The Worldradio News

Vol. IV, No. 7 January 1975 50¢

Changes Proposed In Amateur Licensing, Operator Privileges And Classes (Docket 20282)

Dick Daniels NASA specialist working on OSCAR 7.

Amateur Radio Satellite will "talk" to classroom

By NASA

Thousands of radio amateurs throughout the world are tuning in to their very own satellite.

The spacecraft, AMSAT-OSCAR 7, seventh and most complex in a series of communications satellites built by an international group of amateur radio operators, was launched aboard a NASA Delta rocket 15 November 1974.

Circling the Earth at an altitude of 1460 kilometers (876 miles), the

(please turn to page 19)

Navassa Island, 1974 . . . KC4NI

by Joe Duffin, W2ORA

The 1974 Navassa Island DXpedition was planned, conducted and financed by six amateurs from Southern New Jersey.

The group has organized and, appropriately, has decided to be known as the Southern New Jersey DX Association, as a nucleus for possible future DXpeditions. All six individuals are also members of the South Jersey Radio Association.

The primary purpose for the expedition was to activate uninhabited Navassa Island and make it available to the amateur fraternity. The last operation from Navassa took place a few years ago, and judging from the "most wanted" list a lot of DXers still needed this country. This fact, plus the indication that the scope of such a venture appeared to be within financial reach of the group, paved the way for the decision . . . Navassa was it! It was believed that the interest in 5-band DXCC would make KC4NI very popular, so operation was originally planned for 80 through 10 meters, both SSB and CW. Later, prompted by several requests from "top-band" enthusiasts, 160 meters was added to the planning, even though the yield was predicted to be low.

Planning included procurement of formal approval from the cognizant U.S. Coast Guard authorities and a special FCC call assignment, to assure legality.

Navassa is rare DX indeed. It is uninhabited, completely surrounded by 50- to 100-foot cliffs (there are no beaches) and access to the island is difficult and hazardous. The island has a rugged terrain consisting of sharp, cratered, limestone rocks, scrub trees, and cactus. There is no potable water supply. The only possible landing is a place where a small boat can be held long enough for men to jump on to a wire rope ladder that dangles about 35 feet from a cantilevered catwalk which juts out from the cliff. All equipment and supplies must be hauled up the same route, a process complicated by the fact that there is a constant danger of having the boat smashed up against the cliffs.

The original plan was to arrive on Navassa mid-morning on Sunday, 24 November, and stay until about noon on

(please turn to page 9)

In response for 35 requests for rule changes, the Commission has proposed amendments to its rules that would result in a major overhaul of the licensing structure in the Amateur Radio Service.

The new rulemaking procedures, amending Part 97, would create a license structure permitting operation in either or both of two series — Series A (Shortwave) and Series B (VHF and above).

The amended rules also would add a new "codeless class" of license for operation in the VHF and UHF bands, and would offer incentives for amateurs in this class to further upgrade their skills.

The Commission said the new system would offer flexibility in the complex problem of associating operator qualification requirements with operator privileges. It predicted the new system could easily double within several years the present 255,111 amateur operators and could have a beneficial impact on the Citizens Radio Service by siphoning off some of the CB radio hobby activity.

The present FCC amateur licensing structure makes available 10 operator license classes authorizing five levels of privilege. The classes in ascending order are:

Novice (or beginner); Technician (limited to VHF/UHF frequencies); Technician (conditional — issued when operator lives more than 175 miles from FCC examining point); General; General (conditional because of distance); General (physical handicap — issued when operator is unable to take FCC-supervised examination because of physical handicap); Advanced; Advanced (conditional because of distance); Amateur Extra, and Amateur Extra (conditional because of distance).

The new classes would be inserted in this list.

In proposing the rule changes, the Commission said it could not accommodate all the requests made by the petitioners because some conflicted with others. However, it added, it did not believe it desirable to deal with the petitions on a piecemeal basis since many of the proposals were interrelated. Accordingly, it said, the rulemaking proceeding was in effect a review of the entire amateur licensing structure.

In recognition of the desire of some amateurs and would-be amateurs for a class of amateur operator license not requiring a knowledge of telegraphy, the Commission said a new "telephony-only" type of operator license, limited to frequencies above 144 MHz, could and should be incorporated into the Amateur Radio Service.

Traditionally, the FCC said, every amateur radio operator license has required the applicant to demonstrate some level of proficiency in sending and receiving International Morse Code. A 1971 survey and analysis of the Citizens Radio Service revealed that there may be as many — or more — nonlicensees interested in amateur radio activities as there are persons already licensed in the Amateur Radio Service. The most frequently-mentioned reason for not obtaining an amateur license was the telegraphy requirement.

In proposing a new "codeless" Communicator Class, the Commission said the objective would be to enable beginners to enter the Amateur Radio Service and, through the experience gained by operation of a low-power radiotelephony station, develop the interest and skill necessary to qualify for higher class operator license.

The Commission also proposed creating an Experimenter Class, a new higher class operator license comparable in requirements and privileges to the existing Advanced Class for the HF domain, except based on operation above 29 MHz. The Commission said the Experimenter Class would provide meaningful incentives for amateurs interested in VHF and UHF regions of the radio spectrum to upgrade their skills. The Advanced Class already provides these incentives to amateurs interested in operating in the MF and HF shortwave bands.

The Commission said that for this new higher class license, any additional telegraphy skill would not be meaningful since telegraphy was not a major communication mode in the VHF and UHF bands. On the other hand, it said, modes such as television, remote control, facsimile and repeaters are very meaningful, and need to be emphasized.

To incorporate the proposed Communicator and Experimenter class licenses, the Commission said it examined several possible revised operator license class structures.

The object, it said, was to minimize any adverse impact on now

(please turn to page 2)

FCC

(Continued from page 1)

licensed amateurs, to closely relate requirements to privileges for each license class, to provide realistic upgrading steps and incentives, and to offer the opportunity and flexibility for persons interested only in shortwave radio, or only in VHF and/or both, to obtain the license and pursue their particular interests.

