

Worldradio/NEWS

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FCC Relaxes Repeater Rules

Walker talks about repeaters



A. Prose Walker, W4BW, Chief, Amateur and Citizens Division, FCC

(excerpts from Walker's address at SAROC, January 5, 1974)

When Len Norman asked me to come out and be with you today at SAROC, he almost insisted that I talk about the background and the philosophy of Docket 18803 which, as you know, related primarily to repeater rules. But it also contains other things applicable to all amateurs, whether or not you are repeater operators or repeater users.

REGULATION

I share the philosophy of most amateurs that the least regulation is the best regulation; but not the philosophy that no regulation is the way that amateur radio can develop either in its own best interests or in the interests of our country. I stake my belief in this philosophy of least regulation with the background of having worked toward re-regulation or de-regulation, if you please, of the broadcasting industry beginning 20 years ago. Now we at the Commission, I wish to assure you, always do our best on behalf of amateur

radio, even though perhaps to some of you, it may not seem that way. We also have problems in discharging our responsibilities in the regulatory area and therefore, what we try to do is to produce the right blend of freedom to expand the real potential of amateur radio and still enable the FCC to satisfy its valid responsibilities in the regulatory area. They are not incompatible. If I read my correspondence in the magazines - some of the magazines - correctly, there are only a few major points of difference between most amateurs and the commission. There may be a greater number of minor differences. Some amateurs would abolish all repeater rules and allow amateurs to use the VHF and the UHF bands in whatever way satisfied the individual desires. But I don't think most amateurs agree with that concept. As I talk with people who observe first hand the repeater situation around the country, they emphasize to me the need for reasonable regulation plus encouragement toward a more disciplined use of these amateur bands. (Turn to page 6, please)

AMATEUR REPEATER STATION APPLICATIONS SIMPLIFIED

Rules requiring technical data related to amateur radio repeater stations to be filed with the station application have been amended by the Commission. Parameters of antenna height above average terrain and effective radiated power have been changed from application requirements (97.41(f) to logging requirements (97.111(f)). The amended rules become effective January 23, 1974.

The Commission said that this revised procedure would benefit applicants since they will no longer need to include data with the applications. Repeater station licensees will no longer be required to submit proposed changes to the Commission before making modifications to their stations.

"The net effect of these amendments will be a reduction in the initial showings required for all repeater station applications, and the elimination of showings with applications for repeater stations not proposed for remote control or involving auxiliary link stations," the Commission said.

The Commission also noted that the amendments will simplify application filing requirements and accelerate application processing and the issuance of licenses, allowing the Commission to eliminate a "substantial backlog in this area."

Action by the Commission January 9, 1974, by Order. Commissioners Burch(Chairman), Lee, Reid and Wiley.

(now the details)

ORDER

1. The purpose of this order is to amend the rules for the Amateur Radio Service to change the requirement that certain technical data related to a repeated station be filed with the application for that station. The data now only need be entered in the station log. It will no longer be necessary to include the data with the repeater station application.

2. It is evident to us, from the experience gained in processing almost 500 applications for amateur repeater stations, amateurs have developed the knowledge and capability to properly determine the parameters of antenna height above average terrain and effective radiated power, in accordance with our rules. Therefore, data on these parameters are changed from appli-

cation requirements in Section 97.41(f), to logging requirements in Section 97.111(f). This revised procedure will benefit applicants, since they will no longer need to include data with their applications. It will also benefit repeater station licensees, since they must no longer submit proposed changes to the Commission, before making the modifications to their stations which would change these parameters. It will benefit the Commission, since it will not be necessary for us to review and approve data. Therefore, these amendments offer mutual benefits to amateurs and to the Commission.

3. In Section 97.108(a)(4), the word "automatically" is deleted from the requirement for provisions to limit the transmissions from a remotely controlled station in the event of a malfunction in the control link. The purpose of the requirement is to have a backup method of terminating transmission. It is immaterial whether the method is automatic or manual, and many systems have been licensed that use backup shutdown methods that are more manual than they are automatic.

4. The words "as installed", which were contained in the deleted Section 97.41(f)(6), are not included in the new counterpart Section 97.111(f)(7). We have learned from our processing experience, it is overly difficult for most amateurs to determine radiation patterns of an antenna as installed. We feel this requirement can be deleted without seriously compromising the overall results. Also deleted is the requirement that contour gradations on topographic maps only be 50 feet.

5. The net effect of these amendments will be a reduction in the initial showings required for all repeater station applications, and the elimination of showings with applications for repeater stations not proposed for remote control or involving auxiliary link stations. Licensees will now be able to make modifications to their repeater stations, except for changes involving remote control or link aspects, without the need for prior Commission approval. Our processing is making headway licensing those applications already on file, and as a result of these amendments, we should have the backlog eliminated in a matter of weeks. Any station involving remote control or an auxiliary link will still be required to make the showings for applications and modifications required by the remaining paragraphs of Section 97.41.

(Turn to page 36, please)

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Newsfront

Around the World

THIRD SOUTHEAST ASIA NET CONVENTION

Nearly 100 amateurs and guests from all over the world attended the third SEANET Convention at the Marco Polo Hotel in Singapore.

Mr. Khoo Chek Ngee, Manager (Maintenance), Telecommunications Authority of Singapore, officially opened the meeting by greeting the participants in person and on the air.

Convention station 9VISEA was operational from the hotel at SEANET time, 1200 GMT, on 14.320 MHz and throughout the session.

DXers and ragchewers alike had a unique chance for relaxed, informal eyeball QSOs,

many for the first time. Activities included a visit to the Singapore Telecoms satellite communications station and to the Hy-Q crystal manufacturing plant. Ten manufacturers and distributors of amateur and electronic equipment participated in a display of products -- a first for amateur meetings in Southeast Asia.

The real highlight was the visit to 9M2JB, a royal prince of Malaysia and a ham since the twenties. TA, as he calls himself on the air, personally conducted the visitors on a tour of the palace of the Sultan of Johore, including the rare privilege of viewing the crown jewels. The day was capped by a Malaysian style barbecue-satay, fried rice, and cold beer under a thatch hut served by TA's retainers at the site of his new shack under construction.

The next SEANET convention will be held in 1974 in Manila. Hosts will be the Philippine Amateur Radio Association, Box 4083, Manila, Philippines.

de Ed Gribi, 9VIQF



Bud Whitney, 9VIOI, calls the roll while Paddy Gunasekera, 4S7PB, logs for 9VISEA on SEANET, 14.320, 1200 GMT, at the opening of the SEANET Convention, Marco Polo Hotel.

Washington Report FCC



COMMON EMERGENCY COMMUNICATION FREQUENCY FOR ALASKA PROPOSED

In response to a petition by the State of Alaska, amendment of the rules to provide for the use of 4383.8 kHz as a common emergency frequency for high frequency single sideband stations licensed under Parts 81, 83, 87, 89, 91, 93 and 97 of the rules, in the State of Alaska, has been proposed in a rulemaking notice by the Commission (RM-2164). Part 2 of the rules would also be amended

to provide for these operations in the Table of Frequency Allocations.

Alaska also requested that the frequency 4383.8 kHz be deleted from Sections 81.307 and 81.304 (a) for normal use by public coast stations in Alaska only.

Alaska stated that there were many remote villages and camps within the state which were totally dependent on radio and that communication among the stations licensed to individuals, companies and governmental agencies, was difficult because of the lack of a common frequency.

It requested the emergency use for stations licensed in the Land Maritime and Alaska Public Fixed Services (Part 81), the shipboard Maritime Services (Part 83), Aviation Services (Part 87), Public Safety Radio Services (Part 89), Industrial Radio Services (Part 91), Land Transportation (Part 93) and Citizens Radio Services (Part 95) for single sideband operation (emission 2.8A3J) with 150 watts peak envelope power on a 24 hour basis throughout the state.

The Commission pointed out that since frequencies below 25 MHz are shared by Government and non-Government radio services, the petition was submitted to the Interdepartment Radio Advisory Committee (IRAC) for consideration. (IRAC, which consists of representatives of those agencies of the Federal Government which are major users of the radio spectrum, considers non-government proposals having an impact on existing operations in bands shared by Government and non-government radio services.)

IRAC expressed general concern over whether effective use of the frequency for emergency communications in Alaska could be made, but approved the initiation of rule making by the FCC. It indicated that some Federal Government stations would wish to participate in the emergency network if it is established.

The Commission said that use of the frequency should be primarily limited, at least initially, to those services now permitted under (Turn to page 50, please)



The ARRL Board of Directors in annual meeting January 17 and 18 unanimously voted to continue strong opposition to proposals of the Federal Communications Commission and other agencies and groups to use presently allocated amateur bands for non-amateur purposes.

An expanded office facility in Washington plus a periodic ARRL newsletter will be directed to federal agencies and officials. The board thanked FCC for its recent relaxation of repeater application procedures and voted to continue seeking easing repeater rules.

New ARRL first vice-president is Victor Clark, W4KFC, with Noel Eaton, VE3CJ, and

Carl Smith, W0BWJ, as new additional vice-presidents. Phil Wicker, W4ACY, thus becomes director from the Roanoke Division and George Spencer, VE2MS, director from Canada. VE3CJ is nominated as President of the International Amateur Radio Union. New members of the ARRL executive committee are Max Arnold, W4WHN, and Roy Albright, W5EYB.

Elected as directors of the new ARRL Foundation were Harry Williams, W1MBK, Robert York Chapman, W1QV, Peter Schenk, WA4GFY, Dr. Larry Price, W4DQD, Lloyd Colvin, W6KG, Jean Gmelin, W6ZRJ, Richard Egbert, W8ETU, Edward Bock, W0BB and Larry Shima, W0PAN.

Club affiliation rules were expanded to include other national or large area amateur societies and councils as well as youth groups such as Boy Scouts. Public relations assistants were named in each division by directors. Financial support of AMSAT was continued pending eventual funding by the foundation.

The technical merit award went to Larry

Kayser, VE3QB, for outstanding performance in control of Oscar 6. More technical articles will appear in QST, paper availability permitting. The 1977 national convention will be held in Toronto.

DXCC pins will be made available to members at cost. Committee studies were ordered of Technician privileges, emergency communication pamphlets, rule 9 of DXCC, QSL bureau procedures, 6-meter repeater interference, director election procedures, amateur participation in the sister city international program, and a HQ reference library. Minutes of the meeting will appear in March QST.

Dakota Division Convention - Waseca, MN, May 4, 1974

Rocky Mountain Division Convention - Pueblo, CO, June 7-8, 1974

Southwestern Division Convention - San Diego, CA, November 1-3, 1974

Amateur Radio is more than communication-It's a service

Ham Directs Sea Rescue

CRESCENT CITY, Calif. -- Three local ham radio operators and the Coast Guard Cutter "Cape Carter" were credited with possibly saving a 42-foot sloop and its two occupants when they experienced difficulty in very heavy seas off Big Sur on the morning of Tuesday, Dec. 11.

What made it doubly incredible was the Crescent City-based "Cape Carter" never left its dockage at Citizens Dock but acted as a four-way radio hookup in getting help to the stricken sloop.

It all began about 8:45 a. m. when the 42-foot sloop "Pathfinder" began calling "emergency" when she began losing steering in the heavy seas.

Although more than 150 miles south of San Francisco, evidently no one intercepted the call for help, except three local ham operators, Alice Morisseau, Fred Marvin and Carl Campbell. Why the "Pathfinder's" calls were not heard was a mystery, unless it could have been from some freak weather "skip."

Campbell said each morning it is customary for ham operators to get on the air about this time, with operators ranging from Canada to Mexico and east to the mountain states.

He said they had been on the air for some time when they heard the emergency call (on 7,280 kHz). Campbell said he was able to read the "Pathfinder" quite clearly, and when it was learned she was in trouble he called the "Cape Carter."

Thus began a four-way radio conversation between Campbell, the "Cape Carter," who in turn was in touch with Coast Guard headquarters in San Francisco, a Coast Guard surface vessel, a fixed-wing Coast Guard plane and the "Pathfinder."



THROUGH THE OPERATION of this ham radio station, W6BLC, a Crescent City resident Carl Campbell, was able to coordinate rescue operations between the U.S. Coast Guard and a 42-foot sloop, the "Pathfinder". The boat had radioed a distress emergency call after losing steerage about five miles off Pt. Sur in extremely heavy seas. Thanks to Campbell (shown here in his radio shack), and two other residents Mrs. Alice Morisseau and Fred Marvin, the Coast Guard was able to intercept the "Pathfinder" and she was escorted to safety.

When the sloop still couldn't get through to the SF Coast Guard, she was being received by the three local operators. Campbell took the message, relayed it to the "Cape Carter," who in turn relayed the message to San Francisco who was in touch with the Coast Guard enroute to the sloop's assistance.

In the long run, everything evidently turned out alright as the "Pathfinder" was reported enroute back to San Francisco being escorted by the Coast Guard.

The two people aboard were not identified other than Mr. and Mrs. Nelson. They were believed to be from the Bay area and were enroute to Mexico from San Francisco when the problems occurred.

So ended a slightly "better than routine" Tuesday morning for three Crescent City ham radio operators who just probably saved three lives.

(From the Crescent City, Calif. "Del Norte Tripletate.")

WINDS

MINNESOTA WEATHER INFORMATION DISSEMINATION SYSTEM (WINDS)

by Larry Shima, WJ/PAN

In early 1970, Minnesota Section Emergency Coordinator Harley Hicks (WAØMZW) approached the Minneapolis Weather Bureau with a proposal for a system to provide weather information via Amateur Radio during tornado watches. From the initial efforts of a small group of public service-oriented amateurs, the new program was born and has steadily increased in effectiveness.

The WINDS program involves a statewide network of amateurs reporting local weather conditions during tornado watches to the Weather Information Center (WIC) in the Minneapolis-St. Paul area on 75 meters. The recent growth of repeaters has also provided a more QRN-free link via two meters. The information provided to the WIC is plotted on a status board and immediately relayed to the Weather Bureau duty office on six meters. It sounds pretty easy... but let me expand on the arrangements made by dedicated amateurs to insure full-time response.

A pair of WICs have been established in Minnesota, with a third currently under development. One is at Civil Defense headquarters in the Minneapolis suburb of Bloomington; the second is located at Ramsey Co. Civil Defense headquarters in St. Paul. The WICs have the "duty" on alternate days, seven days a week during the tornado season, which in these parts runs from March through October. At Bloomington, the group is divided into four teams composed of four amateurs and four CBers, and each team has the duty for one week; the arrangement at Ramsey Co. is similar.

When a tornado watch is called for any part of Minnesota, the Weather Bureau notifies the on-duty team captain at the appropriate duty WIC. Amateurs around the state are alerted through announcements on their local radio stations. Duty team assignments, when a watch is called, include the following: two, six and 75-meter operators, a data plotter and a WIC chief at Civil Defense headquarters, and a six meter station operator at the Weather Bureau.

If the tornado watch includes the metropolitan Minneapolis-St. Paul area, the off-duty WIC assumes control of a city-wide spotter net on two meters, and this is linked to the Weather Bureau via six meters.

Both amateurs and CBers at the two WICs in operation have spent about 24 classroom hours learning the jargon of weather reporting. Through this training and close contact with Weather Bureau personnel, the WIC personnel can provide prompt reports of deteriorating conditions with a degree of expertise in evaluating the incoming reports.

The success of this public service program rests entirely with the dedication of amateurs who are willing to drop everything and assist their fellow man. The information provided has enhanced the ability of the Weather Bureau to predict tornado activity and movement.

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Ham's radio saves his wife's life

by Sarah Richard

"Ham radio" operators may have saved the life of Mrs. Sandra McClaran of Glenview Terrace, Vero Beach,

She and her husband, Robert McClaran (W4ZGG), and their small daughter were camping out on Nettles Island, off Jensen Beach (Florida). Suffering from a chronic asthmatic condition, she took a common cold and hay fever medicine. It caused her to lapse into unconsciousness at about 1 a. m. on a Sunday morning.

Her husband, using his mobile radio, was able to make contact with Don Moe (WA4YIH), in Ft. Pierce, who called the sheriff's department of Martin Co. and requested that an ambulance be sent. McClaran also contacted Kevin Bourbon (WA4VOU) of Ft. Pierce, who

drove to Nettles Island, picked up the McClaran child and took her to his home.

The ambulance came, picked up the unconscious Mrs. McClaran and, although it ran out of gas on the way, got her to the hospital in Ft. Pierce, where she was given emergency treatment and released early Sunday morning. She is now home in Vero Beach with her family, none the worse for the incident, although an allergy like hers could have proved disastrous.

McClaran credits the Amateur Radio operators and also Station WTVX, situated between Vero and Ft. Pierce, which has generously provided the operators with a room at the station and the use of its tower for a repeater, which belongs to the St. Lucie Repeater Assn. (W4VPQ). This repeater greatly extends the range of communication possible between mobile units; without it, they are limited to a

(Turn to page 42, please)

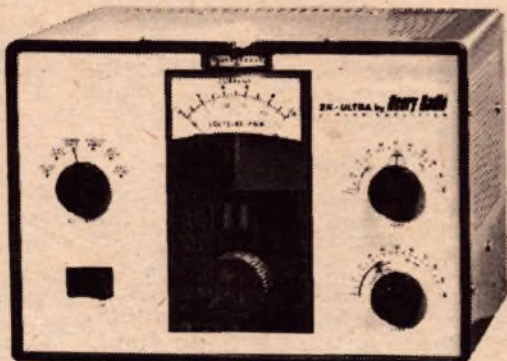
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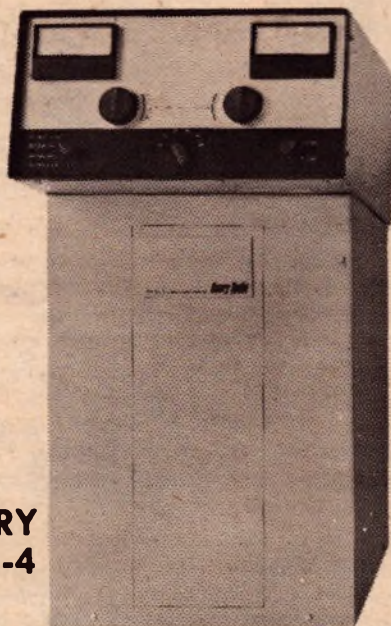
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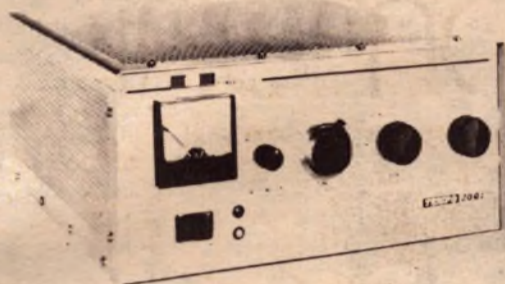
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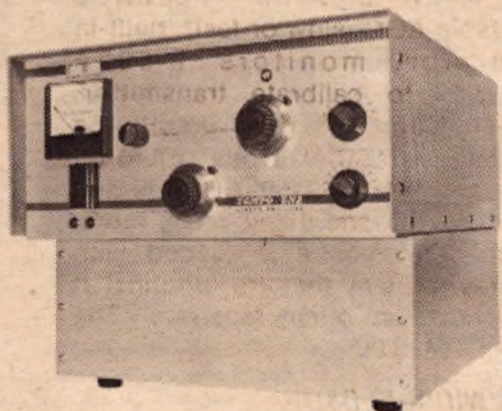


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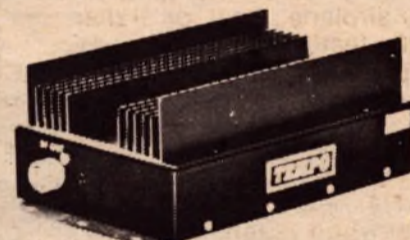
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Prose Walker-FCC



GROWTH (Continued from page 1)

In the short period of time since the new rules became effective, repeater growth has increased, not decreased. Existing repeaters have become so busy, that in some parts of the country, it is almost impossible to get a few minutes on a repeater and if you do, you feel like a heel if you take more than 60 seconds. This has occasioned applications for new repeaters so that everyone may be certain applications for new repeaters are still being received in the Commission. This does not sound like a stultifying effect on the amateurs' use of these devices. For your information, the figures on new repeaters are as follows: We have already granted licenses for 54 new repeaters. We have pending 99 applications for new repeaters that have never been on the air before.

CONFUSION

During the period from the initiation to the termination of the proceeding in Docket 18803, there has been a great lack of information and misinformation about these rules and their application to the amateur service. The ramification of this have created unnecessary confusion, animosity toward the Commission, threats to disregard the rules on a wholesale basis, an atmosphere of trust and distrust and doubt about the integrity of individuals and actual charges that some are now profiting or intend to profit from the repeater situation. I don't intend to discuss those things. Most of the atmosphere of the past year and a half need not have occurred if the correct information, not misinformation, had been provided amateurs at large. Now let me say that this type of misunderstanding between amateurs and the Commission - and, of course when you speak of the Commission, you're talking about human beings, inclines the Commission toward a more cautious approach to new types of stations and new systems of, shall we say, remote controls.

CONTROL OPERATORS

Probably, the number one complaint of amateurs against the Commission is the requirement for the control operator, occasioned by the interpretation of Section 310b of the Communications Act. Many considered that this was a new requirement of Docket 18803. That is not true. In the operation of most repeaters throughout the country, the al-

ready existing requirement for the control operator had been ignored. Therefore many people thought that there never had been such a regulation. And when it became apparent back in about 1970 that we needed repeater rules - and we were petitioned by amateurs to establish repeater rules, this didn't generate itself back in the Commission; there was no unanimity of thinking in the comments which came in to us in respect to Docket 18803 as to whether we should have open repeaters or closed repeaters. In hindsight, perhaps we should have made particular provisions applicable to each category. We enabled amateurs to make their own choice of whether you wanted to have an open repeater or closed repeater, but we incorporated the same provisions for the control operator for both categories. For the first time, however, in the history of amateur radio, the rules enabled the licensee of an amateur station to turn over the controls of his station to another licensed radio amateur - not only for repeaters but for any type of amateur radio station and that's the first time that this has ever happened. Some comments and reply comments to this proceeding asked why amateurs had to abide by a requirement which commercial and industrial repeaters did not have to. The answer is that in the latter case of the commercial/industrial repeaters, no one uses the repeater except known individuals, employees of the licensee. That is not the case with open amateur repeaters which are used by any licensed amateur over which the licensee of the repeater has absolutely no control. Remember also that these repeaters are operating in shared bands shared with other amateurs and with non-amateur services.

ANY SUGGESTIONS?

Before I leave the subject of the control operator, I must mention and emphasize that the memorandum which accompanied the Report and Order on this Docket touched on this very subject of the control operator and we requested amateurs to come forward with their suggestions. Let me quote from Paragraph 4 of the memorandum that came along with that Report and Order. And I quote: "Despite our efforts to forecast the future needs and provide appropriate rules, we recognize that, in all probability, further advancements in remote control and automatic technology will necessitate additional amend-

ments. We urge interested parties having information and suggestions in these areas to submit them to the Commission for consideration." Now that doesn't sound to me like the Commission has a closed mind in respect to any of these matters. You may ask how the FCC requirement for a control operator can be satisfied by any other means than having an individual sitting there at the controls. This is a valid amateur concern of course and I'm very optimistic that there is an answer to it. We've granted the special temporary authorization just about a week and a half or two weeks ago to the Southern California Repeater Association. We granted this S. T. A. - this special temporary authorization to experiment with a system of semi-automatically controlled operation of WR6AAD and WR6AAE for a period of six months. The coded access information will be divulged only to designated users of the repeaters who will then serve as both user and control operator of these repeaters. The access and the control information will be coded in a particular manner. The only conditions of use for this test - there are only three of them; use of a lock-out receiver, and three minute malfunction shut-down control device, and each user control operator has to sign the log of the repeater, at least once in six-months - that's a real tough one. Within 20 days of the end of the expiration of the test, they have to submit a written report to the Commission and give us at least one month's logs, so that we can evaluate the thing and see how it worked. Now this is semi-automatic user control operator. It well could be, I think, that a fully automatic user control operator system can and will be proposed which will be entirely satisfactory. There have been a few informal discussions on this particular point but nobody has come forward yet with a proposal to do it; nobody has asked for a special temporary authorization for an on-the-air test for a fully automatic user control operator system. You're probably wondering if this means that the repeater in the future will be closed access or closed repeaters. Well I think if as we view it at the present time, if you want to make use of the provision of the user control operator concept as I have outlined it here either semi-automatic or full automatic, I think that's probably what it will be but we're not saying that you can't have an open repeater if you want an open repeater. But if you do, in all likelihood it's still going to retain a control operator requirement.

EMERGENCY REPEATERS

In our informal discussions in our shop, we've given some consideration to proposing that the amateur service have something equivalent for emergency service that the citizens radio service has on channel 9 which as you

know is used only for emergencies (Laughter) I appreciate your sense of humor. Would it be desirable, for example, in metropolitan areas or areas wherever you people might indicate to us, to have a dedicated amateur repeater for emergency use? I don't know. Maybe it would be a good idea. And if we get something out of this, I hope you will respond with your good thoughts.

UNAUTHORIZED OPERATION

Now there may be some of you who still question the need for the control operator concept on an amateur repeater over and above the interpretation of Section 310b of the Communications Act. I am sure you probably know more reasons for the requirement than I do. One of course, is the capability for the indiscriminate accessing of an open repeater by people who are not authorized to operate in the amateur bands. And the inevitable undisciplined use of the amateur bands that would result. You know of the situation in 27 megacycles in the citizens radio service. And one of the reasons for this - only one - but one of the reasons is the availability, the ready availability of equipment. The same is true today of 144 MHz band, even up in the higher bands. Illegal use of repeaters has happened all over the country. I'm sure some of you people here know about it. And where it's occurred, it was brought under control by the judicious application of a little effort by the repeater operators themselves usually with only a very small amount of help from the FCC. But the availability of equipment for use in these bands places in the hands, of course, of various groups a powerful communications tool that they can use for illegal and even criminal activities. I think the correct philosophy, and this is my own personal opinion, is to lock the barn door before the horse is stolen, not wait for it to happen as was the case in the citizens radio service in 27 MHz. Of course, that's a long story and I don't have time to get into that one today.

REPEATER LINKING

To accommodate plans for the emergency use of repeaters - keep in mind now I'm trying to give you some of the background of these regulations so that hopefully you can see some of the philosophy that we tried to crank into this - to accommodate plans for the emergency repeater system involving the linking of a number of repeaters, not two, which is where we cut it off for the normal utilization of repeaters, but 5, 10, 15, 20, I don't care, but for emergency purposes. We made special provisions in the rules for this. It was understood at the time that if those provisions were made that there would be no insurmountable obstacles to moving ahead in various areas of the country where people had

indicated to us that they wanted to establish emergency systems of repeaters. The model plan which we knew about in greater detail than any others was what they called the TIRES plan, down in Texas, which involved linking up a number of coastal cities as well as inland cities in the system. That is, you know, a disaster-prone area down there and we thought that if we incorporated the emergency drill and testing provisions in the rules that it would result in the plan going ahead for the installation of that system. It was our understanding that it would not be an insurmountable obstacle for them to go ahead with it. We have since learned that those plans, and perhaps this may be true in other parts of the country as well, have not gone forward because if the systems cannot be used normally for ordinary amateur purposes, the individuals that are involved in this thing apparently are not willing to expend their time and energy and their personal resources to establish the system. Now this is not said in criticism of anybody that's involved in the Texas plan or any other plan. Now it would seem to me even now, a year and a half after the Report and Order of Docket 18803, that we could incorporate certain provisions as far as the test procedures and the drills, etc. for that system and others so that the entire system could provide a useful function in a normal manner as well as during periods of emergency. Now as we get more and more repeaters in the different bands throughout the country, it seems to me almost axiomatic that eventually the limiting of linking of repeaters or two will be almost self-regulating. And when that point arrives, I think probably you will see that particular provision of the rules eliminated. Now it's obvious, of course, that the establishment, the planning and the establishment of a system of emergency repeaters, such as the TIRES plan in Texas, would be a great major undertaking - I mean these things are quite extensive. The result, of course, would have been official results for all amateurs all over the country, not just those in Texas. The control, the switching, the failsafe and other technology that would be incorporated in such a system would be beneficial to all.

EXPERIMENTAL WORK

It has never been the intent of any of the rules that came out under Docket 18803 or of anybody in the Commission to hinder experimental and developmental work by amateurs. I'm speaking here of any kind of developmental work that an amateur might desire to pursue within any reason. But let's understand what is meant by developmental and the techniques by which it is accomplished. Let me digress for just a moment, then I'll pick this up. In 1964 the Joint Technical Advisory

Committee which is commonly called JTAC, and which many of you people are familiar with published a report under the auspices of the IEEE and the EIA. The report was entitled "Radio Spectrum Utilization". It discussed use of the spectrum by the various services. When it came to the amateur service it had some very cogent remarks which bear on experimentation and development by all amateurs, especially in the context of the justification of the service to occupy the spectrum. They spoke of the amateurs' use of these bands, the congestion which is encountered, their ardent desire to communicate, and indicated that amateurs would undoubtedly develop new techniques to enable them to overcome all of their difficulties. And then the following statement was made and I think it's worthy that all of you hear it. And let me quote: "To the extent that amateurs take their activities seriously, and carry out thoughtful and consistent experimentation, they will continue to benefit the radio art and contribute not only to its development but also to their own operating efficiency and reliability of communication." So in keeping with the basis and purpose of the amateur radio service, that's the kind of experimentation and development that I had in mind when someone says to me that our rules, and I'm speaking especially of Docket 18803, the repeater rules, that our rules have a stultifying effect upon dismayed amateurs. Such comments are not lightly taken when they come from responsible individuals in the ranks of the amateurs, one of whom I respect highly, recently said that Docket 18803 was and I quote: "over-regulation at its worst, since it seeks to protect unidentified victims from unstated harm potentially wrought by improbable happenings." Let's consider a few examples, such as experimentation with a new antenna for a repeater, or for anything else for that matter. How do you go about it - climb up the tower and take down your antenna, hoist up another one and trust to luck that you're going to improve the situation? That's not experimentation and that could only lead to a deterioration in the service capabilities of your repeater. In my view, thoughtful and persistent experimentation would involve setting up the new antenna, if you didn't know anything about it, on a range, even though a makeshift range, in your backyard and make some gain and pattern measurements on that antenna before you went to the trouble to take down the one you've got and put this new one up. And we continue to get howls from certain quarters, mainly in the northeastern part of the country, that amateurs can no longer experiment with antennas. Well, hogwash - it's not true.

