Worldradio

Year 15, Issue 1 July 1985 • 95¢

Dayton Hamvention 1985

It's the biggest Amateur Radio gathering in the world! April 26-28 saw 22,000 Amateur Radio operators, spouses, friends and guests gather at Dayton, Ohio.

This was the 34th annual event, sponsored by the Dayton Amateur Radio Association, Inc. There were 46 informative forums to attend, with subjects covering the whole gamut of Amateur Radio activities. Antennas, contests, DX, repeaters, MARS, packet radio, RTTY, ATV, AMSAT — the list goes on.

Over 200 companies who are in the business of serving Amateur Radio had booths. 1,500 people had set up selling spaces in the huge flea market. Hundreds of amateur licensing tests were given.

Three amateurs, the kind who make an effort beyond the usual, were honored at the banquet Saturday night.

The Amateur of the Year Award was given John J. Willig, W8ACE, "Mr. Hamvention," for his long-term dedication to Amateur Radio and the conception, organization and establishment of the high quality of the Dayton Hamvention.

Judith Lee Frye, KG8P, earned the Special Achievement Award for her outstanding effort in pioneering the volunteer examining program locally and nationally. The Technical Excellence Award went to Richard A. Whiting, W0TN, for his technical expertise in the development of the North American Teleconference Radio Net, a benefit shared by all amateurs.

Worldradio was there last year, this year, and will be there next year.

Thanks to those of you who came by our booth and said hello. — *(See more on Hamvention inside.)* □

Ray Kowalski, Chief of the FCC's Special Services Division of the Private Radio Bureau

WARC bands open

The 12 meter, or 24 MHz band will be opened to amateurs at 0001 UTC, 22 June 1985. At the same time, the 30 meter, or 10 MHz band will become permanent.

Maximum legal power of 1500 watts PEP will be permitted on 12 meters, 24.890 to 24.990 MHz. CW and RTTY will have exclusive use of the sub-band 24.890 to 24.930. Phone, CW, FAX and SSTV will operate from 24.930 to 24.990.

On the 30-meter band (10.1 to 10.15 MHz), power will remain limited to 200 watts PEP, with CW and RTTY the only legal modes. □

Another ham in space

Ham-in-Space planners announce that a frequency of 145.55 MHz will be the primary downlink for the amateur station on shuttle flight 51-F. Verbal word from NASA/Houston still sets the launch for 15 July, with the first amateur operations coming as early as the second half of Day 2. Early transmissions from astronaut Tony England, W0ORE, are likely to be slow-scan television rather than two-way voice. After Day 3, chances improve for actual contacts.

The limited opportunity for two-way contacts will be used to fulfill Tony's primary interest: Working youth groups paired with ham clubs. Local Amateur Radio clubs meeting certain guidelines will be able to get a list of special, non-published uplink frequencies to be used for this purpose. Application forms are now available for qualified groups.

Requests are going to ARRL Headquarters, 225 Main St., Newington, CT 06111, ATTN: Ham-in-Space Mission. □

1985 International DX Convention

John Minke, N6JM

Each year the Northern and Southern California DX Clubs get together for their annual international DX convention, with each club alternating as host. This year the convention was held in Fresno, California, with the NCDXC as host.

The festivities begin with a cocktail party Friday evening, and end with a breakfast on Sunday morning.

Contest forum

Most DXers participate in contests in one form or another, whether seriously competing or looking for countries they haven't worked, which justifies such a forum at a DX convention.

The contest forum was hosted by the Northern California Contest Club. The six-member panel consisted of Rich Smith, N6KT; Carl Cook, AI6V; Kip Edwards, W6SZN; Gary Caldwell, WA6VEF; Dick Norton, N6AA; and Jim Neiger, N6TJ. All of the panel members are well-known contesters who consistently obtain high scores in the well-known contests.

Dick Norton, N6AA, was asked about getting the home station ready for a contest. Dick says the most important thing is to be able to last 48 hours; be comfortable. Set up your station early — don't wait until the last minute. Have enough pens, paper and check sheets. Your food should be simple and practical; no greasy chicken to mess up the log sheets, for example.

We have all witnessed DX stations not signing their calls often enough during a contest. Rich Smith, N6KT, suggested once a minute or so, or after every third contact.

The panel offered tips as to calling the DX stations during the contests. Give your whole call (many DX stations will not answer partial calls, as they have to ask for a repeat and that takes time), and call only once. Don't use cute phonetics, and don't request QSL information, as that is readily available in the DX bulletins and like publications.

Don't make "insurance" contacts. If you hear your call clearly repeated by the DX station, there is no need to make an insurance contact. If you were not sure (QRM, etc.), it would be acceptable, but not four to six times!

Contesting from a DX location

Jim Neiger, N6TG, was asked what influenced him to go on DXpeditions and what particular contests he would opt for. In his situation, the government usually pays for his travel expenses to many of the places he visited. His choice contest was CQ magazine's World Wide Contest. If it were to be the ARRL International Contest, a location close to the United States would be the choice, such as the Caribbean area.

Gary Caldwell, WA6VEF, suggested that it is best to know another amateur in the country you will be visiting who can get a license for you. He or she can also make lodging arrangements and a station from which to operate. Information is available from ARRL (refer to 'DX World' in last month's issue of **Worldradio**).

Rich Smith, N6KT, suggested you have a backup station in case of equipment failure. Also, a variety of adapter plugs, as in some countries the electrical outlets are quite different than ours. Check on voltages and frequency. Bring a battery-operated clock, because in a country which uses 50 Hz, an electric clock would run slow. If you bring your own antenna, check with the carriers ahead of time as to possible oversize charges on boxes.

Other comments from the panel included knowing ahead of time when band openings occur at your destination. Avoid going to a location that another group is already planning. Publicize your DXpedition and give out QSL information ahead of time.

A DX visitor suggested from the floor that when you operate from another country, notify the local QSL bureau where to send your cards. Even though you may have a QSL manager, there will be stations who will be unfamiliar with the manager and will ship the cards via the bureaus.

Clipperton — the FO0XX gang

Only one week had passed since leaving the island, yet the DX convention was delighted to welcome 10 members of the Clipperton team to Fresno. Kip Edwards, W6SZN — originally scheduled to go with the group, only to be prevented by business commitments — introduced the following: Wilbur Trafton, FO8GW; Greg Jenkins, N6GJ; Jaques Calvo, F6GXB; Jean Joveneaux, F9LX; Kay Saki, JG3LZG; Wayne Mills, N7NG; Pat Bacon, WA7NIN; Rusty Epps, W6OAT; Bob Vallio, W6RGG; and Jim Hicks, KK6X.

Not only had the team left the island and arrived in Fresno within a week, they also had a slide show all set to go. This was an outstanding slide presentation that was narrated by Bob Vallio, W6RGG. One could see this was a place the ordinary person does not go to for his vacation.

Pat Bacon, WA7NIN, talked about the landing on Clipperton Island. As most DXers who had monitored the team's approach to this rare spot were aware, the landing had been delayed. Had the team not landed when they did, they would not have been able to land at all. Pat remarked that the pile-ups that developed with all the DXers trying to work Clipperton made the whole DXpedition worth-

(please turn to page 6)

W6AM a Silent Key

At presstime for the July issue, it was learned that Don Wallace, W6AM, well-known DXer and president of Yasme, had passed away on Saturday, 25 May.

He was active up to the last. He played in a golf tournament on 24 May, was on the air from W6AM, and then — around 5:00 p.m. — decided to go to the Virginia Country Club (of which he was an active member) and play some gin rummy. While playing cards, he suffered a stroke and was rushed to the hospital where he was kept alive by artificial means until he passed away the following day.

The funeral was held 29 May, attended by close family. Later, at 4:00 p.m., a meeting was held at the famous Wallace Antenna Farm in Palos Verdes Peninsula.

(A full story of the Amateur Radio career of the legendary Don Wallace will be in next month's issue.) □

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

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

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

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

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

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

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Second-class postage paid at Sacramento, CA.

Corrections

In re: "New repeater list," page 5, June

"TASMA" does not endorse nor does it authorize repeater list publications, such as the one published by the Rio Honda ARC. In addition, TASMA does not solicit donations in connection with the publication of such repeater directories. Please note that TASMA's correct address is P.O. Box 6490, Orange, CA 92613-6490. □

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In re: "California," page 48, June issue

Santa Maria's Radio Swapfest, which was held on 16 June 1985, was incorrectly listed as being scheduled for July. Our apologies for the error. □

USQS moves

US QSL Service, Inc. has moved! The new address is QSQS/KM7Z, P.O. Box 521, Cortaro, AZ 85230.

USQS is a QSL bureau that allows radio amateurs in the lower 48 states to QSL each other, economically. Cards can be sent anytime by anyone: no membership required. To claim QSLs you simply provide SASE.

This service is run completely on donations. Funds are needed to cover the costs of printing flyers, mailing out unclaimed QSLs, covering postage and advertising expenses, plus needed supplies.

The bureau is run by myself, Laryl Berry, KM7Z (the XYL of Patrick KN7B). I provide this service because I feel there is a need for a domestic bureau. I do not receive any pay, nor does anyone who helps with the work load. Please help to continue this service by keeping SASEs on file and sending donations when you can.

For more information, send SASE and a note requesting info (include your call sign) to USQS/KM7Z.

A "thank you" to our service users for their past support. Your help in spreading the new address would be appreciated. □

• Pass it on . . . WORLDRADIO •

These three young sailors are watching their "message in a bottle" as it floats past them. They were guests of Del Mar School 8th graders celebrating their newly-acquired Amateur Radio licenses. The older youths tape recorded the ideas of the younger ones--ideas about "making the world work better"--and took them out for a "day on the bay", after making many copies of their audio tape to distribute to schools around the globe. All this was in preparation for the First International Youth Telecongress, to be hosted by Santa Cruz students, 19-23 July, at University of California at Santa Cruz. (*Efren Adalem photo*)

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Contact Worldradio for hamfest prizes.

International Youth Telecongress

The International Youth Telecongress — to be held in Santa Cruz, California, 19-23 July — is a coming together of young people, ages 10 through 17, to share their concerns and vision for the future of the world. "Coming together" means communicating, and for those who will not be able to travel to Santa Cruz, Amateur Radio and computer bulletin board networks are being developed. This involves meeting on the radio at specified times to exchange views and, during the Congress, to vote on specific statements that may be presented to the United Nations and other decision-making bodies. The interface with computers, through electronic mail and bulletin boards, enhances the ability of young people to use telecommunications in a socially useful way.

The purpose of the Telecongress is to provide not only an educationally stimulating experience with communications technology, but also to provide a vehicle through which the youth of the world can make their ideas and desires available to the adult decision-makers.

The goal of the Telecongress is to demonstrate that we now have the technology useful in creating a world where all people, through communication linkages, might live beyond the threat of war.

Mary Duffield, WA6KFA, has, for years, networked with young people around the world. The young people will develop the subject matter for the Congress. The Redwood Youth Foundation, a two-year-old non-profit, non-denominational, non-partisan, educational corporation only serves to provide the infrastructure to make the Telecongress possible. We hope all countries of the world will provide means through which their youth might participate in whatever way possible. □

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FCC Forum

Norm Brooks, K6FO

"Ham Radio enjoys a very high degree of esteem and respect from the commissioners." They have an image of you being self-policing, disciplined operators who have a way of persuading fellow operators to operate properly, and who are not a problem to the Commission."

These are the words of Ray Kowalski, Chief of the FCC's Special Services Division, at the Dayton Hamvention, 28 April 1985.

The tone of the forum was upbeat, with enough levity to indicate that Kowalski has a terrific sense of humor.

The VEC program

Ray's praise for amateur radio included the Volunteer Examination Coordinators and the Volunteer Examiners. "The amateur response has been phenomenal," he said. "It characterizes the finest tradition of the Amateur Radio service. You have responded to the need that Amateur Radio has. The proof has been found in the number of examination opportunities that now exist around the country."

Ray pointed out that when the Commission terminated the testing program, it did so permanently. It terminated leases on field facilities where exams were given, and reassigned the people to other duties. He promised that the VEC program will get even better. He said many of the features of the program are carry-overs from the way the FCC did things. Changes are being made, based on current VEC experiences.

FCC organization

"Let me give you a short course in 'Regulatory Agencies 101,'" Ray said. The Commission has its responsibilities broken up into various Bureaus and offices. There is a Bureau for the phone companies, one for the broadcasters and a Private Radio Bureau, which could be loosely called the 2-way radio bureau. Within the Private Radio Bureau there are two regulatory divisions — one for land mobile, and the other which handles "all other."

"You're looking at 'all other' right here" he said. This is the Special Services Division, which has two branches. The Personal Radio Branch is headed up by John Johnston, W3BE.

"I came to Dayton this year, having been involved with ham radio from a regulatory point of view for three years. I wanted to come out and see you face to face." I don't know what these forums have been like in the past. Last night someone asked me if I had a bullet-proof vest. Yes, I have a bullet-proof vest. But for this crowd, I think I'll wear it on my back." (laughter)

Kowalski got quickly into a Question and Answer session, so the subjects for discussion would be picked by the attendees.

What about 902 - 928 MHz?

There is a proposal to make it an amateur band. There are others who think "not so fast; there are other things that could be done with this band." The work schedule calls for completion of staff action on this band by the end of this quarter. It would be a good guess there will be more talk on this subject by the end of the summer.

What about PRB-1?

Kowalski explained that PRB-1 was a result of an ARRL petition, asking the Commission to come down with a declaratory ruling in favor of people's rights to have antennas in their neighborhoods. The problem is with the local zoning authorities making local regulations restricting antenna support structures. What is wanted is a firm Commission statement that local authorities can use as a guideline as to what they can, or cannot restrict.

"This is not an easy matter," Kowalski said. "It is a very controversial matter. It will require the Commissioners to earn their money. These are hard decisions — they are political decisions." There should be something on this on the Commission's agenda this fall.

Enforcement

An amateur asked about the enforcement of amateur rules. "I suggest *you* enforce them," Ray answered. "The nature of amateur radio is such that it has to be self-enforcing. Do not become a problem to the Commission. If you are, you won't like the response. The Commission has enforcement resources only for the individual maverick. For widespread, uniform compliance, we have to rely on the hams themselves."

The sharks

Ray said he is very much concerned about amateur radio. "You are sitting on a very valuable national resource. If you were in the water, you'd find yourself surrounded by sharks who would like a piece of your resources. If you were an unruly crowd, they'd say to the Commission "solve your problem by giving us the resources." They might be able to find a sympathetic commissioner, or two. If they find three, the whole thing's over."

Growth

How important is growth of the Amateur Radio service in keeping our spectrum? The answer was "tremendously important." In the fiscal year 1984, 18,800 new people came into amateur radio, but 19,644 checked out. It's not necessarily people who died — it's people who lost interest. Why? How do you keep their interest alive? That's the challenge for all of amateur radio. To fill in the blanks, here's where we stood at the end of fiscal year 1984: Novices, 80,461; Techs, 79,950; General, 116,804; Advanced, 97,084; Extra, 35,624; Total, 409,923.

"My, but that Henry amplifier is built." Yep, no 20-second key down specs with that brute.

A lot of hams were asking "Mr. Contest" Chip Margelli, K7JA, "Which rig do you use?"

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There are a lot of proposals for stimulating growth in the amateur radio service. Like it or not, no-code is one of them. There is still a lot of strong feeling both ways. At this point Ray stressed "To you working press, please do *not* report that Kowalski is reopening No-code!"

"Morse code is certainly a *feature* of ham radio. The collective wisdom of all the hams indicates that. Even if you're not going to use it, it's something you should be mandatorily exposed to." Ray explained. There is a parallel in the legal profession. A new lawyer must learn certain classic old cases in order to pass the Bar exam, even though he may never use them again.

Novice privileges

To stimulate growth, one of the things being seriously looked at is the possibility of enhancing Novice privileges. A lot of people remember that at one time Novices *had* voice privileges. The FCC has received a geat deal of mail on this. Kowalski promised that before the end of the summer there will be a Notice of Proposed Rule Making on this. There are a lot of proposals, and there will be a lot of options to comment on.

Industry clout

Is there any truth to the belief that the radio manufacturing industry has a lot of influence with the Commission? Ray responded "I don't believe so. My experience has been just the opposite. In all the input we get in ham radio proceedings, I don't see a lot from the manufacturers."

Call signs

Will the ARRL become involved in issuing call signs? Ray: "First put the call sign issue in perspective. First of all, the Commission now does nothing for you. You can't get your old call back, no club calls, no repeater calls, etc. People try to pull strings at all levels, and the answer is always the same — sorry, we can't do it. This response was even given at the presidential level! What does this tell us? That hams are very interested in call signs. We ought to have some kind of arrangement for special signs. How can we make this happen? The FCC won't do it — it doesn't have the resources to do it.

So, the FCC is exploring ways with the nationally organized body representing amateur radio operators — the ARRL. Kowalski said "I'll be frank with you, and tell you that we are exploring the possibility of seeing if the call sign administration program could be 'dumped on the League' (laughter) It's a burden. The reason we don't do it is that it costs money. If the League wants to do it, why not? So, we're in the process of reeling them in." (Ray made motions of landing a fish, to the hilarious delight of the crowd.)

License fees

Couldn't the FCC charge for licenses? I'll give you a one minute course on why the FCC can't charge for call signs. Congress decides how much it wants the FCC to do. The way they send us that message is to send us a budget. They don't want to generate income and do a lot more. Could the League charge? At the present time I don't think so. It would take legislation to do so. It was pointed out that around the world there are several instances where national radio organizations have taken over the quasi-governmental function of amateur radio testing and licensing.

The CB syndrome

If enough people do something long enough, won't the FCC make it legal? Kowalski explained that the things we have been seeing over the past five years have been the translation into reality of this (presidential) administration's policy.

DAYTON 1985

The well-known Jack Althouse explains the use of the noise bridge.


Merrill Dean of the Azimuth company was telling people that you need a dependable clock to keep your skeds and your log.


ICOM laid out a nice thick carpet in front of their display. It was such a relief from the cement floor, everybody stopped. They rested their tired dogs and got the straight scoop.


Sheri Gregory of Amateur Wholesale Electronics, "Have I got a deal for you."

FCC Forum

(continued from page 3)

It has very little to do with the so-called CB syndrome.

You're seeing the result of your November voting. You asked for a government that would get out of your way and be less burdensome to you. "And I haven't noticed any great difference in our ability to regulate the service," Ray added. "Why rule the daily life of 410,000 hams with rule requirements based on 100 turkeys?"

Volunteer monitoring program

The volunteer monitoring program is designed to keep problems from reaching the FCC. There is a misconception that it means a network of eyes and ears gathering up information to turn over to the FCC to "do something about." *Wrong!* The eyes and ears are out there to gather up information and to deal with it themselves. It's a part of amateur radio's self-policing and is administered out of the Field Operations Bureau.

What can we do . . .

Bill Pasternak asked Kowalski what the Commission wanted from us. He replied that if it were one thing, it would be people doing what they ought to do without the Commission having to put it in the rules. There's a rule that talks about good amateur practice. It is unenforceable. So much of amateur radio is that the operators know what they're supposed to do and then do it. Most of us know how to operate, but once in a while there emerges a turkey who demands "Where does it say in the rules that I can't use my reverb unit?" Give us a return to that which made amateur radio what it is today. □

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Check your license expiration date.


There was such a crowd around the Ten-Tec booth, to see their gear you had to stand in line.

Gordon West's crew was on dry land for a change with their material to help upgrade.


Tom (W6ORG) and Maryann (WB6YSS) O'Hara, tell just how easy it is to move into the world of video.

Joe Brunzo and Don Tyrrell are asking themselves. "What are we doing here when the DXpedition to Albania is on the air?"

Pass it on . . . WORLDRADIO

A popular booth was that of MFJ displaying their vast line of equipment.

There was always a swirl of activity around the AEA booth as hams pitted their skill against the Dr. DX machine.

Hams who try to squeeze the last bit of performance out of their rigs headed to the International Radio booth to learn of the latest mods.

Basics for beginners

The president of AMSAT South Africa, Hans Van De Groenendaal, ZS6AKV, participated in the AMSAT Forum at the Dayton Hamvention 26 April 1985. He spoke on "Basics: Introductory Concepts and Practices for the Beginner in Satellite Communications."

Left to right: Hans Groenendaal, ZS6AKV; Dr. John Champa, K8OCL; Haruo "Harry" Yoneda, JA1ANG; John Browning, W6SP; and "Rip" Riportella, WA2LQQ

Join AMSAT

The first step for a beginner is to join AMSAT. It is through reading materials you can get through AMSAT that you will find all the answers to your questions. AMSAT has established a group of regional coordinators. These people can help you get started.

Start listening

Most of you have the facilities to listen to 10 meters. Listen to the frequencies above 29 MHz, where the satellite bands are located. Listen to get familiar with what is going on. You can also listen to the beacons on OSCARs 9 and 11 — they provide the opportunity to learn the aspects of satellites you should be familiar with.

When a new ham comes on the air, all agree he should first listen, not just grab the mike and talk. The same thing holds true for satellite operation. Listen.

Listen to the AMSAT Nets. The discussion you hear will add to your knowledge.

Phase 2

If you can listen on 10 meters and transmit SSB or CW on 2 meters, you have the facility to try Phase 2. You don't have to spend $2,000 to do this.

How do you go about operating Phase 2? First you must get some predictions. You must know when the satellites are coming over. These are available from AMSAT and other publications you should have by now. You must read about the Acquisition of Signal (AOS), which means the time you can first hear the satellite.

You should get familiar with Universal Time. I've been asked what is Zulu? What is GMT? *All* satellite work is done in Z or GMT or UTC — Universal Time.

Let's say the AOS is at 0800Z at 320° azimuth. This is the same azimuth you use for pointing your beam when you work DX on the lower frequencies. 0° is north, 90° is east, 180° is south, 270° is west and 360° is the same as 0° at north again.

The next information you may get is elevation 1°. That means it is just above the horizon. (Overhead is 90°.) A beginner is not likely to get a satellite at 1°, but when it comes up to 10°, you should be able to hear it. When it comes up to 50°, you should be able to hear it with a handi-talkie.

Doppler shift causes some problems if you don't understand it. If you're tuning in a beacon at, say, 29,500.0 kHz, you may hear the beacon at 29,501.5 kHz. Your rig isn't shifting; it's Doppler shift, due to the high speed of motion of the satellite. In this case, the Doppler shift was +1.5 kHz.

On 2 meters and 70cm the Doppler shift is even larger. The frequency is shifted higher when the satellite is coming toward you. When it is overhead, the frequency is accurate — no shift. The frequency is lower when the satellite is going away from you.

When OSCAR-1 went up, one of the reasons for putting it up was to learn the satellite mechanics we have been talking about. Even the experts at NASA didn't know all the answers. We radio amateurs were able to contribute to satellite knowledge from our observations of OSCAR-1.

After you have listened to a couple of passes of a Phase 2 satellite, you can start transmitting — only after you have the feel of what is going on. Where do you put your uplink frequency in order to hear yourself? When you send up your signal, it will come down with a slight time lag. You should use earphones. If you don't, you may create a feedback loop. Make yourself a chart to show the relationship of uplink frequencies with downlink frequencies. It's easier than using arithmetic from a table. These charts are available in the various publications. Don't forget to allow plus and minus a few kHz because of Doppler shift.

When you pick a receive frequency, *DO NOT* swish your transmitter up and down until you hear yourself. It works quite well, but not for the others who are communicating elsewhere in the passband.

Avoid another thing newcomers do — long CQ's, then signing their call once. Long CQ's waste valuable time, and your call sign once can be lost in QRM. Your call sign is more important than the CQ.

When you call CQ, you'll be able to hear someone tuning to your frequency. Don't continue with the CQ. Give your call sign and ask QRZ?

So now you've made your first contact. You are so enthused you call in your family to witness the great event. Don't do it. The sound of the other station on the satellite sounds great to you, but doesn't sound all that great to them. Prepare yourself for this let-down on what you know is a great achievement.

Phase 3

The Phase 3 satellite is OSCAR-10. It is

Convention

(continued from page 1)

while. Pat also remarked that we need a new class in how to tail-end properly.

Clipperton Island is not entirely uninhabited. Pat returned with some of the population where upon being introduced to those present, these "natives" seemed to be more popular than the DXpedition team members themselves. Those Clipperton crabs ate everything. In fact, the operators had to move their toes periodically or the crabs would have eaten those, too.

The DXpedition team was apprehensive at one point when a helicopter appeared, circled the island and landed. There was a thought that they were about to be shot. Anyway, they were friendly and delivered them a case of beer (perhaps as one of the crew was a radio amateur). A couple of the team members were able to get an aerial tour of the island for some good photos.

Pat commented that all gear brought in was to be considered expendable due to the salt air. They used IC-745 transceivers, provided by Jim Rafferty, W6RJ, of Ham Radio Outlet. The total cost of the DXpedition was almost $60,000.

The week of operating by the FO0XX team netted almost 31,000 contacts with the breakdown as follows:

1.8 MHz	237 CW QSO's	23 SSB QSO's
3.5 MHz	1225 CW QSO's	2084 SSB QSO's
7.0 MHz	2800 CW QSO's	2581 SSB QSO's
14.0 MHz	3895 CW QSO's	8558 SSB QSO's
21.0 MHz	2584 CW QSO's	4173 SSB QSO's
28.0 MHz	351 CW QSO's	1208 SSB QSO's

For the satellite buffs, there were eight CW QSO's and 90 SSB QSO's via OSCAR-8.

All this netted a grand total of 30,958 contacts, with 11,140 on CW and 30,958 on SSB, plus 81 RTTY contacts on 20 meters. The operation began at 2309 UTC on Saturday, 06 April, and terminated at 1310 UTC on Saturday, 13 April, for a total time of six days, three hours and 31 minutes.

Rusty Epps mentioned that the Northern California DX Foundation was the primary supporter and recommended that everyone present join. Rusty also said the landing and leaving were decided only by the captain of the ship. A total of 128 different DXCC countries were worked during the DXpedition.

There were many comments from the floor. There was one who asked who was the loudest "W6". Rusty's response to that was that they were all loud.

Considering the 40 mph winds during the day that would peak up to 60 to 70 mph in the evening, along with the rains, it is remarkable that the operators managed to make in excess of 30,000 contacts with the whole world screaming at them and still maintain their cool. We all have to commend these gentlemen on the fine job they did.

Banquet

Following the evening cocktail party was the main banquet with Jack Troster, W6ISQ, the Master of Ceremonies. Jack introduced Chuck Taylor, KC7UU, who spoke of his travels through Africa. Chuck has held 22 different calls and has been an amateur for 23 years. He said he had never applied for DXCC. He also had a recording of what the pile-up sounds like over there from stateside calls.

Both the Northern and Southern California DX Clubs presented their members achievement awards for the various contests they participated in. In addition, each club presented a member a DXer of the Year Award. This year's southern club recipient was Jim Rafferty N6RJ, with Jo Clarke, WB6ZUC, representing the northern club.

John Attaway, K4IIF, was then introduced. John, who is one of the DX editors for CQ, was passing through on his way to Japan and was present to award CQ's DX Hall of Fame plaques. There were two amateurs who were selected this year. The first, Herb Becker, W6QD, was not present. Herb was involved back in the 1930's with the development of the original WAZ award and later with the CQ World Wide DX Contest. The second was present and all the way from New Zealand. Ron Wright, ZL1AMO, who most active DXers have worked from such calls as A35EA and ZL8AMO, was one happy fellow. Ron and Herb bring the number of recipients up to 24.

The pre-registration prize — an ICOM IC-730 — was won by Chod Harris, VP2ML. Chod is the DX Editor for 73. A TS-930 was won by KM6B, Kenwood 21AT by N6DAC, etc.

DX breakfast

Surprisingly enough, 500 made it to the breakfast. Usually following the banquet, several of the DXers get together to spend time into the early hours of the morning.

Jim Maxwell, W6CF, was the Master of Ceremonies for the breakfast. Gary Caldwell, WA6VEF, announced the results of the CW Copying Contest from the day before. The winners were as follows (number of correct answers and different DXCC countries):

K6NA	43	35
W3LPL	43	32
AA7A	41	32
N6XI	41	29
N6VR	38	30

There were also two slide presentations. The first was a most interesting one which made most DXers envious — the installation of an 80-meter beam by Paul Dubson, W6MKB. The second presentation was by Phil Frazier, K6ZM, about his recent trip through the South Pacific.

A few additional prizes were given away which included a 2-element 40-meter beam won by George Staudacher, WB6KBZ, a heavy-duty antenna rotator won by Virginia Pirounian, WB6TPE, and Doctor DX won by Harmois Servius, FY7YD. □

Basics

(continued from page 5)

the DX satellite. The reason — it is very much higher in the sky. All the earlier OSCARs were in a circular orbit about 600 or 700 miles above the Earth. OSCAR-10 is in an elliptical orbit that varies from a low point about 1,200 miles high to a high point about 19,000 miles from the earth. At that high point, you can imagine the kind of coverage it has. It is not uncommon to hear stations from Europe, Africa and the United States talking together on OSCAR-10.

There are a few Phase 3 basics to remember. If you can't hear him, you can't work him. If your receiving set-up leaves something to be desired, don't try to make up for it with higher transmitter power. You will only be desensing the satellite itself, preventing other stations from coming into the satellite. The real success on OSCAR-10 comes with a good receiving set-up. Use a good pre-amp. Remember, the pre-amp is no good at the receiver end of the feedline. Put it at the head of the feedline, at the antenna.

Check your coax. It has higher attenuation at the higher frequencies. The advantage of a satellite station is that you don't *need* to have 70 to 100 feet of coax to high antennas. Keep your antenna as close as possible to your shack.

One of the advantages of OSCAR-10 is that it doesn't move quickly across the sky. It almost appears to stand still. You need to update your beam headings about every hour or so.

OSCAR-10 antennas have relatively narrow beam widths, so setting elevation angle is important. This need not be expensive to do. Balance the 2-meter and 70cm antennas on the cross boom. Then balance the front to back weight of the two beams, extending the booms with weights if necessary. This kind of array can be turned in both azimuth and elevation angle by inexpensive TV rotators, costing around $50 each. □

Audio punch

Peter Onnigan, W6QEU

Have you wondered what makes one station sound stronger on SSB than another, even though the S meter does not kick as high? The explanation is that the lower S unit station actually has more audio within its bandpass. If the audio occupies only — say — 300 to 1,000 cycles, it will sound thin while one occupying from 300 to 2,500 cycles will sound fuller and much more intelligible.

Bob Heil, K9EID, speaking before a packed house at the 1985 International DX Convention held in Fresno, 19-21 April, said the audio on SSB stations should be shaped to respond to the human ear. Heil explained that the Fletcher-Munson curve, which is an average human ear response, indicates the amplitude response drops off after about 800 cycles. If a 1,000 cycle tone is to sound equally loud, it must be increased about 2dB. Near 2,000 cycles there is another peak, and then rapid amplitude response drop as the pertinent frequency is increased.

Heil stated that to improve the response by the human ear, the higher frequencies should be increased in amplitude, which does not normally occur with the average transceiver mike circuit. What compounds the problem is that the ear's frequency response, unlike good audio equipment, varies with the sound loudness!

Heil did not have many kind things to say about the average microphone supplied with most transceivers. There is a strong need to equalize the mike's output frequency response, he said. While they may be matched as to equipment paint colors, the recommended transceiver

mikes are horrible, Heil pointed out, and are not very effective for good SSB operation. He strongly recommended the use of an equalizer between a good microphone and the transceiver input.

Heil's demonstrations with a good microphone, properly equalized for the user's voice characteristics, will sound stronger and fuller, and will be much more understandable than the so-called matched mike used without an equalizer. □

How countries grow

Jules Wenglare, W6YO

Since Desecheo Island (KP5) qualified under the ARRL DXCC rules as a separate country from Puerto Rico, it has been getting considerable activity and publicity. However, I have never seen it called "Goat Island," which was the name used by the local fishermen and the U.S. military personnel at Ramey Air Force Base on the northwest coast of Puerto Rico.

I call well remember the pyramid shape of the small island some 25 miles west of our area. Having lived at Ramey for three years during the late 1950s as KP4AIO, and having made trips to Goat Island (Desecheo) with the Ramey Spearfishing Club, I will never forget our second trip there, when about six of us got carried away by the strong ocean current around the island.

It is ironic that in 1957 I wrote to the ARRL to consider Mona Island, which was many times larger than Desecheo and closer to the Dominican Republic, as a separate country from Puerto Rico — hopefully qualifying under "separate administration". The U.S. Air Force used the island as a bombing range by the huge B-36 bombers. □

A Fairbanks gloat

Pat Moore, AL7L

I've been struck since the Board got into a discussion of how unique Amateur Radio is in Interior Alaska about how much we have to brag about.

Most places, Amateur Radio is about as visible as a Saturday night crap game. Up here, we get free license plates as a sort of testimonial to our usefulness to the community.

When we do get TVI complaints, the complainant often shows up at our next Novice class, saying the stuff we were bombing the TV with was more interesting than the program and how do you get a license to talk to Europe, anyway?

I suspect one of the basic differences between here and elsewhere is our tendency to *use* Amateur Radio. I can't think of anything I've read about or heard outside that equals our almost casual way of setting up the communications for KL7HOO and KL7HOP's treks in the Brooks Range. Coordinating air drops with peanut-power CW is not only exciting, it proves a *utility* to citizen communication; would the FCC could hear of it.

I can remember listening a few years back as a ham launched his hang-glider off the summit of Denali. A camera helicopter got too close and the guy went off the air as he fell about 2,000 feet in the downdraft. Then he came back on .52 to tell us he was OK and continuing the glide.

We tend to do *big* Amateur Radio up here. For our total number of amateurs, having not one but two world-class contest stations in the area is unthinkable. Most communities of this size elsewhere would have maybe one high-in, low-out local repeater and some way of getting into a near urban center's main machine. We maintain six active repeaters in the area and link to a 20,000-foot passive reflector (see hang-gliding, above) to talk to the near urban center. That's big.

We tend to have licensed amateurs in powerful positions in the community and the state. From Fairbanks we have had two licensed legislators that I know of — probably more. I can think of fairly active amateurs in several university departments, government agencies, school districts, a newspaper columnist, all sorts of business interests. I think the number of community leaders with ham licenses is way out of proportion to our community size.

That's the active ham group. I can't count the number of times I've mentioned I'm an amateur and had someone tell me he still had a current license but hadn't been on the air for a few years. In the last three months, there must have been over a score of such conversations around town.

So I guess we can gloat a little. We seem to have *done* more with Amateur Radio than most communities 10 times this size, and we have plans — packet nets, winning a worldwide contest, a new link around the state on 2, bigger Novice classes — to do more and more.

So brag it up, folks . . . and then let's get on with it. We've got a lot more to do today and tomorrow and the next day!
— *Arctic ARC Short Circuit, AK* □

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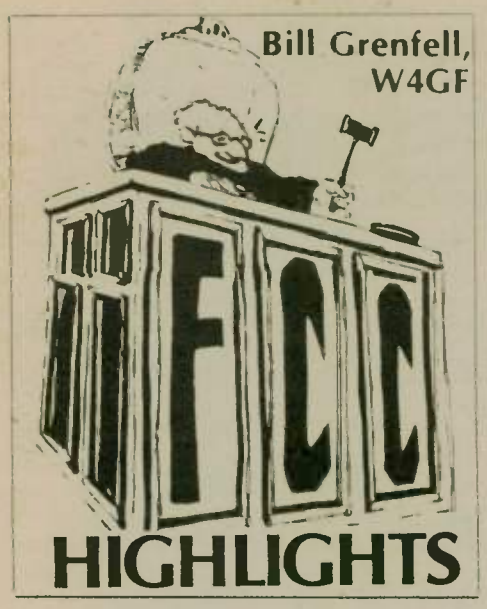


The FCC has made the new 24 MHz band available to USA amateur licensees effective 0001 UTC, 22 June 1985. This action in PR Docket No. 84-960 includes the 10.100-10.150 MHz (30-meter) band. Action on the 420-430 and 902-928 MHz bands "will be considered in a subsequent Report and Order."

General, Advanced and Extra Class licensees can operate throughout the 30-meter band with A1A and F1B (CW and FSK) emissions with not more than 200 watts peak envelope power (PEP) output. The entire 24.890-24.990 MHz (12-meter) band is available to General, Advanced and Extra Class operators for use of A1A emission at not more than the maximum authorized 1500 watts PEP output. 24.890-24.930 MHz is available for F1B and 24.930-24.990, also at not more than maximum authorized power output, with A3E, J3E, R3E, H3E; F3E, G3E; A3C, F3C; A3F, F3F emissions, and for all three classes.

The foregoing designators translate to: Telephony, amplitude modulated with double sideband, with single sideband supressed carrier, with SSB reduced carrier, and with SSB full carrier; Telephony with FM and with phase modulation; Facsimile, with AM and with FM; Television, with AM and with FM.

•

Land Mobile Radio Service's use of the band 421-430 MHz in Detroit, Cleveland and Buffalo is proposed by the FCC in its Notice of Proposed Rulemaking (NPRM, GEN Docket No. 85-113), adopted 15 April 1985. The Notice cites the sharing of 420-430 and 440-450 MHz bands by the Radiolocation Service on a primary basis, the Amateur Service on a secondary basis, as specified in footnotes 651 and 652 of the international allocation table of the World Administrative Radio Conference agreement in 1979 (WARC '79).

During the proceeding to implement WARC '79 allocations, the United States and Canada came to an agreement regarding operation adjacent to the border which while primarily concerned with radiolocation use in the United States and land mobile use in Canada, " . . . will also allow land mobile operation by the United States within the coordination zone . . ." The FCC refers to the PR Docket 84-960 NPRM proposing deletion of the 420-430 MHz band from amateur use in the below-the-border zone " . . . where mobile spectrum is in short supply. . . . land mobile operations in Detroit, Cleveland and Buffalo . . . is possible because Government radiolocation transmitters are not currently located near these cities and the Government intends to minimize operations in those vicinities."

This proceeding does not propose amendment of the Amateur, Part 97, rules but would amend the FCC Part 2 frequency allocation table to put the Non-Government Land Mobile Service on a primary basis in the 420-430 MHz band. Comments could be filed until 28 May and reply comments on or before 12 June.

•

Provision for automatic control of Amateur Radio stations is proposed by the FCC in a Notice of Proposed Rule Making adopted 05 April 1985 (PR Docket No. 85-105). Such operation would be limited to frequencies above 29.5 MHz, but would include 28.20-28.30 MHz beacons. Section 97.3(m)(3) would read:

"*Automatic control* means the use of devices and procedures for control of an amateur station without the control operator being present at the control point."

Section 97.79(b) would read, in part: "Every Amateur Radio station, when transmitting, must have a control operator. The control operator must be present at the control point of the station, except when the station is transmitting under automatic control . . ."

New Section 97.80(b) and (c) would read: (b) When under automatic control, devices must be installed and procedures must be implemented which will insure compliance with the rules when the control operator is not present at the control point of the station. (c) No Amateur Radio station may be operated under automatic control while transmitting third-party traffic."