The structure proposed by the Commission offers two series of amateur licenses, Series A and Series B. Amateurs would be permitted to hold one operator license permitting privileges in one or both series. For example, an amateur could hold an operator license authorizing Novice Class privileges in Series A and Technician Class privileges in Series B, a request sought by several petitioners.

Operator licenses in Series A would authorize only privileges on amateur frequencies below 29 MHz, and operator licenses in Series B would authorize only privileges on amateur frequencies above 29 MHz. Licenses including Communicator and Novice classes, normally would be issued for five years (Novice licensees now are issued on a two-year non-renewable basis).

The Commission said it also would adopt a request that Amateur Extra Class operator licenses be granted for life but such licensees still would be required to renew their station licenses every five years.

At present, 12,849 amateurs hold the Amateur Extra license, the highest class of license in the Amateur Radio Service.

The Commission said that under its proposed rules, new Advanced Class licenses and General Class licenses would no longer carry requirements and privileges above 29 MHz. The Experimental Class and the Technician Class would be the counterpart operator licenses in Series B, and would not carry any requirements and privileges in Series A frequency bands.

The current Amateur Extra Class would be renamed Extra Class, and would authorize full amateur privileges in both series. The Commission said it would discontinue the written examination and the exclusive telephony segments now associated with this class. Because of the 20 words per minute telegraphy requirement for the Extra Class, amateurs holding this license would continue to have exclusive telegraphy subband privileges, the Commission said.

Under the proposed license structure, all amateurs now licensed upon application, automatically would be eligible to renew their current operator license to include privileges in at least one and in most cases both series without further examination.

The Commission said it was proposing three principal areas of operator privileges: operating frequencies, emissions and maximum transmitter power.

For Series A, the authorized frequency bands, would be basically the same as at present below 29 MHz, except the exclusive telephony segments reserved to the Amateur Extra Class would also be available to the Advanced Class.

In Series B, the Technician Class would be authorized all amateur frequencies above 50 MHz, thus gaining the spectrum from 50.0 to 50.1 MHz and 144 to 145 MHz. The Experimenter Class would be authorized frequencies above 29 MHz, and the Communicator Class, frequencies above 144 MHz.

The Extra and Experimenter Classes would be authorized all amateur emissions. The Advanced Class would be authorized all amateur emissions permitted below 29 MHz. The General and Technician Classes would be authorized emissions A1, A3, and F3. The Novice Class would continue with A1 only, while the new Communicator Class would be permitted emission F3.

The Commission said modern communications requires better methods for determining transmitter power than the "plate voltage times current" method now employed. It therefore proposed to specify the maximum transmitter output in terms of peak envelope power (PEP), except at the beginner level where the emissions authorized permit a fairly accurate measurement to be made of the input power using the method now specified.

The Commission noted that mail examinations are not as effective as FCC-supervised examinations in establishing qualifications. It proposed the operator license for an amateur qualifying by means of a mail examination on the basis of a protracted physical disability would have the letter (D) inserted following the operator class. A license of this kind would be renewable without reexamination upon a satisfactory showing that the disability continued. Otherwise the holder of such a license would be required to demonstrate his proficiency through re-examination at a regular FCC supervised examination.

The operator license of an amateur qualifying by means of a mail examination on the basis of difficulty in traveling to a regular FCC examination point would have the letter (C) inserted following the operator class. The only purpose of this conditionally issued type of license would be to provide a temporary authorization until the person could quality before an FCC examiner. This type of license would therefore not be renewable.

In an attempt to improve its mail examination system, the Commission proposed that only an Extra Class licensee could serve as a volunteer examiner for all examination elements. Advanced Class licensees would be eligible to administer examination elements for the General (C) and (D), and Novice Classes. Experimenter Class licensees would be eligible to administer examination elements for the Technician (C) and (D), and the Communicator Classes. The Commission also proposed to increase to two the number of persons administering a mail examination. The second person may be the holder of any class of amateur operator license.

The Commission said that in view of the extensive amendments proposed, it would allow more than the normal time for suggestions and comments to be filed. Accordingly, comments may be filed on or before June 16, 1975, and reply comments on or before July 16, 1975.

Action by the Commission December 4, 1974, by Notice of Proposed Rulemaking. Commissioners Wiley (Chairman), Lee, Reid, Hooks, Washburn and Robinson.

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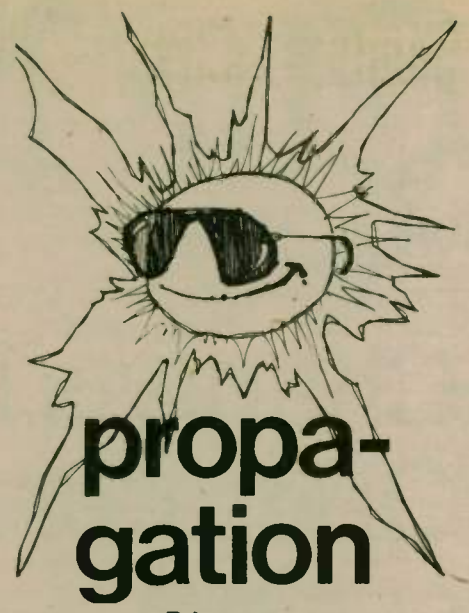
An important new service for radio clubs has been announced by **Worldradio** and the **Callbook**. See page 22 for details.



February 1975
Maximum Usable Frequency
from Burbank, CA

The numbers listed in each column are the Maximum Usable Frequencies (in Megahertz) for contacting five major areas of the world throughout each 24-hour period of each month.

Computer data is HARLEYFP G 6 1097 FT 06F001.

List Prepared 1 November 1974 by Bill Welsh, W6DBB, of W6LS.

Probability is estimated to be a minimum of 70 per cent.

