarvey, WB2EVF

When you think of the questions on an FCC examination for an amateur license, you must wonder what use you will make of some of the information after you have learned it. The simple truth is, some of the material you study belongs in the file-and-forget department — and that's where it goes, as far as the average licensed amateur is concerned. And yet, in spite of this exhaustive search for the obscure, there are important things to which little attention is devoted.

The lack of knowledge about propagation of radio signals is very real and very evident if you engage in much conversation about the subject. This is in spite of the fact no one engaged in radio communication is exempt from allegiance to geomagnetic laws. The amateur who wants to know why band conditions are the way they are has a basic tool with which to work: WWV.

At 18 minutes after every hour, there is a concise report on solar and geomagnetic conditions during the past 24 hours, a forecast for the next 24 hours and the solar flux, A-Index and K-Index numbers. All you have to do is understand what you have heard — and that's where the difficulty occurs.

Those amateurs active on 6 meters and higher and the real pro-HF DX'ers are more aware of and better informed on the reasons for conditions than their brethren who occupy the low bands. I have mentioned the WWV report to some low-band amateurs who couldn't understand why they weren't getting out and other signals weren't coming in the way they should.

"Must be band conditions," they say. But they don't know why the conditions exist, and they don't have enough curiosity to bother to find out. As far as they're concerned, WWV sends time signals from Ft. Collins, Colorado without a commercial sponsor.

Mention solar flux, A-Index and K-Index, and you might as well be reading the Dow Jones for all they know. You'll find some very helpful information on the indices in the chapter headed "Wave Propagation" in *The Radio Amateur's Handbook*, published by the ARRL. If you give it a little study, you will have no difficulty interpreting the solar flux, indices, condition reports and forecasts.

During maxima of a solar cycle (the average cycle covers about 11 years), solar flux measurements will be high and

Propagation

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

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

You can get a free *complete* set of these predictions for both high and low angle antennas, Maximum Usable Frequency (MUF) and Frequency of Optimum Transmission (FOT). Requests should be sent to Bill Welsh, W6LS, 2814 Empire, Burbank, CA 91504. Each request should be accompanied by a self-addressed stamped (54¢) envelope at least 9" × 11½".

OCTOBER 1984

UTC	AFRI	ASIA	OCEA	EURO	SOAM
0100	21.3	26.6	29.9	11.2	23.2
0200	16.2	23.1	30.2	10.6	19.2
0300	14.0	19.7	26.6	9.9	16.5
0400	12.9	18.3	22.5	8.7	15.2
0500	12.0	16.0	19.5	8.4	15.0
0600	11.9	14.4	17.9	10.4	15.4
0700	11.7	13.4	17.1	11.5	16.1
0800	11.3	12.9	16.2	11.7	16.2
0900	10.5	12.8	15.5	11.5	16.6
1000	9.7	13.2	15.4	10.9	15.0
1100	9.4	13.6	15.6	10.2	13.1
1200	10.5	13.0	14.6	10.4	13.6
1300	13.3	12.2	13.2	12.5	17.6
1400	17.0	13.1	14.2	16.1	23.1
1500	20.0	15.0	18.7	19.6	27.2
1600	21.9	14.6	16.6	22.0	28.9
1700	23.4	14.0	14.8	21.6	29.5
1800	25.0	14.3	15.3	19.6	30.5
1900	26.4	16.1	18.6	17.1	31.8
2000	27.4	19.6	22.6	14.5	32.7
2100	28.0	24.5	25.3	12.6	31.9
2200	28.0	29.3	26.5	11.6	30.0
2300	26.9	30.7	27.4	12.1	28.0
2400	24.5	28.5	28.6	11.3	26.5

nothing much else matters, except for an occasional solar flare which results in absorption of signals rather than bouncing them off. Following a flare, the low bands may be staggering for days.

The current cycle peaked in November 1979 and has been sliding down gradually. The numbers mean much more now, if you are to get the most out of Amateur Radio.

Stated simply, the A-Index is a 24-hour numerical report of geomagnetic field activity which you can translate to noise level. The quieter the field is, the better conditions will be in the long run for low-band radio work. A reading of 10 or less will accomplish this.

The K-Index is almost a "now" statement based on conditions at Boulder, Colorado. Readings are taken at 0000Z, 0600Z, 1200Z and 1800Z. A K-Index figure of 4 or higher is an indication of impending trouble on the low bands, if, in fact, it doesn't already exist.

Solar flux readings are taken at 1700Z at Ottawa, Canada. Around mid-December, these were in the upper 200's and even well beyond 300 — hardly the sort of numbers you would expect on the downside of the cycle.

Many transceivers and practically all amateur band and general coverage receivers are capable of receiving WWV. An unobtrusive cube with a whip antenna is sold by Radio Shack at a very reasonable price. Battery-operated, it covers the WWV transmissions on 5, 10 and 15 MHz. The last is the most reliable here on the East Coast, but all three are available in the small package.

You'll soon find WWV one of the most useful things in your radio room.

If you're a VHF'er, you'll note with glee that solar storms wiping out the low bands often add life to the higher frequencies and produce openings you didn't suspect existed. In addition to the *Handbook*, you would do well to read the chapter on the life of stars, of which the sun is one, in Dr. Carl Sagan's monumental book, *Cosmos*.

— *The Home News* □

Fascinating places

Dave Marlay Adams, VE3HBF

It's a source of endless fascination to me that through Amateur Radio I can communicate with people in some of the most isolated and unlikely places on this earth. Places that no cruise ships or scheduled airlines ever visit, yet places where man has established a toehold — usually for the purpose of scientific research of some kind.

The only trouble is, since these places are rare DX spots, it's not often possible to have a real good ragchew. I have been fortunate to make contact with two or three such places when no one else seemed to be around waiting to break in for a quick QSO.

One such was ZS2MI on Marion Island, where there is a weather station operated by the South African government. It's about half-way between Cape Town and the coast of the Antarctic continent, and David — one of the two radio technicians stationed there — told me all sorts of interesting things about life down there.

The scientific team consisted of four meteorologists, two radio technicians and a medic. Communications with South Africa were maintained by radio teleprinter and radio telephone. Apart from the meteorological work, regular observations were made of geomagnetic and ionospheric conditions.

There was also a very keen ornithologist from Belfast (Ireland) spending a season on the island, which was a nesting ground for many thousands of sea birds, including the Wandering Albatross, which has a wingspan of 11 feet — the largest of any living bird. David said he could see one of their nests from the radio shack. The single large egg weighs half a kilogram (about 1 lb.).

Weather on the island was always rotten — always cool (average about 4 degrees C) and usually very stormy.

Marion is a volcanic island and the lava rock makes walking difficult. It's about 12 miles long and seven miles wide, and David and one of his colleagues had walked around it — a distance of 72km — with some difficulty, sinking into black lava mud up to their thighs at times.

The research teams spend about 12 months on the island until the annual relief ship brings their replacements from Simonstown in May.

Another remote island with many similarities to Marion Island is Campbell Island, 400 miles south of the southernmost tip of New Zealand. Like Marion, it's a rugged, mountainous volcanic island — cold, humid and windswept — where the New Zealanders maintain a weather and scientific station.

This and much more I learned from a half-hour chat with Lance, one of the 13 men manning the station, and the operator of a ZL4QL/A with an ICOM 701 and a folded dipole antenna.

The scientific work included monitoring solar noise and measuring and observing magnetic effects. Campbell Island also provides nesting grounds for many thousands of sea birds. Lance said there were 4,000 pairs of Royal Albatross there with 4,000 chicks. These great sea birds are so placid and unafraid of man that you could pick one up and remove the single egg it was incubating and the bird would do nothing. Enemies of the

albatross do exist on the island: rats, presumably introduced by visiting ships, burrow underneath the nesting grounds and emerge to eat baby chicks.

There are also hordes of sea lion pups, equally unconcerned when any of the New Zealanders wade in among them. Some cats are also said to roam the 40-square-mile island, though in the year he had been there, Lance had not seen any.

The ICOM was being operated on battery power, as Lance was in the process of connecting up a new generator; I was his first contact for several weeks. Campbell Island, like many of the remote islands in the Southern Ocean, was discovered by a sealing ship — *Perseverance* — in 1810, and in a few years the great herds of fur seals found there had been wiped out. Whalers called there until the end of the last century, when an unsuccessful attempt was made to introduce sheep. The meteorological station was set up during World War II.

The Australians have Macquarie Island and Heard Island; the French have Kerguelen and Croset; the British have Tristan da Cunha and Gough Island and the Norwegians exercise sovereignty over Bouvet and Peter I Islands. Tristan da Cunha is the only one of these with a resident local population. Three have permanent scientific research stations. Most are rugged, inhospitable, with extreme climate, and unsuited to human habitation. So spare a kind thought for the intrepid amateurs who manage to set up DXpeditions to some of these obscure and lonely dots on the sub-Antarctic map.

— *The Groundwave, Ottawa, Ontario, Canada* □

Old-timer enjoys DX'ing

Walton Bostwick — better known to us as Walt, K6EM — was born 28 December 1906 in Algeciras, Spain. He was first licensed in 1920 as a 14-year-old, back in the days of the spark gap and when the Department of Commerce issued licenses. His first call was 2CEE, but he let it lapse.

Still a teenager, he reapplied, stating he was an "old-timer" and asked for and received a reciprocal call ending in — 2GW.

During World War II, he maintained a residence in Alexandria, Virginia and held the call W4GM. He spent the war years as a captain in the Signal Corps assigned to the OSS (Office of Strategic Services), forerunner of the CIA, where he worked as a troubleshooter for transmitters and receivers that agents used behind enemy lines.

After the war, he worked for a short time at the Office of War Assets Administration and then joined NBC between 1946 and 1947. He moved to California in 1951 and was issued the call, K6EM. He continued working for NBC on Mt. Wilson as a transmitter engineer until his retirement on 01 January 1967.

He lost his beloved wife of 43 years, Helen, on 06 May 1978, and then moved to Glendora, California, where he lives with his DX-hound, Zip, on the ground floor of a four-unit apartment building which he owns. After a 40-year absence on the airwaves, Walt became active again in 1981. He now runs a Kenwood TS130S on the low bands and a Kenwood 9130 2-meter rig. Driving down Mt. View Avenue in Glendora, one can't miss his TH6DX 6-element triband beam with the isopole mounted atop, towering over his entire apartment building.

— *So. CA Amateur Transmitting Society, Covina, CA* □

Walt Bostwick, K6EM, was first licensed in 1920 as 2CEE.

'Pepsi Challenge'

Three members of the Lincoln ARC (Larry Wheeler, WA0KFP; Timothy Hawkins, KA0QDX; and Kent Kennedy, WB0VIU) assisted the Lincoln Track Club with their annual 10km "Pepsi Challenge" run through the Nebraska State Fairgrounds on 09 June.

— *Reynolds Davis, K0GND* □

Who's Who

(*continued from page 15*)

Lewis' wife, Shirley, earned N6JNR; and other son Greg, a TV producer, has received N6KOW. It's catching!

Howard loves to play tennis, sail and is enthusiastic about nearly everything — particularly Amateur Radio. Turning on the mobile rig in the car is automatic with ignition.

Since he must make do with 24 hours each day, there's no point in wasting any minute.

As for his business and its future, his ideas are forward-looking. "Although I anticipate programming will still center on drama, comedy and reality entertainment, the technological side will bring many changes, such as direct satellite-to-home broadcasting. Two-way interactive communication will probably make it possible for you, in your living room, to react back to and respond to questions addressed to the audience, as well as provide a ratings database. Cable should continue to build as a major source of alternative programming. Microcomputers, naturally. So much is technically feasible, we are limited only by our imagination!"

Code

(*continued from page 20*)

about the letter! The fast letter speed *forces* the beginner to go from sound to letter . . . it comes too fast for the beginner to break down the letter into its components, hence it is easier to just copy it. Since it is a training program, which does not require thinking or analysis, short sessions at frequent intervals are preferred over longer, less frequent sessions. I am sure that our RCAF program could have been improved by having had two 15-minute sessions each day instead of the single half-hour period.

The plateau, which apparently still occurs with some people who are learning the code, is the result of interpreting the sound in terms of something other than the letter itself . . . such as "Dididadit" is *two dots a dash and a dot which is* "F". Now, that italicized part takes time, and while at slow speeds one can do this, it becomes very tough at from 8 to 12 wpm. This is why the plateau occurs at this level, and the plateau persists until one learns, letter by letter, to go directly from sound to letter.

One of the things that prompted this note is an article in the July 1982 **Cruising World** on teaching Morse code in terms of pictures. Here, for example, the letter "F" is clued to the word "Faster" and one is to picture three boats, two behind an arrow pointing to the third which lead to the two dots, a dash, and a dot, and then to "F"!

Naturally if you learned originally that "Dididadit" is merely another name for "F" then the phone or the speaker just spells out the words for you, and your limitation is your writing speed. As we said in the beginning, learning code is no problem!

In passing, let me say that I had a tough time trying to get someone to teach *me* the code in this manner. But I started a class in February, got my Novice in April and my General in July; so, after a 43-year absence, I am back on the air again — on both phone and CW.

Since code can be learned by anyone who is not greatly hearing-impaired and who can write, I remain very strongly in favor of a code requirement for amateurs. It is the least we can do for our privileges, and it is so handy in getting through when conditions are tough.

John F. Davidson was born in Aberdeen, Scotland in 1911 and lived in Vancouver, Canada from 1912 to 1947. His activities during those 35 years included surveying part of the interior of British Columbia; working for the Dominion Bank; attending the Student University of British Columbia; teaching at a private school; and teaching physics and Morse code for the RCAF. He earned his Ph.D. in botany at UC Berkeley, California in 1947, at which time he moved to the United States and discontinued operating as VE7GL. □

Field Day USA

West Virginia

Following Field Day weekend, reports have come in from several Kanawha Valley (West Virginia) clubs, and a couple of others elsewhere in the Mountain State.

On the Monday following Field Day weekend, Bill Hunter, K8BS, reported that the Kanawha ARC had operated from South Charleston's Little Creek Park. KARC operated on all the low bands with some 16 operators, but with up to 40 amateurs on site at various times.

•

The Putnam Amateur Radio Association Field Day set-up was at the Putnam Village Shopping Center. They reported a lot of visitors to the location during the 24 hours of operation from there. No scores were available as this was prepared.

•

Cato Park in Charleston was the Field Day site for the Tri-County ARC at St. Albans. Jack Bird, WD8QOL, said about 20 amateurs took part in the activities, although at times, the number of operators dwindled to three or four during the wee hours of the morning. Jack said Tri-County's outing is more of a social gathering and "when the hamburgers go on the grill, operators at the radios call a 'time-out'."

•

The Nicholas County ARC also makes Field Day a family outing. Bill Cowell, WB8YJJ, says the club, operating with Jim Dixon's W8IV call from Summit Lake east of Richwood, made over 700 contacts.

About 10 operators participated. Most were accompanied during the overnight exercise by their wives and children on a campout excursion.

•

And at Bluefield, the East River ARC operated from the old tourist Craft Center on old Route 52, atop East River Mountain overlooking Bluefield.

Mark Williams, N4HYN, who will be a high school junior in the fall, was the club's Field Day chairman. Mark's dad, Don WA4K, is active in the club and its hamfest, which will be held this year on 26 August at the Brushfork Armory.

Mark reported the club made 1,588 contacts. They earned extra points to be added to that for 100 percent emergency power and the publicity they gained. The Bluefield **Daily Telegraph** sent a photographer out to the site on Saturday and the writeup with photos was in the Sunday paper. — *Ted Wolfe, WD4KHL*

Maine

About a dozen Midcoast Amateur Radio operators spent the weekend contacting other radio buffs from around the country. It was all part of the Midcoast (Maine) ARC's annual Field Day.

Spokesman Frank Weaver, N1CST, says the group broadcast from 2:00 p.m. Saturday to 2:00 p.m. Sunday. Simulating emergency conditions, Weaver says the group made several hundred contacts over most of the continental United States and parts of Canada, including Ontario and the Maritimes.

While last year's Field Day was held in Union, this year's event was held on Milt Eaton's property at Dodge's Mountain in West Rockport. — *Frank Weaver, N1CST*

Ohio

Through the combined efforts of Julie Godsey, KD8KU; Ken Keeney, KA8UBQ; and Bud Lipps, K8YNU, a bicycle — supplying total power (for a 24-hour period) for a 40-meter SSB, 100 watt station — was put together for Field Day. In addition, it recharged a pickup truck's dead battery in just a few minutes.

All material (with the exception of a 75" belt -- $6.25) was supplied by the above-mentioned operators, who are members of the OH-KY-IN Amateur Radio Society. The bike was equipped with a voltmeter, ammeter and a 15 ohm hy. pot. (for varying field voltage and pedal load), and affixed in an aluminum dashboard on the handlebars.

The alternator was a discarded Leece Neville (any alternator will work), and was mounted through the pivot with threaded rod, with the hanging weight providing sufficient belt tension. The rear tire was removed so that the V-belt rode the wheel.

Bud Lipps, K8YNU, rides the bicycle that powered the 40-meter SSB station operated by OH-KY-IN ARS members on Field Day.

With the pot. set at approximately one-half, a light load on the pedals easily produced from 6 to 8 amps. With a maximum of 10 to 15 minutes (depending on amount of transmitting), the battery maintained a near full charge.

(NOTE: Special care should be taken to secure the DC cables to the battery post and make the alternator cable connection to a separate part of the post to avoid accidentally feeding alternator output to the rig.) □

SPARC will transmit shuttle commentary

The Spaceport Amateur Repeater Club (SPARC) has been authorized by AMSAT to transmit space shuttle mission commentary for all missions on Special Services Channel H2, 145.963 MHz, of AMSAT/OSCAR-10.

Special Services Channel Coordinator Butch Mason, W6KAG, has authorized use of SSC H2, 145.963 MHz, in addition to AMSAT bulletins from England and Australia. SPARC, through the facilities of John Anderson, K4GCC, and John McDonald, WB4ZXS, AMSAT Area Coordinator, will provide space shuttle mission audio for several hours each day as time permits.

All Amateur Radio operators are invited to submit reception reports to: SPARC, P.O. Box 672, Merritt Island, FL 32952. — *Carl Zelich, AA4MI* □

Ham pleads guilty

On 06 July this year, David Saks, WD4SHP, pleaded guilty to a reduced charge of using Amateur Radio to transmit "obscene, indecent and profane language." The original charge had been a felony.

Saks will not be sentenced until a presentencing report is submitted to the judge in the case for review.

(On page 1 of the July issue of **Worldradio**, an article stated that Saks had been indicted by a federal grand jury on 19 March, on the above-mentioned charges. The charge carries a maximum penalty of two years in prison and a $10,000 fine.) — *New information submitted by Kenneth Hartley, KC4UK* □

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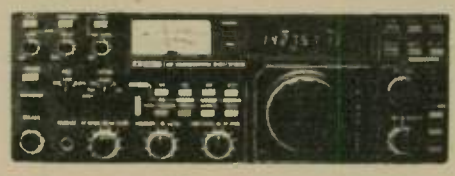

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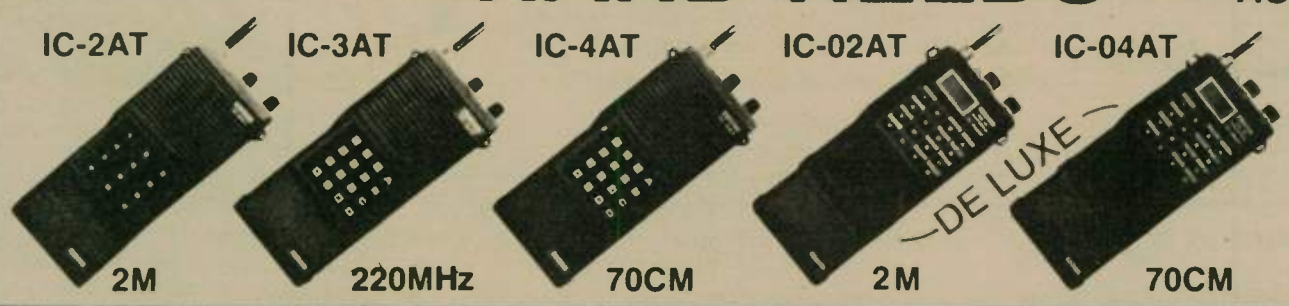

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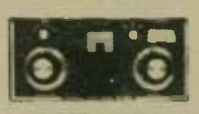

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Mobile whips for HF

Mobile whip antennas can be magnificent performers on marine installations, campers, mobile homes, and your regular mobile unit installation. This month we'll explore the endless possibilities of mobile whip mounting, and how mounting will greatly affect its performance. The techniques here apply to both car installations and boat installations; so if you've been thinking about a mobile whip, read on.

Mobile high frequency whip antennas are available for the following bands: 10, 15, 20, 30, 40, 75 and 80 meters.

The mobile whip antenna is loaded to keep its overall height relatively short. Their electrical charactaristics are a quarter-wavelength on the desired band of operation. As you remember from electronic theory — the higher the frequency, the shorter the wavelength. The shorter the wavelength, the less loading required to bring a whip into resonance at a quarter-wavelength.

Different antenna manufacturers vary their scheme of loading their high-frequency whips. The popular Hustler™ whips are center-loaded with a large loading coil. Atop the loading coil is a 4-5 ft. whip that may be lengthened or shortened to bring the antenna into exact resonance at a quarter-wavelength of the operating frequency. If you run high power levels, use the kilowatt coils. If you operate a basic 100-watt transceiver, use the regular coils.

Anixter-Mark uses top-loading on their fiberglass whips to obtain resonance. The load is concentrated at the top of the antenna, which provides uniform current distribution and produces the important 50-ohm match at resonant frequency. You pop the red cap off and take off a few turns from the coil to increase the resonant frequency of the antenna. Most antennas are shipped from the factory purposely turned low so you can clip and snip it into precise resonance at the desired operating frequency.

Base-loaded 10-meter clear coil and whip

Top loading

Winn-Tenna Company offers helical center-loading and a stainless steel whip for tuning the antenna to precise frequencies. Their helical loading scheme tends to increase the useable bandwidth of the antenna at a specific frequency.

Hy-Gain Company uses base-loaded high frequency coils and a long, stainless steel whip that may be tuned to precise resonance.

Spider™ antenna company uses top-loading with four loading coils for four-band operation simultaneously fed at the same time. (It looks like an *upside* down spider.)

As you can see, manufacturers are offering us a wide variety of mobile whips — some fiberglass, some aluminum, and some with stainless steel stingers. Each manufacturer has chosen a different type of loading system — top-loading, center-loading and base-loading.

The relative efficiency of these antennas depends a lot on the diameter of the loading coils, total length of the antenna, and the size of the wire inside the coil or helical element. The efficiency of the overall antenna system also depends tremendously on the ability of the mobile antenna to see a good mirror image of itself in your vehicle or mobile marine counterpoise.

We'll get back to grounds in a moment, but let's still stay with the variety of whips that are offered. Your big question now is, "Which whip is best?"

We won't get into a great debate about top-loading vs. center-loading vs. base-loading. Each type of loading scheme has its merits and its weak points. The most important thing to remember is that these three different types of loading systems allow you to custom tailor your mobile home antenna to a particular type of groundplane. Sounds complicated? Not really.