The Commission advised " . . . we believe that now is the time to expand automatic control to all amateur operations, prohibiting its use only in those situations where there is a justifiable reason why automatic control should not be used."

The FCC invites amateurs to submit comments in particular " . . . calling to our attention any problems that may arise by expanding automatic control to encompass all Amateur Radio operation." The FCC also indicated it did not want to introduce any innovations which would be disruptive or change the character of the Amateur Service. Original comments are due by 25 June and reply comments by 25 July. FCC's address is Washington, D.C. 20554. Refer to Docket No. PR 85-105.

•

Effective 17 June 1985, the emissions amateurs may use in the 1800-2000 kHz band are expanded to include RTTY, FM and phase modulation telephony, AM and FM facsimile, and AM and FM television.

The added emission designators are: F1B (FSK including RTTY); F3E and G3E (FM and phase modulated telephony); A3C and F3C (AM and FM facsimile); A3F and F3F (AM and FM television). By footnote (3) to Section 97.61(b) " . . . J3E, R3E and H3E may also be used."

J3E is Single Sideband Suppressed Carrier (SSBSC), R3E is Single Sideband Reduced Carrier (SSBRC), and H3E is Single Sideband Full Carrier (SSBFC). The Commission said it was making the change because " . . . additional emission modes are needed so that amateurs can experiment with radioteleprinter techniques." While it was not specifying subbands for particular types of emission, FCC urged adherence to a voluntary bandplan which ARRL will develop.

FCC also noted that its action in this case " . . . does not in any way limit our discretion in . . ." the PR Docket 84-874 proceeding regarding the use of 1900-2000 kHz for Radiolocation.

•

On 25 March 1985, the FCC adopted an order amending the amateur rules to change the frequency and emission tables to more usable formats. Because the action was for the purpose of clarifying the rules and the changes were non-substantive, the usual provision for comment via a Notice of Proposed Rule Making was eliminated.

In Section 97.7 it lists the frequency bands or subbands available to each class of operator licensee together with footnotes indicating any conditions or limitations on usage of the bands or subbands. In amended Section 97.61 is a tabulation of all of the bands, subbands and frequencies available to the Amateur Service, with the emissions authorized therein. Paragraph (b) of that Section specified numbered statements of emission limitations applicable to most of the bands. This action injects the WARC '79 three-unit letter-number-letter emission designators into Section 97.61, en-masse.

Appendix 3 of the Commission's Amateur Radio Service rules was amended on 26 October 1984, by FCC's General Docket No. 80-739, to substitute those new WARC '79 emission classifications "which appear most applicable to the Amateur Radio Service." Also amended were: Section 97.85 Repeater operation; Section 97.86 Auxiliary operation; 97.87

FCC licensing statistics as of 29 March 1985

Class	29 January	26 February	29 March
Extra Class	36,235	36,303	36,496
Advanced	97,727	97,518	97,490
General	117,093	116,874	116,888
Technician	80,788	80,658	80,850
Novice	80,500	79,497	79,051
Individual operators	412,343	410,850	410,775
Club stations	2,329	2,302	2,301
Military recreation	175	175	174
Secondary stations	30	0	0
RACES	399	399	375
Total stations	415,276	413,726	413,625

Current operator/class activity

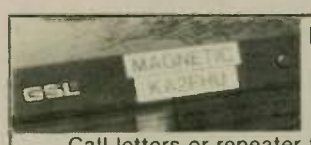
Amateur Class	January	February	March
New Novices	1,262	1,146	1,866
Total all new	1,343	1,242	2,001
Upgrade to Technician	450	523	61
to General	410	525	586
to Advanced	150	255	455
to Extra	87	151	221
Total upgrades	1,097	1,454	1,923

Amateur Radio Call Signs

Amateur Radio operators often ask the FCC what call signs have been assigned lately. This list shows the last call sign in each group to be assigned for each district, as of 01 May 1985.

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

Radio District	Group A	Group B	Group C	Group D
	Am. Extra	Advanced	Tech./Gen.	Novice
0	NJ0X	KD0WM	N0GCE	KA0URF
1	KZ1L	KB1SG	N1DMQ	KA1MYF
2	NJ2R	KD2MK	N2FMO	KA2YGY
3	KV3S	KC3RS	N3EIK	KA3OBG
4	AA4IZ	KJ4DA	N4LYI	KB4OBT
5	NV5N	KE5ZP	N5HXS	KA5WAO
6	WG6J	KG6TC	N6LYA	KB6IRC
7	NN7D	KE7FS	N7HBX	KA7VKF
8	NM8F	KD8YB	N8GLG	KA8WNY
9	NE9J	KD9PB	N9FDS	KA9TOP
N. Mariana Is.	AH0D	AH0AC	KH0AH	WH0AAG
Guam	AH2V	AH2BD	KH2BV	WH2AFY
Johnston Is.	AH3A	AH3AC	KH3AB	WH3AAC
Midway Is.		AH4AA	KH4AD	WH4AAF
Hawaii	WH6Y	AH6GC	NH6DU	WH6BDV
Kure Is.			KH7AA	
Amer. Samoa	AH8B	AH8AB	KH8AD	WH8AAO
Wake Wilkes Peale		AH9AC	KH9AB	WH9AAE
Alaska		AL7GT	NL7FR	WL7BHD
Virgin Is.	KP2L	KP2AT	NP2BH	WP2AEJ
Puerto Rico	WP4K	KP4IM	NP4NI	WP4ECN



Beacon operation; and 97.95 Operation away from the authorized fixed station location.

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The FCC has proposed expansion of the telephony privileges in the 7075-7100 MHz segment of the 40-meter band to include licensees located in the Caribbean insular areas (NPRM, PR Docket No. 85-104). This is in response to a petition filed by David Novoa who stated that FCC-licensed amateurs in the Caribbean are situated similarly to amateurs in Hawaii and Alaska who were recently granted telephony privileges identical to those he had requested.

In the comments on Novoa's petition received from other interested parties by FCC were recommendations to limit the proposed privileges to Advanced and Extra Class operators in order to insure minimum interference to amateur telegraphy and radioteleprinting operations in the continental United States. Also received were recommendations to expand the size of the proposed telephony segment to 7050-7100 kHz because authorization is pending for a commercial shortwave station to operate above 7100 kHz. The proposed 50 kHz band would be available to all amateur stations outside the continental 48 states. FCC advises it seeks comments not only on the proposal itself but also on the foregoing described alternatives. Original comments were due on or before 17 June and reply comments by 17 July 1985.

•

The FCC has ordered an amendment to Amateur Rule Section 97.121 to clarify how an operator using the station and call sign of another operator having lesser operating privileges should identify his operation when using privileges exceeding those of the station licensee. The amended Section 97.121 which is titled "False Signals" reads as follows: "An Amateur Radio station must not transmit:

(a) False or deceptive signals or communications by radio; NOR

(b) For purposes of identifying the station, any call sign which has not been assigned to it. Notwithstanding the foregoing, when a station is operated within the privileges of the operator's class of license but which exceed those of the station licensee, station identification must be made by following the station call sign of the station being operated with the operator's primary station call sign in accordance with Section 97.84(b)."

The petition was filed by David Popkin. The effective date of this rule amendment was 20 May 1985.

•

In mid-April, ARRL Headquarters officials visited FCC's Gettysburg licensing facility to learn what would be involved if the League decides to provide assistance to the Commission in the area of call sign issuance, and to explore the potential cost to the League.

•

The ARRL has filed comments in PR Docket 85-23, the "Microwave Access Docket", drawing attention to several errors, for the most part concerning the relative status of services sharing a band under the ITU rules.

"In 220-225 MHz, for instance, both ITU and FCC Part 2 allocations show the Fixed, Mobile and Amateur Services as co-primary, yet restrictions in the amateur table proposed in 85-23 are those used to protect a primary service from being interfered with by a secondary service. In the 10 GHz band, non-government radiolocation services are clearly secondary to amateurs in the Part 2 rules, yet 85-23 shows the reverse.

"ARRL comments also repeat the League's request that the 1.2 GHz allocation be released to the U.S. Amateur Satellite Service as soon as possible, to allow U.S. amateurs to use AMSAT/OSCAR-10 when it is operating Mode L. League comments support the Commission's proposal to favor voluntary band plans over FCC-imposed subbands." (*The ARRL Letter*, 04/25/85)

•

The ARRL has filed comments concerning the exam retest wait period, the procedure for advanced notice of exam sessions and the credit for certificates of successful completion, as proposed by the FCC in the Docket 85-21 rule making proceeding.

ARRL opposes the elimination of the required waiting period, stating, "The present rule is not something that can or should be left to VECs to establish for their own programs, since to do so would encourage the establishment of short waiting periods at the expense of program integrity."

The FCC also proposes to eliminate the

requirement that advanced public notice be given for test sessions for less than five people. The ARRL opposes this amendment on the grounds that it could lead to abuse, or possible perceived abuse, of the Volunteer Examiner Program. ARRL comments raise the question of credit for Certificates of Successful Completion, and suggest that if the Commission seriously wishes to improve the Volunteer Examiner Program, the question of credit for written examination elements should be answered immediately. (*The ARRL Letter*, 04/25/85)

•

ARRL comments on FCC's Mass Media Docket 85-38 cable TV deregulation to the effect that, " . . . if adopted (it) would delete quality performance standards for cable systems and increase permissible signal leakage levels in the 54-216 MHz band. " . . . that an increase in signal leakage levels send the wrong message to those cable companies that are not complying with the present rules. " . . . it would appear that the proposed increase in maximum cable signal leakage levels is unnecessary to well-engineered, well maintained systems . . . "While joint ARRL/NCTA engineering efforts are ongoing, there has been effectively *no* success in resolving interference problems submitted by the ARRL to NTCA for review and assistance . . . Of 37 cases referred to NCTA (National Cable Television Association) only one has been resolved, and 29 complaints have indicated no abatement in cable signal egress interference . . . The ARRL comments also take exception to the Commission's comparison of cable leakage to radiation from devices covered under Part 15, such as computers. While computers may be switched off, cable leakage is constant. Computers are also 'point source' radiators, while any RF that escapes from the coaxial cable may use the entire conductor as an antenna." (*The ARRL Letter*, 04/1/85)

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FCC's Mass Media Docket 84-706 Order authorizes the use of 7100-7300 kHz by FCC-licensed broadcast stations in the Pacific outside ITU Region 2. Region 2 includes North and South America and Greenland. ARRL recommended "quiet periods" to protect Region 2 Amateur operation, while broadcasters pointed out this would open the way for international broadcasters not licensed by FCC to occupy the frequency during those quiet hours. FCC adopted a requirement that none of the affected stations may operate at any time with antennas oriented toward Region 2. Also, during 0800 to 1600 UTC, radiation in any easterly direction that would intersect Region 2 must be limited to a specific level (at least 6 or 12dB) below the level from the main lobe of the antenna. (*The ARRL Letter*, 04/11/85)

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There has been at least one published report of cheating during a volunteer-supervised examination. During a taped code test, two of the Volunteer Examiners became suspicious of two applicants and found upon checking that they both had perfect scores, but for the previous month's examination! The test had been changed.

"Once discovered, one of the applicants bolted for the door, taking his FCC 610 application with him. The other applicant eventually told the examiners that a third applicant had recorded the code test using a micro-recorder at a previous session. The VE team was able to confiscate the crib sheets that these two applicants had.

"In accordance with the FCC's instructions to VECs, the FCC's Compliance Branch has been notified of the identities of those involved and will be forwarded all related paperwork once received from the VE team." (*W5YI Report*, 05/15/85)

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A Port Arthur, Texas amateur has gone to Congress in an attempt to stave off the transfer of 1900-2000 kHz in the 160-band to the Radiolocation Service. He contends that the FCC has acted illegally, and in direct violation of the 1979 WARC accords and the Administrative Procedures Act. He claims this due to the issuing of Docket 84-984, which reduces to "secondary" the status of Amateur Radio in the disputed spectrum.

In letters to various Congressional leaders, including Senator John East, he notes that the frequency allocation table resulting from WARC '79 clearly shows that the U.S. Amateur Radio Service is a co-primary spectrum user. He charges that the FCC has illegally altered the allocations table because of domestic considerations that are in conflict with approved World Allocation Table, which shows that amateurs are co-equal with fixed mobile and radiolocation users. (*Westlink Report*, 05/03/85)

•

The FCC will shortly begin a performance review of the activities of all individuals and groups serving as Volunteer Examination Coordinators. The purpose will be to determine if each is truly qualified to continue in VEC capacity. This will be based upon overall activity, pass rate and adherence to VEC program rules. Included will be determination of the security integrity of each VEC in regard to testing materials and methods of administering exams, and the overall quality of the completed paperwork that is supplied to FCC's license processing facility at Gettysburg, Pennsylvania. (*Westlink Report*, 05/03/85)

I have seen some examples of the paperwork supplied to Gettysburg, and it is pretty sloppy! Many examinees are having to wait for their licenses because the forms have to be returned for lack of all the required information.

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March '85 volunteer examination statistics: Number of sessions, 252; Number of locations, 241; Elements passed, 3478; Elements failed, 2700; Elements Administered, 6178; Lowest pass rate, 16.67%; Highest pass rate, 95.83%; Average pass rate, 56.30% □

VE exams

California

The Sunnyvale VEC ARC will be conducting its next three exam sessions at Foothill College in Los Altos Hills, at 12:00 noon, on 13 July, 10 August and 14 September.

Register in advance or walk-in. To preregister, send SASE and check for $4, payable to FCC VEC Program, to Sunnyvale VEC ARC, P.O. Box 60031, Sunnyvale, CA 95088-0031. For more information, contact Sunnyvale VEC ARC at the above address or phone (408) 255-9000.

Wisconsin

The Milwaukee Volunteer Core Group will be administering six exams throughout the summer and fall months, at the Service Occupation Building, at the Waukesha County Technical Institute, 800 Main Street, Pewaukee, Wisconsin. The exams start at 9:00 a.m. on the following dates: 13 July, 24 August, 14 September, 12 October, 09 November and 14 December.

The July 13th exam will be held at SWAPFEST 85, sponsored by the South Milwaukee ARC, Inc., in Oak Creek.

Walk-ins are welcomed, and exams for shut-ins are given by appointment. For information, send a postcard to: Syl Janczak, WD9JKZ, 3127A W. Madison, Milwaukee, WI 53215. □

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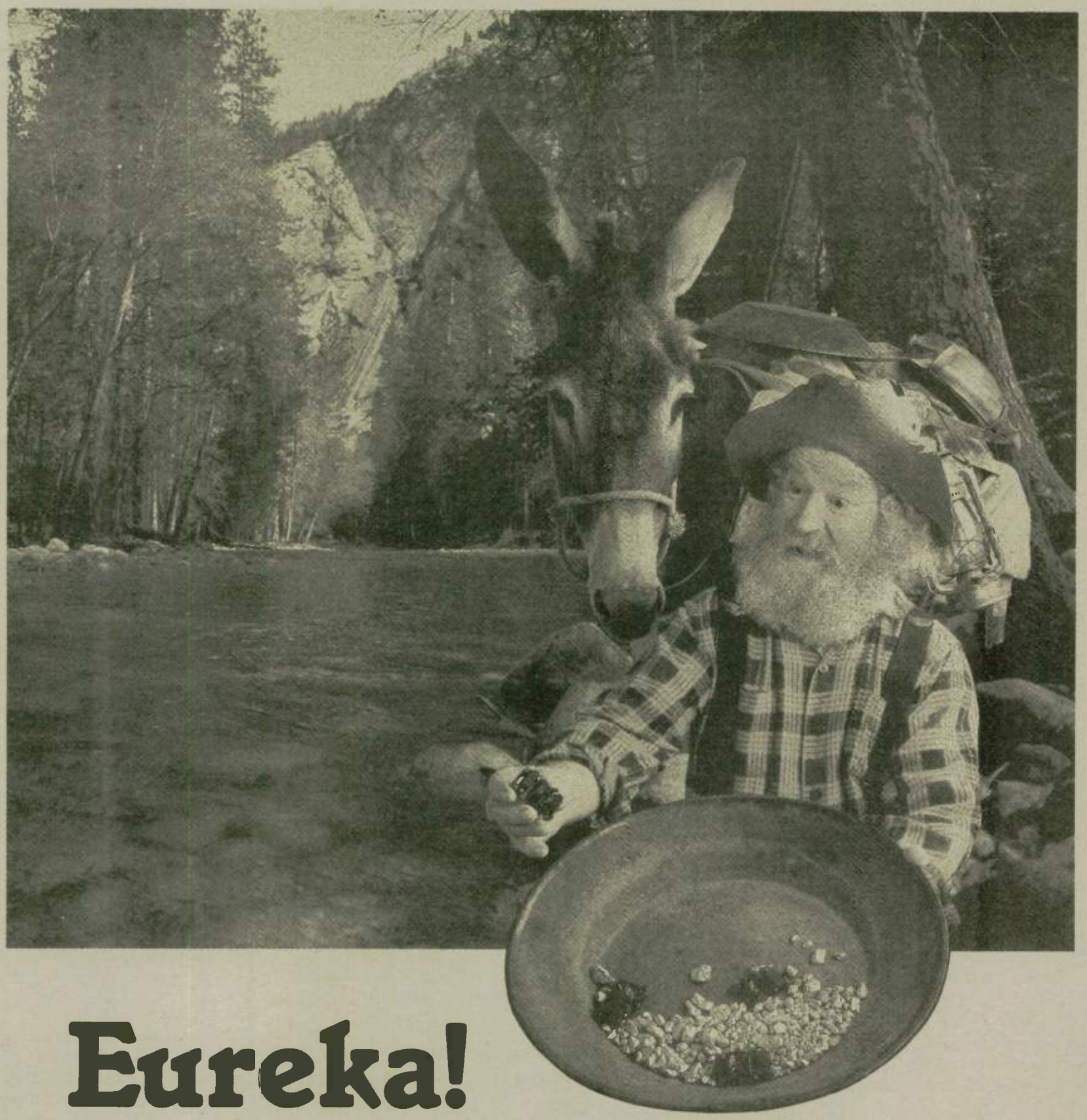

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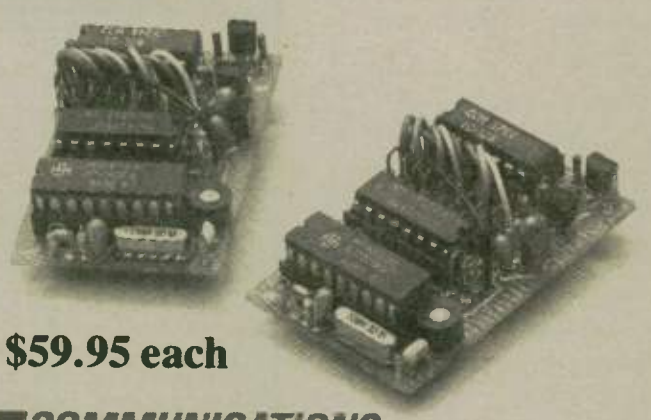

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SPECIAL EVENTS

Nautilus comes home

The world's first nuclear submarine *SSN Nautilus* is returning to the Submarine Base, New London, Connecticut where it will be put on permanent public display while remaining commissioned.

The Submarine Base station, K1SSN, will be operated as a special event station on 04-06 July to honor the Nautilus return on 05 July.

Members from the K1SSN Club Station, Tri-City ARC, RASON and SCRAMS will operate the K1SSN from 1400Z to 0100Z on each of the three days. Look for K1SSN in the lower 20 kHz of the General Class phone and CW 80-10 meters and the center of the Novice bands.

QSL via Tri-City ARC, P.O. Box 686, Groton, CT 06340. □

Sidney's centennial

Members of West Nebraska ARC will be on the air in conjunction with city of Sidney's Centennial Celebration. Operation will be from 0000Z, 04 July to 2400Z, 09 July. Frequencies are: Phone — 3982, 7280, 14280 and 21280. CW — 3725, 7125, 14060 and 21120.

Commemorative QSL cards depicting Fort Sidney, the toughest town on the Union Pacific and the beginning of Sidney-Deadwood Stage on the Black Hills Trail — also watering hole for Calamity Jane, "Doc" Holliday, Wild Bill Hickock and many others. □

Speak English?

The Southern Peninsula Amateur Radio Klub (SPARK) will operate K4IHU to commemorate the 375th anniversary of the oldest continuous English-speaking settlement in America. The station will operate from the waterfront during the scheduled arrival of the replica ship *Godspeed* from England.

The operation will last from 1600Z, 08 July, to 1600Z, 09 July (midnight to midnight EDST). **Frequencies:** *Phone* — 3.930, 7.285, 14.305, 21.385, 28.685; *CW* — 3.705, 7.085, 14.085, 21.085, 28.185.

For certificate, send QSL and SASE to SPARK Inc., P.O. Box 4128, Hampton, VA 23664. □

'Riponfest'

Amateurs from the Green Fox ARC will operate a special event station in celebration of the city of Ripon, Wisconsin and its history during the annual "Riponfest" celebration on 13-14 July.

Operation will be from 1400 GMT to 0200 GMT on 13 July and from 1400 GMT to 2300 GMT on 14 July in the lower 20 kHz of the General Class portion of the 15 and 20-meter band. QSL via the Green Fox ARC, Box 314, Ripon, WI 54971-0314. □

'Summer Extravaganza'

The Parks and Recreation Department of the City of Waynesboro, Virginia, and the Valley Amateur Radio Association will operate special event station KI4BR in Ridgeview Park, in celebration of "Summer Extravaganza".

Hours of operation will be from 1700

A "First Edition Certificate" will acknowledge QSO and receipt of QSL. SASE to KI4BR, P.O. Box 565, Waynesboro, VA 22980. □

Nuclear detonation

The Los Alamos Amateur Radio Club will operate WD5JRO from Los Alamos, New Mexico to commemorate the 40th anniversary of the first nuclear detonation at the Trinity Site near Alamogordo, New Mexico.

Operation will be from 1700 to 0500 UTC, 13-14 July, on 80-10 meters. The lower part of the General Class phone and CW bands and the Novice bands will be used.

An attractive 8½"x11" commemorative certificate will be issued upon receipt of your QSL and SASE. QSL to WD JRO, LAARC, P.O. Box 787, Los Alamos, NM 87544. □

Hot-air balloons

The Southern Michigan Amateur Radio Society will operate W8DF/8 during the 7th World Hot-Air Balloon Championship, 13-21 July, Battle Creek, Michigan W.K. Kellogg Regional Airport.

Operation on phone in the center portions of General Class 80-10 meters and CW in the Novice bands. For special QSL, send an SASE to P.O. Box 934, Battle Creek, MI 49016. □

USS Silversides

The DuPage Amateur Radio Club will be operating a special event station, W9DUP, in honor of the 40th anniversary of VJ Day.

Operation will be Sunday, 18 August, from the deck of the submarine, *USS Silversides*, docked as a war museum alongside Navy Pier in Chicago. Operating hours will be 1300Z, 18 August, until 0200Z, 19 August. Frequencies will be 14.240 and 7.240 MHz.

For a special submarine QSL card, send SASE to W9DUP, P.O. Box 71, Clarendon Hills, IL 60514. □

Balloon races

The Indian Hills Community College Amateur Radio Club will conduct a special event station during the 1985 Ottumwa Hot-Air Balloon Races on Friday and Saturday, 19-20 July.

The club will oeprate under club call sign WA0IUQ, on SSB only on the following frequencies: 3960, 7260 and 14260 MHz (QRM permitting). Operation will commence at 2200 UTC and end at 0400 UTC each day.

A commemorative QSL card will be issued to all amateurs who contact WA0IUQ, and provide an SASE with their QSL card. Amateurs should QSL via WA0IUQ, Ottumwa Technical School Radio Club, Bldg. 58 - Industrial Airport, Ottumwa, IA 52501. □

Flat Hammock Island

For only the second time in history, HF Amateur Radio in going to Flat Hammock Island in Long Island Sound.

Tri-City Amateur ARC will mount its annual expedition on 20 July, and will operate from this unique location from about 1300Z to 2000Z on that date. Look for KA1BB in the lower 20 kHz of the General Class phone and CW 40-15-meter bands and (hopefully) the center of the 40-meter Novice band.

QSL via Tri-City ARC, P.O. Box 686, Groton, CT 06340. □

Michigan yacht race

The Eastern Michigan Amateur Radio Club (K8EPV), will commemorate the annual Port Huron to Mackinac Island Yacht Race, 20-21 July. Operation from 1400Z to 0200Z both days.

Frequencies: *Phone* — 3.910, 7.235 or 14.235; *CW* — 3.710, 7.110 or 21.110. A certificate is available. Send your QSL with a legal-size SASE to K8EPV (CBA) or 654 Georgia, Marysville, MI 48040. □

Tom Sawyer Days

The Hannibal Amateur Radio Club, Inc. will issue a 5th annual special certificate from the National Tom Sawyer Days celebration in Mark Twain's Boyhood Home Town, Hannibal, Missouri, on Saturday, 06 July and Sunday, 07 July. Hours: 1500-2100 UTC both days.

Frequencies: *Phone* — 7.245, 14.290, 21.400 and 28.770 MHz; *CW* — 7.125 and 21.125 MHz. Help us celebrate!

To receive the certificate, send a large (8" × 10") SASE and your personal QSL card confirming the contact to Hannibal ARC, Inc., W0KEM, 2108 Orchard Ave., Hannibal, MO 63401.

For further information, contact Bob Blackler, 210 N. 6th, Hannibal, MO 63401; (314) 221-3723. □

Hall of Fame

The Hampden County Radio Association will host a special event station to celebrate the opening of the new basketball Hall of Fame, in Springfield, Massachusetts.

N1BHF, standing for "Naismith Basketball Hall of Fame," will operate the weekend of 29-30 June. (Call sign belongs to Glen Sykes of Vernon, Connecticut.) Look for the station on all bands. Special QSL cards will be sent out.

Who knows — you might talk to one of the famous basketball stars who'll be helping to open the new memorial! QSL with an SASE to: HCRA, Box 482, W. Springfield, MA 01090. □

Police/fire games

The San Jose State University Amateur Radio Club will be on the air during the 1985 World Police/Fire Games. Some 10,000 athletes from around the world are expected to participate in the Games, which will be held throughout the greater San Jose area.

Operation of special event station W6YL will be from 1900Z 04 August to 0700Z, 05 August; 1900Z, 05 August to 0700Z 06 August; and 1900Z, 06 August to 0700Z, 07 August. There will also be

some operation August 7 through August 11.

Frequencies: *Phone* — 3.870, 7.240, 14.270 and 147.555; *CW* — 7.125 and 14.040.

For a special certificate, send a large SASE to SJSU ARC, c/o Student Programs and Services, Box 2, San Jose State University, San Jose, CA 95192. □

'We talk so they can walk'

The Kansas City, Missouri Ararat Shrine Radio Club WA0NQA will host its 2nd annual talk-in on 03-04 August, from 10:00 a.m. to 10:00 p.m. CST. This talk-in will benefit the crippled children's hospitals. The theme again this year is "WE TALK SO THEY CAN WALK."

Look for us on the lower 10 kHz of the 20, 40, 15 and 10-meter bands; also on the Novice portion of the 40-meter band.

We will offer a two-color certificate with your call and name for each contact.

Please send a large SASE with $1 to QSL Manager, Mr. J.V. Foust, KA0GBK, 5240 N. Palmer, Kansas City, MO 64119.

'Bear' Bryant

Amateur Radio operators who sponsor or support special event stations are a unique breed of people. They are called upon to operate under somewhat like Field Day conditions (in remote locations using emergency power), and provide communications to help honor or celebrate the local event. Often, however, the only reward they receive are the thanks of hundreds of their fellow amateurs who work their special station.

Such is the case for members of the West Alabama Amateur Radio Society (WAARS) each September, when we operate our special event station in honor of college football's greatest coach, Paul "Bear" Bryant.

"Bear" Bryant was much more than the coach of the University of Alabama. He was a worldwide hero for thousands of football fans who looked up to and respected him for helping make college football what it is today.

The famous saying, "I want to play for you Bear," became very popular over the years, and the man very quickly became a legend in his own time. Bear received just about every honor and award a college coach could receive during his career. Every year, Alabama went to a bowl game while he was coach. They won several national championships and even more Southeastern Division titles.

And then it happened — Bear passed away in January 1983. It struck the hearts and souls of thousands of fans around the world. Soon after his passing, hundreds of dedications were made to the man. Streets were named after him, and statues and museums were erected in honor of the legend.

Bear was not forgotten by his Amateur Radio friends, either. During the spring of 1983, I made a proposal that our club have a special event station each year from the campus of the school he made famous in honor of the great achievements he made in his life. The event would be held on the first football weekend each September. The proposal was approved and the plans put in motion.

The university was contacted, and we explained our proposal to them. We explained what a special event station was

Dick Miller, KB2BR, works stations with a little help from the University of Alabama mascot.

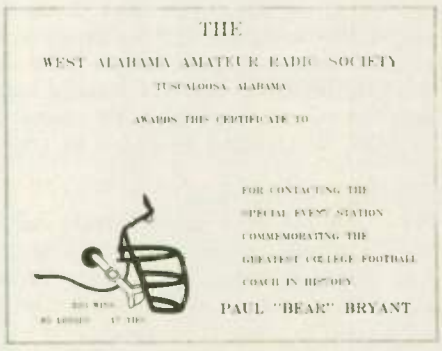
and the purpose of Amateur Radio, and that we wanted to talk to other amateurs around the world about Bear and keep the spirit of his achievements alive each year. The university was very receptive of our proposal and gladly gave us permission to operate from the site of the future Bear Bryant Museum located on the campus.

Preparation for the event began to unfold. The club decided to run a two-transmitter station so as many contacts as possible could be made in our one-day event. The equipment had to be identified and assembled with portable generators for power, two complete stations had to be assembled along with antennas and feedline, tables and chairs and all of the extra accessories one needs to operate.

When planning an event like this, having a club with members who don't mind helping out with equipment makes the planning go a lot easier. WAARS members are just such a group. We planned on operating for only one day, and the most important factor — "manpower" — had to be discussed, which turned out to be the least problem of all as more than enough volunteers came forward to help.

Several months passed, and all the pieces of the event fell into place. Station 1 consisted of an ICOM-740 with a 40-meter dipole up about 40 feet. Station 2 consisted of a Kenwood 430S with a five-band vertical mounted at ground level. Power was supplied from a 4kW generator of Hal Moore, WB4NKZ, which we use regularly for Field Day.

That Saturday. about 12 members of WAARS met at the site at 7:00 a.m. to begin construction of the station. Antenna construction was put into the capable hands of Palmer Norred, WA4HUO; Fletcher Long, KE4TN; Dick Miller, KB2BR; and Herky McDaniel, W4WYP. In all, the entire station fell into place just like we planned, and we were on the air by 8:00 a.m. making contacts.


THE
WEST ALABAMA AMATEUR RADIO SOCIETY
TUSCALOOSA, ALABAMA
AWARDS THIS CERTIFICATE TO
FOR CONTACTING THE
SPECIAL EVENT STATION
COMMEMORATING THE
GREATEST COLLEGE FOOTBALL
COACH IN HISTORY
PAUL "BEAR" BRYANT

The local newspapers and radio stations had been notified of our event and had been announcing our plans over the air for the following week. Two of the radio stations sent reporters to our site and reported on our event during the day on both the local news and during the sports report. The newspaper ran several stories during the week also. Our club has no club call sign, so we used the call of our current club president.

The reporters were amazed that so many people knew Coach Bryant. Sure, they realized he was very popular in the South, but as calls came in from the West Coast, Canada, and even Mexico and South America — all of which gave praise and honor to Bear — they realized he was a worldwide figure.

One very interesting event happened while we were operating. We had been on the air about one hour, making contact after contact, when all of a sudden about 10 police cars surrounded the area with lights and sirens. Both university and Tuscaloosa police cars drove up to our station and informed us that a bank robbery had just occurred two blocks away and the robber had fled on foot in this direction. Several members went mobile and looked for a man fitting the description and reported on 2 meters, but the robber was not located.

A steady stream of hams and visiting public came and went during the day, and before we knew it it was time to take down our station. About 6:30 p.m., we made the last of our 386 QSOs that day and closed our station until next year. Even as we were taking apart our gear, plans were discussed on the station for next year and of how much fun it was.

Bear Bryant was a great man and will live in the hearts and minds of college football fans forever. It is the hope of members of the West Alabama Amateur Radio Society to keep the spirit and memory of Bear Bryant alive forever so our kids and their kids can in some degree feel and appreciate the wisdom this man has given to us all. — *Kelly Bruce, WD4DAT* □

Amateur Radio and the modern condominium

Douglas M. Smith, W6ING

Planning a vacation or moving into a modern condominium complex with a desire to operate on the HF bands? Yes, ham radio communications are possible in nearly all cases, but some planning and trade-offs are necessary. A number of good articles have been published on this subject, and I suggest that you read as many as possible before proceeding.

Before attempting any HF operation from an apartment, one should contact the resident manager or landlord of the building and review the existing restrictions on antenna installations. In most cases, the lease-rental agreement you sign will have some restrictions about attaching TV, CB, or short-wave antennas to the common elements of the structure. Failure to comply with these restrictions could, in extreme cases, result in legal action against you. If you have a question on the interpretation of the building regulations, seek competent legal advice.

I am presently operating on the 10, 15, and 20-Meter bands from a 10th floor apartment in a 20-story condominium on the beach in Hawaii. Since my retirement, I have spent several months here each year to escape the heat of summer and the Los Angeles smog. The lanai of our apartment faces due west toward the beach, and we have neighbors in all directions; each one only a wall, floor, or ceiling away.

I have tried a number of different antenna schemes, and the mobile whips turned out best.

The rig is a Kenwood TS-520SE, a Tokyo Hy Power Labs Model HC-150 antenna tuner, and a Drake TV-3300LP low pass filter. The antenna tuner is necessary for matching the many variable impedances observed, and the L.P.F. always is a good idea to keep your signal as clean as possible.

The antenna restrictions of my condominium required that all antennas, feedlines, and other apparatus be kept within the outer limits of the lanai (a balcony with an iron railing around the outside).

Most indoor antennas were totally ineffective due to the iron-reinforced concrete structure of the building. The reinforcement acts as a cage, and limits radiation very well.

Location of the rig is very important with respect to finding an effective ground. My rig is mounted on a mobile TV stand in the front room. With no other ground connections available, I used the ground connection at the 115V AC wall socket. A cold water pipe might have been more effective, but the length of the ground wire was too long to be useable. If you use the electrical U-ground pin, it is worthwhile to remove the plate and outlet from the wall and check to see that it is connected.

The National Electric Code required that it be connected with a green wire, but some buildings where steel conduit is used for wiring depend on the conduit for ground. If you do not find the green wire, you can connect a short length from the outlet to the outlet box which could help. With the rig on a movable TV stand, it can easily be closeted when not in use.

Locating the antenna

If a quarter-wave vertical antenna is used, a good groundplane (cold water pipe, metal railing, or a wire radial system) is a must. In my case, I elected to use a mobile whip. The 10-15-20 meter Spider and Hustler antennas were tried with equal success in terms of matching and loading of the 50 ohm coax to the rig. A support leg of the lanai railing proved to be best for the groundplane, using a short length of #10 copper wire with a standard electrical ground clamp. The black paint was removed prior to mounting the clamp to assure good metal-to-metal connection.

The antennas were mounted on an old cast iron microphone stand, using a home brewed bracket. The top of the bracket was drilled to accept a Firestick model 4-KA whip base which conveniently includes the isolating nylon washers and an SO-239 coax connector. A 3/8 × 3/4 bolt was used at the bottom to secure the bracket to the mike stand base. The 10-pound weight of the base was enough to prevent blow-over by the strong Westerly winds at the beach. The copper wire from the lanai railing was attached in the center of the bracket. A quick-disconnect adapter was used between the base and the whip to allow quick dismantling of the system. A well-placed beach towel drying on the railing easily concealed the resident base.

A Palomar Engineer R-X noise bridge, a small field strength meter, and the SWR bridge built into the antenna tuner were used to find the best location for the base and ground connection. VSWR readings of 1.5:1 or less across the band were obtained. Poor locations resulted in circulating RF on the rig and feedline. Hand capacitance loading and RF singes on the fingers were noticed, even at low power levels. Moving the antenna and/or ground locations a few feet can minimize or eliminate this situation.

A low VSWR reading at the transmitter does not always assure total freedom from circulating RF energy. Use of a field strength meter near the rig and at other suspected locations is recommended. In the absence of a field strength meter, a rough estimate can be made by touching a transmitter ground point (earphone jack or panel mounting screw) with the point of a lead pencil and looking for visible arcing in subdued light. Circulating RF ground currents are often the cause of RF interference.

On the air with Hustler RM-20

Another problem associated with operating from an apartment or condominium is the excitation of steel beams, girders, and wiring within the building itself. Often these elements turn out to be resonant at one ham frequency or another, and can re-radiate your signal throughout the building. Again, proper grounding and location of your antenna will minimize this problem. Use of a linear power amplifier or higher power levels than necessary to maintain contacts is not recommended for the same reason.

The communications results obtained using the mobile whip configuration described here are fair to good as compared to a simple half-wave wire dipole at a moderate height above ground. When the band is open, the major problem is QRM. A good receiver with selectable bandwidth, IF shift, and an adjustable notch filter will help on receiving. A properly adjusted speech compressor into your transmitter will help when your signal strength is marginal at the other end. When the band conditions are not so good, your signal will be among the first to fade out.

Fortunately, 20 meters almost always has openings to some part of the globe, and, depending on your location, many good contacts can be made during the day and evening.

Consider your signal as being QRP, and operate accordingly. Your signal reports can vary between 5 × 8 and 4 × 8 in as little as 20 minutes. If you plan to make schedules, make them during the best predicted propagations. These predictions are available from W1AW (ARRL), beacons and commercial stations near the ham bands, and WWV. (WWVH in KH6-land.) They are also published propagation charts.

General considerations

Monitor your operations for the presence of BCI, TVI, or telephone interference. Most modern condominiums and apartment buildings have cable TV and other wiring enclosed in metal ducts, which helps control your problems. If your next-door neighbor has a small solid state AM/FM portable radio within 25 feet of your antenna, it will probably be effected by your signal. A stereo receiver with tuned RF stages, good dynamic range, and a little shielding will operate simultaneously in the same room with no BCI.

Antenna wire strands, whips, or feedlines that extend beyond the express limits of your apartment may put you off the air unless you have the written consent of the building owner/manager.