UT	AFRI	ASIA	EURO	SOAM	SPAC
01	12.4	22.0	9.0	19.0	25.0
02	9.8	18.8	9.0	15.5	24.1
03	7.1	15.8	8.4	13.2	20.1
04	9.0	14.0	7.6	12.5	17.0
05	8.4	12.8	6.4	12.6	14.7
06	8.3	11.7	7.6	13.2	13.5
07	8.4	11.6	9.5	14.1	13.3
08	9.0	11.1	10.9	12.6	13.3
09	8.8	11.0	11.3	12.1	13.0
10	8.4	11.4	10.9	14.5	13.0
11	7.9	12.0	10.4	12.3	13.6
12	7.9	11.8	10.3	10.9	13.5
13	9.3	10.8	10.5	12.4	11.9
14	10.9	10.3	13.5	16.5	10.9
15	13.6	12.1	16.9	20.7	13.4
16	15.7	13.3	18.0	23.0	14.4
17	17.2	11.5	16.0	23.9	12.8
18	18.5	11.7	14.1	24.8	12.5
19	19.6	12.2	12.9	26.1	14.6
20	20.1	14.2	11.3	27.1	18.4
21	20.1	16.6	10.0	27.5	21.2
22	19.1	20.7	9.0	27.2	22.0
23	17.3	23.8	8.9	25.8	22.2
24	14.5	23.6	9.0	22.9	23.3

Identification

The **Worldradio News** is published monthly by Worldradio Associates, 2509 Donner Way, Sacramento, CA 95818. Subscription $5 per year. Controlled circulation paid at Sacramento, CA. January 1975 issue.

FLASH

ARRL General Manager John Huntoon, WIRW, will ask The Board of Directors for early retirement effective 31 Jan. 1975. Huntoon, 58 years old, has been with the League 36 years the last 14 as General Manager.

Sister City - Amateur Radio

by Art Mayoff, VE2AQV/W6

The Mt. Diablo Amateur Radio Club has picked up the suggestion of Chuck Towns, K6LFH, in a recent issue of Worldradio News.

We proceeded with full cooperation from our club board of directors. The K6LFH concept was presented to the board and Art Mayoff VE2AQV/W6 volunteered to be chairman of the Amateur Radio/Sister City Committee. The most surprising aspect of this club activity was the sudden interest by many club members. The idea of being able to use Amateur Radio directly in the community, and to be able to get involved with providing phone-patches and open shack nights to the public seemed to appeal to some of our more active members.

Being able to invite the Mayor or Councilmen to an amateur radio station for a QSO with the Sister City opens many avenues of cooperation between the amateurs and the city fathers. (Tower ordinances, Amateur Radio weeks, etc.)

To date we have made arrangements with the City of Pleasant Hill, Calif., to participate in their already-blossoming Sister City Program, and have addressed the first planning meeting for the selection of a Sister City in a second nearby city.

Our public relations image has soared. We are now invited to attend many of the local meetings and social events, and are often given an opportunity to address the gatherings. This is an important step in getting community acceptance of Amateur Radio. The interest by the citizens is intense and in many cases these people are hearing of the deeds of Amateur Radio for the first time. In the past they thought that the only things we did was cause TVI.

The impact of such public relations is so immense that it has gone beyond our greatest expectations.

In our first address to the Pleasant Hill Sister City Committee we offered our services, outlined our capabilities, and listed our needs from them. The bond of Amateur Radio and the Sister City program was made and we were on our way. One very rewarding and totally unexpected service we were asked to provide was the tracking down and arranging for the purchase of some two-way radios for the police department in the Sister City.

With the help of Mak King, WN6EKT, we were able to arrange for the purchase, at cost, of some new radio gear (with Sister Cities picking up the tab) and tighten the link between the amateurs and the City.

As of this writing, one of our club members is currently in our Sister City (Chilpancingo, Guerrero, Mexcio) and is arranging sked times and frequencies. Our club's most recent venture in the Sister City program, is the additional undertaking of a second Sister City bond. The City of Walnut Creek, population 85,000 is just organizing their Sister City program. Our club sent a delegation of five members to the "pre-planning" meeting. At this meeting the city fathers, and the Chamber of Commerce explained to city residents what steps it had taken so far and offered the program to the enthusiastic people present. They suggested that a Sister City "corporation" be formed and that officers and directors be elected etc. In a sense, this was the embryo of a soon to be Sister City activity.

Orve Owen, W6BSL, and Art Mayoff, VE2AQV/W6, had the opportunity to address this group. The group had no idea of our existence prior to this meeting, and by the time the meeting was over, they were tailoring their Sister City plans around Amateur Radio. Fantastic! but true.

We presented them with a very special "Amateur Radio Introduction" book and they just "gobbled it up." The book was made available by Chuck Towns, K6LFH, and cannot be purchased anywhere. (See note at end of article.) In our address to the gathering, we stressed the need for their cooperation in the selection of a Sister City if they would like to use our outstanding method of communication. (The word oustanding is their description of the service.)

Small instruments, two-way radios, and generous hearts, those of members of the Pleasant Hill Sister City group and the Mt. Diablo Amateur Radio Club, have made a big difference for the Chilpancingo, Pleasant Hill's sister city in the state of Guerrero in Mexico. Bidding good-by to Roger Magleby, second from left, as he was about to fly the radios south-of-the-boder, were from left, Bob Harman, Pleasant Hill vice mayor and Art Mayoff, VE2AQV and Mak King, WN6EKT, members of the Mt. Diablo Amateur Radio Club. Club members assisted in obtaining the radios — three of which are in police vehicles with one in police headquarters. Mr. Magleby, president of the Sister City organization, arrived in Chilpancingo in time to welcome returning Mexican students who had recently visited Pleasant Hill as part of the student exchange program between Chilpancingo and Pleasant Hill.