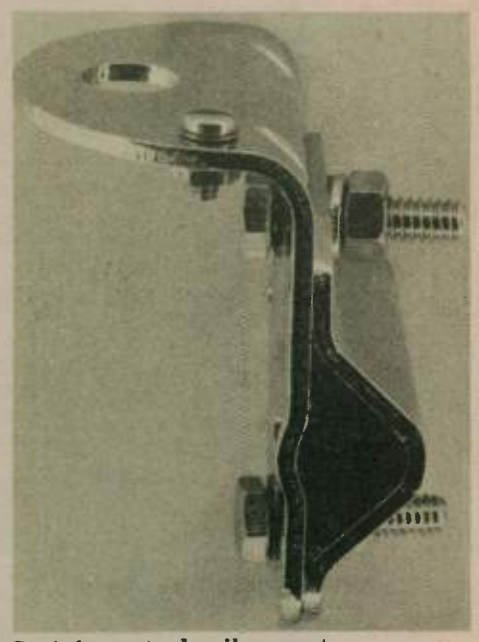
Since all of the antennas use 3/8″ × 24″ threads, they will all screw nicely into a ball mount or marine rail fitting. Those marine rail fittings work quite nicely on the top of campers where you have some tubular hardware to attach to. Ball mounts are normally used on vehicles where you can get at the other side to attach the coax.

The best whip for you is one that presents a good 50-ohm match after it has been installed aboard your boat, car or motorhome. The 50-ohm match is dependent on the type of groundplane beneath and beside your whip antenna. If you mount an antenna down low on the side of your vehicle, center-loaded whips seem to work out great. If you mount your antenna high atop your motorhome or on the rail of a sailboat, base-loaded and top-loaded work nicely — but so does center-loaded.

Usually, one of the three types of loading will work better than the others when you try them out. It's sometimes unpredictable — you need to try out each type of loaded antenna to see which one "likes" your particular groundplane.

A simple SWR bridge and noise bridge will assist you in establishing antenna resonance and determining whether or not your groundplane is adequate. Attempting to mount any of these three whips on an ungrounded metal stanchion

Whip on stern



Stainless steel rail mount

will probably lead to high SWR readings on all frequencies with no apparent resonance no matter what you do with the whip. Make the whip longer, make the whip shorter, change antennas, and none seem to resonate — chances are you don't have a good counterpoise beneath the antenna.

You will also find poor performance and no SWR dip when you mount a whip antenna with more than half the whip beside a metal camper shell or right beside standing rigging on your sail or powerboat.

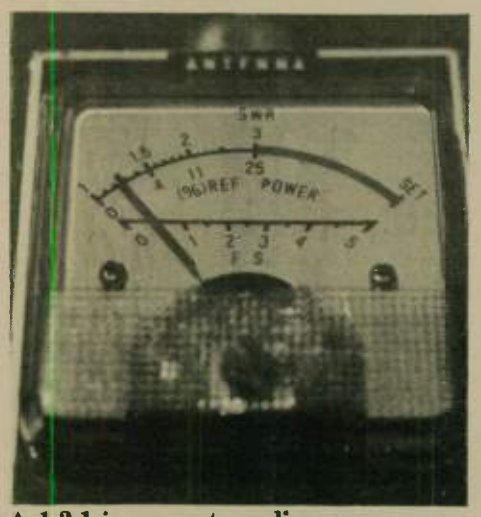
For maximum performance, mobile whips must be mounted "in the clear" and free from other surrounding metals. Whenever possible, the major groundplane portion of your installation should be directly below the base of your antenna. *DIRECTLY* below.

Some of the best and loudest signals come from mobile whips mounted on larger surface area steering veins that go directly into the sea water. The whip thinks it is sitting on the ocean and uses the ocean as a counterpoise with tremendous results.

Putting a mobile whip on the top of your camper will also lead to tremendous results — until you strike that low overhanging branch! Putting a mobile whip on a bicycle frame will give you poor results because there is not enough groundplane. Surface area in your groundplane is the key to long range.

An inability to tune out the SWR on a mobile whip antenna is usually attributed to an inadequate groundplane or the proximity of grounded metals near the radiating portion of the whip. The major radiating portion of the center-loaded whips is above the coil.

Anixter top-loaded coil — fine-tuning it



A 1.3:1 is a great reading.

Try this simple test: Check for an open frequency and transmit full power A Ø. Take a wooden lead pencil and, by holding it on the wood portion only, touch the lead to the bottom section below the coil. You should see no spark. Now, touch the stainless steel whip above the loading coil and watch the RF jump from the antenna to your pencil. This is the part that does all the work, so keep it in the clear.

Except for multi-band whip assemblies like the Spider or Hustler or Hy-Gain coil and stingers mounted on a multiple-band adapter ring, you will need to change the whip each time you change your band of operation. Make sure and carefully mark which band each whip is tuned for, and keep a spare in case you should drop one overboard.

If you have at least three different types of loaded whips, you should generally find one type that will work well in your particular mobile or marine installation. If none of the whips want to load, you need to develop more groundplane surface area directly beneath the feedpoint, using copper foil. When that may be absolutely impossible, and when you're up against a situation where nothing seems to load, you can go ahead and use an antenna tuner — but this is really a crutch. Your whip should resonate on its own without the use of a tuner, so improve the groundplane rather than just going to the tuner to tune it out.

Same thing with impedance-matching transformers — they really aren't necessary if you do your homework and develop a properly grounded counterpoise system.

Whips, properly installed with a good groundplane path to the ocean, will provide as much signal as a tuner-resonated backstay. That's right. If you can provide enough 3″ foil surface area *directly* below the whip, you can many times equal the performance and outdo the performance of an insulated backstay antenna.

Foil for grounding

There's a fellow I talk to in South America who has one of the strongest signals on 20 and 15 meters I have ever heard from that part of the world. Is he using a beam antenna? You would think so with his signal strength.

What is he using for such a tremendous signal? He has a mobile whip mounted exactly in the center of his 30 ft.-high, corrugated tin roof — and what a signal he puts in, every day.

Although mobile whips are short, don't sell them short for performance. When properly installed with a good groundplane beneath them, they can be real workhorses on the water, on your motorhome, or while motoring down your favorite freeway. □

WV amateurs get local news coverage

Moundsville, West Virginia area amateurs got excellent coverage in that town's **Daily Echo** on 01 June. A long, two-column story which took up the left-hand columns on the front page — including two large photos — detailed a contact between Jay Paulovicks, KD8GL, of Sherrard, West Virginia and Karen Henderson, KB6DDQ, of Los Angeles, California. Both were using hand-held units with only 1 watt or less of output power.

The unusual thing about the contact was that it was routed through a "gateway" station up to the OSCAR-10 satellite, down to another "gateway," through a local repeater to the hand-held units.

The Moundsville "gateway" is operated by Don Knollinger, WB8ZTV, who lives on Round Bottom Hill just outside town. The other gateway stations are operated by hams in California, Arizona and eastern Pennsylvania. The experiments are being coordinated through the Triple States Amateur Radio Club (TSRAC). — *Ted Wolfe, WD4KHL* □

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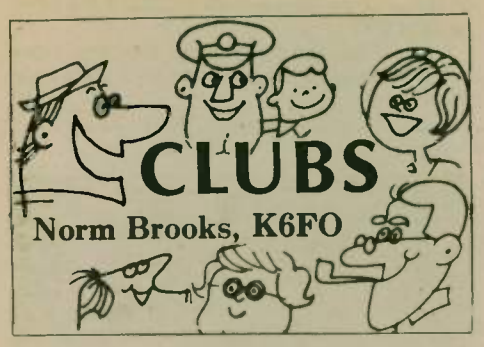
If you are involved in any emergency communications incident, send story and photos to *Worldradio*, 2120-28th St., Sacramento, CA 95818.



One of the nicest club papers to come across my desk is the newsletter of the Birmingham ARC, Inc. of Birmingham, Alabama. The paper is one of the most professional I have seen. It is printed on both sides of 8½" × 11" paper, then folded and stapled to make a 5½" × 8½" booklet with 20 pages.

The printing is typeset with easy-to-read Helios print. There are pictures and cartoons. They do have advertising, which no doubt helps pay for the cost of putting out such a nice piece.

The newsletter staff lists 12 amateurs as columnists, photographer and assistants to the editor. Congratulations, Editor Fay Burt, KA4VIK, on having such a good thing going.

•

The Santa Barbara ARC, in its newsletter *KEY KLIX*, announces that they have a new telephone number (805) 569-5700. It has an answering machine. Members (and others) call and listen for club announcements, and can leave a message if they want to communicate with the club.

The only other club I know that has this service is the John I. Sabin Pioneer Radio Club in Sacramento, California. Their number is (916) 484-7388. They give news of *all* the clubs in the greater Sacramento area.

I'm sure other clubs are doing this. Let me know and I'll publicize your efforts here.

•

Hamsplatter, the paper of the Fort Wayne Radio Club, Fort Wayne, Indiana, has a centerfold calendar each month. Local and national activities are shown in the daily boxes. Days of good DX propagation are marked. Sunrise and sunset times are shown weekly. This is a neat and handy item that I'm sure is posted at most of the operating positions in Fort Wayne. Ron Coczor, K9TUS, is editor.

•

We have all heard about playing chess over the air. Did you know they had a radio club? Among the club papers received here at **Worldradio,** I was pleasantly surprised to get one from CARI (Chess and Amateur Radio International). *CARI NEWS* editor and publisher is Vince Luciani, K2VJ, who is #1 among the 200+ members of the club.

According to the paper, there are chess-playing nets all over the world, every day of the week, on both CW and SSB. It appears there is a lot of activity (and members) in VK and ZL.

If you're a chess enthusiast, write to CARI, P.O. Box 682, Cologne, NJ 08213 for more info.

•

Has your club ever recognized the other radio clubs in your area? The San Gabriel Valley (California) Radio Club — in its February 1984 newsletter, *Loudspeaker* — published two full pages listing the names, dues structure, meeting location information and net information of 16 other clubs in Los Angeles and Orange Counties. That's real cooperation. The editor is Earl Pittman, W6VHU.

•

From *Short Circuit,* Arctic ARC, College, Alaska:

The following is a letter written to Florence Weber, KL7AZJ, by Earle Grandison, K6WS (ex-KL7CF), outlining some experiences of the club and Alaskan amateurs in the past. He was also kind enough to send a copy of an article from **QST** about the fire in Fairbanks and how the hams provided communications for the town. We wish to thank Earle and Florence for this interesting story of the past.

Early history of the Arctic ARC

I got the Amateur Radio "bug" at Christmas time in 1936. I don't know if the amateurs were organized earlier than this.

In 1937, the local radio expert in Fairbanks was John Stump, who was a genius of improvisation. Many of the mining camps used Stump transmitters. I don't remember whether he was a ham.

Lou Joy ran the electrical power generator at the Northern Commercial Company. He was an active ham in the late '30s. I don't remember whether there was an organized group at this time, but several local amateurs were an inspiration to a youngster fascinated by the thrill of shortwave communication.

Whitney Lewis, K7HCX, worked for the post office. He lived near 9th and Cushman, had a barrage of "V" beams, a 200 watt phone transmitter and a complete line of Howard receivers. Frank White, K7HAR, had a beautiful 20-meter beam, a 200 watt phone rig and the latest and greatest — an RME-69.

Another early amateur was Hersch Frickey, a Pacific Alaska Airways radio engineer. Hersch founded Yukon Radio Supply in 1946.

By 1939, regular club meetings were being held. Stan Bennett, K7BUB, and Augie Hiebert, K7CBF, arrived in early 1939 to build KFAR, which went on the air 01 September 1939.

Augie was very active in the early days of the club, and perhaps he and Stan were the people who started AARC. I just can't remember how it first began.

During World War II, the club held infrequent meetings, but a loose organization existed through the efforts of Augie Hiebert.

Many electronic dignitaries visited the Cold Weather Test facility at Ladd Field, and they would visit KFAR and meet with local hams. One of these visitors was David Middleton, who later became W0ZF and an early editor of **73 Magazine.**

After the war, the big signal from Fairbanks belonged to Frank Grey. His call escapes me but his Pierson KP-81 receiver was the latest and greatest.

During the war, one event which might have been a club activity, but I'm sure we should deny it, was the 80-meter DX contest and beer bust in August 1943.

About 40 licensed amateurs were in the Fairbanks area in 1943, and plans were made to meet at the KFAR transmitter on a Sunday afternoon. Although there was an FCC monitoring station at Ballaine Lake, somehow their ears were dead on that particular Sunday.

When the hams gathered, the fellows from Ladd Field brought dozens of 3995 kHz "handi-talkies." Portable stations expanded into the woods to achieve great DX records, but most faded out after several hundred yards. The winner was a college — KFAR QSO. It was indeed a great event and a very unusual Field Day.

Right after amateur operation began in 1945, Bill Cowles, KL7AN, reported a KL7 — ZS 10-meter phone QSO to the members of the club. Unknown to Bill, however, was the fact that a local ham with a British accent had answered his CQ and faked the ZS QSO. The fake station was located only 100 yards from Bill and didn't have an antenna.

Bill anxiously awaited his QSL card from South Africa. No one knew quite how to tell him he had been tricked. About two weeks after the QSO, Bill received a shortwave listener card from Hawaii which said he had heard both sides of the QSO!

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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
P.O. Box 1094, Pine Grove, CA 95665, Pioneer Elementary School, Pioneer, CA • 1st Thurs/monthly 7:30 p.m.
WA6WIY Rptr. — 146.835, 146.235.
Net Tues. 7:30 p.m.

The Amateur Radio Club of El Cajon, Inc.
Parkway Jr. High School
La Mesa, California
2nd Thursday/monthly — 7:30 p.m.

Electronic Museum ARC
Foothills College, Los Altos
Last Monday/monthly - 7:30 p.m.
(except January and December)

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
3508 Gresham Ct., Pleasanton, CA 94566
Meets: Valley Memorial Hospital
Multi-purpose room, Livermore, CA
2nd Saturday/monthly - 9:30 a.m.

North Hills Radio Club
Meets: 3rd Tuesday/monthly — 7:30 p.m.
Carmichael Elks Lodge
5631 Cypress Ave. • Carmichael, CA.
Net 145.19 Thur. at 8:00 p.m.

Sacramento Amateur Radio Club, Inc.
Contact: Norm Nelson, KA6YRC, (916) 428-7122
after 6 p.m. Meets: Army Reserve Ctr., Army Depot,
Fruitridge and 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.

Santa Cruz County ARC
P.O. Box 238, Santa Cruz, CA 95061-0238
Last Friday/monthly — 7:30 p.m.
Dominican Hosp. Educational Center
K6BJ repeater 146.19/146.79

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 Howard Rose, N6CPP, (818) 997-1067

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

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

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

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

Southern Calif. Amateur Transmitting Society (SCATS)
Vine Elementary School
1901 E. Vine St.
West Covina, CA 91790
1st Monday/monthly - 7:00 p.m.

Ukiah Amateur Radio Club
P.O. Box 1373, Ukiah, CA 95482
Meets: Carpenters Union Hall
2nd Monday/Monthly 7:30 p.m.
President: Bob Rowe - KA6CXM (707) 485-7147

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

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

Western Amateur Radio Assoc.
Cerritos Park East
166th St. and Carmenita Ave.
Cerritos, CA.
1st Tuesday/monthly 7:00 p.m. - 145.400

West Valley Amateur Radio Club
American Legion Hall Post #826
5320 Fallbrook Ave.
Woodland Hills, CA
2nd Thursday/monthly — 7:30 p.m.

West Valley A.R.A. W6PIY
Meets: Los Gatos Red Cross Bldg.
18011 Los Gatos - Saratoga Rd.
Los Gatos, CA 95030
1st and 3rd Wednesdays/monthly

Yolo Amateur Radio Society (YARS)
Rolind Mahan, AJ6P (916) 756-0882
Heart Federal S&L, Conf. Rm.
3rd & F Sts. (opposite Davis PD)
Davis, CA 95616

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

Platinum Coast Amateur Radio Society
1150 S. Hickory St., P.O. Box 1004
Melbourne, FL 32902-1004
Meets: 2nd Monday/monthly at Melbourne Red Cross
Talk-in on 146.25/85 or 146.01/61 rptr.

Indian River Amateur Radio Club
PO Box Five, Cocoa, FL 32922
1st National Bank, Merritt Island
Cor. SR 3 and SR 520, Merritt Island
4th Tuesday/monthly - 7:30 p.m.

Vero Beach Amateur Radio Club W4OT
Walter Camuso, W1ESN, President
Meets second Thursday/monthly - 8:00 p.m.
American Red Cross Bldg.
2506 17th Ave. • Vero Beach, FL 32960

HAWAII

Big Island Amateur Radio Club
Helco Auditorium
1200 Kilauea Avenue, Hilo
Call-in 146.28/88
2nd Tuesday/monthly - 7:30 p.m.

ILLINOIS

Bolingbrook Amateur Radio Society
215 Monroe, Bolingbrook
(312) 739-0045 / call in 147.93/33
3rd Monday/monthly - 7:00 p.m.

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.

Chicago Suburban Radio Association (CSRA)
Clyde Federal Savings & Loan Assn.
7222 West Cermak Road
North Rivrside, IL 60546
2nd Wednesday/monthly - 8:00 p.m.

Dupage Amateur Radio Club
Mid-America Savings and Loan
55th & Holmes (55th St. near RT 83)
Clarendon Hills, IL • 4th Monday/monthly 7:30 p.m.
(312) 971-1156 for more information

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

INDIANA

Allen Co. Amateur Radio Tech'l Society, Inc.
PO Box 10342. Ft. Wayne, IN 46851
Allen-Wells Chapter House• Amer. Red Cross
1212 E. California Rd., Ft. Wayne, IN 46825
3rd Tuesday/monthly - 7:30 p.m.

Fort Wayne Radio Club
Ron Koczor, K9TUS
PO Box 15127, Fort Wayne, IN 46885
The Salem Church
3rd Friday/monthly - 7:30 p.m.

Indianapolis Repeater Assoc.
4th Monday/odd numbered months
Carson Manufacturing
5154 N. Rural St., Indianapolis
146.10/70 147.72/12 146.625/025

Northeastern Indiana ARC
Jim Sellers
P.O. Box 745, Auburn, IN 46706
Daily 6 p.m. net on 147.96/.36
2nd Tuesday/monthly - 7:30 p.m.

IOWA

RSCB (Radio Society of Council Bluffs)
Richard Swig, WA0ZQG, Secretary
104A Jennings Road
Council Bluffs, IA 51501
2nd Tuesday/monthly - 7:30 p.m.

MARYLAND

Frederick Amateur Radio Club
Old Frederick Court House
Rick Ogden, N3RO
(301) 845-2670
Meets: 2nd Tuesday/monthly - 8 p.m.

MASSACHUSETTS

Q.R.A. (Quannapowitt Radio Assoc.)
Masonic Hall — Salem Street
Wakefield, MA 01880
2nd Friday/monthly Sept-May 8:00 p.m.

Whitman Amateur Radio Club (WARC)
Pine Street, P.O. Box 48
Whitman, Massachusetts 02382
Call-in 147.825/225
1st & 3rd Mondays/monthly — 8:00 p.m.

MICHIGAN

The Metropolitan A.R.C.
Harper Woods City Hall
I-94 & Eastwood (Between Vernier & Moross)
Repeater - 448.55T./443.55R.
1st Sunday/monthly - 2:00 p.m.

South Eastern Michigan A.R.A.
Meets: 1st Fri./monthly 7:30 p.m. K8FC Rptr. 147.75/15
Grosse Pointe North High School
Building C, Cafeteria Commons
Info. Contact WB5YKO (313) 774-2531

MISSOURI

Heart of America Radio Club
American Red Cross
3521 Broadway
(816) 756-2365 x65
3rd Tuesday — 7:30 p.m.

NEW HAMPSHIRE

Great Bay Radio Assn., WB1CAG
P.O. Box 911, Dover, NH 03820
(603) 742-0130/332-8667
2nd Sunday/monthly - 7:00 p.m.
Dover Dist. Court. Talk-in 147.57

NEW JERSEY

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

NEW YORK

Long Island Mobile Amateur Radio Club (LIMARC)
146.25/85, 147.975/375, 223.22/.224 .82, 444.125/449.125
Membership: Woody Gerstner, WB2IAP, 42 Mohawk Ave.,
E. Atlantic Bch., NY 11561. Net Mon. 8:30 p.m. 146.25/85
Meets 1st Tues/8 p.m., H.B. Thompson, JHS, Syosset

Suffolk County Radio Club
Meets 3rd Tues. monthly, 8 p.m.
Bohemia Recreation Center
Smithtown Ave., Bohemia, Long Island
More info! Dave Potter, W2GZD, (516) 472-2394

OHIO

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

C.A.R.S. (The Clyde Amateur Radio Society)
Ervin Remaley, KA8CAS Secretary
2nd Tuesday/monthly - 7:30 p.m.
Community Rm., City Building, Clyde, OH
Repeater 144.75/145.35

OREGON

Oregon Tualatin Valley ARC
Beaverton Elks Lodge
3500 SW 104th Ave.
Beaverton, Oregon
2nd Wednesday/monthly - 7:00 p.m.

SOUTH CAROLINA

Trident Amateur Radio Club (TARC)
P.O. Box 73, Summerville, S.C. 29484-0073
Meet-Fark Circle Presbyterian Church
North Charleston, S.C.
3rd Monday — 7:30 p.m./Nets — Tuesday 8 p.m.

TEXAS

Panhandle Amateur Radio Club, Inc. W5WX
Meets at Naval Reserve Center
2309 Line Ave., Amarillo, TX
2nd Tuesday/monthly 7:00 p.m
Pres: Gary Rutherford, WB5MDJ

VIRGINIA

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

Virginia Beach Amateur Radio Club (VBARC)
Open Door Chapel
3177 Virginia Beach Blvd., Va. Beach, VA
1st Thursday/monthly — 7:30 p.m.
For information (804) 497-1235

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.

In December of 1946, the Fairbanks Telephone Company was destroyed by fire. It was -50F the night of the fire. Local amateurs set up a 40-station communications system on 3995 AM, which lasted for six weeks. Details of this activity are contained in the April 1947 issue of QST.

I left Fairbanks in 1948, so that concludes my recollection of early activities of the Arctic ARC. □

Kansas ham wins Roundup award

Frank Gunja, KA0QVW — of Kansas City, Kansas — has won the 1984 Heart of America Radio Club (HARC) ARRL Novice Roundup award. This annual award is given to the Novice or Technician in the six-county Kansas City area who submits the highest score in the ARRL Novice Roundup. The award is intended to stimulate interest in contesting among radio amateur beginners.

The HARC also offers an orientation seminar prior to the Novice Roundup to explain procedures and techniques to use in the competition.

Using a Collins S-Line, a 5-band vertical and a 15-meter dipole, Frank placed first in the Novice Roundup in the ARRL Midwest Division. At the time of the Novice Roundup, Frank had been licensed 10 months and had already earned the ARRL WAS award and a 20 wpm ARRL Code Proficiency certificate. Frank now holds a General license, and his new call is N0FMV. — *Mike Bellinger, K0UAA* □

Frank Gunja, KA0QVW (left), won the 1984 Heart of America Radio Club's ARRL Novice Roundup award. On the right is Mike Bellinger K0UAA, HARC vice president and person in charge of this award program.

Hams hope to set up Red Cross service

Alameda (California) radio amateurs are, at present, trying to establish a local Red Cross emergency communications service. They call themselves Alameda Red Cross ARC (ARC-ARC). The president is Richard Collins, NT6V.

The group is going on 2-meter FM 14500 on Tuesday nights — 7:00 p.m. check-ins. □

Washington hamfair

The Clark County ARC (Washington) held its Ft. Vancouver Hamfair on 19-20 May, at the Clark County Fairgrounds. Approximately 3,000 attended this annual event, which featured the latest equipment in the world of radio and computers now being used in amateur electronics.