(please turn to page 16)

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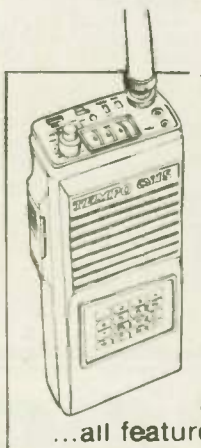

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Input	Output	Call signs	Access Features	Location
29.51 MHz	29.69 MHz	W3FDU/R	9	York, PA
29.52 MHz	29.62 MHz	WB6WGE	PL 77.0 Hz	Newbury Park, CA
.52	62	W1BHD	O R	Malden, MA
.52	62	WD0ALH	O	Newton, KS
.52	62	KE4IO	P	Stone Mt, GA
.52	62	WA2TMZ	O	Toms River, NJ
.52	62	KC5OQ	O	Brady, TX
.52	62	W0JZY	O	Hillsboro, MO
.52	62	W4ZJM/R	PL 100 Hz L	Memphis, TN
.52	62	K3SP	O L	Freeland, MD
.52	62	WB7CAG	O T A L Z	Glendale, AZ
.52	62	K3CFY	O	North Huntington, PA
.52	62	KB5VC	O	New Orleans, LA
.52	62	WD8PRH	O	Fairfield, OH
.52	62	WB3JUX	O	Chester, PA
.52	62	WB9ZRB	O	Milwaukee, WI
.52	62	VE3TFM	PL 127.3 Hz	Toronto, Ontario, CANADA
.52	62	VE3TFM	O L	Uxbridge, Ontario, CANADA
.52	62	W5HZZ	O	Ponca City, OK
29.53 MHz	29.63 MHz	N6AHW	O TALZ	Monterey, CA
29.54 MHz	29.64 MHz	W7ZFX/R	B 1800 Hz W E	Sedro Woolley, WA
.54	.64	W6QFK	PL 103.5 Hz	Monrovia, CA
.54	64	K2KLN/Metroplex	O A E L Z	New York City, NY
.54	64	K5TYV/R	O	San Antonio, TX
.54	64	WD8DPA	PL 167.9 Hz T A E L	Ann Arbor, MI
.54	64	KE4QC	O L P	Mobile, AL
.54	64	WB4QVT	O L P	Birmingham, AL
.54	64	W3DID/R	O E L	Baltimore, MD
.54	64	K0LKH	PL	Boone, IA
.54	64	WA0YUA	PL	Bridgeton, MO
.54	64	WB5ITT	O	Port Neches/Groves, TX
.54	64	K8LK	O	Doylsetown, PA
.54	64	WO4B	O L	St. Petersburg, FL
.54	64	K0GBZ	O	Quinter, KS
.54	64	N5ARU	O	New Orleans, LA
.54	64	K2GVI	PL T L Y	Westmoreland, NY
.54	64	N8EEG	O	Athens, OH
.54	64	WB3FKQ	O E	Wilkes-Barre, PA
.54	64	K6GZK	O A L E	San Jose, CA
29.55 MHz	29.65 MHz	K3SLG/R	O L	Pine Grove, PA
.55	.65	KB2DQ	O	Buffalo, NY
29.56 MHz	29.66 MHz	WD4EXH	O	Rustburg, VA
.56	.66	N3AUY	O	Silver Springs, MD
.56	.66	K2MZ	O	Oyster Bay, NY
.56	.66	W0IA/R	O	Boulder, CO
.56	.66	WD9HII/R	O	Decatur, IL
.56	.66	AE0N/R	B 1477 L	Bloomington, MN
.56	.66	DU1SA/R	O	Mandaluyong, Philippines
.56	.66	KV4FZ/R	O	Christiansted, VIRGIN ISLANDS
.56	.66	N9PL	O	Mt. Palomar, CA
.56	66	W0TQ	O	Concordia, KS
.56	66	WR5ARS	O	Houston, TX
.56	.66	AE6R	O	Eureka, CA
.56	66	W6ORD	O	Hollywood Hills, CA
.56	.66	WB1CBY	O	Columbia, CT
.56	66	KC3AM	O	Claymont, DE
29.56 MHz	29.66 MHz	W9LM	O	Park Ridge, IL
.56	.66	WA6GBC	O E	Roseburg, OR
.56	.66	KC5EJ	O	El Paso, TX
.56	.66	WA9ZYO	O	Sturtevant, WI
29.57 MHz	29.67 MHz	DB0QK/R	B 1900 Hz	Lerchenbert, WEST GERMANY
.57	67	KB9SH	O	Aurora, IL
.57	.67	N9DBX	O A L	Woodstock, IL
2958 MHz	29.68 MHz	KD4DN	O	Sterling, VA
.58	.68	WB6IGH	PL 107.2 Hz	Rancho Palos Verdes, CA
.58	.68	WD5DON/R	O	Corpus Christi, TX
.58	.68	WB9STA/R	O	Pendleton, IN
.58	.68	K2YBW	PL T A E L	E. Setauket, NY
.58	.68	W4MM	O L	Albany, GA
.58	.68	W2SEX/R	O	Tonawanda, NY
.58	.68	WB8KVT	PL 103.5 Hz	Akron, OH
.58	.68	WA2WJY	O E	Bridgewater, NJ
.58	.68	KD9FA	O A L	Chicago, IL

Access codes
O-Carrier operated
B-Burst tone
(CA)-Private Autopatch
PL-Private line
T-Touch tone
W-Whistle
C-Closed rptr

Special features
A-Autopatch
E-Emergency power
L-Link and or cross-band
P-Portable
R-RACES affiliated
Y-RTTY
Z-Direct access to law enforcement

(During 1980 the ARRL Board of Directors adopted the 10-meter CTCSS (PL) tone-controlled squelch frequencies listed below 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
W0	6B-179.9 Hz	3Z-123.0 Hz
VE	3A-127.3 Hz	YB-88.5 Hz

10-meter CW beacons

Thanks to Al Lotze, W6RO, and the Northern California DX Club's newsletter, *the DX'er*, for the following list of 10-meter beacons. The frequencies are in kHz. This courtesy of Wes Weathers, K6OZK, Lancaster, California.

28200.6 kHz	LU8EB
28202.5 kHz	ZS6VHF
28207.5 kHz	WD4HES
28209.0 kHz	WA1IOB
28210.0 kHz	3B8MS
28215.0 kHz	GB3SX
28215.0 kHz	ZD9GI
28217.5 kHz	VE2TEN
28220.0 kHz	5B4CY
28222.5 kHz	HB2BHA
28225.0 kHz	VE8AA
28227.5 kHz	EA6AU
28230.0 kHz	ZL2MHF
28235.0 kHz	VP8BA
28237.5 kHz	LA5TEN
28240.0 kHz	OA4CK
28240.0 kHz	KA9NEP
28245.0 kHz	A9IC
28247.0 kHz	ZS1CTB
28250.0 kHz	ZS1ANB
28252.5 kHz	VE3TEN
28255.0 kHz	LU1UG
28257.5 kHz	DK0TE
28260.0 kHz	VK5WI
28265.5 kHz	PY5EXD
28270.0 kHz	ZS6PW
28272.5 kHz	TU2ABJ
28277.5 kHz	DF0AAB
28280.0 kHz	YV5AYY
28284.0 kHz	KA1YE/B
28285.0 kHz	VU2BCN
28285.0 kHz	VP8ADE
28290.0 kHz	VS6TEN
28293.5 kHz	LU2FFV
28295.0 kHz	W3VDB
28299.0 kHz	PY2AMI
28302.5 kHz	ZS1STB
28315.0 kHz	ZS6DN
28325.0 kHz	DF0THD
28205.0 kHz	DL0IGI

Please send any undated information to the following address: James C. Kaufman, 5873 Madrona Drive, Ferndale, WA 98248. —*Jim Kaufman, W7UMH* □

West Virginia notes

Ted Wolfe, WD4KHL

Westlink is heard on two amateur repeaters in the Charleston area. One is the WB8CQV (146.28/88) machine in Charleston. The other is the K8SLI (147.87/27) repeater at Scott Depot. One of the rotating anchors for the *Westlink Report* is Jim Davis, KU8R, a Charleston ham associated with one of the area's commercial stations.

Davis, Ken Rupe, WD8AEW, and Bill Hunter, K8BS — all of Charleston — have been experimenting with ATV in the area and may be generating some interest in the mode among other hams in the area.

Davis hopes in 1985 to get an ATV repeater operational from an antenna on one of the WCAW towers in the Kanawha City area of Charleston.

•

Tim Ford, KC8IT, of Mullens, West Virginia, has linked his 147.63/03 repeater with one operating from Poor Mountain in Roanoke, Virginia. His is one of the few linked machines in our area, although I'm sure more linkups are forthcoming. The Charleston WB8CQV machine already mentioned plans to link with the W8KNM (147.66/06) repeater at Point Pleasant, over on the Ohio River.

•

When we picked up another lawman as an amateur and operating on 2 meters, I put together a quick list of other operating lawman amateurs so the new one would recognize fellow officers on the air.

•

The Triple States Radio Amateur Club (TSRAC) has presented its 1984 Amateur of the Year Award to the husband-and-wife team of Don (WB8ZTV) and Kathy (N8EDL) Knollinger, of Moundsville, West Virginia.

It was the first time the club had awarded its highest recognition award to two amateurs for the same year.

The club's Service Award was presented to Bob Davis, WB8WHJ, of Bridgeport, Ohio.

Previous Amateurs of the Year named by TSRAC were: Ed Haines Sr., W8WUX, 1978; Lawrence Wallace, WD8JIK, 1979; Ed Crow, WD8DDE, 1980; William Pingley, KN8W, 1981; Bob Perko, KC8IG, 1982; Jay Paulovicks, KD8GL, 1983. □

Condominium

(continued from page 14)

Salt atmosphere creates corrosion to antennas left outside near the beach. Although one manufacturer of mobile whips makes a unit designed to withstand salt spray, etc., I found it easier to use the quick-disconnect antenna adapter and move the antenna indoors when not in use.

A particular location and grounding point for one band may not be best for the other bands. Marking the separate locations for 10, 15 and 20 makes it easy to change bands.

Keep trying different locations, antennas, and grounding schemes until you find one that works best for you.

Good luck, and good DX from your apartment.

NOTE: Mr. Smith became a Silent Key on 03 October, 1984. Any questions regarding this article may be addressed to: William C. Stevens, W1WEX, 24124 Highlander Road, Canoga Park, CA 91307

Pass it on . . . WORLDRADIO

PUBLIC SERVICE

Hams help injured runners

Scott Fraser, KN6F

The Hughes Aircraft El Segundo Amateur Radio Club participated for the fourth time in the 4th Annual Jimmy Stewart Relay Marathon, which was to benefit the Special Projects Area of St. John's Hospital in Santa Monica. The race was held in Griffith Park, Los Angeles, California, on Saturday 13 April, and it was *HOT!*

The race was started at 9:00 a.m. and the mercury had already climbed to a very warm 90 degrees and eventually peaked at 95 or 96 degrees. The heat coupled with the high humidity and the smog alert, made for a bad time for all runners. Some of the runners scaled back their pace, but others — perhaps pushed on by the team effort of the event — did not. There were a large number of runner injuries ranging from simple blisters, overheating and heat cramps, to collapsing into unconsciousness. This is where the communication team became involved.

The race teams were five-person teams who each ran a little more than five miles, just under a 10k run each. Very early into the race, the troubles began; people started dropping all over the course. The normally quiet job of first aid tent communications became the hot spot of the day. Jim Jones, WB6WWU, was handling the reports of all of the disabled people that were coming in off of the course and also getting the ambulances (which numbered 10 by the end of the race) sent out to the proper location.

The control ops, John Gerlach, K6BRD, and Ed Wagner, K6GQV, were kept very busy handling all of the downed runner traffic, all of the requests for more water throughout the course and just keeping a general flow of race progress information going. All of the miles marker people did a great job of keeping information flowing during the crisis, and we were able to get an ambulance to the exact location of every downed runner.

There were also members of the communications team performing duties as shadows to those in charge of the race. These team members kept those in charge of the race in touch with each other.

One of the more notable shadow duties was the role of VIP escort. Walt Grassl, N6LMT, pulled the envious duty of providing communications escort for actors Jimmy Stewart and Robert Wagner, the co-sponsors of the race. Walt kept the race directors informed at all times as to the actors' location and was able to get them from one place to another as the requests for their presence came in to control.

Another group of duties (parking lot control duties) was performed in the morning by some of the communications team. If you are familiar with Griffith Park, you realize the large distances between the parking lots.

To help with the traffic flow and to minimize congestion in the morning, a team was set up to help out in this area and to notify the entrances when each lot was full so no more traffic would be routed up to those lots.

Another job was the air-to-ground communications between the helicopter (which contained the hospital video crew) and the start area.

The communications team operated on both 147 MHz and on 220 MHz, separating the frequency assignments into locations out on the course on 2 meters and the shadows and first aid on 200 MHz. This accomplished two purposes. The first allowed twice the traffic to be handled simultaneously, and the second allowed more of the club members to participate in the event (i.e., those with capability on only one VHF band).

Red Cross hams in mock quake

Will Carrier, WA6HVX

Amateurs associated with Red Cross were active when a Red Cross mass care shelter was activated during a simulated earthquake drill on Wednesday, 17 April. Among those responding as a result of the 11:30 a.m. mock quake to the mass care shelter in the Memorial Gym at the University of San Francisco, were three members of the George S. Ladd Pioneers Radio Club with the Telephone Pioneers communications van.

Nineteen messages were handled in simulation of welfare inquiry traffic. This traffic went from the WB6FDT van via the club repeater to W6MLK at the Red Cross chapter, then to be distributed by appropriate means to destinations around the country.

Packet Radio was used briefly to simulate passing of shelter information to the Red Cross chapter.

Hams participating were: Morris Payne, K6BXH; Orvan Richardson, W6SOU; Carl Antone, W6OZA; Frank Johnson, W6JWF; Bill Whitlow, WB6LRQ; Will Carrier, WA6HVX; Fred Bray, KE6CD; and Curtis Spangler, N6ECT. □

Rehearsal for havoc

Lenore Jensen, W6NAZ

The earth shook with a magnitude of 8.3! Instant devastation over much of southern California!

Fortunately, it was a pretend exercise 18 April, but everyone involved performed as if it were real. Amateur Radio was busily involved in the enormous test covering seven heavily populated counties. The supposed damage was so great that at one point, Amateur Radio was the only communication available.

The event was scheduled for the 79th anniversary of the dreadful San Francisco quake and fire which left 300,000 persons homeless.

An 8.3 shake today on the feared San Andreas fault would cause an estimated 30,000 to 80,000 deaths. Thus, California's Office of Emergency Services helped plan what was probably the largest earthquake exercise ever held, involving most state, city and county agencies.

Communications would be severely hampered; all telephone systems as well as power and other utilities were "not functioning." Think about it. No water, no sewage system, no gas — highways collapse, houses fall onto their inhabitants, animals run wild and many hospitals would be damaged. The coroner would receive countless calls for help.

How could Amateur Radio operators help?

RACES, working from its well-equipped operations center at the Los Angeles Sheriff Command Center on a hilltop just east of downtown Los Angeles, called up about 250 of its members and assigned them to 20 outlying sheriff stations. Dave Jensen, WA6HXF, was the volunteer serving as Chief Communications Officer along with staff members SGTs Carl Kennedy, WB6TDE, and Rudy Lovio, KB6BXE.

A thick scenario had been prepared for the sheriff, county fire, CHP, public works, jails, etc. Each had many messages which would have to be transmitted to its appropriate agency, asking for help. These were funnelled into the sheriff center, where 14 operators were stationed. Special temporary authority allowed RACES to operate under the call WC6ABD, using their assigned frequency for disaster.

In another group, the Los Angeles County Fire Department invited the assistance of ARES, under the leadership of ARRL Section Manager, John Walsh, N6UK. First, holding two advance meetings with all hands, a plan was worked out which would place teams of operators at each of seven Division headquarters. More would man the department's emergency operations center which would receive messages from each.

In the field, operators sought their own means of getting through via 2 meters, some by simplex, others through repeaters capable of emergency power.

The Fire Department EOC was on a hilltop not far from the sheriff center. Assuming their usual telephone system was out, radio was used between the two.

It was an excellent test of voice message handling, with more than a 98% perfect copy, according to Fire Department officials.

Of course, it was realized that even emergency-powered repeaters could be knocked off the air. Hence, current thinking must consider relay by simplex as a final resort.

Among the many chapters of the American Red Cross involved, the Los Angeles group operated in their planned format from the main station in Los Angeles, contacting five different district offices by their usual 47 MHz frequency, augmented by amateur frequencies 40, 10 and 2 meters as well as 220 and 440 MHz. West Operations headquarters at Burlingame in northern California was in direct contact.

Packet radio was given an excellent workout to and from Harold Price, NK6K, operating in Los Alamitos at the State OES.

Messages for the Red Cross mainly concerned the opening of shelters, damage assessment and injury reports.

The chapters in Riverside, Rio Hondo, Pasadena, Orange and Long Beach were similarly busy.

As usual, those concerned stressed the need for advance training by *all* Amateur Radio operators for careful handling of written traffic, whether it be by ARRL message forms or merely relay of needs by voice. Slow, distinct speaking is essential, especially considering the emotional impact of a true disaster.

Among the commendations to amateurs received was a note to John Walsh from Assistant Fire Chief Ray Shackelford, "Because of your assistance, the Fire Department was never over five minutes behind in crucial radio traffic."

Geologists predict the strong possibility of a major quake before the century is out — tomorrow or years from then. Amateurs will do well to train themselves in advance. QRV? □

During "Quake '85", teams of southern California official agencies and Amateur Radio operators worked closely together. ***(Photo by Bob Jensen, W6VGQ)***

Bicycle Classic

Fort Myers, Florida hosted the two-day Flex Bon Bicycle Classic on 20-21 April. On Saturday, 20 April, the event was a grueling 57-mile road race and on Sunday, the bikers participated in a 40-lap race in downtown Fort Myers.

The members of the Fort Myers Amateur Radio Club, who helped with communications in the races were: Bob Strathy, WV4F; John Marshall, K4GVI; Matt Matteson, WO4D; Harry Arnold, K9ALX; Louie Bal, WD9AEP; Paul Horton, K4OVC; Lucille KI4ZW; Elmer (KZ8O) and Peggy (KY8Y) Cummings. □

Above and beyond

On March 19, 1985 two amateurs acting with speed and personal effort helped a family that faced a seemingly impossible situtation.

Walt DelConte, WD6EKR, of Salinas, California received a call from a woman stating her father was critically ill in a San Francisco hospital and not expected to live through the night. The problem was that the son of the critically ill man was vacationing somewhere near the Salton Sea, and could not be contacted. The only clue to the vacationing family was that they were in a white converted school bus. (Sheriff and CHP could not help without more information.)

Walt, WD6EKR, listed the traffic on the "San Joaquin Net", 3918 MHz. Immediately Travis Dewey, WB6AMG of Oroville, California, also vacationing at Fountain of Youth, took traffic and said he had spotted the bus and delivered the traffic.

From origination of the traffic to delivery, one hour and thirty-five minutes elapsed. A task that public agencies would not assist with was dispatched and delivered in minutes by amateurs. It is a good feeling to know there are people out there who will go the extra inch for total strangers in this day of mistrust and apathy. These two hams, members of the San Joaquin Net, who check in daily anticipating and willing to assist fellow human beings in need, are just two examples of the thousands out there who answer roll calls day in and day out.

All in all, in my opinion amateurs are a pretty classy group of folk. — *Submitted by Bob Babcock, KF6QA*

Contact Worldradio for hamfest prizes.

Educating the public

Following is an editorial written by Evans M. "Mac" Crush, WB4UOI, which was in the Richmond News Leader on 09 November 1984. It's an idea that might catch on in other cities. Why not spread the news about Amateur Radio by writing a letter to the editor of your newspaper?

Crush is very active in Amateur Radio. He is Emergency Coordinator for Henrico County ARES, Communications Officer for the Virginia Capital District of the American Red Cross, director of the Amateur Radio training classes in Richmond, Virginia, and also coordinator for the volunteer examiner program in Richmond.

You probably have heard of Amateur Radio, and you may have heard that Amateur Radio operators are called "hams." No one seems to know why they're called hams; there are many versions. But there are more than 410,500 operators in the United States, several thousand in Virginia, and about 400 in the Richmond area. They are men and women from all walks of life.

Every minute of every day, hams are communicating with each other — maybe over in the next block or over on the other side of the world. Hams constitute a global fraternity, and a very friendly one. Many hams enjoy a good "QSO," or "Rag Chew" as they call it. This gives them an opportunity to learn about each other and about other countries — as well as their own.

Amateur Radio is an excellent way to enhance international understanding. How else is it possible to talk to an electronics engineer in Tokyo, a businessman in Los Angeles, a policeman in New York, a trapper in the wilds of Canada, the head of state in a Mediterranean country, a high school student in Australia, a sailor aboard a ship at sea, or a U.S. legislator?

Morse code

Hams communicate by means of signals sent around the world via the ionosphere or by use of radio waves beamed from mountain top to mountain top. Moreover, orbiting satellites built by hams are being used for communications. And some signals are bounced off the moon. Hams talk by Morse code and by voice; many use radioteletype, facsimile and various forms of television. Now the computer is becoming an important part of Amateur Radio.

To become a ham, one first must pass a Federal Communications Commission (FCC) license exam. The Novice Class license (the first of five license levels) requires learning the International Morse Code at 5 wpm along with a minimum amount of radio theory. This will get beginners on the air with code privileges. Many hams prefer to talk to each other by code, even using special signals to bridge language barriers.

Ham bands

To talk on the ham bands using radiophone, one must pass a more difficult FCC theory exam for a Technician's license. For the next class of license (General), one must pass a 13 wpm Morse code test; theory requirements for the Technician and General Classes are the same.

Still higher up the ladder are the Advanced and Extra Classes. Both have stiffer license requirements. An Extra Class ham has maximum operating privileges.

The FCC, Amateur Radio's governing body in the United States, prohibits hams from operating their stations (or "shacks") for money. Indeed, they cannot even discuss money matters on the air.

But one of the top activities of Amateur Radio is public service. Hams work closely with the Red Cross and with civil defense, fire and police authorities. Amateur Radio operators in the Carolinas played a major role during hurricane Diane, for example. They passed along many health and welfare messages when telephone service was knocked out.

Hams in this area will play an important part in the forthcoming Simulated Emergency Test at the North Anna nuclear facility. And hams annually participate in numerous public-service projects.

Radio has come a long way since Guglielmo Marconi launched the Wireless Age in 1901. After years of experimentation, finally — in an abandoned Newfoundland barracks — he heard a Morse code "s" transmitted to him across 2,000 miles from Cornwall, England.

In the ensuing 83 years, hams have played a crucial role in radio's advancement — in science, in service, and (most of all) in communications. □

Working GTs

Edward Hopper, W2GT

Between the years of 1948 and 1961, without any schedules, I had the pleasure of QSOs with: DJ1GT, DJ8GT, DK5GT, DK8GT, DL2GT, DL5GT, DL8GT, DU1GT, DU1GT, EA3GT, EA4GT, EA9GT, F7GT, F8GT, G4GT, JA1GT, LU7GT, K2GT, K4GT, K6GT, W6GT, W8GT KH6GT, CM6GT, OA4GT, OE3GT, OE5GT, OK1GT in 1948 and reassigned OK1GT in 1961, ON5GT, PA0GT, SV1GT, T18GT, UV3GT, VE1GT, VK2GT, VP5GT, VP6GT, VQ4GT, VS9GT, ZC4GT, 4X4GT and 5Z4GT.

I received QSLs from all but LU7GT and UV3GT. And last month I worked and received a QSL from KB3GT. □

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Contact Worldradio for hamfest prizes.

OFF THE AIR

Another view on Packet

Been reading about, and listening to discussions on Packet Radio. Some seem to feel Packet will replace CW/AMTOR/ASCII and RTTY on all bands.

At a recent hamfest one proponent of Packet advised those attending to "get rid of your RTTY/CW/AMTOR/ASCII gear now; by the end of the year Packet will be the only mode used on those subbands, and you won't be able to give that other stuff away." Yes, he said it with a straight face.

Personally, I believe Packet will never completely replace the other modes. In the future it may have some uses, but unless prices come down it will, as satellite communications still are, remain a wealthy ham's toy.

After all, why pay $400 for an interface capable of only doing one thing? For about half of that you can get an interface useable on RTTY/CW/AMTOR/ASCII.

At the same hamfest one Packet proponent said that Packet gear prices will be under $200 "before the end of the year." He didn't specify in what year this miracle will take place.

Unless the prices come down, or an interface becomes available that will handle ASCII/AMTOR/ Packet/CW/RTTY, or both, Packet will go the way of NBVM. In 1979 and early 1980 Narrow Band Voice Modulation was supposed to replace SSB, but died rather quickly.

Now if someone wants to prove me wrong by lending me a Packet system, fine; go ahead, I'll try it. So those of you who can afford Packet, fine — use it. but don't use Packet as a license, so to speak, to denigrate another person's enjoyment of ham radio because he or she uses modes other than Packet.

GARY PAYNE, KE6CZ
Fresno, California □

Hearing aid idea

There are times when a certain handicap can be used to an advantage.

I wear a hearing aid now because of a process called aging. The unit I have has a switch position for listening when on the telephone. This is fine if your telephone uses the older inductive speaker piece. but mine does not.

I have found this telephone position very handy in the ham shack. First, of course, it makes for a better relationship with the XYL. It bothers her if I monitor CW with a speaker going while working around in the shack. CW carries all through the house.

Second, I can monitor and copy directly into the ear and move around the room without being tied to a set of earphones. This also helps by not amplifying other unwanted background noises.

The third use of this phone position is to record code practice, broadcast, etc.

I have simply tied a loop of wire to each side of a receiver output jack or phone jack and run the loop around the walks and over the door casing of my shack. I find it works best at about 5 feet from the floor. I set my hearing aid on phone position and adjust both volume levels to suit me. To help your receiver output, you could use a matching transformer.

I have a small all-band receiver that has 2 meters on it with an earphone jack. I made a small wire loop that just fits under the head doily of my easy chair. I monitor my favorite repeater with one ear while watching the TV, or just listening to a TV channel. This last helps if the XYL wants to talk on the phone with the audio of the TV turned down, or is not interested in the program.

To record on a cassette, I just drop an inductive telephone pickup over the wire loop and plug into the cassette mike input. Again, people can walk in, talk to you and still not disturb the recording process. I find the recording level is about the same as my listening level.

I would like to hear of any improvements anyone might make, or other comments.

FRAZIER DAVIDSON, W7PGB
Eugene, Oregon □

Watch for outdated addresses

Clyde Stanfield, WA6HEG, had a good point in his letter which appeared in the June 1985 issue of **Worldradio** (page 19). It would seem, however, that he is putting the cart before the horse.

Section #97.95(z) of the rules requires that "when the authorized fixed station location is changed, the licensee shall submit an application for modification of the station license in accordance with #97.47."

Since the Callbook uses FCC license records as its primary source of information, complying with #97.95(z) will automatically notify the Callbook.

Those with addresses "two years out of date" are clearly in violation of #97.95(z).

Scruples about being a "tattletale" aside, perhaps one should notify the FCC upon discovering an address that is "two years out of date."

JOHN ELSON, W6FI
Carmichael, California □

Thanks, VE's!

THANKS to all the volunteer examiners who give of their time to help us upgrade. Now I don't have to travel 50 or 100 miles to take a test to upgrade. Thanks again, VE's.

ALBERT PLAZA, N7GWQ
Klamath Falls, Oregon □

Mmmm . . . good!

In **Worldradio**, you ask for input on various oddities from readers Please find enclosed a bread wrapper. Up here in the high Arctic, 911 miles from the geographic pole, I eat RADIO bread (see wrapper). I live, eat and breathe radio!

BOB JAMES, VE8DX
Pond Inlet, NWT, CANADA □

Six-ham family

Gladys Tashiro

On the day the Fischer quints were born in South Dakota, the Toshio Okinishi family in Hanapepe had occasion to also share a new sense of pride in the number five.

As news flashed around the globe spreading word of the exciting South Dakota event, the mails delivered an envelope (cherished by all radio amateurs) containing a new radio station license and bearing the call letters, WH6FHQ, to Sylvia Okinishi. Thus the Okinishis became Amateur Radio "quintuplets." Since then, their son Jan got his license and they are now Amateur Radio "sextuplets."

Their radio history goes back to the year 1931. Toshio Okinishi with much pride says, "I was the first radio amateur on Kauai to set up a station and go on the air in 1931 in Waimea . . . 50 years later, I am still actively operating a station."

He recalls starting a station with call sign of K6CQV until World War II when all amateur activity was stopped. When the amateur activity was allowed, the call letters were given according to application and he was licensed as KH6SN.

The Okinishi family: (seated, left to right) Sylvia Humphreys, KH6FHQ; Mrs. Okinishi; Toshio Okinishi, KH6SN; Madge Kanno, WB6DXO; (standing, left to right) Willis WB6GAE; Jan WH6IMA; and Robin WA6SJF.

Just as laughter can be contagious, so was his enthusiasm for Amateur Radio, which has since spread to all of his children. While they were in high school he taught all of his five children the art of Amateur Radio, and all received their licenses while in high school.

His first son, Robin, received his license, KH6BMD, in 1956. Robin, a graduate of Los Angeles State College, resides in Berkeley, California, and now has the call WA6SJF.

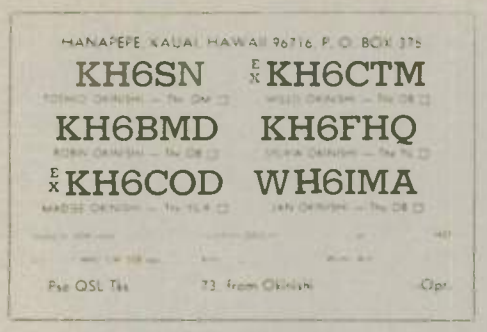
In 1953, daughter Madge passed the exam and received the call KH6COD. Since graduating from Los Angeles City College, Madge Kanno has been working in California where she operates as WB6DXO.

Another son, Willis, became KH6CTM in 1959. Willis has since been issued the call WB6GAE while attending Los Angeles Technical College. He now resides in Pacifica, California.

Another daughter, Sylvia, now Mrs. Humphreys of Ewa Beach, Oahu graduated from Waimea High School in 1969 and was licensed KH6FHQ.

Before graduating from Waimea High School in 1979, son Jan was licensed WH6IMA. Recipient of the scholarships from the Frank Ganett Foundation of $1,000 for four years; the Heftel Foundation, $500; and the Kauai Buddhist Women's Association, $200; he attended U.H. at Manoa and later UCLA, and graduated Magna Cum Laude last year and lives in Los Angeles.

The five Okinishi children and daddy make six Amateur Radio operators in a family, a very unusual accomplishment. Toshio does not profess to have a hidden secret for such family radio interest. He



does know that with guidance, his children learned the code in as little as four weeks and that the enjoyment derived from becoming radio amateurs has proved to be well worthwhile to them all.

On his 75th birthday, all of his children returned home to surprise him with a party at the Kintaro Restaurant. "It was just like the childhood days at the Okinishi home, except that they are all grown up now," Toshio said happily.

His birthday present from the children was a Heathkit transceiver with vertical antenna all set to operate as the old transmitter was ruined by Hurricane Iwa. "This could never have happened without their mother who sacrificed, gave encouragement and love to all of our children," Toshio said, appreciatively.

Although 75 on 10 February, he works for the **Hawaii Herald** as its Kauai representative and still delivers the **Honolulu Advertiser** to 40 subscribers on his bicycle. 01 March marked his 10th year of delivering papers which was started by his son Jan at the age of 11. When Jan graduated from high school and left for college, Toshio continued serving all of Jan's subscribers, first with the **Honolulu Star Bulletin** and later the **Advertiser**.

With a sense of accomplishment, Toshio said, "During those years, the district managers have changed more than 10 times, but the carrier at Hanapepe Heights who delivers every morning has not changed for 10 years. During the 10 years I never missed a day except one Sunday, when my daughter got married in Honolulu and and I couldn't come home in time."

— *The Garden Island, Kauai, HI* □

Be safe, not sorry

It sure was hot on 09 July, so when George Noyes Jr., W1XE, called to tell me he'd finished installing his HF mobile gear, I suggested we go someplace cool to try it out. Soon we were on our way up to Mt. Evans (Colorado), working a few stations on 20 meters along the way. At one point, KDOU/mobile and I answered the same CQ at the same time! No doubt, this was a bit confusing — "Uh, the zero uniform mobile, go ahead!?!?"

We never did get to the top, and therein lies a lesson for anybody who operates a mobile rig. Somewhere near the 13,000 ft. level, a very bad smell started filling the cab, and the voltmeter was jumping all over the dial. It seems that some tools rattling around under the seats had shorted out the power leads to the 2-meter amplifier. Sure, there was a fuse — but it was located on the wrong side of the short, so it didn't do any good!

George stopped, and we opened the hood and pulled off the wires. All told, the damage was burned wires on both the HF and VHF gear, a cut burned through the carpet by the hot wire, blisters on George's hand, and a throttle cable with the plastic housing fused to the working parts. This was certainly bad enough, but think: what would happen if a hot wire cut through the fuel hose?

We finally figured out how to rig a rope as a hand throttle, and limped back to Broomfield where more permanent repairs could be made. (Murphy's Law: Your car never breaks if you have the right tools to fix it!)

The moral of the story is to put a fuse *right at the battery* when you run those wires right to it, like they show in the instruction book. The fuse that comes with the rig is probably right next to it, where it can't protect all the wiring. Be sure to put it in the *ungrounded* wire. This fuse can be rated higher than the original one, as long as it is the right size; (i.e., I'd use a 20 amp fuse for AWG 12 wire) to protect the wire and leave the original fuse in.

Does all this seem like too much bother? Figure out how much the fuseholder and wire will cost, add in the bother of half an hour to install it, and compare that to the cost of repairing or replacing your car after it catches on fire. Then check your wiring, and make it safe before it's too late!

—*Boulder ARC, CO* □

Easy mark

Lots of hams, including myself, have mobile units in their cars. Most of these have various switches such as ON, OFF, etc Most of these are made of black phenolic plastic and are rather hard to read at a glance when driving. Also, when leaving the car after locking the door, it is confusing to take a quickie recheck through the window due to reflections, shadow, etc.

To cope with this problem, get a roll of masking tape and cut small slivers to stick on the knobs in the normally closed position. With this as a reference point, it becomes easier to read the dials even when driving down the road since, at a glance, you can tell instantly where you are. — *George Burnley, WA6DZD*

• *Pass it on . . . WORLDRADIO* •

STATION APPEARANCE

Can you imagine what your radio station will look like in 40 years? For a start, look at the difference between these two stations of Joe Strazzarino, W6BWZ's. One was taken in 1945, the other in 1985.

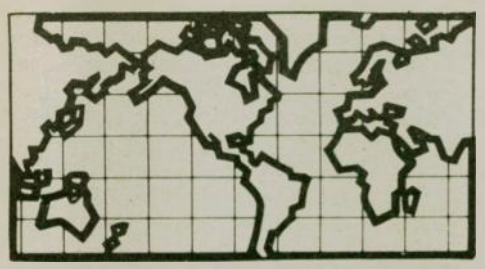
Joe, who lives in Sacramento, California, built his first radio in 1921 and worked in electronics all his life. He worked with radar in World War II (Army) and 20 years for the Air Force at McClellan AFB in North Highlands (a suburb of Sacramento). He's been retired for the past 11 years.

This station has been active in MARS programs, Red Cross nets, handling emergency traffic on 10 and 20 meters, and also checks in on the Elks Emergency Net daily at 14.328 MHz.

Joe has been an active club member; he's past director of the Sacramento Radio Club, Radio Amateur Mobile Society, and past treasurer (for 11 years) of the North Hills Radio Club.

1945: Two PR-10 Patterson receivers, one preselector, one SW3 National. Transmitter at left, 50 watt 203A, final modulated Class A, with two 845 tubes.

1985: Solid state transceivers on each band — all Yaesu equipment.



DX WORLD

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

Activities Calendar

22-23 June	ARRL Field Day!
13-14 July	IARU Radio Sport
10-11 August	DARC European DX Contest (CW)
24-25 August	JARL All Asian Contest (CW)
14-15 September	DARC European DX Contest (SSB)

For details on the above events refer to your latest issue of "CQ". Check 'Contest Calendar' prepared monthly by Frank Anzalone, W1WY.

If you are active in Field Day this year be sure to work N6WR, **Worldradio** crew of operators.

W-100-N

We had one application this month, but unfortunately we had to return it. The applicant missed one very important point, being that all contacts must have been made since 01 January 1978. This date is now seven years ago and later QSL cards should not be hard to find.

Philip Lawrence, W1RFW, writes concerning points that quality under the W-100-N rules:

1. A DX operation but with a "government authorized" amateur radio station and call issued by the local government, (i.e. A22GD operated by SMØAGD).
2. An established club station operated by a visitor, (i.e. GD4UFB operated by a DL).
3. A permanent license to a non-permanent resident, such as a ZF2.
4. A call listed as a regular call in the Call Book.

The answer to all of the above is yes! Back in 1977 when Charles Signer, WA9INK, then **Worldradio** DX Editor, and myself, then **Worldradio** Awards Editor, developed the Worked 100 Nations Award, we had in mind that only nationals would count for this award. No reciprocal calls, (such as HL9, ZF2, ZLØ, etc.), would qualify. Of course, this was to make sure that the calls were to be that of nationals. But we realized that it doesn't always work out that way, as some countries do not issue reciprocal calls, so calls would be issued to both visitors and nationals. Therefore, the requirement for all contacts to be made with nationals of the country worked was eliminated. The only restriction on this is the "portable" calls such as SMØAGD/3B8.

Of course, any applicant who wants to take this as a challenge, could submit an application with only nationals involved. It shouldn't be hard to do. . . .

North Korea (P4)

"DX News Sheet" reports that an amateur from East Germany will be in North Korea, (People's Republic of Korea), for eight weeks beginning May 2nd and will make an attempt to obtain a license. Presently, North Korea and South Korea count as one for DXCC purposes. Check 14.020, 14.040, 14.120, 14.140, 21.020, and 21.040 MHz.

St. Brandon Island (3B7)

It appears that Eric and company never got to St. Brandon Island as the PTT authorities refused to grant a license to a foreign amateur. It seems that only amateurs who reside on Mauritius will be able to get permission to operate there.

In the May issue there was an item concerning Taher Baccus, 3B8DB, possibly going to St. Brandon in June or July — if he could obtain a linear amplifier and antennas. Nothing further has been heard on this one.

Revilla Gigedo (XF4)

The Mexico DX Club did manage to activate this one, but for only 48 hours the weekend of April 21. XF4MDX was the call and if you worked them send your QSL requests via the Mexico DX Club, XE1MDX.

Uganda (5X5)

Chuck, KC7UU, who was a speaker at the last Fresno DX Convention, plans to be back in Africa soon for an extended stay of 7 to 9 months operating in Uganda. He sees no problem of getting on the air, hopefully as 5X5UU.

As for Gerry, 5X5GK, he does have permission to operate, except that it is verbal permission. Gerry has been busy on 20 meters and has been reported on 14.182 MHz or close by from 1945 UTC.