(Concord "Transcript")

We read them the list of countries that allow third-party communications and recommended that their decision be influences by the international laws that govern Amateur Radio. We must have made an impression, because the first vote for the selection of Sister City brought the group to favor Costa Rica as the hosting country. This meeting brought much goodwill and good "vibes" between the amateurs and the residents.

This is the same city which outlawed private radio transmitting antennas (those bad guy hams) and it took us four years to get the ordinance changed. I'm sure if we had the same "good vibes" four years ago, we would never have been faced with such a discriminatory ordinance. Point to be made. . . . Goodwill brings "good vibes."

We recommend that all clubs proceed with their strongest efforts in creating a link between the amateur and the community residents by utilizing the Sister City concept. For the complete K6LFH concept and how it ties in with the ITU conference in 1979, I recommend the June, 1974 issue of World Radio News (page 6) and the Sept., 1974 issue of QST, page 60.

Chuck Towns, K6LFH, president of Project OSCAR, has taken a very positive step with a far-reaching concept and has turned it into a working Amateur Radio public relations network throughout the world. His idea was first made known well over a year ago, and he has created and published a very special, and highly informative public relations book which he has made available to Sister City groups free of charge. It presents Amateur Radio and its service and how they can be incorporated in the Sister City program.

This program must be encouraged. As an ARRL Life and active member, I hope this program will be endorsed and supported by directors and SCMs. Programs like this are the preservation of Amateur Radio.

(please turn to page 39)

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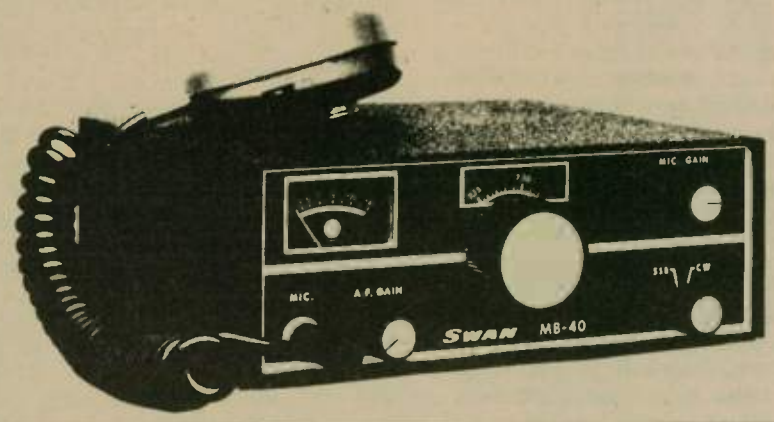

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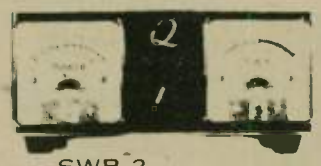

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Tangle with Fifi

Tom Barbour, W9LII and his wife Joyce, never realized what they would run into when they left Pekin, Illinois, on a combined pleasure/business/mercy trip to San Pedro Sula, Honduras.

Their first major stop was New Orleans where they had all kinds of baggage difficulties. They were transporting an x-ray machine which had been donated to the mission in Ocotepeque, Honduras. The baggage men wanted the table of the x-ray crated . . . when it was crated, it was too big to go in the door of the plane. Finally, they left part of the x-ray in New Orleans and took what they could with them.

On the plane, Tom noticed that something was wrong with one of the engines. The floor of the plane was vibrating badly because of the turbo-prop engine malfunction and the plane was grounded in Belize. It was four hours before the passengers were loaded on a smaller plane. At that time they were separated from their baggage and the x-ray machine which they did not see for about a week. Fortunately, Tom and Joyce had been carrying most of their clothing as hand luggage.

Tom and Joyce arrived in San Pedro Sula just one jump ahead of Hurricane Fifi and were met at the airport by Fr. Ron Spillett and John and Ruth Paz, HR2RP. It was already starting to rain, so as quickly as they could get clear of customs, they were whisked away to the Paz residence which is in a compound with several other houses surrounded by high walls. These walls proved to be a great protection when the 135 mph hurricane winds struck.

Ruth Paz, HR2RP, had begun plotting the course of Fifi on Tuesday, and when Tom, W9LII, arrived he assisted in this activity. They plotted the course of the hurricane across the Honduras north coast on a road map and it didn't look as if San Pedro Sula would get any of the wind because they were about 150 miles from the center. But about 9:15 Wednesday night the barometer started to drop so fast that Tom broadcast a new reading every 30 seconds.

Those with steel nerves got some sleep, but about 4 a.m. Thursday, 19 September, it really began to blow and things started hitting the house. Ruth was awakened when the wind blew rain through an open window onto her face.

The Paz home is very large, with many bedrooms and there is one room just inside the door which is large enough to hold 25 or 30 people . . . and there were usually that many people there, too. By 6 a.m. Ruth was at her radio . . . beginning a daily vigil which would continue for more than a month. At 8:45 a.m. the electric power failed and HR2RP went off the air.

The telephones in San Pedro Sula had already been out of order for several weeks before the hurricane hit Honduras, so the last link of communication failed when the amateurs were forced into silence by the loss of power. HR2RP was only off the air for a short time, though. Scotty Michelson, HR2ASM, got an auxiliary power plant over at the Caterpillar Tractor Co. sales office and Tom W9LII, and Fr Ron, HR5JDC, set it up and got it running at Ruth's house. For a time, HR2RP was the only contact between flood-ravaged Honduras and the rest of the world.

At first, Ruth just reported what was happening . . . trees blowing down and debris hitting the house, etc. At one point Tom and Fr. Ron tried to lower Ruth's quad to protect it, but there was so much stress on the tower from the wind, that it was not possible to activate the crank-down system. It rode out the 135 mph winds without any damage. Tom and Fr. Ron got soaked, though. They got sopping wet again when they climbed the tower to put up a temporary 40 meter dipole and also when they put up a two-meter whip. These latter two antennas were vital for local communications . . . especially when the airport became separated from the city by flood water.