— *Nancy Engleman, KA7RXM* □

Esther Given, W6BDE

The Quarter Century Wireless Association (QCWA) will hold its annual conference 21-23 September, at the Howard Johnson Conference Center in Windsor Locks, Connecticut. The Yankee Chapter of QCWA is sponsoring the event and has planned an exciting program filled with activities and social mixers. Included in the scheduled inducements are: tour of Old Sturbridge Village, visit to ARRL Headquarters in Newington, trip to a historic seaport, the annual Saturday evening banquet, and a New England clam bake at noon on Sunday.

Registration and reservation information is in the summer issue of *QCWA News* or can be obtained from registrar, Gladys Chase, W1VDF, 75 Chestnut Circle, Suffield, CT 06093.

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The main purpose of QCWA chapters is to enable QCWA members in specific locales to come together and enjoy each other. Some chapters cover a whole state or a region made up of several states. Many enjoy a large membership and offer attractive activities, and their supporters look forward to the next event with anticipation.

In the last few years, several factors have caused a modification in the chapter's sphere of influence. Transportation has become a costly expenditure in both money and time. For some, a trip of 200 or 300 miles to attend a luncheon or dinner is no longer as alluring as it was 10 years ago. Membership in the QCWA has close to 10,000 active participants scattered throughout the world, and since it only takes 10 amateurs to get together, elect officers and apply for a chapter, new chapters have been established in recent years that cover a smaller area.

When a new chapter is formed, older chapters in the immediate area generally give wholehearted support and cooperation. True — there are moments when they may show some concern over losing some members to the fledgling group, but generally, those involved will remain active and supportive of each chapter. They want to keep in touch, check into the net, receive the newsletter and attend meetings when possible. Many QCWA members belong to more than one chapter and find each affiliation rewarding.

Organization of a new chapter brings the enjoyment of QCWA closer to home for many who have wished for social contact with their QCWA peers.

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Four new QCWA chapters have been chartered in four consecutive months of 1984:

Hernando Chapter #148 serves the Gulf Coast area of Florida north of Tampa, with its headquarters in Brooksville.

Nutmeg Chapter #149 will conduct four meetings annually and bring together QCWA members in the state of Connecticut. Its officers are Milton Chaffee, W1EFW, president and Joseph Moskey, W1JMY, secretary.

DEL-MAR-VA Chapter #150 will cover activities along the eastern shores of Delaware, Maryland and Virginia. T. Allen Phillips, W3DOG, president, and Thomas White Jr., W2AGR, secretary, are its first elected officers.

Wild Rose Chapter #151 will center its activities in the province of Alberta, Canada. Eleven eligible QCWA members petitioned for the charter, having elected W.R. Savage, VE6EO, as president and C. Tyrrell, VE6PV, as secretary.

QCWA salutes these new chapters and congratulated them on recognizing the importance of getting together to share companionship. Prospective members of these new chapters should contact one of the officers for further information. □

'MAN FROM MARS' honored by Air Force

During its annual awards banquet on 13 March, the Sacramento Chapter of the Air Force Association honored David H. Minton, AFA6PI, for his many years of extraordinary volunteer service to the Air Force. Presenting the award was Norman Phillips, general manager of Pacific Bell Telephone, who chronicled Minton's many significant contributions to an audience of about 350 dignitaries and Air Force Association members from throughout Northern California.

David Minton is the first MARS member to receive the Air Force Association Special Achievement Award. The award recognizes sustained superior service to the Air Force in performance of official or volunteer duties.

Brigadier General Robert Mortensen, Fourth Air Force Commander, presents Air Force Association Meritorious Service Award to David H. Minton, WB6KFC.

For many years, Minton was chief of the MARS team of volunteer operators which supported Mather Air Force Base (Rancho Cordova, California). During that time, from 1975 until 1983, he worked diligently to assist active and reserve units at Mather AFB in developing viable emergency communications capabilities. He trained operators, developed procedures and installed equipment. At the same time, he worked tirelessly to support numerous community goodwill projects for the Air Force in the Sacramento area, including a dramatically unique program for communicating with the severely handicapped.

He planned and installed an emergency communications center for the American Red Cross. He responded immediately to several emergency situations, including the tragic crash of a B-52 in Sacramento County in 1982, where he established vitally needed communications links for the Air Force.

Minton, a retired naval aviator, has for 25 years provided communications links through his shortwave radio station in Rancho Cordova, California for servicemen and women serving in all branches of the U.S. Armed Forces around the world. He is especially active during the Christmas holidays, when he generally operates his station around the clock, relaying messages and conducting phone patches for isolated service members and their families.

Minton had been nominated for this prestigious award by Brigadier General Robert Mortensen, Commander of Fourth Air Force, which is headquartered at McClellan AFB, near Sacramento, California. Speaking of Minton's many contributions to the Air Force, General Mortensen said: "Minton has spent many thousands of dollars of his own money for equipment, repairs and long-distance phone calls, all for the sake of helping our soldiers, sailors and airmen who serve our nation in remote places. There is hardly an hour during the day or night that you will not find Minton helping someone.

"He has installed extra telephone lines in his home just to handle the requests for overseas radio calls from military families. He is especially interested in helping those who simply cannot afford the cost of telephone calls to their distant serviceman or woman, and he helps anyone who asks.

"He has been especially helpful to the Air Force Reserve in providing phone patches back home for the Reserve teams that frequently deploy to the far Pacific

on annual training tours and enroute station support. He frequently provides support to stations in the Antarctic, Germany, Guam, Alaska, Japan, Korea, the Philippines and Hawaii."

Working to support community goodwill projects for the Air Force in the Sacramento area, Minton devised a system for taking radio equipment to local schools for the handicapped each Christmas so the children could talk to Santa Claus at the North Pole via shortwave radio. His annual visits were, according to the principal of one institution, "... the single most important event in the lives of our children. Youngsters who have never responded to an adult have found ways to communicate through Minton."

Gradually expanding the "Operation Hello Santa," he began regular visits to several schools and constant care facilities. Using his extensive computer system as well as his MARS radio, he developed a radically new and unique teaching system which allows use of computers for communicating with persons previously thought to be incapable of speaking, reading or writing. Always traveling with his portable Air Force MARS station, Minton is known throughout these schools as "THE MAN FROM MARS."

During one of his computer sessions at a school for the handicapped, a B-52 departing Mather AFB crashed a short distance away. Rushing to the scene of the tragedy with his portable MARS station, Minton was one of the first Air Force representatives on the scene. He established a communications center, made contact through an automatic phone-patch relay station which he had installed four years previously, and provided the only communications between the crash site and the air base during the early phases of the crash response.

He relayed requests for supplies, additional security personnel, photo equipment and additional communications support. He remained on duty for several hours until relieved by the On-Scene Commander after regular Air Force communications circuits had been established.

For about 10 years, Minton has been a "regular" at Mather and McClellan Air Force Base Open Houses and the Air Force recruiting booth at the California State Fair, where he operates Air Force MARS stations to relay radio messages for the public as well as provide administrative communications for Air Force personnel manning the displays.

While handing Minton a special citation and AFA plaque, Phillips summarized the feelings of those who have worked with MARS Station AFA6PI by saying, "It is most fitting that this remarkable, dedicated member of our community, a supporter of the Air Force and friend to airmen, soldiers, sailors and Marines alike, be recognized for the significant contributions he has made to the quality of life, mission readiness and public image of the Air Force. Dave Minton, we thank you."

The tumultuous ovation which followed that presentation conveyed the audience's appreciation and extraordinary affection for an extraordinary individual: Dave Minton, AFA6PI. □

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

Eclipse affects short-range reception

An interesting experiment was carried on by Joe Gumino, K2OLG, in Spotswood, New Jersey, during the May solar eclipse. No unusual signal variations were noticed on signals from out of his area, but a decided effect was noted on reception of a short-range transmission.

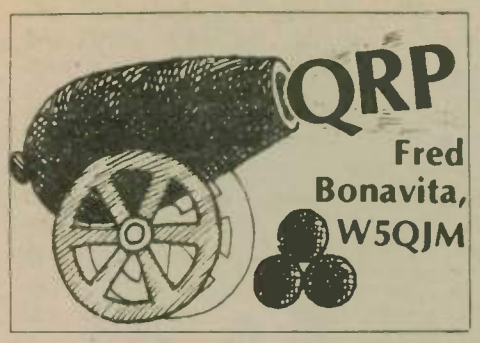
The tests were run on 28 May, from 1330Z to 1800Z.

K2OLG is a 10-meter enthusiast, so he geared his sampling to beacons on that band, plus WWV on 10 MHz. Beacons charted were VP9BA in Bermuda, ZS1STB in South Africa, LU1UG and LU4FM in Argentina, and VP8ADE in the Falkland Islands. Although several beacons had increases in signal strength and others dropped out, Joe was unable to establish whether that was normal or a result of the eclipse.

One tangible piece of evidence was provided by Jack Ala, W2KRK, in New Brunswick, New Jersey, about 10 miles away. Gumino reports Ala was beaming north in contact with a North Jersey station on 10 meters and had an S2 meter reading in Spotswood. The North Jersey station, transmitting south, was S5.

Several times during W2KRK's transmission, there were bursts of 10-seconds duration when his signal shot up to S9+20dB in Spotswood. The North Jersey station remained a steady S5. This phenomenon took place between 1700 and 1730.

The complete report, including times and meter readings for the beacons, is in the June newsletter of the RCA Astro-Electronics ARC, an organization of employees at the RCA Space Center in East Windsor, New Jersey. — *Bob McGarvey, WB2EVF* □



Imagine living in a community where 15 percent of the residents are Amateur Radio operators — all holding Advanced or Extra Class licenses.

Make for crowded conditions? Not really. They all live in the same house and share the same rig.

They are members of the Richard Kenyon family and live in the remote Alaska village of McCarthy (pop. 20) — a place so small it does not appear on the average map (it's just north of Glennallen).

Richard Kenyon, Sr. is KL7WX; Bonnie Kenyon is KL7WZ, and Rick Kenyon, 17, is KL7XA — and an avid QRP'er. Rick's grandparents, Carl and Virginia Kenyon, KL7XB and KL7XC, respectively, were scheduled to visit McCarthy during the summer from their retirement home in Daytona Beach, Florida, which temporarily would swell amateur ranks in the community to 20 percent of the population.

Rick says the family went to QRP operations because the family home is without commercial power mains. They bought a pair of Ten-Tec Argosy transceivers because "they used the least amount of power in samll rigs on receive but still had some power to get out, if we want to."

The ham gear is powered by 12-volt, deep-cycle batteries, which are charged daily by a 4kW diesel generator, which also provides power for lights, the workshop and the like. Diesel fuel is hauled in "during the summer months, while the one-lane dirt road is open to traffic," Rick says. "During the winter, it is closed when we get too much snow to drive."

Mail is flown in to McCarthy each Tuesday and is sorted in a building adjacent to the town's airstrip "and left for those to come and get their own," Rick says.

In addition to the Argosys, the Kenyons have a 2-element quad for 20, 15 and 10 meters held aloft by a 35 ft. spruce pole. There is also an 80-meter dipole and a 550 ft. Vee-beam pointed toward the lower 48 states.

The Kenyon home — quad at left, and 80-meter "bird cage" dipole atop house.

Rick Kenyon, KL7XA

"I have worked 14 countries QRP, almost all in Europe," Rick says. His rarest DX QSO was with an SM2 station operating /JW from Svalbard Island.

The hardest states in the lower 48 to work are those in the first and third call districts, Rick says, adding that he has had an abundance of stations from the sixth district.

"My code speed is around 25 wpm, and I like to chat around that speed just to keep it up," he continues. "My mom, on the other hand, will sit for hours and talk to some Novice at 10 wpm. She says it is mercy, and probably so . . . Dad will take whoever he can get, so there is a balance."

Rick says his family also monitors conditions in McCarthy for the U.S. Weather Service, and all three family members are certified to take and report observations. Data is stored in a computer and then transmitted to Anchorage for use.

The weather transmissions, however, interfere with some hamming, especially on 80 meters, Rick says, so "we are limited as to what we can do during the times we put in the reports."

Rick also has taken his QRP gear to a small cabin the family rents on Galena Bay just south of Valdez and, using a dipole, has worked many DX stations.

The family's ham activities are encouraging neighbors to get interested in Amateur Radio. Two residents of nearby Long Lake were studying to get their Novice tickets, Rick says, and a newly licensed Novice moved to the community of Homer recently.

The Kenyon family, from left to right: Richard Sr., KL7WX, Rick KL7XA and Bonnie KL7WZ. Rick is an avid QRP'er and lives with his family in McCarthy, Alaska (pop. 20).

Rick says he checks into various nets operating in Alaska and the Pacific Northwest. One of these is the QRP ARCI Northwest Net which meets on 7040 kHz, Saturdays at 1800Z.

The family likes to QSL its contacts, but sometimes it presents difficulties.

Recalls Rick: "My mom was talking to a fellow on CW, and he wanted to QSL. Everyone does. But he said he didn't have a foreign Callbook to look up her address!" ❑

TEACHER

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

We have had many students upgrade to Advanced and Extra in a relatively short period of time. As we cannot cover all the needed practical info they need to get on the air in our regular classes, I annually run a one-day seminar for them.

The topics include DX-chasing, Field Day, emergency preparedness, safety, antennas and tower work. Each topic is covered much more extensively than in the weekly class and is conducted by one of the club's experts in that field.

These seminars would probably be considered boring if they were held at a hamfest, but for the young or new ham, very beneficial. It gives them a chance to get caught up on the 50 years of trial and error the rest of us have done.

It is a good format for other clubs to copy. Have it on a Saturday. Keep the topics interesting and helpful for the new ham. As many demonstrations as possible will spice up the day. I have a Rohn 25G top section with rotor installed that we use for Field Day that I bring into the seminar for the students to look at.

This month's column is taken from my lecture on tower work.

It is the Wednesday before Thanksgiving, and we've already had our first New England snowstorm. As I warm up the car for work, I look up into the early morning darkness at the top of my tower and think of all the unfinished projects it represents.

I am confident that it would never actually get blown down. It has already survived three tough Massachusetts winters and four summertime hurricanes. But the Finco 6-meter beam needs the gamma match adjusted, the tri-bander is out of alignment with the other antennas, the KLM 432 Yagi has to come down to be placed on another tower, and finally, the Quagi for 432 ATV has to be removed and repaired.

My tower is like most — it is 40 feet of Rohn #25 bracketed to the house at the recommended 12 ft. height. It is guyed at the top and has a 22 ft. piece of schedule 40 steel fence pipe for a mast that extends only 10 feet above the apex. The mast is supported by a thrust bearing and rotated by a CDE Ham II.

The Christmas tree arrangement at the top consists of beams for 2 meters and 6 meters, and a Mosley tri-bander. The tower also serves as one support end for a B&W trap dipole antenna. One 432 antenna has been temporarily mounted between the tri-bander and the 6-meter beam is side-mounted on a homemade side arm. It is the sum result of three years of experimenting with horizontal spacings and mast sizes. I know what works best for me, and now I only need to

Tower, after being completed

put the finishing touches to the whole system.

At this point, I should mention that except for the pouring of the concrete foundation, I have erected and assembled the tower and the antennas by myself. This was mostly due to the fact that the work was done at night, after work and not on the weekends, when fellow hams are normally around to help out. One night I might spend a half hour on it and then not finish the job for another two weeks.

If you do choose to work by yourself on your tower, make sure your XYL or kids are around to call for help if you get into trouble.

Driving to work, a lot of thoughts race through my mind. When will I find the time to finish these small tower and antenna projects? In the fall season, I usually work six days a week and rarely get home before 6:00 p.m. Saturday is my only hope because I can leave work at 3:00 p.m. and get in a few daylight work hours. I decide that if I carefully plan the projects, they can all be accomplished in less than two hours the next Saturday afternoon.

My objectives are listed, and I have decided to set the goal of doing all the work before the sun sets and gets too cold to work.

As I make my *mental* list of what to expect, I realize I should record my thoughts to help pass them along to other amateurs faced with the same problems. As the objective has become to not waste time and stay warm up there, I think back on all the times I have climbed my tower in the past few years.

Clothing

Your safety belt has to fit comfortably around your waist, so, the first thing that came to mind is that there is a right and wrong way to dress while climbing a tower. The right way is not to wear anything loose-fitting or easily torn. In the summer, I like to wear overalls. As the fall season approaches and it gets colder out, I change to coveralls with long underwear underneath. Coveralls (or jumpsuits, as they are also called) are available for sale at Sears stores and other retail outlets that sell men's work clothes.

Alan Kline, KB1DJ, ready to climb

Stay away from conventional pants with belts and button-down shirts. I learned early in my climbing career that dungarees, T-shirts and button-down shirts are OK to wear if you are the ground crew, but are uncomfortable up on the tower. They become too restrictive.

Shoes

It didn't occur to me that shoes or boots make a difference until my shoe lace untied once by the lace end getting caught in the diagonal strut on the Rohn section. In the next step up, the shoe fell off. Since then, I only wear ankle high, steel-toed work boots and tie the laces in a "double knot" fashion. They don't fall off and give excellent protection to the very sensitive ankle bone area from scraping against the tower hardware.

Eyeglasses

I can't see without my spectacles, and am always worrying about them falling off in a place that they can't be retrieved. I find that many people don't have their glasses fitted properly and are constantly pushing them back up on their nose.

Before they invented contact lenses, the athletes of the world had similar problems. Someone invented a simple elastic strap to hold them on. These straps are now sold in almost every drugstore and variety store. I find it is very effective in all situations where you might lose your eyeglasses, like overboard while fishing.

Hats

In our cold New England climate, it's nice to keep your head and ears warm, so I always wear a hat. It also serves to keep your hair out of your eyes. My favorite tower hat is an over-sized hand-knit beanie my XYL made for me. It covers my ears and won't fall off. On extremely cold days, I have had to wear a construction worker's hard hat with a winter liner. The liner looks like the helmets the World War I flying aces wore. It is extremely warm and has a chin strap to keep it on your head.

Worktime

It's time to list the actual work I want to accomplish. After each operation, I list the size and quantity of nuts and bolts required and the size of the wrench needed. On the list of tools, don't forget to add

(*please turn to page 41*)

TRAFFIC

Chuck Clark, K4ZN
Assistant Director
Roanoke Division, ARRL

New Jersey flood

The May-June *New Jersey Traffic Bulletin*, edited by Don Ostroy, K2UL, contained a full accounting of amateur operations during the flood in early April, when 4 inches of rain added to heavy snow from the blizzard at the end of March inundated large areas in the northern part of the state.

Amateurs rose to meet the situation in their usually efficient way. Yes, there were problems, and the report paid particular attention to them to help all avoid them in future emergencies, but hams were there and got the traffic through.

In fact, the report concluded, "It can be stated without reservation that those agencies that utilized Amateur Radio were far better equipped to handle their disaster relief tasks than those which did not and were consequently forced to operate in a partial communications vacuum. Amateur Radio was needed. Amateur Radio was there. Amateur Radio was ready."

Even though the problems were relatively few, it's important to note them to be able to avoid them in the future. Anyone who fails to observe others' mistakes risks making them. As the report said, "Any disaster will bring out three kinds of people: those thinking only of others, those thinking only of themselves, and those not thinking at all."

A problem frequently arises when local officials tell amateurs to leave them alone, they have no need for our help. In this instance, a mobile unit was dispatched by the Emergency Operations Center in Wayne to report river readings at Oakland, but was refused access to the town and told, "If you want river readings, call us on the phone." Shortly thereafter, phone service failed at both Wayne and Oakland and the officials were without communication.

This often happens when amateurs fail to make contact with officials before the disaster, and then come and offer their services to officials who already have more problems than they can handle, and they see a bunch of hams hamming it up as just one more potential headache. In this case, however, Emergency Coordinators had done their duty to the extent possible, but word had not filtered through the governmental organization to the people involved.

Another amateur was sent to the evacuation center at Lincoln Park to handle outgoing health and welfare traffic, but was denied permission to operate or to solicit traffic on the grounds it would upset the evacuees. Eventually, someone was able to overrule that decision, but it meant delay and hardship for the people who could have been helped sooner.

One Emergency Operations Center inexplicably failed to activate its RACES station. The best advice is for any station in an area threatened by emergency to get on the air without delay, and for the Amateur Radio Service to contact officials to let them know our help is available. Don't wait for them to call you. In early stages, when the phones are still working, they won't be thinking about communications, and then when they need you as the phones go out, they can't call you.

One final comment in the report is a recommendation in areas with heavy VHF activity: pick an odd frequency for your simplex net. The New Jersey operation in one instance was disrupted by two amateurs far from the disaster who were running high power.

Recording traffic

Another suggestion included in the New Jersey report, and also suggested independently by Kel Hickin, W4GH (who also records **Worldradio** on cassettes for the blind), is to have a recorder in operation during an emergency to provide a running record of what happened. This can be valuable when communications are not sent as formal radiograms, as often happens when there is no need to relay a message — what is called tactical procedure.

It's good to have a record for later reference, and a recorder can provide this. It can either run continuously, or be controlled by a carrier-operated relay (COR). When messages must be relayed, however, or contain data to be filed as permanent records, they should go as formal radiograms.

In ordinary traffic handling, a recorder can be used to speed things up. The sending operator can speak at normal reading speed; no need to allow time for writing. The receiving operator can transcribe it from the tape, or even perhaps replay the tape through the transmitter to relay the message, without even writing it down.

Time filed?

Is a filing time necessary? Usually not. It can be important in an emergency situation, however, as an indication of how recent the information contained in the message actually is.

It's entirely up to the originating station to decide whether or not to include a filing time in a message preamble, and all stations that subsequently handle it should relay it just as it is. On MARS circuits, it is mandatory, and the date and filing time are sent as a six-figure group. Thus, I am writing this at 041646Z July 84, which translates to 12:46 p.m. EDT, 04 July 1984.

Be careful, though, if you use a filing time to indicate the time zone (UTC is preferred, and is usually indicated by adding the letter Z). And be sure the date is in the same time zone as the filing time. Thus, in the evenings in the United States, the date will be one day later — tomorrow's date — after 0000Z has passed.

QNA

Many nets have calling lists to expedite checking stations into the net at the beginning of a session. This is good, as long as it really helps. But sometimes it can be a hindrance.

If such a list is not kept up to date, it can soon be cluttered with a lot of calls that are seldom heard on the net, and the net control operator will waste a lot of time going through the list.

Furthermore, it should be headed by the stations which usually can be expected to have traffic to send or to be in a position to handle any traffic that may be listed. And the net control operator should interrupt the roll call and send stations off frequency as soon as traffic is listed for which there is an outlet. Then the roll call can continue. That's always the guiding principle for a net controller: get the traffic moving.

More common forms of the roll call are to ask for check-ins by geographic areas, by call-sign groups (stations A through D please check in at this time), or by functions (region net representative please check in).

If the net management has directed that a given procedure be used, the net control station should follow it. The same may be said, but somewhat less emphatically, if the net's control operators have developed a generally-used procedure over the years. Otherwise, it's up to the judgment of the individual net control operator.

Transcontinental Corps

One group of operators who are entitled to special service when they check into a net on any level is the Transcontinental Corps (TCC), operators who maintain schedules to handle traffic between the three NTS areas (Eastern, Central and Pacific).

In the interest of speeding the flow of traffic, these operators often bypass regular channels — in fact, are directed to do so, and put traffic directly into destination nets. Often they will have a large volume of traffic to clear, so when they check into a net, someone should take the traffic immediately. If no station in the destination city of a message should be on the air, the message should be given to someone else to hold, the TCC station cleared and excused to go to other nets for clearing other traffic still on the hook.

It can be frustrating to be told, "We don't have anybody here from Podunk just now, but if you come back on the late session, you'll probably have an outlet. He usually comes to that session." Or to receive a lecture from a zealous net controller on the evils of net hopping, that one should follow the standard routing of the National Traffic System.