BAND PLANS

We recognized, of course that Docket 18803 could lead to band

plans and we said that we, the Commission, did not want to accept the responsibility for band plans. They've come along and I think they're working fairly well. There are provisions to administer these on a voluntary basis which is the way it should be. Many amateurs believe there should be mandatory frequency coordination requirements, exclusive repeater portions of the bands where nothing else but repeaters could operate. We do not know if that is the consensus of amateurs. We have no proposals before us to act in these directions.

WIDE AREA REPEATERS

Concern and interest is frequently expressed to us on the subject of wide area coverage repeaters. And I'm sure that a lot of you people in this room have that concern, many of you from California. I think California is one of the areas where this concern is greatest. It's mainly true in the Rocky Mountain area and in California. So far we have not authorized any waivers of the rules in respect to the relationship between the effective radiated power and the height above average terrain. The reason for this as well as a great many other aspects of the repeater rules that came out of Docket 18803 is that we didn't want to begin by making exceptions. We thought that initially we should try to abide by the rules and see how they worked and after a reasonable period of time, review them and if there are good reasons for a change, make the changes. Nobody's ever said we're not going to change these rules if there's good reason to change them. This is a good philosophy, a good procedure to follow. I think you will agree that it's reasonable and as you will see a little bit later on, perhaps the time is imminent to make certain changes.

PETITIONS FOR CHANGE

Now charges have been made that thousands of petitions have been made to the Commission to change the repeater rules and they have been rejected out of hand. That is not true. We have one petition on file at the present time dealing with the repeater rules. One petition. Amateurs are also interested in crossband repeaters, wideband multi-channel translators; they're also concerned about the operation of the RACES stations. Many believe they should not be permitted to operate in the amateur band, that their operations today are more governmental in nature than they are amateurs and therefore they should probably have their own governmental frequencies upon which to operate rather than to take up space in the amateur bands.

REMOTE BASES

The operation of what is generally called remote base stations has engendered a great deal of controversy between you people and the Commission. There is no such definable term

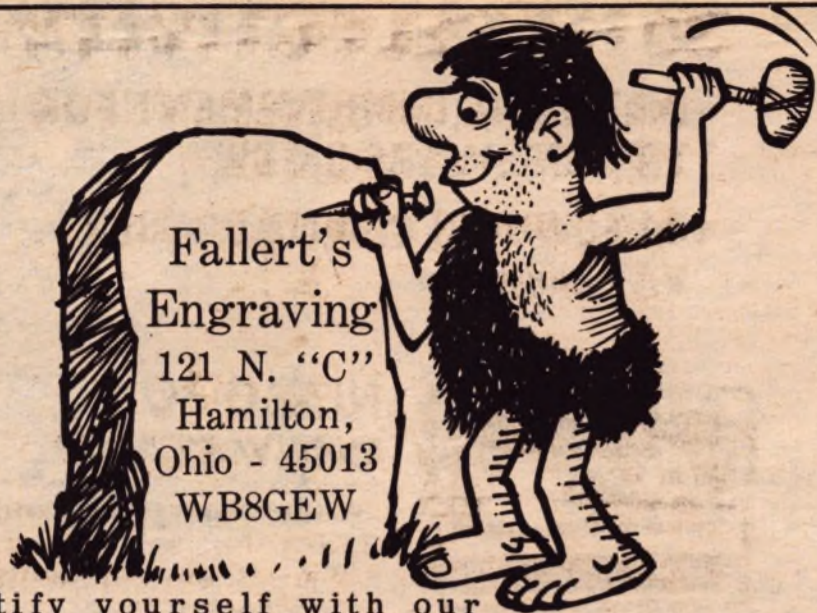


in Part 97 of the rules and regulations of the Commission as a remote base station. Some individuals believe that that type of operation was envisaged under the rules of Docket 18803 without the necessity to comply with the effective height above average terrain and the effective radiated power relationship. Now such a station is merely a substitute for one's normal fixed station, using terrain or a mountain top or something like that to obtain an advantage which is inherent in the site. Now up to that point there is no reason to disagree with this concept anymore than we would disagree with John Knight W6YY, having his station located on Mt. Wilson where all of the television facilities are located in the Los Angeles area. But John does not operate his fixed station from mobile units and I am sure he would reject out of hand anyone else operating his fixed station from a mobile unit. Fundamentally, we see no difference in the concept whether the remotely controlled fixed station is operating on 14 MHz or 144 MHz. They are both fixed stations, remotely controlled. There is no provision in the rules for operation of such fixed stations from mobile units, nor have any such provision been proposed, petitioned for or considered by the Commission. I get letters quite frequently about the use of such stations and in each case I have to agree that what they are amounts to crossband repeater. Now if the use of such a station is desirable in the amateur service, then you should follow the procedures of submitting a petition to the Commission to get the rules changed. But don't go on operating in violation of the rules because it can only lead to difficulty.

SELF POLICING

We think it would be most helpful and beneficial if your national organization and/or repeater groups would establish an official observer type of service. The details of this program should be worked out by yourselves. But I think it would take care of a great many of the problem-child areas that are going on in amateur activities today on the VHF and UHF bands.

(Turn to page 18, please.)



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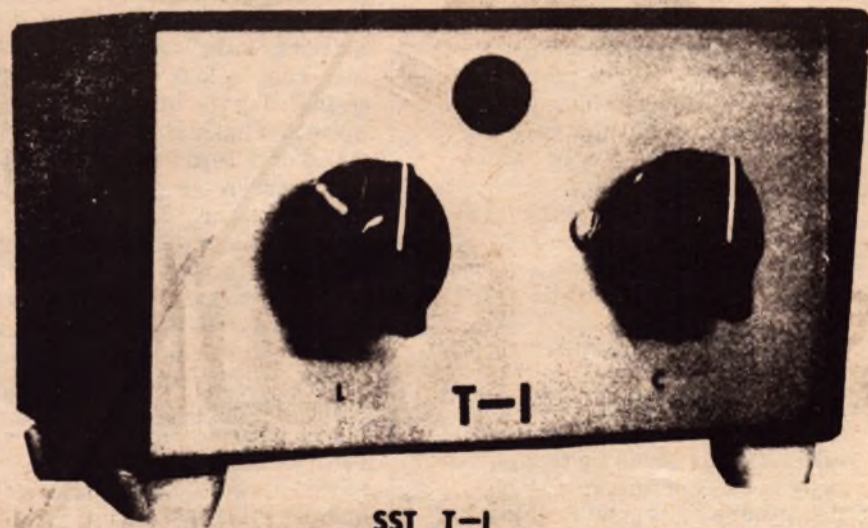
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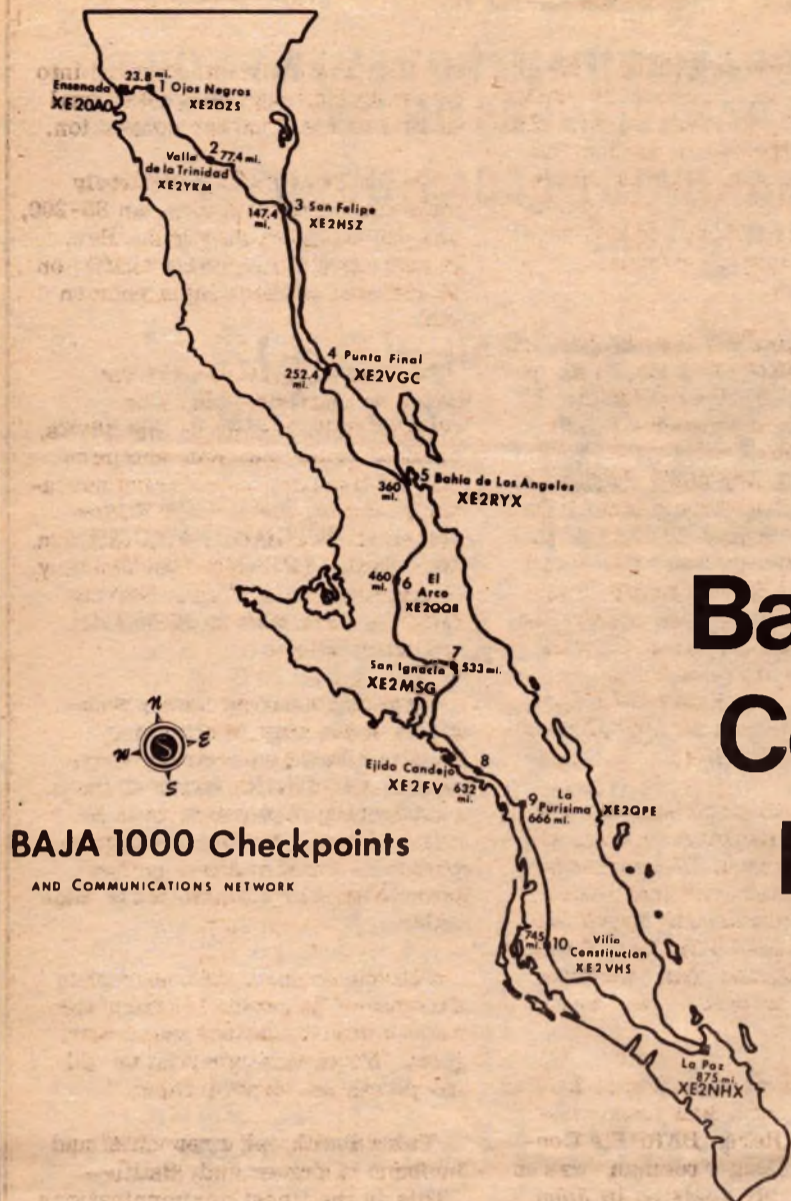
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BAJA 1000 Checkpoints
AND COMMUNICATIONS NETWORK

Baja 1000 Communications -- Best Ever! by John Arthur

(Editor's note: John Arthur is a member of the Cubic Corp. public relations staff. He is also assistant advertising manager for Cubic and is responsible for the advertising of Swan Electronics, one of the world's major manufacturers of Amateur Radio equipment, a subsidiary of Cubic Corp. Before and during the 1973 Baja 1000 Off-Road Race, John worked with the

Baja Amateur Radio Racing Fellowship for a close alliance with the press media. The rapid and accurate reporting of race news was credited to the amateur operators who continuously manned the race communications network for the three-day event. Photos are by Cubic Corp. staff photographer Hal Fisher.)

LA PAZ, Baja California Territory, Mexico (SWAN)-- Excitement remained high and adrenal fluids still coursed through the veins of participants as, just before noon, the sixth running of the internationally famous Baja 1000 Off-Road Race drew to a close Friday, Nov. 9.

A record 51 per cent (compared to a typical 35 per cent in previous races) of all entries had completed the gruelling 875-mile track from Ensenada, past ten checkpoints scattered the length of the Baja peninsula, to La Paz. There were 73 vehicles to survive the heat, cold, fog, mud, dust and treacherous terrain and receive the wave of the checkered flag.

At communications headquarters in the Guaycura Hotel, more than a mile from the finish line, voices crackled out on 40 and 80 meters as phone patches were still being arranged in the United States by the hams manning this net control station. Amateur Radio is the only "real time" communications contact to the world available in the isolated tropical fishing village of La Paz. Another ham, in a mobile home near the finish line, was still handling emergency traffic to assist race crews trying to recover damaged vehicles and lost drivers.

Over by the beach, at the La Posada Hotel, elapsed times and finishing positions were posted by

race officials. Drivers had 30 minutes to ante up \$100 protest money if they wished to challenge the results--none did. Race Steward Ray Potter certified the list, as recorded by Chief Timekeeper Marilyn Greaves, and Mexico's First Annual Baja 1000 produced by the Baja Sports Committee (BSC) was officially over. The BSC had been established by the Mexican Government under "Comite de Promociones Turisticas, A.C." auspices to control this and future off-road races in Baja. All proceeds have been pledged to aid the underprivileged children of Mexico with the official motto: "Por Los Ninos."

It was just a little more than 48 hours since the first driver had roared away from the starting line. At the Bahia Hotel, Ensenada, media reporters were preparing their wrap-up stories. In this same hotel, the communications network-control headquarters maintained continuous contact with La Paz and all radio operating checkpoints. Final results were relayed to the Bahia from La Paz and, within minutes of their posting at the La Posada, official results were in the Press Room--courtesy of the Baja Amateur Radio Racing Fellowship.

On occasions in the past, some race results had been unknown to the press for days. According to race officials, this was the first time, in the seven-year history

of off-road races run in Baja, the press corps had been constantly informed on race activities. Within 15 minutes of every significant development known to the radio network, the news was in the Press Room.

Final overall standings: First place in a time of 16 hours, 50 minutes and 25 seconds went to car #91, a Sandmaster S.S., and drivers Jonny Johnson of Lemon Grove and Bobby Ferro of Sherman Oaks, Calif. Second place went to Walker Evans and Shelby Mongeon from Riverside, Calif., in their Ford Pickup #61. A Sandwinder bearing #127 came in third driven by Malcolm Smith and Bud Feldkramp, also of Riverside.

A major part of the credit due for the success of this race must be given to stalwart Amateur Radio operators responsible for the excellent communications throughout this event. Their story in this chapter of the Baja off-road races began several months ago. In August, 1973, the Baja Amateur Radio Racing Fellowship (BARRF) was formed. Jack Poore (WB6OAO) became director of communications by acclamation of the charter members: John Alexander (K6SVL), John Campbell (WB6HSZ), J.C. Ellison (K6MVF), Doug Freeman (W6NHX), Gregg Loegering (WA6SMS), Wes Novotny (W6YSP), Louis Rush (K6QXN), Bob White (WA6TYR), and Nash Williams (W6HCD, K6OZS and

WB6RYT).

On Aug. 29, the BSC put out an appeal for "36 qualified, adventurous Amateur Radio operators to operate radio communications at 12 checkpoint locations" for the '73 Baja 1000. Replies were directed to Stan Biggs of National City, Calif. Though not a ham, Stan is a long-time friend of racing, a regular Baja visitor, and very interested in becoming an Amateur Radio operator. He volunteered to assist in expediting organization of communications for BARRF in cooperation with the BSC. Response ultimately exceeded the 36 originally requested hams and many were assigned to fill stand-by positions.

When Swan Electronics learned of BARRF's participation in the race, they offered to help gain some publicity for these highly deserving hams. This time, CBers would not get credit for the accomplishments of Amateur Radio operators. Working with Stan, Swan and its parent company, Cubic Corp., arranged to assist BARRF. It was also learned that the majority of the equipment used by the hams was manufactured by Swan, a fine testimonial for the confidence these operators have in Swan products.

By the time the race got underway, a most complete and efficient radio communications network was in operation. Leadership was now



Jim Fisk, W1DXY, Editor of Ham Radio Magazine sets in to spell Doug Freeman, W6NHZ, to handle radio traffic at La Paz. Jean Eikelberger is recording passing times as she awaits her driver/husband Bruce to arrive at the finish line.

under the able direction of Jack Poore as net controller. Pepe Limon, mayor of San Felipe and BSC president, had made arrangements with the secretary of Communications and Transportation in Mexico City to issue "XE2" call prefixes for BARRF members to use during the race. Net control headquarters in the Bahia Hotel therefore was recognized by the call XE2OAO, assigned to Jack. Others operating with XE2OAO at headquarters were Bob White, Dave Williams (W6BOI) and John Stocksdale (WB6ABW).

Significantly, the efficiency of this most successful of all off-road races must be attributed to the outstanding mutual cooperation of the citizens of Mexico and the United States; BARRF includes members from both countries. This bilingual facility certainly contributed to expediting information along the communications network.

Just 23.8 miles east of Ensenada was the first checkpoint, Ojos Negros. Clarence Munnell (WA6ZJN), Dick Moore (WB6FXF), and Paul Franson (WB6VKY) had their work cut out for them. It was a "moving" checkpoint--the drivers did not stop and the radio operators had to identify the cars "on the fly" as they roared by.

The second checkpoint was manned by Jaime Buscalia (WA6YKM), Jim Sanka (WA6VSP) and Gordon Carlson (WB6TNG). It was located midway across the peninsula at Valle de la Trinidad. On the eastern coast of Baja, at San Felipe, the third checkpoint was operated by John Campbell, Louis Rush and Steve Jackson (WA3OHF). Cruising between these checkpoints, Don Anderson (WB6PGV) in Mobile Unit #1 used his Swan 270B to report any difficulties the drivers were experiencing crossing the desert.

South of Checkpoint Three is the first hard stretch for the racers in

climbing the seven mountains between Puertecitos and Punta Final, the fourth checkpoint. Here, the communications team was made up of Herb Klarer (WB6VGC), Ken Ball (K6GCT), Les Lester (K6LHQ) and Louise Klarer (WA6FHH).

At the beautiful village of Bahia de los Angeles, Checkpoint Five was under excellent control by Walt McClellan (WA6DTB), Nash Williams, and Father Jieme (XE2RCC). Another rough part of the race extended across the 100 miles to Checkpoint Six, about half-way down course at El Arco. This station was operated by Bob Boyd (WB6QQB), Bernard Gregg (WA6LVI) and Tom Jacobs (WA6RJY). Clayton Bullen (K6AM), operated a Swan transceiver in Mobile Unit #2 around this area.

Bob Horton (W6MSG), Dr. Pablo Morena (XE2MMP), Walt Davis (WA6ODQ) and Augustine Manjarrez (XE2LN) were at San Ignacio, Checkpoint Seven. Vehicles making

it this far were preparing to enter the roughest and toughest 133 miles of the Baja 1000. Even the best drivers knew they were facing, at best, a minimum of four hours through the tortuous, body-pounding, car-wrenching, rocky territory of a seemingly endless boulder farm.

Vehicles leading the way had left Ensenada before 10 a. m., but it was going to be after midnight by the time they'd pass Checkpoint Eight at Ejido Candejo and reach La Purisima, the ninth checkpoint. Meanwhile, logistics problems had forced net control to change the communications plan. The crew assigned to Ejido Candejo was moved down to join the staff at La Purisima. On the air at Checkpoint Nine were John Peak (WB6DZG), Lee Krutz (K6FV), Chuck Smallhouse (WA6MGZ) and Ken Lohner (W7HNT).

Villa Constitucion was the last checkpoint before the drivers approached the final 120-some-odd-miles of paved road that would speed them toward the finish line. Fran Fuson (K7VHS), Leo Meyerson (W6GFQ) and Don Hawthorn (XE1PAY) worked this tenth checkpoint.

The net control station at La Paz was a mile and a half from the finish line. Here, BARRF's Controller #2, Doug Freeman, was in command, ably assisted by John Alexander, Luis Villanueva (XE1CRM) and Jim Smith (W6VCE). A pair of Swan FM-2XA two-meter transceivers were used to link the radio room with the finish line. On location to cover the ham communications operation for HAM RADIO magazine was Editor Jim Fisk (W1DXY). Fisk put in a few hours handling traffic when he wasn't covering other aspects of the race. Smith operated from his mobile home near the finish line, handling most of the emergency traffic to locate lost drivers and aiding the solution of minor problems that did occur. Typical was

the time that children crowded into a checkpoint, requiring additional militia to break up the congestion.

One of Swan's new completely solid-state transceivers, an SS-200, was on full time duty at La Paz. It was used for primary traffic on 40 meters, performing a yeoman job.

Not to be forgotten were the hams on stateside duty who relayed race results to the press, handled phone patches, and performed tiresome monitoring operations. Among these were Bobbie Underhill (WB5BAC), J. C. Ellison, Nick Callas (K6DBJ), Wes Novotny, Gregg Loegering, Mike Novotny (W5ST), Fred Alcorn (WB6WHJ), and many others.

Credits earned by these dedicated hams may be shared by Amateur Radio operators everywhere, for it is the spirit of the ham helping others that is to be remembered. Evidence of appreciation is found in these quotes from other participants in the Baja 1000:

Alfreda Arenas, BSC executive director--"In general, I think the radio communications were very good. We're very grateful to all the people involved in them."

Valor Smith, pit crew chief and husband of driver Judy Smith--"This is the finest communications we've had... Judy had some trouble along the line, which is when you go to lean on the radio crews, and they could tell us exactly when she had gone through what checkpoints. It made it a lot easier on us, emotionally, to know exactly where the cars were--and that they were still running!"

Wendy Reynolds, wife of driver Chris Reynolds--"I've had a lot of friends tell me, 'Don't pay attention to communications because it doesn't mean a thing. They'll tell you your husband is out when he is really finishing.' I don't think we had that. What I heard was pretty accurate."

Driver Carl Adams, Class Seven winner--"It was a long, demanding race... We got correct answers every time we asked. It helped our race quite a bit. We changed our strategy and we went out to win... Without communications, it would be a big guess."

Marilyn Greaves, chief timekeeper--"The overall communications were exceptionally great... (communications) between the (radio room) and the finish line worked out beautifully. We didn't have any problems at all--no mistakes."



Above, J. C. Ellison demonstrates one of 12 communications checkpoints along the 875-mile course.

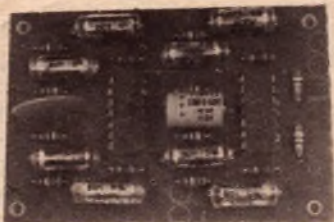


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We have what we think is the finest CW filter available anywhere. The 80 Hz selectivity with its steep sided skirts will allow you to pick out one signal and eliminate all other QRM and QRN. Simply plug it into the phone jack or connect it to the speaker terminals of any receiver or transceiver and use headphones, small speaker, or speaker amplifier. Better yet, connect it between any audio stages to take advantage of the built in receiver audio amplifier.

Build the 2"x3" CWF-2 PC card into your receiver or get the self contained and ready to use CWF-2BX and plug in!

SPECIFICATIONS

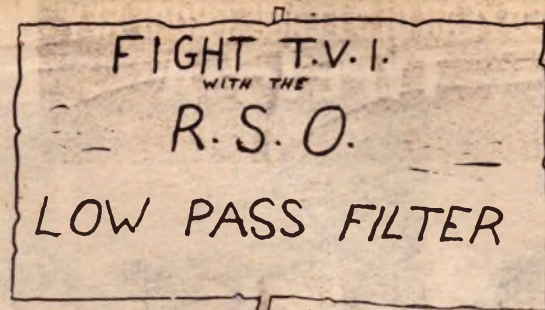
BANDWIDTH: 80 Hz, 110 Hz, 180 Hz (Switch selectable)
SKIRT REJECTION: At least 60 db down 1 octave from center frequency for 80 Hz bandwidth
CENTER FREQUENCY: 750 Hz
INSERTION LOSS: None. Typical gain 1.2 at 180 Hz BW, 1.5 at 110 Hz BW, 2.4 at 80 Hz BW
INDIVIDUAL STAGE Q: 4 (minimizes ringing)
IMPEDANCE LEVELS: No impedance matching required
POWER REQUIRED: CWF-2 . . . 6 volts (2 ma.) to 30 volts (8 ma.); CWF-2BX . . . standard 9 volt transistor radio battery
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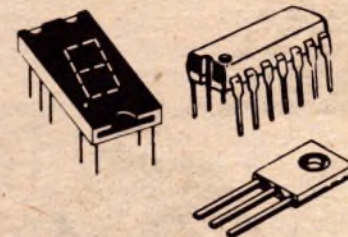


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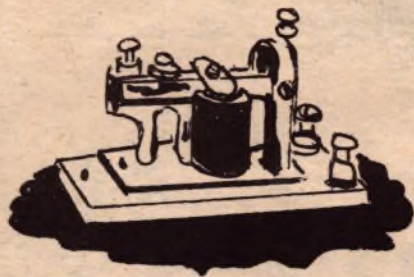
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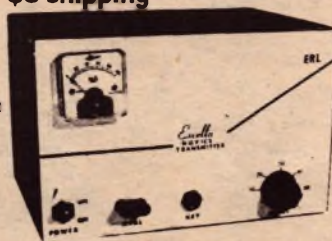
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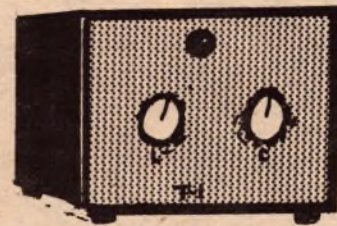
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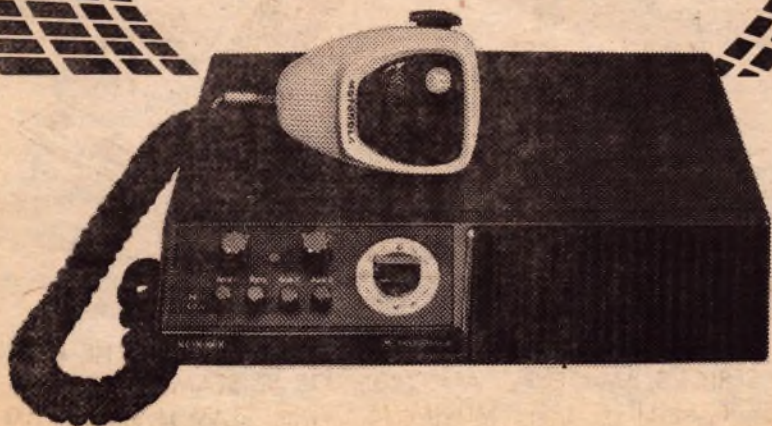
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Maritime Mobile around the world

By Win Wagener, W6VQD

What would YOU say if suddenly you could leave in four weeks on a cargo liner for a four-month trip around the world?

WE said, "Yes!"

Then we said, "Let's operate maritime mobile!"

I knew that to operate from international waters outside the jurisdiction of any other nation, all that is required, as far as the FCC is concerned, is to give proper notice to the engineer in charge of my district. I also knew that I would have to have the permission of the captain of the ship, which in this case flew the flag of the Republic of China (Taiwan). It was the M. V. Oriental Rio of the Orient Overseas Line, and all the officers and crew members were Chinese.

Would the captain permit it? Could I convince him that my government would allow me to do this? Would I interfere with the ship's radio operation (24-hour

duty, since there would be about 150 passengers)? Would the ship lend itself to a portable installation? What about prime power?

All this ran through my mind...

In addition to this, however, we had to move out of a rented house, see that things financial would be handled for us while we were gone, get six inoculations for five potential diseases (and the inoculations must be spread weeks apart), plan and procure clothes for tropical and winter climates and, last but not least, get my radio sets out of storage and plan parts, tools and supplies for an unknown installation and unknown difficulties.

So we boarded with 14 boxes and suitcases and sailed from Los Angeles on Nov. 27, 1972, eastward around the world.

First, what was behind that sentence in the ship's sales literature, that "all cabins are equipped with 110 volts AC"? The 110 AC turned out to be an outlet by the washstand with a notice that only electric shavers, not irons, neatens, etc., were allowed. The rest of the cabin was 220 volts DC. By

gestures and pidgin English, I learned that behind those cabin 110 volt outlets was an eight KW AC generator. Whew!

Second, I met the chief radio operator and we got acquainted, helped by his having some English. I told him I had some perhaps unusual equipment: SSB (Swan 350 with external VFO), processed audio (RF peak clipping in a Comdel unit), and a monitor scope so that I could never splatter and spoil frequencies outside my channel. What would he say to my operating experimentally, to be sure I would in no way interfere with the ship's radio? He was interested because the ship had no SSB and the AM transmitter wasn't functioning.

Third, how to approach the captain? An appointment was made through the purser, who asked, "What shall I tell the captain you wish to talk to him about?" An appointment followed; my XYL and I waited in the lounge with a calming gin and tonic for the arrival of the captain, the purser and the chief radio officer. Fortunately the Chinese drink gin and tonic, too, so the ice was quickly broken.

I showed personal identification to vouch for my responsibility. I pointed out to the captain that I wished to participate in a very interesting experiment on his ship, and that his radio operators might find it of interest--especially since some of my equipment was unusual. I would talk around the world and there would be publicity for the Orient Overseas Line, and as a very remote possibility, I might even provide back-up emergency communication. We discussed several concerns the captain (prepared by the chief radio operator) had, and my assurances seemed acceptable. At their request, I summed up the whole situation in a formal letter directed to the captain, who then announced, "You may proceed under the guidance of my radio officer."

Things happened fast after that. We had sailed on a Monday, approval was given on a Wednesday, installation was completed on Thursday, and the first QSO was on Friday.

During this time, I was casing the ship. What would be an ideal spot for the 12AVQ? Up alongside the stack, on the opposite side

from the ship's radio shack and on the edge of the superstructure where my multiple mounting gadgets could hold it.

But how much coax and how to run it down four decks to my cabin? That problem had to be faced before we sailed, and it had been solved--I hoped--by studying an impressive picture of the ship in the brochure. From its advertised length, I could establish a scale to apply, and I allowed for placing the antenna high and aft on the superstructure. Having a plan of the cabins and knowing the number of mine, I figured out which porthole in the picture was mine. Working to scale, I measured the distance as about 150 feet and brought that much coax aboard. So now, taking my courage in hand, I sent the coax outboard past the lifeboat davits (in such a way that lifeboat drills wouldn't foul my line), down stanchions, and finally looped down and into my porthole on "C" deck. You should have seen my XYL reaching out the porthole trying to catch the coax swinging from the lifeboats two-and-a-half decks above as we sailed south along the coast of Mexico. After the installation, I had five feet of coax left over!