Ruth handled as many "health and welfare" inquiries as she could, but it was impossible to do more than a superficial coverage . . . if she knew the people or had seen them, she could give an immediate response. If she did not know the people or the name, she made up a list for runners, when there was enough address to warrant an inquiry. The population of San Pedro Sula is well over 175,000 and it takes more than a name to find someone and with no telephone service, she had to have an address. Ruth worked at the radio for 10 to 12 hours a day attending to hundreds of calls from the U.S. and elsewhere in the hemisphere. Tom and Joyce and others assisted when her voice failed.

Most of the inquiries in San Pedro Sula were the same, "no damage, we are all right." But, in Choloma, just 6 miles north, thousands died in the flooding. "People came in telling of mud up to the roof of their homes or saying 'I just saw my husband floating down the river.' They were still in shock! It hadn't hit them yet. It is hard to tell just how bad it really was . . . with all the dead bodies around and more still coming in."

Even after the rain and wind stopped, San Pedro Sula was still without utilities. Cars lined up all day, day after day to use the well at Ruth's house; one of the few sources of uncontaminated water left in San Pedro Sula. Periodically, they would have to shut the pumps down to keep them from burning out. "We didn't even want to think about what would happen if the water ran out."

Ruth Paz, HR2RP

Ruth Paz, HR2RP, of San Pedro Sula, Honduras, has been a licensed Amateur Radio Operator since October 1968, and a member of IMRA since 1971. On some "undisclosed date" in the 20th Century, Ruth was born in Roundhead, Ohio. Her family moved to Detroit when Ruth was still very young and she went to school there and spent most of her life in or around Detroit.

Ruth and her husband, John, lived in Detroit until 1965 when they moved to San Pedro Sula. John Paz, a native of Honduras, was formerly the Consul in Detroit for the Central American Republic of Honduras, and Ruth was Head of Security for the Sears store in Lincoln Park.

In 1965 "we just got tired of the rat-race in Detroit, and when the chance came to move to Honduras, we jumped at it." John Paz now owns and manages a small lumbermill and cattle ranch on the outskirts of San Pedro Sula. They have a 10-year-old daughter, Mary Ann, living with them, and three grown children, Linda, Bill, and Michael, living in the U.S. Ruth is blonde and blue-eyed. The Paz home is in a walled compound which contains several homes, each in turn separated by a high wall. Ruth's rig is a TR-4 and she has a quad up about 55 feet. Her ham shack is a 10 x 12 foot room with a window overlooking her garden. She has a custom built console & an office chair on wheels. The room also has two day-beds which are liberally used by visitors.

When hurricane Fifi struck San Pedro Sula on September 19, Ruth's station became one of the major communications centers. There was a regular parade of government officials, persons seeking lost relatives or seeking to assure relatives that they were all right, crews of medical teams, and television network reporters.

Ruth assisted in the procurement of medical supplies, gave up-to-the-minute weather reports and landing conditions, met shipments at the airport, and tried to locate lost shipments. Ruth handled only a few "health and welfare" inquiries because the phone lines were down. She answered those whose names she recognized immediately and made lists to send out by runners to inquire about others. San Pedro Sula is very large and it takes more than a name to find some one. There was little damage to large cities and towns, but rescue teams had to be parachuted into the town of Choloma where almost all the 4,600 residents were killed or missing. A dam burst, throwing earth, water, and rocks on the town and there was no way to get any "health and welfare" in or out of that area.

This valiant woman, Ruth de Paz, HR2RP, has exhibited extraordinary poise for long hours over more than 30 days.

(IMRA "Newsletter")

IMRA TRAFFIC NET RALLIES.

The IMRA Traffic Net went into full time operation for three weeks with two stations taking all "health and welfare" traffic in and out of Honduras. Paul Caton, W4ZRC, operating portable from MacDill AFB, picked up the out-going traffic and distributed it through Air Force Mars. The club station at Kennedy Space Center, WB4ICJ, was manned by Skip, Bill, Howard, and John, who picked up all ingoing traffic for Honduras and held it till a station was available to pick it up. After that IMRA started monitoring the first 15 minutes of each hour (1400 thru 2200 GMT) until they were no longer needed. Those signing up to monitor and control on 14,280 KHz were: WA2IPM, WB5BAH, WB4SFG, WA3RXQ, W9LII, WB4ELX, and WA2BPV.

Dr. John Schindler, W4RFA, spent hours tracing lost shipments of medical supplies and other cargo at the Miami Airport and he was on continual call for medical advice and proper handling procedures.

Brother Bernard, WA2IPM, used his connections to get enough typhoid vaccine to immunize a quarter-of-a-million people in Honduras. 60 cartons; 11 lbs ea. That's a lot of vaccine. He was also able to wrangle a couple of helicopters for the disaster area.

Fr. Barnabas Eib, WA2MJE, who serves as chaplain at Hancock Field in Syracuse, N.Y., heard about a severe shortage of 100 octane aircraft fuel in Tegucigalpa, Honduras.

Planes could not take off even though they had food and medical supplies which were desperately needed in out-lying areas. Fr. Barnabas called the Office of Procurement and Disbursement of Supplies for Government Agencies in Washington D.C. to ask if some of the "red tape" could be cut. Later Fr. Barnabas received a call from the Air Force to let him know that the fuel was on the way. Father also located some badly needed hospital equipment for the Medical Aid Center in San Pedro Sula.