It's not the lecture that hurts; it's the time wasted. ("If this guy doesn't shut up and clear this traffic, I'll be too late to catch the Virginia net.")

The moral: When an obviously competent and experienced traffic handler from outside your area comes aboard and lists traffic "from TCC," ask no questions. Just clear the traffic as soon as possible.

This unique QSL card dates from 1930. Martin Karig is still W2DUJ, and lives in Glens Falls, New York.

The Poinsettia ARC assists the city of Ventura, California, during street fairs (three each year), by providing communication for lost children and/or other emergency services. Club member Ray DeGroff, KD6PI — elephant mobile — uses Kenwood 2200A 2 meters. "Tara", the elephant, is also noted for her roller skating prowess.

WITH THE HANDI-HAMS

Maureen Pranghofer, KF0I

Have you ever wondered what communication is? Well, the dictionary defines it as "imparting or transferring of something intangible." There are several different types of communication in Amateur Radio: SSB, CW, RTTY, packet radio, etc. But probably the most vital form of information transfer in hamdom is that which takes place between students and their one-to-ones or teachers when they are working toward first license or upgrades.

In Amateur Radio, this communication cannot happen unless certain criteria are met. There has to be a power source, the rig needs to be properly loaded, conditions have to be such that someone on the hearing end can understand what is being transmitted.

Likewise, in communication between one-to-ones and students there are also expectations. Although they apply particularly to situations where there is a physical disability involved, they are good to keep in mind if you are in a radio club classroom situation or just helping the guy down the street to get on the air.

Students should:

1) Realize from the start that getting a ham license takes work and effort and probably won't happen overnight.

2) Be prepared to make time for study.

3) Try to set up a regularly scheduled time to meet with or talk to volunteers, and save questions that come up while studying for those times.

4) Not take volunteer assistance for granted.

5) Be willing to work independently.

6) Complete assignments requested of them by volunteers and teachers.

7) Indicate to volunteers when interest is lacking or when circumstances do not permit studying; i.e., don't waste the valuable time of instructors when there has been no progress or input.

8) Remember that what efforts go into obtaining a license are proportional to the enjoyment and receiving of the ticket.

9) Always remember that the training by dedicated instructors and volunteers in Amateur Radio is done by persons who leave their families and busy schedules to promote the hobby.

One-to-ones should:

1) Lay down the groundwork from the start, letting the student know what is expected of them and setting up a time schedule.

2) Be as consistent in their lesson plans and expectations which were laid out at the beginning of the course as possible.

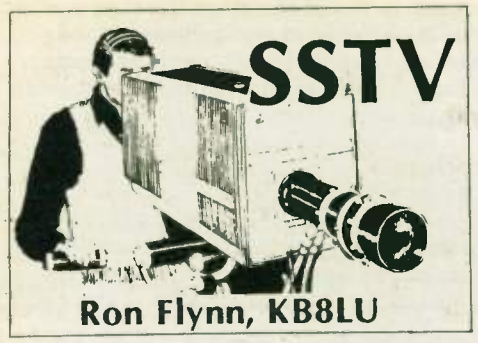
3) Be able to give constructive criticism and encouragement where needed.

4) Have resources and references they can go to when looking for information or answers to questions.

5) Avoid out-of-pocket expenses when working with students; i.e., asking students to pay for student materials, mileage expenses, or equipment if bought for the students. Or look to resources such as persons having an extra key laying around, or for someone who is willing to provide transportation to meetings for a student who does not have to rack up extra mileage in doing so.

6) Above all, enjoy what is involved in transferring information to someone in order to assist them in obtaining one of the tickets to the best hobby in the world.

Check your license expiration date.



I have mentioned the International Visual Communications Association (IVCA) in several columns over the past year or more. In the beginning, early 1983, I was very enthusiastic about the formation of this type of organization. Nine months later, in my October 1983 column, I was somewhat critical of IVCA for not fulfilling their promised goals and purposes.

In September 1983, I attended the IVCA meeting in Chicago. I also attended the IVCA meeting this year at Dayton. An IVCA report is long overdue. As promised, this column will bring you up to date on everything concerning this organization.

Background

IVCA was formed in early 1983 with a series of goals to bring together all the various types of amateur visual communications: SSTV, ATV, RTTY, AMSAT and EME.

An organizational meeting was held in Lindale, Texas, in March of 1983. About 12 people attended that meeting. A steering committee was formed, with Sam Mormino, WA7WOD, as chairman. Eight different people accepted steering committee assignments for various activities and purposes.

At the 1983 Dayton Hamvention, Lou Tepfer, W6FVV, gave a talk on IVCA and its goals and purposes to those attending the SSTV Get-together. Applications were available and membership was solicited.

Soon after Dayton, it became very apparent to me that things were not going as planned. Some members of the steering committee did their job, and others did nothing. No projects or activities surfaced to bring in members or unite them. The IVCA quarterly publication was delayed about three months in coming out. IVCA seemed to be going nowhere, which prompted my October 1983 column.

September meeting

I traveled to Chicago in September to attend the IVCA meeting. I went as a journalist, at my own expense. I am not a member of IVCA.

The meeting was to be held in conjunction with a local hamfest. There were to be programs and demonstrations on the various visual communications modes of Amateur Radio. Important business and elections would occur at the meeting. All of this was promised during the weeks prior to the meeting on the 20-meter IVCA net.

Four members of IVCA met me in the hotel lobby. That was all that came. Participation and demonstrations in the hamfest were cancelled. The meeting was cancelled. I was informed that all the business had been conducted and decided over the phone prior to going to Chicago. Bill Wells, W4CVS, had been appointed interim president of IVCA to serve until the first annual meeting was held at Dayton in 1984. That was it, and then everyone went to dinner.

I spent most of dinner on the "hot seat" for my column about IVCA. They finally agreed that everything in my column was accurate, but felt it was "premature." They needed more time to get everything together and organized. Everything would be in order by Dayton. Elections would be held and committees appointed. They asked that I hold off on publishing anything until after Dayton.

Dayton meeting

A few months prior to Dayton, W4CVS stepped down, for personal reasons, as interim president. The editor of the IVCA publication also stepped down. Lou Tepfer, W6FVV, took over to run IVCA until Dayton.

At IVCA's Dayton meeting, it was announced that Lou Tepfer could not attend. About 30 people did attend the meeting run by Sam Mormino, WA7WOD, which lasted about 30 minutes.

Sam read the minutes of the March 1983 meeting in Texas, explained what IVCA is about, and told of its goals. He made a plea to bring together those involved in the various modes of visual communications. A couple of people volunteered that bringing together people from around the world was impossible due to band conditions.

No elections were held, and no committee appointments were made. A call was made for volunteers to serve on a Board of Directors. As time grew short, it was decided and voted that two gentlemen — Jack Gray, W1REQ, and Gerald Klatzko, ZS6BTD — would serve as a Committee of Two to contact people to serve on the Board of Directors.

IVCA's future

The above has geen a factual account of IVCA's brief history and organization, from early 1983 to May 1984.

Gerald and Jack have a formidable task ahead. Both men are very conscientious and sincere. I know they got right to work at Dayton and met at least twice while there. I had a meeting with them also. The fate of IVCA and its future is in their hands.

Membership numbers for IVCA are not known. The memberships of those who paid dues for one year have now expired. Will they renew? Many people have contributed considerable sums of money to IVCA. One person told me at Dayton that he still had not been fully reimbursed for work done for IVCA.

I've promised this accounting, but it is very difficult for me. I have personally known many of those involved with IVCA for many years. These guys are my friends.

I'll not point any fingers. It has been one-and-a-half years now, and it just hasn't worked out yet. The goal of bringing together the various modes of visual communication did not happen. Maybe it is impossible? In SSTV alone, there are so many different modes and opinions on matters concerning SSTV that I wonder

f there will ever be any real agreement or standards.

In my mind, however, there were no clearly defined IVCA goals, no project for members to get involved in, and no activities to attract people into the organization. IVCA still runs an SSTV net each Saturday morning. It is a very well-run net — one of the best, but SSTV only. Most who participate are not IVCA members. They just want to send some SSTV on a Saturday morning. That's fine, but IVCA does not benefit.

Jack and Gerald are starting almost from scratch. They have a big job this summer. Whether they can keep IVCA's stated goals, purposes and bylaws, and turn IVCA into a viable organization is still unknown. Maybe they will determine that IVCA's present structure is not practical or workable or that the goals are unachieveable. Some changes certainly will be made. Maybe the IVCA name and organization can be saved, or maybe they will restructure under a new name.

Whatever Jack and Gerald decide, they have promised to keep me informed and updated, and I will pass it along to you via this column. □

Teacher

(Continued from page 37)

items like tape, spray acrylic or Locktite™ if you use them, to protect your coaxial fittings. The key here is to list every possible tool or part you may need up there, and buy them in advance.

Hoisting

I only want to make one trip up and down the tower, so here's where we shoot for efficiency. The time-killer in tower work is the climbing back down to get another tool or piece of hardware you forgot to bring up the first time.

Murphy's 9/16th Law states that if you bring two 9/16th open-end wrenches up the tower, one must always fall to the ground. This means you have to bring up a few extra tools. To get these up there, I use makeshift work buckets.

The buckets

To make work buckets, I take large-size coffee cans and form aluminum grounding wire handles for them. Cleaned out paint cans and canvas lineman's bucket also work. You can hook the bucket at any level you are working at. It's much easier to find the tools this way. Otherwise, you'll spend wasted time groping in all your pockets for the tools and hardware.

To hoist the buckets up, I use only 1/4-inch braided nylon rope. It doesn't stretch like conventional three-strand nylon rope and handles easier than manila or sisal rope. Also, taped inside one of the buckets is a list of the projects to do, in the importance of getting them done. Add to that list any critical dimensions to be used, plus a warning to *"SLOW DOWN."*

I always hoist up two buckets. One has the tools in it and the other the nuts and bolts. As most nuts and bolts eventually corrode, I Locktite™ the threads and nuts plus spray everything with a clear acrylic spray.

Conclusion

The purpose of this article is to help you get your tower work done faster and more efficiently. After all, most of us would rather spend our Amateur Radio time on the air and not up in the air. □

Work buckets are useful for holding tools

Aerials

Lil Paddle

Our new colleague, Bruce A. Ray, pens the following eight paragraphs.

Newington does it again!

In a recent article about methods to eliminate TVI, *The Newington News* was full of errors, misstatements and plain wrong ideas! (See May 1984 issue of QST, "Eliminate TVI with Common Mode Current Control.") The author somehow got past Newington's technical advisers with some very novel but unfounded ideas. At first we thought it was an April Fool's article that had slipped by!

The article uses such incorrect words as universal return path — universal reference — dissipative mass. Ever hear of a universal reference? And, pray tell, what is a dissipative mass? (No, they didn't mean a dummy load.)

Of interest to our antenna readers is the misinformation contained in the opening sentence of a paragraph titled "Transmission Line Radiator." It reads, "Radiation from an unbalanced line is a function of the height above ground and the line length." Nothing can be further from the truth! Don't believe this.

This line of "official" ARRL thinking perhaps explains why the ARRL Antenna Handbook hasn't changed much since it was first written in the '30s. There is absolutely no reason for this, with excellent antenna books now available in the technical literature. Remember how long it took Newington to accept solid-state devices and put them into its handbook and monthly magazine?

I've worked professionally with commercial and industrial antennas for over 30 years, and I nearly fell out of my chair while reading it! My favorite faux pas was *Figure 6* in the article. This shows the ground connection from the transmitter going to ground through a ferrite core, "filled with turns of the ground cable."

The caption for *Figure 6* says, "The common-mode choke presents a high impedance to high-frequency currents, thus forcing them to be dissipated in the metallic mass and lossy dielectric."

What drivel! For whatever reason one wants to ground a transmitter, that ground connection must have *low* impedance in order to be effective, not *high!*

Well, I must ask about this article's author. Why is he telling us this? Why is he giving us all this misinformation?

•••••

Well, what do you think about those apples?

Mr. Ray will also be answering all antenna questions directed to this column. All queries will receive personal answers, and the questions and answers may also be used here for the edification of all. Please allow for the time factor which results from your letter to **Worldradio** being forwarded to the Answer Man, and then his answer being sent back to **Worldradio** to be forwarded to you.

Many amateurs, with space restrictions, may not operate on some of the lower frequencies. Some amateurs, with extreme space restrictions, may not even operate on the higher bands of our HF allocations.

What we shall outline here may solve the problems for both of the above situations.

For example — if one doesn't have room for an 80-metre antenna, a 40-metre antenna size with loading coils can be pressed into service. But what if one doesn't even have enough room for a 40-metre antenna?

Yes, an antenna can truly be made shorter and shorter, with its efficiency going lower and lower, because the impedance has lowered and coupling energy gets very difficult.

But all is not lost. First, some references are in order. As you know, a dipole of the proper length for the frequency being applied (at the proper height) has an impedance of 72 ohms. Then at the same height, with the same frequency applied, same element length, *BUT* with two such wires connected at the ends, fed in the center of one of the elements, the dipole has an impedance of 288 ohms.

Yes, that's the folded dipole. (And not 300 ohms, as so many say.) Has a light bulb started shining above your head? "Aha," you've probably said, "I see where this is all leading to."

Right! By using the "step-up" characteristics of the folded dipole, and by using *FOUR* loading coils (one in each leg) you can really shorten up the antenna.

It gets even better. Younger readers may never have seen one, except possibly in a movie, but we now resurrect the "flat-top". Yes, this goes even further than the folded dipole and uses three wires. Feed the center one, as you would a dipole. Use six loading coils, short the ends of the three wires on each end and continue running out one wire from the joint of the three, for fine tuning of the antenna.

Ordinarily, such an antenna would have nearly 600 ohms impedance. But we're going to shorten it to the degree that it exhibits 72 ohms, or 50 ohms, or something that can be matched.

Don't argue, don't laugh, but if you get it all together right, an antenna — half the length of normal for the frequency — can radiate a signal strong enough that the receiving station would detect no difference should you switch to a full-size dipole.

Try it, check it out, and tell us the results you found.

As you know, we've been long-time advocates of open-wire feed, known as ladder-line to some. There is one caution that should be observed. Do not let it twist around. Keep it as straight as possible.

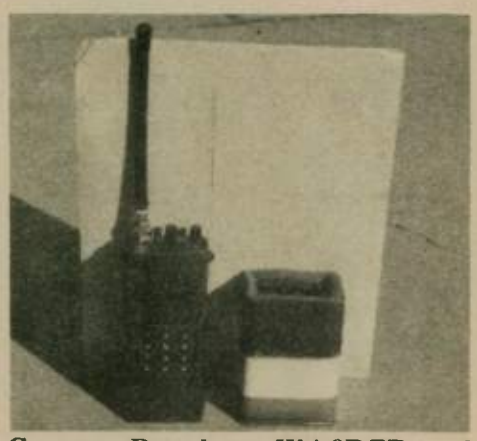
I have been called on the carpet. In the July issue of **Worldradio**, I made a flip comment regarding the publisher of this august journal. In referring to his call sign I said, "I've often wondered how he got that particular call." I was being snide.

There was a time when certain amateurs considered to be of some note, (legends in their own minds), were issued calls of their choice, even though such was against the FCC rules. Armond, however, reminded me of something I had forgotten.

Six years ago, the FCC — to encourage more amateurs to get their Extra — had an incentive program that if you passed the test, you could choose your call. The program was more successful than the Federales thought it would be. It created so much paperwork that they quickly stopped the special offer.

When I obtained my "big E," there were no special privileges (bands or calls) attached, and the later starts and stops of the "foolishness on the Potomac" had slipped my mind. I feel a little foolish.

(With the addition of Bruce A. Ray to the group, Kurt, Lil and Bruce now become the Three Musketeers of antennas. The addition of more manpower means they are, more than ever, willing to take on all comers.) □



George Burnley, WA6DZD, of Alameda, California, created this ingenious holder for his ICOM 2-AT. The holder is made from a discarded pepper can with about 1/2″ of lead poured in the base. The ornamental stripes on the bottom and center are gummed tape, while the top is made of abrasive tape such as is used to trim stair edges for non-skid purposes. The top is lined with foam rubber to prevent marring.

His best helper

Bill Schuchman, W7YS

It was another beautiful morning in Flagstaff. The OT who had taught many a budding Novice, and who had been putting wires in trees for some 44 years, was looking forward to the arrival of a small group of faithful neophytes. At the last club meeting when he announced that he was about ready to put up the new skywire, he had been deluged with offers of "help".

Arriving at the appointed hour (an appropriate time when the neighbors were on vacation), the members of the volunteer work party were in good spirits and joked about the skit the OT had put on at the club meeting, roasting (in good ham spirit) a member who had neglected to send in his contest log.

When the OT went to the garage, the neophytes gathered in the backyard, then began to cast furtive glances around the area — looking (I guess) for the usual assortment of packing boxes, printed directions, coax, baluns, hardware, etc. — and, of course, the cooler with the cold 807's.

At the approach of the OT (seen carrying a small coil of wire, two insulators and a spring), there appeared to be some uneasiness and shuffling of feet. Two of them glanced at a third member. The third member was wearing a blue and white baseball cap with his call letters emblazoned in fluorescent orange, 6 inches high, and had the latest model of a 2M HT strapped to his rear. The third member was a "Tech".

He reached around and turned down the volume on the HT. As the voice of the "Mobile in Flagstaff" (which was asking for directions to the Grand Canyon, where could he buy the cheapest gas in town, and where was the best restaurant serving Mexican food?) slowly faded, the following discussion took place:

N7 : "Hi — Where's the antenna, Bill?"

Bill: "Right here — it's all set to go. Soon as I get the ladder."

N7 : "Uh . . . What kinda antenna is that — or is it just one of the guy wires?"

Bill: "No, it's not a guy wire. This is an end-fed Hertz, and it's called a FUCHS antenna."

KA7 : "Come on, Bill — quit pulling our legs."

Bill (sensing a grand opportunity to "tell it like it was" to the Young Squirts): "No fellas, I'm not pulling your legs at all. This is the kind of antenna hams had been putting up for years until all that surplus aluminum tubing became available after WWII.

I well remember my old Elmer (Cliff, who is now K2UHM) pointing it out to me in the 1932 Handbook he gave me in the spring of '39. The book said there are really only two basic antennas — the vertical (called the MARCONI) and the horizontal (called the HERTZ). Just about all antennas are variations of these two basic types, but are called by different names depending on how they're bent, twisted, fed, sloped, etc. Relatives are loops, deltas, quads, long wires, etc. And then, of course, there is the famous inverted V — like when NR1LID says "I'm using an Inverted V," but what he is really using is a drooping dipole! You see, for an antenna to be properly classified as a "V" antenna, it should be several wavelengths long. Anyway, the end-fed Hertz (or FUCHS) antenna, is a simple, effective and cheap antenna. It has the added advantage that if made with small diameter wire, the neighbors can't even see it! If they do spot it, you just tell them, "Yes, it's my antenna — I like to listen to the shortwave bands." (You just neglect to tell them you also transmit on it.) "Got it?"

N7 : "Right on. Speaking of low profile and invisible antennas, Bill, where the heck is that 2-element beam you work all the DX stuff with?"

Bill: "It's right behind you between the three pine trees . . . it's hard to see cuz it's painted green, and the mast is brown. It sort of looks like a tree and usually isn't noticed by anyone except my dog, and that's only because for some reason, Blackie has always had a more than passing interest in trees."

N7 : "Neat . . . Well, let's see if we can get this thing in the air. Are you sure it's the right length?"

Bill (now showing extreme measures of self-control): "Sure, it's OK. Now, the far end goes up in the top of that big Ponderosa back there, and the near end ties to that feed-through insulator on the wall outside where the shack is."

N7 : "Where's the coax go?"

Bill (swallowing hard): "It doesn't have a coax — it's end fed." (Ye Gods!)

KA7 (who is very carefully uncoiling the wire, is 13 years old, and is the only real help the OT has had thus far) says: "Mr. S. . . (he only calls the OT by his first name when they have a CW QSO), how long is this antenna? Maybe I can put one up at my place?"

Bill: "Sure, and well — it's a half-wave on 80, so I can use it on all bands just by changing the coils in my antenna tuner, and by using series feed, I can use it as a quarter-wave on 160."

KA7 (This is one of the older ones who has just sent off his 610 to take the Technician test.): "WOW! Let's get going and see if we can get it up there. What's that screen door spring on the end of it — a loading coil? And can you use this antenna on phone?"

Bill (voice is now slightly hoarse from patiently answering questions): "Nope — that's just to keep the wire from breaking when the tree sways or there's snow and ice on it." (He ignores the other question like he ignores the voice that says, "QR ZED the Repeater?").

KA7 : "Oh . . ."

The above scene is probably pretty familiar to anyone who has ever hosted an antenna party, and all of us are guilty of trying the patience of the OT. (I know I was.) One way of minimizing the problem is by using a mixture of Novices, Technicians and Generals. At all costs, *NEVER* try to put up an antenna when two or more Extra Class hams are present or the club president is around (especially on Field Day).

All kidding aside, I long ago solved the problem to my satisfaction. No longer do I suffer frustration. No longer do I feel that my technical expertise is being questioned. No longer do I spend 90 percent of the time answering questions and 10 percent of the time getting the job done. I simply get everything together, then call the best helper I know — the one who hands me whatever I ask for, doesn't question the type, length, characteristics or whatever of the antenna. When I'm up in the tree, a simple voice request is followed by immediate response by my helper on the ground to tie whatever I need to the lowered rope.

When the job is done, she heads for the house, and by the time the ladder is put

away, there are cold drinks to be enjoyed on the back porch. You guessed it — my best helper is my XYL.

Since 1939, Amateur Radio has been part of our lives. My early interest in Amateur Radio was responsible for putting the bread and butter on our table for more than 40 years. It led to a career in communications/electronics and our retirement from the Department of Defense in 1974. Lately, though, I have discovered a strange and interesting development related to Amateur Radio.

Although my hamming is 99.9 percent CW, to my knowledge, Dot has never shown interest in learning the code. I was therefore astounded one late afternoon to hear a distinct DITDITDITDIT DITDIT coming from the direction of the kitchen! At the same time, my faithful dog Blackie, who was just outside the open window of my ham shack responded with a slight "Yip". I immediately went to the kitchen when I observed my XYL just about to carry Blackie's supper out in his large ceramic dish.

The Morse was produced by her rapping the edge of the dish with the spoon to get the excess food off the spoon! This was amazing! My XYL had learned Morse (probably by listening to me honking my horn at ham plates), and my dog had learned from her! This convincing demonstration by Blackie of his uncanny canine ability to recognize and copy Morse (without the aid of mechnanical means) should be of great encouragement to those who are having problems with the code. Now . . . if I can only teach him how to climb a tree with a screen door spring in his mouth. □

Radio and RV's

An article about Amateur Radio and RV's will appear in the October issue of **Motor Home** magazine.