Question: How do you run RG8U through a porthole and keep it water tight against the splashing sea 20 feet below?

Answer: You use a 10-inch piece of 300 ohm TV line to pass under the gaskets of the porthole, and wrap and seal all joints with a spray of insulating plastic. There was no change in the VSWR when opening and closing the porthole.

Then I said, "Let's run some tests with the radio operator... and keep your fingers crossed."

The ship's antennas were strung all over the topside. The vertical runs were forward by the radio shack, and my vertical was aft. Some of the ship's antennas ran aft, but these were the horizontal positions. On the tests, the ship could not hear me while I was running 300 watts peak envelope power input with high average audio. My monitor read linearity over the RF stages and mixer of the Swan 350, starting with the IF stage. The audio gain after the Comdel was set, so no flat topping occurred, and since the peak output of the Comdel is set at a level regardless of how loud I speak into the mike, I knew I would not exceed the linear portions of all RF amplifier stages.

As I completed the tests, I moved the dial to the adjacent channel and heard voices I knew personally and with whom I was scheduled for around-the-world QSOs, Robert Palmer (W6EJ) and Floyd Russell (W6AGY). A quick "break" and our schedules were under way.

In fact, this was the first of continuous and regular schedules which W6EJ and I maintained completely around the world on SSB, with sometimes as little as 150 watts PEP input when the AC line voltage dropped to 100 volts and the

Swan relays barely operated.

The VSWR for the 12AVQ and 145 feet of coax came out at 2.7/1 for 14 MHz and 3.0/1 for 21 MHz, and all seemed encouraging for a propitious start.

I had used "C" clamps and a special right-angle aluminum bracket to clamp the 12AVQ to the coaming edge of the superstructure. Imagine my chagrin when, after a few days at sea, the VSWR jumped to 5.0/1 for both bands. I took the 12AVQ apart and inspected all traps, and the grounding coil hidden in its base. No trouble. I mounted the 12AVQ horizontally inside my cabin with the base thoroughly clamped to the metal of the inside of the porthole. Still the VSWR was 5.0/1. However, the old pencil test gave a perfect distribution of voltage along the antenna and traps for 20, 15 and 10 meters. The antenna was okay, but something very simple had to be wrong with my installation.

Suddenly, a tentative thesis that was simple came to mind. I found that the 5.0/1 VSWR came about when my clamps broke through the piles of paint on the coaming of the ship (even though I thought I had scraped it clean), and the antenna suddenly had a metallic ground, just as it was on the tests in my cabin.

How, then, to insulate my clamps and still hold up the antenna? The solution was to take a wooden coat-hanger and break it into four flat pieces to put under the aluminum bracket and "C" clamps. The VSWR reading returned to normal. Did I relax then, and have another gin and tonic!

No landlubber is prepared for the action of strong wind, the rolling of the ship, salt air corrosion, and a crew that paints everything in its path. My black coax gradually came to match the white and green of the ship's structure. The "C" clamps first rusted and then were covered with white paint. When wind and motion finally loosened the pieces of wooden coat-hanger so necessary to insulate the antenna mount, and the antenna became horizontal on the deck, I was in trouble. It was impossible to turn those "C" clamps against the rust and paint on the threads. Hours of chipping with my penknife and soaking in light oil borrowed from the radio room finally got the clamps functioning again.

Being a true ham, I had to get the VSWR lower--if I could only find a round piece of wood about two feet long and 1.5 inches in diameter, I could really isolate the antenna and put in radials for 20 and 15 meters. Fellow passengers raised eyebrows when I combed the pierside junk in Rio de Janeiro and Santos, Brazil; finally I was rewarded. Radials were put in and trimmed, and the 12AVQ lengths were varied against the readings of the VSWR meter now balanced up at the antenna base. While the wind blew whitecaps on the ocean, a crazy ham balanced aloft on the superstructure juggling things that

no other passenger understood, except F.J. Devenish (VE7BBD) and Paul Bassett (WA6JNB), who were also aboard. Bravo! Twenty meters now had a VSWR of 1.3/1 and 15 meters had 2.0/1.

I soon learned that the radio amateur is a member of the greatest international fraternity imaginable. All contacts were on SSB, and so much is added when the voice brings through a bit of the personality. Off French Guiana and still north of the equator, I talked to Ruby Souza (PY2OB) in Santos, who gave me his phone number and insisted I call him on arrival. We joined him and his family for the evening and a tour of Santos, seeing the city as no tourist ever does. Just after crossing the equator, I had talked with my old friend Eva Perenyi (PY2PE) in Sao Paulo. After seeing Ruby in Santos, the seaport, we bussed up the ever-winding, truck-laden highway 2,500 feet to the high plateau on which Sao Paulo is located, and had a delightful afternoon and evening with Eva and her husband Alex (PY2PA).

A pattern began developing when Enrique Moresco (LU3EHT) and Martin Botagaray (LU3AQ) both called me off Brazil and said I must phone them on arrival in Buenos Aires. Unfortunately, a ship's stay in port is all too brief, 28 hours in Rio de Janeiro and 48 in Buenos Aires...but we did have drinks with Enrique in town, and a visit with Martin and Flavia, and dinner out during an unbelievable meatless week in Argentina. We had looked forward to Argentine beef after five weeks of Chinese rendition of American food...but you can't win 'em all.

A few days out of Buenos Aires en route to South Africa, a continuous series of contacts with ZSes began. While still 2,500 miles from Capetown, J. O'Connell (ZS1JO) and Ted Baker (ZS1RA) called, and to my surprise Ted was running 2.5 watts and he was Q5, S5, pleasant copy on the Swan loudspeaker (All QSOs were made on the speaker, which brought my XYL into the conversation). During the next 2,500 miles, more ZS1 contacts followed, and plans were made for a small hamfest on arrival. But how does one arrange it when no one knows when a cargo ship will arrive and how long it will stay? This stay turned out to be very short, with only one evening available. Fred Devenish and I solved the uncertainty by arranging to leave the ship for more time ashore and fly to the next port, Durban.

Ted met us at the ship. He and his XLY, Audrey, had Fred and Ally Devenish (ex G5UP and VE3ADV) of Victoria, B.C., and us to dinner to start the evening. We were later joined by Frank and Jean O'Connell (ZS1JO), Jim (ZS1JJ) and Marjorie Clegg, Sid (ZS1PF) and Olga Smith, Mac (ZS1VN) and Mary McClure, and George Doudney (ZS1SP). It was the wee small hours before we got back to our hotel. I can't put it properly into words, but close bonds were developed that

evening. All had been QSOed from the ship before arrival and many were QSOed again as we crossed the Indian Ocean.

Tage Hansen (ZS5FE), in Durban, had been QSOed from the home QTH, and during a QSO while still out in the Atlantic, he extended an invitation for us to join him and his XYL, Ellen, for dinner. As travelers learn, there is nothing so fortunate as to be invited to visit someone's home. Other tourists see the material side of a city, the streets, buildings and monuments, and miss the close human contacts with their feelings and thoughts that bring life to a city.

Leaving the ship again, from Durban a safari took us into the animal country, those wonderful South African parks where the animals roam free and the tourists are caged in automobiles and overnight compounds. For four days we visited Hluhluwe and Kruger National Parks, vast untouched reserves of original wilderness. We emerged in remote CR7 land (Mozambique) and rejoined the ship in Laurence Marques. On the animal trip I was surprised to find we were to stay overnight in Swaziland. I had never dreamed of seeing Swaziland.

I had QSOed ZD5 and 3D6 (both Swaziland) hams--but how was I to find them? The hotel manager suggested I phone the chief engineer of the Swaziland Broadcasting Co. Mbabane, the capital, is small like the country, so he easily put me in touch with Malcolm Scott (3D6AB) and we had a good evening with him and his XYL, Ena (3D6AA). Since Swaziland has shed its British protectorate status, Mal, like all outsiders, must train a Swazi (if there is one with an electrical engineering degree) to take over his work eventually.

And so off across the Indian Ocean--14 days before we reach Singapore. Those days were far from inactive on ham radio. Radio communication is very important on isolated islands and in less developed countries, and Amateur Radio takes on greater importance. It was great fun to check regularly into the South East Asia Net so beautifully emceed by Paddy Gunasekera (4S7PB) and Father Marshall Moran (9N1MM). Exotic stations are no longer DX, and you find yourself chatting with Roger Augugliaro (FR7AE) on Reunion, Carl Reder (VQ9R) in the Seychelles, Gerard Michel (3B8DX) on Mauritius, Harry Strickley (VQ9HCS) on Aldabra, Alhaj Nasir Khan (9K2AN) in Kuwait, Ed Popko in Kabul, etc. Europe talks easily into the Indian Ocean, and several hour-long chats were had with friends I had previously worked longpath from California, such as "Peter" Baldelli-Boni-Rubeschi (IICTE), Giorgio Poggiali (IICQD), and Eric Early (F8ZF).

Speaking of longpath, my schedule with Robert Palmer (W6EJ) worked shortpath on 20 and 15 meters until we were

(Turn to page 32. Please)

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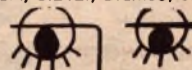
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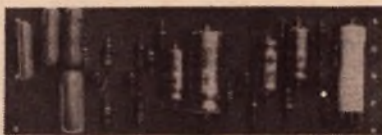


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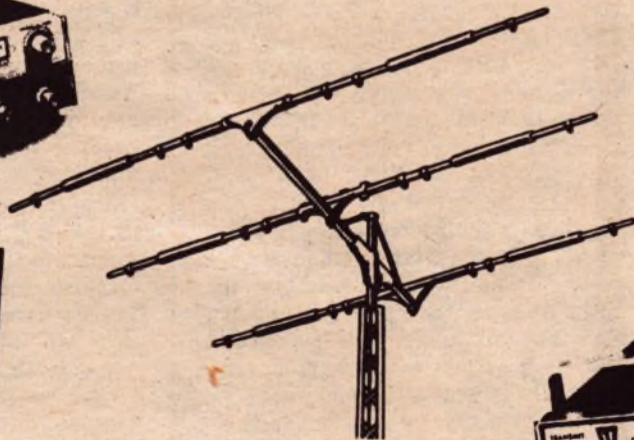
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(Continued from page 7)

TERMS AND DEFINITIONS

Throughout the period of processing applications for repeaters, one of the problems that slowed down the procedure was an almost total lack of working standards applicable to repeaters. Terms and definitions in one area meant something else in another area of the country or carried a completely different connotation. Details of control systems were often sufficiently vague so that we didn't know whether they'd work or not, and so we had to send it back and ask for clarification. A like variety of control systems have been in use. I don't know whether this is true or not, but I understand that something is being done now to perhaps standardize on several systems of controls. This of course could have been a lot more helpful to us; it would have facilitated the processing of applications if it had been done about six months or a year ago.

WHO REPRESENTS AMATEURS

Another difficulty we have on almost a continuing basis and this is not said in criticism of anyone who sits here today, but the difficulty is in amateur representation to the Commission on things which would have an impact on amateur radio. We hear one story from one group, a different story from another group and so forth. It might be possible for us to more quickly remedy situations if we knew what the consensus is of amateurs at large. But in most areas we don't know until we put out an official notice of inquiry or a notice of proposed rule making or something of that nature.

THE COMPUTER

We have had great difficulty occasioned by the type of licensing procedures which we have had to utilize including the inability of our existing computer to fully adapt to that system. As you know, the license for your primary station, a control station and even an auxiliary link station may be contained on the same piece of paper. This is a cumbersome procedure, and it has resulted in many licensing processing functions being held up for weeks or even months because this is a hand process. This, of course, is nothing that was occasioned by amateurs;

this is an internal problem in the Commission. It needs solving; I hope we can solve it. I don't know whether we can solve it satisfactorily until we get a new computer, if we get a new computer. I keep hearing 1975 for a new one but every now and then, I just don't know.

GETTYSBURG

Let me say just a word to you so that you'll understand about the Gettysburg office, will you? Gettysburg, Pennsylvania where most amateur applications are sent, is a part of our division. They have 22 people in Gettysburg. They have no professional people, they have no engineers, they have no attorneys. Their function is normal processing of applications. Now in addition to amateurs, these 22 people up there handle citizens' radio, aviation, marine, restricted operator permits in the course of a year, which total to about 675,000 applications. And many people occasionally really rake me over the coals because they can't get what seems to them to be a reasonable request granted by somebody in Gettysburg. A simple thing like why don't you just sit down and type the license out and send it back to me? It only takes five minutes. But you see when you handle such a tremendous volume of applications as these 22 people in Gettysburg handle, any time you throw a monkey wrench in the works up there, the works of the normal processing chain, it just really screws things up unmercifully.

THE FEES

I know this is a sore point with all our amateurs. There isn't anything I can do about it. It was an act of the Congress that told the Federal Communications Commission you have to do it and if you want to change it, ladies and gentlemen, you've gotta go to Congress to change it. The FCC has no control over this. Let me also say that the fees that we do take in are not given to the amateur and citizens radio division; they go into Uncle Sam's treasury and the budget that we operate under has absolutely no relationship to the amount of dollars that we take in the amateur and citizens division in fees.

CONTROL POINTS

The number of control points associated with the repeater is one aspect that has run the gamut of misinformation for a long time. I'm not sure it's been clarified yet and I intend to try to do just that right now. We never indicated that there was a maximum of six control points or any other number of control points. What we said was that if you request more than six, then it is our policy to ask you to explain the procedure that will be employed to ensure that a licensed control operator will be able to comply with the rules for the remotely controlled station and that current information on who is the duty control operator at any particular time is readily available.

And this is so any commission personnel that need to contact the control operator of a repeater could do so. It's that simple, and there's nothing more to it than that. And I hope this puts it to rest once and for all.

DELAYS

We haven't been able to process applications as rapidly as we would like to have done and our backlogs have necessitated extending the time for you to operate your repeaters with existing calls until we could get them processed and get your new WR call to you. But we're making good progress on it now. For a long time we had only one person that we could put on this. We now have two people that are processing these applications, and when I left the office on Wednesday, to come out here, we had approved for grant licenses for 483 repeaters and we have a pending application backlog counting both existing and new repeater applications of 230. We are now processing between 25 and 30 repeater applications a week and that figure should go up in the future. Now the pending figure I mentioned does not include applications for modification to existing repeaters.

GOOD NEWS

Many of you have been irate at the Commission for the filings that you have been requested to make. Initially it was quite a shock to many of you who had done little more in the past than put an x or two in a box here and there and signing your name to an application to find that there was little bit more to it. Now that we've had about a year and a half of the present procedures and we have your basic repeater information in our files, so that we know something about you, and believe me, before we didn't have a clue, we think it is timely and appropriate to make a significant change in our procedures. What I am discussing here, let me emphasize, has not yet been approved by the Commission. So what I am going to tell you about is what we are going to propose to the Commission and it will be on the agenda of the Commission meeting next week. As of the effective date of this proposed action, you will still continue to prepare the filing information. But instead of submitting it to the Commission, what you'll do is put it in the log or associate it with the log of your repeater. This procedure will apply to your repeater and any modifications to equipment associated with it. If you wish to change your antenna, your transmission line, or what have you, enter this information in your repeater log, just as you would have done formally if you had to submit it to the Commission. Now anything which requires a change in your license status with the Commission such as adding or subtracting control points, modification of your system diagram, change in the licensee, change of location, things of that nature, will still have to be submitted to

the Commission. But a little imagination will reveal to you what a vast simplification this is going to be in the paperwork which is associated with repeaters.

HINDSIGHT

In our discussions about repeater regulations that we have in our office from the advantage of hindsight, we often philosophize about what we might have done or should have done two years ago. I think only a few of us envisaged the controversy and sometimes bitter animosity which has been engendered among some amateurs and the Commission - I guess, primarily, myself. If any of you had been in our shoes and had the responsibility for doing what we had to do, I doubt if any of you would have done anything very much differently. We had to start from scratch - keep in mind that there had never been any repeater rules before - we wrote rules which had to be applicable to the entire country with the many different types of situations that had to be accommodated. Everything we did in this area of the repeater rules was new to all amateurs as well as ourselves. We had to serve as the clearinghouse for all kinds of information, instructions, ideas on repeaters and control functions terminology and definitions, and in short, everything connected with the repeater system. If we could have had some help in these areas, I don't think these problems would have loomed anywhere near as large either to you or to ourselves in the Commission. In the future in similar instances, I hope amateurs will see to it that your organizations will give proper attention and consideration to the end that they assist you in new areas that come along. And I think that this is especially important in such times as we have now when it seems difficult for people to understand each other or to obtain factual information.

OTHER CONCERNS

We still have some other concerns. Let me tell you about some of these because you ought to know. One of them is the large repeater system with multiple receiving sites separated from the repeater by a hundred or more miles interconnected with microwave links - is this a radio common carrier system? Private radio common carrier system with the chief difference being the traffic composition and are the amateur rules in this regard religiously followed? Is the purpose of such a system to avoid paying a toll charge to the telephone company? I don't know. But this is one concern we have. Someone asked me last night: Is there anything on the horizon in respect to the possible abolishment of phone patch and I said I don't know of anything at the present time, but if there is it would be this kind of situation which would eventually and surely come to the attention of the telephone companies and what they would then (Turn to page 44, please)

Shaping ham radio's future a meeting with the FCC

by Marty Barrack, WB6MFA

Just over a year ago the new repeater rules became law. Repeater owners, trustees, and pioneers found them detailed, ponderous, and frustrating. Last July the ARRL met with the Commissioners. But, in the perspective of the following months, little real change came of it.

As a result, eleven amateur radio operators from all over the country decided to meet in Washington, D. C. with the commission to explore ways of improving the situation. The group was initially organized by Wayne Green, but once we got together he took a low profile. We met for over eight hours the day before the meeting, hammering out our presentation.

On the morning of January 14, we met for 1 1/2 hours with the five Commissioners of the FCC on the repeater rules. We explained to them that, when repeaters first came on the scene in the late 60's there were no rules to provide for them. The Commission set to work preparing the repeater rules. Amateurs also set to work organizing repeater councils to promote intelligent and efficient band use. Since the amateur groups were regional, rather than national, and weren't controlled by the Administrative Procedures Act, our own progress was far faster than the Commission's. The repeater rules which might have been appropriate for the 60's, were no longer appropriate by the early 70's. We told the Commissioners that progress in amateur VHF and UHF radio is moving faster than a government agency could write specific rules for it. The best way, we explained is to make the repeater rules broad, and allow the councils to allocate channels, power levels, antenna patterns, and the rest according to local conditions, uniting the most respected amateurs on intelligent plans and using peer pressure to bring the stragglers along.

We gave specific examples. We urged that the user be the control operator. We asked that the special power restrictions be dropped. We sought simple licensing for repeaters and remote bases. We requested crossbanding and repeater chains. And the rest. But we were careful to integrate them into the overall laissez faire perspective.

The Commissioners were clearly impressed. Richard Wiley knows a lot about amateur radio. Still, he remarked after the presentation that, up to now, the Commissioners had simply asked the staff any questions on amateur radio and accepted their answers as definitive. He now realized, he said, that he should hear more from amateurs themselves. Charlotte Reid also expressed a keen interest in amateur radio. She remarked after the presentation that hams are self policing, and

make so few problems for the Commissioners that they don't really know us. She learns fast.

The other Commissioners had less interest. Chairman Dean Burch tried, but did not have enough background, although all the Commissioners had earlier been briefed by the staff. He strongly criticized Wayne for the November 73 front cover, which showed Prose Walker in an unfavorable light. Commissioners Robert E. Lee and Benjamin Hooks appeared preoccupied with other matters. The other two, Rex Lee and Nicholas Johnson, had retired and had not been replaced by President Nixon at the time of the meeting.

The ARRL's General Counsel, Bob Booth, was there and told us our presentation was as professional as any, and that he thought the Commissioners would act favorably to us. Bob has a lifetime of experience in radio law, and we valued his opinion. He also urged us to work with the ARRL on the repeater and remote base issue.

We spent much of the afternoon at the offices of the Commission staff. In the amateur service "chain of command" the top man, below the Commissioners, is Charlie Higginbotham, head of Safety and Special Services. Below him is Prose Walker, Chief of the Amateur and Citizens Division. Dick Everett and Johnny Johnston are, in turn, below Prose in the same division. We exchanged views and explored for a base of common views from which to proceed.

The process of regulation is far more complicated than is usually supposed. First, Congress makes complicated laws which may have implications for hams which even the Congressmen never anticipated. Sec. 310(b) of the Communications Act of 1934 was a sleeper for us until the advent of repeaters awoke it with a roar; the Commission interprets it as requiring control operators. The National Environmental Policy Act of 1969 can be interpreted to require environmental impact statements from hams putting up towers!

Second, this nation's 285,000 hams include brilliant engineers, lawyers, assorted people from all walks of life, and a tiny few certified nuts, it is difficult to write rules for so broad a group.

Third, the Commission is constantly pelted with questions from every corner of America. Are touch-tone tunes legal? What is the exact line between mobile and portable? Do you have to log tests into a dummy load? When a question is asked in writing, or before a large group, the Commission must produce an answer which then becomes an official interpretation.

Fourth, a repeater, by nature, acquires a kind of ownership of a channel pair. But private amateur groups are not supposed to have proprietary rights to a specific frequency, as the rules are written. Most of us are intelligent enough to just operate on an appropriate channel and not precipitate conflict. But the Commission has to resolve all conflicts with the amateur regulations.

Fifth, the Commission has to take nonamateur groups into account. The ITU allocation conferences include many, many delegates who know less about amateur radio than a bewildered novice in a radio store. Every other radio service has, a high-powered Washington lobby that constantly bombards Congressmen, the Commission, and potential allies with information supporting its viewpoint; the ARRL, in bucolic Newington, is not registered as a lobby. The Commission has to justify our allocations to all of these if we want to keep them.

Sixth, our bands 220 MHz to 10,500 MHz are shared with other services. We are the secondary, or guest users. We will quickly lose our privileges if we are not careful about monitoring and control.

These are just some of the reasons it was not practical to confront the Commission with a power play. Power and influence are coin of the realm in Washington, D. C. of course, but sophisticated players know there's a lot more to it.

We do have some specifics. Just a few days before the conference the FCC announced that 97.41(f) was moved to 97.111(f); antenna patterns are no longer required with the license application. Now they have to be placed in the repeater log. This means that type-accepted antennas are no longer required, with the license application and that we can change antennas as often as we like, provided we get radiation patterns for each one.

The Commission also indicated that the detailed diagrams of control systems on repeater and remote base license applications might be reduced to standard reference designations. There are a number of general types... dedicated line, telephone, several general radio modes, and subtypes of each. The Southern California Repeater Association is going to prepare a detailed description of each type, and designate them type A, type B or whatever. They will be formally filed with the Commission, and will appear in QST, 73 and other publications. After that, it is expected that applications for repeater and remote base licenses would merely state that they were using type A controls, or whatever.

FCC officials need track records to justify relaxing the rules. The idea of users as control operators is already being tested in the case of closed repeaters. The SCRA is operating a restricted-access repeater that way under a Special Temporary Authorization. It is easier with a closed repeater because every operator is known to the trustee. A detailed log will be submitted, together with a petition for rule-making, after the six-month STA expires. A decision will soon be made on application for STA by a responsible open repeater group. STA's are the legal equivalent of the familiar amateur system of empirical research; try it and see if it works. It is suggested that you discuss your STA plans informally with ARRL or FCC officials beforehand, so your actual request can be tailored to what the Commission might accept.

Our group has opened the channels of communication wider than before. ARRL has always maintained this communication, but our views have been somewhat, filtered by the time they reach the Commission, and until recently ARRL had not really shown interest in repeaters.

We are going to stay in contact with one another as an 'ad hoc' group which will seek more emphasis on amateur groups, and less on FCC, in repeaters and remote bases. We will maintain a low profile. We are not Wayne Green's group; he is a member but not the leader. We are not ARRL's group, but we hope we and they can work together. We're just eleven people trying to accomplish something.

We plan to try and set up a national repeater council, composed of all the regional repeater councils. We have to know who we are before we can ask the Commission to let us run the VHF and UHF bands, and the Commission has to know who we are.

We ask each council to send to whichever of us lives nearest, a comprehensive statement of how many repeaters it covers, the estimated number of users of each, and how it actually goes about the business of assigning channels and resolving conflicts in its area. Get in contact with your neighbors so all the repeaters are covered without overlap. We will use the information to try and work out the plan for a national repeater council. And, of course, we will organize it and file it with the Commission.

We don't really have a name. Call us the Ad Hoc Repeater Group for the time being. Our members are:

(Turn to page 44, please)

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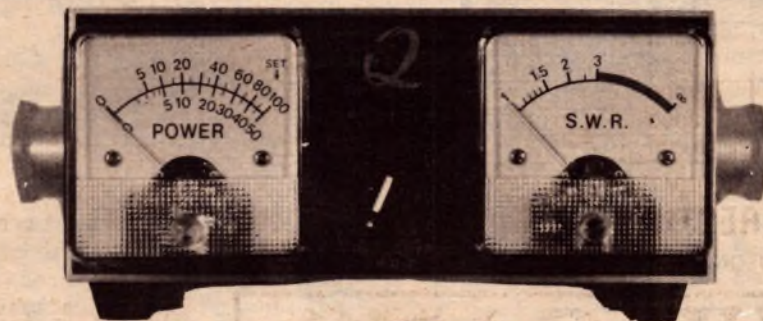


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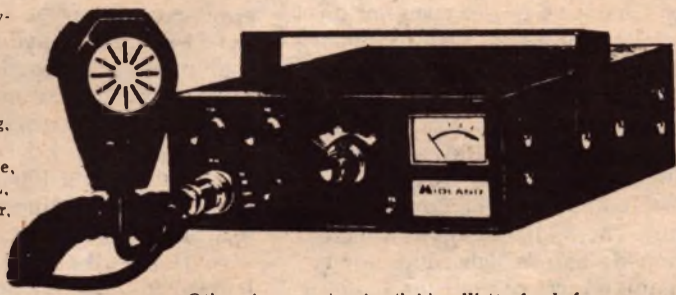
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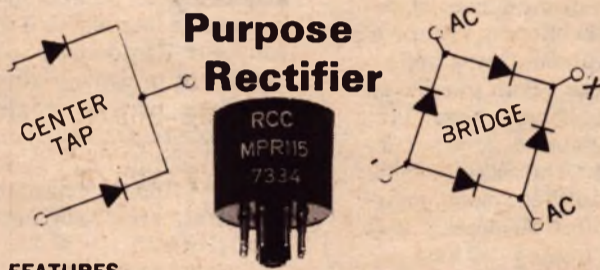


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HVK1145/576	0.5	25.0	30.0	50	27.25
HVK1126/673	1.5	15.0	18.0	125	60.00
HVK1109/866	0.5	10.0	12.0	50	7.00
HVK1139/866	0.5	10.0	17.0	50	13.00
HVK1110/872	1.25	10.0	12.0	60	13.10
HVK1138/872	1.25	10.0	17.0	60	17.80
HVK1117/869	2.5	20.0	28.0	125	96.00
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Amateur Radio JA Style

by
Norman Smith, G3HFO

世界ラジオ

Amateur Radio started in Japan before the Pacific War but all activity ceased, of course, during the war. JA stations were allowed on the air again in 1952.

At first there were two classes of license, called First and Second Class, and these two classes still continue. The First Class license requires a knowledge of both Japanese and English Morse, besides, of course, radio theory and amateur regulations. It allows operation on all amateur bands allocated in Japan with, theoretically, no upper power limit. In practice, however, the maximum power output normally permitted is 500 watts. For the Second Class license, only English Morse is required and maximum power output is 100 watts.

In 1958, two new classes of license were established. These are known as Telephone Class and Telegraph Class. Both permit operation on all bands except 14 MHz with a maximum power output of 10 watts. The examinations test basic radio theory and regulations, but the Telephone Class examination has no questions on CW transmitters or receivers and, of course, no Morse test. The Telegraph Class, besides questions on equipment and circuits for CW communications, has a Morse test in English Morse at five words per minute.

It was these two lower classes of license which touched off the real boom in numbers--especially the Telephone Class, requiring no Morse test. The beginning of a further expansion came in 1966, when a new system of "koshukai" started. These are lecture courses run by the Japan Amateur Radio League (JARL) under delegated authority from the Ministry of Postal Affairs. A person who attends the required number of lectures (usually every night for two weeks) and passes the final examination can get a license in the same way as if he had passed the state examination. These courses lead only to the lowest two classes of license, and for the higher classes it is necessary to take the state examinations held twice a year throughout the country.

For people who cannot attend the lecture courses, the state examinations still exist, too, for the lowest two classes of license. These courses have brought a great boom in numbers and the latest figures available show 333,000 licensed amateurs. However, the overwhelming majority of these are in the Telephone Class, 289,000, and there are only 25,700 Telegraph Class, 14,000 Second Class and 3,300 First Class.

This very large amateur population has several consequences. One of the immediately obvious is the magazine "CQ Ham Radio," which must have more pages of text and advertising than any other Amateur Radio magazine in the world. "CQ Ham Radio" is not published by the JARL but by a completely separate company (though its offices are in the same building). The JARL itself publishes

only a small newspaper-style periodical three times a month with contest results, editorials, news of JARL organization, etc.

Another result of the large number of amateurs is a strong national society, the JARL with 48,300 members. The JARL carries out the usual functions of a national society, including liaison with the Ministry of Postal Affairs and the organization of the JA QSL bureau (the well-known P.O. Box 377, Tokyo). The JARL also, as I have mentioned, has delegated authority to organize lecture courses leading to the grant of an amateur license.