(please turn to page 39)

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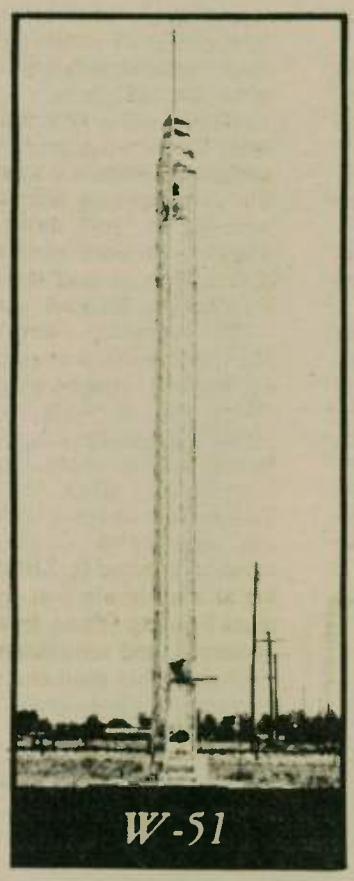

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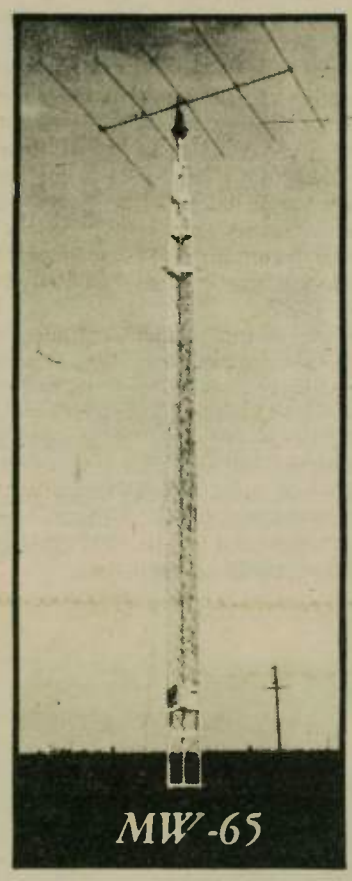

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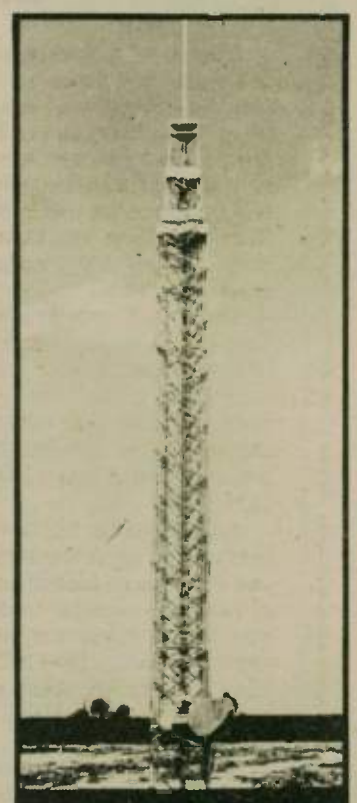

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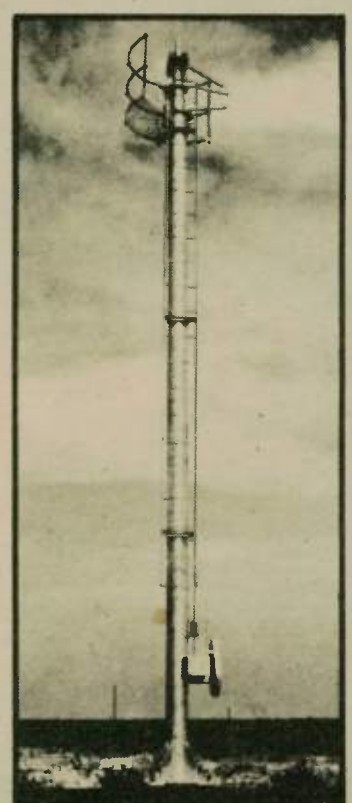

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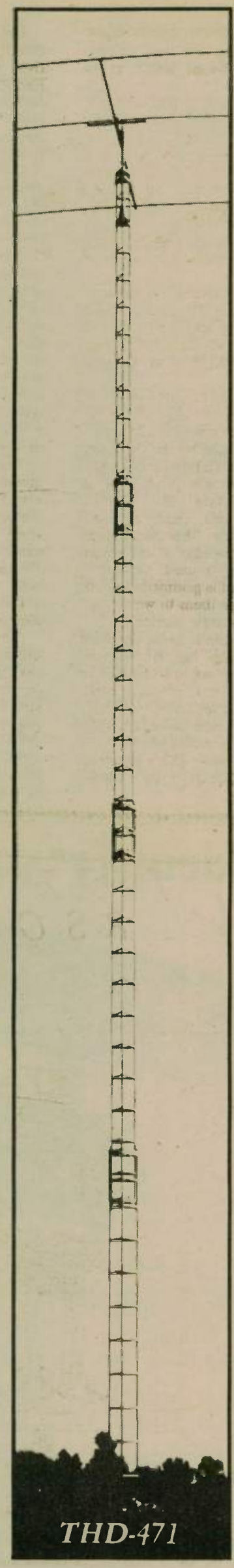

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County Hunting

by Paul Schuett, WA6CPP

One hears many activities in tuning across the amateur bands which interest various segments of the Amateur Fraternity.

One of these which has become quite popular in the past few years is county hunting. Passed as a bunch of nuts by many amateurs, the county hunters have developed a strong but informal organization. There are many more county hunters than one would at first imagine. Most of the active ones communicate with each other on the various nets and meet at the various conventions. But, there are many "latent" county hunters as well who enjoy making the contacts for personal satisfaction, rather than attempting to get the various awards and certificates that are available.

A number of the county hunters are tired of working DX pileups, or have worked all they can and are trying for something else that's unusual. Some of the county hunters have worked all the counties in the country and are going back to DX! One, having worked them all, has decided to start over. He says it's much easier since they're all new again.

There are a number of awards available for county hunting. Most of the hunters go for the awards issued by CQ Magazine. Certificates are available for 500, 1000, 1500, 2000, 2500, 3000, and 3077 counties; QSL's are required; the magazine's award form is to be filled out and GCRd (GCR-General Certification Rule) by 2 other amateurs. Ed Hopper, W2GT, is the head man and final authority on the CQ Magazine award.