The author is Paul Pierce of Malibu, California, and among those he interviewed are Oka Stewart, W6CAR, and Bill Palmerston, K6BWJ. □

10-meter FM repeaters

Input	Output	Call signs	Access features	Location
29.51 MHz	29.69 MHz	W3FDU/R	0	York, PA
29.52 MHz	29.62 MHz	W1BHD	0	Malden, MA
.52	.62	WDØALH	0	Newton, KS
.52	.62	KE4IO	0	Stone Mt, GA
.52	.62	WA2TMZ	0	Toms River, NJ
.52	.62	WD8CIY	0	Brady, TX
.52	.62	WØJZY	0	Hillsboro, MO
.52	.62	W4ZJM/R	PL 100 Hz L	Memphis, TN
.52	.62	K3SP	0	Freeland, MD
.52	.62	WB7CAG	0 T A L Z	Glendale, AZ
.52	.62	K3CFY	0	North Huntington, PA
29.53 MHz	29.63 MHz	N6AHW	0 T A L Z	Monterey, CA
29.54 MHz	29.64 MHz	W7ZFX/R	B 1800 Hz W E	Sedro Woolley, WA
.54	.64	K2KLN/Metroplex	0 A E L Z	New York City, NY
.54	.64	K5TYV/R	0	San Antonio, TX
.54	.64	WD8DPA	0	Ann Arbor, MI
.54	.64	KE4QC	0 L P	Mobile, AL
.54	.64	K4GTQ/R	0 L P	Birmingham, AL
.54	.64	W3DID/R	0	Baltimore, MD
.54	.64	KØLKH	PL	Boone, IA
.54	.64	WAØYUA	PL	Bridgeton, MO
.54	.64	WB5ITT	0	PortNeches/Groves, TX
.54	.64	K8LK	0	Doylestown, PA
29.55 MHz	29.65 MHz	K3SLG/R	0 L	Pine Grove, PA
.55	.65	KB2DQ	0	Buffalo, NY
29.56 MHz	29.66 MHz	WD4EXH	0	Rustburg, VA
.56	.66	N3AUY	0	Silver Springs, MD
.56	.66	K2MZ	0	Oyster Bay, NY
.56	.66	WØIA/R	0	Boulder, CO
.56	.66	WD9III/R	0	Decatur, IL
.56	.66	AEØN/R	0	Bloomington, MN
.56	.66	DU1SA/R	0	Mandaluyong, PHILIPPINES
.56	.66	KV4FZ/R	0	Christiansted, Virgin Is.
.56	.66	N9PL	0	Palomar Mt., CA
.56	.66	WØTQ	0	Concordia, KS
.56	.66	WR5ARS	0	Houston, TX
.56	.66	AE6R	0	Eureka, CA
29.57 MHz	29.67 MHz	DBØQK/R	B 1900 Hz	Lerchenbert, WEST GERMANY
.57	.67	KB9SH	0	Aurora, IL
29.58 MHz	29.68 MHz	KD4DN	0	Sterling, VA
.58	.68	WB6IGH	PL 107.2 Hz	Rancho Palos Verdes, CA
.58	.68	WD5DON/R	0	Corpus Christi, TX
.58	.68	WB9STA/R	0 L	Pendleton, IN
.58	.68	K2YBW	0 L	E. Setauket, NY
.58	.68	W4MM	0 L	Albany, GA
.58	.68	W2SEX/R	0	Tonawanda, NY
.58	.68	WB8KVT	PL 103.5	Akron, OH

Access codes
O-Carrier operated
B-Burst Tone
(CA)-Private Autopatch
PL-Private line
T-Touch-Tone
W-Whistle
C-Closed private repeater

Special features
A-Autopatch
E-Emergency Power
L-Link and or crossband
P-Portable
R-RACES affiliated
Y-RTTY
Z-Direct access to law enforcement

In 1980, the ARRL Board of Directors adopted the 10-meter CTCSS (PL) tone-controlled squelch frequencies listed above for voluntary incorporation into the 10-meter repeater systems to provide a uniform nationwide system.

The purpose of the CTCSS (PL) is to reduce co-channel interference during band openings. CTCSS (PL)-equipped repeaters would respond only to signals having the CTCSS tone required for that repeater. These repeaters would not respond to weak distant signals on their inputs and correspondingly, not transmit or repeat to add to the congestion.

Call area	Tone 1	Tone 2
W1	3B-133.8 Hz	ZZ-91.5 Hz
W2	4Z-136.5 Hz	ZA-94.8 Hz
W3	4A-141.3 Hz	ZB-97.4 Hz
W4	4B-146.2 Hz	1Z-100.0 Hz
W5	5Z-151.4 Hz	1A-103.5 Hz
W6	5A-156.7 Hz	1B-107.2 Hz
W7	5B-162.2 Hz	2Z-110.9 Hz
W8	6Z-167.9 Hz	2A-114.8 Hz
W9	6A-173.8 Hz	2B-118.8 Hz
WØ	6B-179.9 Hz	3Z-123.0 Hz
VE	3A-127.3 Hz	YB-88.5 Hz

Any updated information would be appreciated. Send to: James Kaufman, W7UMH, 5873 Madrona Dr., Ferndale, WA 98248. — *Jim Kaufman, W7UMH* □

YF vs. XYL

Esther Given, W6BDE

A pun is a play on words, sometimes considered the lowest form of wit. A much rarer phenomenon is a play on letters, and Amateur Radio has been passing up one of the best of these rarities.

Why does every OM call his soulmate his "XYL"? Everyone knows they are husband and YF (pronounced why-eff with emphasis on the Y). These two letters when spoken come forth "WIFE", and their adoption should become a vital prosign of both fist and mike wherever hamese is "spoken".

OM's should be aware that "X" means a "has-been". Therefore, XYL in literal translation says, "My YF used to be a young lady." No matter where you put the emphasis in that quotation, it's an indignity. Why not check with the ever-lovin' and get her opinion on this? She probably hates the XYL title. Perhaps she responds with a quip that she's not the X-YL but the present YL, or maybe she's outraged and insulted by being "Madam X".

Hopefully, no OM is too old or set in his ways to accept the challenge to upgrade his life partner. Be the first on your QSO, net or round table to correct this unjust solecism. Before you run for Funk & Wagnalls, a solecism is: 1) A violation of accepted grammar; 2) Any impropriety or incongruity; 3) A substandard dialect. Thus, "XYL" as used is a true solecism. Just ask any YF. BCNU!

FM-2033

2m C-MOS MICROPROCESSOR CONTROLLED
DIGITAL SYNTHESIZER FM TRANSCEIVER

6 in 1

Exclusive KDK 6 in 1 control is now joined by 6 exciting new KDK features:

NEW! % Soft Orange background Liquid Crystal Display (LCD) for direct sunlight viewing plus lighting for night viewing.

NEW! % Offset (+, –, S) stored in memory along with the frequency information.

NEW! % Frequency coverage of 142.000 to 149.995 MHz for M.A.R.S. and C.A.P. usage.

NEW! % Chrome front panel with accent knobs and lighter color on case to match today's auto decor.

NEW! % Scan for signal now has 3-second delay before resume after loss of signal.

NEW! % Repositioned controls for more convenient operation.

The Exclusive KDK 6 in 1 Knob.

- Only memories with data are scanned; blanks are skipped.
- Complete memory back-up with power unplugged. Re-chargeable Ni-Cd with capability of several months back-up of memory.
- Single frequency sub-audible tone generator included as a standard feature.
- Tone unit switch on front panel to prevent "humming" on the wrong channel.
- Repeater input monitor capability with the push of a single momentary switch.
- Solid-state level meter for both output level and input level monitoring.
- User programmable initial characteristics for band limits, channel step size, etc.
- Odd repeater splits can be handled with the memory in the AxB mode.
- Programmable band-scan limits are stored in protected RAM.
- Modular construction with pluggable interconnecting wiring.
- Touch-Tone* microphone TM-2 is standard with each radio.
- Change channels, skip-scan or step up and down the band from TM-2 microphone.
- Audible beep for end-of-band or last memory location for better "eye's off" operation.

The KDK FM-2033 represents a significant advance in user convenience and simplicity of operation for the radio user. The KDK '33' series of transceivers provides excellent readability in any lighting condition for either the operating frequency or the memory channel number in use. The use of a warm orange background for the LCD displays improves the readability by providing an easy on the eyes contrast improvement.

Simplicity of operation has always been the mark of the KDK design team and the FM-2033 is no exception. From the single knob frequency and memory selection to the automatic recall of the desired repeater offset from memory, the FM-2033 continues to provide relaxed, comfortable mobile operation.

Once the 10 memory frequencies have been selected, a single knob is all that is required for operation on the standard simplex or repeater channels. Using the audible beep as the end of memory marker allows setting to a particular channel without even looking at the radio.

In the scan mode, scanning for a busy memory or pre-programmed band scan keeps you up to date on the happenings in the area. Very busy frequencies can be skipped by using the up key on the TM-2 microphone. If a full 10 memories are not used, the unused ones can be marked for scan skip so that no time is wasted checking them.

The FM-2033 provides a clean 25 watt output signal across 142 - 149.995 MHz to operate in balance with most repeater signals and provide quieting on the simplex operations. M.A.R.S. (NAVY too!) and C.A.P. frequencies are also accommodated.

You want convenience, reliability and easy operation for your mobile station and a tough to beat dollar value. Check out the FM-2033 at your local dealer TODAY or send a QSL for specifications.

* Touch Tone is a Registered Trade Mark of American Telephone and Telegraph.

Specifications are nominal and are subject to change. All KDK transceivers meet or exceed FCC regulations regarding spurious emissions.

KDK

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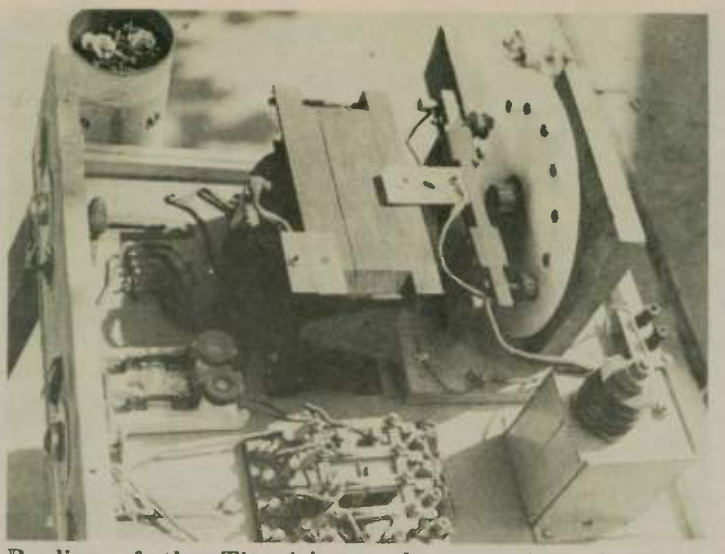
Phone (214) 423-0024 TLX 79-4783 ENCOMM DAL

George Masden, W0LPW, with a small portion of his beautiful collection of antique radios.



Replica of the Titanic's spark transmitter built by George Masden, W0LPW.

Spark gap from the *Titanic*

George Oster, K0EDA
Rich Rogers, KA0LUI

How many of you remember your parents and all their friends talking about the sinking of the great passenber ship *Titanic?* George Masden, W0LPW, does.

How many of you would take the time to build a replica of that ship's spark gap transmitter — a transmitter whose frantic SOS was not enough to prevent the loss of 1,583 people on 12 April 1912? W0LPW did.

The *Titanic* and its powerful spark gap transmitter have occupied the interest of George since he can remember — almost 70 years. George can weave a story to spark anyone's interest, just as he interested us.

Business took the two of us to Burlington, Iowa each week recently. Often we went by plane, sometimes by auto, but always with Amateur Radio equipment along. It was through the magic of Amateur Radio that we met W0LPW, struck a friendship and learned of his interest in old-time radio.

George lives in Mt. Pleasant, Iowa and is a retired electrical engineer for the Atomic Energy Commission. A few years ago, George was working with young people and the local school system, trying to interest them in the importance of electronics. As part of that work, he constructed a replica of the spark gap transmitter on the *Titanic*. This project was chosen because it represented an interesting part of history as well as electronic principles.

The spark transmitter was built from 7900 volt "pole pig" and rotary spark gap which rotated at about 1800 cycles per second. This allowed about 10 wpm maximum code speed. The transmitter drew about 20 amps at 220 volts and, George estimates, perhaps 5 percent efficiency.

The huge inductor required some ingenuity. George utilized a fiber board cement form (used to build bridge approach guards). On to this, he wound 7½ pounds of #22 copper wire spaced with string. The coil stands approximately 5 feet high.

W0LPW estimates that the transmitted frequency was about 1000 kHz. And, of course, he was quick to point out that using the transmitter would be "strictly illegal." However, on the evening the accompanying photos were taken, there was a puzzling case of TVI and BCI reported throughout Mt. Pleasant. Today, the replica stands in a maritime museum near Baltimore, Maryland.

George Masden, W0LPW, demonstrates size of coil replica from the *Titanic*.

George can talk for hours about the history of radio and is especially proud of his collection of old receivers including Crosley's, Atwater Kent's and Grebe's.

When we asked George why he is so fascinated by old radios and the history of radio, he immediately replied with a smile and loving twinkle in his eye, "Because I was there!" □

'73' is a compliment

Armond Brattland, K6EA/0

Lack of coordination, whether from falling off antenna trees, "glass arms," or merely not enough practice — old memories are especially brought to mind when I hear hams sending "73" a number of times, "to get it right!" Memories such as:

A discussion by hobbyists at a coastal city YMCA. The first speaker, in his 80's, spoke about his woodworking activities. The young speaker who followed spoke on Amateur Radio, ending his talk by telling about "special ham language they invented for shortcuts." When he mentioned "73", the prior speaker stood up and asked if the young man believed hams had invented all of such language. Receiving an affirmative answer, the old-time woodworker asked the chairman for time to tell of his early life.

In grade school, he worked as a messenger boy and then at a large city telegraph office, delivering messages from one operator to another on trunk lines. Then followed a telegraph school and working as a relief operator, until the office manager found him capable enough to have full-time work. He discussed the shortcuts of such business, and about "73", said it had a complimentary meaning, such as "my compliments to you." He added some humor, saying it was seldom heard, as the telegraphers were a proud group and each one seemed to be critical of the others' capabilities.

•

My early association with the son of a railway station agent, that helped us put up a "telegraph line" between our homes and tried to teach us American Morse. That was 75 years ago, when we often heard that old station agent tell us, "We would never get a '73' for that operating."

•

In the Signal Corps in WW I, a young telegrapher laughingly responded to my inquiry about "73", that "he was a bum operator and never received one."

•

Following such war, I attended a radio school to acquire a commercial radiotelegraph license. There were a number of landline telegraphers also attending and the instructors were former landline telegraphers. It was their opinion that the meaning of "73" was, as I had understood it to be, "a compliment."

Regardless of the change in meaning that any language undergoes, much of what we take for granted now in Continental code as "ham talk", originated on the landlines in American Morse. We may as well be generous in our mention of such colorful profession. They were a proud group, and a great many of them well deserved a "73." □

Information in "New Products" is supplied by the manufacturers to acquaint *Worldradio* readers with new products on the market.

Microcomputer software

RAK Electronics introduces GPHRC II — an Amateur Radio contest logging program for the TI-99 and TI-99/4A computers. It allows the user to maintain a computerized record of his radio contest log, providing up to 1,000 call entries and sorting for duplicate entries.

The format is identical to the ARRL Sweepstakes Contest and includes printer routine for a permanent record or contest entry record.

Requires TI-99 or TI-99/4A computer with Extended Basic, 32K Memory Expansion, Disk Drive and RS232 Card with a parallel or serial printer.

Available from RAK Electronics on disk only for $17.95, plus $2 postage and handling. Catalog order number is JW958.

For more information, contact RAK Electronics, P.O. Box 1585, Orange Park, FL 32067; (904) 264-6777. □

Telex ham catalog

A new Amateur Radio products catalog has been issued by Telex/Hy-Gain. The 24-page color catalog gives detailed specification, SWR curves and ordering information for antennas, towers, rotators, as well as headsets and microphones. Where applicable, metric information is also given.

The catalog is available free through dealers or by contacting the Telex/Hy-Gain Amateur Sales Department at 9600 Aldrich Ave. S., Minneapolis, MN 55420. □

VIC 20 programs

Four new HAMWARE programs by John Vesty Company are said to extend the utility of VIC 20 computers to logging and QSO operations.

HAM LIST serves as a memory jogger during a QSO, quickly searching for a call and displaying data on file. The program provides for the convenient addition, revision or deletion of entries, and a screen-review of the list.

QUICK LOG provides automatic logging of date and time, and search by call or QTH. The list can be printed, saved to tape, or screen-reviewed as desired. Time is displayed on the menu page.

QSO MANAGER combines a 10-minute identification timer and a 24-hour clock, with a screen-based note pad for use during a phone or CW QSO. The note pad incorporates a word-wrap routine to eliminate broken words at the end of a line. The timer can be set, reset or cancelled at any time.

The three programs described above are available on tapes, and are designed for use with both unexpanded and expanded VIC 20 computers. A fourth program, SUPER MANAGER, combines a 10-minute identification timer, clock, screen-based note pad, and 500-entry log in a single program. It requires 16-K expansion.

For further information, contact John Vesty Company, 415 Elm St., Fayetteville, NY 13066. □

Terminal Interface

Heath's new HD-3030 Terminal Interface sends messages around the world using any personal or home computer.

This is a "universal" terminal interface that is compatible with any home computer, such as Heath's H-8 or H-89, Commodore, Atari, Radio Shack, Apple, IBM, etc. It sends or receives ASCII/Baudot RTTY and Morse code messages anywhere in the world at up to 300 baud using any standard transceiver, TTY terminal or monitor and a computer with the appropriate software.

Optional six-pole filters for the HD-3030 include a preselect filter which delivers strong, readable tones in the standard 170 Hz shift that print clearly even in a crowded band, as well as filters for 425 and 850 Hz audio shifts which permit even more versatility.

Features include a crystal-controlled AFSK generator; capability for full FSK with equipped transmitters; true mark/space detection; oscilloscope tuning outputs; front-panel LED bargraph tuning; data and status indicators, plus TTL and RS-232C I/O compatibility and a built-in loop supply.

A row of flag-type pushbuttons permit full up-front control of send and receive (including reverse shift) configurations. A convenient autostart relay energizes the rear panel AC receptacle for unattended start of computer and/or printer while an internal threshold adjustment sets the desired recognition level.

The Terminal Interface kit includes a mate for the DB-25 socket and step-by-step assembly manual which supplies a pin-out and criss-cross interconnection chart.

Heath also offers Super CW and Super RTTY Terminal Interface software for use with their H-8 and H-89 computers.

The HD-3030 Terminal Interface is just one of over 400 electronic kit products offered in the latest Heathkit Catalog. To receive this colorful catalog *FREE OF CHARGE*, write Heath Company, Dept. 150-345, Benton Harbor, MI 49022. In Canada, write Heath Company, 1020 Islington Ave., Dept. 3100, Toronto, Ontario, M8Z 5Z3 CANADA. Free catalogs are also available at over 65 Heathkit Electronic Centers in the United States and Canada. Consult telephone directory white pages for the nearest store.

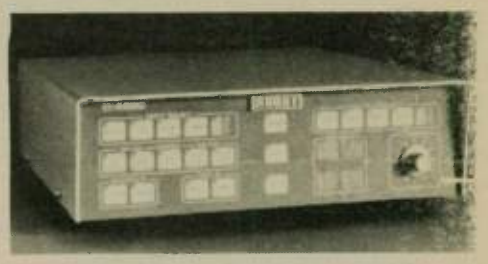
Heath Company and Veritechnology Electronics Corporation are wholly-owned subsidiaries of Zenith Radio Corporation. Heathkit Electronic Centers are operated by Veritechnology Electronics Corporation.

Product availability, specifications and prices are subject to change without notice. □

Color SSTV converter

Robot Research has introduced a new black and white compatible single-frame color slow scan TV converter. Designated as model 450C, it incorporates the very latest in micro-circuit technology and represents a significant breakthrough in the application of microprocessor-based systems to amateur SSTV.

The model 450C features touch-sensitive front panel switches for full station control and several automatic functions for unmatched ease of use. Fine tuning, speed switching and color or black and white detection are automatically accomplished without operator intervention.



Three selectable 4-bit memory planes combine to form 4,096 color combinations in a 128 pixel by 120 line full screen display. Eight different black and white and color transmission formats are available with automatic selection on receive. The unit accepts color or black and white composite video from standard TV cameras and has RGB, composite or RF-modulated video output.

One unique feature of the 450C is the 8-bit parallel I/O ports for computer interface and hard-copy picture printing. This allows total access to each individual pixel by a host computer for image processing, transformation, storage and recall, and graphics. In addition, the unit has provisions to connect to the new Robot model 800C Super Terminal for color graphics, SSTV graphics composition, graphics overlays and special test patterns.

For further information, contact Robot Research, Inc., 7591 Convoy Ct., San Diego, CA 92111; (619) 279-9430. □

Featherweight headset

Telex has introduced a super-light headset for hand-held landmobile transceivers. The ProCom 352-IC weighs a mere 2.6 ounces when worn with the headband. However, the snap-on headband is removable, so the headset weighs only 1 ounce and can be clipped directly onto eye or sunglass frames for even greater convenience.

When using the headset, the radio remains on the operator's belt. There is no longer any need to hand hold the radio for communications. The headset is equipped with an in-line push-to-talk switch which also clips to belt.

A soft ear tip channels incoming messages directly to the operator's ear so communications are essentially private. The noise-cancelling electret microphone is designed for very close talking and transmits the operator's voice clearly even in high-noise environments. The electret mic is also immune to electromagnetic or radio frequency interference so it can be operated effectively near power lines, large transformers, generators, broadcast towers and other equipment which so often interfere with radio communications.

The headset plugs directly into ICOM or Ten-Tec hand-held transceivers. The unit carries a suggested list price of $129.95 and is available now at local two-way radio dealers.