Down on CW near 14.025 MHz 5X5BD has been reported at various times between 1730 and 2230 UTC. We don't know the validity of this one either.

Algeria (7X2)

"The Long Island DX Bulletin" reports that Sadek, 7X2LS, is on the air often near 14.183 MHz from 2000 UTC, and down on 75 meters, on 3.799 MHz from 2230 UTC. He has also appeared higher in the 20 meter band at 14.200 MHz and has been on as early as 1700 UTC.

Other calls reported include 7X2HM on 14.200 MHz at 2115 UTC, 7X2KS on 14.182 MHz at 2130 UTC and 7X2AB on 7.004 MHz at 0315 UTC.

Luxembourg (LX)

Active on 20 meters is LX1JP who has been reported often near 14.027 and 14.042 MHz, 2130 and 1315 UTC, respectively. He has also appeared on SSB on 14.224 MHz around 2100 UTC.

On 40 meters a station signing LX1BJ has been reported on 7.014 MHz at 0730 UTC.

Monaco (3A)

The boys from Monaco have been keeping the deserving happy. Joe, EA5AGY, has been busy operating as 3A2TO and has been reported between 14.170 and 14.210 MHz, from 1230 to 1400, and 1830 UTC. Also on the band is 3A2AF, who has been reported operating SSB on 14.227 MHz around 1230 UTC, with another call 3A2AH on CW near 14.031 MHz at 2030 UTC.

"DX News Sheet" reports that Claud, 3A2LF, advises that the calls 3A2TO and 3A2CZ are both pirates and that the Secretary of ARAM has confirmed that licenses for these calls have not been issued. The station signing 3A2CZ had been operating on 40 meters, CW, working Europeans. As the station signing 3A2TO had been fairly active, there should be more on this matter in the future DX news bulletins.

Greenland (OX)

We heard a Greenland station on 20 meters recently and judging from the pile-up there are several DX'ers who need this one.

OX3OA has been busy keeping things busy on 40 meters and has been reported 7.005 MHz from 0030 UTC. Also on this band is OX3CX on 7.004 MHz at 2245 UTC and OX1ER on 7.002 MHz at 0815 UTC.

The 20 meter band has been represented by several stations, including OX3UD near 14.040 MHz from 1600 UTC, OX3UR on 14.024 MHz at 1800 UTC, OX3KM on 14.226 MHz at 1700 UTC, OX3HX on 14.240 MHz at 2200 UTC, OX3FG on 14.227 MHz at 0200 UTC, OX3BJ on 14.221 MHz around 2030 UTC, and OX3AX on 14.020 MHz at 1915 UTC. Obviously, there is enough here to keep both the CW and SSB operators happy.

Easter Island (CE0Z)

An active station on Easter Island recently, is CEØZIJ. As reported in "The Long Island DX Bulletin," he is on 40 meters daily near the bottom edge of the CW band from 0200, UTC. Later in the day he comes up on 75 meters near 3.790 MHz after 1000 UTC.

Other activities from the island is Father Dave, CE0AE, the DXer's old friend, who has been reported near 3.795 MHz around 0730 UTC. On 20 meters, CEØZIQ has been worked on 14.026 MHz at 2245 UTC along with CEØFFD on 14.030 MHz at 2330 UTC.

Malaysia (9M)

This country consists of two DXCC countries, East and West Malaysia, but only counts as one for **Worldradio**'s Worked 100 Nations Award. Back in 1963 the two counted only as Malaya.

East Malaysia has been represented by 9M6MA who has been reported on 14.210 MHz at 1645 UTC working Europeans. Ted, 9M8EN, has also been active since December 1984 and has been found near 14.220 MHz after 1500 UTC.

From West Malaysia at least three stations have been reported. On 40 meters 9M2FK has been worked on 7.005 MHz around 1230, UTC, working the West Coast, along with 9M2RT on 7.006 MHz about 0030 UTC working the East Coast. On 20 meters, look for 9M2HB who has been reported on 14.227 at 2300 UTC.

Sri Lanka (4S7)

Not much to report on this one recently. The only station that we have seen reported recently is 4S7EK, who was listed in "QRZ DX". This one appeared around April 17th on 14.214 MHz around 1630, working Alaska.

Prefixes

To commemorate V.E. Day, there are several prefixes appearing on the bands. The Soviets are in there with many 'E' prefixes, and a few other countries have joined in.

In East Germany, Wolf, Y39XO, was active early May with the call Y40BER. Operating from Berlin, a contact with this station counts as one point for the "Victory 40" Award. We assume that that is the Soviet's Victory 40 Award. Also from East Germany, Y40SEE was active from Seelow.

In Mongolia, two anniversary calls have been reported; JV1UB, and JV2HG. Cards for the former go via JT1KAA and the latter to JT1BH.

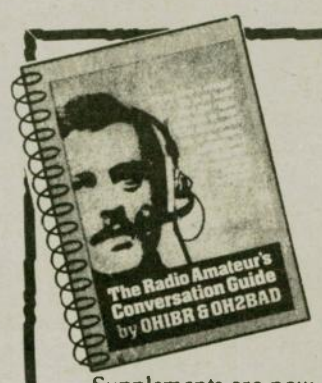
The Hungarians are in there two, with the special prefix HG40. Several stations have been reported using this call and are listed under QSL routes.

In addition to the World War II anniversary calls, the Soviets put on the special call of LY4L at Gebiet Uljanowsk, (Oblast 164), to commemorate the 112th Anniversary of the birth of Vladimir Lenin. Other calls have been used to commemorate his birth; UX4L (1981), UY4L (1982), UZ4L (1983), and EN4L (1984). This year's prefix was the pre-World War II allocation to Lithuania.

Fourteen other stations were scheduled to commemorate the event on May 26th, using the special prefixes R4 and U4 (0700 to 0900 UTC). Cards for LY4L go via Box 88 in care of UA4LM.

Grupo Argentino de CW

Grupo Argentino de CW, (GACW), is an active club with over 150 members. The group is dedicated to keeping CW active, and publish a monthly newsletter, in



Spanish, course. The June South America CW Contest which is held each year is one of their efforts. Carlos Rodriguez, LU2DFX, is one of the driving forces behind the group.

IOTA

"DX News Sheet" reports that the following Norwegian islands have the following resident calls:

EU-33	Vesteralen Island	LA1H, LA2IE, LA4LY, LA7A, LA9JD, and more.
EU-36	Hitra Group	LA9PX
EU-44	Kvaloy Group	LA6BF, LA7CM, LA7KW, LA7QK
EU-46	Senja Group	LA1CI, LA3T, LA3TQ, LA4NE, LA5BS, LA6GX, LA7DQ, LA8MCA, LJ3J
EU-55	Solund Group	LA1WO, LA4CM, LA4DM, and more
EU-56	Nordoyane	LA2QAA, LA6MDA, LB7SB
EU-61	Hval Islands	LA1VM, LA5OC, LA7DB, LA9TN
EU-62	Donna Group	LA6WEA, LA8YBA
EU-76	Lofoten Island	LA3YW, LA5RX, LA5TU
EU-79	Soroyane	Nil??

In addition to activity on the Norwegian islands the following have been reported:

AS-05	Dickson Island	UA0BBP 14.021 MHz 1615 UTC
AS-28	Kotelnyy Island	UA0QFI 14.140 MHz 0830 UTC
EU-01	Rhodes	SV5TS 14.097 MHz 1730 UTC
EU-44	Mageroy Island	LA6BF 14.205 MHz 0900 UTC
EU-75	Spetsai Island	SV0BT 14.219 MHz 1615 UTC
NA-80	Abaco Island	DK6NN/C6A7.002 MHz 0400 UTC
OC-70	Saparua Island	YB8VCE 21.233 MHz 1200 UTC

The recent Equitorial Guinea DXpedition by Carl and Martha Henson was operated from Bioko Island and counts as AF-10.

In North America, Sam Beverage, W1MGP, says that his location on North Haven Island in Maine counts as IOTA reference number NA-55. North Haven is one of the Fox Islands in Knox County, near Rockland. If you need that one contact Sam at RFD 1, Box 858, North Haven Island, ME 04853.

San Felix QSL cards

Mickey Gelerstein CE3ESS, who was associated with last fall's CE0AA San Felix DXpedition informed the DX crowd at the recent Fresno DX convention that if they had not received their CE0AA cards by May 15th, to send a letter to P.O. Box 700, Santiago, Chile. Mickey said not to send additional cards, IRC's, or other funds just give details of your contact. He commented that the delay could have been due to many reasons; in particular, several cards being sent with only one SASE, which might be a problem with *one* of the contacts.

So, if you haven't received your card by now, a letter to Box 700 is in order.

Clipperton

About two weeks following the final QSO of the Clipperton DXpedition the Yasme Foundation had received over 70 pounds of QSL cards. At that time the DXpedition team had not chosen a QSL design. As you realize, over 30,000 contacts were made. This of course, is going to require a enormous amount of time to

Pat Bacon, WA7NIN, with native Clippertonians

fill out all those cards and ship them to the lucky DX'ers who made contact(s) with FO0XX. Therefore, be patient! Don't bug 'em! You will get your card or cards within a few months.

Computerized DX EDGE — a review

Tony Japha, N2UN, who is President of Xantek, Incorporated, sent us their computerized version of their DX EDGE, that is now available for the Commodore 64™ personal computer.

The computerized version of the DX EDGE gives all the DX advantages of the original plastic version, and additional flexibility as well. We have previously discussed the plastic version.

Xantek claims the following features of the computerized version of the DX EDGE:

- The Gray Line automatically moves across the map in real time, if desired, so that its position is always accurate. This actually simulates the rotation of the earth.
- The position of the map may be changed to put any area of the world in the center of the screen.
- Meridians and parallels can be placed anywhere on the map to accurately pinpoint any QTH. QTH's can be specified from the DXCC countries list prefixes or from the 40 Zones.
- Sunrise and sunset for any QTH in the world are easily seen.
- New Gray Line curves every 15 days for great accuracy.
- Detailed map, not the usual straight line maps seen on personal computers.

At the present time we do not have a home computer, therefore, I asked George Leone, K6SG, a local DX'er and contester, who has a Commodore 64™ personal computer to evaluate the product for us. George, in turn, gave it to Jim Pearce, N6ESV, who did the evaluation for us. Jim's comments are as follows:

"The program is a good one, but a few problems really distract from its value, particularly in the case of a non-zealot DX'er like me. First, the color selection option isn't correct. I didn't take the time to figure it out, but when I choose yellow and get green, it makes me wonder about the rest of the program.

"Second, the option to change the position of the map results in an agonizing slow rebuilding of the display. I didn't time it, but it must be at least ten minutes. From a professional programming standpoint, one expects quick machine language routines to make screen changes almost immediate. This goes for the drawing of the QTH lines and the redrawing of the Gray Line Curve as well. (the instructions acknowledge that 5 minutes out of every 14 is spent updating the screen).

"Third (I may be wrong on this one), there doesn't seem to be any way to have the QTH lines, the map, and the Gray Line Curve in different colors, which would greatly facilitate viewing the map.

"After it gets going, it is interesting to watch. Unfortunately, I won't have time to evaluate its usefulness in hunting DX, and since my wife and I always fight over the computer, if I get a DX EDGE, it will probably be the manual model."

The DX EDGE is used for all bands from 1.8 to 30 MHz. On the higher frequency bands, paths fully in daylight are often desired. On the lower bands, (40, 80 and 160 meters), darkness paths are used. Finding darkness paths for these bands will be particularly rewarding during the current years of low sunspot activity.

The price of the computerized version of the DX EDGE is $34.95. A single disk and full instructions are included. It is available direct from Xantek and through dealers. A free information flyer is available. For further information, or to order direct, write to Xantek, Incorporated, P.O. Box 834, Madison Square Station, New York, NY 10159. *Note: Tony Japha informs me that a much faster version of DX EDGE will be available in the near future. It will be exchangeable for a $1 handling fee.

80 Meter chaos!

Kent Reinke, KF7S/KL7, wrote the following to the Western Washington DX Club, in their official newsletter, "The Totem Tabloid". Anyone who operates down on 75 meters should read this and ask himself if he is guilty of contributing to the chaos there. Kent writes:

"I am serving in the USAF out here 174E, 53N, on Shemya Island — a small tundra covered atoll at the western end of the Aleutian Islands. The DX from here is fantastic to say the least. On 80 meters, (my favorite), I have almost 100 countries in 5 months of operation.

"My only gripe about 80 meters is the way some DX'ers handle themselves. My friend BY4AA stopped by to say hello, (on March 29th Ed.), and asked if I could assist him in working North America. For the next hour it was total *CHAOS!*

"I was trying to help as many through as I could by taking a list of 5 stations at a time. As stations tried to get reports from BY4AA, at least 10 to 15 people kept calling, no matter how many times I told all stations to stand-by. Then there were the deliberate QRM'ers, cat-callers, tuner-uppers, blowing in the mic'ers, etc. Plus about six or seven cussing me out for

some reason or another. I was so disgusted, I almost shut the rig off.

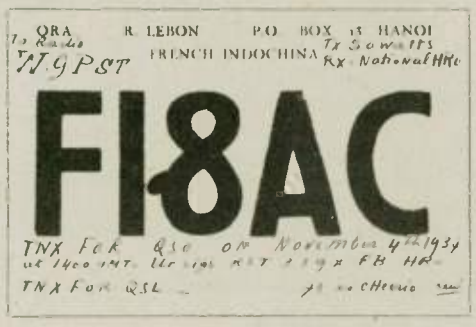
"I have run BY4AA, BY5RA and BY1PK on 80 meters. But in the future when some 'BY', 'HL', 'JT', 'KC6', etc. shows up, I would like a West Coast station with a good beam to assist in keeping everyone quiet. I must have heard 50 different ways to 'run' him, but BY4AA, (VE7BC visiting), wanted it run the way I was doing it.

"If anyone has any ideas on how to keep everyone quiet when a DX station is talking, I would like to hear from them. I'd like to help as many as I can get through. I hope to hear some ideas. 73, Kent."

Anyone who has ideas can contact Kent at P.O. Box 591, APO Seattle, WA 98736. As to the solution to the rudeness on the band, I don't think there is one. People who are rude are self-centered and have no régard for anyone else, and this has nothing to do with amateur radio. Most likely they are that way off the air.

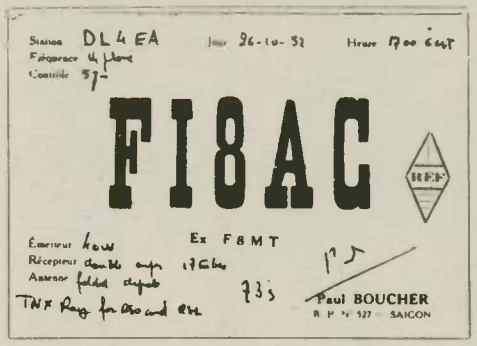
Antique QSL department

Checking back through our files of old QSL cards we came across an old FI8AC card that was submitted by Bob Truhlar, W9LNQ. The card is from a batch of cards of the estate of Roy Weisbach W9UX. Roy was operating as W9PST on 04 November 1937 when he worked Rene' Lebon FI8AC in Hanoi. The only thing missing was that the band was not shown.



Back in January 1979 we listed FI8AC's card in the "Antique QSL Department" which was provided by John Gerig, W6NHU, for a contact made on 17 March 1938.

What became of Rene we do not know,



but fifteen years later the call FI8AC was being operated by Paul Boucher F8MT operating out of Saigon. This contact was submitted by Nelson "Ray" Raymond W6SYM. Ray worked FI8AC on 26 October 1952 operating as DL4EA.

QSL Information

Ray W0AX reports that effective 01 June he has a new address. All QSL requests should be sent to Dr. T.R. Donovan W0AX, 1312 Cromey Road NE, Palm Bay, FL 32905. Ray says that the post office will not forward any mail after that date.

Ray, QSL manager for FR7BP, reports that he is presently ill in the hospital in Marseilles. He probably will not return to Reunion Island. Ray has the logs for FR7BP through 16 May 1984.

Sam Beverage, W2MGP, is looking for hints on getting a card for HV3SJ. He worked that call last year on March 18th and said that the operator gave his name as Larry. He has sent several cards to I0DUD, the QSL manager, with no results.

Remember Horace Gray, 9M8HG? He became a Silent Key a few years back; several DX'ers who had worked him have wondered how to get a QSL for a past contact. "DX News Sheet" reports that Don, GW3OJB, can assist with the matter. Horace never had a QSL manager and we assume that Don has his logs.

QSL routes

A35CQ	—WA6VNR	CQ8CQ	—CT2CQ
A35EA	—ZL1AMO	CT1BLM	—OH2BH
A92EM	—G4XHZ	CT2AK	—W3HNK
C6ABA	—G3AMR	CT2FH	—W4JVU
C21BD	—WB0TEC	CT2FR	—N4GXX
C30BBQ	—OH2BAZ	DK6NN/C6A	—DK6NN
C31AA	—I0PO	DL7AH/3X	—DL7AH
C44LP	—KA3FIB	DL8YR/ST2	—DL8YR
C50RCL	—CT1ASY	EL1G	—WD9IDS
C51LBL	—EA3DDD	EL8E	—GM4LDU
CE1FGT	—LU8DPM	EM3AXK	—UA3XEF
CE3F1P	—LU8DPM	EM5T	—UT4UMV
CE5SG	—LU8DPM	EM6T	—UT4UMV
CE6EDZ	—LU8DPM	EM7BRN	—UB4RWW
CN8CW	—WA3HUP	EM8SCB	—UC1SWI
CN8EL	—W2PD	EO1AWL	—UZ1WWE
CO2HS	—XE1XM	EO3AIR	—UZ3IWA
EO3ATO	—UZ3TWT	NA6T/AH4	—KD7P
EO6AAS	—UZ6AZW	OX3CX	—SM6HCX
EO7L	—UL7GWB	P46S	—K3UOC
EU1R	—UR1RWN	PY0FN1	—PY7ZZ
EU2C	—UC1AWR	SO9FY	—LA9FY
EU5T	—UT4UW	SU1ER	—W4ZWE
EU6D	—UD7DWA	SV1RP	—SV1NA
EV4AP	—UZ4PWR	SV0DI	—WA4DAN
EV9AW	—UW9WR	SV0DV	—WB4TDB
EW2C	—UC1AWC	T30AT	—G4GED
F6HIX/6W7	—F6EYS	T32AF	—KH6UR
FG4CP	—FG7BT	TF5EP	—W3HNK
FG5DL/FS	—F6ARI	TG9GI	—I0WDX
FK8FB	—F6FNU	TK5EP	—F6EYS
FM5BH	—W3HNK	TR1G	—TR8JLD
FY7BI	—F6FNU	TR8AHO	—DK1PO
GB1BOY	—G4IVJ	TY0ABD	—DJ6QT
GB2BRC	—G4IVJ	V2AZL	—W2HWS
GB2GG	—G4IVJ	V3C	—N5DDV
GB2RUB	—G4IVJ	VP2EH	—KC5EA
GB3WED	—G4IVJ	VP8BDG	—G4KMG
GB4LI	—G4NWZ	W4HHB/5N3	—K8LJG
GB8WED	—G4IVJ	XF4MDX	—XE1MDX
GE3VGG	—G4IVJ	XX9UT	—JA1UT
GV4OVE	—G4AAL	Y85LMM	—Y25TM
GV4BVE	—G4AAL	ZC4MR	—G4SAJ
HC8SL	—HC2SL	ZC4ESB	—Bureau
HG40A	—HA5KDB	ZC4ZN	—PA0GMM
HG40M	—HA7KLJ	ZF2AF	—W0GI
HG40O	—HA3KNA	ZL7AA	—ZL1AMO
HG40Q	—HA8KAX	ZP5JCA	—LU8DPM
HG40U	—HA8UB	ZP5JCY	—LU8DPM
HG40X	—HA4KYN	ZP5LHY	—LU8DPM
HG40Z	—HA1XR	ZP5LOY	—LU8DPM
HP1XXO	—W0ANZ	ZP5XDW	—N4DW
HW4KR	—F2YT	ZP0JCY	—LU8DPM
IK2CKR/8Q7	—I2CRQ	3A2AF	—F9FB
J5WAD	—UA4PW *(See Note 1)*	3A2TO	—EA5AGY
J20BI	—F6BFN	3V8PS	—IN3RZY
JR8BUU/5N0	—JA8FCG	3X0HAB	—DL5DAB
JW0EQ	—LA5NM	3X0HBG	—F0GTI
JY8AD	—A71AD	4N7A	—YU7AJH
JY9CL	—G3MUL	4U0ITU	—F6EYS
K8CRM/KH3	—K8CRM	5N6CJR	—K6EDV
K8PYD/VP9	—K8PYD	5N7HKR	—OE5BS
KA8HOK/VP9	—KA8HOK	5N8AFE	—G4HVE
KA8HC/VP9	—KA8HC	5N9DM	—I8XIU
KC7UU/5N8	—K6EDV	5V7RW	—WB4LFM
KE5IZ/PJ3	—WA5ZVZ	5V8WS	—DJ6QG
KP4USN	—KA4YUX	5W1FC	—WA6FNR
L2X	—LU2DX	5X5BD	—DJ6SI *(See Note 2)*
LY4L	—UA4LM	5X5WR	—DJ5RT
N5CJB/5N1	—K4ZKG	5Z4CQ	—WD8IXE

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 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".

AUGUST 1985

UTC	AFRI	ASIA	OCEA	EURO	SO AM
0100	12.3	18.9	22.4	11.0	18.5
0200	10.4	19.5	22.3	10.4	18.4
0300	10.6	19.7	22.3	10.3	17.2
0400	14.8	19.6	22.3	11.0	15.7
0500	14.2	18.5	21.5	12.0	14.7
0600	12.7	16.8	19.7	12.6	13.5
0700	11.1	15.8	17.6	11.5	11.5
0800	9.7	15.1	15.9	10.5	10.0
0900	8.8	14.2	14.4	9.7	11.2
1000	8.9	13.0	13.3	9.4	12.9
1100	9.8	11.7	12.8	9.8	12.3
1200	11.4	10.9	13.0	10.9	13.0
1300	13.5	11.1	12.6	12.7	15.3
1400	15.4	12.9	13.4	15.9	17.7
1500	16.6	13.7	13.6	17.5	18.4
1600	17.1	12.8	13.2	17.4	18.1
1700	17.3	12.7	11.9	17.4	18.4
1800	17.7	13.2	10.7	17.9	20.1
1900	17.9	14.5	11.5	18.5	22.0
2000	17.7	16.6	14.5	18.4	23.5
2100	16.8	18.7	18.0	15.9	24.2
2200	15.6	19.8	20.3	14.3	23.1
2300	14.6	19.6	21.5	12.8	20.6
2400	13.7	19.1	22.2	11.9	18.8

5Z5EXP	—DJ5RT	8Q7CK	—I2CRG
6W1HZ	—W0ZUZ	8Q7RD	—DF2RG
6Y5FS/KP1	—6Y5NR	9M2HR	—N4FFN
6Y5IC/KP1	—6Y5NR	9M4H	—VE4ME
6Y5NR/KP1	—6Y5NR	9N1RNK	—*(See Note 3)*
8P6JQ	—N8DCJ	9U5JB	—ON5NT
8Q7CE	—DL9GBS	9X5WP	—WB6UKD

A71BK	—Mohamed, P.O. Box 1556, Dohar, Qatar
A92EM	—P.O. Box 5486, Manama, Bahrain
CE0FFD	—P.O. Box 004, Easter Island, Chile
CE0ZIG	—Box Mataveri, Easter Island, Chile
CE0ZIJ	—P.O. Box 1, Easter Island, Chile
CE0ZIQ	—Box Mataveri, Easter Island, Chile
CO2PY	—P.O. Box 14, Regla Habana, Cuba
CO6RL	—P.O. Box 3, Falcon, Villa Clara, Cuba
D68AZ	—P.O. Box 410, Moroni, Comoros
EA9KQ	—Juan, P.O. Box 21, Melilla, Spain
ED0WFE	—P.O. Box 833, Vigo, Spain
FK8FF	—P.O. Box 4202, Noumea, New Caledonia
FK0AS	—P.O. Box 2899, Noumea, New Caledonia
FM5WO	—P.O. Box 287, Fort-de-France, Martinique
FO0XX	—Yasme Foundation, P.O. Box 2025, Castro Valley, CA 94546
FY4CD	—P.O. Box 747, Cayenne, French Guiana
GJ2LU	—P.O. Box 338, Jersey Island, U.K.
HG40B	—P.O. Box 102, Monor, Hungary
HL9AA	—Ed Clark, APO San Francisco, CA 96301-0042
HS0A	—P.O. Box 2008, Bangkok 10501, Thailand
J6LMF	—P.O. Box 493, St. Lucia
KC6AF	—P.O. Box 301, Khula, Eastern Caroline Islands
LA6WEA	—P.O. Box 7, 8801 Sandressjoen, Norway
ST2FF	—P.O. Box 80, El Morada, Omdurman, Sudan
SV5TS	—P.O. Box 251, Rhodes 85100, Greece
T32AN	—Phil Wilder, P.O. Box 667, Aiea, HI 96701
TA1D	—P.O. Box 1167, Istanbul, Turkey
WA4TLR/5N0	—Lagos DOS, Washington, DC 20520
XX9AN	—P.O. Box 468, Macao
YI0AY	—P.O. Box 5864, Baghdad, Iraq
ZD7BJ	—Brian, P.O. Box 25, St. Helena Island
ZK2IK	—Peter Mulhare, 15 Jessie Street, Pepone, New Zealand
ZS3GB	—P.O. Box 1165, Tsumeb 9000, Namibia
4X5DS	—Israeli Radio Club, P.O. Box 4099, Tel Aviv, Israel
5N24AMA	—A. Amar, P.O. Box 7355, Kano, Nigeria
5T5RG	—Rich, P.O. Box 322, Nouadhibou, Mauritania
7P8DE	—P.O. Box 197 Deuta, Lesotho
7X2KS	—P.O. Box 84, Algiers, Algeria
7X2LS	—P.O. Box 84, Algiers, Algeria
8R1RPN	—P.O. Box 12282, Georgetown, Guyana
9J2BR	—P.O. Box 31617, Lusaka, Zambia

NOTES:
1. Cards for J5WAD via UA4PW must be sent via P.O. Box 88, Moscow, USSR, and not the address given in past routes.
2. Include an s.a.e. not smaller than 110 × 160 mm for your return QSL. Also include a donation for the Ugandan hospital if you care to, (it's tax deductible).
3. Cards for 9N1RNK should go via 9N1MM address given in the Callbook.

Our thanks go to the following contributors for this month's column: W1RFW, W2MGP, WB2SIU, N4SU, KA6A, W6FGE, W6SYM, W9LNQ, W9NN, W0AX, DJ9ZB, HI8LC, The Carolina DX Association (W4WMQ), Kansas City DX Club (AB0X), Southern California DX Club (W6ABW), Western Washington DX Club (K7ZR), Grupo Argentino de CW (LU2DFX), "DX News Sheet" (G4DYO), "The Long Island DX Bulletin" (W2IYX), "QRZ DX" (W5KNE), and "The DX Bulletin" (K1TN).

With the bands in the shape they are in at the present, perhaps this is a good time to catch up on your QSL'ing. I don't QSL every contact I make, but I do answer every card I receive, even if I have worked and confirmed the station many times before. Often I receive a card via the bureau that is for a contact made several years ago. I wonder where that card has been all that time; maybe the DX'er was late sending it. Oh well! GL DX es 73, de John N6JM. □

Special VI prefix

All Australian radio amateurs will be able to use the alternative prefix of Victor India from 01 June to 31 December, to celebrate the Wireless Institute of Australia's 75th Anniversary.

The WIA is the world's first and oldest national radio society, having been founded in 1910. This will be the first time VI has been available for use throughout VK, although the prefix was used for a short period for a local event in VK3.

The WIA is encouraging radio amateurs to only use VI if they intend to QSL with a card bearing the prefix.

A commemorative call sign VK75A will also be on air until December, and will be looking for DX contacts. The prefix VK75 with the suffix a single letter A is authorized for use throughout the Commonwealth of Australia.

QSL information is via the VK3 bureau, or direct cards can be sent to VK3WI, WIA Victorian Division, 412 Brunswick St., Fitzroy 3065, Victoria, AUSTRALIA. □

N6TJ contest operations

A most active contest operator is Jim Neiger, N6TJ. During 1984 he made two trip to rare call places. Jim's practice is to arrange with local hams in advance so that the trip and the operation will go smoothly. For Cocos Island he worked with TI9CF, Carlos Fonseca, of San Jose, Costa Rica. Carlos had a station already in place on Cocos Island, complete with antennas.

From his slide show talk at the 1985 International DX Convention during April, in Fresno, Jim described his CQ WW contest operation from EA9, where he made over 5 million points, with 3,636 QSOs. There are more than 150 Extra Class hams on the islands of Ceuta and Melilla, but there is little contest activity from this rare zone. The islands are connected to North Africa by a bridge from Morocco. The EA9 prefix being in a rare zone is a very helpful multiplier when zones are important.

Jim was able to use the facilities of EA9KF, so he took only his automatic keyer and used CW only. The operation took place from a 12-story apartment house which supported a tribander beam. Wire antennas were more than 100 feet above the street, strung from adjacent apartment buildings in downtown Ceuta.

Please send news and pictures to Worldradio

Kermadec DXpedition

Peter Onnigian, W6QEU

If you were one of the deserving who worked Kermadec in March 1984, you'd be surprised how the logbook for ZL1BQD looked. You would also learn how easy it is to be "not in the log"! Duane Ausherman, W6REC, who did a "show and tell" at the 1985 International DX Convention in Fresno, 19-21 April, brought the logbook so all could see.

It consisted of a hard-cover bound book, with entries for each day and hour of contacts, along with the band used. Since all were 599 or 59, there were no strength entries nor minute markers. The columns of call letters jotted down as each station is worked in sequence, and of course many corrections were made.

Duane's interesting color slide talk began as he made a four-month visit to New Zealand. Learning that VK9NS could not go out on the DXpedition as planned, he was invited to go along with the others, mostly New Zealanders.

The Kermadecs consist of a few islands and coral reefs. Raul island, where the operation took place, is about 250 miles northeast of New Zealand, and is a government weather station with five inhabitants. One stamped Duane's passport. The island issues its own postage stamps. The employees reside there for a period of one year. Food and clothing supplies are delivered once every six months air drops and pick ups are made monthly.

The groups included two scientific non-ham members who went to study the island's lush vegetation; temperatures are nearly always above 80°F, and humid. Raul Island is about 11 square miles, and has an active volcano that trembles almost weekly.

Antennas used were of the wire type. If you worked Kermadec on 160M, it was with their half-wave dipole hung between two tall pine trees, placing it about 75 feet above ground, but on the edge of a bluff that was over 200 feet above the sea. This gave an effective ground reflection height toward North America, of about 272 feet. Over 30,000 QSOs were logged of which only 10% were Europeans — probably due to poor propagation during most of the time, said Duane. Operation was from 10 through 160, with at least two transmitters going at any given moment.

The group went to Raul Island in a 57-foot sail motorboat, which sank in a heavy storm while they were on the island. Arrangements were made for a commercial freighter to pick them up. The resulting trip from Raul to Auckland cost each member $3,000. DXpeditions can become expensive sometimes. □

'The Ultimate DX'

Lewis W. Dickerson, K6BPB, gave a talk on NASA's Pioneer 10 communications at Amador County (California) ARC's June 6th meeting. Title of the evening's program was "The Ultimate DX".

Launched on 03 March 1972, Pioneer 10 has long since left our solar system, but NASA is still in communication with it. Lew was involved with Pioneer 10 from its inception until his recent retirement from NASA. He and his wife now reside in Sutter Creek and are members of the Amateur County ARC. □

Pacific Northwest DX Convention

Pre-registration deadline for the Pacific NW DX Convention — to be held in Richmond, Vancouver, B.C. 26-28 July — is 01 July. Cost for convention pre-registration and meals is $42 Canadian, with a $32 fee for meals only. Prices after 01 July will be $45 Canadian for convention registration and meals, and $35 Canadian for meals only.

Registrations should be sent to Ken Thompson, VE7BXG, 12467 53rd Ave., Surrey, B.C. V3W 1A4. More details on the convention will follow in next month's 'DX World' column. □

Good will in China

George Romanisky, WA6WXD

Traveling to China was very exciting. It seemed to be an opportunity to talk about Amateur Radio — my favorite hobby — to a few Chinese people I had met. Knowing in reality there is little Amateur Radio in China, I wanted to share with those I had met, to become at least aware of radio and pass it on to others.

In each city I talked to people who seemed interested in radio, although none had any idea of what it was all about. To pique their curiosity, I brought with me stacks of old and current issues of Amateur Radio magazines to give to those people who could read English and/or admire the pictorial advertisements of new radio equipment, etc.

I gave out numerous QSL cards to crowds of people who wanted them, although none knew what they were. Perhaps they would become curious about these radio cards.

To those whom the magazines were given, I asked them to give some of the issues to the local school or universities for students to look at and become aware of Amateur Radio.

In any event, it was a unique experience to be in the most populous nation on Earth, with a population over one billion, that has been isolated from the rest of the world and could be a great growth area for new Amateur Radio operators. Anything is possible, so I did what I could do to promote Amateur Radio. — *LERC ARC*

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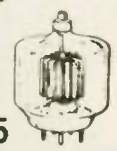

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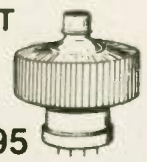

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AMSAT OSCAR

Dr. Norman L. Chalfin, K6PGX

It can't be done

In the 27th Congress of the United States, Samuel F.B. Morse, the inventor of the telegraph, petitioned for a grant to construct a telegraph line between Washington, D.C. and Baltimore, Maryland. Some congressmen greeted this request with derision. They suggested instead a railroad to the moon, or experiments with mesmerism. Congressman Pettit "looked upon all magnetic telegraphs as miserable and fit for nothing."

The decline in gas stocks as a result of the Edison electric light led to an inquiry by Parliament. The chief engineer of the British Post Office, a witness in the inquiry, was asked about another American invention, the telephone. To the question "Do you have any comments on the telephone?", he replied "No, sir. The Americans have need of the telephone, but we do not. We have plenty of messenger boys."

At a later date, when telephone service was installed, he responded to an inquiry about whether or not dialing was necessary, that there was no need for dialing because girl operators were so cheap. When this chief engineer retired in 1911, he was called the father of the British telephone service.

H.G. Wells, a popular science fiction writer of the early 20th century, did not think it at all likely that aeronautics would ever cause any serious effect on transport and communications. "Man is not an albatross," he said.

Henry Ford was offered the general superintendent's office by the Edison Company if he first would give up his gas engine and "devote his life to something really useful."

In 1903, Professor Simon Newcomb — a distinguished astronomer — suggested that flying without a gas bag was impossible, or at best would require a new law of nature to be discovered. It was the following year that the Wright brothers succeeded in flying a winged aircraft at Kitty Hawk. He goofed a second time five years later when he commented on the early efforts at flying: "The Writer cannot see how anyone can avoid the conclusion that the era when we shall take the flyer as we now take the train belongs to dreamland."

A week before the Wright brothers lifted their aeroplane off the ground at Kitty Hawk, **The New York Times** editorialized on the rival efforts to fly by Professor Langley: "We hope that Professor Langley will not put his substantial greatness as a scientist in further peril by continuing to waste his time, and the money involved in further airship experiments. Life is short, and he is capable of services to humanity incomparably greater than trying to fly . . . for students and investigators of the Langley type there are more useful employments."

Within three years after the Kitty Hawk success, the Wright brothers had an aeroplane that could travel 40 miles an hour for 100 miles, an unheard of capability at that time. The United Kingdom was offered these planes. The Admiralty advisors were of the opinion that the aeroplane would be of no practical use to the Naval Service.

When you see a space shuttle launch on television, or take a trip in an airplane, does it ever enter your mind that it can't be done? Not since television and the other means of communication we have available to us. Yet flying, space flight, radio, television and a great many of today's scientific achievements which we take for granted were not only believed impossible, but those who suggested them were considered candidates for the booby hatch.

Even today, there are still skeptics who believe that the flights of the Apollo spacecraft to the moon as seen on television were Hollywood concoctions. In one Middle Eastern country when the people were told about the fact that men had walked on the moon, the reaction was, "What kind of hashish were you smoking?"

Skepticism, when it is founded on good information and a background of knowledge based on education, is a good thing. But skepticism based on ignorance or bigotry can lead to many problems for people who cannot accept the reality of scientific knowledge. Most scientific knowledge and advances have been used for betterment of mankind, but some — like nuclear weapon developments in the wrong hands — can destroy the world, as conventional weapons in the wrong hands nearly did in World War II.

Some skeptics, as we have seen in the above mentioned excerpts from news reports and other sources, have had to "eat crow".

The first steamboat on the Thames River in England was put up by one, Brunel. Brunel was so unpopular that London hotels would not even give him house room. Some of you have heard about Robert Fulton who operated the first steamboat (which he invented) on the Hudson River. It was called "Fulton's Folly". Westinghouse invented the air-brake for railroads. The heads of the railroads made fun of the air brake. All railroads use them today.

It is nearly impossible to convince an unknowing public or politician of the value of a scientific development. When Queen Victoria met Faraday, the physicist, who was demonstrating how magnets work by picking up iron particles, the queen asked him: "It's all very nice, but what is it good for?" Faraday's reply was, "Your Majesty, some day you'll be taxing it."

Dr. Vannevar Bush, before he became Director of the Office of Scientific Research and Development, once told Dr. Millikan and Dr. Von Karman at Cal Tech that he didn't "understand how a serious scientist or engineer could play around with rockets". Afterwards, during World War II, he authorized the spending of millions of dollars for rocket research and development.

In the fall of 1938, recognizing that the Army Air Corps would need some new technologies among which were de-icing systems for aircraft wings and rocket-assisted take-off devices, General "Hap" Arnold presented the problems to scientists at MIT and at Cal Tech. Dr. Hunsacker at MIT agreed to take the de-icing problem. He dismissed the rocket-assisted take-off problem with the comment "Dr. Van Karman can have the 'Buck Rogers job'." Six years later, the "Buck Rogers job" expanded into Cal Tech's Jet Propulsion Laboratory.

The sources for the above material are:

1) "Erroneous Predictions and Negative Comments Concerning Exploration, Territorial Expansion, Scientific and Technological Development" by Nancy Gamarra, Research Asst. in National Security, Foreign Affairs Division, Library of Congress Legislative Service.

2) New York Times

3) "Somebody Goofed", Playboy, March 1969

4) "Miscellaneous Intelligence", Nature, 07 March 1970

5) *Astronautics and Aeronautics*, June 1968, and many others

•

Astronauts Dr. Tony England, W0ORE, and Dr. John David Bartoe, W4NYZ, will operate Amateur Radio gear aboard Shuttle Flight 51F which is now scheduled to be launched 15 July 1985.