The large number of amateurs has led to a good supply of amateur equipment being made available by many manufacturers. New models succeed each other regularly. This homebase has enabled Japanese Amateur Radio equipment manufacturers to expand abroad and Japanese-made equipment is now available to amateurs in other countries, as I can see from the pages of "Radio Communication" in Britain and "QST" in the United States.

But it is not only ready made equipment that is sold. Though only a comparatively small proportion of the amateur population build their own equipment, these together with the hi-fi and other electronic hobby enthusiasts, seem to make it worth while to sell electronic components retail and, in Tokyo and Osaka at least, it is still possible to buy components singly.

In one area of Tokyo where electrical appliance discount shops are congregated, there are also several shops specializing in amateur radio equipment, and many stalls selling electronic components. Some of these stalls specialize in one type of component, such as transistors, transformers or even hardware in the small sizes used in electronic gear.

A group of these stalls that I used to patronize recently disappeared, as buildings have a habit of doing in Tokyo, where the rate of demolition and reconstruction is so fast. They reappeared, however, in a modern air-conditioned building with escalators and each stall-holder has his own space. This seems to show there is profit still in Japan in retailing components. The district is known as Akihabara, and no amateur visiting Japan should leave without seeing it. There is a similar area called Nipponbashi in Osaka.

These are the advantages of expansion, but what of the problems? Legislation has not kept up with the expansion and the current Radio Law makes a clear distinction between station licenses and operators' licenses. An application for a station license must include full details, with a block diagram, of the equipment to be used. The Ministry of Postal Affairs, presumably not having enough staff to deal with all these applications, delegates the task of

letting them, for 10-watt stations only, to the JARL, which approves the equipment to be used. As most of the applications are for well-known makes of commercial gear, this seems rather a meaningless exercise. Other problems that I have seen discussed in the amateur press and heard mentioned by my JA friends are excessive power (10-watt output equipment is of course sold, but the newcomer can easily buy a 100-watt rig), a decline in operating standards and a loss of interest in home construction--all problems not unknown in other countries!

Especially for the younger JA station, spoken English is often a problem, but some have successfully used Amateur Radio to gain the practice in spoken English not easily obtainable elsewhere. Communication is easier on CW for two stations who do not know each others language, and there are of course DX CW enthusiasts. There is also a small band of mostly older amateurs whose main interest is in CW communication on the lower bands in Japanese Morse. Though the Japanese language can be transmitted in English Morse, this cannot compare with a conversation on the key in Japanese Morse. "Top band" has only recently been permitted to JA amateurs and there is as yet little commercial equipment available for this band. This is the home of only a few dedicated enthusiasts with a high proportion of home constructors.

VHF operation is mostly on six and two meters. On six meters there is both AM and FM and now some SSB, but on two meters FM fixed channel transceivers are most commonly used. This is by far the most popular band for mobile work, and a car with a two-meter whip aerial is quite a common sight in Tokyo's crowded streets. Repeaters are not yet permitted, but portable work is popular and a portable station even half-way up Mt. Fuji can achieve a tremendous range. SSTV has not yet been licensed but transmissions from abroad are monitored and Japanese SSTV stations may be licensed soon. Third party traffic is definitely not permitted.

There are many Amateur Radio clubs in Japan, some drawing their members from the school or other organization in which they are situated and some open to any amateur in a district. These clubs are of particular interest to the foreign amateur residing in Japan because it is only from a club station that he can at present get on the air. This is because of the peculiarity of the Japanese licensing system that draws a strict distinction between station licenses and operator's licenses. Station licenses can only be issued to Japanese citizens or to clubs, two-thirds or more of whose members are Japanese citizens. There is no such restriction, however, on the issue of operator's licenses and non-Japanese can, if they obtain an operator's license, operate the station of the club of which they have become a proper member. An operator's license

can be obtained either by taking the state examination or by attending one of the lecture courses mentioned and passing the exam which concludes the course. It was by this method that I obtained my Telephone and Telegraph Class licenses. The difficulty is that, unlike the exam for a Japanese driver's license, there is no facility for taking the exam in English. The state exam for the two lowest classes of license is now of the multiple choice type, so it is a little easier than it was for someone who is studying the Japanese written language to attempt it. Not many foreign amateurs residing here will have time enough to do this, though.

As far as U.S. amateurs are concerned, there is another way open to them because there is an agreement between the U.S. and Japan under which U.S. amateurs residing here can obtain a Japanese operator's license on the basis of their FCC license. Appropriately, the former U.S. ambassador to Japan was the first U.S. national to operate in Japan in this way. It is to be hoped that similar agreements will soon be reached with other countries. For more information, foreign amateurs wishing to operate in Japan should get in touch with the JARL, CQ Building, 14-2 Sugamo 1 chome, Toshima ku, Tokyo 170, telephone 944-0311, or with the Tokyo International Amateur Radio Assn., which is an informal group of foreign amateurs living in Japan. Roy Waite (W9PQN) acts as secretary, and he can be contacted by phone at 403-5535 (office) or 466-6003 (home). His address is 22-5 Oyama cho, Shibuya ku, Tokyo 151. Only the foreign amateur who is going to be in Japan for a reasonable length of time and registers as an alien can benefit from the reciprocal arrangement; it is not possible for the short term visitor to get on the air under this scheme.

As you will see, if the foreign amateur wishes to get on the air in Japan, he must join an existing club and will of course wish to take a full part in its activities. He will find this an interesting and rewarding experience; he will make many friends, for a mutual interest is a sure way to overcome barriers of language and custom, and what hobby is more international than Amateur Radio?

Certainly Amateur Radio has contributed greatly to the enjoyment of my stay in Japan and I leave after several years residence with many happy memories of time spent in the company of Japanese amateurs. I would particularly like to thank the officers and members of the Koba JARL Club, the Hajikko Club and the Sakuradamon Ham Club for allowing me to join them and operate their club calls. I also particularly appreciated the hospitality of the Japanese Morse enthusiasts whose small group is so informal that it has no name.

I shall certainly in the future be looking for signals from these and other JA friends.

(From "CQ Ham Radio," Japan)

FREQUENCY ALLOCATIONS IN JAPAN

by Roy Waite, W9PQN/JAIYSH

In Japan, Amateur Radio is alive and doing well.

QRM? Yes, we have it here. But with the world's largest ham population (333,000 by latest count), one would naturally expect a few problems now and then. Especially when some unsuspecting rare DX station puts out an innocent "CQ Far East" on 15 meters, you'd swear that all 333,000 JA hams suddenly sprang to life (Gee! I wish that local station would move off frequency before he tunes up!)

But in spite of (or because of) the large number of operators here, the compactness of Japan, the accessibility of good electronic equipment, and the many eager, young operators, Amateur Radio is very enjoyable in Japan. There is always someone to talk to, on one band or another, 24 hours a day, and many of the operators speak surprisingly good English.

Here are the frequency allocations:

160 meters: 1,907.5 - 1,912.5 kHz.

CW operation only.

80 meters: CW 3.5 - 3.525 MHz;

Phone 3.525 - 3.575 MHz

40 meters: CW 7.0 - 7.03 MHz;

Phone 7.03 - 7.1 MHz

20 meters: CW 14.0 - 14.1 MHz;

Phone 14.1 - 14.350 MHz

15 meters: CW 21.0 - 21.150 MHz;

Phone 21.150 - 21.450 MHz

10 meters: CW 28.0 - 28.2 MHz;

Phone 28.2 - 29.7 MHz

Six meters: 50 - 54 MHz;

Phone 50.10 - 52.5 MHz

Two meters: 144 - 146 MHz

FM Phone 144.32 - 145.48 MHz

CW operation is permitted on any part of the respective bands, but in general, CW operators do not operate in the phone segments.

Since only the first and second class Japanese amateurs are allowed to operate on 20 meters, it is probably the most enjoyable for DX-hounds when conditions are good; QRM is at a minimum, the operators are experienced, there are no international broadcast stations to contend with, and the phone portion is 100 kHz wider than that in the U.S.

The 15 meter band seems to be the gathering place for many of the JA newcomers, and when conditions are good, DX can be worked if one has a good antenna system, a cool head, and the patience of a God. Many of the younger Japanese operators use 15 for local cross-town ragchews, and I have had many enjoyable QSOs with JAs on this band and cultivated some very pleasant friendships.

There is not much JA activity on 10 meters (apparently because of the proximity to the TV IF frequency and the resulting TVI problem) except when there is an occasional DX opening.

The six meter band is very active with a mixed bag of AM, FM

and SSB stations, both local ragchews and DX. The main calling frequency is 51.00 MHz.

Of all the bands, two meters must be one of the most popular and crowded, with a very large number of mobile as well as fixed stations using this band. The main calling frequency is 144.48. Most of the stations are rock-bound, but VFOs and synthesizers are becoming popular. The mode is predominantly FM phone.

The JARL has formulated suggested channels for the 430 MHz and six and two meter bands in an effort to avoid complete chaos. It is reported that there are around 1,000 stations operating in the 430 MHz band here on phone, and a very few SSTV stations. SSTV is permitted only between 434 and 440 MHz at present, but will be extended to the HF bands in the not too distant future.

Repeaters are not permitted in Japan, and it does not appear that they will be allowed in the foreseeable future.

In addition to the above listed frequencies, there are other allocations all the way up to 22 GHz. The 200 MHz band, incidentally, is not open to Amateur Radio in Japan.

Now, if I may be allowed to digress...

IF YOU VISIT JAPAN...

The Japanese are friendly, courteous people, and welcome visitors, especially radio amateurs, to their country. Here are a few points to remember to insure that you will have an enjoyable visit and leave a good impression.

1. Being somewhat sensitive and formal, the Japanese do not warm up to strangers quickly. Do not

attempt to completely "break the ice" during a first visit--this takes time.

2. If you express a desire to visit a JA station, you may find some Japanese non-committal, neither saying yes or no. Actually this means "no," but a direct refusal would be impolite and a phony excuse dishonest. Do not persist. Many Japanese invite only their very close friends to their home; shackrooms sometimes double for the family bedroom. Agree to meet in a restaurant or tearoom instead.

3. On the other hand, if you have the opportunity to visit a JA shack, courtesy calls for you to bring a small gift, nicely wrapped. If your host indicates beforehand that you are being invited for dinner, you should bring something of more value, such as a bottle of Johnny Walker Black Label scotch, so highly prized here, and available to you at tax free shops enroute to Japan, or on your plane.

4. Do not overstay. If you are invited to a Japanese home, do not stay much beyond two hours as that would be considered impolite, even though your hosts go through the motions of pretending they want you to stay longer.

5. Talk slowly. Would you believe that English is a foreign language here?

6. Do not embarrass your host by asking if you can operate his rig. It's illegal, even though he is present, for you to even talk over the microphone.

7. Reciprocate. Invite him and his wife to dinner at your hotel. When you return home, send a thank-you letter.

We hope you enjoy Japan, and come often.

(From "CQ Ham Radio," Japan)

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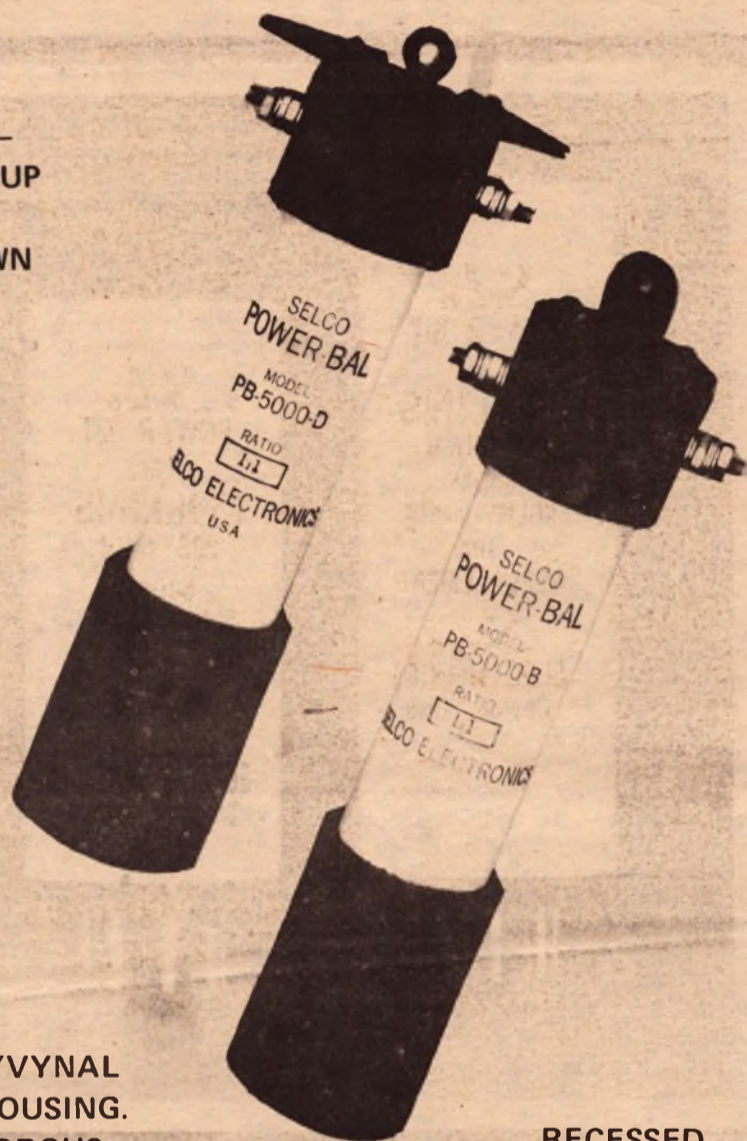
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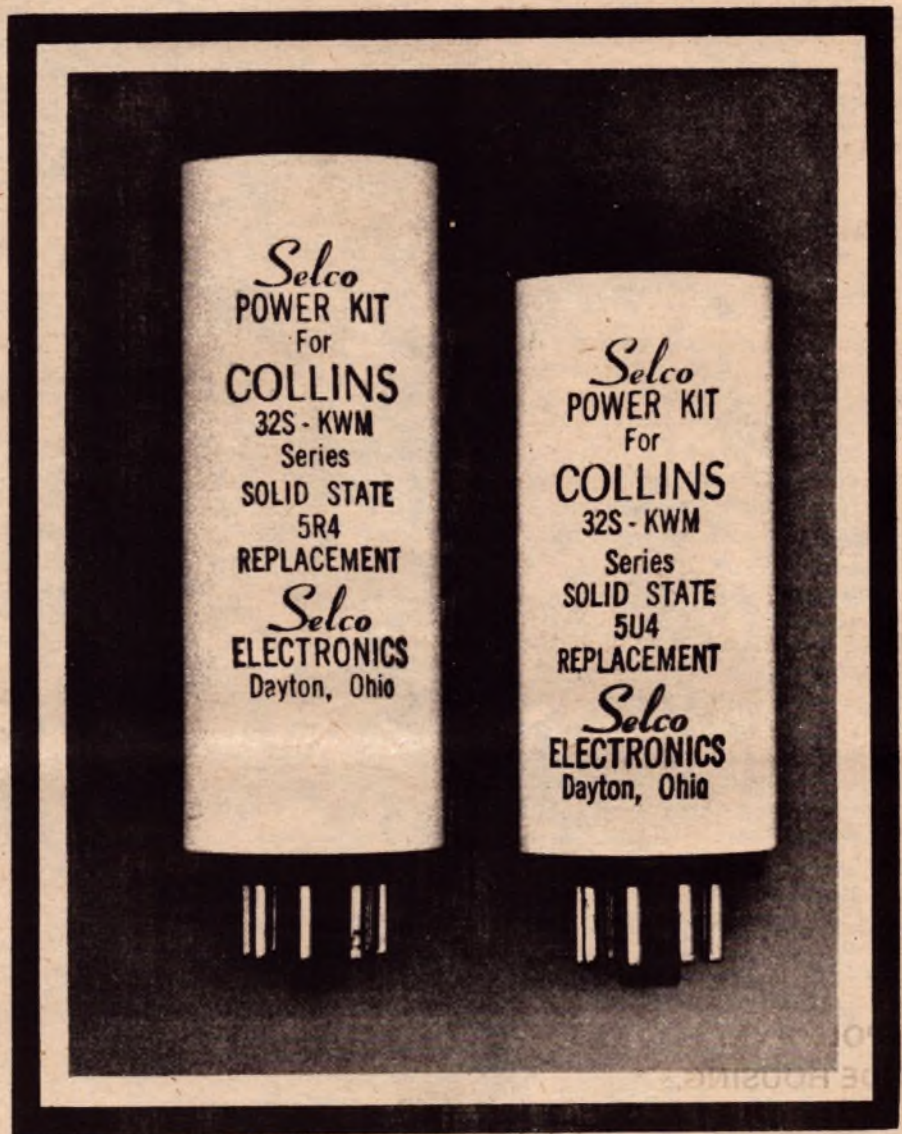
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Our Hobby *a new direction?*

Mindless diversion or-meaningful activity?

by Armond Noble, WB6AUH
Publisher, *Worldradio*

Delivered as keynote banquet address at the Fresno, California, Amateur Radio Convention.

(Continued from last month's issue.)

There are those who will say, "Why should I help somebody else? Nobody ever helped me. I'm a self-made man--pulled my own way up. Nobody ever gave me anything."

Well, how about our parents who paid our way through school, or the persons who gave us jobs so we could work our ways through, or the taxpayers who footed our GI Bill?

How about the teacher who was the inspiration who got us into the fields we are in, or the ones who took that little extra interest in us, gave us good advice?

What about the bankers who made us loans, or our customers? Without them, all we will be is self-made failures.

No man is an island...

Here's an incident to think about...

An American military aircraft was heading from the South Pole to New Zealand when its navigation gear went out. On military frequencies, the crew could reach neither where they had been nor where they were, they hoped, going. Below them were freezing waters in which a person lasts about 30 seconds. A strong headwind was slowing their progress, using up their fuel supply.

They went on the amateur 20-meter band and called "Mayday." This is more than a double break on WCARS; it means "Help me" in French, and really means, "I am quite close to going down the tubes... adios... zap..."

When that chilling "Mayday" went out on 20 meters, the response from two DXers was a request to "QSY," as they were working Europe long-path on that frequency.

What would your reaction have been if you had been on that plane?

What those two amateurs--"sixes," by the way--really said was, "I don't care if you die, but I need another QSL card."

A card was more important than human life.

They probably needed that QSL card because their human race membership card had been revoked. I feel sorry for the families and co-workers of those two hams, for their radio attitudes carry over into regular life.

And such things are not isolated incidents. Hugh Cassidy's West Coast DX Bulletin of April 27 reported the following:

"The Panama Emergency Net was activated on April 7 with the earthquake in Costa Rica. Their initial activation ran into some static, some amateurs saying that no emergency existed, as they had checked their local newspapers and there was nothing on a Costa Rican earthquake..."

Isn't that staggering? What audacity, what unmitigated gall, what stupidity!

The ham is going backwards. At one time, he was in the forefront giving out the news--now he won't believe it when it falls in his lap!

The average ham has no idea of the potential of the equipment at his fingertips. The fact that he can truly be "plugged into the world" never enters his mind.

What a tragedy! While other hams soar, while other hams have some thunder in their lives--and I'm sure this includes many of our readers--the average ham has missed the boat... in many ways...

I would like to see a new kind of ham emerge--call him "Super Ham." The 20 and 15 meter man who learns a few words of other languages, becomes knowledgeable about countries, peoples and customs, and uses the hobby for expression. The 40 and 75 meter hams who become well-versed in first aid, search and rescue procedures, outdoorsmanship, etc...

Truly, "Super Ham" would be a super person!

It is worth trying for.

Now that we have worked over the DXers, let's move to another area, the latest phenomenon, two meter FM and repeaters.

There are many concerned amateurs who are wondering if the present direction is at all a good one. In an ARRL forum held by Doc Gmelin, one amateur commented, "This isn't even ham radio at all."

That's a thought that should wake up a few of us!

The repeater activity offers something that the other types of radio club efforts do not--the opportunity to work together in close proximity to create something. It's a lot of fun... but therein lies a danger.

As opposed to the WCARS and WPPS, attitudes of "c'mon in, the water's fine," repeater groups are rather cliquish... and part of the tradition of ham radio goes down the drain.

To some recent specifics--there is a ham in San Francisco, Don Johnson (W6QIE). In all of the United States, he is probably second only to Bill Welsh in the number of hams he has assisted to get a license. In every emergency in which Amateur Radio has played a part, Don Johnson has been in there with both feet. He has received the second-highest civilian decoration the U. S. Navy can give for his message handling when fires hit aircraft carriers off the coast of Vietnam. He moves thousands of messages for servicemen monthly, and we could go on for hours detailing the many accomplishments of Don Johnson.

He has a fantastic station--during the earthquake episode in Nacaragua, he had four stations on the air simultaneously. Nicaraguans living in the San Francisco area were at his home translating around the clock. The telephone company installed two extra lines at his home to handle the calls. Some of the messages were passed out on to the repeaters, and many of the FMers gave up their Christmas Eves and Christmas Days to find families and deliver those most welcome messages of the safety of a loved one.

Well, Worldradio did a story on Don and the repeater gang.

When the issue came out, some guys on the

repeater were talking about the article. One really liked it, thought it told the story...but another said, and I quote, "The article made this Don Johnson out to be some sort of superstar. I never heard of him before--he's not a member of this repeater club."

Think about that: "I never heard of him before...he's not a member of this repeater club." Are we shrinking our boundaries tighter and tighter? What's next?

"He's not a member of my platoon... of this repeater club... of my squad..."

China once had the most advanced society in the world, but the Chinese built a wall. True, they kept others out, but they also kept new ideas out. One of the cradles of our civilization was Greece. It was the center of thought, of architecture, literature, philosophy. We still speak of "the glory that was Greece." And then the Greeks built walls--and the exchange of ideas, the stimulation, was gone. I can almost hear some ancient Greek telling another, "I never heard of Plato or Socrates. They must live in some other state or city..."

But the fact remains--in the world of Amateur Radio, Don Johnson is a superstar and an inspiration. The fact that someone does not know of him does not diminish Don Johnson's brilliance--it's the other chap who remains in the dark.

Another recent incident I found boggling...

During the Nicaraguan emergency traffic handling, I had to go to the supermarket. While there I ran into one of the leading repeater people in Sacramento; I mentioned that the hams were doing a magnificent job during the emergency.

This was his reaction:

"I don't listen to the low bands any more."

I still haven't figured that out.

He did not react with a positive statement, but merely dismissed one of the great public service chapters in our history with, "I don't listen to those bands..."

I've been trying to think of an analogy... recently we had a flood in our area. Property damage was extensive, and the community of Isleton had to be evacuated. The army MARS group went out; on two meters through their repeater they did a marvelous job, with some of them putting in a staggering number of hours.

Now I--or anyone--would have been a prize ninny if, after someone had praised those operators, I had replied, "I'm not a member of army MARS."

The danger--and possibly the seeds of our own destruction--lie in fragmenting Amateur Radio into "them" and "us." We've got to be amateurs first and, even if we don't engage in all of it, at least have some understanding and appreciation of areas other than those of our own particular main interests.

What we have to look out for--and ham radio is a microcosm--is that if we are narrow and shallow and uninformed about matters in our hobby, are we perhaps also narrow and shallow and uninformed about matters in other avenues of life?

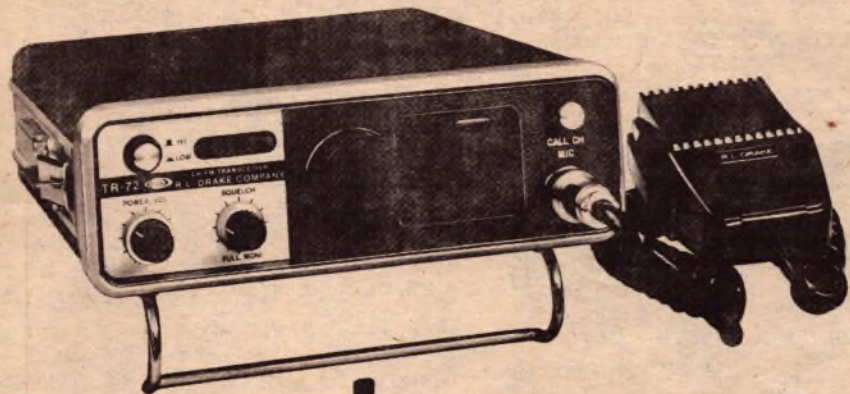
There is a great deal we can do in Amateur Radio.

Won't the satisfactions be greater if we use it for something... rather than just to "kill time"?

(To be continued next month.)

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SPECIFICATIONS

GENERAL: • Frequency Coverage: 144 through 148 MHz. 12 Channels, 2 supplied: (1) Receive: 146.52 MHz, Transmit: 148.52 MHz; (2) Receive: 146.94 MHz, Transmit: 146.34 MHz • Power Requirements: 13.0 Volts DC $\pm 15\%$ • Current Drain: Transmit: 450 mA, Receive: 45 mA • Antenna Impedance: 50 Ohms • Dimensions: 5 $\frac{1}{8}$ " x 2 $\frac{3}{8}$ " x 7 $\frac{1}{2}$ " (13.8 x 5.8 x 19.1 cm) • Weight: 3.75 lbs (1.7 kg)

RECEIVER: • Sensitivity: Typically .5 microvolt for 20 dB quieting • IF Selectivity: 20 kHz at 6 dB down; ± 30 kHz channel rejection greater than 75 dB down. • First IF: 10.7 MHz with 2-pole monolithic crystal filter. • Second IF: 455 kHz with ceramic filter. • Intermodulation Response: At least 60 dB down. • Modulation Acceptance: ± 7 kHz. • Audio Output: At least 1 Watt at less than 10% distortion. • Audio Output Impedance: 8 Ohms

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A Man For Others

The Story Of Ned Carman, WØZSW

by Sister Claudine

FLYER, Jan. '70: Anyone who has succeeded in inspiring others in the community, most of them verticals, to work and contribute to a Handi-cap project realizes fully that "taint easy" - in fact, at times it's darn near impossible... and people and organizations to whom we look for help know this full well... they must be as down-to-earth as possible... many of their funds are donated... and so require them to evaluate carefully the possible success and failure of the many projects, all with worthwhile goals, that clamor for help. These are plain words, but your editor (me) truly believes them.

The Voice of Assisi

Often it takes a philanthropist to catch a philanthropist. Ned felt that Assisi Heights needed a well-equipped station because of its work with Civil Defense, the MARS Network and communications with the Sisters in Latin America. He often brought his own equipment, which he was in the habit of sharing with Handi-Hams, so complications threatened to become a way of life. Early in 1969, armed with Mother Callista's permission, he called on business and professional men to give them the golden opportunity to help put a well-equipped radio station in the Franciscan Motherhouse. The Voice of Assisi is a useful testimony to Ned's little gem: "There are people just looking for a good cause to support."

FCC has permitted, on request of Mrs. Erdene Carman who also furnished the required fee, that Ned's call, WØZSW, be used for the Voice of Assisi, that the official custodian be Miss Edna Thorson, who has an Extra Class license, and was the first to be licensed under the Handi-Ham System.

Des Moines, Here We Come

In 1969 the Hams of the Northwest were pleased and excited. Des Moines was to host the National American Radio Relay League Convention. Comments about this event were often made on the air and interest spread to the new branch, the Handi-Hams. Who but Ned Carman would get the idea (or did the idea get him?)... A safari of Handi-Hams to the Des Moines convention! MiSCCA officials proved true to their name, loaning their especially equipped bus and donating \$600 for expenses. Preparations had to be meticulous -- respirators, wheelchairs, hydraulic lift, equipment for bedside care. Then of course there were banners, posters, brochures, and a huge cardboard ele-



Erdene (wife), Ann (daughter), Ned, as a young man.

phant, fond reminder of the successful sale.

Don David Taylor, WAØYAH, painted Steps to Amateur Radio Operation in a vivid mural for a first showing at the convention. It is now permanently mounted in the radio shack at Camp Courage.

FLYER, May 1969: If you have a problem raising the \$15, please drop this editor a line... we're all poor in money, but arrangements have been made to cover this situation... and will be kept entirely confidential!

The bus, a car with U-haul for wheelchairs and other equipment left Rochester with its passengers from points all over Minnesota, and the trip was on. It seems best now to let Jim Mowery, KØZWG, take over the story for a while: "We were fortunate to have Ron Frisby, KØ-IJU, and the Sisters (Mary, Judith, Clara, Marie, Alverna) hurrying around helping with everything. A stop at Albert Lea, where the first I spied was Merlene, our adopted one from South Dakota... and enjoyed a wonderful picnic luncheon with the Baileys, Jan's mother and dad... We had ringside seats at the banquet. Senator Goldwater came up to the Handi-Ham display room. He was gracious about being photographed and giving autographs... It is a treasured memory for all of us. How can we ever say 'Thank you'? I can say in my humble way just four words: GOD BLESS YOU ALL!

Saturday of that convention was

busy, showing exhibits, telling conventioners about the Handi-Hams, seeing exhibits. Merlene Trevedahl, WAØRNE, invited a party to dinner in a restaurant a few blocks from the hotel... a merry parade of wheelchairs propelled by power of the blind, directed by the passengers. Such sharing continued through the meal and the rest of the evening when they all got to know each other a little bit better. Reminiscences of the Des Moines Convention still pop up whenever Handi-Hams get together.

The staff of Hotel Fort Des Moines is fondly remembered for their delightful and gracious hospitality, for their assurance that they had never had such congenial conventioners. It was indeed fitting that this disciplined corps take part in a fraternity like Amateur Radio.

Ned showered praise on his helpers, but without his tremendous physical strength and vitality the trip simply couldn't have been. Sunday morning "the old early bird" was up well before six to get his nun-power to Mass, and then back again to get any Handi-Ham who wished to worship to the church of his or her choice. This Sabbath Service was done by a man who was a member of no church, but a man deeply aware of every human need.