For more information, contact Norman Hansen at Telex Communications, Inc., 9600 Aldrich Ave. S., Minneapolis, MN 55420. □

RF TRANSISTORS, MICROWAVE DIODES

TYPE	PRICE	TYPE	PRICE	TYPE	PRICE	TYPE	PRICE	TYPE	PRICE	TYPE	PRICE	TYPE	PRICE	TYPE	PRICE
2N1561	$ 25.00	2N5645	$ 13.80	2SC1678	$ 2.00	BLY568C/CF	$ 30.00	M1134	16.90	MRF315	$ 28.86	MSC1821-3	$ 125.00	PT6709	POR
2N1562	25.00	2N5646	20.70	2SC1729	20.00	C458-617	25.00	M9579	7.95	MRF316	POR	MSC1821-10	225.00	PT6720	POR
2N1692	25.00	2N5651	11.05	2SC1760	1.50	C4005	20.00	M9588	7.50	MRF317	63.94	MSC2001	40.00	PT8510	POR
2N2957	1.55	2N5691	18.00	2SC1909	4.00	CD1899	20.00	M9622	7.95	MRF420	20.00	MSC2223-10	200.00	PT8524	POR
2N2857 JANTX	4.10	2N5764	27.00	2SC1946	36.00	CD2188	18.00	M9623	9.95	MRF421	36.80	MSC3000	50.00	PT8609	POR
2N2857 JANTXV	4.10	2N5836	3.45	2SC1946A	40.00	CD2545	25.00	M9624	11.95	MRF422A	41.40	MSC3001	50.00	PT8633	POR
2N2876	13.50	2N5842/MM1607	8.45	2SC1970	2.50	CTC3005	100.00	M9625	17.95	MRF427	17.25	MSC73001	50.00	PT8639	POR
2N2947	18.35	2N5849	20.00	2SC1974	4.00	**Daxcel GaAs FET**		M9630	18.00	MRF428	46.00	MSC82001	40.00	PT8659	POR
2N2948	13.00	2N5913	3.25	2SC2166	5.50	DXL3501A-P100F	49.30	M9740	29.90	MRF433	12.07	MSC82014	40.00	PT8679	POR
2N2949	15.50	2N5916	36.00	2SC2237	32.00	**Fujitsu GaAs FET**		M9741	29.90	MRF449/A	12.65	MSC82020	40.00	PT8708	POR
2N3375	17.10	2N5922	10.00	2SC2695	47.00	FSX52WF	58.00	M9755	19.50	MRF450/A	14.37	MSC82030	40.00	PT8709	POR
2N3553	1.55	2N5923	25.00	A50-12	25.00	GMO290A	2.50	M9848	37.00	MRF453/A	18.40	MSC83001	50.00	PT8727	29.00
2N3632	15.50	2N5941	23.00	A209	10.00	HEP76	4.95	M9850	16.90	MRF454/A	20.12	MSC83005	100.00	PT8731	POR
2N3733	11.00	2N5942	40.00	A283	5.00	HEPS3002	11.40	M9851	20.00	MRF455/A	16.00	MT4150	14.40	PT8742	19.10
2N3818	5.00	2N5944	10.35	A283B	6.00	HEPS3003	30.00	M9887	5.25	MRF458	20.70	MT5126	POR	PT8787	POR
2N3866	1.30	2N5945	11.50	AF102	2.50	HEPS3005	10.00	MEL80091	25.00	MRF463	25.00	MT5596/2N5596	99.00	PT9783	16.50
2N3866JAN	2.20	2N5946	14.40	AFY12	2.50	HEPS3006	19.90	MM1550	10.90	MRF472	1.00	MT5768/2N5768	95.00	PT9784	32.70
2N3924	3.35	2N6080	10.35	BF2272A	2.50	HEPS3007	25.00	MM1552	50.00	MRF475	3.10	MT8762	POR	PT9790	56.00
2N3927	17.25	2N6081	12.07	BFR21	2.50	HEPS3010	11.34	MM1553	50.00	MRF476	2.00	NEO2136	2.50	PT31962	POR
2N3950	25.00	2N6082	12.65	BFR90	1.00	**Hewlett Packard**		MM1614	10.00	MRF477	14.95	NE13783	POR	PT31963	POR
2N4012	11.00	2N6083	13.25	BFR91	1.65	HFET2204	112.00	MM1943/2N4072	1.80	MRF492	23.00	NE21889	POR	PT31083	POR
2N4041	14.00	2N6084	15.00	BFR99	2.50	35821E	38.00	MM2608	5.00	MRF502	1.04	NE57835	5.70	PTX6680	POR
2N4072	1.80	2N6094	11.00	BFT12	2.50	35826B	32.00	MM3375A	17.10	MRF503	6.00	NE73436	2.50	**RCA**	
2N4080	4.53	2N6095	12.00	BFW16A	2.50	35826E	32.00	MM4429	10.00	MRF504	7.00	**TRW**		40081	5.00
2N4127	21.00	2N6096	16.10	BFW17	2.50	35831E-H31	30.00	MM8000	1.15	MRF509	5.00	PRT8637	POR	40279	10.00
2N4427	1.30	2N6097	20.70	BFW92	1.50	35831E	30.00	MM8006	2.30	MRF511	10.69	PT3190	POR	40280	4.62
2N4428	1.85	2N6105	21.00	BFX44	2.50	35832E	50.00	MM8011	25.00	MRF515	2.00	PT3194	POR	40281	10.00
2N4430	11.80	2N6136	21.85	BFX48	2.50	35833E	50.00	MPF102	.45	MRF517	2.00	PT3195	POR	40282	20.00
2N4957	3.45	2N6166	40.24	BFX65	2.50	35853E	71.50	MPSU31	1.01	MRF559	2.05	PT3537	7.80	40290	2.80
2N4959	2.30	2N6201	50.00	BFX84	2.50	35854E	75.00	MRA2023-1.5	42.50	MRF605	20.00	PT4166E	POR	40292	13.05
2N5090	13.80	2N6304	1.50	BFX85	2.50	35866E	44.00	MRF208	16.10	MRF618	25.00	PT4176D	POR	40294	2.50
2N5108	3.45	2N6459	18.00	BFX86	2.50	HXTR3101	7.00	MRF212	16.10	MRF628	8.65	PT4186B	POR	40341	21.00
2N5109	1.70	2N6567	10.06	BFX89	1.00	HXTR3102	8.75	MRF233	13.25	MRF629	3.45	PT4209	POR	40608	2.48
2N5160	3.45	2N6680	80.00	BFY11	2.50	HXTR5104	30.00	MRF224	15.50	MRF644	27.60	PT4209C/5645	POR	40894	1.00
2N5177	21.62	2SC703	3.00	BFY18	2.50	HXTR6104	68.00	MRF231	10.92	MRF646	29.90	PT4556	24.60	40977	10.00
2N5179	1.04	2SC756A	7.50	BFY19	2.50	HXTR6105	31.00	MRF232	12.07	MRF816	15.00	PT4570	7.50	62800A	60.00
2N5216	56.00	2SC781	2.80	BFY39	2.50	HXTR6106	33.00	MRF233	12.65	MRF823	20.00	PT4577	POR	RE3754	25.00
2N5583	3.45	2SC1018	1.00	BFY90	1.00	J310	.70	MRF237	3.15	MRF901 (3) Lead	1.00	PT4590	POR	RE3789	25.00
2N5589	9.77	2SC1042	12.00	BLX67	15.24	**TRW**		MRF238	13.80	MRF901 (4) Lead	2.00	PT4612	POR	RF110	25.00
2N5590	10.92	2SC1070	2.50	BLX68C3	15.24	JO2000	10.00	MRF239	17.25	MRF904	2.30	PT4628	POR	S50-12	25.00
2N5591	13.80	2SC1239	2.50	BLX93C3	22.21	JO2001	25.00	MRF245	35.65	MRF911	3.00	PT4640	POR	S3006	5.00
2N5637	15.50	2SC1251	12.00	BLY87A	8.94	JO4045	25.00	MRF247	35.65	MRF961	2.30	PT4642	POR	S3031	5.00
2N5641	12.42	2SC1306	2.90	BLY88C3	13.08	**Motorola Comm.**		MRF304	43.45	MRF8004	2.10	PT5632	4.70	SCA3522	5.00
2N5642	14.03	2SC1307	5.50	BLY94C	21.30	M1131	8.50	MRF309	33.81	MS261F	POR	PT5749	POR	SCA3523	5.00
2N5643	15.50	2SC1424	2.80	BLY351	10.00	M1132	11.95	MRF314	28.52	MSC1720-12	225.00	PT6629	POR	Price On Request = POR	

GaAs, TUNNEL DIODES, ETC.

* R F TRANSISTORS *

TYPE	PRICE	TYPE	PRICE	TYPE	PRICE	TYPE	PRICE
THOMSON CSF							
SD345	$ 5.00	SD1119	$ 5.00	SD1278-5	$ 18.00	SD1453-1	$ 48.00
SD445	5.00	SD1124	50.00	SD1281-2	8.00	SD1454-1	48.00
SD1004	15.00	SD1127	3.50	SD1283	10.00	SD1477	48.00
SD1009	15.00	SD1133	14.00	SD1289-1	15.00	SD1478	21.00
SD1009-2	15.00	SD1133-1	14.00	SD1290-4	15.00	SD1480	60.00
SD1012	9.90	SD1134-1	3.00	SD1290-7	15.00	SD1484	1.50
SD1012-3	9.90	SD1135	8.00	SD1300	3.00	SD1484-5	1.50
SD1012-5	9.90	SD1136	15.00	SD1301-7	3.00	SD1484-6	1.50
SD1013-3	13.50	SD1136-2	15.00	SD1305	3.00	SD1484-7	1.50
SD1013-7	13.50	SD1143-1	12.00	SD1307	3.00	SD1488	39.00
SD1014	11.00	SD1143-3	17.00	SD1308	3.00	SD1488-1	28.00
SD1014-6	11.00	SD1144-1	3.00	SD1311	1.00	SD1488-7	27.00
SD1016	15.00	SD1146	15.00	SD1317	10.00	SD1488-8	28.00
SD1016-5	15.00	SD1147	15.00	SD1335	3.00	SD1499-1	39.00
SD1018-4	15.00	SD1188	10.00	SD1345-6	5.00	SD1520-2	18.00
SD1018-6	15.00	SD1189	24.00	SD1365-1	2.50	SD1522-4	33.00
SD1018-7	15.00	SD1200	1.50	SD1365-5	2.50	SD1528-1	24.00
SD1018-15	15.00	SD1201-2	10.00	SD1375	7.50	SD1528-3	34.00
SD1020-5	10.00	SD1202	10.00	SD1375-6	7.50	SD1530-2	38.00
SD1028	15.00	SD1212-11	4.00	SD1379	15.00	SD1536-1	41.00
SD1030-2	12.00	SD1212-12	4.00	SD1380-1	1.00	SD1545	34.00
SD1043	12.00	SD1212-16	4.00	SD1380-3	1.00	SD1561	79.00
SD1043-1	10.00	SD1214-7	5.00	SD1380-7	1.00		
SD1045	3.75	SD1214-11	5.00	SD1405	40.00	SF4557 Mot.	25.00
SD1049-1	2.00	SD1216	12.00	SD1409	18.00	SK3048 RCA	5.00
SD1053	4.00	SD1219-4	15.00	SD1410	22.00	SK3177 RCA	15.00
SD1065	4.75	SD1219-5	15.00	SD1410-3	21.00	SMS7714 Mot.	2.50
SD1068	15.00	SD1219-8	15.00	SD1413-1	18.00	SRF750 Mot.	36.00
SD1074-2	18.00	SD1220	8.00	SD1416	50.00	SRF1018 Mot.	5.00
SD1074-4	28.00	SD1220-9	8.00	SD1422-2	24.00	SRF2147 Mot.	22.00
SD1074-5	28.00	SD1222-8	16.00	SD1428	33.00	SRF2356 Mot.	38.00
SD1076	20.00	SD1222-11	7.50	SD1429-2	15.00	SRF2378 Mot.	16.00
SD1077-4	4.00	SD1224-10	18.00	SD1429-3	15.00	SRF2584 Mot.	40.00
SD1077-6	4.00	SD1225	18.00	SD1429-5	15.00	SRF2821 Mot.	25.00
SD1078-6	24.00	SD1228-8	POR	SD1430	12.00	SRF2857 Mot.	20.00
SD1080-8	6.00	SD1229-7	13.00	SD1430-2	18.00	TA8894 RCA	15.00
SD1080-9	3.00	SD1229-16	13.00	SD1434-5	30.00	TIS189/MRF966	3.55
SD1084	8.00	SD1232	4.00	SD1434-9	30.00	TP312	2.50
SD1087	15.00	SD1240-8	15.00	SD1438	26.00	TP1014 TRW	5.00
SD1089-5	15.00	SD1244-1	14.00	SD1441	91.00	TP1028 TRW	15.00
SD1095	15.00	SD1262	12.00	SD1442	15.00	01-80703TO4/	
SD1100	5.00	SD1263	15.00	SD1444	6.00	458-949 Mot. Comm.	65.00
SD1109	18.00	SD1263-1	15.00	SD1444-8	6.00	TXVF2201 H.P.	450.00
SD1115-2	8.00	SD1272	13.00	SD1450-1	28.00	62803 RCA	100.00
SD1115-3	8.00	SD1272-2	15.00	SD1451	18.00	TA7205/2N5921	80.00
SD1115-7	2.50	SD1272-4	15.00	SD1451-2	18.00	TA7487/2N5920	75.00
SD1116	5.00	SD1278	20.00	SD1452	20.00	TA7995/2N6267	150.00
SD1118	22.00	SD1278-1	18.00	SD1452-2	20.00	SRF2092 Mot.	18.00
						MRF479	8.05

We Can Cross Reference Most RF Transistors, Diodes, Hybrid Modules And Any Other Type Of Semiconductor.

* DIODES (HOT CARRIER, MICROWAVE, PIN, SCHOTTKY, TUNNEL, VARACTOR, GUNN) *

1N21	$ 3.40	1N21B	$ 3.40	1N21BR	$ 3.40	1N21C	$ 3.40
1N21D	4.00	1N21DR	4.00	1N21ER	6.00	1N21RF	5.00
1N21WE	5.80	1N21WG	5.80	1N22	5.00	1N23A	10.00
1N23B	3.40	1N23C	3.40	1N23CR	3.40	1N23D	4.95
1N23DR	4.00	1N23WE	5.00	1N25	7.50	1N25AR	18.00
1N28WE	10.00	1N29	10.00	1N32	20.00	1N53A	55.50
1N76	26.00	1N76R	28.00	1N78	26.00	1N78A	20.00
1N78B	26.00	1N78D	28.00	1N78DR	28.00	1N78R	28.00
1N149	6.00	1N150MR	18.00	1N415	4.00	1N415C	4.00
1N451G	15.00	1N416D	5.00	1N416E	6.00	1N446	10.00
1N831	10.00	1N833	10.00	1N950	4.00	1N1084	2.00
1N2930	15.00	1N2932	15.00	1N3540	15.00	1N3712	11.00
1N3713	18.00	1N3714	11.00	1N3715	16.00	1N3716	10.00
1N3717	14.00	1N3718	10.00	1N3721	14.00	1N3733	10.00
1N3747	21.00	1N4386	20.00	1N4396	15.00	1N4785	11.00
1N4812B	9.00	1N5139A/B	4.25	1N5140A/B	4.25	1N5141A/B	4.25
1N5142A/B	4.25	1N5143A/B	4.25	1N5144A/B	4.25	1N5145A/B	4.25
1N5146A/B	4.25	1N5147A/B	4.25	1N5148A/B	4.25	1N5167	5.50
1N5453	3.75	1N5465	7.65	1N5711	1.00	1N5711 JAN	2.00
1N5713	5.00	1N5767	2.00	1N6263	1.00	1S2199	15.00
1S2200	15.00	1S2208/9	1.00	8B1087/48R869558	65.00	8D3020	65.00
A2X116M Aertech	50.00	BB105B	1.00	BB105G	1.00	BD4/4JFBD4 G.E.	15.00
BL161 Bomac	5.00	CMD514AB C.M.	POR	D4060 Alpha	POR	D4159 Alpha	POR
D4233B Alpha	POR	D4900 Alpha	POR	D4959 Alpha	POR	D4987M Alpha	POR
D5047C Alpha	POR	D5147D Alpha	POR	D5503 Alpha	POR	D5506 Alpha	POR
DGB6158-98 Alpha	POR	DMD6022 Alpha	POR	DMD6460A Alpha	POR	DP20054 Crown	POR
GC1691-89 GHZ	31.35	GC1602-89 GHZ	31.35	GC1607-40 GHZ	31.35	GC2531-88 GHZ	37.40
GC2542-46 GHZ	37.40	GC3208-40 GHZ	37.40	GC17044 GHZ	50.00	HP33644A-HO1	125.00
HP5082-0112	14.20	HP5082-0241	75.60	HP5082-0253	105.00	HP5082-0320	58.00
HP5082-0375	POR	HP5082-0386	POR	HP5082-0401	POR	HP5082-0438	POR
HP5082-1028	POR	HP5082-1332	POR	HP5082-2254	POR	HP5082-2302	10.70
HP5082-2303	5.20	HP5082-2696	POR	HP5082-2711	23.15	HP5082-2727	POR
HP5082-2800	1.00	HP5082-2805	4.45	HP5082-2835	1.00	HP5082-2884	POR
HP5082-3039	6.70	HP5082-3040	36.00	HP5082-3080	2.00	HP5082-3188	1.00
HP5082-3379	1.50	HP5082-6459	POR	HP5082-6462	POR	HP5082-6888	POR
HP5082-8016	POR	HP5082-8323	POR	K3A Kemtron	7.00	MA450A	POR
MA475	POR	MA40008	POR	MA41487	POR	MA41765	POR
MA41766	POR	MA43004	48.00	MA43589	POR	MA43622	POR
MA43636	POR	MA45104	27.00	MA47044	POR	MA47051	25.50
MA47100	3.05	MA47202	30.80	MA47771	POR	MA47838*	POR
MA47852	POR	MA49106	37.95	MA49558	POR	MA86731	125.00

* OUR STOCK CHANGES DAILY SO CALL IF THE PART YOU NEED IS NOT LISTED

"All parts may be new or surplus, and parts may be substituted with comparable parts if we are out of stock of an item."

TERMS: DOMESTIC: Prepaid, C.O.D. or Credit Card
FOREIGN: Prepaid only, U.S. Funds, Money Order, or Cashier's Check Only.

C.O.D. Acceptable by telephone or mail. Payment from customer will be by Cash, Money Order, or Cashier's Check. We are sorry but we cannot accept personal checks for C.O.D.'s. C.O.D.'s are shipped by air only and thru United Parcel Service.

CONFIRMING ORDERS: We would prefer that confirming orders not be sent after a telephone order has been placed. If company policy necessitates a confirming order, please mark "CONFIRMING" boldly on the order. If problems or duplicate shipments occur due to an order which is not properly marked, the customer will be held responsible for any charges incurred, plus a 15% restock charge on the returned parts.

CREDIT CARDS: We are now accepting MASTERCARD, VISA, AND AMERICAN EXPRESS

DATA SHEETS: When we have data sheets in stock on devices we will supply them with the order.

DEFECTIVE MATERIALS: All claims for defective materials must be made within 30 DAYS after receipt of the parcel. All claims must include the defective material (for testing purposes), a copy of our invoice, and a return authorization number which must be obtained prior to shipping the merchandise back to us. This can be obtained by calling (602) 242-8916 or sending us a postcard. Due to Manufacture warranties we are unable to replace or issue credit on items which have been soldered to or have been altered in any way. All return items must be packed properly or it will void all warranties. We do not assume responsibility for shipping and handling charges incurred.

DELIVERY: Orders are usually shipped the same day they are placed or the next business day, unless we are out of stock on an item. The customer will be notified by post card if we are going to backorder the item. Our normal shipping method is UPS or U.S. Mail depending on size or the weight of the package. Test Equipment is shipped only by air and is freight collect, unless prior arrangements have been made and approved.

FOREIGN ORDERS: All foreign orders must be prepaid with a Cashier's Check, or Money Order made out in U.S. FUNDS ONLY. We are sorry but C.O.D. is not available to foreign countries and letters of credit are unacceptable as a form of payment. Further information is available on request.

HOURS: Monday thru Friday 8:30 a.m. to 5:00 p.m. Saturdays 8:30 a.m. to 4:30 p.m.

INSURANCE: Please include 25¢ for each additional $100.00 over $100, UPS ONLY. All insured packages are shipped thru UPS only. If you wish to have it shipped through the post office there is a $5.00 fee which is additional to the shipping, handling and insurance.

OPEN ACCOUNTS: We regret that we do not issue open accounts.

ORDER FORMS: New order forms are included with each order for your convenience. Additional order forms are available on request.

PARTS: We reserve the right to substitute or replace any item with a part of equal or comparable specification.

POSTAGE: Minimum shipping and handling in the U.S., Canada, and Mexico is $3.00 for ground shipments, all other countries is $5.50. Air rates are available at the time of your order. All foreign orders please include 25% of the ordered amount for shipping and handling. C.O.D.'s are shipped AIR ONLY.

PREPAID ORDERS: Orders must be accompanied by a check.

PRICES: Prices are subject to change without notice.

PURCHASE ORDERS: We accept purchase orders only when they are accompanied by a check.

RESTOCK CHARGES: If parts are returned to MHZ ELECTRONICS, INC. due to customer error, the customer will be held responsible for all fees incurred and will be charged a 15% RESTOCK CHARGE with the remainder in CREDIT ONLY. The following must accompany any return; A copy of our invoice, return authorization number which must be obtained prior to shipping the merchandise back. Returns must be done within 10 DAYS of receipt of parcel. Return authorization numbers can be obtained by calling (602) 242-8916 or notifying us by post card. Return authorizations will not be given out on our 800 number.

SALES TAX: ARIZONA residents must add 6% sales tax, unless a signed ARIZONA resale tax card is currently on file with us. All orders placed by persons outside of ARIZONA, but delivered to persons in ARIZONA are subject to the 6% sales tax.

SHORTAGE OR DAMAGE: All claims for shortages or damages must be made within 5 DAYS of receipt of parcel. Claims must include a copy of our invoice, along with a return authorization number which can be obtained by contacting us at (602) 242-8916 or sending a post card. Authorizations cannot be on our 800 number. All items must be properly packed. If items are not properly packed make sure to contact the carrier so that they can come out and inspect the package before it is returned to us. Customers which do not notify us within this time period will be held responsible for the entire order as we will consider the order complete.

OUR 800 NUMBER IS STRICTLY FOR ORDERS ONLY (800) 528-0180. INFORMATION CALLS ARE TAKEN ON (602) 242-8916 or (602) 242-3037.

MHz electronics

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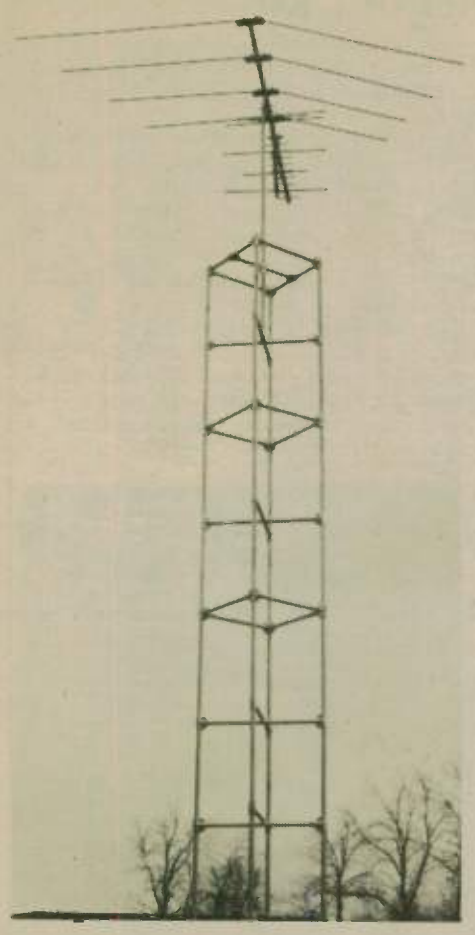


Rigid antenna tower

Any do-it-yourselfer can build a sturdy, professional looking tower for an Amateur Radio antenna out of common ¾" electrical conduit and plated steel clamps, which carry the trade name FrameMaker Clamps. When tower cross-sections are constructed at 20"-30" intervals, material costs are approximately $7 to $10 per running foot.

The only tools needed are a hacksaw (or tube cutter) to cut the conduit, and a couple of wrenches. Conduit sections are simply placed into the openings of the clamps, and the plated nuts and bolts are tightened, locking the clamp jaws securely around the conduit.

To avoid the pitfalls of "one-clamp-does-all" designs, several kinds of FrameMaker clamps are made: four-way fixed and adjustable, three-way "T", two-way adjustable and parallel. No locking collars or set screws are needed to prevent slippage. Unlike towers whose joints are welded or brazed, a tower made with FrameMaker clamps can easily be taken down, and the clamps and conduit used to build any number of other projects.

Free project idea brochure is available from Bullseye Products, Dept. DV, 28506 Hayes, Roseville, MI 48066. □

Receiver Guard 2000

Design Electronics Ohio (DEO) is proud to announce the Receiver Guard 2000. The Receiver Guard 2000 is a solid-state, RF-triggered protection device which prevents high power RF from damaging modern solid-state front ends.

The unit installs easily in any receiver antenna line, or with slight modification, in the transverter jack of several popular transceivers. Once installed, the unit is totally passive, until RF voltage on the antenna exceeds 1 volt. At this threshold voltage, the unit begins to activate, shunting excess voltage to ground while automatically increasing the resistance in the line to the receiver.

This automatic increase in receiver line resistance continues until a fusible link inside the Receiver Guard 2000 opens. This fusible link is easily replaceable by the owner in less than two minutes.