The announced primary frequency for the space astronaut amateur activity is 145.555 MHz. The activity is scheduled to begin during the last half of the second flight day, or at the latest, on the third day of the mission. The first transmissions are likely to be slow-scan Amateur TV.

It is Dr. England's special interest to work with youth groups and young amateurs. The contact opportunities which are currently planned are expected to be made with such groups by prior arrangement. If other plans are developed, they will be announced through ARRL's amateur band bulletin service and through AMSAT sources. Westlink Amateur Radio News Network will update their newsnet items as new information is received. NASA has reported that changes in transmission times or other data will be announced at least one orbit ahead of time. These announcements will be made through ARRL (via W1AW), AMSAT and other amateur sources.

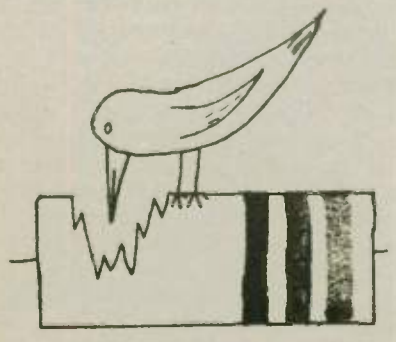
AMSAT has asked that all amateurs be advised that transmissions in the ranges listed below interfere with amateur space communications, and these frequencies are to be avoided: 29.3-29.5, 145.8-146 and 435-435.5 MHz. Remember, the amateur spacecraft is not able to QSY to different frequencies. YOU CAN! □

AMSAT/OSCAR-10 on Field Day

The AMSAT/OSCAR-10 satellite will be in Mode B (430 MHz uplink, 2 meter downlink) for the entire Field Day period. OSCAR contacts earn your group 100 bonus points and are essentially a "free band" — the satellite equipment does not increase your transmitter count. — *ARRL Letter*

Ohm-Brew

Joe Magnan, KD0OK, of Minneapolis, Minnesota wins this month's Ohm-Brew contest. Can you guess the answer? If not, turn to page 44.



All "Ohm-Brew" entries should be neatly drawn on 3" × 5" cards, for easy handling. On the backs of the cards, print or type your name, address and call sign. Entries not used will not be acknowledged, due to the volume of entries received. □

AWARDS

Reserve Officer of 1984

Lenore Jensen, W6NAZ

John Walsh, N6UK, received on 03 May a prestigious award from the Los Angeles Police Department as "Reserve Officer of the Year 1984."

The citation included reference to the recruiting and training of more than 150 volunteers for Olympic Security support. This also included reference to the acquisition of Department of Defense frequencies to augment LAPD channels.

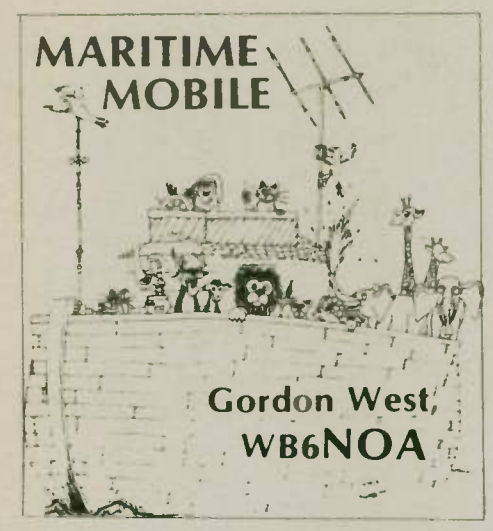
He also was commended for work on the testing and evaluation of the Emergency Communications Command Control System (ECCCS). It was estimated that savings to the City resulting from the volunteer effort amounted to more than $1 million.

John Walsh is the Section Manager for ARRL in Los Angeles. □

• Silent Keys •

Natalie A. McFee

Natalie Anne McFee, WB6FMF — a member of Gavilan Amateur Radio Club in California and a practicing physical therapist — passed away 17 March 1985. She had been licensed since 1963 and resided in San Juan Bautista. — *Submitted by Sharon Scheppke, WB6FME, lifelong friend of Natalie's* □



What's new for mariners and mobilers

Let's start with equipment that may be right at home aboard your boat or in your mobile unit. ICOM has just announced their model IC-735 high frequency transceiver that will be in direct competition to the popular Kenwood TS-430S and Yaesu FT757.

The new ICOM IC-735 indeed looks quite like the Yaesu 757. However, it sports a few more features, and here's a list of some of the things it will do:

• FM built-in • 500 Hz CW filter (FL-32) • Electronic CW keyer • HM-12 scanning mic • FM/CW/LSB/USB/AM (Tx and Rx) • 12 tunable memories with lithium memory backup • Program and memory scan • Adjustable AGC • Automatic SSB selection by band • RF speech processor • 12V operation • Continuously adjustable output power up to 100 watts • 100% duty cycle • Deep tunable notch

A new line of accessories will also be available, including the AT-120 automatic programmable antenna tuner and the PS-55 power supply. The IC-735 is also compatible with most of ICOM's existing line of HF accessories.

To enhance receiver performance, the IC-735 has a built-in receiver attenuator and preamp. Plus, it has a 105dB dynamic range and a new low-noise phase locked loop for rock-solid reception.

The IC-735 features a large LCD readout and conveniently located controls which allow simple operation, even in the mobile environment. VOX controls, mic gain and other seldom changed controls are kept out of sight behind a hatch cover on the front panel of the radio, but are immediately accessible.

It measures only 3.7 inches high by 9.5 inches wide by 9 inches deep, and yes, it offers full general coverage receive to tune in marine frequencies. Take a look at its picture, and you will see that this new ICOM super-set has a familiar looking face! The new LCD readout will certainly conserve battery power and be easily seen in the bright sunlight or in the dark.

If you haven't seen the new Kenwood TS-940 with its LCD readout, do take a look and listen. The Kenwood 940 is really not designed for maritime or mobile unit use because it requires house power and doesn't run on DC. It's also too large for most typical mobile installations — but is it ever a beauty!

From Yaesu, their latest entry with new products is a programmable scanner that goes all the way up to 1,000 MHz. The capability of receiving all the way up to 1,000 MHz is something relatively new with scanner manufacturers, and so far it's Regency, JIL Corporation, and soon Yaesu with programmable scanners that cover this range.

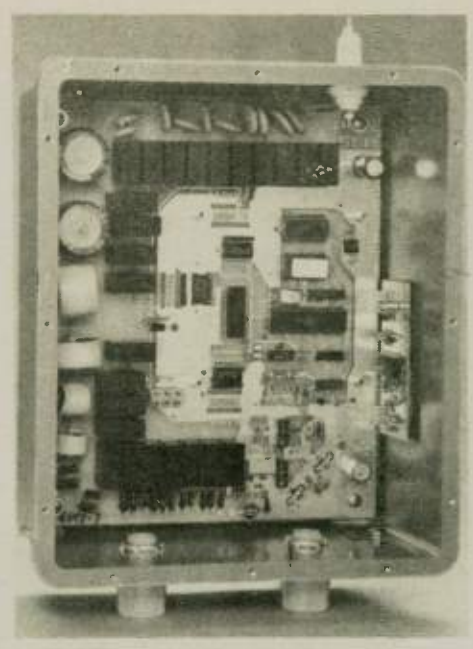
By the way, not every scanner that covers 800 MHz will necessarily tune in the new cellular telephone service loud and clear. Most scanners step at 25 kHz increments, but cellular telephone channels are spaced at 30 kHz increments. If you plan to tune in cellular phone calls, make darn sure that your scanner is capable of 5 kHz steps — 25 kHz won't cut it.

The new all-color high frequency band charts are now available from ICOM. This chart covers the band plans for each class of license from Novice to Extra from 160 meters through 10 meters. It's a quick way to find out exactly where your upper and lower frequency limits are.

For a free copy of this colorful chart that I developed for ICOM, send a double-stamped (44 cents) self-addressed, large 8-1/2 inch by 11-inch envelope, with the words "West Frequency Guide" in the lower left-hand corner to ICOM America, P.O. Box C-90029, Bellevue, WA 98009-9029.

Don't forget the large size envelope for this free frequency guide. On the back side of this colorful chart is a listing of country prefixes in alphabetical order to help you identify those rare ones. Thanks, ICOM, for this handy guide.

A very nice installation guide for maritime mobile ham radio equipment is offered by the SEVEN SEAS CRUISING ASSOCIATION, P.O. Box 2190, Covington, LA 70434. This 40 page booklet was written by Jim Haynes, KG6JLC, and was edited by George Thompson, W3HLR, active ham radio maritime mobilers who certainly know their stuff. The book sells for $7.00 and gives some excellent suggestions on how to mount antennas for the sailing ham. While some of their comments regarding the FCC licensing process are out-of-date, the technical part of the book is right on target.



Fully automatic antenna tuner

And by popular request, I will shortly have available my own book on selecting and installing ham radio equipment in both marine installations as well as vehicles and mobile homes. More about my efforts later.

I pulled out the rules and regulations for the ham radio service the other day, and found an interesting statement on Part 97.101(b) that states, "The amateur mobile station shall be separate from and independent of all other radio equipment, if any, installed onboard the same ship or aircraft." I have formally petitioned the Federal Communications Commission to strike this particular statement because it would limit the use of a marine single sideband set to only marine frequencies.

As you may recall, my earlier articles encouraged the use of an authorized marine sideband on not only marine frequencies, but also for amateur radio use. Until this section gets deleted by my petition, one must assume that any ham radio use on your marine synthesized sideband shall only be to receive ham frequencies — not for transmitting. I'm pretty sure the petition will go through, but if you feel strong about this subject, don't hesitate to write the Federal Communications Commission, Washington, D.C. 20554 in support of the Gordon West March 15, 1985 petition on maritime mobile radio equipment. It certainly makes sense to me (and I am sure to you) that a very sophisticated synthesized marine sideband could also be used on ham radio frequencies, too.

I still receive a lot of mail regarding antenna tuners for maritime mobile use. Here's a quick review on the tuner situation.

An antenna tuner is required in any maritime mobile setup when you are broadcasting into a random wire, single dipole, non-resonant whip, or any other antenna system that is not self-resonant.

An antenna tuner would not be required to tune up mobile whip antennas cut to a specific band with a good ground counterpoise placed directly below the whip. In other words, you will need a tuner if you're running any type of long wire or non-resonant antenna; but if you're running tuned antennas or the multi-band Spider (TM) antenna, then you can get by with no tuner.

The least expensive tuning method on a non-resonant backstay or non-resonant 20-foot marine whip is the MFJ 941D tuner. It sells for under $100, and you manually adjust the inductance and capacitance knobs for antenna system resonance. This setup works well providing you find and write down all of the resonance settings for each band. Each time you change bands, you need to readjust the tuner for minimum SWR.

Coax interconnects the radio to the MFJ 941D, and coax also interconnects your random length antenna system to the tuner. It is imperative that the end of the coax by the antenna feedpoint be foil-grounded for this system to work. Running "hot wire" out of the tuner below decks is ill-advised because it will lead to tremendous amounts of RF floating around inside the cabin.

If you don't like twirling the knobs or trying to find the right settings for each band (akin to opening a three tumbler safe without knowing the combination ahead of time), you may wish to consider an automatic tuner. Two types of automatic tuners are available — the semi-automatic and the fully automatic.

The semi-automatic tuner requires a data line from a specific marine transceiver in order to accomplish the tune-up at the remote tuner that's placed below decks close to the antenna feedpoint. An example of this is the ICOM semi-automatic high frequency tuner designed to be used with the ICOM M-700 marine single sideband set.

Push the tune button on any frequency you wish to transmit on, and the automatic tuner sets the tiny reed relays with the proper amount of capacitance and inductance, and in less than a second, you are all ready to go on the air. Coax goes from the transceiver back aft to the tuner that's hidden away. Hot wire emits from the tuner to the antenna feedpoint. Foil grounds the tuner to your main ground system.

The fully automatic tuner allows for any type of transceiver — ham or marine — to be worked with any type of random wire, long wire, backstay, non-resonant whip, or fixed dipole antenna systems. No data line is required. All that's required is

a small amount of 12 volts (less than 1/2 amp) to run the reed relays, and coax cable that feeds the tuner from any type of high frequency transceiver — marine or ham. As soon as the tuner "sees" the RF signal, it analyzes it and instantly selects the proper inductance and capacitance to resonate the antenna system to your transceiver.

It will also memorize in its "CPU" the frequencies that you most commonly use for an instant tune up next time you change bands. This super-tuner is manufactured by Stephens Engineering Association, and it's their Model SEA1612. It's expensive — about $1,600 — but it's the most professional way to tune up a non-resonant antenna system on either a boat, motorhome, or even at your temporary ham shack.

Like any other type of antenna system, the tuner only works with a counterpoise ground system made of copper foil into wet earth, a keel bolt, foil below the water line, or a radial ground system. There is no way of escaping the need for a good, solid ground on a high frequency system that tunes between 2 MHz and 30 MHz. About the only "groundless" antenna I know of is the Cushcraft R-3 that works, 10, 15 and 20 meters, but it's designed for home use and probably would not fare well aboard a boat.

Finally, a salute goes out to all of the hard-working net control operators that run the many maritime mobile and land mobile nets. Those nets are vital to the safety of those out at sea as well as those plying the highways and backroads. We commend you for your unselfish contribution to the amateur radio service by conducting these nets.

I encourage all mobilers to work as closely with the net control operator as possible. Get active in the nets, and participate. This might mean giving weather reports, traffic conditions, or relaying weak signals that the net control operator might not hear. Listen to the net before jumping in, and only transmit when directed by the net control operator.

Avoid using nets only when you need to make a phone call. Net controllers and those that handle phone calls would like to hear more from you other than when you need a land line ashore.

Good cruising this summer, and see you next month. □

Wire rope clips

John Otis, N5BCK

The figure below shows two wrong methods and the right method of attaching wire rope clips. For safety, the U-bolts of clips must all be on the *dead* end of the wire.

— *Tidelands ARS, Texas City, TX* □

CORRECT WAY — U Bolt of all clips on dead end of rope.

INCORRECT WAY — U-Bolt of all clips on live end of rope.

INCORRECT WAY — Do not stagger clips.

Traffic handling tips

Jim Adcock, KN3B

Everyone likes to receive radiograms. The contents of a radiogram are important to the sender and to the addressee as well. Accuracy is most important.

Tip #1: If you receive a radiogram with any question about its content accuracy, don t "Roger" it or "QSL" it until the difficulty is absolutely cleared up! If *you* don t think this is important, then *you* deliver it and *you* suffer any embarrassment. Remember, an embarrassment in traffic handling is an embarrassment to all hams everywhere.

Tip #2: If you can't get a satisfactory clarification, service the message back to the station of origin. It will signal the originator that something went awry and that the message will be re-originated accurately once again.

Tip #3: Don't be afraid to demand accuracy! It is expected. Traffic handlers have been lax lately, so it is time to set up straight for net time and do our best. "Just enough to get by . . . " isn't enough for any traffic net. If QRN or QRM is too heavy to contend with and relays don't help, let the message lay over another day until the conditions do improve. Our motto should be, "Get it right, get it, or don't get it at all."

— *Indiana County ARC, Indiana, PA* □

10-10 INTERNATIONAL News

Chuck Imsande, W6YLJ
10-10 19636

Working toward "bars"

The basis for one of the many 10-10 awards available to 10-10 members is collecting 10-10 numbers that result in a "Bar Award". Each Bar represents 100 new contacts with 10-10 members and the exchange of a minimum of information: call, name, QTH and 10-10 number.

The 10-10 Bar Award program operates on the honor system — that is, QSL card confirmation of the contact is not required to qualify for the award. Upon submitting your first 100 contacts, you receive a certificate along with your "100" bar. Each bar is attached to the certificate, and progress can be monitored by watching your certificate "grow" with new bars for each additional 100 contacts. Forty bars representing 4,000 contacts can be placed on the certificate.

A list of each 100 new contacts, arranged in 10-10 serial number sequence, with call, name and QTH of the station worked is all that is required for new Bar Award. As is the case with other 10-10 awards, only members with paid-up dues can receive Bar Awards. 100-900 Bars are issued by Willie Madison, WB7VZI, and 1000 and up Bars are issued by Charles Busby, KC5FX.

With the 500 Bar comes an honorary "VP" number and other activities in-including a beautiful certificate and membership in the "International 500 of the World". To date, over 1,600 certificates for reaching the 500 Bar level have been issued. More about the "International 500 of the World" in a future column.

In case you are new to 10-10 or are thinking about joining the group and are wondering how many contacts with other 10-10 members are possible, just look at how some 10-10 members have done to date:

No. 1 on the Honor Roll - WA5JDU - 14,300 contacts
No. 2 on the Honor Roll - K5MRU - 13,400 contacts
No. 3 on the Honor Roll - W0RWC - 12,000 contacts
No. 4 on the Honor Roll - WA9LIC - 10,600 contacts
No. 5 on the Honor Roll - PJ2WG - 8,200 contacts
No. 6 on the Honor Roll - K4KAH - 7,900 contacts
No. 7 on the Honor Roll - KS6A - 7,700 contacts
No. 8 on the Honor Roll - W1KZH - 7,700 contacts

Nine have achieved the 7500 Bar level and 778 have achieved the 1000 Bar level. It is interesting to note that of the eight listed above on the Honor Roll that all are from a different call area, including PJ2WG, 10-10 #27999, from Curacao in the Netherlands Antilles.

Many methods have been developed and devised to keep records of 10-10 contacts, the most popular being a simple 3″ × 5″ card file system. With the advent and popularity of personal computers, the possibility of programs to list, sort and print by various information field is endless. If you have discovered an easy way to keep 10-10 records or have developed a personal computer program that you are willing to share, drop me a line and maybe we can do a column on "Record Keeping".

10-10 goes over 40000!

Recently, 10-10 #40000 was assigned to Eugene Reed, KC5GJ, who lives in Corpus Christi, Texas. From the day of the first 10-10 get-together in Glendora, California, in March 1962, when a handful of 10-meter enthusiasts decided to meet at "10 o'clock on 10 meters", 10-10 has grown in 23 years to 40000+ members. Many of those early pioneers are still with us, and unfortunately many are Silent Keys, but the spirit, friendliness and competition is as strong today as it was back in those early days when AM was the primary mode of voice modulation.

Although the growth of 10-10 was slow at first, with only about 90 members from 1962 to 1964, and about 90 additional in 1965, rapid growth followed thereafter. By 1971, 2,700 numbers had been issued and number 10000 was achieved by 1974.

In the next four years, a total of 8,500 numbers had been issued and by 1978 there were 18,500. Rapid growth continued and by 1981, 33,000 were issued. Even today with propagation conditions not favoring 10 meters, 10-10 numbers are still in demand and one can not help but wonder when we will make 50000?

Winter Phone QSO Party results

The winners of the 1985 10-10 Winter Phone QSO Party are in and the following are the USA District Winners: 1st WB1BVR, 2nd N2EOC, 3rd WA3TRI, 4th WD4MPG, 5th KC5CP, 6th NT6B, 7th KW7E, 8th KJ8V, 9th WA0AVL/9 and 10th W0PEL. Top overall score was a tie with KC5CP and WB1BVR each with 469 points, Top QRP honor was won by KI6D and high score from a DX station was won by CE3AEZ.

Approximately 600 logs were received by Jack Streets, WA5HZM, and his group of hard-working scorers from the Houston Shot 10-10 Chapter. Jack reported that as an example of how bad propagation was, only one log was received from Canada. G.A. Holden, VE7IH, said, "Just to let you know we attempted to have fun. Not a contact was made. Did hear one station, a W6---."

Thanks to Jack and the gang of the Houston Shot Chapter for a job well done.

Closing notes

The Summer 10-10 Phone QSO Party is scheduled for the weekend of 03-04 August. Details in next month's column.

The ARRL Southwestern Division Convention is scheduled for 9-11 August aboard the RMS *Queen Mary* in Long Beach, California. If you live in southern California or will be visiting in August, plan to attend and visit the 10-10 booth. Did you know that W6RO, the *Queen Mary's* Radio station, has its own 10-10 number? W6RO is 10-10 #25000.

Again I remind you that if you are interested in more information about 10-10, drop me an SASE at 18130 Bromley Street, Tarzana, CA 91356, and I will be happy to send you the necessary information to join 10-10.

Also if you are a member and did not receive your Spring 1985 issue of the *10-10 International News*, it may just be that you forgot to renew your dues. Send your $4 to your Call Area Manager *now*. If you live in the 2nd U.S. Call Area, send your dues to Larry Berger, WA2SUH, 9 Nancy Blvd., Merrick, NY 11566. □

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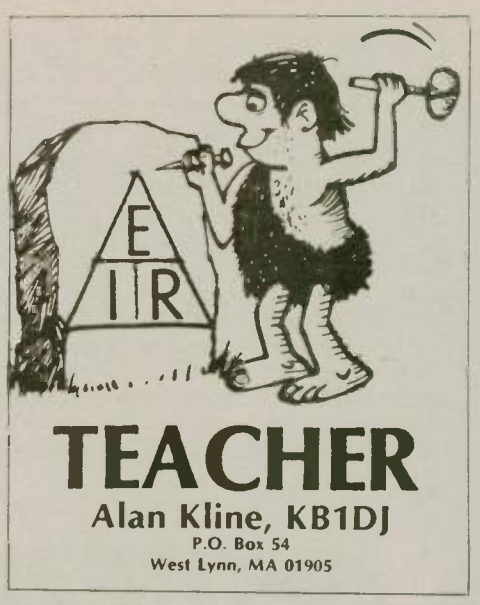


TEACHER

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

In response to my request for some of your questions and ideas about teaching Amateur Radio and related PR work, I received a letter from Fred Lingel, K1CCW, of Lynnfield, Massachusetts. Fred has been a long-time supporter of my programs and has run classes twice in his hometown.

He poses some interesting questions and solutions. Fred asks, "How can we hams answer the requests of the would-be ham and how can we advise new hams how to get on the air cheaply?"

He suggests that all radio clubs and associations keep a high visual profile by listing their meeting info in **Worldradio** and **QST**. He further suggests posters in the public library and high schools as ways to let the general public know about meetings. Our club has the next month's meeting listed in the local newspaper as well.

Another good suggestion is to have your club's name, address, meeting location, meeting time and a phone number prospective hams can call for further info printed on a label. What can you do with this label? Many libraries, both public and school, have related Amateur Radio books. Librarians are not usually against you putting in the label in the back of the book, especially if your club donated the books.

One of my earliest public service projects was to donate six sets of all of the ARRL publications to six North Shore area libraries. Two sets were given to three towns. They were instructed to put one set in the public library and one set in their high school library. The ARRL has a special package price for all their current publications just to encourage clubs into buying them for this use.

Fred goes on to remind us that running classes is great, but for many, Amateur Radio is still a do-it-yourself hobby. Sometimes you just can't travel to a class in another town. He suggests we all make sure our public libraries have adequate supplies of the ARRL's *Tune In the World* package, or its equivalent by other publishers. I agree — especially the rural bookmobile libraries.

Fred and I both have handout sheets we give to prospective amateurs. Here is Fred's version:

Getting Into Ham Radio

by Fred Lingel, K1CCW

This suggestion sheet is for persons wishing to get into Amateur Radio without spending a lot of money. First, go to the nearest public library and ask the reference librarian for the ARRL's *Tune In the World*. This book will come with a cassette tape about Morse code. Some libraries will also be able to loan you a cassette tape recorder; you just have to ask for it. In addition to learning what's on the tape, you must learn the written material in the book. It will cover some basic electronics communications and radio theory.

Study the book and tape; you will have to be able to receive the Morse code at 5 wpm and pass a simple 20-question exam to pass your Novice license. If you need to know more about any question, go back to the library and get a copy of the ARRL's Amateur Handbook.

After this you may want to talk to a person who is already a ham in your area. Look in the back of the borrowed books for a notice about who to contact. If no one is listed, contact the publisher of the books, the ARRL. Ask them for the names of the local club presidents in your area. Call them for help.

When you are ready to take your Novice Class license, the local club president can surely suggest a fellow ham to help you out.

Good luck,
Fred

Now I had seen Fred's handout long before I was in the Amateur Radio class PR business and have gone a few steps further. I have posters up all over the area suggesting that those interested in Amateur Radio can feel free to call me with their questions. As a result of the many calls I have received, I have printed a two-sided sheet that I pass out to anyone interested.

Originally, the first side was only questions and answers about Amateur Radio, but as I started to get calls from people who were farther away from me and couldn't come to my classes, I added the backside section about getting your Novice license. Here it is, printed in its entirety. As always, please feel free to copy any or all of it. It makes a great handout at public service events you might attend.

Who is North Shore Ham Services?

We are a group of Amateur Radio operators who volunteer our time to help others get their Amateur Radio licenses. We teach Amateur Radio Morse code and theory classes at convenient locations throughout the North Shore twice a year. Besides teaching to large groups, we offer special, one-to-one services for the handicapped.

Answers to your questions about Amateur Radio

What is Amateur Radio?

Amateur Radio is the personal use of shortwave radio equipment for direct, worldwide communications on a one-to-one basis. Every day amateurs, or "hams", talk across the ocean

or across town, using their ham gear in many different ways from assisting motorists in distress to "patching" telephone calls from Antarctica.

The Amateur Service has something for everyone. The electronics experimenter can build and modify his own gear; the motorist can talk hundreds of miles and even make telephone calls from his car; and shut-ins "travel" throughout the globe, forming lasting friendships without ever leaving the house, while others talk to literally hundreds of different countries, contact amateurs in all 50 states and much, much more.

What is the difference between CB and Amateur Radio?

CB, or citizens band radio, is restricted, short-range service, limited in the number of channels, the distance and duration of communication, power output, age of licensee and ability to adjust equipment. On the other hand, hams are allowed up to 1000 watts input power (compared to the 5 of CB), have no age, channel, distance or time restrictions, and are actually encouraged to modify and experiment with their equipment.

Where do I study for my license?

Like most hobbies, you can study from books, on your own at home. But the easiest is to attend one of our two annual classes. Each September and January, we run a Novice class at some convenient North Shore location. Details on each class are available by contacting North Shore Ham Services.

Do I need a license?

Federal regulations require a license to operate *any* radio transmitter in the United States (except for toy-type, low-power walkie-talkies). Most amateurs start out with the Novice license. To obtain this, you pass a test to demonstrate your ability to understand Morse code and know the simple, basic regulations and the most elementary radio theory needed to operate a radio.

Is it difficult to get a Novice license?

By no means. Many elementary school students have passed their Novice tests, and each month, hundreds more from ages 8 to 80 join the ever-growing ranks of Amateur Radio operators. Neither the code nor the theory required is a substantial hurdle. Anyone with the interest to become a ham can obtain a Novice license with a few weeks of study.

Isn't Amateur Radio very expensive?

No more so than any other hobby. While many hams have put substantial amounts of money into their hobby, you can get started for less than the cost of a CB radio or a new stereo, and be able to communicate over thousands of miles to boot. Good used equipment is readily available for a fraction of the cost of new gear, and anyone who can follow instructions can put together one of the large number of relatively inexpensive kits on the amateur market.

Many of you who contact me about getting your ham license, don't want to wait until I have another class, so you ask how to get started in Amateur Radio on your own. Well, here's the way.

On the other side of this handout is a list of the most common questions about Amateur Radio, but the next most popular question is, "How do I get my Novice license?"

The first place to start is to buy some Amateur Radio books. I would recommend either the American Radio Relay League's *Tune In the World* package or the Ameco Company's, Novice package. Both include a textbook and cassette tape. Read and study them thoroughly, for they both contain all the needed info to pass the Novice level, 20-question written exam. If you have any other technical questions, pick up a copy of the ARRL's *Understanding Amateur Radio*. Another good book to buy is the ARRL's *Operating Manual*.

Besides passing the written part of the Novice exam, you are required to learn Morse code at only 5 wpm. This is very easy to do. Past experience has shown that it can be done in two to four weeks of studying.

The easiest way to learn the code is to listen to one of the many code tape cassette study programs available. The Novice packages, as I have already mentioned, both come with a very easy way to learn code tape. I would suggest you use them only to learn the alphabet and numbers. For increasing your speed in copying, buy the 73 Magazine code tapes. They start at 5 wpm and go to 20+ wpm in four tapes. The way to learn the code is to copy it at 13 wpm, but spaced at 5 wpm. That way, to learn it at the required 13 wpm for the General level, all you have to do is tighten up the spaces between the letters. This method has worked for most people.

You can buy the books and code tapes at various electronics stores on the North Shore. Some of them are: Air View in Wakefield, Heathkit Electronics Center in Peabody, Land of Electronics in Saugus and TelCom Communications in Littleton. If you can't find them, call me.

Now, after you have adequately learned all this Novice material, CALL ME, and I'll arrange for you to take the Novice exam. If you need reinforcing of the material and can wait — I have two Novice classes a year. Good luck, and see you on the air. 73's Alan Kline, KB1DJ (ex-WB1FOD)

Who gives a hoot about Radio's future?

I just received a copy of a pamphlet that I think should be in the files of every radio club and on the desk of every radio amateur who is interested in the public service aspects of Amateur Radio. It is the ARRL publication, *ARRL Program for the Disabled.*

The first couple of paragraphs present a great introduction: "Every year, radio amateurs, or 'hams,' show how Amateur Radio performs in its most important role of providing viable public service during hurricanes, earthquakes and other disasters. Amateur Radio is more than just a hobby — it's a way in which individuals serve their communities in times of need. Amateur Radio is fun, too -- it's the thrill of traveling to famous and faraway places without ever leaving your shack, or the fellowship that results from making new friends around the country, on the air!

"For handicapped amateurs, though, the appeal is inherently greater. For individuals restricted to the confines of a bed and four walls, Amateur Radio can be a vehicle for communications, fraternity and fellowship with other human beings in the outside world. There are hundreds of handicapped amateurs who enjoy the hobby every day. They've found that with a little perseverance, patience and practice, a ham ticket and its accompanying rewards can be attainable. It takes some hard work, but it's worth it!

"A valuable therapeutic tool, Amateur Radio continues to hold a profound appeal for individuals with physical handicaps. It is a means of people-to-people contact on a basis of absolute equality — two minds communicating and relating on a level of mutual and equal empathy."

From there, the pamphlet goes on to explain to the prospective amateur just what is involved in getting a license and how to go about preparing for it through home study, local clubs, and special services such as the HANDI-HAMS and the ARRL special program for the disabled.

It also provides a list of "resources," which include a number of services I never knew about before: QST flexible discs, a long list of Braille and recorded material available from the National Library Service, a free correspondence course in Amateur Radio offered to the blind by the Hadley School for the Blind, a number of other Braille publications and reading services, numerous services provided by Courage HANDI-HAMS and a list of special equipment which is available. There are also some reprints of articles telling about the accomplishments of some of our handicapped amateurs and the use of Amateur Radio in rehabilitation programs.

I'm not so sure the word "handicapped" is appropriate for these people. I rather prefer the word "challenged," for most of them don't concede to being "handicapped." They just face an extra challenge. When you read their stories you realize how much they can accomplish when given just a little boost to get them started.

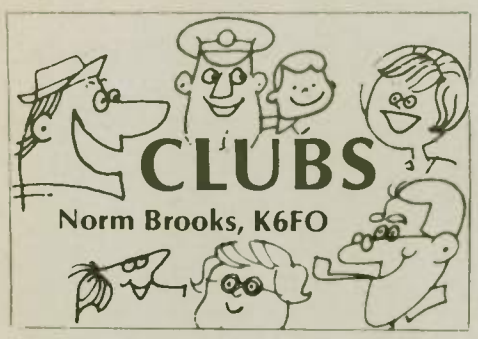
Write to ARRL for a copy of the pamphlet *ARRL Program for the Disabled.* It will make you want to have a part in bringing more "challenged people" into our world of Amateur Radio. — The Owl — *Auto-call, Arlington, VA*

New California VEC

The GEARS (Golden Empire Amateur Radio Society) of Chico, California is proud to announce that with the signing of an agreement with the FCC, GEARS is now California's newest Volunteer Examination Coordinator (VEC).

With the recent completion of the formation of a VEC committee, GEARS is now accepting applications for VE's.

Amateurs applying for VE certification should apply to the GEARS VEC Committee, P.O. Box 508, Chico, CA 95927. And please, folks, an SASE will certainly help speed the application. — *Watt Cross, KE6EP*



Norm Brooks, K6FO

Do you remember your first CW contact? If you're like the rest of us, your hand shook as you answered that CQ. And it trembled even more if the called station answered.

This traumatic experience is not likely to happen to the graduates of the Novice class of North Ottawa Amateur Radio Club, Grand Haven, Michigan. In the last session of the training the students are given the opportunity to participate in an honest-to-goodness on-the-air QSO! In other words, the stage fright is part of the training.

On my way to the Dayton Hamvention this year, I took a side trip to Grand Haven, Michigan, to visit my 92-year-old mother. I learned of the Novice class by listening to the local repeater AA8M/R.

I lucked out because I was able to attend the last session of the training. I was impressed by the training professionalism shown by the club instructors. I was also impressed by the relatively high speed at which the students were copying CW.

The club has a Novice class every year. The course runs for 10 weeks, and is given at the high school. This year the class started with 13 students. So far, three have received their Novice licenses, and I would be willing to bet that the remaining members of the class will have no trouble passing. Apparently five students dropped out along the way.

The instructors are identified in the picture, however, instructor Don Smith, KA8UKH, was not in the picture because he went home early to be the operator on the other end of that "First QSO." □

L to R standing: Roy Closs Sr., W8CSO, instructor; Bill Schneider, AA8M, instructor; George Whinnery, KA8WHF; Bill MacKay, N8FOX, instructor; Scott Nelson, no call; Dale Maxam, KR8M, instructor; John Fuller, KA8URN; Sitting: Randy Stano, KA8USK, Club president; Judy Fuller, no call.

Bishop ARC sets good example

Hank Garrison, W6SX

During the week immediately following Labor Day, I had the privilege of monitoring an example of superb operating by a whole radio club. The club was the Bishop California) Amateur Radio Club, and it vas their 34/94 repeater I monitored.

Bishop is located at the north end of the)wens Valley in California. Its elevation 4,000 feet, and it is just to the east of ıe 12,000-foot-plus Sierra Nevadas.

The Sierra Nevadas are a magnificent ıountain range and include Lake Tahoe, 'osemite and highest mountain in the ontinental United States. During the ummer months the Sierras attract housands of hikers and backpackers, ome of whom are not prepared for what his beautiful country has to offer. All of vhich brings us to my tale.

A scout group from the Los Angeles rea was backpacking in the area just to he west of Bishop. One of the scouts ecame ill, apparently with altitude ickness. One of the leaders was a ham, ınd he used his hand-held to kep up the 3ARC 34/94 machine asking for help. He was answered by Cal Turner, WB6YZY.

Cal very efficiently found out what the problem was, helped pinpoint their location, and called both the sheriff and Forest Service. Additionally, he called the Bishop Hospital and relayed symptoms, diagnosis and advice.

Since a more life-threatening emergency was already in progress, and since the scouts were not in an area suitable for helicopter pickup in any case, it was decided that the scouts should hike to a lower elevation.

Going down is one cure for altitude sickness, and in case the problem turned out to be something more serious, the scouts would be better positioned for either helicopter or 4×4 pickup. Cal "held their hands" by radio the whole way, encouraging navigating and relaying medical information.

Fortunately, the problem was indeed altitude sickness, and once the scouts descended, the emergency ended.

But that was not the end of the story. A few days later, some of these same scouts got separated from the main group and lost in the mountains. Once again, WB6YZY and the Bishop ARC came to

VISIT YOUR LOCAL RADIO CLUB.

ALABAMA

Birmingham Amateur Radio Club, Inc. (BARC)
Meets at the American Red Cross Building
2225 3rd Ave. North in downtown Birmingham, Alabama
1st and 3rd Thursdays/monthly at 7:30 p.m.
For info call David Black, KB4KCH, (205) 933-1313

Telephone Pioneer Amateur Radio Club of Alabama (TPARCA) 1st Thurs/monthly — 11:30 a.m., Rm N102, SCB Data Ctr 1st Fri/monthly — 11:30 a.m., Caf Pvt Rm, SCB HQ Bd WD4BXA/R 147.285/885 Coco Cmptr, Net Mon/wkly 8 p m. K4FUM/R 449.3/444.3 — Info. N4DLE 205/663-2171, Bhm.AL

ALASKA

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

ARIZONA

Arizona Repeater Assoc., Inc. (ARA)
P.O. Box 5291
Phoenix, AZ 85010
4th Thursday/monthly except July/Dec. 7:30 p.m.
4250 E. Camelback Rd., Suite 475-K

Tucson Repeater Association
P.O. Box 40371, Tucson, AZ 85717-0371
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.

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

East Bay Amateur Radio Club
Salvation Army Center
Rheem Ave. & 36th Street
Richmond, CA 94804
2nd Friday/monthly — 8:00 p.m.

El Dorado County Amateur Radio Club
P.O. Box 451, Placerville, CA 95667
W6HBH Repeater — 147.825 Out/147.225 In
Net Thursday 7:30 p.m.
Meets 4th Tuesday/monthly • Call for location

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.

Golden Empire Amateur Radio Society (VEC)
Al Biegler WA6WJZ
Phone (916) 343-6141/call 146.25/85
Meets in conference room 3, Enloe N T Memorial Hospital, W 5th & Esplanade, Chico • 3rd Fridays/monthly - 8:00 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 Bay Amateur Radio Association (NBARA)
Homestead Savings
440 Santa Clara
Vallejo, CA 94590
4th Wednesday/monthly — 7:30 p.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 Inc. (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.

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

Simi Settlers ARC (SSARC)
P.O. 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

South Bay Amateur Radio Assn (SBARA)
Fremont School, Laiolo Rd, Fremont
3rd Wednesday/monthly - 7:30 p.m.
Talk-in 147.015 MHz
Frank Kibbish, WB6MRQ/(415) 657-5730

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

Stockton-Delta Amateur Radio Club, Inc.
U. of the Pacific, Rm 122
Kensington & Mendocino
2nd Wed. monthly, 7:30 P.M.
Rptr. 147.165/765 Net Wed. 8:00 P.M.

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

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

FLORIDA

Dade Radio Club, Inc.
Museum of Science
3280 South Miami Ave.
Miami, FL 33133
1st and 3rd Tuesdays/monthly — 8:00 p.m.

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.

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
532 Sheffield Rd.
Naperville, IL 60565
(312) 369-0747 / call in 147.93/33
3rd Monday/monthly — 7:00 p.m.

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

Dupage Amateur Radio Club W9DUP
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.

Schaumburg Amateur Radio Club
Meineke Rec. Center, Schaumburg
3rd Thursday/monthly — 7:30 p.m.
Net on remaining Thursdays — 8:00 p.m.
147.285 and 443.625

Six Meter Club of Chicago - K9ONA
Rptrs. 146.37/146.97 448.300/443.300
Info net - Tues. 9:00 p.m. 146.37/97
Annual Hamfest 2nd Sunday in June
Santa Fe Park, Willow Springs, IL.