Murphy's Law ("whatever can go wrong, will go wrong sometime") went into effect Sunday afternoon when the Hoyer lift for the bus broke down. Ned-and-Ron power had to

lift the passengers into the bus and car. Once again the time got skimpy; the ratio of handicapped to verticals was a bit top-heavy. But the Handi-Hammers are good travellers, good companions to one another and patient at inevitable delays. Perhaps we could agree come very late Sunday night or well into Monday morning, depending on when the trek was finished, that there was no better way to get bone tired.

"Surely," Ned once said, "anything that can make any isolated person less isolated has to be good." Benefits are always a two-way street. The perspective that many handicapped persons bring to situations could well be put to use in today's society. Ned had received from the first group of officers of the System a plaque. The Sermon on the Mount has been paraphrased by many for their ideals, but this one so exemplified Ned's beliefs and practices that we must share it:

1. Blessed are you who take time to listen to spastic speech, for you help us to know that if we persevere we can be understood.

2. Blessed are you who walk with us in public places and ignore the stares of strangers, for in your companionship we find havens of relaxation.

3. Blessed are you who never bid us hurry up and more blessed you who do not snatch our task from our hands to do them for us, for often we need time rather than help.

4. Blessed are you who stand beside us as we enter new and untried ventures, for our failures will be outweighed by the times we surprise ourselves and you.

5. Blessed are you when by all these things you assure us that the things that make us individuals is not in our paralyzed muscles, not in our wounded nervous systems, but in the God-given self which no infirmity can confine.

Rejoice and be exceedingly glad and know that you give us reassurance that could never be spoken in words, for you deal with us as Christ dealt with the slow, the halt, the blind and the lame.

The Des Moines Convention really marked a sharp upswing in Handi-Ham interest. Said Ned in the FLYER: Thanks to the wonderful people who donated to help us... Mrs. Charles Rolbiki, Mr. Nathan Shapiro, Exchange and Kiwanis Club; and the Minnesota Society for Crippled Children and Adults: Messrs. Schoenbohm, Beaton, Klawetter, Olson, Coffield.

The September FLYER had a frank letter from Jeanne Heikkila, WØIRJ: "I want to express my thanks to all who have worked with the Handi-Ham System. What a wonderful way to help others! From personal experience I know how ham radio can change long lonely hours into fun and new friends... and how surprised I was when I went to Camp Courage this summer because there were Handi-Hams there in our group... each bubbling with enthusiasm."

"Then I was one of the lucky ones who got to attend the ARRL Convention in Des Moines. I cannot help but marvel at the good time that we all had; but most of all the kindness of those helping us. Don't know if some of you realize how much work goes into a project like that; there are some of us who required total care (it takes a hydraulic lift, two people to dress me, and a breathing machine). Yet it was the best time I had in years! And as difficult as it is for me to keep secrets, I promised I'd never tell what all WAØ-EPX did -- just ask him!"

Handi-Ham pioneer, Helen Swanson was able to attend too. The May FLYER noted: "Dave Young, WØGEI, will be flying his plane to Rochester, will load Helen Swanson, WAØSVD; Sister Lauren, WAØRRJ; Nurse Pat Sinnot and Dr. Donald Erickson and fly off to the Ham Convention at Des Moines. Isn't it marvelous that WAØSVD will be there in person to greet Handi-Hammers and visitors to the Handi-Ham booth? One of Helen's contributions is an attractive poster on the Handi-Hand Helper Project headed by Clarence Ritari, WAØMMV."

Many fond memories preserved due to the excellent photography of Lowell, KØEWA, and Dot, KØKRV.

Ned-Watchers?

It was really only after Ned's death that we realized how many lives he had touched. He surely had sort of a spiritual antenna for detecting human loneliness and longing and certainly a sense of mission in bridging gaps between people. Bob Russ, KØGKI, comments: "From the first, what fascinated me about Ned was the complex motivation of the man. There was a strange 'lostness' in him, most unusual for a man of his size. I felt that this was a primary factor in all he did."

"Ned identified very strongly with the handicapped. Everywhere he went, he sought out the handicapped, then visited them on return trips. After discovering that his visits could be used to deliver radio equipment and books, he had a mission."

"The essence of radio is communication. This is the one thing he, as a desperately lonely man, craved. I know that he believed that the handicapped needed a means of communication. Radio was that. He created the System to help meet the communication needs of handicapped people."

"In my years of watching Ned, I was never able to pin-point just what

his own handicap was. After a while I gave up, simply contenting myself with amazed watching as the system grew."

Good Kind Indian, Ned Carman was really not lost. He simply chose this often obscure direction for his time and talents, to walk with and for his often-forgotten brothers and sisters. His travels may have seemed erratic, but he strove to be where he was needed. A handicapped person walks between two pitfalls: trying to ignore his limitations on the one hand, or exploiting them on the other. Ned could detect immediately which way the scale was tipping when he met a prospective Handi-Ham. When the delicate balance was achieved, his spirit danced at the human victory. Who cares if vulnerability makes the pursuit of full adult friendship a risky one?

Good Kind Indian, could it be that the uniqueness of this Ned person was not lostness, but a higher degree of maturity than most of us achieve? Not content with cozily settling down to enjoy a plateau of achievement, he constantly threw himself out of balance to expand his circle, both of handicapped and verticals. We see some of our great organizations that do much good and realize they started as one-man projects that grew and grew, reaching a stage that took staggering effort, but gradually the willing hands reach out to form partnerships, the load is shared. Ned nurtured and carried his project, but was not afraid to have it grow beyond him.

The early days of sharing were earnest, precarious, and funny. Here in FLYER, Nov. '68... The editor is suffering from a handicap which we earnestly hope will qualify him as a bona fide Handi-Ham. The malady in question seems to be caused by all-and-sundry members of the HH management committee

constantly pouring information into his funnel-like ears with continual admonitions such as: 'Now remember this is a secret' or 'Tell so-and-so, but don't say anything to so-and-so' and on and on. All this has ye ed. so hopelessly confused that he reacts by continually spewing all kinds of information to everyone... and occasionally even confidentially relaying the same such back to the original informant. Mouth just too big, we guess.

Those Green-Thumbed Carmans

Springtime is planting time, and Ned regarded it as a duty to Mother Earth, a ritual, to collect seeds and seedlings for his holdings and any and all of his interested friends. Erdene's diligent and agile green thumb seemed to call for matching man-power that challenged Ned and set him scheming... He pounced upon Ruth Stout's masterpiece, "How to Have a Green Thumb Without an Aching Back" which describes an advanced mulching method. Ned begged the Sisters for garbage rights -- eggshells, peelings, coffee grounds. He bought bales of hay. The first year he found his weeds so curtailed, the moisture so preserved that he inundated friends and relatives with vegetables. (Warning! Ruth Stout has to be read discriminatingly. Ned loaned the book to several of us, and it can be dangerous in making anyone think he or she is a potential horticultural wizard.)

Erdene showed us a copy of the letter Ned had once written to the editor of "Organic Gardening and Farming" and the reply from Ruth Stout herself. "This letter should perhaps have been sent to Ann Landers. You see, I have been having a love affair with an 'older woman'; in fact she is in her 80's and me in the early 50's and a grandfather." The letter continued with laudatory statements regarding Ruth Stout's

skill as a gardener and a writer, a description of his garden BIFRS (before I found Ruth Stout) and the present. Ruth Stout's reply, written on her 87th birthday, confessed to her having fallen in love with Ned five minutes after opening his letter.

The Carman home was lovelier each year, and a wonderful place for Anne's children to visit. Hermann had been succeeded by Dutch and Dutchess, dignified dachshunds who lived in fair harmony with Ophelia the cat. Ophelia produced a litter of kittens in the radio club's trailer, an arrangement Ned considered in good taste if Ophelia wanted it. He took food and milk out daily; but the Carmans were mildly aghast when their hospitality was repudiated by Ophelia's picking up new kittens and disappearing from their lives completely. The ways of the wild seem to have a way of showing up regularly in both man and beast.

Families of the handicapped often marveled at Ned's delighted appreciation of their grounds, gardens, and pets; he had ample background for appreciating these good things. To people who were bewildered at the amount of mileage, manual labor, visits, office work and errands Ned could pack into a day, we have the reminder that he had been an early-rising milkman for twelve years. And what better time to get things going than when the day is nice and new?

Magic Weekend

A blustery, snow-flurrying day. Friday, May 1, 1970. Handi-Hams arriving at Camp Courage were glad for the heated cars that brought them, for the big blazing fireplace in the lodge, for the exuberant greetings from old friends. The first May convocation was starting: a weekend of getting acquainted with ham radio or learning more about it. Long planned and publicized, the response was overwhelming. This time several family members came to help. Camp custodians had everything ship-shape and mountains of good food ready. MiSSCA had done it again. (FLYER, Apr. '70: Hats off to Mrs. Martin Johnson, EPX's gracious Mom who took a 4-day trip out as far as Merlene, WAØ-RNE, at Volga, South Dakota, snapping slides and movie shorts of Handi-Hams for the May Convocation.)

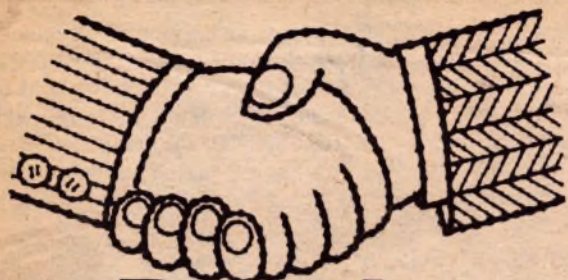
The beautifully-arranged slides showed the Handi-Hams in their shacks with views of them pursuing other hobbies in their homes. Good old days were recalled as their baby pictures smiled and dimpled from the screen. But perhaps nothing was more fun than the rapping and the spoofing.

Saturday was warmer, sunny, and full of choices -- demonstrations, exhibits, code practices, cloud-watching and exploring. Reverend Jim McChesney, WAØPFV, sent a carful of young people from his First Methodist Church in Fridley to be funsters for the evening's



Ned at home.

(Continued in next month's issue.)



Reach Out!

Blind ham finds handicap no barrier

by Eunice Bernon, K8ONA

Richard L. Brock (WA8FQC) of Shaker Heights, a blind ham radio operator, joined the airwave corps because he believed it was important to be able to communicate with other people. That was 11 years ago.

Today, at 25, Brock said, "I'm still impressed with this hobby, people of all races, creeds and nationalities are equals.

"Further, physical handicaps pose no barrier. The person I talk with may have a broken leg or be in a wheelchair, but it is not necessary for me to know about it."

Brock's various shortwave radio activities belie his handicap. He excels in the art of communications.

During the recent 175th anniversary of Burton, Ohio, when net members volunteered to handle mobile communications for the weekend festivities, Brock alone manned the base station, which was in the police chief's office. His solo performance was a joint benefit for both ham radio and police cars.

Brock's ARRL public service awards attest to the long hours he has devoted to emergency communications. He spends the holidays relaying Greater Clevelanders' messages onto the Ohio Single Sideband net.

Forgoing his lunch hours, Brock has instructed beginners' ham radio classes at the Cleveland Society for the Blind. Currently he is tutoring a husband-wife-son team to upgrade their licenses.

Brock is vice president of the Apricot Net, which furnishes mobile communications for

Cleveland parades. His "driver" is Shaker Heights Municipal Court Judge Manuel M. R. Rocker (WA8FXC).

Judge Rocker said, "One of the real joys I've received in ham radio activity is in assisting Brock who cannot drive, but who gets great enjoyment in such public service communications."

Businesswise, Brock represents Apollo Lasers, Inc., manufacturer of closed circuit television reading aids for the partially sighted. He is a John Carroll University graduate and teaches evening classes there for future Braille transcribers. He enjoys bowling, swimming and jogging.

Brock, an advanced class licensee, prefers operating on the 80, 15 and 6-meter bands with Galaxy and Gonset equipment. He is affiliated with the ARRL and National Traffic System.

The Apricot Net recently presented him a diamond lapel pin for 11 years of outstanding contributions to the amateur radio fraternity.

Brock, who was emcee at the awards banquet, said, "Although I've phonepatched folks back home from all over the world, the most thrilling was the recent telephone patch for my own cousin, Larry Gardner, who is employed in Quito, Ecuador."

Colegas de Honduras

by Carl Sletten, W1YLV

The Republic of Honduras is a fascinating Central American country with about 150 of the nicest hams you will ever meet. My wife, Ruth, and I didn't meet them all during our vacations in Honduras in March 1972 and more recently in December of 1973 but their hospitality plus the climatic advantages over the New England winters made these trips both interesting and pleasant.

This report to Worldradio readers should give you a little background on some of the HRs you encounter on the bands and maybe it will even suggest a stop-off for you in a swing through the Caribbean.

We landed at San Pedro Sula the big industrial city located on the Northern coast. Although not a port it is influence by North American fruit companies as are La Ceiba, Tela, and Puerto Cortes which are shipping points.

We were met at the airport by Gus Kuether, KØYVR/HR2 and formerly HR2GK, long time editor of the countries ham publication, Parlante. We were mighty pleased to see him considering we had decided rather late to make December trip. About 5 days before we left Boston, I talked to HR1ERB, Ed in the capital city of Tegucigalpa, and he agreed to pass along a message about our flight and arrival to Gus via the 40 meter traffic net. I found out later that Edmundo actually made a trip to San Pedro and delivered the message himself at some considerable inconvenience. Ed is also one of the few Americans

down there who speaks Spanish flawlessly without accent. Gus heads up the World Service work for the United Church of Christ in that part of Honduras. In addition to tropical vacations we were interested in Church and philanthropic activities in Honduras, including the Mennonite trade school now under construction in La Ceiba, the work of Techno-serve, Inc. and Caritas - the Catholic charity.

First let me describe the amateur world centered around San Pedro Sula. Those of you who work the IMRA and Halo traffic nets may know Ruth De Paz, HR2RP, as well as Gus. Perhaps the best equipped station with, I think, both Slow Scan and RTTY belongs to HR2HH, Hal Holler.

On the 1972 trip to this city, I met a lot of hams including HR2HHP, Harry and Jose, HR2JRH. In fact I was made an honorary member of the Radio Club de Honduras and presented a beautiful jacket or "chaleco" with the club name imprinted on it. There is some 2-meter activity in the area and also some civil defense radio nets. If you visit this city the Hotel Gran Sula has really good food at reasonable prices.

We took a tour to the impressive Copan Ruins which also gave us a 3 hour drive (each way) by VW Microbus into the countryside. The Mayas were great astronomers and good at working stone.

In this recent trip we spent most

of our time around the beautiful port city of LaCeiba (the Ceiba is a lovely big specie of tree and we got to know the Ham community pretty well there, thanks to the magnificent hospitality of Dr. Jose Interiano, HR3FJI and his gracious wife, Amalia. They met us at the airport and to our amazement we found that the pilot of our SAHSA plane was their son. They took us to the Hotel Paris (proprietor, Raul, a University of Wis. graduate) and to dinner at the Atlantic Restaurant.

While dining with them we met Arturo, HR3AAW. He is an aviator and runs a modern electronics shop in La Ceiba and on the island off shore. (These Islands include Roatan and are the luxury resort places for the readers with money) I was pleased to see ICs and FETs on the counter in Art's shop. HR3AAW is a very friendly guy who checks into the inter-continental net on 20 meters fairly often.

My wife and I walked over to the Standard Fruit Company offices and talked to cheerful Scotsman--John, HR3JJR. I had worked him several times and was happy to match a handsome face with an accomodating, pleasant voice. We were sorry to miss HR3HMR but his church was holding a service when we drove by to see him.

We took the bus from LaCeiba to Tela to get some sun and salt water at the palm lined playa near Tela. We found beautiful sandy beaches with 70° F plus water.

Thanks to KØYVR/HR2 and HR3FJI I was able to keep 3 skeds with stations in the U. S. DL9WZ/W1, Uve, kept us up to

date on our kids back home in Acton, Mass. I also talked to K4LZ, W1000 and to W1HZ from Honduras stations.

It is really nice to stay in touch with home while abroad. Especially in Latin America the introduction to people in advance makes vacations less superficial than simply hitting the tourist trails. We hope we will have an opportunity to return some of the hospitality some day.

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... From page 15

... around the world

about 1,000 miles west of Capetown, then it shifted very successfully to the longpath, going south of east from the ship. Longpath was used from then on for QSOs with California until we had crossed the Indian Ocean. When we left Laurencio Marques we passed about 1,000 miles north of the antipodes of San Francisco. As we sailed east past the antipodes, the great circle route through the antipodes to San Francisco, of course, shifted direction continuously from day to day. From the South Atlantic, the great circle route goes south and east and curves over the Philippines. From just east of Madagascar (Malagasia Republic), the great circle route to San Francisco goes over the South Pole. From further along in the Indian Ocean, the great circle path goes south and west over South America. I found considerable variability in working into California as a result, but the longpath routes in early February were quite good.

As we rounded the southern tip of Madagascar, Roger Augugliaro, a meteorologist at the weather station on Reunion, called and, after obtaining our position, speed and course, asked how big the ship was. He then gave the location of cyclone Gertrude and her course, and said that she was very, very bad with tremendous seas and winds of 130 knots. Furthermore, we were on a collision course with her and in two or three days should come together. A quick check with the chief radio operator confirmed that we both had the same facts. The ship

altered course, going well to the north, and fortunately Gertrude also altered course and changed to a southerly direction. We missed the cyclone, but a Greek freighter didn't, and lost her rudder. We were the second ship from her and so were not obligated to go to the rescue. I kept daily schedules with Roger from then on.

The Republic of China is still technically at war with Communist China, so from Singapore to Japan the ship, BHMA, maintained radio silence, and my equipment had to be locked up--30 days operation lost! I was reduced to playing shuffleboard.

I was astounded to find I could phone patch home to the family from the South Atlantic between Buenos Aires and Capetown, and from off the coast of Japan. The isolation on a ship or some other remote place comes as a shock to one accustomed to easy communication with family, friends and sources of news of the rest of the world. Personally, I don't believe in taking up precious ham channels with phone patches when Ma Bell's services are handy, but the joy and reassurance they can bring when one is otherwise utterly out of touch are immeasurable. For that reason, I intend to install a patch at my new home QTH--just to help others on ships in repayment for the kindnesses given me.

Of those 120 days going around the world, I lost 30 due to the imposed radio silence and 30 more in ports of call. In the 60 days available, I had 450 QSOs and without making any effort worked 61 countries. Rated very high, of course, were the 23 eyeball QSOs giving us personal contacts in strange countries.

A series of QSOs with Ebbey Lucas (9V1QG) across the Indian Ocean, had an interesting outcome even before our eventual eyeball. One inoculation highly recommended by our family doctor was gamma globulin against hepatitis, which is endemic in Taiwan. The shot is effective for only six weeks, however, so we had planned to get it from the ship's doctor--but he didn't have any. I asked Ebbey about Youngberg Memorial Hospital, reported to be one of the best in Singapore. Could it be reached easily? What were our chances of getting the inoculation there? What did he know about it in general?

"Well," he said, "I can help you, because I just happen to be the doctor in charge of the X-ray department there."

In Hongkong I had lunch with David Moxon (VS6DM), an officer in the British Navy on board the HMS Tamar. I was quite perplexed, because I couldn't understand how a warship could be there long enough for a VS6 license to be issued to a ham on board. The mystery was clarified when we met--the British Navy gives their administration building ashore the title of "Her Majesty's Ship Tamar."

Coming back across the Pacific Ocean, with stops in Vancouver, British Columbia, and the small lumber-paper mill port of Port Alberni on Vancouver Island, I felt almost as though I were home again, with QSOs with Ws, JAs and VEs. Because we were to be in Canadian waters for five or six days, I quickly asked for and received a license to operate portable VE7. In Port Alberni, we were at

the end of a long, fjord-like waterway half-way through the island, and at dockside I had fun confusing contacts by being W6VQD/mm/VE7 in the center of Vancouver Island. As we loaded rolls and rolls of newsprint there, my QSOs led to shipboard visits of Eric (VE7EM) and Corrine Risbey, and Pete Karsholt (VE7BKK). I was glad to be the host after so often being the guest of the international ham fraternity.

The radio success of the trip astounded me. In searching for the possible factors, I recognize the following three as contributing a great deal:

1. The highly conducting ground surface of the salt water. This helps a vertical antenna give a textbook performance (ideal conditions).

2. RF peak clipping properly installed. This permits raising the average power output without increasing the bandwidth of the signal beyond the basic voice frequencies.

3. Monitoring on a scope the linearity of the RF voltage in the output to the antenna against the SSB envelope existing at the IF level, combined with having a device to set the peak envelope level constantly just below the flat top level, regardless of the voice intensity. This avoided flat topping and splatter while operating at a level which pushes the transmitter to its maximum at all times.

Yes, it did take a chunk of our savings to make this trip... but the experience widened our viewpoints and understanding immeasurably, and gave us a feeling for worldwide hams obtainable in no other way.

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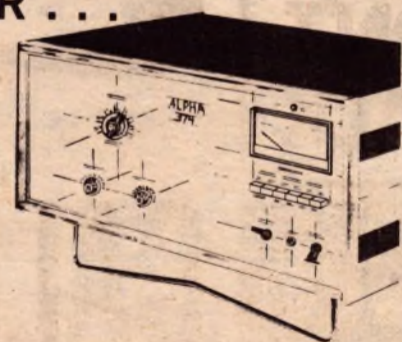
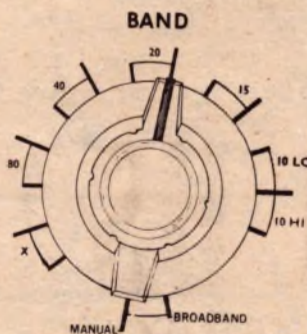
They also have the satisfaction of being part of "something that counts."

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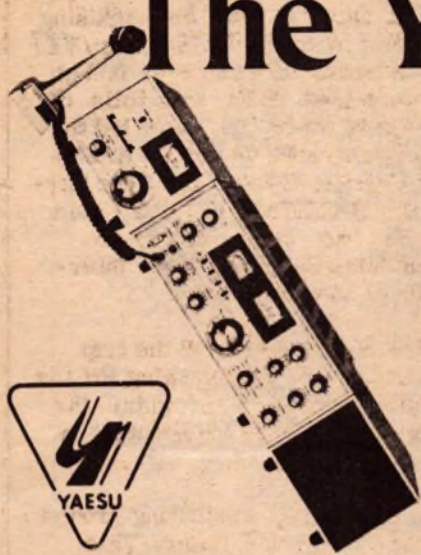
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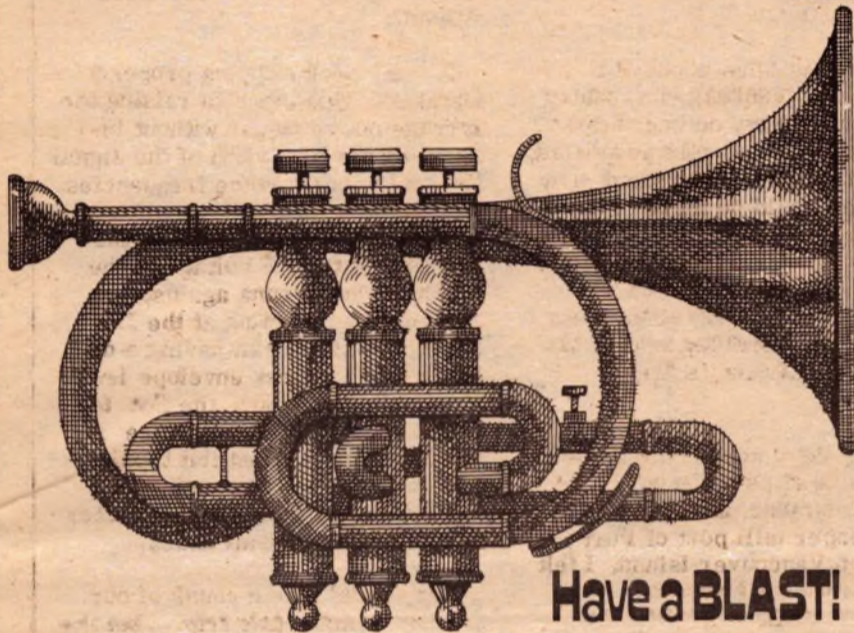


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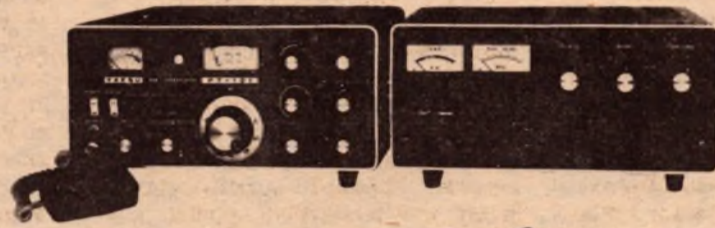
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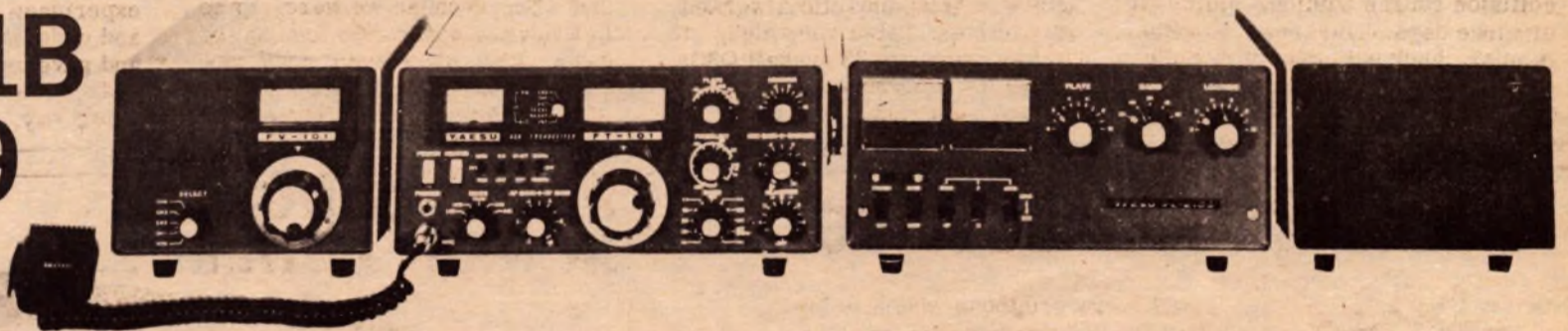
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**THIS
WAY**



Maritime Mobile

by
Bill Yost, WA6PIU



Historically maritime mobile can be traced to the very beginning of applied radio communication. Ship-to-shore traffic via the spark-gap transmitter was perhaps the first practical means of employing the newly discovered "wireless" for safety and efficiency.

I use the term practical with some reservation. Early day shipboard communications involved a myriad of ponderous equipment. So cumbersome was the gear, that a special cabin had to be built on deck. This cabin was called the "shack", a term that has remained to this day.

With all the sparks and heavy wiring, the shack became a place of mystery and pre-eminent danger. The operator was, of course a daredevil in his own time -- a man who cheated death with every transmission. I understand from some of the old timers that when our spark-gap wizard would enter the galley, the crew would step aside lest they be struck down by the lightning emitting from his fingers.

As more ships acquired wireless gear the first QRM problems developed. Since the spark transmission mode generally covered the entire RF spectrum, QRM was definitely the style of the day. The early attempts to narrow the transmission bandwidth involved an alcohol flame which was varied under the spark. By controlling the heat one could to a degree vary the frequency. Apparently this was only partially successful. The requirement of the alcohol "for medicinal purposes" rapidly dwindled the supply, leaving very little for QSY purposes.

Then came the tuned circuit, the vacuum tube, and the solid state circuit, leaving the modern day amateur the heritage of the "shack", the QRM and the "weirdo" image.

While today's shipboard operator is usually hired on to handle the commercial traffic, ham radio is often a pleasurable off-duty activity for him, as well as for any other amateur among the crew.

Operators range from officers and crew of Coast Guard and Navy vessels to scientists and technicians on expeditions aboard various research ships. Commercial oil tankers, freighters, and even tugboats also have their share of amateurs.

On the yachting scene, Amateur Radio is perhaps the most useful tool next to the sails or engine. Here we find the explorers, the ocean voyagers, and the racing sailors utilizing the ham bands for safety, traffic, international goodwill and pure pleasure. On small boats at sea, it is a real comfort to talk with friends on the beach.

In many of our offshore ocean yacht races, ham radio provides the chief communication link. Positions of the racing fleet are radioed in daily on 20 meters by the escort boat. Such data is then fed into computers which give the relative handicap positions of each boat in the race.

Weather information is another vital service Amateur Radio provides for ham yachtsmen. Ham groups interested in meteorology have formed weather nets. For the ham at sea, it is only necessary to check in for a comprehensive personalized forecast.

Ship-to-shore emergency communications are perhaps the greatest feature of the ham bands. While the commercial marine frequencies are monitored by various larger ships and Coast Guard installations, they just can't compete with the reliability provided by the multitude of worldwide ham stations ready to handle emergency traffic.

For instance, on two occasions when using the marine band for Coast Guard assistance, we had to go through a relay by another boat who was luckily in our propagation path. On numerous occasions, we were unable to raise the marine operator when we were only a few miles offshore, due to a poor propagation path.

Unfortunately, due to cost and feasibility, most smaller boats are limited to the inefficient 2 MHz marine band. Here with the AM, the high noise, the current-consuming tube

circuits, and two or three QRM-ridden channels, they stake their life and welfare.

In contrast, we have the amateur mode with the state of the art developed to its finest degree. It is now possible to obtain an all solid state, multiband, SSB transceiver which can be held in one hand. It is no wonder that all major expeditions including Thor Hyerdahl's famous Kon Tiki and Ra adventures used the amateur bands. Perhaps five or six years from now marine communications may achieve today's amateur level and provide a package at --three times the price.