The CHC also sponsors a county hunting award (CHC-Certificate Hunters' Club) available in levels of 300 counties up to 3000 and finally 3077—I understand a trophy is available on completing all the counties (a person completing them all deserves one). This award does not require QSL's; log entry data is sufficient. The CHC application form must be filled out and GCR'd by two amateurs. This award is a large certificate with a county outline map of the United States with endorsements made by seals glued in an appropriate spot on the certificate. The contestant is urged to color in the counties worked at each level in a different color, producing an individualized pattern of color showing how the counties were worked. Cliff Evans, K6BX, is the CHC authority.

Many county hunters belong to MARAC (Mobile Amateur Radio Awards Club) which has an interesting program of activities. Most of the MARAC members are working on the CQ award with a good number participating in the CHC award. MARAC issues certificates for various activities such as to a station giving out the last county in a state to one of the participants. The organization also publishes a regular newsletter.

Bertha Eggert, WA4BMC, is the person to ask about the MARAC program (she requires a large SASE with several stamps on it to send out the information). Ernest Scroggin, WOSJE, is in charge of the newsletter.

A number of states issue worked-all-county awards. For instance, two certificates are avilable for working all California counties, one issued by the CHC, and one by the Northern California DX club.

The requirements are to work all 58 counties in the state; the NCDXC requires that the QSL cards be postmarked in the county. This discourages mobile operations because of the inconvenience of posting a card locally; I understand the award is primarily for DX stations to encourage them to work "6s" rather than for domestic stations.

The CHC certificate is under standard CHC rules requiring log entries and GCRing. (With either one it is difficult to contact all the California counties since a few have few or no amateurs resident).

The Council of Connecticut Amateur Radio Clubs issues a certificate for contacting all nine counties; QSL's required (Wilfred Lamb, W1WHQ, is the custodian).

One may receive the W-DEL certificate for working all three Delaware counties. QSL's required (John Wilson, K3AMS, 1005 Greentree Rd., Newark DE19711, custodian). If you think three contacts would be easy, give it a try—that third Delaware county is almost as difficult as working a JT1!

There are many other individual state awards as well. K6BX publishes a Directory of Certificates and Awards, available at a modest cost, listing just about everything available in the world.

One should not discount working counties just for personal satisfaction. It is not necessary to conform to rules promulgated by the various awarding associations, but just work them to say you worked them. I have contacted a number of people who do it this way. Considering the cost of postage for QSLing (most of the serious hunters include a SASE or even a special return card), one would become a favorite patron of the local post office in no short time.

There are two Mobile QSL Bureaus handling domestic cards for county hunters. David Manescu, W6CCM, operates the one in the West at a high efficiency level. There is a $1 membership fee; cards are handled at 20 for $1 — these are the special county hunter return cards — with "initial contact" cards (your personal QSL on the first contact) handled at no charge.

The nice thing is that one need not belong to any organization, nor is it necessary to pay any dues to enjoy county hunting. The generally-accepted rules provide that a signal report be exchanged and acknowledged between the two stations. Other stations may assist by relaying call signs or confirming that contacts were properly made, but the stations must get the signal reports on their own.

The main county hunting net meets daily on 14.336 MHZ SSB; at night the main activity is on 3.943 MHZ (CHC Service Net). There is some activity on 40 meters off and on. Some of the hunters try for all mobiles, all SSB, all CW (there is also a CW net), all YL, etc. etc. I'm just as happy to get them any way possible — fixed, mobile, repeater, or anything! My contacts are all on SSB but are on all bands 3.5 to 144.

The main drawback of county hunting is the record-keeping. The simplest way is to get a county map of the US and color them in as you work them, or cross them off of a list. It is a bit more refined to indicate the call of the station worked along with information as to how it may be located in the log.

Most of the serious hunters enter the information on a file copy of the application form for whatever award they are seeking. I have obtained a county outline map of each state from Rand McNally (size 8½ by 11 catalog #4702, $4.75) and enter the information on the map as well as on the CHC form.

When I get a QSL from the county, I enter the information in the CQ form. In addition I maintain a cross-index in a card file (it's amazing how often these contacts can be "lost" in the record-keeping process). To make everything even, I color in a large map of the country showing the counties for each county worked.

The beginning county hunter probably has more counties already then he realizes. To start, first go thru the log and see where your contacts have been. Rand McNally publishes a Green Guide ($7.50) listing cities by county for each state. The friendly post office has a Directory of Post Offices showing the county for each post office in the country — this is also cross-referenced by ZIP code. It's available at a moderate cost from the Government Printing Office, free from your congressman, and sometimes you can get an old one, just as good as a new one, free, if you are on good terms with your local postmaster.

John Lee, W6YKS, checked his 6-meter contacts and found he had worked over 300 counties without even knowing it. As you make more contacts, you can ask the station in what county he is located, or consult your directory during the contact.