INDIANA

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

IOWA

RSCB (Radio Society of Council Bluffs)
Richard Swig, WA0ZQG, Secretary
46 Rolling Hills
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

Billerica Amateur Radio Society (BARS)
1st Wednesday/monthly - 7:30 p.m.
Honeywell Cafeteria
300 Concord Rd., Billerica, MA 01821
Near Jct. Rte. 3 - Info - Rptr. 147.12

Quannapowitt Radio Assn. (QRA)
United Methodist Church
Vernon St.
Wakefield, MA 01880
4th Friday, September-May at 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

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
For info contact N8CDY (313) 885-5557

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

NEVADA

Las Vegas Radio Amateur Club
P.O. Box 27342, Las Vegas, NV 89126
Operating 146.34/94 — open autopatch — Net Tuesday 8pm
Meeting 2nd Sunday 7:30 pm at Royal Ridge Clubhouse
4601 S. Decatur near Tropicana Ave — Talk-in 34/94

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:
Ray Rogers, KA2QOC, Sec., 71 Crestview Dr.
Middletown, N.J. 07748 (201) 741-1759

Gloucester County Amateur Radio Club (GCARC)
Woodbury V. F. W.
1st Wednesday/monthly 8:00 p.m.
Woodbury, NJ
For info call K2JF (609) 589-2318

NEW YORK

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

Orleans County ARC
Civil Defense Center
West County House Road
Albion, NY 14411
3rd Wednesday/monthly - 7:30 p.m.

Staten Island Amateur Radio Assn. (SIARA)
P.O. Box 495, Staten Island, NY 10306
3rd Friday/monthly — 8:00 p.m.
Rm. B 201, College of Staten Island, Sunnyside
Club Repeater — KA2PBT/R — 440.825/445.825

Westchester Amateur Radio Association (WARA)
Scarsdale Village Hall
Scarsdale, New York 10583
Bernard Dubbs, President, WA2FSR
1st Wednesday/monthly — 8:00 p.m.

Westchester Emergency Communications Assn. (WECA)
147.65/147.06, 222.80/224.40, 447.475/442.475
Mtgs. 2nd Monday/monthly - 7:30 p.m. Little Theater
County Center, White Plains, N.Y. For further info write:
P.O. Box 131 N. Tarrytown, N.Y. 10591. Call (914) 631-7424.

NORTH CAROLINA

Rowan Amateur Radio Society
Supplementary Education Building
Salisbury, N.C. 28144
2nd and 4th Mondays, 7:30 pm

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

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

OREGON

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

U.S. VIRGIN ISLANDS

St. Croix Amateur Radio Club
Florence W. Williams Public Library
49-50 King Street, Christiansted
St. Croix, U.S. Virgin Islands
1st Saturday/monthly - 1:30 p.m.

VIRGINIA

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

Southern Peninsula Amateur Radio Klub (SPARK)
Repeater 146.13/146.73 - K4DHO (804) 851-5573
Salvation Army Community Center (Big Bethel Rd.)
P.O. Box 4128, Hampton, VA 23664
1st and 3rd Tuesday/monthly — 7:30 p.m.

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.

the rescue, and without going into details, the ending was happy.

Why do I keep saying the Bishop ARC came to the rescue, when during both emergencies it was WB6YZY who did the communicating? Because it was all the other members of the club who kept their mouths shut and mikes unkeyed. There were several others on the repeater who could have handled things, but they and everyone else kept quiet. Consequently, Cal was able to effectively deal with the emergencies without a hoard of kibitzers and helpers.

Another example: During the altitude sickness episode, the BARC machine was being intermittently keyed up by an aeronautical mobile who apparently did not realize (or care) that one can turn on a lot of repeaters from 25,000 feet. Both Cal and the other club members quickly realized it was a problem that couldn't be helped and worked around it. There was no wasted time with fruitless calls and "ain't it awefuls."

So once again we have a wonderful example of Amateur Radio doing one of the things it does best. Would you and the people in your local club have done as well? The reason the Bishop hams did everything right was because they had practiced during ARRL Simulated Emergency Tests and other exercises. They had talked about how to handle emergencies before the emergencies happened. They were disciplined and knowledgeable.

I suggest we get off our collective duffs and take the lead in making sure the users of our local repeaters would do as super a job as the Bishop ARC did. Take the lead doesn't necessarily mean "do it yourself." It can also mean prodding and cajoling and/or setting the right example. Most of all, it has the connotation of being active, not passive. Set an example! Once an emergency starts, it's too late. Do it now! □

Do you operate a radio station?

Carl Drumeller, W5JJ

Now, don't jump to the conclusion that just because you have a transceiver, a microphone (or key), and an antenna plus feedline that you have a radio station. Let's sidetrack any mention of the FCC requirements for independent means of measuring frequency and modulation. Let's just consider what it takes to put that station on the air in a manner that doesn't leave you just a bit ashamed of what you've done.

One prime requirement is that of being able to put your transmitter on a selected frequency without disturbing other operations that may be in progress on that frequency.

You've heard the usual practice: A "ham" pops on the general neighborhood of the selected frequency and dips his final (assuming he's not using an external amplifier), then peaks up his drive, and then loads his final. How long this takes varies inversely with the extent of gray matter between the ears of the operator. Anyone requiring over 10 seconds should give serious consideration to surrendering his amateur license and retreating to the citizens bands.

Now, let's consider how the operator of a complete radio station would go about the same operation. First he'd set his dials to the approximate positions, basing this upon previous deliberate observations. Then he'd switch to his dummy antenna . . . oh, you don't have a dummy antenna? For shame! Anyway, that good operator would switch to his dummy antenna, completely tune his transmitter, adjust his external antenna matching network to the previously noted and logged approximate settings needed to present a 52-ohm nonreactive load to his transmitter, then switch to the "live" antenna. He'd be on frequency, properly tuned, properly loaded . . . a clean, ethical bit of operation.

Again, do you operate a radio station . . . or just a transmitter and a receiver?
— *Florida Skip* □

WITH THE HANDI-HAMS

Maureen Pranghofer, KF0I

I recently received this information and thought readers might find it interesting.

Taking the exams under the VE program

"When a group of volunteer examiners located in a nearby town offered exams the first weekend in March, I decided to take a shot at the Extra. After 13 years as an Advanced licensee, I had lots of theory to re-learn. I purchased the newest ARRL License Manual, sent in my 610 Form and my $4, and went to work. My mother read the Extra Class portion of the license manual and I used some old tapes for reviewing purposes.

"I didn't have to practice the code much as I am an active CW operator. I did, however, have to practice writing it on the Braille writer. I normally copy in my head.

"After six weeks of study, I took and passed the Extra on 03 March. The test gave me very little trouble and the test session was as smooth as clockwork. Anyone who is familiar with the areas of the license manual, who takes time to think, and remembers never to leave a question blank, should have no trouble passing the exam.

"Here are some pointers (hopefully obvious) for any physically handicapped person applying for a session. First, send in the 610 form as soon as possible. Second, when you apply for the exam, let the examiner know of any special needs such as a reader or easy access to a test site. In my case, one of the examiners did all of the reading and writing of the test questions. Third, be sure to bring your Braille writer, calculator and several sheets of paper. I used Braille paper which is 11 inches square. One sheet was plenty of room for the code test, and I only needed one other sheet for scratch paper. Finally, allow yourself plenty of time to located the testing site. Be early rather than late.

"The VEC program is an improvement and is a great asset to Amateur Radio. Now it is more convenient than ever for anyone to upgrade. Rather than spending many dollars for a long trip to the nearest FCC office, for just a small expense and a short drive you can easily get to the testing site. The atmosphere is much more relaxed, but during the testing session it's strictly business. My entire exam took one hour and 15 minutes — and I am now watching the mailbox and having to remember to sign WB5ADC/E. If you have ever considered upgrading, hit the books and go to it. Even the Extra is now within reach." /s/ Mike Duke, Newton, MA

While Mike chose to use the Braille writer to take notes, others have used a typewriter, said letters or words verbally or remembered the basic QSO in their head and verbally answered questions afterward. Examiners should be flexible enough to allow whatever methods work so long as there is sufficient evidence that the person is copying code and does know what is required to pass the exam.

Also, one of our HANDI-HAM members in Texas said the VEC recorded the exam on cassette and all that was needed was to listen to the test questions as they were read on tape, Braille the correct letter answers and then read them off to the examiner. Other examiners might want to consider this approach when testing a blind applicant because the applicant can repeat questions as many times as needed and no reader is needed. All that is required is someone to take a brief amount of time and mark down the letters to the questions as they are read off by the person taking the exam.

We would appreciate any comments from persons having gone through the VEC program or from persons giving the exam, as to what methods were most helpful as there have not been any specific standards set for handicapped applicants at the present time. □

Almost there

George Hickin, W4GH, reports many generous donations to the fund established to purchase a high-speed audio duplicator. A total of $946 has been donated, with a little over $200 to go.

For the last 14 years, George and Tom Carten, K1PZU, have personally borne the costs of recording **Worldradio** for blind amateurs. For those who would like to contribute, please send your donations to George Keller Hickin, W4GH, P.O. Box 7497, Macon, GA 31209. □

QUARTER CENTURY WIRELESS ASSOCIATION INC

Esther Given, W6BDE

A new and attractive invitational QSO party is being initiated by QCWA and will last a full week. Starting at 1200 UTC, Monday, 09 September, and continuing until 2000 UTC, Sunday, 15 September, the invitational will cover all amateur bands and modes of transmission. Repeaters may be used, but no crossband or net contacts will be accepted. Separate logs for CW and phone contacts must be maintained. Logs must be legible, postmarked by 25 September, and received by 10 October 1985. No logs will be returned.

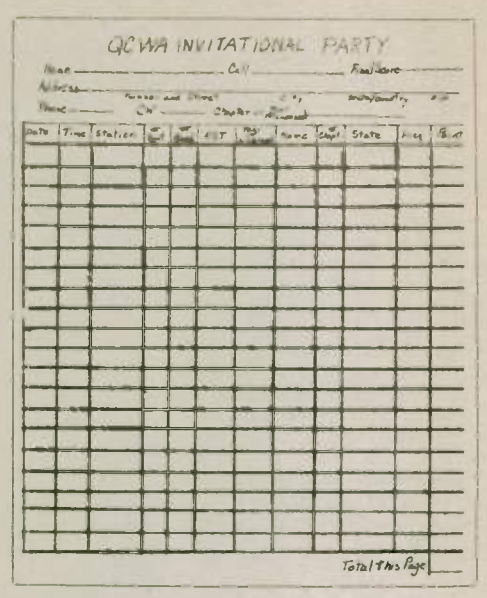
Logs should be mailed to: Onie Woodward, W1ZEN, QCWA Activities Manager, 14 Emmett St., Marlboro, MA 01752.

Prior to the event, a sample log form and copy of the rules will be available from the activities manager at the above address if an SASE is sent with the request.

The primary function of the invitational QSO party is an opportunity for all amateurs to acquaint themselves with QCWA members, learn more about their activities, share their friendliness, and observe their fine operating practices. It is also the time for QCWA members to serve as individual membership scouts aiding in the growth and development of QCWA.

Rules, scoring, exchanges and awards are set up to encourage the non-member to participate.

Non-members will receive 2 points for each different QCWA member contacted during the week (only one contact with each station will be counted). QCWA members will score 1 point for each non-member worked. No multipliers will be used. The top scoring QCWA member *AND* the top scoring non-member in both phone and CW will each receive a plaque. Certificates will be issued to the next nine runners-up in each category.



The following calling and exchange procedures are suggested.

QCWA member to non-member *CW* — CQ CQ CQ de W1ABC/QCWA K; *Phone* — "This is W1ABC, QCWA member calling CQ". *Exchange* — Give contact your call, name, QSO number, RST, chapter number and state.

Non-member's call and exchange procedure: *CW* — CQ QCWA, CQ QCWA, CQ QCWA de W1XYZ K. *Phone* — CQ QCWA, CQ QCWA, CQ QCWA; this is W1XYZ. *Exchange* — QSO number, RST, name and year first licensed.

Those wishing to participate are encouraged to write the activities manager or consult the QCWA Summer Issue of the *QCWA NEWS* or more complete information on the QCWA Invitational QSO Party.

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QCWA director, Leo Meyerson, W0GFQ, was featured speaker for the Inland Empire Chapter #130 of QCWA at its March 30th meeting at March Air Force Base. A record turnout of 123 members and quests listened with delight to the speaker's recount of the early days of radio.

Licensed since 1927, Meyerson has spent a lifetime in the radio industry. He organized World Radio Company in 1936, which earned the coveted Army/Navy "E" award during WW II. In the 1950's, he presided over Globe Electronics and Galaxy Electronics, both of which manufactured amateur gear of high quality.

He has provided a complete emergency radio communications center dedicated to public welfare in his hometown of Cedar Rapids, Iowa, and has aided that community for many years with dedicated communication service.

One of his major contributions to QCWA has been his chairmanship and tireless promotional activity in establishing and guiding the QCWA Scholarship Fund from zero in 1977 to almost $50,000 of working principal in 1985.

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The presses have rolled, and QCWA's 1985 directory has been mailed to all members in good standing with U.S. zip codes. The listing is numerical by call area, and alphabetical according to call letters. Information gives call, mailing address, QCWA member's number and year of first amateur license.

The 158 pages carry information on 9,988 members, and reflect the membership status as of 17 March 1985. QCWA dues are paid according to the anniversary date of acceptance of the membership application rather than on a fiscal basis. Thus, the membership count actually changes daily.

The 1985 directory is a memorial credit to Rollie Terrill, W5RC, who did much of the tedious work of correcting and editing the database from his wheelchair at home until a few days before becoming a Silent Key. Prior to suffering a stroke a year ago, Terrill was Assistant General Manager at QCWA Headquarters and had compiled previous directories. Upon his death, the work was completed by Nadine Wells, W5ZUT, of Headquarters staff. □

Helping hunters

Russ Andrews, K6BMG

Jammers and other troublemakers disrupt our use of the repeater. Each one of us wants to do our part to locate these stations so that actions can be taken to bring relief. This work requires a lot of cooperation between hunters, and between the users and hunters. This paper outlines some do's and don'ts which, if followed by repeater users, will aid the hunters.

1) Do *not* jam the troublemaker yourself. This only makes it harder for base stations to take bearings or mobile hunters to home in. Also, it is illegal.

2) *Do* leave several seconds between transmissions. Resist quick keying. This aids in taking bearings.

3) Do *not* clutter the channel with information of marginal usefulness such as, "I don't hear him (or he is very weak) here in Upper Podunk." Such transmissions only make the hunter's task more difficult. If this information is needed, it will be requested.

4) *Do* report the fact that he is very strong at your location. Indicate the receiving antenna used, *your city* and the major cross streets.

5) Do *not* transmit if he is strong in your area (after giving your report). To do so will interfere with mobile hunters. If you do have corrections or new data, that can be transmitted.

6) *Do* give bearings if you have a beam. Every bearing given should contain a statement of his signal strength. Always indicate *your city*. Hunters can take your bearing and mentally plot it in their heads and be on the road before a formal plotting is done. At this point, accuracy is secondary.

7) *Do* attempt to double-check and refine your bearing. Swing your beam through 360 degrees to verify you have used the correct lobe.

8) *Do* follow the lead of recognized leaders, and heed their requests.

Please remember that nearly all mobile hunting is done silently. You will not hear the hunters in the field. Also, the station may not be located on the first try. Even when a jammer is located, you will probably never be told who it was. Each case is handled seperately, and different avenues taken. It is important to realize these things and not lose patience or faith. If we can put forth a unified and effective effort, we will be both setting an example for others, and serving notice that we mean business.

Mt. Wilson Repeater Assn., Yorba Linda, CA □

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

One of the few problems associated with a review of Ten-Tec's new Century 22 transceiver is remembering this rig succeeds the now-discontinued Century 21.

The tendency is to compare the Century 22 — or, simply, 22 — with Ten-Tec's popular Argosy transceiver, owing chiefly to the fact they are housed in the same case and are from the same family. But that's where the similarity ends, and it would be an apples-and-oranges situation to compare the 22 and the Argosy in a review.

So, in comparison with the Century 21, the Century 22 is light years ahead and has rewritten the books on moderate power, CW only transceivers which don't cost an arm and a leg to own or operate. The 22 is an ideal rig for the beginner, for veteran hams in search of a back-up rig, for mobile or portable operation and, of course, for QRPers.

For the low-power buffs, the 22's output can be cranked back from the 22 watt level that was tops on almost all bands, to less than five watts output with no sacrifice in performance. It features the outstanding break-in keying for which Ten-Tec is without peer in commercially made amateur equipment.

It even has an improved sidetone sound — one that's downright mellow and a pleasure to hear. It's bad enough fighting QRM and QRN without having a harsh sidetone compounding the problems.

Like its predecessor, the 22 uses a direct conversion receiver, but in this case, the receiver sensitivity has been vastly improved through the use of state-of-the-art design and a second conversion stage. The performance rivals that of some higher priced superheterodyned receivers I have recently used.

One of the truly outstanding features of the 22 is the variable active audio filter. It is variable from 3 kHz to 300 Hz, and by using it in conjunction with the receiver incremental tuning (RIT) control, I was able to pull some weak ones through the crud with the ease one has come to associate with much costlier crystal filters.

Ten-Tec generated some confusion about the audio filtering. Early advertisements for the 22 touted a six pole variable audio filter, but the instruction manual which arrived with my test rig called it a four pole filter. The latest version is that it is an eight pole, active band pass filter centered at 750 Hz.

As Joe Redwine, N4AVF, Ten-Tec's customer service director, put it: "At any rate, it works quite well." I concur with that last comment wholeheartedly.

The 22 operates on 80, 40, 30, 20, 15 and 10 meters, with instant bandswitching and no need to tune. The output held at 22 watts, except on 10 meters, where it dropped off by less than a watt. Receiver drift was negligible. And the 22 has separate AF and RF controls, which Ten-Tec should put on the Argosy.

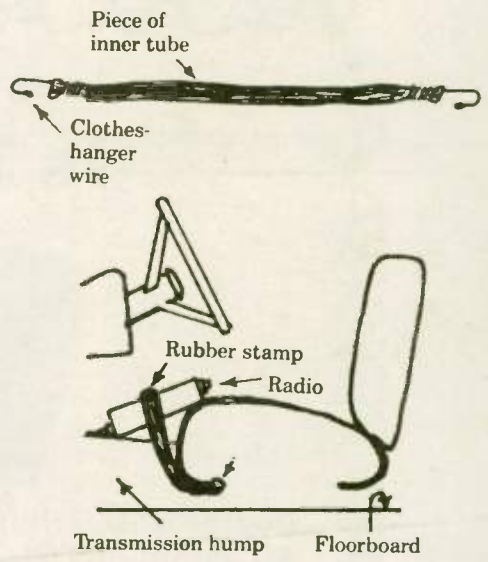
In keeping with the simplicity of the 22, Ten-Tec offers only a handful of accessories: a 5 ampere power supply; a single-paddle electronic keyer and a crystal calibrator, both of which tuck neatly inside the rig for two more improvements over the 21; and a DC circuit breaker.

The company's advertisements for the 22 produced additional confusion about the metering. Publicity photos of the 22, for instance, showed it with the same meter movement as the Argosy, including a lower scale calibrated in watts output.

But the test 22 which Ten-Tec lent me had a wattmeter not calibrated, but showing "ballpark" estimates of power to the antenna. Accurate readings, which are a must for QRPers, especially in contests, require an outboard wattmeter.

Finally, the 22's instruction and operating manual leaves a little to be desired. While all the instructions are there for putting the 22 on the air and operating it, Ten-Tec has dropped the familiar and extremely handy voltage charts for servicing the various boards.

All in all, though, the Century 22 is a fine little transceiver. Its basic price tag of $389 makes it competitive with other rigs aimed at this segment of the Amateur Radio market. □



Mobile mount tip

Dick Holmes, WA6UYB

Do you chase your mobile radio around in the car as you make turns? Are you hesitant to drill holes under the dash for a mobile mount?

I solved these problems by making a strap from an old 10-speed bicycle inner tube to hold the radio in place.

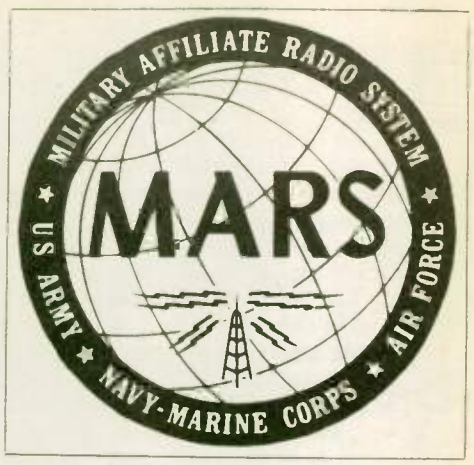
To mount the radio, I simply place it at the front edge of the car seat with the rear resting on the transmission hump, connect the power and antenna cables, then lay the strap over the radio and hook the ends to the bottom edge of the car seat frame.

The radio is easy to install or remove, stays in place as I drive, the face is easy to see, and the bottom-mounted speaker is in the open.

The strap was made by cutting the inner tube to a length that would apply only enough pressure on the radio to hold it in place. Next, I wound clothes-hanger wire around the ends and formed large hooks. (See the drawing.)

This isn't the answer for everyone because some vehicles have the gear shift on the floor, bucket seats, etc. However, it certainly solved my problem and might help you sometime.

— *Western ARA, Cerritos, CA* □



Grateful responses make it worthwhile

Willard Prentice, AAR3FO/W3VBM

Day after day, MARS members from coast to coast receive and deliver countless messages from servicemen in Germany, Korea or elsewhere to their families or friends here in the States. When a telephone number is given in the message, or can be found in the local directory, delivery is made by phone, usually within a few minutes. Otherwise it is mailed, which not only takes longer but requires typing by the operator.

When delivery of a message is made by phone, the response is varied. If the recipient is familiar with MARS, usually the family member gives a polite "Thank you," and that ends it. But if it is the first time the family has received such a message, the reaction may be one of appreciation, or it may give rise to a whole series of questions as to how the system works, how long does it take to get a message through, is there any charge, and can I take a return message. A few people are suspicious. One woman wanted to know how I got her number and how did I get a personal family message.

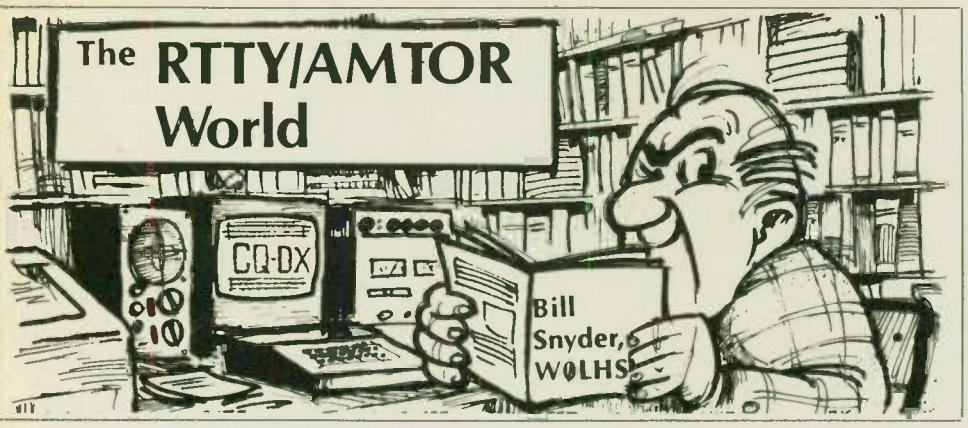
When no phone number can be found — some people don't have phones and some have unlisted numbers — the message is then mailed. Usually that completes the action, although sometimes the party will call back and want to send a reply. In December, however, I received a Christmas card from a couple I didn't immediately recognize until I read the attached note. Then I recalled that I had mailed them a MARSGRAM from their son in Korea that I had picked up on net a week or so before. The note read:

We want to thank you very much for what you have done for our family. You have made us very happy and able to enjoy our holidays better. May you and your family have a very Merry Christmas and a very Happy New Year. — Mr. & Mrs. Wayne Williams

When you receive a note like this or hear a mother fairly weep with joy on the phone on hearing from her son, you know it is from the heart, and it makes all those hours spent handling traffic seem worthwhile. □

If your club is involved in any emergency situations, send the story and pictures to **Worldradio.**

See your group in print and help your fellow amateurs with shared experiences. Your story may help others be better prepared.



Although it's now ancient history, the Clipperton DXpedition was a big success – except, perhaps, in the RTTY area. That part could be labeled the Clipperton Circus, and a three-ring model at that! While the CW and SSB operators at FO0XX were milling their way through thousands of QSOs, the RTTY station remained dark during the first few days of the operation. F8XT, in France, had assured us there would be RTTY participation from the little Pacific island which is owned by the French government.

So, as soon as FO0XX (hereinafter known as the Foxx) appeared on CW, the RTTY DXers began tuning the bands for baudot signals from the tiny island. But, alas, nothing was heard until the afternoon of 08 April. Then it happened. I heard a weak signal calling CQ in the middle of the RTTY portion. Sure enough it was the Foxx. When he stood by, I gave him a short call and excitedly flipped the transceiver back to receive. I thought I had a good chance of being the first QSO with the DXpedition.

But I was wrong! In place of the Foxx was a Mailbox-64 happily calling CQ in the beacon mode! There was no joy in Fargo!

I had previously written to this very SYSOP and pleaded with him to refrain from using the beacon mode on our tiny RTTY portion. I had seen him tell another ham that the beacon mode would be shut off during rare DXpeditions; and it was the same station that, in a recent contest, was told by Joe I0AOF, to "PLEASE QSY, I HAVE BEEN ON THIS FREQUENCY FOR TWO HOURS."

I kept listening, but no sign of the Foxx. Apparently he had moved out from under the mailbox. A few minutes later, at 2025, I heard him calling QRZ. A very short call nailed him. So, at 2026Z I had him in my log!

I immediately alerted Jack Whitaker, W5HEZ, via the share-the-DX landline. In a few minutes I had the pleasure of watching both Jack and Camille, KA5CQJ, work the island.

At that point the bedlam started full bore! Wow!

The Foxx worked K8UNP out of the worst mess I think I have ever heard. I watched W3KV; W1DA plinking away with nice, short calls; but the long-winded gang, complete with RYs, was dominating the comedy. Some of them didn't bother to listen — they just called and called and called. I saw 10-by-10 calls. Nobody does that on SSB or CW, why on RTTY?

So, the Foxx disappeared. I think he must have shut down because I didn't hear him again that day. Here are excerpts from the dialogue that followed on the frequency: "WHAT A BUNCH OF IDIOTS." said one anonymous station as the jumble of signals calling the Foxx died down. Then another cut in with: "GO BACK TO SIDEBAND!" I think it was the first station who answered that command by typing: "I'VE ALREADY WORKED THEM THERE!"

And then, to top it all off, one of the pile-up started calling CQ DX. But the Foxx had escaped the chicken coop.

About that time I heard YS1GMV call the DXpedition without an answer. So the show was over for the day. They might have returned later, but I don't think so.

The next day I watched them again, but I think the Foxx was blasted out of existence by a five-minute call from an XE station. I have a feeling the island only worked a few USA stations that day. K6WZ and K4AGC were two of the lucky ones.

On the third day, 10 April, I discovered my friend Jean Hurtaud, F8XT, calling FO0XX on schedule. Sure enough, the Foxx came back to Jean's call. Remember that Jean had told us all about the DXpedition many months ago; in fact, he was partially responsible for talking the DXpedition into taking RTTY gear along.

All this time the island had been working stations on the same frequency. Following F8XT, the Foxx stood by for DK3CU with a plea to the pile-up for "DK3CU ONLY." Then I5FLN, I8AA, plus W3KV, W2HFX, and a few others were treated to a QSO. Things were beginning to take shape.

Now the Foxx came to his senses and ordered the pack to work split — calling "UP PLEASE ONLY UP" in no uncertain terms. Of course, one or two persisted in calling on the DX station frequency including one high-powered European station. Then the characters began their comments: "Wrong VFO, he is split!" And so the comedy settled down to routine contacts.

I was proud of the operator at FO0XX because he read out operators who attempted to get in the log twice for QSL insurance. The circus I referred to earlier was not caused by the Clipperton group, but by the greedy mob who believe the longer the call, the better the chance! Remember SCSC means Short Calls Speed Communications! The Clipperton group made over 30,000 contacts, but only 81 were on RTTY.

For me the highlight of the week came when one station pleaded with the DXpedition: "DON'T DROP THE LOGBOOKS IN THE WATER WHEN YOU LEAVE THE ISLAND!"

More Mailbox 64

Every now and then, another Mailbox 64 appears on the 20-meter band and starts blasting out automated CQ's as often as every two minutes. If you leave your printer tuned to one of them, you'll get a huge pile of waste paper. Most of the transmissions deal only with access instructions or message lists stored in computer memory. Well, the latest mailbox turned out to be a joke-box, and a crude one at that.

I enjoy funny stories, but I don't like ethnic slurs or stories that make fun of people's deformities (e.g. hare-lip yarns). To me, these are the lowest form of humor. So, when I came across "Chuckie's Mailbox" stuffed with 29 stories of that kind, I gagged.

I will admit Chuckie was doing a land office business. Some of his mailbox patrons were going down the line reading story after story.

Personally, I don't feel this is Amateur Radio; the FCC does not allow music on SSB, so why should we allow RTTY to be a new form of entertainment broadcasting? The entertainment on RTTY comes from two-way communications, not from watching jokes being printed out on a 9-inch screen, ad infinitum.

So, I wrote Chuckie and voiced my opinion about the long-winded use of the frequency with automated CQ's and the poor-taste humor.

I believe we must all police our bands, or one day we might find the FCC doing it for us. So, when you hear a mailbox that keeps calling endless CQ's, or offering things for sale, or telling bad-taste stories, drop the SYSOP a letter and vent your feelings. I do. And the nicest thing is I have had return letters from SYSOPs who agree with me that the DX bands are not the place for such operations. Even Dick Uhrmacher, K0VKH, who writes a fine MSO column in the *RTTY Journal*, has editorialized against the use of beacons. Dick and his group operate the National MSO frequency in a manner that is a credit to our fraternity.

Eavesdropping

"I WORK UNDERGROUND AS A MINK INSPECTOR." ... "IS THIS FREAK-WENCY IN USE?" ... "LAST NIGHT WE RENTED A VCR AND WATCHED FOUR MOVIES" ... "I NEVER KNEW BEES HAD KNEES" ... "WILL LOOK FOR YOU DOWN AN ELEGANTLY PRINTED PAGE" ... "PRO BASEBALL WOULD BE A LOT BETTER IF IT ONLY HAD A NINTH INNING." ... "HAM RADIO IS MY WIFE'S BLESSING — I'M RETIRED." ... "GOT MY TICKET IN 1920, BUT HAVE BEEN OFF THE AIR FOR 50 YEARS." ... "WE HAVE A MASSIVE MOLE INFESTATION IN OUR BACK YARD." ... "I THOUGHT TRIVIAL PURSUIT WAS A NEW NAME FOR 75-METER SIDEBAND" ... "UTAH, WYOMING AND ALASKA WERE THE HARDEST TO GET." ... "MY TYPING IS FUZZY TONIGHT" ... MY FINGERS DON'T ALWAYS SEE WHERE MY EYES ARE LOOKING." ... "I TYPE BY THE BIBLE METHOD, SEEK AND YE SHALL FIND." ... "USED TO WORK FOR TELEX COMMUNIONS." ... "HERE'S MY TEXAS BRAG TAPE." ... "I HOPE MAILBOX 64 BLOWS A FUSE." ... "I HAVE 500 PEOPLE UNDER ME — I MOW THE LAWN IN A CEMETARY." ... "THIS IS THE VOICE OF COAT HANGER CITY." ... "73 TO WOLFFANG IN HUMBUG." ... "EARTH CALLING CLIPPERTON." ... "WHY DON'T YOU SEND THE VK A QSL. AFTER ALL HE CALLED YOU, BUT YOU DIDN'T ANSWER." ... "SEE YOU LATER DOWN THE HOG." ... "IF YOU WERE LOOKING FOR DX I'M SORRY TO DISSAPOINT YOU." ... "WONDER WHAT KIND OF BAD WEATHER YOU ARE ENJOYING" ... "IF YOU DON'T DESIRE TO TRANSMIT OUT OF THE BAND, SKIP THE NEXT STEP." ... "FINE ON YOUR FINE RIG AND FINE ANTENNA." ... "WAKE UP NOW, AS I AM TURNING IT BACK TO YOU!" ... "I LIKE THIS NICE AND FUNNY MODE."

Mailbox 1514

This mailbox hangs on my house and brings a lot of interesting mail each day. The prize this month goes to my very good friend Taka JA1JDD. Postmarked from China, it read: "Dear Bill, I am on the air from BY1PK, but the hours I can operate are not good for the USA, so I cannot give you a new country from here. Sorry."

(please turn to page 40)

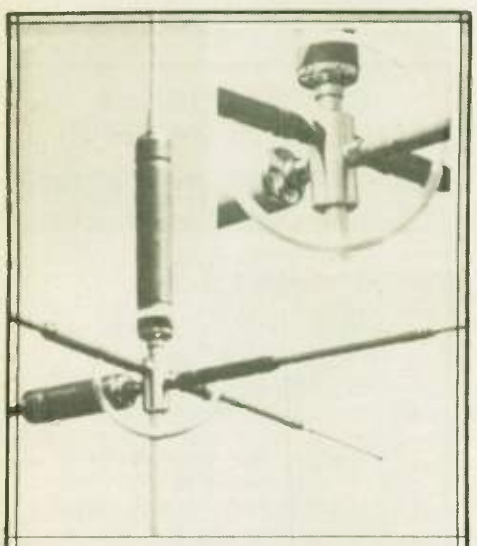
Vince Luciani, K2VJ

(NOTE: This month's article is again written by our pal from "down under" - Kevin Moore, VK3ASM.)

CARI News (Chess & Amateur Radio International) when received down here, is read from cover to cover in one sitting — most enjoyable. The annotated chess games are just what I need to haul myself out of the ratings doldrums.

A couple of items in the last "ish" have sparked some ideas which I thought I would jot down now rather than have to "get a round TUIT" later.

Vince, K2VJ's offer of an ARRL 1985 Handbook prize to encourage DX radiochess has inspired me to devise what



Kevin Moore, VK3ASM

I shall call the "CARI VEGEMITE OPEN". This idea was helped along by reading in CARI News of Peter Frederick, VK3BSF, sending Vince that jar of special Australian ointment.

Well, I am prepared to offer one jar of the famous Australian Vegemite to every USA station (CARI member or not) who completes one chess game on the air with me between now and the end of 1986. The offer is fair dinkum mate, and I will make every effort to QSO (SSB or CW) anyone who writes to arrange a sked (QTH at end of article for VK3ASM — not correct in Callbook due to recent QSY).

With declining DX conditions it will not be easy, especially with the odd time differences between our countries and the fact that I run only a barefoot FT101Z into a long wire (although I'll have a 2-el vertical array up soon).

I'll reply to everyone who writes and will include in my response a story about Vegemite. But if you are wondering whether it will be worth the effort, let me tell you a bit about our famous food right now.

You see, we Australians become a bit kooky around breakfast time. Every morning we crave Vegemite on toast — we can't help ourselves, our mothers indoctrinated us on the stuff at a very early age, and now we just couldn't start the day without an early morning "fi.." of Vegemite. A bunch of silly buggers, you're probably thinking by now, but that's just the way we are down here.

Anyway, with Vegemite as Australia II's theme song, thanks to "Men at Work" with their "Down Under" topping the hit parade all round the world during the Americas Cup, our morning Vegemite fix is simply a very nationalistic thing to do.

Frankly, Vegemite tastes a bit yucky but we dutifully choke it down just to keep our wives or mothers happy as they busily go about plastering it on toast for the children because they, like their mothers before them, can't seem to break the habit.

So, now that I've got your Yank mouths watering, I hope you will resist rushing off to Olivia Newton John's shop in Los Angeles and, instead, put pen to paper to arrange a sked with me for some radiochess, thereby obtaining your free sample of the precious substance we call Vegemite. And you don't even have to beat me at chess to get your free jar, surface mail.

Now, on to radiochess in Oceania. Activity is, indeed, picking up a wee bit here. The other night on our new 80-metre net (3.620 MHz, 0930Z) we had four games going at once, just like in the good old days of sunspot maxima on 20 metres. Fred, VK3BQA, was playing Peter, VK3BSF's computer in a friendly game. I played Barry Pycroft, ZL4RQ, Wellington, and at the same time played by Tandy 1650 computer against Ty VK2CLT. And while all this was happening, Kirk McMillan, ZL4PX, played Rob Cameron, VK5PRC, Adelaide.

A great time was had by all. An old friend of Kirk's, Allister Gemmell, ZL2AIX, joined the net looking for a game.

Cheerio for now — I'm working on another idea to go with the Vegemite one, anything to encourage CARI DX radiochess during the sunspot minima. I'll write about it another day.

For information on CARI, P.O. Box 682, Cologne, NJ 08213, USA. For a free jar of Vegemite, write: Kevin Moore, VK3ASM, 17 Haddon Court, Mitcham, Victoria, AUSTRALIA 3132. □

RTTY/AMTOR

(continued from page 39)

Gary Payne, KE6CZ, sent a list of dandy "eavesdroppings." Thank you Gary!

I also received a number of letters as a result of my RTTY operating article in the May **QST**. Most wanted to know how to get started in RTTY/AMTOR. Again I must suggest a book by Dave Ingram, K4TWJ, entitled *RTTY Today — Modern Guide to Amateur Radioteletype.* It's published by Universal Electronics, 4555 Groves Road, Columbus, OH 43232.

Marv Mahre, W0MGI, called my attention to a mistake in a recent column in which I said to write to HANDI-HAMS in Courage Center, Minnesota. Well, Marv points out there is no town in Minnesota by that name. It should have read: HANDI-HAMS at Courage Center, 3915 Golden Valley Road, Golden Valley, MN 55422. Thank you, Marv, for pointing this error out to me. In my film-making days I produced four films about the children at the Anne Carlsen School for the Physically Disabled, and so I am aware of the fine work the HANDI-HAMS do for handicapped people of all ages. If you need a club project, help handicapped persons become ham radio operators. RTTY is just perfect for the hard-of-hearing, even if they can only type a little bit.

I like to hear from you, so keep my MAILBOX in mind. It's hung on the wall at 1514 South 12th St., Fargo, ND 58103, and it's open for input 365 days a year, less Sundays and holidays. 73 Bill Snyder, W0LHS. DIT DIT. □

A no-no on planes

Carl Zelich, AA4MI

Before taking off for a commercial flight to the "North Country" for the Christmas holidays, I thought, "Wouldn't it be great to operate on 2 meters from 33,000 feet? What a fantastic antenna platform!" Well, after quite a bit of telephoning to people who didn't even know what Amateur Radio was, I finally found the answers in the Federal Aviation Regulations.