Besides the latest solid state gear which is especially adapted for yacht use, the larger vessels may be found running a bit more power with a variety of popular transceivers. The Yaseu FT-101 is especially popular along with the SWAN transceivers. Small kilowatt linears are also popular on the larger vessels although they are rarely needed.

Antennas among maritime stations may vary from multiple wave-length long wires on the freighters and tankers to loaded back stays and verticals on the smaller yachts. Antenna tuners are very common in providing multiband operation on fixed - length radiators. A rather novel antenna called the "cat whiskers" has been primarily for maritime mobile. Hopefully, I will have an evaluation of the "whiskers" in the next issue of "Worldradio".

After this somewhat general overview of the maritime mobile realm, I hope to delve into specific areas. Forthcoming articles will include (1) a review of the ATLAS 180 with its maritime mobile potential --or, Pure sex in a sideband transceiver. (2) A review and evaluation of the "cat whisker" antenna -- or, How can it work? (3) Maritime mobile antenna installations -- or, Show me a better ground! (4) Emergency ship-to-shore procedures -- or, The S.O.S. and you. (5) Maritime Mobile clubs --or, "You think you've got low meeting attendance!" (6) An interview with an "Old Salt" --or, Who's telling the truth? and (7) VHF coverage for the boater-- or, "Line of sight? You're kidding!"

Again, I encourage article and short item contributions, (are you listening Bob Landis) letters, compliments, and --- well, even complaints. Until then, keep your keel out of the mud! Smooth radiation and solid propagation. 73, Bill, WA6PIU/R2

The way it goes.

by Julian Jablin, W9IWI

Time was when you could drive behind a car on the expressway, see it had a ham antenna on back, and beep out a "Hi" (.) on your horn, knowing that you'd get a wave or a "Hi" right back. That was a long time ago, it seems, and those things don't seem to happen these days.

It led to good things and to embarrassment, too. I remember, on a trip from New York to Florida in the summer of 1951 or '52, getting behind a sedan which had what looked like a ten-meter whip on the bumper and tooting a couple of "Hi" calls at the driver. I should have looked at him instead of the antenna. When he pulled over to let me go by, the car turned out to be a local police vehicle. And that happened more than once.

I didn't learn my lesson, which was just as well. The next year,

driving through Hannibal, Mo., on a day with the mercury up around 100 degrees or so, I got behind a WØ and signalled. The result was an invitation home, cold lemonade and a very pleasant visit. And once, on a street in Montreal, I met a VE2 the same way; we stopped to talk, were joined by a VE3, then picked up another VE2 to make it a street-corner hamfest.

But this doesn't happen any more. I don't know if it is the general cool attitude of people these days. . . I'd hate to think that hams have gotten that way. It may be a lack of familiarity with Morse. . . I know that it is pointless to honk "Hi"--or any other signal--at a car with a ham license plate and a 5/8-wave two-meter whip on the rear deck. These guys don't recognize any call that does not come through the repeater! And did you ever try to send a 10-signal on an auto horn?

Likewise, it isn't healthy from a law-and-order standpoint any more, what with so many municipalities

passing strict anti-noise ordinances.

We hams aren't the only victims of changing times. There was a period in my misspent youth when I owned a Jaguar, and the waving that went on between the owners of Jags on the road far exceeded the signs of recognition among hams anywhere, anytime. If there was opportunity, we usually stopped to compare problems (it wasn't the simplest machine on wheels) but at least there was a toot and a wave. I recall one impromptu contest on a New York City parkway when the driver of a Porsche tried to show me that his iron was faster and more maneuverable than mine. I was going to admit defeat (being chicken about two speeding tickets in one week) when another Jag driver pulled alongside, waved, and picked up the challenge, saving the honor of the marque.

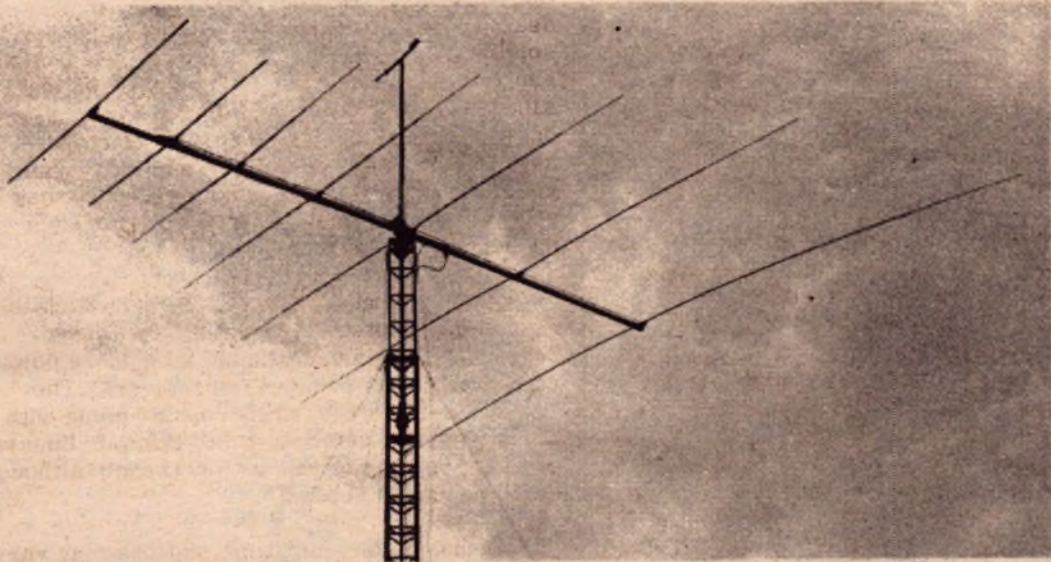
But that all ended one day when, with my XYL sitting alongside, I passed a blonde driving a very red

XK150. As a matter of course, she waved and smiled. But the XYL put the brakes on me right then. "How long has this been going on?" she wanted to know. With Jaguars and similar cars being used to prove how much money one (or one's father) has, a sports car these days is no more fun to have than a 20-meter AM transmitter.

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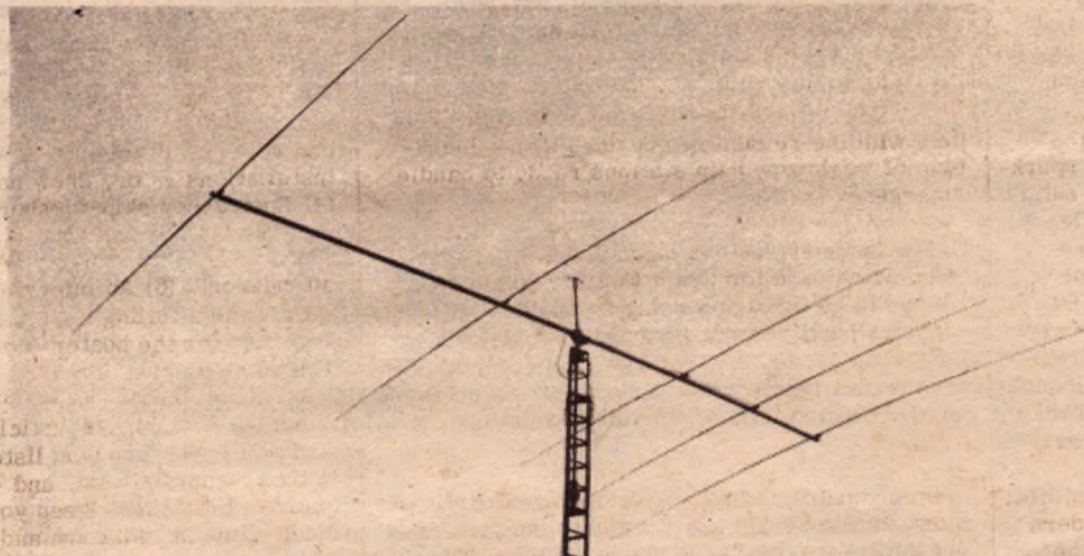
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And now, a word from our president...

"One Year in Orbit"

Oct. 15 marked the first-year birthday of AMSAT-OSCAR 6, Amateur Radio's newest and longest lifetime satellite in space. The spacecraft continues to operate successfully, having surpassed our lifetime objective of one year.

During its first year, it is estimated that on the order of 100,000 or more contacts have been made through AMSAT-OSCAR 6's two-to-ten meter repeater, and amateurs in at least 72 countries have been participating in this new mode of amateur communications. Experiments have been continuing in order to learn more about radio wave propagation and space communication techniques, and the American Radio Relay League and NASA are now working together to use OSCAR in the schools.

After one full year of operation and more than 4,500 orbits in space, the AMSAT-OSCAR 6 spacecraft appears to be in good shape in spite of some battery degradation, and we are hopeful that the satellite will continue to remain useful for some months to come. As the battery becomes weaker, it will be increasingly important that everyone cooperate in using the satellite repeater only during the scheduled periods.

AMSAT maintains an OSCAR 6 Users List of stations successfully communicating through the satellite. The list now numbers more than 1,700 calls. We are trying to verify as many of these calls as possible, so we

are urging all stations who have not yet reported their OSCAR 6 operation to send their reports to AMSAT, particularly an alphabetical listing of the QSL cards you have received for two-way OSCAR contacts.

For many of us, the past year of satellite activity has been one of excitement, fulfillment and learning, as well as discouragement at times. The sixth amateur satellite is another step toward the goal of an operational Amateur Satellite Service. As a learning experience, AMSAT-OSCAR 6 has taught us new operating skills, and through its faults (and our own) has shown us how to take the next step--and how to do a better job next time.

AMSAT-OSCAR 6 has verified our conviction that amateurs are capable of designing, building and operating long-lived communications spacecraft. It is an operational challenge as well as a design achievement to be able to successfully maintain the life of a spacecraft which has a total power budget of only three watts for this length of time.

We are grateful to the National Aeronautics and Space Administration for making the launch of OSCAR 6 possible, and to the many organizations and individuals who have contributed either hardware, financially or their personal time. It is only the total effort that has made the AMSAT-OSCAR 6 project a successful one.

That about wraps it up for this month.

If you have any information related to AMSAT or OSCAR activities, please send it, and/or pictures, to me.

Rich Osman, WBØHUQ
c/o Worldradio
2509 Donner Way
Sacramento, CA 95818

or AMSAT Publications Dept.
P. O. Box 27
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The latest schedule of OSCAR-6 operation is as follows:

Thursdays, Saturdays, Mondays (Greenwich Mean Time) ON for communications during south to north passes only.

Tuesdays, Fridays, Sundays (Greenwich Mean Time) ON for communications during north to south passes. Primarily for educational purposes.

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During the next four months, increasing temperatures are expected. This new operating schedule is designed to reduce heating and overcharging during the critical period.

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Repeater Rules

(From page one)

6. Authority for these amendments is contained in Sections 4 (i) and 303 of the Communications Act of 1934, as amended. The prior notice and effective date provisions of the Administrative Procedure Act (5 U. S. C. 533) do not apply since the amendments are procedural in nature and relieve previously imposed regulations and requirements, and since early adoption will simplify application filing requirements. Application processing and the issuance of licenses will be accelerated, thus allowing the Commission to eliminate its substantial backlog in this area.

7. IT IS ORDERED, that effective January 23, 1974, Part 97 of the Rules and Regulations are amended as set forth in the Appendix hereto.

FEDERAL COMMUNICATIONS
COMMISSION

Vincent J. Mullins
Secretary

A P P E N D I X

Part 97 of the Commission's Rules is amended as follows:

97. 41 (Amended)

1. 97. 41(f) and footnotes 1 and 2 are deleted and par (f) is designated (Reserved)

2. In 97. 108, paragraph 97. 108 (a) (4) is revised as follows: 97. 108 Operation of a remotely controlled station.

(a) ***

(4) Provisions must be incorporated to limit transmission to a period of no more than 3 minutes in the event of a malfunction in the control link

3. Section 97. 111 (c) is amended and par (f) and footnotes 1 and 2 are added as follows: 97. 111 Operation of a repeater station.

(c) A repeater station may be concurrently operated on more than one frequency band. Crossband operation of repeater stations is prohibited, i. e. both input (receiving) and output (transmitting) frequencies for a particular repeated transmission must be within the same frequency band. Operation on more than one output frequency band is prohibited except when specifically approved by the Commission. Repeater stations authorized to operate in conjunction with one or more auxiliary link stations may utilize an input frequency in a different frequency band provided the input frequency of the auxiliary link station(s) is in the same frequency band as the output frequency of the repeater station.

(f) When in operation, the log of a

repeater station must also show the following information for each frequency band in use.

(1) Location of the station transmitting antenna, marked upon a topographic map having a scale of 1:250,000 and contour intervals. (Indexes and ordering information for suitable maps are available from U. S. Geological Survey, Washington, D. C. 20242, or Federal Center, Denver, Colorado 80225)

(2) The transmitting antenna height above average terrain.

(3) The effective radiated power in the horizontal plane for the main lobe of the antenna pattern, calculated for maximum transmitter output power.

(4) The transmitter output power.

(5) The loss in the transmission line between the transmitter and the antenna, expressed in decibels.

(6) The relative gain in the horizontal plane of the transmitting antenna.

(7) The horizontal and vertical radiation patterns of the transmitting antenna, with reference to true north (for horizontal pattern only), expressed as relative field strength (voltage) or in decibels, drawn upon polar coordinate graph paper, and method of determining the patterns.

An Apology

We apologize for not coming out with a January issue. We were hit by a variety of setbacks. Our typesetter developed an infection that prevented his working. Our art director developed bronchitis. After he recovered, his father had a stroke and he left the state to be near his father who was hospitalized. Another staffer had her second child and retired. Our intrepid editor, who is known to brag about how many years he has worked without missing a day, found that it was turn with the flu.

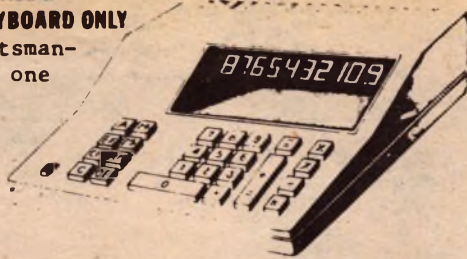
We were also faced with the death of our accountant, Everett Plumer, WB6VVT. Ev was the 45th ham to subscribe to "Worldradio" and had been a source of counsel. He was most active in community and service club work and youth and church projects. He was a fine, fine man.

We have searched for and found new staffers and are looking for more. Putting out a publication is challenging, stimulating and a lot of work. Our organization is growing and we are dedicated to bringing you a great newspaper.

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74H50 .35	74L93 1.50
7451 .25	74L95 1.00

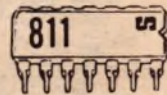
RECTIFIERS

VARO FULL-WAVE BRIDGES			
V5447	2A	400V	\$.90
V5647	2A	600V	1.10
MR810 Rect.	50V	1A	.10

Special 811: Hex Inverter

TTL DIP Hex Inverter; pin interchangeable with SN 7404. Parts are brand new and are branded Signetics and marked "811."

Data	EACH.....\$.30
Sheet	10 FOR..... 2.50
Supplied	100 FOR.... 23.00
	1000 FOR... 220.00



0-9 plus letters. MAN 3M

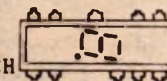
Right-hand decimal point. Flat-pack type case. Long operating life. IC voltage requirements. Ideal for pocket calculators!



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NE561	phase lock loop DIP.....	3.25
NE565	phase lock loop TO-5.....	3.25
NE566	function generator TO-5.....	4.00
NE567	tone decoder.....	4.00
NE5558	dual 741 op amp MINI DIP.....	1.00
709	popular op amp DIP.....	.45
710	voltage comparator DIP.....	.75
711	dual comparator DIP.....	.40
723	precision voltage regulator DIP.	1.00
741	op amp TO-5/MINI DIP.....	.55
747	dual 741 op amp DIP.....	1.00
748	op amp TO-5.....	1.00
CA3018	2 isolated transistors and a Darlington-connected transistor pair	1.00
CA3045	5 NPN transistor array.....	1.00
CA3026	dual differential amp.....	1.00
LM100	positive DC regulator TO-5.....	1.00
LM105	voltage regulator.....	1.25
LM302	op amp voltage follower TO-5....	1.25
LM307	op amp.....	.50
LM308	op amp TO-5.....	2.00
LM311	comparator TO-5.....	1.75
LM370	AGC amplifier.....	2.00
LM703	RF-IF amp epoxy TO-5.....	.45
LM309K	5V-1A power supply module TO-3..	2.00
LM3900	quad op amp.....	2.00
LM1595	4-quadrant multiplier.....	2.00
8038	sine square triangle function generator.....	4.95



John Phelps, WB6TKP, as Santa's Elf with one of the many children confined to the hospital during the holidays.

How ham radio saved Santa Claus

by Mike Flaherty, WA6UBW

(Oakland, California) The days before Christmas found several members of the Grizzly Peak VHF Amateur Radio Club readying Operation North Pole at six bay area hospitals.

Dick Altman, WA6AXV, realized that Christmas wouldn't be much fun for the many children confined to hospitals for the holidays. An on-the-air discussion with a number of WR6ABM members, and

the project was quickly a reality. Amateur radio was indeed going to bring Santa Claus to the little children.

Members who rallied to aid the operation included Ed Keogh, WB6ETN, as Santa Claus; John Phelps, WA6TKP, as Santa's Elf; Roy Everhart, WB6GWQ, Bert Newkirk, WA6SIX; Lou Dorren, WB6TXD; Al Montoya, WB6IMX; and Tut Tuttle, WA6LUM.

coordinated as they checked into the repeater as they carried out their diverse efforts.

The group scheduled visits at Kaiser and San Francisco General hospitals in San Francisco, Kaiser and Children's hospitals in Oakland, Peninsula Hospital in San Mateo and Kaiser Hospital in San Jose. WB6TDX and WB6GWQ alerted the area newspapers and television stations to suggest they might find an interesting Christmas human interest story in Operation North Pole. The hospital public relations offices assisted by making the necessary press information kits available to the press. During the operation, WB6IMX, a professional photographer, took photographs for the club.

KRON Channel 4 Newswatch and KGO Channel 7 News Scene reporters covered Operation North Pole and broadcast the story on their evening news shows. Reports from hams across the country indicate that NBC national news carried the KRON report across the country.

At each hospital, Santa's Elf made his appearance at the appointed time complete with his sack of North Pole goodies. He asked the children if they wanted to talk to Santa Claus. Using a walkie-talkie, he used the repeater to call Santa at the North Pole. WB6ETN was sitting at his base station and talked briefly to each child. The response from the children was varied; some were scared, some were anxious to have their say.

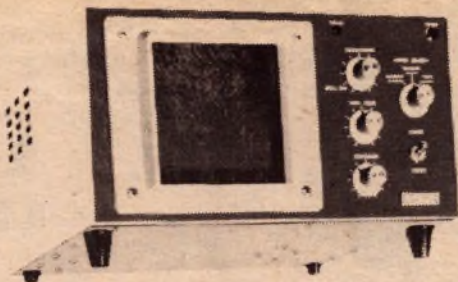
In anticipation of problems, each location was thoroughly tested before the actual broadcast to ensure adequate contact could be made. One hospital was found to be out of handy-talkie range from WA6ABM and arrangements were made with WR6ACS (ex K6GWE) and the Great Western Expeditionary Society to use its repeater. Additionally, a mobile was stationed outside each hospital with an alternate simplex channel in case the repeater became unavailable for any reason. The standby capability was not used as everything functioned as planned.

The participating members enjoyed themselves so much and were so gratified by the children's responses that Operation North Pole II is already in the works for next Christmas.

Projects such as this generate a great public acceptance of amateur radio by those directly involved families and by the millions who watched it on television. Other clubs may wish to use the Operation North Pole idea in their area during next Christmas. The cost was nil except for the Christmas candies and favors which some of the members donated. The biggest expense was in personal time and those few hours meant so much to those little children who weren't well enough to be home with their families at Christmas-time.

WA6TKP was outfitted in a green and red elf's costume for the hospital visits. He carried a sack of candy and favors which he and WA6AXV gathered.

WB6TXD, WB6GWQ, and WA6SIX contacted a number of Bay Area hospitals with pediatric wards offering them participation in Operation North Pole. Six were interested and were placed on Santa's schedule. The project was coordinated by WA6LUM, Grizzly Peaks's most distant member and repeater user. Tut retired to the Sierras and lives nearly 150 miles from the repeater. Because he monitors the repeater continuously, he was able to keep the participants



①



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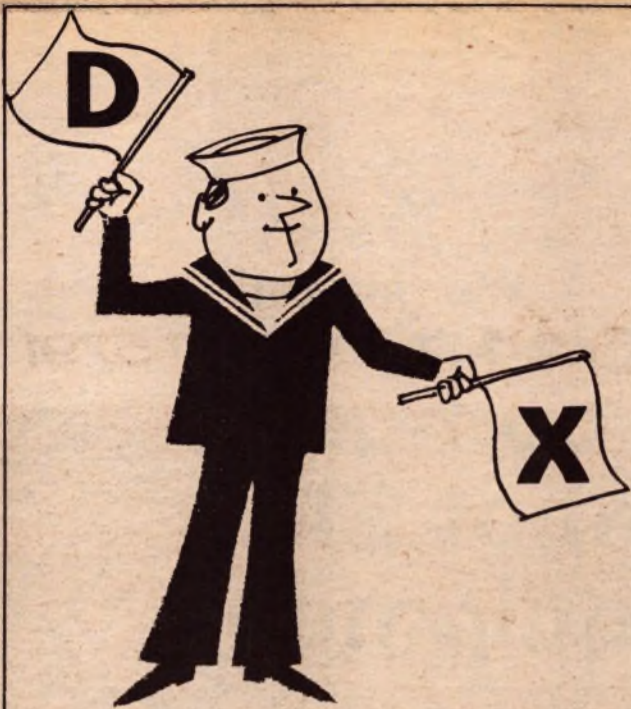
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INTERNATIONAL DX CONVENTION

This year's big affair will be held at the Fresno (Calif.) Hilton on April 27 and 28.

The bash will be sponsored by the Southern California DX Club. Hams are still talking about last year's event with the "special DX award" being presented to Frank Cuevas, W6AOA. (See "Worldradio" May 1973, page 11)

This convention draws the world's top DXers. Last year the participants in the Spratly DX-expedition were on hand with a movie of the episode. The year before, Martin Laine, OH2BH, presented slides of the Annobon trip (3CØAN)

The programs are top notch with leading DXers (Herb Schoenbohm, KV4FZ, for example) conducting high-interest seminars.

Globe-trotting Darleen, WA6FSC, HC2YL, (who took home a Kenwood TS-900 from the convention last year) has said she will come up from Ecuador for the event.

"Worldradio" has covered this convention for the past two years. We believe it is an outstanding convention. What makes it so is not only the fine programs, but gathered together are some of the friendliest hams around. You'll have a good time at this one.

*

Some good news for DXers... The well known Gary Stilwell, W6NJU, (DX Honor Roll, former vice-director Southwestern Division, etc.) is coming out with a QSL managers directory. Gary has been quite busy gathering up a list of about four thousand good DX stations and their managers, with the managers QTHs. Subscribers to Gary's book will also get three, quarterly supplements with the latest info. The price will be \$5.95 a year, but there is now an introductory offer of \$4.95.

Gary recently moved from Southern California up here to Sacramento and we have enjoyed his periodic visits to the Worldradio building as he fills us in on the progress of his directory. His address is DX Publications, 7632 Woodland Lane, Fair Oaks, CA 95628

*

Mr. and Mrs. DX, Lloyd and Iris Colvin, W6KG and W6DOD (who recently got her Extra) tell "Worldradio" that they are getting the itchy feet again and are gearing up to strike out on another of their classic globe-circling DX-expeditions.

*

Red-hot contest buffs may find of interest a publication devoted entirely to contesting. The Contest Journal has been going for a year now.

Send \$1.50 to Ted Olson, WØIYP, 292 N. Heather, Long Lake, MN 55356 for a year sub.

Sam Canter, W6TSQ, has his own "Hands across the sea" program going. He spends many nights reading the various DX bulletins over the air to Russian stations in Eastern Siberia.

Any DX stations needing a QSL manager, (plus free QSL cards) should contact Art Blair, 71 Surrey St. San Francisco, CA 94131.

160 meter fans should note that there is a 24-hour beacon operating on 1794 kHz. The 175 ft. vertical antenna is powered by 150 watts. The signal is from HL9VR.

At the other end of the spectrum, another beacon is at 28.165 MHz, this one from VQ9.

Proof that mucho antenna is not necessary to compete on the lower bands is Forrest Gehrke, K2BT. He put up an antenna made of rainspout. He says 60 feet of rainspout resonated around 3.8 MHz. He has passed the 100 country mark.

Carleton Ross, W9ABA, will op as ZF1BR for two weeks starting on the 24th of February. Buzz will be active in the second weekend of the ARRL Phone Test on March 2/3rd. He will be on all bands 10 through 75. He'll be taking a Swan Cygnet and 1200-X linear to Grand Cayman.

A recent note from Martin Laine, OH2BH, indicates that he is looking for some possible DX action in the coming year, some possibly in Europe and some elsewhere. Martin went to Gambia, ZD3, for the CQ DX Test last Fall and it was not exactly what he had planned. Martin writes...

The African expedition was not a complete success this time and I guess many people were wondering why I was so little on the air. The reason is that I got a very bad sunstroke right in the beginning when I worked for several hours on the metal roof of the hotel putting up the beam. First it was a headache that was keeping me in bed, then stomach trouble and a high temperature spoiled the rest.

I had already decided to give up for the contest but when Scotty, 4C5AA and Jim, 9Z4AA, got to spurring me on. I decided to give it a try. Everything went o.k. for the first 24 hours but then I got a severe eye inflammation. My eyes resembled tomatoes with water streaming down my face. It was hard to see even the log. Good old C.W. was getting rusty and I didn't even feel like giving out numbers.

I ended with 3,520 QSOs and 3,520,000 points which would just make a new world record--not too bad at all. I was really surprised when scoring the results while on the plane home and finding out that the contest went that well despite all the trouble. I left the antennas and the linear in Gambia so this will not be the last operation from there.

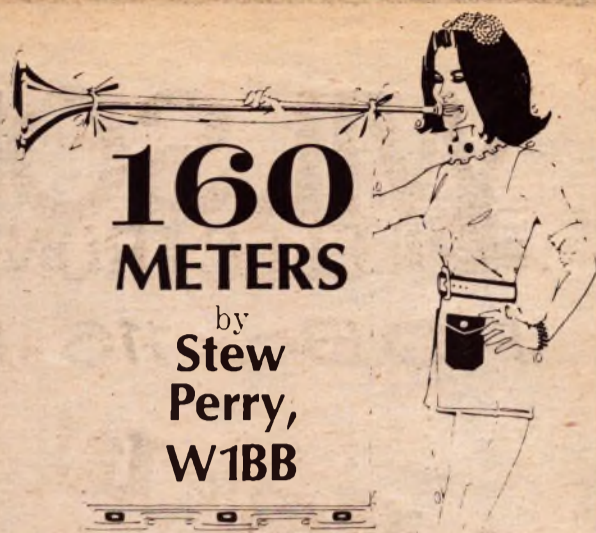
(On other matters, Martin writes further)

Old Kee, OJØAM, is still keeping Market Reef active. I'd think we would all like to keep Kee in the business. He is a 35 year old lighthouse keeper who can not boast of his salary. He has to provide for two little children because his wife died in 1971 at the age of 29 with a cerebral hemophilia condition. He is a conscientious father and a great guy whom one would like everybody to help.

All the best to the amateurs in the states and best wishes from all of here in Finland.

Martin, OH2BH

(The above letter, and much of the above DX news originated from Hugh Cassidy's (WA6AUD) West Coast DX Bulletin)



JAPAN WORKED BY JIM GRAHAM (WØNFL) Dec. 1 when he QSOed JA1MCU on 1911 Kcs at 1305z. Also hrd H. Nishio (JA3NQ) and JA2GQO both 449. Band "Out" quickly at Sunrise 1320z. Used modified W7DOL/6 version LOOP to help eliminate effects of 1900kc Loran. Gave 40db attenuation. Sez: "Rec'd JA on regular ant too, but LOOP much better. Am quite psd w/LOOP" Jim, CONGRATULATIONS--VFB!

NEW, "FIRST-EVER" 4X4NJ/W1BB QSO! Dec 8 '73--ARRL/160 TEST--0131z, BB/579--4X4/559 giving W1BB Country No. 116. Congratulations to "Riki" Kline who as persevered over the years and finally obtained his Govt's permission to operate during "International Contests". W1BB was only W worked, but PY1RO was also QSOed. Riki hrd Herb Schoenbohm (KV4FZ) and Doug Boehm (WA2WLN/2), both with good signals. Total QSOs, 30 Stns in 10 Countries, on three continents. THEN IT HAPPENED! "Murphy's Law" reigns again Riki sez. JUST at sunrise peaking time he blew a power transformer and was off the air for the rest of the TEST--Tears! However, if he can get a replacement Tx, w1 be back for future "Tests". Riki operated fm 13th floor (Better choose the 14th next time to protect pwr tx fm tt unlucky HooDoo No. 13!) of the "FOUR SEASONS ISRAEL" Hotel at Nathanya Beach, w/vfb sloping dipole towards W/Ve and Eu, to the beach, and SWAN 160x Tx/Rx. THIS is Martin Rosenthal (VE3MR)/4X4UR's QTH, who's wholehearted support of the venture, loaning QTH and equipment, made this possible. SALUDOS! Martin/om and Tnx z "Mo"! Also to "Riki" again, Commendations on patience, perseverance and VFB Operating! and Thanks a "Million" for putting ISRAEL on 160!