Many applications for the radio amateur are possible. This unit is ideal for the multi-transmitter contest station where great amounts of RF on several frequencies are present. The radio amateur who lives near a fellow ham operating at the 1500-watt level will find the Receiver Guard 2000 to be a great insurance policy. The Field Day operator can now use his own rig without fear of losing his front end. Those amateurs who use listening antennas (loops, Beverages, etc.) can install the unit in the coax line from the listening antennas and not fear destroying the front end of their own radio when transmitting.

SWL'ers — who, as a rule, use very low "Q" antennas — also need to protect their expensive receiver front ends. With the ever-increasing density of RF signals, an SWL'er who does not protect his receiver from high-power RF transmitters is at risk.

The Receiver Guard 2000 has less than 0.3dB insertion loss between 1.8 and 30 MHz. The unit is attractively packaged in a black die-cast aluminum box, 3.5" × 1.25" × 1.5", which is RF tight. Three models of the Receiver Guard 2000 are available:

Model P — the standard protection unit with RCA type phono plugs, $29.95; **Model U** — the standard protection unit with UHF (SO 239) fittings, $29.95; **Model CTT** — the standard protection unit (Model U) plus an Alpha Delta Transi Trap™ LT lightning protector. This unit is available only with UHF fittings. This model offers the ultimate in RF and lightning protection for solid-state receiver front ends, for $49.95.

The Receiver Guard 2000 is available from Design Electronics Ohio, 4925 So. Hamilton Rd., Groveport, OH 43125. Please add $4 for shipping and handling. □

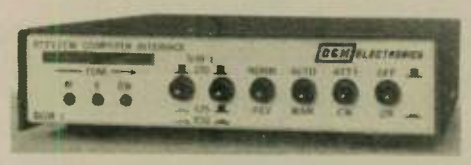
RTTY/CW Computer Interface

DGM Electronics, Inc. is introducing their new DGM-1 RTTY/CW Computer Interface. The unit simply connects between your transceiver and computer and will work with almost any RTTY/CW software on the market due to the unit's versatile I/O circuitry.

The RTTY demodulator provides outstanding performance even on the weakest, noisiest signals that can be found. This is due to the sensitive mark and space active filter demodulator. Not a phase-locked loop as found in other low-cost interfaces. This unit copies both the mark and space tones, not just the space tone.

The demodulator section is preceded by a bandpass filter to provide excellent adjacent signal rejection. A three-pole post detection filter provides optimum signal-to-noise reception of the RTTY signal. The 170, 425 and 850 Hz shift selector provides fast and accurate shift selection. The shift can also be reversed with the use of a front panel pushbutton.

An LED bargraph and mark/space LED indicators provide a positive tuning indication.



Scope outputs are also provided for the ellipse tuning. A function generator chip is used to provide a stable, sine wave AFSK output to your transmitter. This interface will also key your FSK input. Automatic or manual PTT control can also be selected by a front panel pushbutton.

The CW demodulator is centered around 800 Hz and includes bandpass filtering to reject nearby signals. Both positive and negative CW keyed outputs are provided on the rear panel.

The rear panel contains a standard 5-pin I/O conector for TTL level interfacing. These signals can be inverted so that just about any software can be used with the interface. An RS-232 connection is also included for use with computers requiring these voltage levels.

The DGM-1 RTTY/CW Computer Interface is housed in an attractive, compact 1½" × 7" × 7" aluminum enclosure to provide excellent RF immunity. The unit is powered by a 120VAC wall transformer which is included with the interface. Made in USA.

The price of the DGM-1 is $149. For more information, contact DGM Electronics, Inc., 787 Briar Ln., Beloit, WI 53511; (608) 362-0410. □

ATV repeater transmitter

A new 40-watt PEP ATV repeater transmitter was unveiled at the 1984 Dayton Hamvention by P.C. Electronics.

The 7"-high 19" rack panel RTX-4 transmitter comes crystalled for the normal ATV repeater output frequency of 421.25 MHz, but can be ordered for any other frequency in the 70cm amateur band between 420 and 440 MHz for transmitting weather watch or other emergency service bulletins, NASA space shuttle video, or even beacon and base station use.

The transmitter accepts the normal 1 volt composite video, either color or black and white, and mike or line audio. Besides the video output from a color TV monitor normally used in the repeater application, any device with a composite video output — such as a camera, VCR, computer, TVRO, etc. — can simply be plugged into the front panel jacks and transmitted.

The RTX-4 contains the VOR module (video operated relay) which keys the transmitter on only when a video signal containing the normal horizontal sync frequency around 15.75 kHz is sensed at its video input. This prevents false keying from military radars, commercial radio positioning, and other amateur modes that may be sharing the repeater input frequency range.

Power requirements are a regulated 13.8VDC at 8 amps and 120VAC at .1 amp for operation. Notes on how to successfully put together a complete basic ATV repeater system for under $2,000 and the technical considerations unique to ATV are included.

For more information on this ATV transmitter and other ATV products, contact P.C. Electronics at (818) 447-4565; or write for the complete catalog to 2522 S. Paxson Lane, Arcadia, CA 91006. □

Mobile transceivers

ICOM introduces two more transceivers in its line of ultra-compact mobiles: the IC-27H 45-watt 2-meter mobile and the IC-47A 25-watt 440 MHz mobile.

IC-27H 2-Meter Mobile highlights

Standard features: 45 watts; compact size (1-5/8"H × 5-1/2"W × 9-3/8"D; built-in internal speaker for easy mounting; nine full-function memories; 32 built-in PL frequencies; professional communications design and styling; IC-HM23 DTMF microphone with up/down scan buttons; three scanning functions (memory scan, band scan and priority scan); internal lithium memory battery backup to maintain memories for up to five years; and IC-MB27 mobile mount.

A variety of options are also available, including an IC-UT16 speech synthesizer and IC-SP4 and SP5 external speakers.

The IC-27H is available immediately, and the suggested retail price is $409.

IC-47A 440 MHz Mobile highlights

Standard features: 25 watts; compact size (1-1/2"H × 5-1/2"W × 7"D); built-in internal speaker for easy mounting; nine full-function memories; 32 built-in PL frequencies; professional communications design and styling; IC-HM23 DTMF microphone with up/down scan buttons; three scanning functions (memory scan, band scan and priority scan); internal lithium memory battery backup to maintain memories for up to five years; and IC-MB27 mobile mount.

A variety of options are also available, including an IC-UT16 speech synthesizer and IC-SP4 and SP5 external speakers.

The IC-47A is available immediately, and the suggested retail price is $469.

For more information, contact ICOM, 2112-16th Ave. NE, Bellevue, WA 98004; (206) 454-8155.

CMOS keyer kit

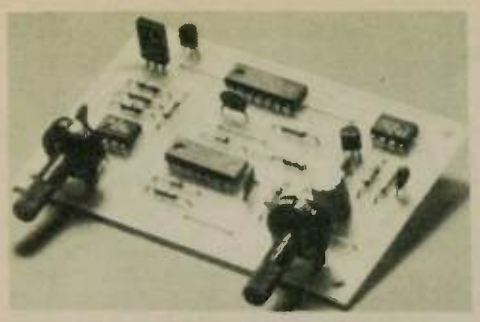
BEL-TEK has introduced an inexpensive CMOS keyer kit. The keyer incorporates state-of-the-art circuitry, and power consumption is kept to a minimum by the use of low-power CMOS digital integrated circuits.

The BEL-TEK CMOS Keyer uses a triggered clock to completely eliminate the possibility of having the first dot or dash any longer than the characters that follow. The instant you push the key, the character starts, eliminating the delay often encountered in keyers with free-running clocks.

The digital circuitry of the CMOS keyer provides an exact 3 to 1 weight ratio for perfect CW. The keyer also provides jam-proof spacing, which eliminates the chance of placing dots and dashes too close together. After a dot or dash is completed, a space is automatically inserted before the next character begins, even if the key was pushed before the completion of the space. if both the dot and dash keys are sent simultaneously, the dash will dominate until it is released. All of these features enable you to send effortless perfect code.

The keyer can be powered by any voltage between 5 and 12 volts DC. The circuit is protected against accidental polarity reversal of the supply voltage. The keyer can be operated at any speed between 5 and 50 wpm by adjusting the speed control to your desired operating speed. The built-in 800 Hz sidetone has an adjustable volume control.

A rugged high voltage keying transistor is



used to eliminate annoying problems which plague mechanical relays. The transistor will reliably switch loads up to 250mA. The keyer is compatible with grid block, cathode-keyed and solid-state transmitters.

The CMOS Keyer kit comes with a printed circuit board that measures only 2.3" × 3.5" and all components necessary for assembling. The price is only $9.95 plus $1.50 shipping, and is available from BEL-TEK, P.O. Box 125W, Beloit, WI 53511. □

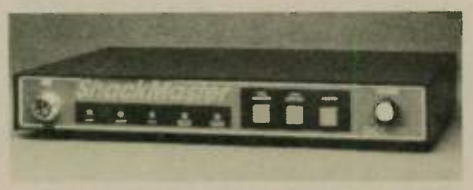
ShackMaster

Advanced Computer Controls, Inc. is proud to introduce ShackMaster — an entirely new product which allows you to remotely control your shack, and effectively communicate with family members over your home equipment.

ShackMaster's crossband linking capability allows you to access your high performance home station from VHF/UHF, either simplex or through repeaters. Telephone access permits remote control of your home station from any Touch-Tone telephone. BSR X-10 shack control offers Touch-Tone remote control of 120-volt devices with Touch-Tone commands, over the air or over the phone.

ShackPatch, a remotely controlled intercom into the home, permits you to remotely control your home equipment, allowing third parties to participate. ShackPatch is based on the same principles as an autopatch, and you are in complete control of your station at all times. An electronic mailbox permits you and your family to leave messages for each other, to be retrieved when convenient. Finally, a simplex autopatch is available when it's necessary to make a phone call, to report an accident or to call a friend.

ShackMaster makes all your equipment more valuable, and offers capabilities never before available. Work the world with your HT through your remotely-controlled home station. Get on the air, even if you're stuck at work or out of town, through ShackMaster's telephone access to your equipment. Control your station and other appliances with ShackMaster's BSR X-10 interface. Communicate conveniently and effectively with your family like never before with ShackPatch and the electronic mailbox.



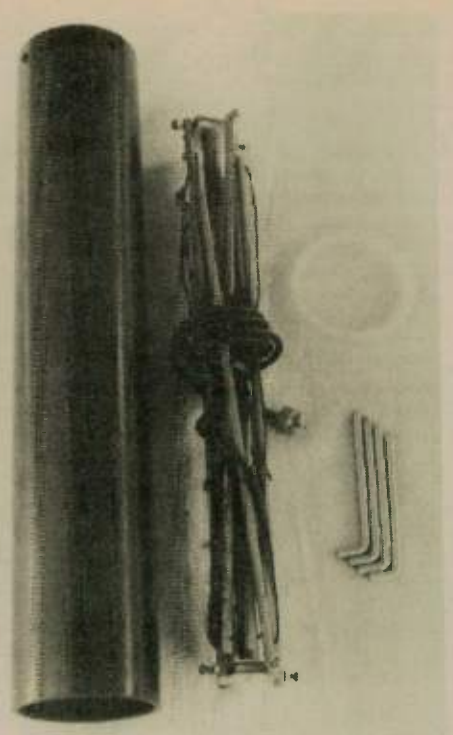
ShackMaster is based on ACC's proven repeater control technology. It includes electronic synthesized speech with a custom vocabulary, making it easy for anyone to use. It interfaces to up to three transceivers, the phone line, and a local speaker and microphone.

For more information, contact: Advanced Computer Controls, Inc., 10816 Northridge Square, Cupertino, CA 95014; (408) 749-8330.

2M portable quad

Radio Engineers, a small San Diego-based engineering company, is now manufacturing and selling a portable 2-meter cubical quad antenna designated the Type 2-MQ Portable Quad.

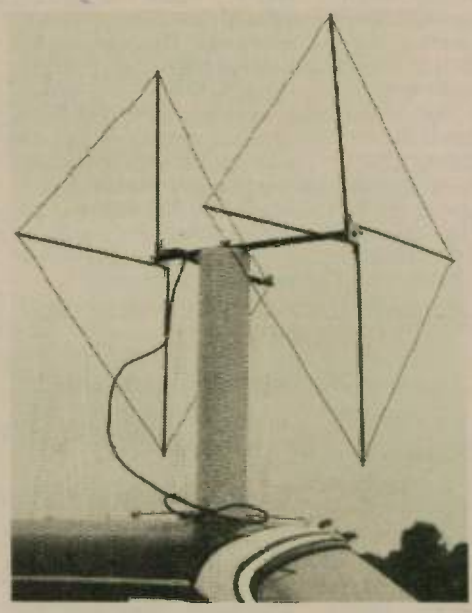
The 2-element quad antenna, based on a patented design originally featured in the September 1980 issue of QST, mechanically folds into a 3½" diameter by 18½" ABS plastic case for transportability.



From left to right are the Type 2-MQ container/base; the quad antenna assembly folded for insertion into the container; four support legs; and the container top.

The case also supports the antenna upright when the quad elements are unfolded and the antenna is utilized. Vertical and horizontal polarizations are provided. A matching system mounted on the driven quad element couples the antenna to a 50 ohm feedline.

Acrylic plastics and rods are used in the quad mechanical structure. Four aluminum supports are also provided, which mount on the case bottom for additional antenna stability.



Type 2-MQ portable quad, removed from container and erected, ready for operation.

Data collected on the quad's performance indicate an SWR of under 1.5 to 1 across the 2-meter band. Calculated and measured gain tests reveal an average 6dB gain over a dipole and a minimum front-to-back ratio of 7dB. These numbers vary somewhat as a function of the portable antenna's height above ground, with maximum performance generally achieved between ⅝-wavelength and 1 wavelength above ground.

A 220 MHz model is also available upon request. The fully assembled price is $69.95 plus $3 for shipping and handling. California residents must add 6 percent sales tax.

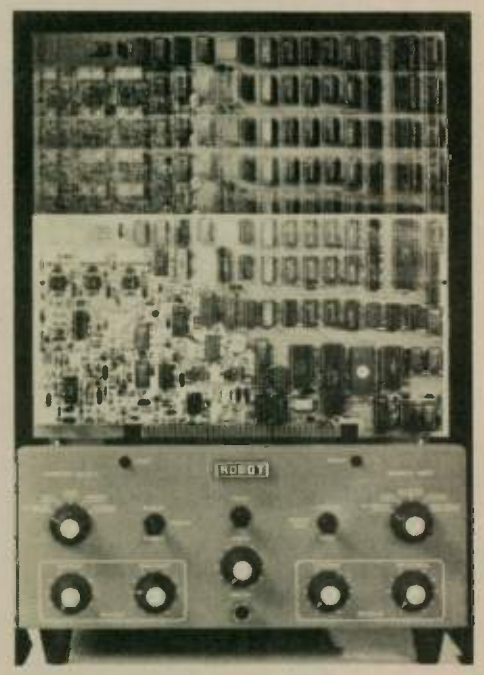
Order from Radio Engineers, 3941 Mt. Brundage Ave.. San Diego, CA 92111. Additional information on the portable quad and other portable VHF antenna systems is available upon request. □

Retrofit Kit

Robot Research has introduced a retrofit kit that converts the standard Robot Model 400 black-and-white slow scan TV converter to full color.

Designated the Robot Model 400C, the kit quickly and easily provides the Robot 400 with state-of-the-art full color operation. It uses the very latest in microprocessor-based technology, yet can be user-installed in a single evening. Its automatic fine-tuning feature results in properly calibrated pictures automatically.

The automatic speed following enables the operator to receive color or black-and-white at any of the new standard speeds without touching a button or switch. In addition, the operator may choose any one of eight color or black-and-white formats.



Other features include: single-frame color operation; three selectable 4-bit memories; 128-pixel × 120-line display; 4,096 color combinations, multi-speed operation; black-and-white compatibility; full screen transmit cursor; built-in color bar generator; and color graphics capability when joined with the new Robot Model 800C Specialty Mode Terminal.

For additional information, contact Robot Research, Inc., 7591 Convoy Ct., San Diego, CA 92111; (619) 279-9430. □

40-meter antenna

Telex/Hy-Gain introduced a new 40-meter antenna series named Discoverer. The company stated the antennas were developed for high performance operations on 40 meters, because declining sunspot activity is impacting the efficiency of the 10-20-meter bands.

The new series consists of several configurations. The Discoverer 7-1 is a 45 ft. rotatable dipole which can be added to many existing beam antenna installations. This dipole can be tuned to either 30 or 40 meters.

Another version is the Discoverer 7-2, a 2-element beam with a wind load of only 6 square feet and requiring only a 25 ft. turning radius. In addition to high forward gain and front-to-back ratio, the Discoverer 7-2 maintains a broadband width in excess of 190 kHz below 2:1 SWR.

The Discoverer 7-2 can be further enhanced

with the addition of a Director Kit, thereby creating a 3-element beam. This almost doubles the front-to-back ratio and forward gain which almost doubles the ERP over the 2-element version. All this fits on a boom of only 35 feet. The relatively compact array does not require a heavy-duty tower, but can be safely installed on a less expensive medium-duty tower such as the Hy-Gain HG52SS.

The manufacturer states that a low voltage feedpoint eliminates insulator failure and assures that the antenna can safely handle twice the new legal power limit. SWR is 1.5:1 or less at resonance. The rugged, maintenance-free antenna is easily assembled from taper swagged aluminum tubing, preformed stainless steel compression clamps and hardware.

The suggested list price for the Discoverer 7-1 is $195. The Discoverer 7-2 and the Director Kit are listed at $435 and $272, respectively.

For more information, contact Telex Communications, 9600 Aldrich Ave. So., Minneapolis, MN 55420; (612) 884-4051.

Microcomputer software

MAILBOX 64 is a revolutionary new Amateur Radio radioteletype "Bulletin Board System" operating at 110 baud ASCII for the Commodore 64 computer. MAILBOX 64 incorporates many of the features found in much more expensive systems, and in some areas exceeds those systems. The program is written in BASIC and can be readily tailored by the average user. MAILBOX is an ideal choice for the budget-conscious individual or club.

Provides 20 different user commands including: **OPEN** — opens the buffer to store text; **CLOSE** — closes the message buffer; **SAVE** — save the message buffer to the Sysop disk; **MSG** — transmits the contents of the message buffer; **PRINT** — prints the contents of the message buffer to the Sysop printer; **INFO** — transmits the SYSTEM file; **BEACON** — transmits the CQ beacon call; **LOG** — logs the user's call to the System disk; and **GRAPHICS** — activates the graphics mode.

In addition to the user commands, there are 31 Sysop commands allowing for complete control and versatility for the System Operator.

MAILBOX 64 includes a low-resolution Graphics Mode which allows the transmitting of Commodore graphics and color to users with a Commodore 64 Computer.

MAILBOX 64 interfaces via the User I/O Port of the Commodore 64 and is compatible with most popular Terminal Unit (TU) interfaces, including the Kantronics and AEA. Requires the Commodore 64 computer, disk drive, a printer at device #4, TU and your radio transceiver.

Available from RAK Electronics, P.O. Box 1585, Orange Park, FL 32067 on disk for $49.95 plus $2 shipping and handling. Catalog order number is RM837.

Packet Radio Controller

Advanced Electronic Applications, Inc. (AEA) announces the introduction of the Model PKT-1, Packet Radio Controller, through an arrangement with Tucson Amateur Packet Radio, Inc. (TAPR), Tucson, Arizona. AEA started delivery of the PKT-1 to its dealers in June. The end user list price is $589.95. Amateur Radio operators can obtain a discounted price of $499.95 through participating AEA dealers.

The PKT-1 is a packaged and warranted version of the well-known TAPR do-it-yourself kit board with version 3.1 software and includes application assistance and a year's conditional warranty. More than 1,000 satisfied users of the TAPR kit board exist throughout the world.

Packet Radio is a burst mode of data or text transmission utilizing AFSK, FSK or PSK modulation. On VHF it runs at 1200 baud typically and uses CRC error checking, ensuring an extremely low error rate. Multiple users may share a simplex or duplex channel simultaneously on a timeshare multiplexed basis.

Any packet station using the PKT-1 may operate as a store and forward repeater (Digipeater) for someone else's transmission while concurrently functioning as a regular packet station. Up to eight Digipeating stations may be used between two terminal stations. Digipeating allows routing the transmission path around physical obstacles blocking a line-of-sight radio path and allows extending the link beyond line-of-sight distances.

Call AEA, Inc. — (206) 775-7373 — for more information and your closest AEA dealer. Ask for Bruce Rosen, inside sales. Or write to AEA, P.O. Box C2160, Lynwood, WA 98036-0918.

California

SONOMA COUNTY RADIO AMATEURS, Inc. will be holding their 2nd annual Amateur Radio flea market Saturday, 15 September, from 8:00 a.m. to 2:00 p.m. at the Sebastopol Community Center, 390 Morris St., Sebastopol, California, five miles west of Santa Rosa, just off Hwy 12.

Admission and parking are free. Large indoor hall has room for 50 tables with more spaces outside. Tables are $6 at the door or $5 in advance. Vendor set-up starts at 7:00 a.m. Radio clinic, exhibits, refreshments, prizes. Auction around noon.

Talk-in on 146.13/73.

For tickets and information, write: SCRA, Box 116, Santa Rosa, CA 95404.

Connecticut

The CQ RADIO CLUB will hold its hamfest on Sunday, 09 September, 9:00 a.m. to 4:00 p.m., on East Albert Street, Torrington, Connecticut, in the Retirees' Drop-in Center.

Admission $2; tables $7; tailgaters $5. Door prizes, food, free parking and — of course — a flea market.

Talk-in on 147.24 and 146.05.

For more information, contact Donald Taylor, KA1GKJ, P.O. Box 455, Watertown, CT 06795.

Georgia

The 11th Annual LANIERLAND ARC Hamfest will be held 23 September, 9:00 a.m., at Gainesville, Georgia, in Holiday Hall at Holiday Inn.

Free tables and inside display area for dealers reserving in advance, large parking lot for flea market, left-foot CW contest, ladies' country store, prizes and activities. Doors open at 8:00 a.m.

Talk-in on 146.07/.67.

For information and dealer reservations, contact Phil Loveless, KC4UC, 3574 Thompson Bend, Gainesville, GA 30506; (404) 532-9160.

Illinois

The PEORIA AREA ARC announces the upcoming Peoria Superfest '84, to be held at Exposition Gardens, W. Northmoor Road, Peoria, Illinois, on 15-16 September.

Gate opens at 6:00 a.m.; commercial building at 9:00 a.m. Admission is $3 in advance and $4 at the gate. Children under 12 free.

Activities include Amateur Radio and computer displays, huge flea market, free bus to Northwoods Mall on Sunday, and full camping facilities on the grounds. There will also be a Saturday night informal get-together at Heritage House Smorgasbord.

Talk-in on 146.16/76; call W9UVI.

For more info and reservations, send SASE to Superfest '84, P.O. Box 3461, Peoria, IL 61614.

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Announcing the 14th annual 1984 Fall "A5/USATVS National ATV Conference". This year's get-together will be held in conjunction with Radio Expo 84, one of the largest Midwest hamfests, sponsored by the CHICAGO FM CLUB, Inc. (WA9ORC/R). The dates for this three-day event are 21-23 September.

ATV conference activities will coordinate with the Radio Expo 84 Hamfest times so attendees may visit both.

The Chicago FM Club, Inc. sponsors four very popular VHF/UHF repeaters, the most-used being the 146.16/76 2-meter FM repeater, a 220 FM repeater (with autopatch), and a 440 FM repeater (PLL but open) system (ATV'ers talk-in frequency is 144.340 MHz FM). The club caters to specialized communications modes such as ATV, SSTV, RTTY, OSCAR and the use of computers.