Under the provisions of Federal Regulation 91.19, only the following portable electronic devices *may be operated* while on board the aircraft: portable voice recorders, tape players, hearing aids, heart pacemakers, electric shavers, electronic nerve stimulators, electronic calculators, electronic watches and electronic games.

I chuckle to myself when I read that these portable devices may be operated, but if your hearing aid must be plugged into the wall, then you'll have to leave it at home.

Any other electronic device may radiate signals which can interfere with the aircraft's navigation and communication systems. In recognition of this and to ensure your safety, *any other electronic device may not be operated* while on board the aircraft.

So there you have it. I packed away my hand-held into the suitcase along with some of my XYL's homemade fruitcake and dreamed of making those 500-mile 2-meter QSOs from near the upper atmospheres. □

Warnings come from first-hand experience

Archie Willis, W6LPJ

In a remote area of Griffith Park, the San Fernando Valley ARC was all set up for Field Day 1973. Our vintage World War II generator was running but refused to generate the electricity it was trailered to the spot to supply. This had been a common occurrence in recent years, and there were several members who had learned how to get the electricity generating by putting a "load" on it.

The quickest way was to short it with a battery booster cable that had become standard equipment for the generator. I was one of the "experts" who did this maneuver, so everyone stood by while we proceeded to "make electricity."

As the generator started its production of electricity, one of my hands slipped off the plastic on the handle of the booster cable and the 220 volts of electricity passed through my arm, across my chest and out the other hand. Those present tell me that I fell to the ground, loosing the cable as I fell. It was immediately apparent to one bystander — Roger Ryan, WB6JXX — that I was not breathing, and he quickly cleared my mouth of fluid and started CPR.

As you can see by my ability to write

(please turn to page 42)

SSTV

G.E. "Beb" Bebermeyer, WB0UNB

Dayton Hamvention

The Friday night SSTV get-together was a big success. The program consisted of different demonstrations involving the Robot 1200C Color Scan Converter. Tom Hibben, KB9MC, showed his second memory modification to the Robot 1200C which is controlled by the Commodore 64 computer from the software he has written. Beautiful color graphics were demonstrated by Bill Wells, W4CVS, using the Robot 800C. Garnet Bebermeyer, WB0UNB, demonstrated the programs written for the Radio Shack color computer which control the 1200C.

Other talks were given by K0BG and K6AEP pertaining to computer programming short cuts that can be utilized on the software now being used for the 1200C scan converter.

Slow scan shuttle event

Imagine sitting in your shack and participating in the most spectacular event in Amateur Radio history. As NASA's space shuttle lifts off into space for its next Earth-orbiting mission, it will carry a Robot 1200C Color SSTV Scan Converter. As a Robot color video operator, you can receive live video pictures from the shuttle when it passes over your geographic locality during its orbital track 200 miles above the Earth's surface. During the entire shuttle mission, the ARRL will be providing Robot slow scan operators with continuously updated reports on the whereabouts of the spacecraft.

The only requirements for exchanging live color video directly with the astronauts aboard the spacecraft is a Robot Color Scan Converter and standard radio equipment. Simply connect the Robot to your standard 2-meter FM transceiver and a movable antenna. Once the space shuttle is located and your antenna is in position, all you have to do is listen for the spacecraft's signal. You then can be the first person in your community to receive and send live pictures of the space shuttle during this historic Earth-orbiting flight.

Robot Research, Inc. has supplied NASA with two 1200C Scan Converters. One is being installed in a uniquely designed aluminum housing for portable operations during the flight. The second will remain on the ground in support of astronaut training.

The Shuttle 1200C will be connected to the spacecraft's on-board color video system and a small, hand-held color camera. During the mission, video images originating from any part of the shuttle (including space-suit cameras) will be available for transmission to Robot SSTV amateurs worldwide.

Please write WB0UNB on ideas and/or any news items which may be interesting to the SSTV world. Send information to Garnet Bebermeyer, 15 Almeda Ct., Fenton, MO 63026. □

Don Miller, W9NTP, discussing SSTV problems with Ron Flynn, KB8LU, and Robot Research, Inc. personnel after the Friday night get-together at the Dayton Hamfest.

TRAFFIC

Chuck Clark, K4ZN
Assistant Director
Roanoke Division, ARRL

An invitation

Traffic handlers sometimes wonder how many amateurs there are who don't even know of the existence of traffic handling as an amateur service, and how many there are who see it only as a nuisance, as a bunch of nuts that hog spectrum and tell everybody else to "get off my frequency." And in particular, how many there are who would use the service if they knew it existed or that it would welcome a request to serve.

You don't have to be a traffic handler to make use of the Amateur Radio traffic service. You don't have to know anything about how it works. You don't even have to have an amateur license. All you have to do is contact any amateur who is involved in the game and ask that a message be sent

How do you find such an amateur? Most places you will be able to at least find an amateur who knows a traffic handler. Or you can look in any issue of **QST** at the Section Activities department, buried in the back of the magazine among the advertising.

Find your section report, and at the end you will find a list of calls of traffic handlers, together with the total traffic count each handled during the month the report covers. Any of the calls listed there belongs to an amateur who could probably handle your message, but of course those at the beginning of the list with the higher totals would be more likely able to give you faster service because they move a greater volume and usually have more outlets.

Contact one of these stations and ask to have your message sent. You don't have to worry about proper form; the operator will take care of that, and may suggest changes in the wording that will shorten the message or reduce the chance that the message will be garbled. For example, you might put, "We're in Florida," and the operator would suggest that you leave the "We're" out. It will be transmitted on CW as "Were" which looks like the past tense, while simply "in Florida" conveys the idea of the present.

What to send? You don't have anything to say to anybody? No friends or relatives anywhere who have birthdays, anniversaries, or celebrate Christmas or Easter? Nobody in the military service? (Service is available via MARS to many places where otherwise we are not allowed to pass third-party traffic. Just give the military mailing address with the APO or FPO ZIP number, and phone number if available, and any amateur can put it into the system.)

Try us sometime. You will be doing us a favor by giving us traffic to handle; you will be doing the country and Amateur Radio a favor by helping to keep the system healthy and ready to respond when needed in an emergency; and you will be doing yourself a favor by saving the cost of postage and of writing materials. And finally, you may give your message an unexpected impact because it is sent in this unusual way. Try it!

Do it yourself?

Why not? If you have an amateur license, even a Novice license, you can put your messages into the system as easily as mailing a letter — easier even, as you don't even have to go to the mailbox or lick a stamp.

There are nets in the Novice bands everywhere in the United States, ready and waiting to receive your message. If you are a Novice or Technician, you should have no difficulty sending your message by this route. A Technician will usually be within range of a traffic handler that can be reached by VHF, and can transmit the message by voice. Higher classes, of course, have access to all the frequencies used by traffic nets with very few exceptions.

Again, don't worry about proper form and procedure. If you can do it correctly, so much the better. But the stations on the net will be glad to help you. There are few nets that can't use more help, so you will find a welcome with open arms. Anything to encourage you to return often.

Once you have sent your message, there's nothing more for you to do. The system will take over. Whether the net is a part of the National Traffic System or not, your message will be systematically routed toward its destination.

Service messages

After reading this, some readers may have an unsettling experience. Two or three days after sending a message, they receive a *service message* saying perhaps that the message is undeliverable, phone is not a working number. Well, you know you had the number correctly; you had made a phone call there two weeks previously. So what happened now?

If the service message you received is like many of them, you may decide that you're finished with sending messages by Amateur Radio. You get the impression that the originator of the service message is not much interested in getting your message to its destination. For example, you are told the number is incorrect, but you are not told what the number received was, so you have no way to know whether something has happened to the addressee or whether the number was garbled en route. And when you get a message, "Your number 67 undeliverable. We cancel it (QTA)," no explanation given as to why the message is undeliverable, you may wonder if it's merely because it's too much like work, and wonder why that particular operator handles traffic anyway.

A proper service message will identify the message being serviced by number, and in addition will give the name of the addressee and anything else that will help to identify the message. Not just the message number: it may have been garbled too. Then it explains why a message cannot be delivered, repeats whatever is questionable in the address as received, and asks for further instructions.

Remember, only the originating station may cancel a message. If it can't be delivered, the station holding it asks the originating station to cancel it, does not say "I am canceling it." And be specific. Don't say merely "address incorrect," but "no Dogwood Lane no Podunk"; don't say, "phone number not a working number," but "723 0245 not a working number."

If you originate many messages, you will inevitably receive service messages, and they won't always be as specific as they should be. You may have to do some detective work to find out what really went wrong. You get one, say, from a W3 in Camden, NJ, telling you your number 67 is undeliverable, no phone listed. You look over your file and find that number 67 went to Sacramento, CA, and you have already received an answer to it. You don't remember any New Jersey traffic recently. Then you happen to notice number 76 addressed to Camden, NC, so you sent it again and hope that this time nobody changes North Carolina to New Jersey, and wonder why the operator in New Jersey didn't notice the 27921 ZIP code. Send a service message to New Jersey telling what happened and cancelling your previous message.

If a service message has to be handled several times, give a complete address, not just the call of the originating station. It may go back by a different route. Don't just give the station of origin and place of origin as in the preamble of the message you are servicing.

The place of origin is not always the location of the station of origin. If a message has been handled by MARS, for example, the call given in the preamble is the call of the station that refiles the message from MARS into the amateur system, and the place of origin can be 5,000 miles away. Or you might have a station in South Bend, Indiana, originating a message for someone in Niles, Michigan — a local phone call. If you addressed your service message to K9XYZ, Niles, MI, it would go to Eastern Area, Eighth Region, and Michigan, instead of Central Area, Ninth Region, Indiana, and might be delayed a couple of days.

Many of our service messages are unnecessary. Or they should be unnecessary and would be if we got things right the first time. It's one disadvantage in a volunteer service like ours; we don't have superiors who check up on things like that. A commercial service couldn't afford all the time wasted in correcting errors. The management would soon find out who was responsible, and the poor operators would find themselves *lifted* (LID for short, that's where the word originated) from fast circuits and put in a position where their mistakes would not be so expensive.

We can't afford that; we need all the help we can get. But let's also make the effort to make the help we give the best possible. □

Warnings

(continued from page 40)

this, I came back to life very quickly and Roger asked me, "What's your call?" When I answered "W6LPJ," everyone — including my wife who was standing near me when it happened — assured each other that all was OK with the world.

Several things quickly became apparent from that experience:

1) If you are using a generator, be sure to have it "serviced" by a competent mechanic at least once a year, and just fire it up and run it every month whether you need it or not.

2) Anytime any tools or cables are used around a running generator, be sure all tools or cables are well insulated; no cracks or worn places should be tolerated on the insulation.

3) No one should touch a generating machine while it is generating, or even running without generating, unless he/she is thoroughly experienced around such machines. If one does attempt to do any maneuver with a generator, do not do it alone; be sure a buddy is present.

4) When a group is on a remote site, there should always be a person present who is experienced in CPR and first aid. My life would have ended there in Griffith Park in 1973 if no one had been there who could start my breathing again.

Always remember, electrocution is the same as drowning, and the same artificial respiration must be used to start the breathing again in only a few minutes or you can be without oxygen to the brain for long enough to severely damage your brain or to kill you.

I did not escape some very bad injuries. My hands had a hole in each one so deep and cauterized that I still have scars. My ribs were jolted so hard that I was lucky no rib was broken, but the cartilage was jarred loose and my ribs hurt for quite some time. I have fully recovered. No damage was done to my heart or lungs, but it did take over a year before I was really recuperated.

The young man who saved my life, WB6JXX, had been assigned to Tripler Hospital in Honolulu due to my efforts. It was there he received the training in CPR that saved my life.

He had been sent to Honolulu to serve out his enlistment in the Army, and I had been in communications with Tripler Amateur Radio Station for sometime and knew they needed a ham to help run phone patches. I let the Administrator know he was coming, and his orders were changed so that he was assigned to the hospital with Amateur Radio station duties in his spare time.

Roger was honored by our club with an Honorary Life Membership, and whenever he gets to a meeting, I always thank him for saving my life. □

Aerials

Lil Paddle

Good Grief! Again a magazine for radio amateurs is spewing forth utter nonsense. I refer to the May issue of *23 Skidoo* in which was found this bilge:

"An antenna tuner, or transmatch, is a device used to couple a transmission line to a transmitter, providing an artificial match between the antenna and the transmitter when the SWR would otherwise be too high for proper operation.

"It does not actually correct the antenna mismatch, but 'tricks' the transmitter into thinking the antenna is matched and therefore lowers the SWR at the transmitter to an acceptable level."

The above two paragraphs are absolute rubbish!

It is indeed quite startling that such rot is perpetuated in hammyteur circles. For you see, never will you read in the professional literature such terms as "trick" or "fool".

Who are the professionals? There are transmitting stations running 10 times the transmitting power of amateur stations. There are transmitting stations running 100 times the transmitting power of amateur stations. There are transmitting stations running *1,000* times the transmitting power of amateur stations. You may rest assured that those engineers are "doing it right". right".

And the books they are reading do NOT have "trickee" or "foolee" in them. A term that is used is "line flattener".

Now, let's take the very term transmatch. It has trans in it, as does the word transformer. Not even the most obtuse ninny is out about saying that the pole-pig (dropping transformer) fools the house. Everyone seems to accept the actuality of it all when they hook up their 4-ohm speakers to their high fidelity system knowing full well that on the other side of the transformer the valves have plate impedances of from 5,000 ohms to 50,000 ohms.

Only when it comes to antennas is such trash bandied about. In reality the antenna tuner does exactly this: it transforms the resistance and cancels out the reactance. Yes!

Have you ever seen a ship's radio installation, where lives are at stake? They use antenna tuners.

If the bulletins of the radio clubs wanted to perform a great (and obviously needed) public service they could issue a warning that much printed about antenna tuners is dangerous to your understanding of reality.

The same issue of the magazine that wrote the bunk about tuners then did the same regarding the coax lines between verticals in a phased array. It said that in order to fine a half-wavelength at the chosen operating frequency you should use 468 times the velocity factor of the coax and divide that by the frequency in MHz. WRONG.

The 468 figure is for a half-wave antenna. One should start with 492 times the velocity factor.

Another canard floating around is that the only place to take an SWR reading is at the antenna. WRONG again.

Put your meter at the end of the coax because you should be measuring the effect of the coax also. The antenna AND the coax make up the system. Make the adjustments (gamma match, whatever) so it all works together to present the best match at the transmitter output.

Now a note to the person who came up to the **Worldradio** booth at the Dayton Hamvention and told the staff that I was wrong about tuners in the aspect that while it did have the effect I said on transmit, it did not accomplish anything on receive.

I feel sorry for the clients you have in your engineering business. Have you not heard of the Law of Reciprocity?

This column is intentionally done in a lighter vein, sugar-coated manner so as to be easily understood by the newcomer. Should any arguments about our work be foisted off on other parties be repeated, we'll drop so much real engineerese in this space that you will feel as foolish as you should.

New subject. We received a very nice letter from the widow of John Haerle. They had been married for 48 years when at the age of 70, on the way home after delivering an antenna lecutre, he was killed in an auto accident. He was the author of a great antenna book, which we're pleased to learn, many of our readers have recently purchased.

There is a new address for the company selling the book (owned by his son), Overtones. It is 2009 Camillia, Denton, TX 76205. The book is $12 and $1 for postage — a very small price to pay for right-track information. Considering all the money you ve spent on your equipment, a few bucks more to get the signal out where it belongs is money well spent.

(The pundits of the Aerials column go by their disguises so as to avoid on-air diatribes from those whose technical proficiency stopped with the crystal set.) □

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

Shunt-fed Marconi

Frederick Race, W8FR

I have always been a believer in propriety, and I approach my antenna projects with that same attitude. The system includes the feedline(s), matching device(s) and radiator(s). I shall attempt to explain the factors that play important parts in the establishment of a good system using the basics.

First, we shall deal with the antenna description. A Marconi is a quarter-wave radiator that exhibits low feedpoint impedance; hence a current maximum at the feedpoint. Since current is the agent that radiates, we have some basic considerations to address.

Our maximum signal power point is right at the antenna end of the feedline or the output of the tuner. If you bring the end of a quarter-wavelength (246/f MHz) into the shack, you must realize that the signal maxima is literally in your shack/house. This certainly cannot be the optimum situation for the most important part of the system! Nevertheless, it happens all the time, since the tuner has almost become a necessary addition to the shack. So the first task is to get the input end of the antenna outside where it belongs, when dealing with Marconi's.

Second, we must consider the ground/earth situation/condition. To be an effective radiator, the Marconi must be referenced to an image of itself (the other half of the dipole), and that half must offer minimum resistance; otherwise it will dissipate the power, rather than allow the actual antenna to radiate. For example, let's presume the radiation resistance of the antenna radiator is 50 ohms. Additionally, the earth/ground resistance is 50 ohms. The result will be that 50 percent of the power delivered to the feedpoint will be lost/dissipated in the ground resistance.

You must consider the ratio that exists between the radiation resistance and the ground resistance. Current through the ground resistance is a loss. For instance, if the ground resistance were 100 ohms, the ratio would be 1:2 (50 ohms radiation resistance and 100 ohms ground loss). Subsequently, 66 percent of the power delivered to the feedpoint would be dissipated in ground losses, while 33 percent would be radiated.

If the ground resistance were 1 ohm o less, you would notice little loss dissipation in your ground system. That' just plain old Ohm's Law. $I^2 \times$ _____ 1 = whatever I^2 is . . . right? So you must realize that a good earth/ground reference is

necessary. This is most important if you are to enhance the image antenna with radials. Remember — radials are only as good as the ground to which they are attached.

When choosing a ground, pick a good reference like a well casing, a window-well to a basement window, or preferably, construct/develop a good ground at your proposed antenna site/feedpoint. Installation of rods/pipe or a method I used in Hawaii — the tinfoil ground! Yes, good old Reynolds Wrap can be installed below the feedpoint by lifting the sod to a depth of about 6 inches over at least a 36-square-foot area (6′ by 6′). Pinch-bond the lengths of aluminum foil together and bring up a pigtail through the replaced sod. Your XYL will think a lot more of your antenna installation too!

The radials should be insulated, especially at the far ends (the high-voltage point on them). Remember, they have the same current and voltage characteristics as the radiator. Therefore, the far end will exhibit high voltage which should not be leaked through the soil. Never tie the ends of radials (quarter-wave) to ground. This shorts the system.

Third, and very important, is the system matching consideration. The textbook Marconi, in a vertical configuration, presents 35 ohms radiation resistance at the feedpoint. To incorporate that handy coaxial cable (50 ohms), you must utilize some sort of high-to-low (hi-Z coax to low-Z antenna) matching device.

You may ask, why use the match in a 1.5:1 SWR situation (35 ohms vs. 50 ohms)? Well, that 15 ohms of reactance we are looking into (since the line is not seeing 50 ohms, it will become reactive) will return power to the source. That's right! Basic AC theory tells you that power cannot be dissipated in reactance. Therefore, it is returned to the source (in this case, the transmitter). When this happens, it is again returned to the antenna back down the feedline, whereupon it is again returned to the source!

You say, so what's the problem. It will eventually be radiated (like someone proposed in an article some time back). Well, that's incorrect. It will be dissipated in the actual ohmic resistance of the feedline and tank circuit, not eventually radiated. This is basic electrical theory; check your books about reactance!

The match can be accomplished with an L-network or the method I prefer — the classic shunt feed using a coil to ground. Use an inductor 2½ to 3 inches in diameter, eight to 10 turns per inch. This is coil stock, common in ham stores.

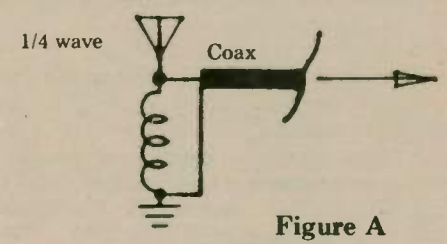

Figure A

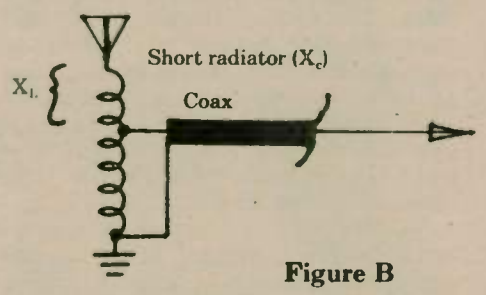

Figure B

The center conductor of the coaxial feedline is tapped up from ground on the coil at a 50 ohm point. The optimum situation is achieving a coincidental feedpoint: top of coil and bottom of antenna. This is the same point in the circuit as in *Figure A*, while *Figure B* depicts turns above the feedpoint to cancel the capacity reactance of a short radiator.

What about adjusting the length of the antenna to overcome this inherent 1.5:1 SWR we encounter with a proper quarter-wave (Marconi) radiator? Bad mistake! Again we are creating a reactive feedpoint (35 ohms radiation resistance + 15 ohms reactance = 50 ohms). This will surely look like 50 ohms to the SWR bridge and present a 1:1 reading. The VSWR bridge cannot determine the difference between resistance and reactance. Therefore, the VSWR bridge gets the proper voltage ratio (drops) to give you the false 1:1 reading.

Two ways to identify this impropriety are to check the positions of the load controls on the tube-type rig and the tuner for solid-state rigs respectively, when loaded into a 50 ohm dummy load device. When tuning up, use the same frequency as the proposed antenna system. Load position should be noted in either case (tube or solid-state tuner). A true 1:1 reading will be afforded.

Now, tune up into your antenna system. If the position of the load controls has shifted (up or down), the load is reactive. You have probably determined that the settings you arrive at on the transmitter or the tuner can be used as a reference as well as indicator of system improprieties.

Begin with this procedure, and always use an electrical half-wave feedline (or multiple thereof) between the source and the load, even if the load is very close to the source. This feedline is a 1:1 balun or repeater. It will repeat the load impedance of the antenna at the source end of the feedline. The line length is computed by using the formula: (492/f MHz) × (velocity factor of the feedline) = the electrical half-wave line. An antenna noise bridge or VSWR bridge can be "believed" if you use the previous information/instructions to match your antenna system.

There are numerous ways to incorporate your Marconi. These include the standard vertical, the inverted-L, and the so-called sloper. If you're going to install the vertical, be sure you get it away from structures and naturally-occurring structures (trees, bushes, etc.). The inverted-L should be erected in the vertical plane as much as possible. However, it is not the most important consideration. My own inverted-L's are only 14 feet in vertical, and I have little trouble in working the world on 40/80/160!

The match and ground resistance are the most important for any of the configurations. The sloper should also be matched at the feedpoint. Make the radiator textbook length (246/f MHz). Then, use a matching device at the feedpoint on the tower to eliminate the reactive component in the feedpoint impedance. Slopers really do work well when the power delivered is actually radiated.

I hope this article has been of interest to you and has answered and clarified some of the numerous, and often debatable, questions on this subject. For further information or explanation, I can be reached as follows: Frederick Race, W8FR, 676 Quail Creek Dr., Grayslake, IL 60030; (312) 223-4067. 1850 ± kHz most nights at 0200Z. 73, de W8FR/9. □

Lightning vs. antennas

Dave Weiss, K3MOE

No antenna can be protected from a direct lightning bolt. Ham beam antennas on towers will normally take a direct stroke, but the traps and rotor motors are almost certain to be blown. Sometimes the coaxial cable will conduct the stroke down to the ham shack and "fry" the front ends of receivers.

In case of large TV towers and tall steel-reinforced buldings, the current pulse will be carried off to ground without damage, but most sizes of wire used in ham antennas will just vaporize when hit. Some protection can be obtained against near strikes — say, a block or so away. Here the current pulses are small enough so that most antennas will handle the current without too much difficulty. Oddly enough, once the current problem is solved, the remaining problem is one of voltage — which with sizable currents, can do damage to the front end of receivers, especially the new transistorized types. Often, there is enough kick in the pulse to blow the output stages of transistorized rigs.

Voltage protection is best handled by using a bypass system. In the case of an antenna lead coming down the wall of a house and passing into the shack via an insulated feedthrough, there should be a spark-gap type lightning arrester. This is installed in the feedthrough point outside the shack, and a ground wire is to be run directly down the wall to a ground rod driven into the ground directly below the spark-gap arrester. It must go straight to the ground. The inductance of even a 90 degree turn will be enough to turn the pulse of lightning back into the shack.

Lightning strokes are highly unpredictable, although they generally hit the highest object in the vicinity. If the antenna happens to be that object, it is almost certain to be selected as the first stroke victim.

TV and AM broadcast towers are heavily grounded at their bases; in addition, they have several 2 or 3-foot rods with needle points at the top to attract the strokes. The idea is to have the strokes hit the tower and not the antenna.

This works pretty well most of the time, but sometimes there is some leakage current pulse into the coaxial cables, in which case — in spite of spark gap arrestors and "electronic crowbar" automatic short circuit protectors — there is h_ _ _ to pay!

When there are thunderstorms in your neighborhoods, if you have to take all precautions, the only think to do is just pray you don't get hit!

— *SPARKS Journal, SOWP* □

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Are you involved in public service?

Ohm-Brew Answer

OHM-EATER

Information in "New Products" is supplied by the manufacturers to acquaint *Worldradio* readers with new products on the market.

High-performance ICOM products

The IC-751 high-performance package consists of IC-751, and hand mic, and: 24-hour burn in; complete check for performance and function; installation of any options free; optimize alignment (fine tune).

As above, $1240. (One-year warranty from ICOM)

Options:

A) Remove FL-44 SSB filter and install high-performance International Radio Inc. SSB 2.1 kHz 8-pole crystal filter $99.

B) Add IRI 400 Hz high-performance 8-pole crystal filter $99.

C) 500 Hz CW filter 1st IF FL-32 $45.

D) CR-64 high-stability oscillator crystal $56.

E) RC-10 10-key pad for direct frequency entry of any frequency.

F) EX-310 voice synthesizer $39.95.

G) SM-6 desk mic. $39.

H) PS-30 external supply (BEST) 20 amp system power supply $240.

I) PS-15 external 20A power supply (Good). $140.

J) PS-35 internal supply (if you must use 751 portable); otherwise use PS-30 or PS-15. $150.

No installation charges for any of the above items. We will install options and then check out for performance. We test your radio as a system, power supply, tuner, amplifier, etc. You get no surprises!

Ask about other ICOM models

We can also do high-performance mods to the IC-730, IC-740, IC-745, R-70 and R71. Call or write for more information.

About International Radio Inc. Kits

We stand behind our products 100%. If you have a problem, we can help you on the telephone. If the problem still exists, you can send us your radio as we have a complete laboratory and service center at your disposal. We won't let you fail!

For more information, contact International Radio, Inc. 1532 SE Village Green Dr., Ste. L, Port St. Lucie, FL 33452; (305) 335-5545. □

Yaesu receivers

Yaesu Electronics Corporation is pleased to announce two additions to its line of high-performance receiver products.

The FRG-8800 is a deluxe HF receiver covering 150 kHz through 29.99 MHz. Direct frequency entry is provided via the front panel keyboard, which also controls scanning functions and storage/recall of the memory channels. The innovative green LCD information display provides frequency, mode and signal strength information. Selectable AGC, all mode squelch, two 24-hour clocks, and recording capability (including on/off timer switching) make for maximum operating flexibility. The FRG-8800 is designed for easy interface to a personal computer for expanded operating control, and the FRV-8800 VHF Converter option expands coverage to include 118-174 MHz, with front panel frequency entry and display.

FRG-8800 receiver

The FRG-9600 is a high-tech VHF/UHF multi-mode receiver covering 60 through 905 MHz continously, with direct keyboard frequency entry and 100 memory channels. Capable of AM, FM and SSB reception (SSB through 460 MHz), the FRG-9600 comes equipped with both wide and narrow bandwidths on AM and FM, plus a total of seven different tuning steps from 100 Hz through 100 kHz, depending on the mode and typical operating requirements for the service being received.

FRG-9600 receiver

A variety of scanning features are included, with extra performance offered via the audio scan stop function which will prevent stopping on inactive "carrier-only" channels. Computer interface capability, 24-hour clock/timer, and multiplexed output are among the features provided that allow the sophisticated listener tremendous expansion possibilities. An optional NTSC video will also permit monitoring of TV signals. The FRG-9600 is ready for operation from either 12V DC or 117V AC.

For further information, contact Yaesu Electronics Corporation, P.O. Box 49, Paramount, CA 90723. Dealer inquiries are invited. □

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WHEN PURCHASING GOODS, SAY YOU SAW IT ADVERTISED IN **WORLDRADIO.**

8-pole crystal filters

TS-940S SSB 2.1 kHz matched set

Consists of one 8.83 MHz 2.1 kHz drop-in 8-pole crystal filter and one 2.1 kHz 455 kHz 8-pole crystal filter (wired in).

Our matched set will provide an overall system selectivity of 2.0 kHz at 6dB and 2.5 kHz at 60dB. A shape factor of 1.25.

The stock 940 SSB filter is specified at 2.4 kHz or *more* at 6dB and 3.6 kHz or less at 60dB. A shape factor of 1.5.

TS-940S CW-400 Hz matched set

Drop-in consists of one 8.8 MHz 400 Hz 8-pole crystal filter and one drop-in 455 kHz 400 Hz filter.

Provide system selectivity of 400 Hz at 6dB and 700 Hz or less at 60dB. A shape factor of 1.75 or less.

Prices: SSB or CW matched set — $139; both sets *special* — $260.

All crystal filters guaranteed two years to original purchaser. Inquire for quantity discount prices.

International Radio Inc., 364 Kilpatrick Ave., Port St. Lucie, FL 33452; (305) 335-5545. □

ICOM kits

IC-730 High Performance 8-pole crystal filters

CW-400 Hz 8-Pole crystal filter modification kit. That's right even though ICOM did not provide for a 455 kHz CW filter, we at International Radio did! This new kit will work well with or without the optional FL-45 CW filter. After installation, the new 8-pole filter is in line when the CW mode switch is in CW narrow mode.

IRI-730CW kit includes 8-pole filter, PC board, instructions, wired and tested. Just $119.

IC-730 High-Performance 8-pole crystal filter kit. Our 2.1 kHz 8-pole filter has a shape factor of less than 1.5. The FL-44 is 2.4 kHz and shape factor is 1.75

If you want the best investment for your money, go with this one. Because the IRI filter is physically larger, it must be wired in with miniature coax. No performance is lost using this procedure. A slight adjustment of the carrier set points will be necessary to allow best receive and transmit audio quality. The instructions show you how to accomplish these simple adjustments with and without test equipment. The 730 is one of the finest transceivers available today, and our filters make it a standard for comparison for anything else you buy!

The new 2.1 filter will provide the following improvements in the 730: narrower selectivity, lower noise floor, improved dynamic range and improved IF shift-BPT performance.

IRI 730SSB Filter comes with filter and instructions. Just $99 plus $3 shipping USA, Mexico and Canada. Elsewhere $10.

IC-740, IC-745, IC-751 R70 and R71

As above.

For more information, contact International Radio, Inc., 1532 SE Village Green Dr., Ste. L, Port St. Lucie, FL 33452; (305) 335-5545. □

Brushless DC fan

The Southern Air Devices SJF-06Y12A miniature brushless DC fan makes it especially suitable for portable applications. The 60mm sq. × 23mm deep frame pushes a 14.4 CFM air flow at rated 12V DC. The precision ball bearing motor with both sides shielded allow horizontal or perpendicular mounting. Body and blades are high-impact polybutylene and the fan is supplied with 300mm leads. PRICE: 1 — $22.95 / 10 — $20.95 / 25 — $17.25.

Southern Air Devices, Inc., 709 N. Memorial Parkway, Station H, Huntsville, AL 35801; (205) 533-1769. □

California

A new electronics swapmeet — sponsored by the TRW ARC — has been started on the third Saturday of each month at the Anaheim Drive-in, 1520 North Lemon Street, Anaheim (Lemon Street at the 91 Freeway).

This swapmeet will feature not only new and used amateur equipment, but also computers, telephones and any other electronic equipment. All sellers are welcome and the hours will be 7:00 a.m. to 3:00 p.m. A small fee will be charged sellers; buyers are admitted free.

Another southern California electronic swapmeet that is growing is the one held on the first Saturday of each month in San Diego. This is held in the large parking lot of the San Diego Stadium.

All sellers are welcome and the hours are 7:00 a.m. to 3:00 p.m. Sellers will be charged a small fee and buyers 50¢ each. □

Florida

The 12th Annual GREATER JACKSONVILLE HAMFEST is scheduled for 03-04 August at the Jacksonville Civic Auditorium on the waterfront in the downtown area. Hours will be 8:00 a.m. to 5:00 p.m. on Saturday and 9:00 a.m. to 3:00 p.m. on Sunday with an exhibitor's area and a large indoor swap shop. Facilities are completely air-conditioned.

FCC examinations for all grades of amateur license will be administered Saturday at 1:00 p.m. on a walk-in basis just across the street from the site.

Registration is $4 per person with children under 16 admitted free. Swap tables can be reserved for $9 (one day) and $15 (both days) through the Jacksonville Hamfest Association, P.O. Box 23134, Jacksonville, FL 32241. Hotel information is also available for an SASE from the same address. □

Georgia

This year's Atlanta Hamfestival ARRL Convention should be the biggest and best ever. It has been relocated this year to the Georgia State World Congress Center. With everything indoors this year, the comfort and access will be much improved. New dates are 06-07 July.

For more information write to: Bill Schmidt, KF4CQ, Secretary and Hamfestival Chairman, 219 Devonwood Dr., Atlanta, GA 30328. □

Illinois

The DuPAGE ARC Hamfest/Computerfest will be held on Sunday, 14 July, at the Downers Grove, Illinois American Legion Post 80. Large outdoor flea market and swappers row. Indoor commercial exhibits available. VEC exams. Plenty of parking space. Food and drink available. General admission $3. Tickets available at the gate only. Gates open at 8:00 a.m.

Talk-in on 146.52 simplex.

For more information, send SASE to W9DUP, P.O. Box 71, Clarendon Hills, IL 60514 or call (312) 971-3294 between 8:00 a.m. and 9:00 p.m. □

Maryland

The BALTIMORE RADIO AMATEUR TELEVISION SOCIETY (BRATS) again presents its famous BRATS Maryland Hamfest and Computerfest, on Sunday, 28 July, at the Howard County Fairgrounds, Route 144 at Route 32, adjacent to Interstate 70 in West Friendship, Maryland.

We will have over 175 tables in our huge, indoor exhibit area. Tables along the wall, with access to AC power, are $20 each or four for $75. Tables in the center of the floor are $10 each with special rates for booths of 12 or 16 tables.

Tailgating is $3 per space, with no advanced reservations permitted. Dealer set-up begins at 2:00 p.m. on Saturday, 27 July. Overnight security will be provided. There are several fine motels nearby. RV hook-ups are available on the grounds.

Free walk-in VE examinations will be given with no advanced registration required.

Talk-in on 146.16/76, 147.63/03 and 52 simplex.

For further information or for table reservations, write to Mayer Zimmerman, W3GXK, BRATS, P.O. Box 5915, Baltimore, MD 21208.

Massachusetts

The first ARRL HEAVY HITTERS HAMFEST will be held 20-21 July, at the Topsfield Fairgrounds, US Route 1 (8 miles north of Rte. 128), Topsfield, Massachusetts. There will be a giant flea market (ample indoor space available in case of rain), food concessions and commercial exhibitors (9:00 a.m. - 4:00 p.m. both days). Flea market sellers will be admitted 6:00 a.m. Saturday.

The program includes: ARRL, PACKET, AMSAT, ATV and ARES/RACES forums; CW and QSL contests; hidden transmitter and receiver hunts; ATV and PACKET demos; traffic handlers rap session, and a musical coffeehouse (BYO instruments). Activities for non-hams will include sports, local guided hike, Trivial Pursuit and a first-aid lesson.

License exams will be held at a nearby school. For reservations, send a completed 610 form, $4 check payable to ARRL/VEC, photocopy of any current license, and an SASE for confirmation to: Topsfield Exams, c/o P.O. Box 71, Hanover, MA 02339 by 21 June. Sorry — no Novice exams.

Free Saturday night camping for tents and self-contained RV's. Also, there are Sheraton-Tara, Best Western and Howard Johnson's hotels in nearby Danvers, Massachusetts.

Advanced tickets available for $3 ($4 at the door). Non-ham spouses and children admitted free. Send check and an SASE to Heavy Hitters Hamfest, P.O. Box 411, Waltham, MA 02254. Proceeds to benefit the open Waltham repeaters, HANDI-HAMS and the Jimmy Fund.

Talk-in on 146.64 and 147.285.

For more information, contact Russ Corkum, WA1TTV, 21 Thorndike St., Arlington, MA 02174.

Michigan

The STRAITS AREA ARC announces its 12th Annual Swap 'N' Shop to be held at the Emmet County Fair Grounds in Petoskey on Saturday, 20 July. Doors open from 9:00 a.m. to 2:00 p.m. General admission is $2.50; single table $3.

One main prize and also hourly prizes. Refreshments available, with lunch from 11:00 to 1:00. Free RV parking Friday night for self-contained RV's also Petoskey State Park nearby. Come and bring the family and spend the weekend in beautiful Petoskey and Harbor Springs. Much to see and do in this part of northern Michigan.

Talk-in on 07/62 and 52.

For further information, contact Joe Werden, WD8MJB, Chairperson, P.O. 444, Conway, MI 49722, or give him a call at (616) 347-8693. An SASE is appreciated.

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The "85" U.P. Hamfest is 27-28 July, at St. Francis de Sales School, Manistique, Michigan. We are having a fish fry, early set-up, and eyeball for those here Friday evening.

Hours: Saturday, 6:00 a.m. to 5:00 p.m.; banquet 6:30 p.m.; Sunday, 8:00 a.m. to 2:00 p.m. Registration $3.50, free babysitting, table space $3 per 4-foot table. Hourly prize drawings, with the major prizes drawn 12:30 Sunday.

For more information, contact Debbie Barton, WD8IBT, 509 Range St., Manistique, MI 49854; (906) 341-5694 after 3:00 p.m.

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The Five County Swap-n-Shop and Computer Show will be held at the Saginaw Civic Center, located next to I-675, in Saginaw, Michigan, on Sunday, 25 August. Sponsors of the event will be the GENESEE COUNTY RADIO CLUB, BAY AREA ARC, LAPEER COUNTY AMATEUR RADIO AND REPEATER CLUB, SAGINAW VALLEY ARA and SHIAWASSEE ARA.

Doors open at 8:00 a.m. (6:00 a.m. for dealers). There will be seminars, tours, prizes and free parking. Exams will also be given. Exam registrations needed by 25 July; send SASE to P.O. Box 2204, Saginaw, MI 48605. Admission tickets $2, at the door $3. Tables $7; trunk sales $3.

Talk-in on 147.84/24 and 146.52.