Help blind to DX

There is now available for blind hams a Braille publication entitled "DX and the Blind Ham". This is a non-profit publication which will give the blind ham much information which was heretofore available only to those with sight.

The time and effort of many generous people went into the compilation of this publication which consists of 78 pages of Braille. The cost is less than the out-of-pocket expenses incurred by the Peninsula Braille Transcribers Guild of San Mateo, California, whose members transcribed the written material into Braille and bound the pages into book form.

In this volume, "DX and the Blind Ham", there is given international prefixes and locations, compass bearings from three locations in the United States, distances from these locations and other useful information.

The cost of the book is \$2.84 which includes handling and postage within the U.S.A. Check or money order should be made payable to: Peninsula Braille Transcribers Guild and mailed to: Roy Phelps, WB6FIS, 166 Novato Drive, Vacaville, CA 95688. Please include the blind ham's radio call sign with the order.

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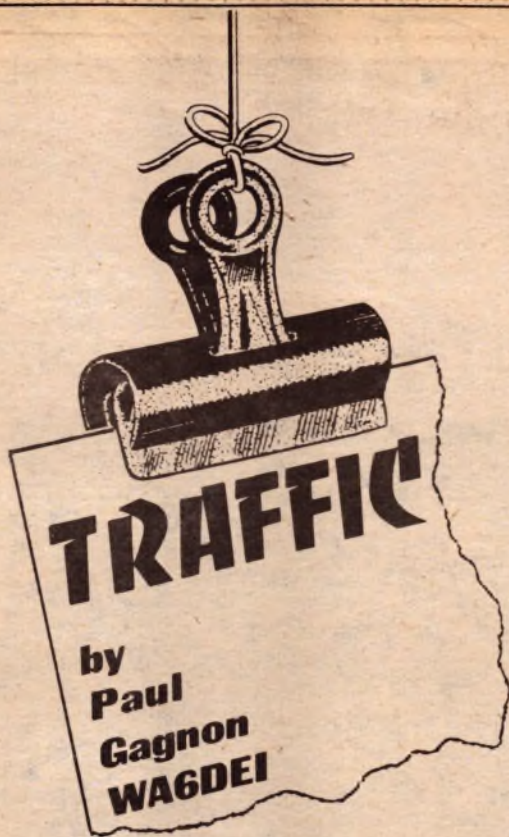
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FRdx-400 D	Receiver	299.00	SP-401P	Speaker/patch	59.00
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FL-2100	Linear Amp with tubes	339.00	YD-844	Dynamic microphone	29.00
FT-2 Auto	Auto-Scan 2 meter transceiver	379.00	XF-3C/30C	C. W. filter	40.00
FT-2FB	2 Meter mobile transceiver	239.00	FA-9	Fan	19.00
YC-355D	Digital Counter	289.00	MMB-1	Mobile bracket	9.00
FTV-650	Transverter	149.00	MIR-1	Modification kit for FT101	40.00



Many nets operate daily and/or weekly schedules, with many pieces of traffic passed every week.

There are those who regularly check into these nets but who, when called upon, do not accept messages. There are others who never check in for fear they will be called on to handle a message.

Part of the problem is that they do not know the proper format (this was discussed in last month's column).

Another part of the problem is that some don't know what to do with a message after they receive it!

Delivering the Message

There are several possible methods of handling a message, with telephone delivery the most important and frequent; this includes long distance calls in emergencies. Mail ranks second in importance and frequency. Delivery in person is also possible.

Whichever method is used, the message must be delivered courteously in order to preserve the good impression of the amateur communications service. When we handle traffic, we are performing a public service. If the final delivery is short and impolite, the service performed by the stations which handled the message previous to delivery is put to naught.

Delivery of a message gives an excellent chance to explain Amateur Radio to the recipient and others--take a little time and make a friend for Amateur Radio.

Post office directories, the callbook, telephone directories, city maps, street guides and Zip Code directories all may be aides to unscrambling an address so delivery can be made--and there sure are some head scratchers that come up. I can recall trying to deliver a message to a "Floyd Mills" with an incorrect phone number. After much head-scratching, he turned out to be a "Floyd M. Eels." Sometimes you have to break down the code characters, but it is worth a little extra time and effort to make an honest attempt at delivery.

Ed Brichta (W0RSY) in Palo Alto, Calif., has a wall completely full of telephone directories for every major city on the west coast; he is great at figuring out garbled addresses. Ed knows that when he gives a little extra effort, someone will appreciate it.

When delivery is by mail, type the message neatly, preferably on an ARRL radiogram form. These forms give a brief explanation of how amateur traffic is handled and provide a place for the handler's call and how he can be reached if the message recipient wishes to send a return message. Those who do not use the ARRL form should add to the message a short explanation of the way in which it was handled by Amateur Radio.

It is better to put a message into the mail than to have it floating around the nets, perhaps for days, awaiting an outlet. Even if it isn't in the same calling area, the station closest to the addressee might volunteer to mail the message--the postage won't be that expensive, and it will save having the message mailed by the station bringing it into the net--this was probably a station with a lot of traffic, always stuck with messages to mail anyway.

Another problem arises from "ARL" numbered texts. Imagine the confusion when an addressee is called and given the message, "ARL 58," and no more. Most people have no idea in the world of the meaning of an ARL text unless it is broken down for them--and this applies to mailed messages, too. The ARL text is for the convenience of the operator; the message to the recipient is, in this case, "Wishing you a very merry Christmas and a happy new year."

Message Servicing

Occasionally there is a message an operator is for some reason unable to deliver. When this is the case, the originating station indi-

cated in the message preamble should be advised. A common--and major--phone net error is made by stations reporting inability to deliver a message not to the originating station but to the liaison station that passed it on. The liaison station knows nothing about the message--he sent it exactly as he received it.

It is the originating station that should be advised by message that the addressee has moved or that his name was garbled, with a request the name be sent again by return message. Remember, only the originating station can QTA or cancel a message. It is his message, and everyone else is only relaying it for him. If it is undeliverable, he should be told and perhaps asked if the message can be QTAed if delivery is not possible.

Remember that service messages take time. If possible, there should be a "best shot" at trying to figure it out before servicing. As Bill Skarstadt (VE2DR) says in an article entitled "Corrupt Traffic," "We amateurs look pretty stupid if a message takes, say, two weeks to get delivered when the original message stated that a 'letter will follow'."

QSL

The following information was received this month.

(Remember, if any readers have any net information to be disseminated, or comments on one of these traffic articles, address the letters to:

WA6DEI
1791 Hedon Circle
Camarillo, CA 93010

Bill Smith (W7GHT) sent along a copy of his Idaho-Montana Net (IMN) bulletin. In October, IMN had 23 sessions with 99 checkins and a QTC of 31. The net meets at 0230Z on 3582. You fellows in Idaho and Montana check in and support this fine CW net. For full information, contact Bill at 212 Prairie Ave., Craigmont, Idaho 83523.

One of the oldest and best nets in the west is the Mission Trail Net. This SSB net meets each day at 1900 PST on 3928 kHz. They have checkins from most areas of California and as far north as Alaska. Its monthly paper, the "Blazer," has a roll call listing of more than 100, so they have pretty good coverage. They also have regular liaison with the Southern California CW Net and the Daytime National Traffic System, so they can quickly clear all the traffic they get. For information on membership in the Mission Trail Net, drop a line to the secretary, Bill Long (K6EVQ), P.O. Box 151, Buellton, California.

Ham Radio Attorneys

Leonard Mandel, W2OVC, who is retired, is the defendant in a one million dollar lawsuit brought by his neighbors. The suit is over his operation of an amateur station and alleged TVI. Lennie is fighting the suit and would like to hear from any amateur radio lawyers who have had experience in such matters or possibly who have been involved in lawsuits of this nature. He would also like information on cases involving towers, zoning or TVI litigation. Any information will be appreciated. Please send it to: Leonard Mandel, W2OVC, 185 Ramona Ct. Yorktown Heights, NY 10598

Nine years old

ARMA, Kan. (AP)-- This small former coal mining community believes it has one of the youngest Amateur Radio license holders in the country in Tamra Williams, who at the age of nine is communicating by means of dots and dashes with other amateurs around the country.

The girl passed her written examination and code test when she was eight, but it took some time for the license to arrive. Her father, Marvin Williams, a telephone company employee, is also a radio license holder.

write to Wr

Write to "Worldradio". Tell us your opinions, experiences and observations. Share information

Ham's wife (continued from page 3)

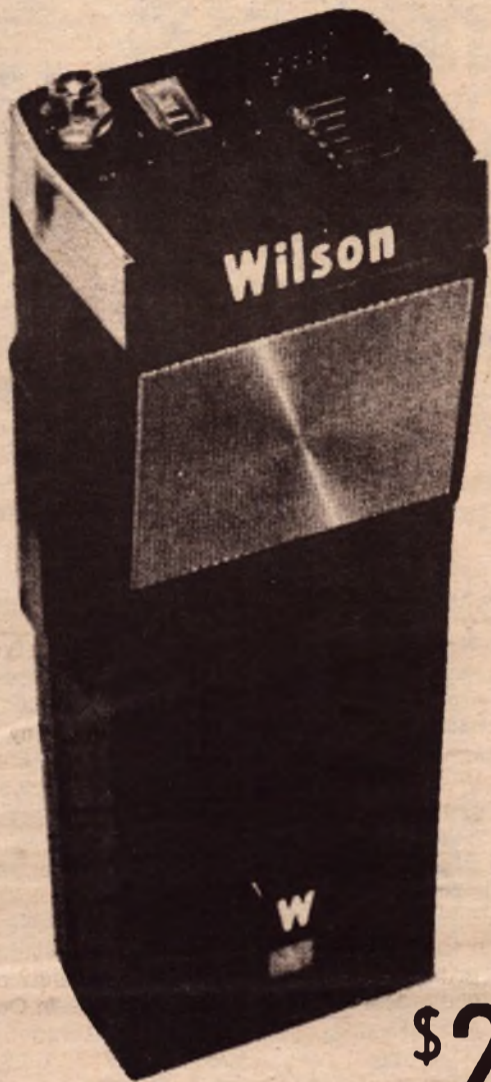
range of 10 to 20 miles; the repeater can reach a radius of about 60 miles and can relay messages in any direction.

McClaran says there are about 50 operators in Indian River Co., about 20 of whom are active. He has been an operator himself for over 15 years and enthusiastically recommends his hobby, which he says can be an expensive one but need not be. Although in this recent incident he was the recipient of service, he has also rendered service on occasion. During a tornado a few years ago in Okeechobee he was able to relay messages to Ft. Pierce. He says he and others are often of help in directing visitors to Florida who become lost on the strange roads.

(From the "Florida Skip.")

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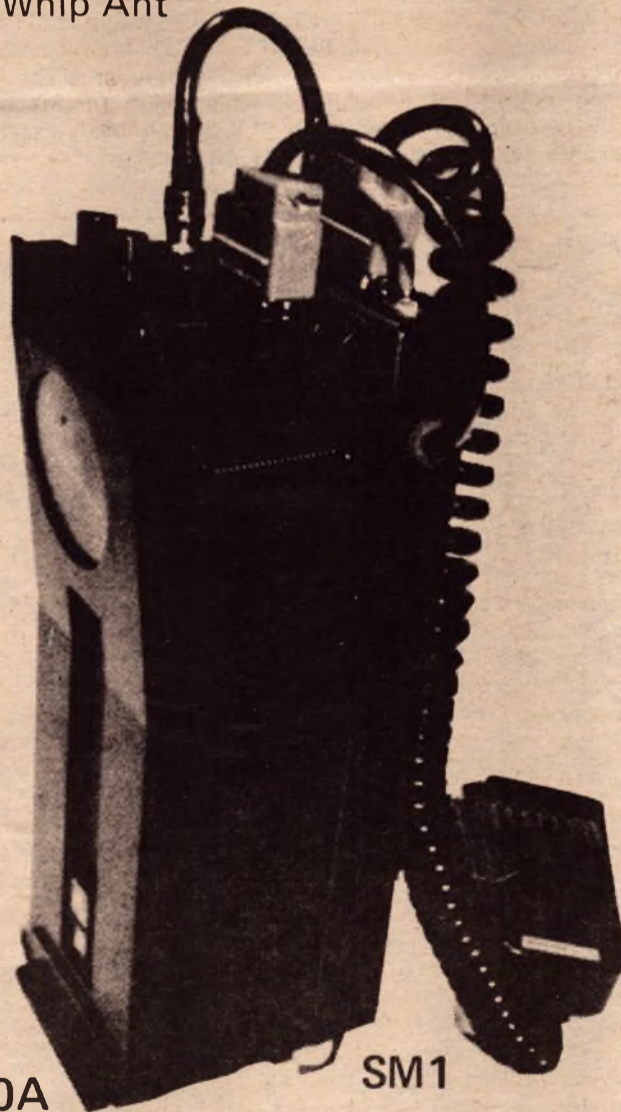
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CP8AB to the rescue

by Morgan J. Vittengl, M.M.

It is a typical steamy night in the Bolivian jungle town of Riberalta. Several Maryknollers occupy their time with reading, writing or talking in the recreation room of the Center House. Off in one corner of the room Brother Casimir Brezinski sits huddled over a microphone in front of a large radio transmitter.

He fiddles with the dials and listens intently, earphones clamped to his head. Suddenly through the static a voice crackles, "CP8AB, CP8AB, CP8AB, this is Santa Maria calling CP8AB...do you read me, Cas...? Over."

Flicking a switch on the transmitter, Brother Casimir quickly replies, "This is CP8AB...hi Pete...I'm reading you clearly...no trouble...go ahead...over."

"Hi Cas...", replies the voice from the jungle darkness, "I'm two days up from San Lorenzo and have an emergency here...there's a family very sick with malaria and I was wondering if you could get a plane up for them...they need attention badly...what do you think...? How soon can you get back to me with an answer...? Over."

"I'm reading you, Pete...I'm reading you well...how about an hour from now on this same frequency...? Over."

"Okay, Cas...one hour from now I'll be on..."

Within 48 hours, the plane brings the family out of the jungle and lodges them in the hospital at Riberalta. Brother Casimir and Father Peter Chabot record still another successful mission of mercy among the people inhabiting the almost impenetrable Bolivian jungle alongside the Beni River. It was made possible, however, like all the others, only through the radio help of CP8AB.

The network of radios linking various Maryknollers traveling along the Beni and other rivers in Bolivia's "Green Hell" is a project begun and developed by Maryknoll Brother Casimir Brezinski. Until that time, Maryknollers would travel for days and weeks at a time with absolutely no contact with the outside world.

"The first task given me by the late Bishop Thomas Danehy when I arrived in Bolivia in 1956," Brother explains, "was to set up radio communications among our men in the jungle. Before I joined Maryknoll, I was a radio operator in the Merchant Marine for four years during World War II. So I set up a system of low-cost 50-watt transmitters in various parts of the jungle. They proved invaluable in bringing aid swiftly to those who needed it and in keeping up the morale of Maryknollers working in the jungle."



Every night Maryknoll Brother Casimir Brezinski transmits and receives messages from missionaries in the jungle.

The project received a tremendous boost about five years ago when Ernie Berlucchi of Bethpage, L. I., formed the Maryknoll Communications Club whose members have financed the installation of large transmitters on the mission boats, as well as in jungle settlements within the 200 square miles which the network now covers. In addition, Mr. Berlucchi constantly arranges radio telephone patches between Maryknollers and their relatives in the states. In one instance, a Maryknoller deep in the jungle was notified by radio of his father's death in the states and as a consequence was able to be pre-

sent at the funeral.

Although Brother Casimir's main job is to oversee the Center House in Riberalta and serve as the chief accountant for the region, he says that he finds a great deal of satisfaction in radio work.

"I think Ernie and the members of the Maryknoll Communications Club do too," he says. "I wish I could tell you how appreciative are the many Bolivian people we've managed to rescue or help!"

(From "Maryknoll.")

Walker (from page 18)

do about it would remain to be seen. What about the amateur club that charges each person an exorbitant fee for the privilege of using the repeater. A membership fee in the club of up to \$1000 a year - oh yes, don't say no, oh yes - I think there's a very delicate balance between the use of amateur facilities interconnected to the telephone company, the telecommunications system and the common carrier facilities themselves, both being used in the interest of the general public. Especially in our use of the UHF and the VHF which are such valuable areas of the spectrum today, much

more so than they were 25 or 30 years ago, we the amateurs, must establish the reputation of efficient, reliable and useful occupancy of these bands in which we're permitted to operate. You all know there are pressures on these bands. The EIA petition, the emergency medical, and numerous and constant requests for operating and testing in these bands by research and industrial organizations throughout the country working on Government contracts, most of which you never hear about, simply because the great percentage of them are classified, but I see them all. And when I tell you that the pressures on these bands are serious, please believe me. I believe that the correct philo-

sophy in the area of repeater rules is to help bring about a reasonable know-how and enthusiasm for thoughtful and consistent experimentation and including efficient, constructive and useful repeater operation. So that if the pressures get greater to take away these amateur bands, we will then have a firm basis with which to defend our utilization of the spectrum. Make no mistake about, additional attacks on these bands are going to come. And I think without the kind of reputation that I am talking about for the amateur service that we will have a great deal more difficulty defending ourselves than we would without it. A realistic view of amateur occupancy of these coveted areas of the spectrum includes a

recognition of how they are utilized. That includes not only the purpose of the transmission but the technical principles used by the amateur radio service in their occupancy. We hear voices raised throughout the country to repeal practically every operational rule that relates to repeaters, and open these bands to just about any kind of utilization that any individual desires. If public service is the yardstick of judgment of amateur repeaters, then such conglomerate circumstances would not seem to produce the desired end. The goal of everyone here, I think, should be to secure a measure of discipline in these bands, not abolish those things which would promote discipline.

Shaping Future

(Continued from page 19)

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Huntington Beach, CA 92647

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West Seneca, NY 14224

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The Ham Club



CARE AND FEEDING OF A HAM CLUB

by Manny Diaz, WB2LTS

Unlike basket weaving and chess, Amateur Radio is a hobby that not only entertains and educates, but also comes through during disasters to provide emergency communications. When ice storms, fires, floods, tornadoes and hurricanes strike, radio clubs are called on to go to bat and members should know how to use their stations at such times.

There is a definite "know how" involved.

I wonder if our club members know how or what to do in such a case. I, for one, don't know.

It's okay to give handle and QTH and drag out a signal report during a leisurely rag chew, but when power lines are down and messages pile up, snappy, down-to-business procedures should be used to get the most said in the shortest time.

You and your club should make it a point to be ready, too.

We should have a club station ready and available at all times, and it should be a place that any member can visit at any time. A rag chew now and then can provide a welcome change of pace for the busiest YL or OM.

If the club station is ready to go at all times, instead of being dismantled and strewn around the shack, all kinds of fun can be stirred up.

A fixed club station can also spark a net or ragchewers club creating between-meeting interest. Presently, just a few members do meet on 15 meters almost every night, but most members don't seem to be interested. This can also be done on higher and lower bands, for those who have different licenses--Technicians, Novices, etc.

Most hams lose their enthusiasm for ham radio because they're completely off the air, so turn those rigs on once in a while; and the club should see to it that members operate at least once a week on a club net. Officers mustn't be afraid to try something new and on the spur of the moment.

A weekend field trip with portable gear should be tried once in a while. . . impromptu parties and a little booze at club meetings will strengthen the club; I'm tired of coffee and doughnuts all the time. See how it works--and there will probably be a repeat call later on. How about a beach party during the summer, and a spring picnic--anything to get out of the house? How about contacting and recruiting hams in the area, also the surrounding area; a ham is a ham no matter where he or she lives.

Feedback can be either negative or positive, and so can your club. So far, I have concentrated on ideas and plans that the club should try. But, needless to say, there are tabus to avoid, too. Officers and members alike should work against cliques forming within the club, that is, the old-timers sticking together, the Novices forming another group, and the Techs staying to themselves. Before long, the groups will start picking at one another, and a first-class feud will break out and ruin the club spirit.

We can all learn from each other, whether we are Extra, Advanced, Tech or Novice, or just a plain visitor. Trying to force on the members an idea they don't want is asking for trouble--all activities must be something members are interested in. A club should be organized around the members' abilities, and all officers might make a mental note of a member's opinions. A club can only be successful if the officers find out what the members want to do, and follow it through regardless of how off-beat it may seem at first.

The club which stands still soon disintegrates. Let's stamp out boredom before it starts.

(From "QTC," Suffolk Co. R. C.)

(Clubs--Please add to your club bulletin mailing list: "Worldradio", 2509 Donner Way, Sacramento, CA 95818. TNX.)

ARE YOU AN ACTIVE MEMBER?

Are you an active member, the kind that would be missed--
Or are you just contented that your name is on the list?
Do you attend the meetings and mingle with the flock--
Or do you stay at home and criticize and knock?
Do you take an active part to help the work along--
Or are you satisfied to be the kind that "Just Belongs"?
Do you ever go to visit a member who is sick--
Or leave the work to just a few and talk about the clique?
We have some serious problems that I'm sure you've heard about--
And we'll appreciate it if you, too, will come and help us out.
So come to the meetings often and help with hand and heart,
Don't be just a member, but take an active part.
Think this over, remember you know right from wrong.
Are you an active member or do you "Just Belong"?

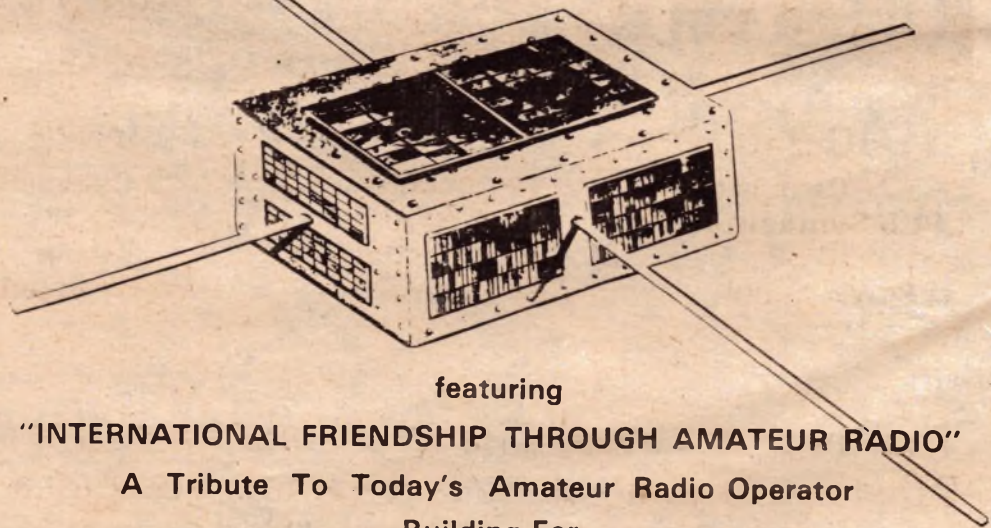
(From "MARAC.")

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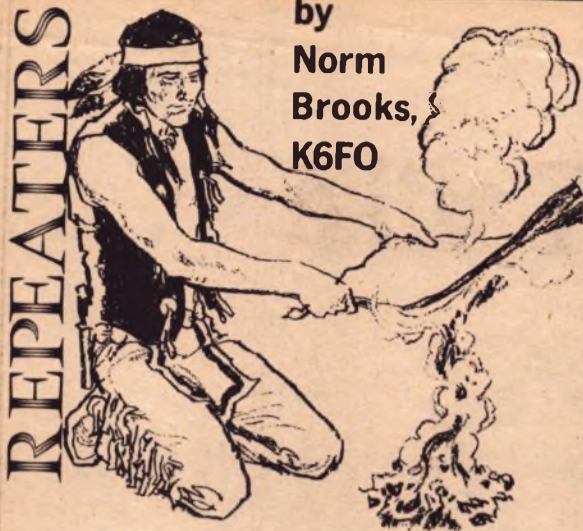
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by
Norm
Brooks,
K6FO



When the FCC released its famous "Repeater Docket 18803", we found it didn't apply entirely to repeaters - that there were some other things in it that apply to all radio amateurs.

One such item is logging. Actually, many of our ham radio brethren said "hooray" when they read the new logging requirements, especially as applied to mobile operation.

Here's a rundown on log keeping under the new rules adopted October 17, 1972:

WRITTEN ENTRIES REQUIRED (Sec. 97.103)

1. Signature of control operator on duty and the call sign of his primary station, if he is other than the station licensee.
2. Location of the station; mobiles enter "local" if within 100 miles of their licensed location; if outside 100 miles, the location of the first and last transmission of the day; portables enter data showing compliance with 97.97 if necessary (15 day rule and 1 year rule).
3. Final amplifier power.
4. Type of emission.
5. Frequency or subband used for transmitting.

ENTRIES THAT NEED NOT BE WRITTEN (Tape OK)

1. Dates of operation.
2. Names of other persons using the transmitter (not required for repeaters).
3. Notation of third party messages sent or received, including names of participants and a brief description of the message content.
4. Stations contacted (not required for mobiles or repeaters). Control stations and auxiliary link station enter associated stations.
5. Times the station is put into and taken out of service (all types of stations). Stations not mobile, control, auxiliary link or repeaters must also enter times of each contact.

EXAMPLE OF A MOBILE LOG

Log of WA6ZZ mobile:
John Q. Operator
Local 100 watts or less FM
52.5-54 MHz, 146-148 MHz, 222-225 MHz
October 17, 1972 through December 31, 1972
Into service 0001 local - Out of service 2359

This is an example of a complete FM mobile station log where the station was operated every day between October 17 and December 31, 1972. The station was not taken out of service between these dates, as the equipment in the mobile installations was operable at all times. No other persons used the transmitter under the WA6ZZ call sign, and no messages were handled. All operation was within 100 miles of the licensed location.

Anyone who has operated mobile can see the vast improvement. No longer need the mobileer detract his attention from his driving in order to make a log entry after each contact. Who knows, maybe a ham's life has been saved by making his driving safer as he communicates.

Back in 480 B.C., Confucius was credited with the maxim - "If you don't think you're going to like the answer, don't ask the question." However, everyone hasn't heard this philosophy, and during a question and answer period at SAROC the question was asked. Here's a transcription from our recording:

Moderator (Question):

There have been different interpretations, ... mobile or portable, with reference to hand held units. What, with reference to record keeping, is an HT (Handie-Talkie), mobile or portable?

A. Prose Walker (Answer):

Well, if you're walking down the highway, or down the sidewalk, I'd say you're mobile. If you're inside the confines of the Flamingo Hotel, I'd say you're portable - if you're in a particular location which may be identified - which has an address. But if you're out on the sidewalk, - there's no way that you can really pin yourself down, except you're in such and such a block or between such and such a street or something like that. Now, this had some discussion back in our shop and this is the way the boys feel about it. If you're within the confines of a building or something like that, then you're considered to be portable operation, you're not mobile.

Now, this all puts me in a quandary. Certainly, how far I can talk with my HT is not what makes the difference in logging. If I'm out on the sidewalk, my 2 watts will go a lot further than if I'm inside a building, on the same level, especially if the building has any steel in it. Outside, I might even be able to work the Satellite with a 5 watt HT, and talk to Hawaii. Or maybe I'll use one of those 40-meter walkie talkies which do very well for hundreds of miles.

So the variable which seems to make the difference is the fact that the location has an address. But how can stepping from the sidewalk into the lobby of the Flamingo Hotel make all that difference?

I think this is more of a "halt at an unspecified location", than operation from a "specific geographical location other than that shown on the station license".

If my transmissions were such that I was to get a citation, would the FCC send it in care of the Flamingo Hotel? If so, what would the management of the hotel do with the ticket if I weren't registered there?

The logic of classifying a hand held unit as mobile appeals to me, and it is my opinion that Prose Walker and the boys back in the shop lean much too far on the conservative side.

What do you think?



QRP



by Art Child, W6TYP

It all started in the wilds of southeastern Oregon, in a logging camp. For a bright-eyed, bushy-tailed youngster there were just two things to do on a weekend--thus and so it came to pass as winter approached, I found myself probing the midnight skies in search of far-away signals with strange sounding calls. This was my first love, DXing on the broadcast band.

Specifically, there were about 750 stations on the air. Each noonhour for a month I was able to steal away to my trusty four-tube portable (then, as now, battery power was used) and compile a rather formidable log of 215 stations identified in every state west of the Mississippi, plus Illinois, Alaska, Canada, Mexico and Cuba.

A dog-eared copy of the ARRL Handbook inspired me to greater endeavor, so upon returning to San Francisco I soon had the coveted ham ticket--and gave birth to the designator "Portable Pedestrian" on the two-and-a-half-meter band with one-quarter watt. Imagine the pleasures of a wooded glen in a hidden meadow--the invigorating ascent up a steep mountain peak--and the rewarding achievement of the summit, where in a long day it was possible to see a snow-capped mountain 200 miles away.

Now to communicate--the first CQ goes out--mellow pear-shaped tones go crashing through space with the speed of light, inundating vast areas under a beguiling blanket of meaningful microvolts. ... replies come thundering in and the hours pass while time stands still.

Truly high power (dangerously close to 22 watts) was confined to the home station on 160 meters. In the following decades, this power level has never been exceeded.

Tin can duty in the navy, then a potpourri of usual jobs and unusual vacations, and later communications field engineering quite satisfactorily filled the span of a quarter-century. I was no longer a stranger in some 73 countries, and throughout the seven seas.

Future extra-terrestrial interest is fact accumulating from the natural frequency of the hydrogen atom to semi-identifiable ciphers emanating from quasars and other sources in the deep range and limitless void of space.

Present sojourns on the D. C. bands (160 to 10 meters) continue to provide comfortable rag-chewing on A. M. phone and adequate DX on chopped wireless--indulged, mayhap pursued, simultaneously with multi-faceted feats of derring-do on the ultra-highs.