Our contact with the Chicago FM Club is Mike Brost, WA9FTS, of Norridge, Illinois. Further flyer information is available with pre-registration for the A5/USATVS National ATV Conference.

This year's ATV conference headquarters and meeting site will be held at the La Quinta Motor Inn, 1730 E. Higgins Rd., Schaumburg, IL 60195; (312) 843-8484.

Those of you who will be flying in on commercial services need to make advance pickup and return local travel arrangements with us. (See address below.)

Hotel reservations with the La Quinta Motor Inn must be made prior to the conference. We will need to know how many beds you require and how many people will be lodging. Local reservations, pickup/return travel and informational assistance may be obtained from A5/USATVS Member Meyer Marks, W9YUP, 1323 Sprucewood Ln., Deerfield, IL 60015.

Many guest speakers will be brought in from around the country for technical briefings, along with "live" and videotaped FSTV/SSTV/FAX demonstrations. As in previous conferences, the entire two-day (ATV) sessions will be videotaped and included in the A5/USATVS Library. Two "special" Saturday tours are scheduled, in addition to the ATV conference agenda; a guided tour of the John Hancock building (rooftop levels) with Henry Ruh, KB9FO (former A5 publisher), with attention to communications equipment and antennas (unavailable to the general public) and a tour/visit to the famous "Super Station" WGN-TV Channel 9 arranged by station employee and amateur Tom Mikkelson (formerly of Channel 8 WQAD-TV (ABC Moline)

If you are interested in the tours and/or shopping spree offers, please let us know by mail with your pre-registration. Due to the tour and shopping spree events, there will be no formal dinner banquet held this year. For those who do not care to attend the Saturday Radio Expo 84 Hamfest, a "special" informal three-hour G3BVU FSTV theory session will be conducted.

This conference is expected to draw many ATV'ers from Illinois, Iowa, Missouri, Minnesota, Michigan, Wisconsin, Indiana, Ohio

and Canada. Both FSTV and SSTV segments will be covered. There will be prizes awarded for: "Best Homebrew ATV/SSTV Rig," "The Farthest Traveled", and a new category: "Best Edited ATV Local Demo Tape". The national winners of the annual 1984 " 'A5' Good Image (FSTV)" and "SSTV'er of the Year" awards will be announced. Winners of the August North American FSTV Contest will also be unveiled.

"Best ATV Demo Tape" contest entrants must provide a VHS or BETA maximum 15-minute "production" based on local ATV activity (including DX) in your area. A copy of these tapes will be entered in the "Best of ATV" videotape production in the USATVS library for the rest of the country to see. More 1984 A5/USATVS Fall ATV Conference information will follow our special "birthday" September 84, Volume 14 #9 issue.

Limited meeting room and hotel reservations space require immediate pre-registration. Forms may be acquired from A5 ATV Magazine, P.O. Box H, Lowden, IA 52255. Ticket cost for the three-day period is $10. Checks will not be cashed until 10 September (post-dating OK).

Talk this conference meeting up with your local "ATV Gang" and get those carloads organized to attend! It is the only annual ATV conference held in the United States. "Don't miss it!" — WB0QCD □

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RADIO EXPO 84, sponsored by the CHICAGO FM CLUB, will be held Saturday and Sunday, 22-23 September, at the Lake County Fairgrounds, Rts. 120 and 45, Grayslake, Illinois. Flea market opens 6:00 a.m. and exhibits open 9:00 a.m.

Displays by major manufacturers and gigantic outdoor flea market area. Free parking and overnight camping. Reserved indoor flea market tables available at $5 per day. Seminars, technical talks and ladies; programs. Door prizes every hour. Tickets good both days — $3 in advance, $4 at gate.

Talk-in on 146.16/76.

Send SASE to RADIO EXPO 84, Box 1532, Evanston, IL 60204, or call (312) 582-6923. □

Indiana

The 5th Annual GRANT COUNTY (Indiana) ARC hamfest will be held on Saturday, 08 September, at McCarthy Hall, St. Paul's Catholic Church, Marion, Indiana.

Doors open at 8:00 a.m. with refreshments, free parking and hourly prizes. Table reservations: $2 for 8 ft. table. Donation is $2 in advance, $3 at the gate.

Talk-in on 146.19/79 and 146.52 simplex.

For information/tickets SASE to: Jim Allman, WD9EOI, 1108 Spencer Ave., Marion, IN 46952. □

Kansas

The WICHITA ARC announces the upcoming Wichita Hamfest, to be held 23 September, at Camp Hiawatha, 1701 W. 51st St. N, Wichita, Kansas.

A flea market, programs and commercial exhibits will be among the features at the hamfest.

Talk-in on .34/.94 and .22/.82.

For more information, contact Norm Tramba, WA0HWH, 340 S. 1st, Clearwater, KS 67026; (316) 584-6425. □

Maine

The 1984 ARRL-sanctioned Windsor Hamfest — sponsored by the AUGUSTA EMERGENCY AMATEUR RADIO UNIT — will be held Saturday, 08 September, at the Windsor (Maine) Fairgrounds.

Again this year will be a flea market, programs, speakers, commercial distributors, prizes, light meals and the traditional Saturday bean and casserole supper. Gate donation is still $1. Camping available Friday and Saturday nights.

Talk-in on 146.22/82.

For further information, contact Don Hanson, N1AZ, RFD #2, Box 3678, Greene, ME 04236; (207) 946-7557. □

Michigan

The GRAND RAPIDS AMATEUR RADIO ASSOCIATION, Inc. will hold its annual Swap and Shop on Saturday, 15 September at the Hudsonville Fairgrounds. There will be prizes, dealers and a concession, with indoor sales area and an outdoor trunk swap area. Gates will open at 8:00 a.m. for both swappers and the public.

Talk-in on 146.16/76.

For more information write to: Grand Rapids Amateur Radio Association, Inc., P.O. Box 1248, Grand Rapids, MI 49501. □

Missouri

The 3rd Annual Ozark ARC Congress and Swapfest, sponsored by the OZARKS AMATEUR RADIO SOCIETY of Aurora, Missouri will be held Sunday, 09 September, at Monett City Park (junction of US Hwy. 60 and Missouri State Hwy. 37, between Springfield and Joplin, Missouri).

The swapfest begins at 11:00 a.m. Buffet dinner at 1:00 p.m. No admission, no prizes. Swap space available on a first-come, first-served basis, without fee. Buffet dinner will be "country-style." Bring a single dish and share in the feast.

Talk-in on 146.37/.97 and 7.250.

For more information, contact the Ozarks ARS, Box 327, Aurora, MO 65605. □

Ontario, CANADA

The Radio Society of Ontario's 16th Annual Convention is being hosted by the OTTAWA ARC at the Westin Hotel in Ottawa, Canada's Capital on 05-07 October.

This year's location is part of the new Rideau Centre shopping complex and adjacent to the Convention Centre, the Parliament Buildings, the National Arts Centre and the Farmers' Market.

Papers will relate to microprocessors, AMTOR, WARC bands, antique radio, colour slow scan and fast scan TV, DX and more. There is a Friday night eyeball and dance, Saturday papers, forums and a banquet, followed by dancing to a 14-piece orchestra and a Sunday morning program. Demonstrations and commercial exhibits are open Friday evening to Sunday. Awards, prizes, fun!

Talk-in on 146.34/94.

Contact the RSO Convention Committee, P.O. Box 15806, Station "F", Ottawa, Ontario, K2C 3S7 CANADA. □

Pennsylvania

The UNIONTOWN ARC, W3PIE, will hold its 35th Annual Gabfest on the Saturday after Labor Day, 08 September, on the club grounds on Old Pittsburgh Road, just off Rt. 51 and the 119 bypass in Uniontown, Pennsylvania.

Free parking, free coffee and free swap and shop with registration. Registration $3 each or two for $5. Refreshments.

Talk-in on 147.645/.045 and 144.57/.17

For further information, contact UARC Gabfest Committee, c/o John Cermak, WB3DOD, P.O. Box 433, Republic, PA 15475; (412) 246-2870. □

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The Butler Hamfest, sponsored by the BUTLER COUNTY ARA, Inc., will be held at the Butler Farm Show Grounds at Roe Airport in Butler, Sunday, 09 September, from 9:00 a.m. to 4:00 p.m.

Admission donation is $1; children under 12 free. Plenty of parking; overnight campers welcome. Free outside flea market. Indoor flea market; vendor's space $5 per 8 ft. table. Overnight accommodations at area motels.

Check-in on 96/36 and 52. Directions on 84/24.

For more information, contact Dan Metrick, WA3GDS, 131 Reigner Rd., Butler, PA 16001; (412) 283-1719. □

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The 29th Annual YORK HAMFEST and specialized seminars will be held Saturday and Sunday, 22-23 September, at the York Fairgrounds, York, Pennsylvania.

There will be tailgating and displays both days, rain or shine. Specialized seminars (on Saturday only) on AMTOR, ATV, ACSB, SSTV, RTTY, packet radio, computers and ARRL Forum. New equipment displays, door prizes, ladies' activities, food and refreshments, free parking and overnight camping on grounds (all hookups available).

Registration is $3 per day; advance registration is $5 for both days (prior to 15 September). Saturday night banquet is $10 per person, advance sales only.

Talk-in on 146.37/.97 and 147.93/.33.

For additional or advance registration information, call (717) 266-5416, or write to York Hamfest, Box W, Dover, PA 17315. □

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The Pack Rats (MT. AIRY VHF ARC) cordially invite all amateurs and their friends to the 8th Annual Mid-Atlantic VHF Conference on Saturday, 06 October, to be held at the Warrington Motor Lodge, Route 611, Warrington, Pennsylvania, and our 13th Pack Rat Hamarama on Sunday, 07 October, at the Bucks County Drive-In Theater on Route 611 in Warrington. Admission to the flea market is $3, with selling spaces $5 each. The gate will open at 6:00 a.m., *rain or shine*. Bring your own tables. Advance registration for the conference, including a Hamarama admission, is $4.

Send to HAMARAMA "84", P.O. Box 311, Southampton, PA 18966, or Lee Cohen, K3MXM, at (215) 635-4942. □

Texas

The WICHITA FALLS AMATEUR RADIO SOCIETY (WARS) is sponsoring the 3rd Annual Tornado Alley Hamfest, 22-23 September. Location will be the National Guard Armory, Wichita Falls, Texas.

Activities will last from 9:00 a.m. to 5:00 p.m. Saturday and from 9:00 a.m. to 2:00 p.m. Sunday. Advance registration is $4 (deadline is 19 September) $5 at the door. Features will include commercial dealer displays, computer dealers and demonstrations, large inside flea market (reserve tables *now*), 24-hour security and concession stand. Also, ladies' activities and prizes, homebrew contest, meetings and Sunday church service. FCC exams will also be given.

Motels which offer discounts are The Trade Winds, The Wayfarer, Kiva Inn, Holiday Inn, Gateway Inn and La Quinta. Reserve early.

Talk-in on 146.34/94, 147.75/15,449.30/444.30 and 449.20/444.20.

For more information, write to WARS Hamfest, P.O. Box 4363, Wichita Falls, TX 76308. □

Virginia

The 1984 ARRL Roanoke Division Convention and 9th Annual Amateur Radio-Computer Fair — sponsored by TIDEWATER RADIO CONVENTIONS, INC. — will be at the Virginia Beach, Virginia Pavilion on Saturday and Sunday, 22-23 September. Featured are dealers, special displays, forums, computer equipment, giant flea market, free XYL bingo and movies for the kids.

Bring the family to vacation at beautiful Virginia Beach. Visit the fantastic Waterside Festival Marketplace in Norfolk. She will love the specialty shops and restaurants.

Show time is 9:00 a.m. to 5:00 p.m. Advance ticket admission for both days is $4 and at the door is $5. Advance ticket drawing plus other valuable door prizes will be offered. Flea market tables are $5 one day, $8 both days.

For information and tickets, write or call Jim Harrison, N4NV, 1234 Little Bay Ave., Norfolk, VA 23503; (804) 587-1695. □

Oregon

The 38th Annual Walla Hamfest, sponsored by the WALLA WALLA VALLEY ARC, will be held 22-23 September, at the Milton-Freewater, Oregon Community Building.

Building opens at 8:30 a.m. Free registration. Swap and shop, contests, prizes, new gear displays, ladies' bingo and treasure hunt (for all registered YL's and XYL's). Noon potluck dinner — bring your own food and table service. Camp and trailer space.

Talk-in on 28/88, 20/80, 04/64, 16/76 and 52 simplex. Also, 3960.

For more information, contact Walla Walla Valley ARC, P.O. Box 321, Walla Walla, WA 99362. □

Wyoming

The 5th Annual High Plains Ham Roundup will be held 07-09 September, in the Medicine Bow National Forest Yellow Pine Campground, 35 miles west of Cheyenne. The Roundup will be sponsored jointly by the NORTHERN COLORADO ARC, UNIVERSITY OF WYOMING ARC and SHY-WY ARC of Cheyenne, for amateurs from the tri-state area (Wyoming, Colorado and Nebraska).

A campfire cookout and bring-your-own covered dish extravaganza are scheduled for Saturday, with sing-along music and live entertainment by regional talent. Barbecued hamburgers and liquid refreshments provided by the committee. Giant tailgate swapfest, transmitter hunt and technical displays also on Saturday program. No registration fee except modest Forest Service charge for overnight campers.

Talk-in on 22/82 and 25/85.

For further information, write to J.J. Hayes, W7CGK, 1321 E. 22nd St., Cheyenne, WY 82001.

Gary Price, W6SUG, of San Rafael, California, had an interesting solution to removing clutter from the top of his desk and bringing his equipment to eye level. He placed a 3 ft. pre-finished shelf on two 7 in.-tall clay flower pots.

Howdy Days

All licensed women operators throughout the world are invited to participate in Howdy Days. The competition will last from 1800 UTC, Wednesday, 05 September, to 1800 UTC, Thursday, 06 September.

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 pts. for each YLRL member worked and 1 pt. 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 05 October 1984.

Send logs to: Marty Silver, NY4H, 3118 Eton Rd., Raleigh, NC 27608 USA. Please mark your return address clearly.

Duplicates: For each duplicate contact that is removed from the log by the vice president, 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: *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 — 21.380-21.410, 10 — 28.580-28.610. □

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

Washington State QSO Party

The 19th Annual Washington State QSO Party, sponsored by the Boeing Employees' Amateur Radio Society (BEARS), K7NWS, will be divided into three operating periods as follows: 0100 UTC, 15 September, to 0700 UTC, 15 September; 1300 UTC, 15 September, to 0700 UTC, 16 September; and 1300 UTC, 16 September, to 0100 UTC 17 September. All amateurs are invited to participate.

All bands *(except 10.100 to 10.150 MHz)* and modes may be used. *No CW contacts in phone bands!* Stations may be worked once each band and each mode for contact points and more than once each band/mode if they are additional multipliers.

Washington stations score 2 pts. for each phone contact and 3 pts. for each CW contact (including contacts with other Washington stations), multiplied by the total of different states, Canadian provinces and other foreign countries worked. All others score 2 pts. for each phone contact and 3 pts. for each CW contact with a Washington station multiplied by the total of different Washington counties worked (maximum of 39).

Multipliers are only counted once regardless of how many bands or modes they are worked on. There will be an additional multiplier of one for each group of eight contacts with the same Washington county for all non-Washington stations.

Washington stations send QSO number, RS(T) and county. All others send QSO number, RS(T) and state, Canadian province or foreign country.

Certificates will be awarded to the highest scoring station (both single and multi-operator) in each state, Canadian province, foreign country and Washington county. Additional certificates may be awarded at the discretion of the Contest Committee.

Worked Five BEARS Awards are also available to anyone working five BEARS club members before, during or after the QSO party (unless previously issued). All QSO Party entries will be screened by the Contest Committee for possible Worked Five BEARS Awards. Worked Three BEARS Cubs Award is available for working three Novice BEARS members.

All BEARS Awards (except QSO party certificates) are handled by Roy Brashear, W7RJW, 5711 So. 129th St., Seattle, WA 98178; (206) 772-4120, BEARS Awards Chairman. See page 28 of the August 1979 issue of 73 Magazine.

Suggested frequencies: *CW* — 1805, 3560, 7060, 14060, 21060, 28160; *Phone* — 1815, 3925, 7260, 14280, 21380, 28580; *Novice* — 3725, 7125, 21150, 28160

Logs must show dates, times in UTC, stations worked, exchanges sent and received, bands and modes used, and scores claimed. Include a dupe sheet for entries with more than 200 QSO's. Each entry must include a signed statement that the decision of the Contest Committee will be accepted as final. No logs can be returned. Results of the QSO party will be mailed to all entrants. *SASE* is *NOT* required.

Log sheets and summary sheets are available for the asking. Log sheets and summary sheets must be postmarked no later than 17 October 1984 and sent to: Boeing Employees' Amateur Radio Society, c/o Willis Propst, K7RS, 18415-38th Ave. S., Seattle, WA 98188. □

Kansas QSO Party

The 3rd Annual Kansas State QSO Party, sponsored by the Boeing Employees' Amateur Radio Society of Wichita (BEARS0), will be divided into three operating periods as follows: 0100 UTC, 15 September, to 0700 UTC, 15 September; 1300 UTC, 15 September, to 0700 UTC, 16 September; 1300 UTC, 16 September, to 0100 UTC, 17 September.

All amateurs are invited to participate.

All bands and modes may be used. Stations may be worked once each band and each mode for contact points and more than once each band/mode if they are additional multipliers.

Kansas stations score 2 pts. for each phone contact and 3 pts. for each CW contact (including contacts with other Kansas stations), multiplied by the total of different states, Canadian provinces and other foreign countries worked. All others score 2 pts. for each phone contact and 3 pts. for each CW contact with a Kansas station multiplied by the total of different Kansas counties worked (maximum of 105).

Multipliers are only counted *ONCE* regardless of how many bands or modes they are worked on. There will be an additional multiplier of 1 for each group of 8 contacts with the same Kansas county for all non-Kansas stations.

Kansas stations send QSO number, RS(T) and county. All others send QSO number, RS(T) and state, Canadian province or foreign country.

Certificates will be awarded to the highest scoring station (both single and multi-operator) in each state, Canadian province, foreign country and Kansas county. Additional certificates may be awarded at the discretion of the Contest Committee. Worked Five Kansas BEARS awards are also available to anyone working five club members before, during or after the QSO party. All QSO party entries will be screened by the contest committee for possible Worked Five Kansas BEARS awards. All Kansas BEARS awards are administrated by Mike Thornton, WA0TAH, Contest Chairman.

Suggested frequencies: *CW* — 1805, 3560, 7060, 14060, 21060, 28160; *Phone* — 1815, 3925, 7260, 14280, 21380, 28580; *Novice* — 3725, 7125, 21150, 28160. *(Do not use 10 MHz band.)*

Logs must show dates, times in UTC, stations worked, exchanges sent and received, bands and modes used and scores claimed. Include a dupe sheet for entries with more than 200 QSO's. Each entry must include a signed statement that the decision of the Contest Committee will be accepted as final. No logs can be returned. Results of the QSO party will be submitted to all usual amateur periodicals for publication.

Log sheets and summary sheets are available for an SASE. Log sheets and summary sheets must be postmarked no later than 22 October 1984 and sent to: Boeing Employees' Amateur Radio Society of Wichita, c/o Mike Thornton, WA0TAH, 1645 Lexington, Wichita, KS 67218.

Kansas County check-off list for non-Kansas entries

Allen	Ellsworth	Lincoln	Rice
Anderson	Finney	Linn	Riley
Atchison	Ford	Logan	Rooks
Barber	Franklin	Lyon	Rush
Barton	Geary	Marion	Russell
Bourbon	Gove	Marshall	Saline
Brown	Graham	McPherson	Scott
Butler	Grant	Meade	Sedgwick
Chase	Gray	Miami	Seward
Chautauqua	Greeley	Mitchell	Shawnee
Cherokee	Greenwood	Montgomery	Sheridan
Cheyenne	Hamilton	Morris	Sherman
Clark	Harper	Morton	Smith
Clay	Harvey	Nemaha	Stafford
Cloud	Haskell	Neosho	Stanton
Coffey	Hodgeman	Ness	Stevens
Comanche	Jackson	Norton	Sumner
Cowley	Jefferson	Osage	Thomas
Crawford	Jewell	Osborne	Trego
Decatur	Johnson	Ottawa	Wabaunsee
Dickinson	Kearny	Pawnee	Wallace
Doniphan	Kingman	Phillips	Washington
Douglas	Kiowa	Pottawatomie	Wichita
Edwards	Labette	Pratt	Wilson
Elk	Lane	Rawlins	Woodson
Ellis	Leavenworth	Reno	Wyandotte
		Republic	

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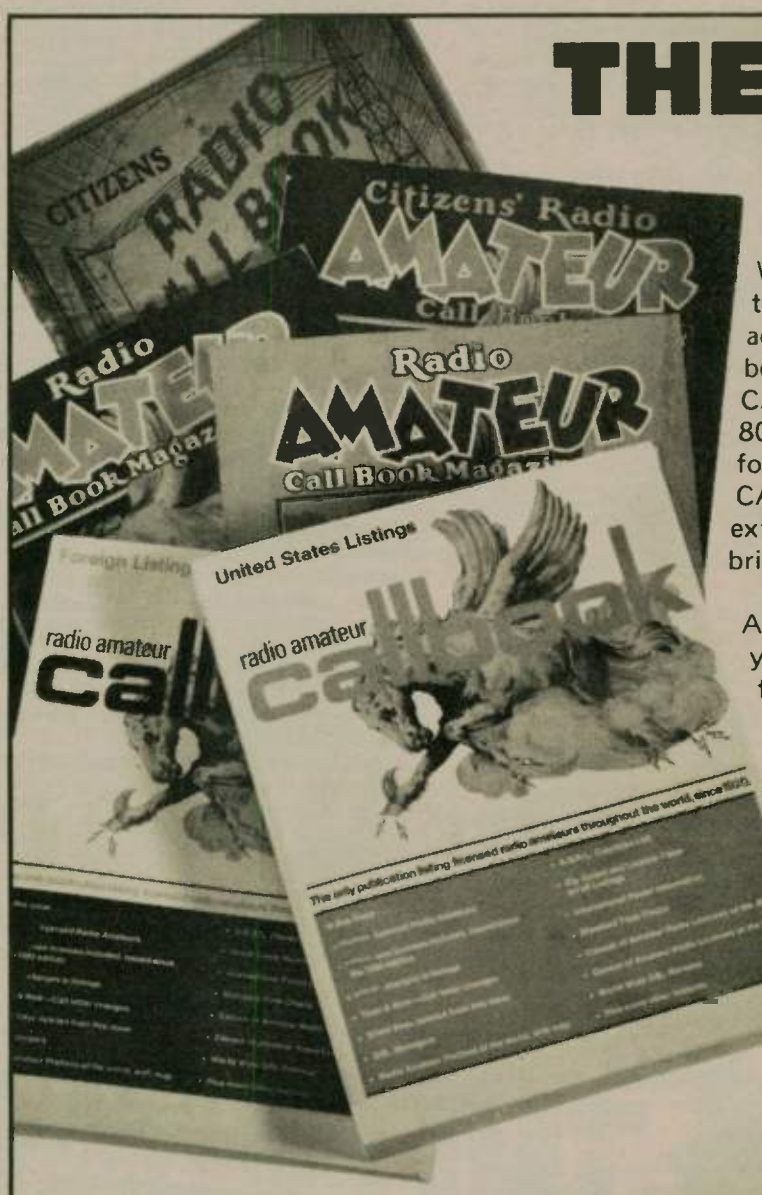

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