For table requests or more information, call (1-517) 777-8683. Or write to Five County Swap-n-Shop, P.O. Box 2204, Saginaw, MI 48605.

Minnesota

The ST. CLOUD ARC hamfest will be held Sunday, 11 August, at the Sauk Rapids Municipal Park on the north edge of Sauk Rapids, off Minnesota Hwy. 15 (Benton Drive). Displays, demonstrations and trades. Ticket donation $3, extra ticket $2. Snack counter.

Talk-in on 34.94 primary, 615.015 secondary.

For more information, write to SCARC, Box 141, St. Cloud, MN 56302.

Montana

The 1985 GLACIER-WATERTON International Peace Hamfest is scheduled for 19-21 July. This will be the 51st year of this continuing event and may be the only international hamfest held two years in the USA and the third year in Canada where our Good Neighbor ham friends take over. We are always hard pressed to keep up with them.

The hamfest will be held at Three Forks Campground, about 10 miles east of Essex on Hwy. 2.

There will be seminars, ARRL booth and activities, code speed contests competition, amateur exams, building contest, bunny hunts, children's entertainment and bingo, art and craft instruction, sales and even a cake baking competition for the ladies. There are other events too numerous to mention and auctions and prizes!

Talk-in on 146.34/94 and 52 simplex.

For more information, contact E. Phil Coulter, W7PX, 1034 Poplar St., Missoula, MT 59802.

North Carolina

The CARY ARC announces its 13th Annual Mid-Summer Swapfest on Saturday, 20 July, 9:00 a.m. to 3:00 p.m., at the Lion's Club Shelter, Cary, North Carolina (near Cary High School).

There will be an auction, prize drawings and plenty of buying, selling bartering, haggling and visiting. No admission fee; registration for drawings is $4, three for $10.

Talk-in on 146.28/.88 (80-30 miles); 147.75/.15 (30-2 miles); and 146.52/.52 (2-0 miles).

For more information, contact Cary ARC, P.O. Box 53, Cary, NC 27511.

Ohio

The LANCASTER AND FAIRFIELD COUNTY ARC will hold its annual hamfest on Sunday, 14 July, at the Fairfield County Fairgrounds, 8:00 a.m. to 4:00 p.m. This year's hamfest is in memory of the late Ted Riley, WB8VOA.

Admission is $3 in advance, $4 at the door. Tables (limited) are $4 in advance or $5 at the door; space for your table $3 in advance or $4 at the door. Refreshments available. Plenty of parking.

Talk-in on 147.03/63 or 52 simplex.

For more information, write to Lancaster ARC, Box 3, Lancaster, OH 43130.

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The 21st Annual Wood County Ham-A-Rama — sponsored by the WOOD COUNTY ARC — will be held Sunday, 14 July, 1985 at the Wood County (Ohio) Fairgrounds, Bowling Green, Ohio. Gates officially open at 8:00 a.m. with free admission and parking. There will be drawings for main and door prizes. Tickets are $2; however, five for the price of four in advance. Trunk sales and food available. Advance table rentals $5 to dealers only. Saturday set-up available until 8:00 p.m.

K8TIH talk-in on 147.78/18 or .52.

For more inforamtion, or dealer rentals send SASE to: Wood County ARC c/o Craig Henderson, N8DJB, 7368 Scotch Ridge Rd., Pemberville, OH 43450.

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The NORTHERN OHIO AMATEUR RADIO SOCIETY will be sponsoring NOARSFEST on Saturday, 20 July, at Lorain County Fairgrounds, Wellington, Ohio. Gates open at 8:00 a.m.

FCC exams will be given. Also featured will be a flea market, mobile radio clinic (weather permitting), displays (including computer supplies), bingo and door prizes.

Tickets are $2.50 in advance, $3 at the door. No advance tickets sold after 06 July. Door prizes given hourly starting at 10:00 a.m. Mobile check-in prize drawn at 12:30 p.m. *Winner must be present.* Flea market car space is $3. Overnight parking for RVs and campers — no hook-ups.

For FCC exam information contact Dave Willemin, A18M, 331 Courtland, Elyria, OH 44035; (216) 324-4574. For info on reservations or tickets, contact NOARSFEST, P.O. Box 354, Lorain, OH 44052; (216) 282-4256.

Oregon

The 10th Annual Lane County Ham Fair — sponsored by the LANE COUNTY AMATEUR RADIO ASSOCIATION — will be held 20-21 July, at the Oregon National Guard Armory, 2515 Centennial, Eugene, Oregon.

There will be computer demonstrations, technical seminars, swap tables, bingo, YL drawings all day Saturday, all-day snack bar, free parking for RVs (no hookups), and a Saturday potluck supper at 6:00 p.m. (Each family brings hot dish *and* salad or dessert.)

VE license exams will be given at the Boy Scout building, starting at 9:00 a.m. Saturday and Sunday. To register, mail FCC Form 610, copy of present license, $4 check payable to ARRL/VEC, and give day preference to: Robert Olson, 1450 Holly Ave., Eugene, OR 97401. Walk-ins accepted if space available.

Talk-in on 146.28/88, 147.86/26 and 52 simplex.

Registration is $5 per person; tables $5 (two maximum) per table. Tickets postmarked before 01 July receive one free drawing ticket. Mail to Byron Rainwater, KT7T, P.O. Box 10694, Eugene, OR 97440.

Pennsylvania

The Harrisburg Annual Hamfest, sponsored by the Harrisburg RAC, will be held Thursday, 04 July, at the Bressler Fire Co. picnic grounds. Near Exit #1 of Interstate 283 at Route #441 and follow signs to Bressler. Three motels are located at this exit and several restaurants. Parking for 1,000 cars. Shade trees and large pavillion available with tables. Tailgating no charge. Admission $3: XYLs and kids free. A test session open to all hams who wish to upgrade will be held nearby. Send check for $4 payable to ARRL/VEC with FCC form 610. Limited walk-in tests can be administered.

For additional details and table reservations contact Dave Dormer, KC3MG, 131 Livingston St., Swatara, PA 17113, or phone (1-717) 939-4957.

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The MURGAS ARC (K3YTL) will sponsor the annual Wilkes-Barre Hamfest on Sunday, 07 July, at the 109th FA Armory, Market Street, Kingston (across the river from Wilkes-Barre).

Set-up only at 6:00 a.m.; general admission at 8:00 a.m. Registration is $3; women and children under 16 free. Tailgating $2 per space. Tables and commercial power available. Rain or shine, indoor/outdoor tailgating.

Talk-in on 146.01/.61 and 52 simplex.

For further information, write to Hamfest Committee, P.O. Box 1094, Wilkes-Barre, PA 18703 or call (717) 388-6863. □

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The 17th Annual Greensburg Hamfest, sponsored by the FOOTHILLS ARC, will be held Sunday, 28 July, at the Kirk S. Nevin Arena and Recreation Complex, Greensburg, from 8:00 a.m. to 3:00 p.m.

Registration is $2 each, or three for $5. Full tables $5; half tables $3 (100 available); tailgating $2. All indoor facilities. New products and exhibits, food concession, prizes, free parking.

Talk-in on 147.78/18 W3LWW/R and 52 simplex.

For advance registration or tables, write to FARC, Inc., P.O. Box 236, Greensburg, PA 15601, or contact John Lawrence, WB3KJH, 22 Tremont Ave., Greensburg, PA 15601. □

West Virginia

The TRIPLE STATES RADIO AMATEUR CLUB will hold its 7th Annual Wheeling Hamfest & Computer Fair at Wheeling Park, Sunday, 21 July, from 9:00 a.m. to 4:00 p.m. Easy access — on I-70 from east, Exit 5; on I-70 or I-470 from west, Exit 4.

Dealers, commercial exhibits all under roof. Five-acre flea market, refreshments, free parking, family park activities. Admission $3. ARRL, AMSAT, SWOT, SMIRK, etc. booths. This hamfest is known for its many awards.

For information, contact: Jay Paulovicks, KD8GL, RD 3 Box 238, Wheeling, WV 26003; (304) 232-6796 or TSRAC, Box 240, RD 1, Adena, OH 43901; (614) 546-3930. □

Wisconsin

The EAU CLAIRE ARC will hold its annual Hamfest on Saturday, 13 July, at the 4-H buildings in Eau Claire, from 8:00 a.m. to 4:00 p.m. Free tables and coffee. Tickets $2 in advance, $3 at door.

Talk-in on 31/91 and 52 simplex.

For info, tickets, send SASE to Gene Lieberg, KA9DWH, 2840 Saturn Ave., Eau Claire, WI 54703. □

Wyoming

The 1985 Wyoming Hamfest will be held at the Wyoming State Fair Grounds in Douglas, Wyoming on 12-14 July. This year's event is being jointly sponsored by the GREAT PLAINS REPEATER ASSOCIATION and the HIGH PLAINS ARC.

Distributor displays, indoor flea market (tables available), license exams, seminars, prizes, auction, banquet, breakfast and much more! Ample RV parking with or without full hook-ups. Plenty of motels.

For full information and dollar-saving advanced registration, send SASE to Doug DesEnfants, WA7WXQ, North Star Route, Torrington, WY 82240. □

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Check your license expiration date.

CQ World-Wide VHF WPX Contest

The first CQ World-Wide VHF WPX Contest will be held 20-22 July. Hours will be 0000 UTC, 20 July to 0000 UTC, 22 July.

Bands: All authorized amateur bands and frequencies from 6 meters through 23cm (50, 70, 144, 220, 432, 1296 MHz).

Modes: All authorized modes are allowed for contest credit, with the single exception that repeater contacts cannot be allowed or counted for contest credit. Satellites are considered repeaters.

Exchange: Consecutive serial number and call sign.

Multipliers: Prefixes worked per band.

Scoring: 1 pt. per QSO on 50, 70 or 144 MHz; 2 pts. per QSO on 220 and 432 MHz; 4 pts. per QSO on 1296 MHz. Work stations once per band, regardless of mode. Multiply total QSO points times total number of prefixes worked (the sum of the prefixes worked per band).

Classes of entry: Single operator, single band; single operator, multi-band; single operator, single band, low power; single operator, multi-band, low power; multi-operator, single band; multi-operator, multi-band; portable (with temporary power source); FM only. Low power is defined as 25 watts PEP output or less.

Awards: For first-year participants, a commemorative certificate will be issued to *every* entrant to celebrate the first annual VHF WPX. Trophies to national top-scoring stations (per category). Certificates to top-scoring stations in each call area or country where special effort is demonstrated.*

(Let us know what you did to make your operation special. Documented special effort, regardless of final score, will be awarded.)*

West Coast 160 Bulletin Summer SSB Contest

The West Coast 160 Bulletin Summer SSB Contest will be held 13-14 July, from 0000 GMT, 13 July to 2359 GMT, 14 July. Single operator only.

Exchange: RST, QTH.

Class: Subscribers, non-subscribers.

Sub-Class: 3kW, 2kW, 250 watts, QRP. (Power is measured with peak meter.)

Scoring: 20 pts. per QSO. *Multipliers — states, VE province, country. Penalties* — deduct 3 QSOs for each dupe.

Awards: *(Subscribers) Plaques* to overall winner and class winner; *certificates* to state, VE, and country winners. *(Non-subscribers) Plaque* to overall winner; *certificates* to class winners, and state, VE and country winners.

Log info: Date, time, RST/RST, QTH. Enclose a statement declaring your power rating. Those who falsify their power ratings will be banned for three years.

Example: To find your PEP rating, take power out × 2, 1500 watts × 2 = 3,000 watts PEP class.

Scoring: 300 QSOs × 20 = 6,000; 35 states, 5 VEs, 10 countries = 50; 6,000 × 50 = 300,000 pts. FINAL SCORE.

Send logs to: R. Koziomkowski, 5 Watson Dr., Portsmouth, RI 02871. Logs must be postmarked before 31 August 1985. □

1985 Country Hunters CW Contest

The 17th Annual County Hunters CW Contest is sponsored by the Mobile Amateur Radio Awards Club (MARAC). All radio amateurs are invited to participate, and mobile and portable operation from less active counties is welcomed and encouraged.

The contest will last from 0000Z, 27 July to 0200Z, 29 July.

General call: CQ CH

Exchange: QSO number, category (mobiles or portables only: M or P), RST, county and state (U.S. station); others send province or country. EXAMPLE: 001M 599 ORANGE CA. Stations may be worked once on each band and again if the station has changed counties. Mobile or portable stations changing counties during the contest may repeat contacts for QSO points. Stations on county lines give and receive only one number QSO, but each county is valid as a multiplier for the receiving station.

Scoring: QSOs with fixed stations are 1 pt. QSOs with mobile or portable stations are 3 pts. Total score is obtained by multiplying the sum of all QSO points by the number of U.S. counties worked. Independent Cities may be counted as any one of their adjoining counties in accordance with USACA rules. Mobiles and portables who change states during the contest calculate their score for each state separately and again for total score.

Suggested frequencies: 3.575, 7.055, 14.065, 21.065 and 28.065. On 20 and 40 meters, mobile and portable stations should call CQ or QRZ below the suggested frequencies. Fixed stations will CQ or QRZ above the suggested frequencies.

Awards:

Certificates will be awarded in three categories: F — Highest scoring fixed or fixed portable station in each state, province (Canada) and country when total score exceeds 1000 points; P — Highest scoring station in each state operating portable from a county which is not his normal point of operation when total score exceeds 1000 points; M — Highest scoring station in each state operating mobile from 3 or more counties with a minimum of 15 QSOs in at least each of 3 counties.

Plaques will be awarded to the highest scoring mobile, portable and fixed stations in the USA who meet the above requirements for certificates. Additional awards will be issued where deemed appropriate by the awards committee.

Logs must show category, date/time (GMT), station worked, band, exchanges, location, QSO points and total score. All entries with 100 or more QSOs *must include a check sheet of counties worked or be disqualified from receiving awards.* Enclose a *large* SASE if contest results are desired. Logs must be postmarked by 02 September 1985 and sent to Jerry Burkhead, N6QA, 7525 Baltic St., San Diego, CA 92111. □

Wild Bunch 160 SSB Contest

The 1985 Wild Bunch 160 SSB Contest will be held from 0000 GMT, 03 August, to 2359 GMT, 04 August. Single operator only.

Exchange: RST, state, country, VE province (members must give their numbers, with exchange).

Points: 10 pts. per QSO. Mobiles get 20 pts. per QSO. Work a mobile and get a special multiplier of 20 pts. Add to your multiplier total.

Log info: date, time, station worked, RST/RST, QTH, member number.

Multipliers: Total of states, VE province, country, charter members, honorary charter members, members. Charter members — 3 pts. honorary charter — 2 pts.; members — 1 pts. VE7WCB — 10 pts.; worked 20 charter members — 20 pts.

(*EXAMPLE:* 338 QSO × 10 = 3,380 pts. 42 states, 5 VE province 11 country, 27 charters 30 bonus = 115 multipliers = final score 388,700.)

A list of members is available from KA1SR or Joseph Le Blanc, KA1FDS. Send SASE. If you would like results, send SASE with log. Logs must be postmarked by 07 September.

Awards: Plaque to winner; plaque to highest charter member score; certificate to winners in each state, country, VE province winners.

Send logs to: R. Koziomkowski, KA1SR, 5 Watson Dr., Portsmouth, RI 02871. □

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REPLACE RUSTED ANTENNA BOLTS with stainless steel. Small quantities, free catalog. ELWICK, Dept. 553, 230 Woods Lane, Somerdale, NJ 08083.

RADIO ARCHIVES "Novice" newsletter. Featuring passive & regen receivers. ($1.) 2308 Garfield #304, Minneapolis, MN 55405. ARNOLD TIMM, KAØTPZ.

"QRZ MAUI" offers complete vacation facilities on the island of Maui. Reasonable rates with station available for contests or casual use. KH6DW, 325 Auhana Road, Kihei, HI 96753. 808/874-0742.

U.S. VIRGIN ISLANDS VACATION. St. Croix, one-bedroom beachfront condo apartment, fully furnished with full-wave antenna. Bring your rig and tuner, talk to world, meet local hams. April 15 to December 15 — $420 weekly. SAM PASCO, KA1GHM, 268 Steele Rd., West Hartford, CT 06117. (203) 233-3764.

VARIABLE AIR CAPACITORS, ideal for 2kW ATU or linear. 15-225 pF/5kV peak rating. 2.6" square, 11" long, with 1/4" shaft, $55 each . . . Miller #2152 40-1,000 pF/1.5kV peak variables 2.6" square but 6.5" long with 1/4" shaft, $32 each . . . Fixed 15 uH coils on 3" ceramic forms, 3.75" long with mounting legs, using #10 tinned wire (15 amps) with tap at 6 uH from one end, $12 each . . . All new. Sent UPS prepaid upon receipt of your check. PETER ONNIGIAN, W6QEU, 1236 40th Ave., Sacramento, CA 95822.

START COPYING CW THE EASY WAY! Learn to copy code like the pros! Gain on-the-air confidence quickly! Easy-to-learn word-recognition system for the ham who already knows the code. 14-day money-back guarantee. Order the QSO-TRAINER (TM) Code Course — send $14.95 + $2.00 shipping and handling (IN residents add $0.85) to AVC INNOVATIONS, INC., Dept. WC, P.O. Box 20491, Indianapolis, IN 46220.

WANTED: HAM RADIO automobile license plates for my collection. Need all 50 states, United States territories and possessions. KERNEY, 1540 No. Archie, Fresno, CA 93703.

SELL FORTY-YEAR COLLECTION vacuum tubes. Send list of needs for availability & price quotes. Tektronix scopes 516, and 561 models, $100.00 each. Wanted Pilot A.C. Super Wasp with coils, reasonable. M. LEVY, W5QJT, 4141 Krupp Drive, El Paso, TX 79902, Apt 1, (915) 532-2509.

FREQUENCY COUNTER, FLUKE, model 1920A, new condition, (0.5kHz-1.0 GHz) $450.00 or offer. OTIS, N6KBN (805) 481-1213.

BUYING OR SELLING? An ad in **Worldradio** makes it happen FASTER.

QSLS. QUALITY AND FAST SERVICE FOR 25 YEARS. Include call for free decal. Samples 50¢. Ray, K7HLR, Box 331, Clearfield, UT 84015.

GET YOUR FCC COMMERCIAL GENERAL RADIOTELEPHONE LICENSE. Earn $600+ week! Be an "FCC Licensed" technician. Electronics Home Study. Fast, inexpensive! "Free" detailed literature. COMMAND PRODUCTIONS TRAINING, D-172, Box 2223, San Francisco, CA 94126.

FREE SUBSCRIPTION — THAT'S RIGHT! We will send you a free one-year subscription to *The Swap List* . . . the national publication where you can sell your used equipment fast. To get your free subscription just send us an ad of 30 words or more selling used radio, computer, or electronic equipment. Personal ads are 25¢ a word; Business ads are 50¢ a word. Mail to: THE SWAP LIST, Box 988-W, Evergreen, CO 80439.

INTERNATIONAL RADIO, INC: We offer sales (new-used consignment), all brands. Service, repairs, mods, alignment, performance testing. Publisher of the ICOM and Kenwood newsletters, 5 years of back issues available, 30 years experience. Radio Amateur. Extra Class license, N8RT. Call or write for quotation. MC/VISA welcome. Ste. "L", 1532 SE Village Green Dr., Port St. Lucie, FL 33452; (305) 335-5545, 10:00 a.m. through 5:00 p.m. Monday through Friday. Send 39¢ SASE for free brochure.

TI99/4-4A BASIC, Extended Basic, Assembly Language Programs. CW receive/transmit, CW practice, DX log/call locator, Amateur call locator, SSTV keyboard, 1010 record, WAS, programs for Hamkids. Write Sam Moore, AC5D, Box 368, Stigler, OK 74462.

ANTENNA MART REMOTE SWITCHES. The best remote antenna switch on the market. SW5-$139.95, SW6-$149.95, SW7-$159.95, SW8-$169.95, SW9-$179.95 + UPS. Write or call for order or more information. WØMLY, Box 7, Rippey, IA 50235. (515) 436-7718.

DRAKE EQUIPMENT OWNERS: Complete Tube Complement Packs including matched 6JB6A's. For T4, T4X & T4XB $49, T4XC $44, TR4/C $79, R4/A $42, R4B $40, R4C $22, 2B $39 ppd USA. SPENCER TUBE CO., RD2 Box 24, Corning, NY 14830.

Don't offend — use courtesy

Al Hooven, KD6TV

Radio is what we make it —
How I use my mike or key
Can affect the world's perception
Of our hobby, and of me.

Who can tell how many listen,
Contemplating what we say?
Do they often, disappointed
Or embarrassed, turn away?

Do we use good taste in language,
Or is ours the careless tongue
Heard by listeners who, sadly
More than often are the young?

When someone in good faith offers
An opinion we don't share,
Do we listen with forbearance?
In responding, are we fair?

Should we broadcast our convictions
And our judgements without end
On religions, races, unions,
When they're likely to offend?

One man's meat's another's poison;
Let's discuss, but not deride.
Let's attempt to be respectful
Of the other fellow's side.

Won't our contacts be more fruitful
If we give a little thought
To the impact of our comments
And our language, as we ought?

Wasn't courtesy the basis
Of that feeling of accord
We experienced the first time
Some ham welcomed us aboard? □

FOR SALE: COLLINS 51J4, 3.1/6.0 KHz filters, spare tubes, manual, $300.00. HP 606A signal generator, manual, spare tubes, $350.00. HP 5300A/5302A measuring system/counter, manual, $150.00. General Radio 1608 solid state digital impedance bridge, manual, $450.00. GR 650A/650P1 impedance bridge, manual $150.00. GR unit oscillator 1218A, 900-2000 MHz, no manual or P.S., $75.00. GR 107L variable inductor, no manual, $75.00. GR 1615-P2 coax adaptor, manual, $25.00. Harris PRD 587A UHF frequency meter 250-1000 MHz, no manual, $100.00. McMurdo silver 906 AM/FM signal generator. Spare tubes, manual, $60.00. Quan-Tek wave analyzer 303, no manual. $125.00. Receiver R392 .5 to 32 MHz, manual, no p.s., $100.00. Tube 8295/PL172, new but not in carton, $150.00. Kodak Aero-Ektar f:2.5, 12-inch FL, $50.00. AO microscope, $100.00. W6IEG, P.O. Box 1244, Oakhurst, CA 93644, (209) 683-8430.

ROSS $$$$ USED JULY SPECIALS: (Over 200 used items in stock.) Kenwood TS-130S — $469.00, TR-2400 — $169.90, TS-180S — $429.00, TR-9500 — $459.00, TS-930SWAT — $1190.00; Robot 800 — $299.00, 1200C — $1089.00; Yaesu FT-301D — $339.90, FT-101ZD — $459.00, FT-620B — $279.00, ICOM IC-245 — $169.00, IC-551D/WFM — $579.90, IC-701 — $389.90. If this month's special is not what you are looking for send SASE, call letters, name & phone # for used list. Over 6,500 NEW ham related items in stock. Mention ad. Prices cash, FOB Preston. We close at 2:00 on Saturdays & Mondays. ROSS DISTRIBUTING COMPANY, 78 South State, Preston, ID 83263. (208) 852-0830.

TRISTAO CRANK-UP TOWER TH6XX antenna rotator for sale — we're moving. TONY, (213) 924-2019, 12527 Destino St., Cerritos, CA 90701.

BROWN BROTHERS PADDLE and 500 no-address QSL cards. Swap or sell. KEN HAND, WB2EUF, P.O. 708, East Hampton, NY 11937.

QSL CARDS — 50/$5.00, 100/$8.00 postpaid. Sample, SASE. KEN HAND, WB2EUF, Box 708, East Hampton, NY 11937.

QSL SAMPLES - 25¢. SAMCARDS, 48 Monte Carlo Dr., Pittsburgh, PA 15239.

With a cheerful, enthusiastic person like Jay Holladay, W6EJJ, telling you the virtues of League membership, how could you not join?

FREE PRE-TESTING. ICOM ICR-71A — $639.50; Kenwood R-2000 — $479.50, R-1000 — $399.50; Sony 2010 — $279.50, DX-1000 — $479.50; Regency MX-7000 — $449.50, MX-5000 — $369.50, HX-2000 — $369.50, HX-1000 — $239.50, BC-300 — $359.50, MX-4000 — $409.50; Radio Tap — $129.50. Panasonic, MFJ, CBs, coax, antennas, video recorders, much much more!! Free UPS shipping & insurance to 48 states. 25-page picture catalog, $1.00 (refundable). GALAXY ELECTRONICS, Box 1202, 67 Eber Ave., Akron, OH 44309. (216) 376-2402 9-5pm EST.

COMMODORE-64 SOFTWARE some of our disks have over 20 programs on them. Low cost of $9.95 per disk. (Also Morse Code Trainer available). We have programs for different interests. Send for our Catalog Disk containing our full library listings of available programs. Catalog Disk is $5.00. Send an SASE for full BBS info, etc. Excellent income opportunity also with very little work, only the interest to make extra money needed — you do not need a computer. Amateur Radio software available also. Serving you since 1973. NARWID ELECTRONICS, 61 Bellot Road, Ringwood, NJ 07456.

DIGITAL LCD DISPLAY INDOOR/OUTDOOR THERMOMETER CLOCK 12/24 hr selectable/°F or °C selectable/day & month calendar. Runs up to 2 years on (1) AA battery. Continuous display of time & temp. Dimensions 4¾"w × 2"h × 1⅜"d. Desk or wall mount. 1 yr. warranty. $39.95 plus $2.00 sh. VISA/MC OK. If not delighted, return within 10 days for prompt refund less shipping & handling. TELTEMP ENT., E. 14409 Trent, Box 15332, Spokane, WA 99215.

An Amateur Radio tower

Why do people get upset when one puts up a radio tower? A few things in its favour —

IT DOESN'T:
Squeal its brakes
Screech its tires
Blow its horn
Roar its motor
Slam its doors at ungodly hours
Shine its headlights in your bedroom window
Nor does it backfire.

IT DOESN'T
Drop leaves that you have to clean up
Grow branches over your house
Drop fruit or nuts which block your downpipes
Block your view like a tree or building
Grow roots that damage your walk or driveway
Nor does its roots plug your drains.

IT DOESN'T
Bit you
Bark or meow
Leave deposits on your property
Dig up your garden
Scratch on your door
Widdle on your trees
Nor does it dig up and scatter your garbage.

IT DOESN'T
Have boisterous parties
Or play loud music
Or have swimming parties through the night
It doesn't ring ring your phone (accidentally?)
Nor does it ride bikes across your lawn.

It's just quiet and has nothing to say. — Marvin Wilson, VE7BJ; de The Ontario Amateur. □

FIXED COILS, B & W type 3035, air-wound with #16 tinned wire, 3 inch diameter, 10" long, easily tapped, 198 uH inductance, $9.50 each . . . B & W model 370-5 antenna end insulators, plastic, 2-1/2 oz. each, 1,000 lb. pull test. 4" long x 1-1/4" dia. $6.50 for min. order of 4. All new. Sent UPS prepaid upon receipt of your check. PETER ONNIGIAN, W6QEU, 1236 40th Ave., Sacramento, CA 95822.

CERTIFICATE FOR PROVEN TWO-WAY RADIO CONTACTS with amateurs in all 10 USA call areas. Award suitable to frame and proven achievements added on request. Send $2 (USA) or $3 (DX) to cover certificate cost. W6LS, 2814 Empire Ave., Burbank, CA 91504.

ELECTRONIC PARTS BY MAIL since 1954. Free flyer. BIGELOW ELECTRONICS, P.O. Box 125, Bluffton, OH 45817.

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AMATEUR RADIO REPAIR — experienced, licensed, reasonable. ROBERT HALL ELECTRONICS, W6BSH, P.O. Box 8363, San Francisco, CA 94128. (408) 729-8200.

WANTED — old radio transcription discs. Any size, speed, subject. Send full details & price. W7FIZ, Box 724, Redmond, WA 98073-0724.

NOTICE — SOFTWARE FOR HAMS, also large selection of assorted useful software. We also run a very diversified BBS System with ham radio subboard etc. For more info on our Amateur Radio software, BBS system and discount blank disks, etc. send us a large SASE. In business since 1973. NARWID ELECTRONICS, 61 Bellot Road, Ringwood, NJ 07456. (Mention World Radio).

KENWOOD 430S OWNERS ONLY! Stop Scan . . . when the squelch breaks, the scan stops! Adjustable resume scan delay. No modifications! Kit $25, assembled $35. JABCO, R1, Box 386, Alexandria, IN 46001.

WANTED REPLY COUPONS of all types, IRCs & others. Buy, sell, trade. JIM NOLL, P.O. Box 3410, Escondido, CA 92025.

TELETYPE MODEL 40/2 ASCII SYSTEM. 110-4800 Baud programmable. Two crt's, two 300-LPM impact printers. 150K-word mag tape unit. System Controller, spares, cables, schematics, manuals, documentation. All working ready for operation. $15,000 value $750.00. Write or call W7JIE evenings (206) 226-4222.

CLEGG 22ER MARK II 2-meter 35 watt a.m. transceiver, nice. Manual, $30 plus U.P.S. KD2HW, 101-23 Lefferts, Jamaica, NY 11419.

FLEA MARKET & FCC EXAMINATIONS: June 8, July 13, August 10 & September 14. Novice thru Extra exams given. Information call (408)255-9000. Foothill College, Los Altos Hills, CA, Sunnyvale VEC ARC. 73 Gordon, W6NLG, VEC.

HOSS-TRADER ED SAYS, "Shop around for the best price, then telephone 'the HOSS' last for the best deal. If you didn't buy it from 'the HOSS', you paid too much." New display Kenwood TS-430S transceiver, $629.00. New display ICOM IC-2AT, $169.00. Display Azden PCS-4000, $259.00. New display ICOM-730 transceiver, regularly $829.00, cash $509.00. New display KDK-2033, $239.00. New display ICOM-751 transceiver, regularly $1379.00, cash $1095.00. New display ICOM-745 transceiver, regularly $999.00, cash $695.00. New display ICOM 02-AT, regularly $349.00, cash $268.00. New model 3KW Nye Viking MB-VA antenna tuner, regularly $585.00, cash $438.00. New display LK-500ZA 2500 Watt amp. supply linear with tubes/Hypersil transformer, regularly $1099.00, cash $895.00. New display ICOM 27-A, regularly $369.00, cash $288.00. Like new used Drake-L4B linear with tubes, $575.00. VISA/MasterCard accepted! MOORY ELECTRONICS CO., P.O. Box 506, DeWitt, AR 72042. Tel: (501) 946-2820.

REPEATER WANTED: Prefer 220 MHz or 450 MHz with full autopatch capabilities. Also would like duplexer. Must be complete, ready to operate! W7GMJ, JIM CLIFTON, 30208 80th N.W., Stanwood, WA 98292.

HEATHKIT SINGLEBANDER OWNERS: Matched 6GE5's w/12BY7A driver. $29 ppd. USA. SPENCER TUBE CO., RD2 Box 24, Corning, NY 14830.

KENWOOD TR-7950 2-meter 45 Watt transceiver — $270. Yaesu FT-708R 450 MHz hand-held — $180. ND5B, DAVE, El Paso, TX (915) 821-7871.

HAVE AM CAPABILITY? Join SPAM (Society for Promotion AM). Membership is free. Write: SPAM c/o F. Dunlap, 14113 Stoneshire, Houston, TX 77060. -73 de WA5TWF (SASE please).

$$$ SUPER SAVINGS radio computer electronic parts; accessories, supplies. SASE for catalog. BCD Electro, P.O. Box 830119 Richardson, TX 75083.

WANTED: OLD TELEGRAPH KEYS for my collection. Also want WWII keys, miniature keys, sounders, and call boxes. LARRY NUTTING, 5957 Yerba Buena, Santa Rosa, CA 95405.

SPRING CLEAN-UP TIME — Odds, ends, Collins, Heathkit, ICOM, Drake and other misc. Need S.A.S.E. for list. WBØEYT — Bernie, 2811 Bonnie St., Omaha, NE 68147.

WANTED — HAM RELATED, log book etc. and public domain programs on disc for IBM PC. Please respond with info for arrangements to: MIKE THOMAS, N4GOH, P.O. Box 10375, Ft. Lauderdale, FL 33334.

WRIGHTAPES: (Since 1976) Unconditionally guaranteed Morse Code Practice on 60 min. cassette tapes. Beginners 2-tape set 5 wpm $7.90. Also 3, 4, 5, 6-8, 10, 9-11, 12-14, 14, 16-20, 22, 24-28 wpm. Specify Plain Language or Code Groups. Also plain lang. only 30-35, 35-40, 45-60. FCC type tests: 5-6, 11-12, 11-17, 13-14, 20-24 wpm. Call signs: 12-15, 20-24. Nos.: 5-22, 13-18, 18-24. Check, M/C, VISA, $3.95 ea. PPD 1st Class USA, Mex., Can., (Elsewhere add $2 per tape). Instant service. Ph: (517) 484-9794. WRIGHTAPES, 235 E. Jackson T-2, Lansing, MI 48906.

ROSS $$$$ NEW SPECIALS (July only): If you don't see what you want, send call letters, name & phone # for personal price quote. Over 6500 ham-related items in stock. ICOM IC-735 — $PHONE, IC-45A — $299.90, IC-745 — $768.90, IC-04AT — $285.90, IC-271A — $529.90; Kenwood TS-940S/WAT — $1699.90, TH-21AT — $194.90 + extra PB-21 .10,, TR-8400 — $379.90, TR-7950 — $356.90, TS-430S — $667.90, TM-211A — $299.90, VFO-240 — $139.90, TW-4000A — $489.00, TS-780 — $759.90, YAESU SP-107 — $24.50, FT-757GX — $719.90, FT-708R — $219.90, FRG-7700 — $369.90, FRG-8800 — $589.90, FC-102 — $229.90. All major lines stocked, L.T.O. Mention ad. Prices cash, FOB Preston. We close at 2:00 on Saturdays & Mondays. ROSS DISTRIBUTING COMPANY, 78 South State, Preston, ID 83263, (208) 852-0830.

JENNINGS UCSL-1000 vacuum variable capacitors, 10 thru 1000 mmfd at 5000V with gear drive train and mounting bracket, perfect for that linear amplifer or antenna tuner. These are brand new; $59.50 plus $3.00 UPS. Military TV-2/U dynamic mutual conductance portable late type Viet-Nam vintage tube tester, size 8H x 16D x 18W. Built-in roll chart, excellent for precision tube testing. Used lab tested $75.00, plus $14.00 UPS. B & K precision model E-200-C signal generator 88 kHz thru 440 MHz, perfect for general RF alignment on AM/FM and TV applications, also has built-in sine wave audio oscillator for audio frequency tests. Brand new — $75.00, plus $5.00. Order today, good stock on all items. We accept M/C, VISA or check. Write or phone Bill Slep, (704) 524-7519, SLEP ELECTRONICS, Highway 441, Otto, NC 28763.

DIGITAL AUTOMATIC DISPLAYS. All transceivers. Six 1/2" digits. 5" wide by 1¼" by 9" cabinet. During July only our model GD-6C for the Collins "S" line and KWM-2 is only $229.95 (regularly $279.95). It plugs into existing jacks and tube sockets. No drilling, no soldering. You will have it going in 5 min.. Thirty-day money back trial period. (So far no one has returned any of our new line for their money back). Two year warranty. Send $229.95 plus $5.00 UPS or send $1.00 for information. GRAND SYSTEMS, Dep't B, POB 3377, Blaine, WA 98230. Canadians VE7LB.

EMPLOYMENT

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CAREER OPPORTUNITES in the Central Intelligence Agency, Telecommunications specialists. The CIA has excellent career opportunities for people with experience in HF Radio, Morse Intercept, Satellite Communications or Radioteletype operations. If you are qualified and are looking for the challenge of a CIA career, you could join a very select group of dedicated men and women who use their professional skills in unique and rewarding assignments throughout the world. Duties include operating landline, high frequency radio, and satellite teletype circuits, automatic message switching systems, manual HF radio circuits (Morse code), cryptographic devices, and microwave systems. Qualifications: Experience in the telecommunications field is preferred. Radio amateurs with general class license and above or applicants with experience as electronics technicians or in the data processing field will also be considered. Ability to send/receive Morse code at 12 groups per minute or achieve a passing score on a Morse code aptitude test. High school graduate or GED. Basic understanding of radio theory. Ability to touch-type 30 words per minute. U.S. citizenship is mandatory, applicant and spouse. Ability and willingness to serve overseas and work shifts. (Approximately 70% of career is spent overseas.) Civil service status *not* required. Starting Salaries: GS-06 or GS-07 ($15,398 - $18,215), depending on qualifications. Employee Benefits: Liberal insurance, retirement, and leave programs. Subsistance and quarters while in training. Substantial government overseas benefits. To apply, send your resume to: Central Intelligence Agency, Dept. A, Room 821, P.O. Box 1925, Washington, D.C. 20013.

OPERATOR WANTED — Part time for marine coast station in New Haven area. Exp. desirable, but willing to train. Telegraph license preferred, and 20+ WPM desirable. Partnership avail, for right candidate. Reply WKM, 45 Victory Dr., New Haven, CT 06515, or tel (203)937-5074.

SIGN LANGUAGE VIA 2-WAY HAM-TV. Instructor available with UHF video simplex/repeater receiving stations; and license study materials. Will consider this or a parallel service for the deaf or hearing in So. Calif. Resumé and letter of former employer available. Send a card or note to — JOHN RUCKERT, WB6ZPN. 953 South Beacon Ave., Los Angeles, CA 90015, within 30 days!

COMMUNICATIONS ENGINEERS for various assignments in Europe and Saudi Arabia. BSEE is required with experience in system design, switching or installation. Send resumes to: SHS INT'L., 8320 Old Courthouse Rd., Suite 305A, Vienna, VA 22180.

EXPERIENCED TECHNICIAN/INSTRUCTOR, 1st Fone, 2nd Telegraph, Radar, BS, MA, AS Electronics, private pilot, overseas experience, seeks work as flight crew member and radiotelegraph operator. JOHN, 227 Las Miradas Dr., Los Gatos, CA 95030, 408/356-5949.

CONSTRUCTION ENGINEER - (SURVEYOR). Looking for employment anywhere overseas with a construction firm. 30 years experience in building and heavy construction engineering work. Will send full resume. Single and willing to travel. 30 years as a ham radio operator. Please contact D.E. SIMONSEN, P.O. Box 1622, Vancouver, WA 98668.

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ADVERTISER'S INDEX

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Now ICOM offers the best choices in compact 2-meter FM mobiles...the IC-27H 45-watt compact and the IC-27A 25-watt ultra compact mobile.

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An optional IC-PS45 slimline external power supply and IC-SP10 external speaker are also available.

See the IC-27A/H compact mobile transceivers at your local ICOM dealer. For superb performance and reliability your only choice is an ICOM.

Also Available are the IC-37A 220MHz and IC-47A 440MHz 25 watt compact mobiles.

ICOM

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