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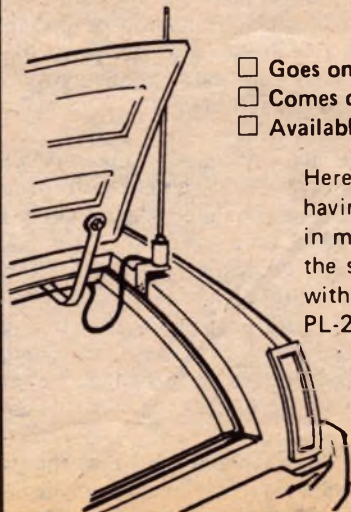
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services. It is a non-denominational, non-profit organization with a rapidly expanding membership of men and women from all walks of life throughout the world.

People Helping People - By Sister Mary, WA5VBM



Tom Barbour. W9LII

This month's "Voice of IMRA" is Tom Barbour (W9LII). Tom was born in 1910 in Glasgow, KY near Mammoth Cave National Park. He moved to Pekin, Ill., in 1916 and has lived there ever since, except for time spent in the service.

Tom has worked as a building contractor and has superintended the building of oil refineries in the east. While he was in the navy, he was a radar operator and technician.

Tom and his XYL, Joyce, have been married since 1932. They have two daughters and seven grandchildren (one grandson, Timmy, has taken the Novice amateur exam). Tom is Scotch-Irish-American, six feet tall, has blue eyes and gray hair (it was brown).

In 1950, Tom completed a four-year course with the American Gem Society of Los Angeles and graduated as a Certified Gemologist, qualified to cut precious gems and stones. Known as "Diamond Tom," he ran a series of articles in a lapidary magazine that extended over a period of four or five years. He traveled extensively while gathering material and photographs for several "rock" magazines, and receives mail from all over the world in response to these articles. Tom is an internationally-known diamond expert, and some of his work can be seen in the Smithsonian Museum in Washington, D. C.

Tom and Joyce Barbour now work together in their own business, the Pekin Ceramic Supply Co., a wholesale house. Joyce is a graduate of the Drake University School of Pharmacy and was at one time head pharma-

cist in a Peoria, Ill., hospital. Then she became interested in ceramics and felt she could help people more by giving them something to do than by dispensing medicines. She says, "As the modern saying goes, I wanted to do my thing."

Tom Barbour has many hobbies, with photography and astronomy high on the list. Tom built his own 12.5-inch reflector telescope and has spent more than 300 hours polishing the mirror.

In 1969, Tom became interested in IMRA. He was planning a trip to Honduras and wanted to take his radio along. He met Alex Talbott (HRLALT) on the IMRA net, and Alex helped him with the formalities of obtaining a Honduran operator's permit. Tom said he really liked the way IMRA people "so obviously tried to help everyone," and he decided the IMRA was the place for him. He soon found a niche for himself as a Net Control Station, and in 1972 was appointed IMRA Net Chairman. He has a demanding job overseeing the whole net operation and insuring that each session has a control station. He must see that all vacancies are filled and keep track of the net reports for filing with ARRL.

Tom has always been interested in radio. His dad had the first receiving set in Pekin, back in the 1920s, and while Tom was always into radio from 1927 on, he never tried for a ticket of his own until 1934. His first call was W9ROR, but he let his license lapse while he was in the navy. He took his exam again in the late '60s and received the W9LII callsign. He is a two-meter buff, too, but most of his operating is done on 20 meters. He runs a Drake TR-4 exciter and the LB-4 Linear with a TA-33 up 45 feet.

Brother Joe Tortorici had the pleasure of a visit from the Father General of the Society of Don Bosco on the occasion of the 75th anniversary of the Salesian Order's work in the eastern United States.

Ruth Paz (HR2RP), San Pedro Sula, Honduras, was in the U. S. for a medical check-up. She was in Detroit for three weeks and all's well.

Bill Barry (WB4ELX) is back home in

Plantation, Fla., after three weeks mobiling around the northeastern part of the United States.

Fr. Paul Hart (WAØRIE), Ottumwa, Iowa, had an automobile accident in October. No personal injury, but the car was a wreck.

Fr. Barnabas Eib (WN2MJE) returned home Nov. 16 after visiting his sister in Hawaii. She is a Catholic sister and has been very ill.

Fr. Paul Allen, formerly at a mission in Arequipa, Peru, where he was OA6CF, has been assigned to Brebeuf Prep School, Indianapolis, Ind. His stateside call is WA9YCE.

Stu Bowdon (WA4BOQ) has a new call and a new QTH: WA2SYR and Batavia, N. Y.

Sympathy and prayers are extended to Walt Huelsebusch on the loss of his 96-year-old mother.

Also to the family of Chuck Leyen (WØMDY). Chuck passed away Nov. 3 at Iowa Falls, Iowa, where he had lived for many years. Chuck was born in 1923 in Allison, Iowa, and his final resting place is Union Cemetery in Iowa Falls. Chuck was an IMRA assistant net control for several years and faithfully filled his daily monitoring assignments. He was also outstanding for his service on the International Handicappers Network and the Hurricane Watches.

Fr. Ed Schmidt (OA4SS), Lima, Peru, tells us about the network which was born after the 1970 earthquake in that nation. After the emergency, a review disclosed more than 100 licenses had been issued for fixed frequency private radio stations--and that most of these were in the hands of missionaries in Peru. By coordinating the activities of these stations, the Rainbow Network (La Cadena Arco Iris) was born, and has now grown to more than 140 affiliated stations. The Peruvian Government, seeing the kind of service such a net can give, favors its expansion and has granted six commercial band channels for limited use: 3610, 3650, 7345, 7380, 7425 and 7465 kHz. Funds for rigs are badly needed to bring equipment up to standards.

John Stankus (WB2LPQ), Wappinger Falls, N. Y., attended UNDA-USA Convention (National Gathering of Catholic Broadcasters and Allied Communicators) in Fort Lauderdale, Fla., last November. He took a letter from the IMRA Equipment Committee to bring to the UNDA's attention the IMRA's needs for old broadcast equipment for the missions. Another request was to support missionaries by either paying for their home study courses in the technical aspects of radio or by direct tutoring over the air. The word "UNDA," by the way, is not an acronym but the Latin word for "WAVE," a symbol of the "airwaves" of communication.

FCC

(Continued from page 2)

the existing rules to operate in the high frequency region of the spectrum with single sideband equipment because stations in other services (Parts 93 and 95) would have to purchase additional equipment to operate on the proposed common frequency. The Commission also noted that because of past history of operating rule violations in the Citizens Radio Service their inclusion could jeopardize the success of the emergency network.

The commission included the Amateur radio service in the proposed plan because of its proficiency in effectively using its high frequency equipment to provide valuable emergency communications. Comments are specifically invited on the extent and nature of the

modifications required by Amateurs for compatible service in the emergency network, and on the question of whether higher powered Amateur stations should be required to reduce power to 150 watts when operating on the frequency during test transmission or actual emergency conditions.

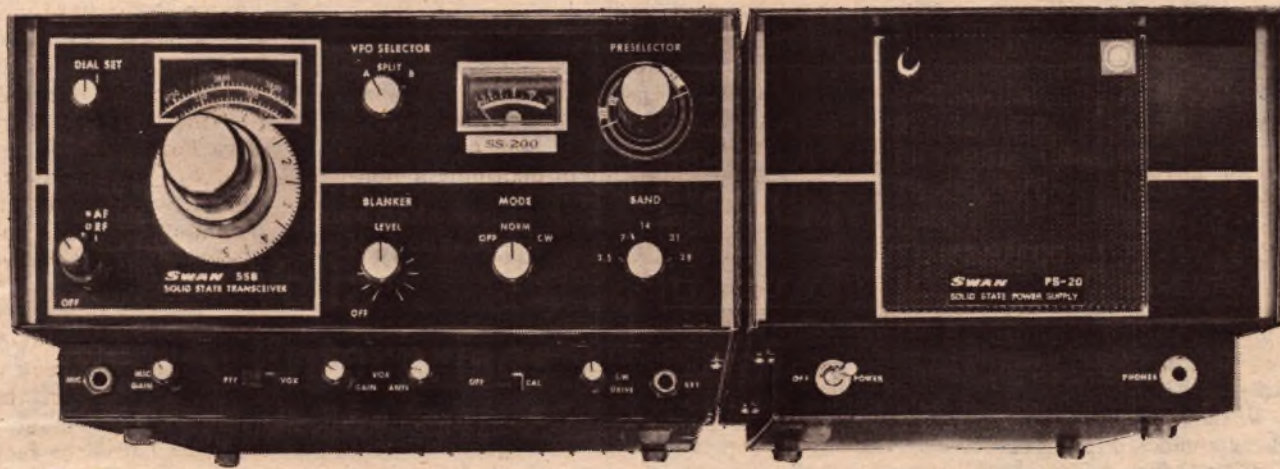
Comments are also requested on whether normal non-Government public coast station use of the frequency should be limited or precluded; on a more specific definition of emergency communication; on the problems of control and further relaying of such emergency traffic to its proper destination, and on the effect of high frequency radio propagation characteristics in the Alaska region on the proposed emergency use of the frequency.

The Commission said that making the requested frequency available immediately for

operational use, subject to the outcome of the proceeding would be inappropriate. It said that there was no current major emergency situation in Alaska, and cited the need to determine the types of emergency traffic which would be permitted on the frequency, and the potential impact on existing public coast station use of the frequency. It added that no procedure for providing effective control over the use of the frequency had been proposed, and noted the lack of similar precedent for an emergency network of this type involving a wide variety of radio services.

The Commission said that it would accept applications for operations on 4383.8 kHz in the Experimental Radio Services (Other than Broadcast), under Part 5 of the rules to conduct operational tests and obtain additional technical data relevant to the type of emergency operations proposed.

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Two Hundred Meters and Down

(First published in 1936, "Two Hundred Meters and Down" is reprinted here, in serial form, so we may have a better knowledge of the vast and great history of Amateur Radio. This presentation is in honor of those who went before us and through determination and hard work, gave us what we have today.)

(Continued from last month's "Worldradio/NEWS")

Part I - Pioneers Chapter Six... The American Radio Relay League

Local trouble was in the offing, however. Here again one sees the working out of the destiny that was the League's, courage that was to preserve the working out of an idea of untold eventual national and international importance from the short-sighted nobble of local control.

At the January 11, 1915, meeting of the Radio Club of Hartford, friction between some of its members and those of the League began to appear, the source being a disagreement as to whether the League was to be an unfettered and unhampered national organization, or subject to the control of the club. In H. P. Maxim's absence, discussion was postponed until a later meeting. In view of these difficulties, as a result of mutual agreement, Maxim divorced the activities of the League and the club, reimbursing the club from his own pocket for expenditures beyond the original appropriation, the appropriation itself being repaid later.

At the February 15th meeting, Maxim and Tuska resigned as members of the club, and David L. Moore resigned as president. From that time on, the two organizations went their respective ways and each fulfilled the purposes for which it was intended. The League was incorporated under the laws of the State of Connecticut, to give it legal status.

Now entirely on its own, the League had to give careful consideration to the question of finances. Selling a 40-page booklet, 8 maps and 50 message blanks for 50 cents left little margin of profit. It was decided to assess each member 50 cents a year for "station dues". This was not a compulsory charge; members could contribute or not, as they wished. There was, however, a gentle hint that non-paid-up members would be so listed in succeeding issues of the call-book.

The membership grew steadily. A few stations were deleted from the relay station list for inactivity, for operating standards were kept very high, but the increase more than offset the deletions. In March, the second edition of the "List of Stations" was issued. Six hundred members were listed, an increase of 50 percent, in less than six months. Equally significant was the changing character of the listings. Several one-kilowatt stations showed ranges approaching one thousand miles. Operating speeds were increasing. The increased proficiency developed by the additional operating practice and the advantages of organization were manifest.

Indeed, by the end of 1915 amateur stations were accomplishing what were in those days unbelievable feats in transmission and reception. With home-made equipment, often not exceeding a hundred dollars in total cost, and in the despised 200-meter region, they were frequently out-performing government and commercial

by Clinton B. DeSoto

plants representing investments of thousands of dollars.

True, amateurs had similarly outperformed these stations prior to 1912 - but then they had not been handicapped by power and wavelength limitations. Even if those limitations were not too strictly observed, they still served as a hampering factor, and it was not until three years after the passage of the Radio Act of 1912 that amateurs again achieved superiority in performance. The reason for this regained superiority obviously lay in the improved internal organization, which lent added facilities for increasing both technical and operating ability.

Meanwhile, through radio contacts and correspondence, the building up of the relay routes for which the League had been formed as going on. Considerable success was had, but the difficulty of adequate organization contact, especially with distant states, seemed insurmountable. It was proving a real task to acquaint the growing membership with new plans and schedules by means of correspondence alone.

It became increasingly apparent that some kind of general circular or bulletin was necessary. The League, however, had no funds; the nominal optional membership assessment was not remunerative; there was no profit in publications which were sold at cost.

The answer, seemingly obvious but surveyed with some reluctance by Maxim and Tulsa, was a self-supporting magazine. In December, 1915, each member of the League received in his mail a sixteen-page magazine called "QST" - the "December Radio Relay Bulletin". This, it was announced, was being published privately at the expense of Maxim and Tuska. It was to be sold independently of the League, on a subscription basis. The subscription fee was to be \$1.00 per year. The stated objective of the magazine was "to maintain the organization of the American Radio Relay League and to keep the amateur wireless operators of the country in constant touch with each other".

Having now for the first time a journal devoted solely to the chronicling of its activities, amateur radio rolled up its sleeves girded for accomplishment. The accomplishment was to come, and other things as well.

Chapter Seven... Growth and Expansion

In August, 1914, the European war began. For a time its effect upon the United States was largely social, but in 1915 the government began to take notice of violations of our neutrality. One of these reported violations concerned the operations of the Telefunken radio station WSL, at Sayville, Long Island, New York. Unfortunately, the government secret service was unable to confirm this fact definitely through their usual channels, despite the fact that they had three censors watching the Sayville station to make sure there were no violations of the law.

Finally on June 4, 1915, Chief W. J. Flynn of the U. S. Secret Service Bureau received instructions from Washington to make a full investigation to determine to just what extent the Telefunken station was non-neutral in its operations. With no knowledge of radio and in doubt about the proper procedure, he appealed to Radio Inspector L. R. Krumm (successor to W. D. Terrell, who had then gone to Washington as Chief Radio Inspector) at the Customhouse in New York.

Then occurred one of those curious coincidences that make history so fascinating. The previous night Krumm had visited the home of Charles E. Apgar, 2MN, an amateur of Westfield, NJ. Apgar had started in amateur radio in 1910 and, quickly tiring of the orthodox forms of communication had started experimenting with advanced receiving equipment. In August,

courtesy of ARRL

1913, using an audion in the field of a powerful horseshoe magnet, he had achieved a remarkably sensitive receiving circuit. Later he had become interested in making phonograph records of wireless signals. He worked out an elaborate mechanical junction between the diaphragm of a telephone receiver and that of a Dictograph, achieving a practically perfect transfer of energy. Krumm had seen this device in operation, listened to records made with it, and had tuned the hyper-sensitive receiver in Apgar's home.

When Chief Flynn made his request, therefore, Krumm's mind automatically leaped back to Apgar's work, and he telephoned Apgar to come to his office as soon as possible. The investigation was begun immediately. Sayville's transmitting period to POZ (Nauen, Germany) began at 11:00 p. m. and usually lasted until 1:30 a. m. or later. Apgar would record each night's transmissions and rush them down to the Secret Service office for checking. It soon became apparent that the station was sending information concerning Allied and neutral shipping to submarines at sea. After three days work, Chief Flynn confided to Apgar that the station was to be taken over by the government.

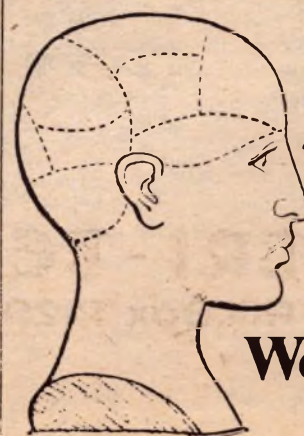
This was done; the equipment was confiscated; and, eventually, Dr. Karl George Frank, general manager, and Dr. J. Zennick, one of radio's most famous engineers, who was in charge of operation, were interned at Atlanta, Georgia.

On July 3, 1915, the tale of Apgar's assistance to the government was released to the press. It was described as "the most valuable service ever rendered by a radio operator in this country".

The threat of impending war was taking definite form at this time, and the Army and Navy embarked upon planned programs of preparation. Recognizing this, in the autumn of 1915 Hiram Percy Maxim addressed letters to the Secretary of War and the Secretary of the Navy offering the services of the A. R. R. L. and its members in the event of emergency. It was a gesture of some weight. The League had added two hundred additional crack stations to its rolls since publication of the March list. Relay routes to every section of the country were in the process of organization; the granting of special licenses for operation on 475 meters by the Bureau of Navigation was facilitating further development. It was possible to point to significant amateur service already performed in time of emergency when flood and wind-storm prostrated wire communication.

These offers were cordially acknowledged by the Secretary of the Navy and the Chief Signal Officer. The Superintendent of the Naval Radio Service was found to be working out a plan for the utilization of amateur stations in the event of war, and the League collaborated with him.

(Continued in next issue of "Worldradio/NEWS")

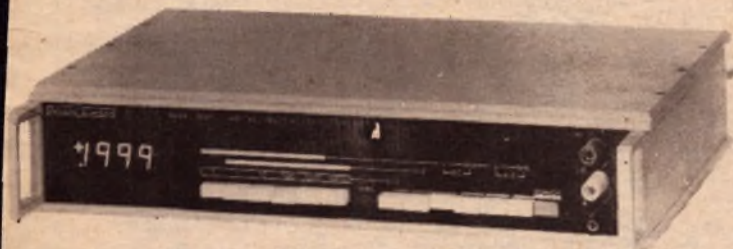


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Range:	.1, 1, 10, 100, 1000 volts
Accuracy:	$\pm 0.1\%$ of reading ± 1 digit
Input Impedance:	10 Megohms
Overrange:	100% of full scale or 1000 V max.
Overload Limit:	10,000% of range, not to exceed 1000V
NMR:	40dB @ 60 Hz
CMR:	80dB @ 60 Hz

DC CURRENT MEASUREMENTS

Range:	.1, 1, 10, 100, 1000 ma
Accuracy:	$\pm 0.2\%$ of reading ± 1 digit
Voltage Drop:	.1 volt at full scale
Overrange:	100% of range
Overload Limit:	500% of range
NMR:	40dB @ 60 Hz
CMR:	80dB @ 60 Hz

AC VOLTAGE MEASUREMENTS

Range:	.1, 1, 10, 100, 500 volts rms
Accuracy:	$\pm 3\%$ of reading ± 1 digit (50 Hz to 10 kHz)
	$\pm 2\%$ of reading ± 5 digits (10 kHz to 100 kHz)
Input Impedance:	1 Megohm
Overrange:	100% of range
Overload Limit:	10,000% of range (500V rms max.)
CMR:	60dB @ 60 Hz

AC CURRENT MEASUREMENTS

Range:	.1, 1, 10, 100, 1000 ma
Accuracy:	$\pm .5\%$ of reading ± 1 digit (50 Hz to 10 kHz)
Voltage Drop:	.1 volt rms @ full scale
Overrange:	100% of range
Overload Limit:	500% of range
CMR:	60dB @ 60 Hz

RESISTANCE MEASUREMENTS

Range:	.1, 1, 10, 100, 1000, 10000 k Ω
Accuracy:	$\pm .25\%$ of reading ± 1 digit
	$\pm .5\%$ of reading ± 1 digit (10 M Ω Range)
Overrange:	100% of range
Overload Limit:	200 VDC or Peak AC (no damage automatic recovery)
Voltage Across Resistor:	.1 volt at full scale

FREQUENCY MEASUREMENTS

Range:	1, 10, 100, 1000, 10000 kHz
Accuracy:	$\pm 0.25\%$ of reading ± 1 digit
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Overrange:	100% of range (10 MHz max.)
Overload Limit:	250V rms max.
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Letters

My subscription to WrN has awakened me to the world of radio outside of the cocoon woven by others and now hamming consequently is more enjoyable and meaningful... Ed Gallagher, WIDD

My wife believes that every ham should subscribe to WORLD RADIO and thus win over his wife and family to full approval and enthusiasm for the ham-in-the-family. It certainly fills a long-standing need for a paper that is not merely technical but that shows the very human side of our hobby... Elliot Jackson, K6QI

Your approach and outlook concerning ham radio and international friendship, public service, etc., is really fantastic and a long time overdue. Keep the fire burning... John Krider, WN2MRR

I especially liked the biography articles such as the one on astronaut Dr. Owen Garriot (W5LFL), and also the series on the man who founded Handi-Hams. I would like to thank you very much for the chance to become better acquainted with an important facet of Amateur Radio,

public service. WORLD RADIO may be one of the few things standing between Amateur Radio and oblivion... Dale Moony, WA6DLA

I do hope that WORLD RADIO will grow from strength to strength during the coming year, and become a major force in amateur publications... Ken Millar, ZE7JV

When I read one of your early issues of WORLD RADIO, I was instantly aware that here was a publication that would grow better with the passing of time, although the first issue pleased me completely. My faith in you has been justified. I wish to offer you my sincere congratulations... Charles Zelikovitz, W3FQT

I think it is the best publication for the amateur now in circulation... Pete Langlo, WA6PFF

I enjoy this magazine as it contains news... Donald McKenzie, WA4ZRX

It seems Worldradio's mission is to link ham radio to man's other disciplines and needs. You are filling a void... Lester Callan, W2UUF

This newspaper is very interesting and informative... Herman Ada, KG6AJI

We'd like to hear from you. Please write us a letter--a letter of intelligence, sobriety, wisdom, humor, or anger, as you'd like. While we do enjoy the "great paper" letters (we're only human), we do want letters that speak specifically about what the paper is good for, and suggestions on how it could be better, or, for that matter, if you think it is lousy. Debate our writers. Tell us what we should have covered... but didn't.

We depend on the feedback from you. Tell us what you are thinking--about opinions expressed in the articles, your experiences, observations, or anything you feel like soap-boxing about. Through the pages of Worldradio, you can carry on a conversation with other concerned and involved amateurs.

It is our goal to be a clearing house for that precious commodity--information. With your participation, we can produce meaningful content.

We believe your article will inspire others into a greater utilization of the great potential of Amateur Radio. We hope to hear from you.

Armond, WB6AUH, Editor, Worldradio

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(Continued from last month's issue.)

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Honeywell Radio Club, WA0IHL, Denver, CO
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(Continued in next month's issue.)



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information

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Editing a Club Paper? Need some help? Amateur Radio News Service would like to hear from you. For info, write: Rosemary Willis, Sec'y, 9276 Borden Ave., Sun Valley, CA 91352.

FUN--Rocky Mountain Division Convention. June 7, 8, 9, 1974. Ramada Inn, Pueblo, CO. Pre-registration \$6.00. . . at the door \$7.00 Meals, accomodations, and camper/trailer hook-ups available for the three days of the convention at special reduced rates. Banquet on Sunday afternoon. Write for further info Convention Committee. PO Box 92, Pueblo, CO 81002

HAMS-EXPERIMENTERS: Send SASE for list of the lowest prices on electronic goodies of all kinds. Get on our mailing list now! New catalog going to print soon! Aksarben Electronics, 5535 Fremont, Lincoln, NB 68504.

CASH: For your solid state devices, SCR's, transistors, rect. and diodes, IC's, and electronic or related components. John Loudenback, 5535 Fremont, Lincoln, NB 68504.

Don't be limited to receiving ham bands only. Get the receiver that covers .5 to 32 MHz and displays frequency on digital counter dial. Listen to military, aviation, ship-shore, foreign best, spy stations, CB, point-to-point. The R-390A covers it all and more. A stamp brings picture and full specs. W6ME, 4178 Chasin St., Oceanside, CA 92054

ARE THE DEAD REALLY DEAD? Stamp appreciated. METHODS, Box 1263W, Mountain View, CA 94042.

100 kHz crystals, octal base, \$2.50 postpaid. Limited supply. Nat Stinnette Electronics, Tavares, FL 32778

Canadian surplus electronic catalogs. Bargains galore. Send \$1. ETCO-w.a. Box 741, Montreal "A", H3c 2V2

CW OPS. RAZOR SHARP 30HZ RECEIVER SELECTIVITY puts QRM out of the picture. Works with any receiver or transceiver, including yours! You paid hundreds of dollars for your transceiver; why not give it the "ultimate" in selectivity? See large ad elsewhere this issue. AUTEK RESEARCH.

WYOMING RANCH LAND. Antelope, Deer, Wild Horses. Lots of room for antennas. 10 Acres \$25 down, \$25 month. Info, maps, photos FREE. Mike Gauthier, K6ICS, 9418 Florence, Downey, CA 90240

Heath HX-20 SSB/CW Xmtr and HB Pwr Sply \$95; W2AZL 2mtr converter \$25; Viking KW with Desk \$250; 14AVQ \$30; Balantine 300 AC VTVM \$25; Sens. Research Lab Std's 0-75OV \$60; Autronic Keyer \$35; Aerotron 500 2mtr AM Xcvr \$45; W6JKJ, 1149 Heatherstone, Sunnyvale, CA 94087. (408) 736-3358

GE POCKETMATE cases made of durable plastic with belt loop, brown, \$5./PP. WA4FTL, Rt. 11, Box 160, Greensboro, NC 27410.

VIBROPLEX deluxe flat chrome base, red paddles, cord, never really used. \$18, will ship. W6UL, 220 Pamela Ave., Apt. 1, San Jose. CA 95116.

NOSTALGIA-- with the Radio Collector's Guide, facts on 4,000 radios 1921-1932. Only \$3.95. . . you can't lose on our ten day guarantee. Vintage Radio, Box 2045, Palos Verdes Peninsula, CA 90274

CODE AND THEORY - classes in Dayton, OH. Call 277-5314 for information

DXers: for cementing better international friendships and excellent (about 95%) QSL-return, write in the language of the DX station worked. How? With K3CHP's DX QSL GUIDE. It contains a list of numbered radio-amateur sentences translated into 54 languages! Simply select and copy sentences in the language of your choice. \$3.95. Joe Mikuckis, 6913 Furman Pkwy., Riverdale, Md. 20840

Picture QSL cards made from your photo of yourself, shack etc. 250 - \$3.50; 1000 - \$16. Full color from slide \$35. Samples free. Picturecards, Box 5471, Amarillo, TX 79107

Antique flameproof keys for sale-Type J-7-A, built for U. S. Govt. in 1921-original carton-\$12.95 ppd. Walt Jackson, W5ZYA, P. O. Box 19406, Dallas, Texas 75219.

TUBES - Write TUBES INTERNATIONAL, Box 15264E, Atlanta, Ga. 30333. for a \$\$\$\$ saving quote on your Ham Tube Needs.

For sale or trade--QSTs from 1916 and CQs from 1945 and also callbooks. Handbooks and old catalogs, books and old radio receivers wanted. Erv Rasmussen, 164 Lowell, Redwood City, CA 94062

Wanted: Old radio receivers, wireless gear, msc. parts, etc., Circa 1920, regardless of condition. Joe Horvath, W6GPB, 522 Third St., San Rafael, CA 94901.

Call letters engraved on Wooden Plaque 5-3/4 X 16. Walnut finish with gold letters. \$5 postpaid. Tony Vitolo, WB4BKU, 2756 Tanglewood Drive, Snellville, GA 30278

HAM CLASSES: Stockton, CA. Radio Spectrum Labs, 1632 E. Harding Way call 948-1891

WANTED FOR CASH\$\$\$ - airborne radio equipt. headsets, microphones, Xmitters, antennas, receivers, ADF, TACAN, Commercial or military made by Collins, Bendix, RCA, Wilcox etc. Call ROBERT SANETT, 616 S. Holmby, Los Angeles, CA 90024. (213) 279-1275

TRAVEL-PAK QSL Kit. Send CALL and 10 cents; receive YOUR CALL sample kit in return. SAMCO, Box 203, Wynantskill, NY 12198

Toroids - 44 and 88 mhy 5/\$2.50 ppd. M. L. Buchanan, P. O. Box 74, Soquel, CA 95073

Ten lb. Electronic parts \$10, tubes for sale too. Williams, P. O. #7057, Norfolk, Va. 23509

WANTED: HP 608C or Measurements 560FM (or Motorola equivalent) in perfect condition and good appearance. Will pick up within 150 miles. M. Powell 4678 Cabana Way. Sacramento, CA 95822 (916) 456-9839

ATTN: MONTANA-IDAHO-WYOMING. . . Conley Radio Supply, 405 N. 24th St, Billings, MT 59101 - has Swan, Drake, Kenwood, Yaesu, Hallicrafters, Galaxy, Icom, Clegg and lots more. Ron, K7LTV (406) 259-9554

NEW TELETYPE RIBBONS. 12 to box. heavy red ink. ONLY \$5.00 postpaid USA. A. Clark. W4IYT, 41 Lenape Dr., Miami Springs, FL 33166. (305) 888-3874.

HAMFEST: Florida. . . Treasure Coast Hamfest-Saturday and Sunday. March 9-10, 1974 at the Vero Beach Community Center. Sponsored by the Vero Beach ARC and the St. Lucie Repeater Association. More info from PO Box 3088, Beach Station, Vero Beach, FL 32960

\$\$\$CASH for Electronic tubes-receiving, power etc, what have you that is interesting? A R S ELECTRONICS, 616 S. Holmby Ave., Los Angeles, CA 90024. (213) 279-1275

FOR SALE: NEW (used less than 40 hours) SWAN 1200W linear. \$150, COD. Gone mobile due to military duties. K1DYA/1, 61 Calderwood Drive, Warwick, RI 02886

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