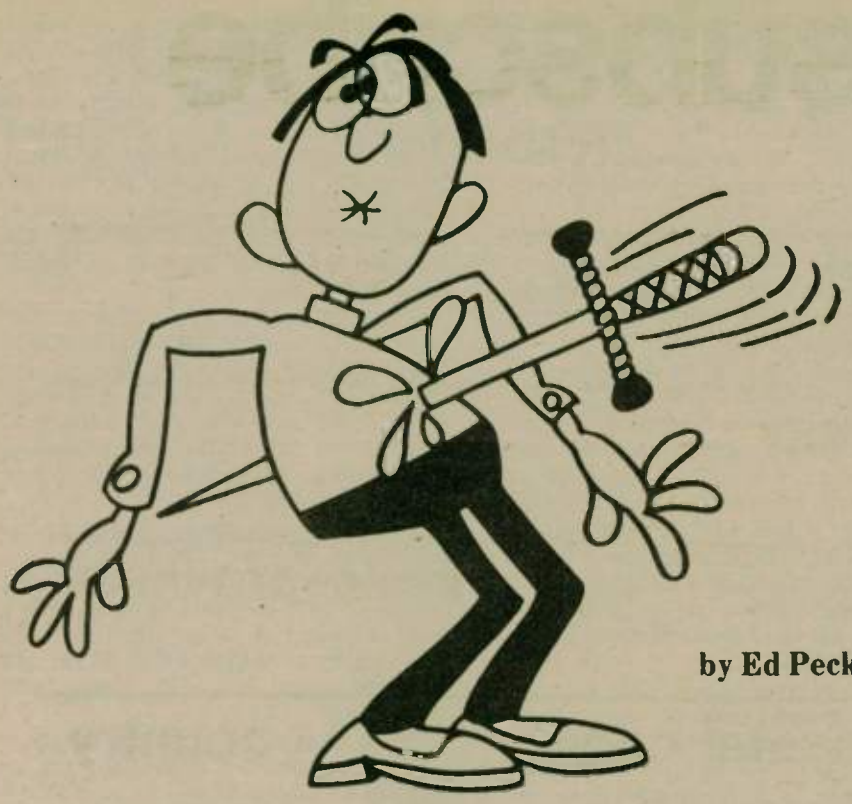
Feel free to check into the various nets. After you listen for five or ten minutes you'll get the idea of how it works. When the activity is slack, advise the net control that you are new at it and you have a good chance of getting some excellent information and a lot of help. The thing I like best about the county hunters is the almost 100% cooperation you get from everybody.

Unlike DX, where it's everybody for himself, the county hunters help each other and go out of their way to make sure everybody makes the contact that he needs. Of course, as with everything else, there are a few lids, but the percentage of weird people is much less than would be expected.

After a while the new county hunter gets caught up in the excitement and fun and wants to go mobile and give out a few of the rare counties to the others on the net. This is fairly easy and a lot of fun, especially with a good NCS keeping things running smoothly. After a trip thru a few rare counties, your mail box will be full for several weeks!

I have worked 2,467 counties without trying too hard during the past six years. This leaves 610 to go! I keep wondering what the last one will be. Some of the states are finished already with some only 60% finished. The hardest areas for me

(please turn to page 39)



by Ed Peck, K6AN

Towers, zoning and the law

(Below are part of the remarks of Attorney Ed Peck as delivered at the Pacific Division Convention on 26 October 1974)

(continued from last month's issue)

What are tract restrictions? The law says where a person is the owner of a segment of land, he may, before he deeds out any parcel, impose restrictions on the use of that land which is binding on everyone who gets a deed to any parcel of that land.

This is usually put together at the beginning of the development of a new tract of homes by the owner or developer in order to keep the living conditions nice in that particular tract. Saying "You can't have hogs, you can't have chickens, you can't have an automobile repair shop," to us makes sense. But, when they start applying to Amateur Radio, then they don't make sense.

So, when buying a home, you should always check with your local governmental authorities, and also make sure no tract restrictions are going to give you a bad time once you buy your house. There is nothing quite so bad as to get under contract to build a $50,000 home, and then find out that you can't put up an antenna.

Have the real estate broker get you a copy of any tract restrictions. Do this before you sign anything, or you may find yourself dead in the water. Put in an escape clause if you sign and you don't know.

Usually in these things, you don't have the convenience of a definition of what is a building. This puts you at a disadvantage because you have to depend upon the general law which defines buildings as being just about anything. In a restriction, it will usually say "building" or structure". If it ~~says~~ "structure", you're in. If it says "building", you may be able to argue with somebody, but if you get into court, you're going to lose it because cases have shown just about anything can be a building. Look for what regulations are on building and structures.

Usually, a tract restriction will say the purpose of the tract will be limited to residential purposes. Now, this is where we got 'em.

Most every case that you read about that the ARRL mentions (or if you get their legal kit), they will cite cases to you in Minnesota, New Jersey, and other states where it has been held very clearly that an amateur radio station and its antenna are a normal accessory use and are residential purposes. So, if you ask, "Is my amateur radio station a residential purpose?", the answer is "Yes". And there have been decisions in three State Supreme Courts that have so held.

Sometimes the tract restrictions will say they will not allow a nuisance to be conducted in the tract. Normally when you talk about nuisance, that's the pig pen of the auto repair shop, etc., and is usually in the words of "no noxious or offensive activities".

Your neighbors may think you are, but probably you're not. You're probably okay as a "nuisance", and I'll mention that again later on.

Suppose you put up your antenna, and you don't have the proper authority either from the city or from the tract. The tract can file a lawsuit against you and they can get an injunction preventing you from putting it up.

We had this sort of situation. The antenna was partly up, that is the base was in. The neighbors ran around and got an injunction. In order to get an injunction, the interesting part is, they had to put up a bond. You can't get an injunction against somebody doing something without a bond being set. This means you go to a bonding company. Depending upon the size of the bond the court may order (and this is done behind your back, you don't ever know this until you get the paper), the court will issue a temporary restraining order and set a hearing for the injunction two weeks away. At that time, the people are required to put up a bond which may be two or three thousand dollars.

Then they serve you with the paper which says you've got to stop right now until a hearing which must be held within two weeks. Then you go to that hearing and this is the first thing you've known about it.

At the hearing you can do two things. One, you can contest the idea that there ought to be a temporary injunction granted and you can also ask that the bond be increased. Why do you do that? Naturally you try not to have the injunction granted because you want to go ahead but more importantly why do you want to increase the bond? One reason you want to increase the bond is, if you're successful in the lawsuit, you can turn around and sue the bonding company and get all your legal fees and costs and damages that you've suffered from being deprived of your right to construct your tower.

Say, for a year you've been off the air. That's got a monetary value. We had this happen in a case where they put up a bond. We won the case, turned around and sued the bonding company and we collected all the costs, attorney's fees and some extra money for the trouble and time that the amateur had been off the air.

It cost the bonding company a couple of thousand dollars before they got through with it. Well, that doesn't bother the bonding company too much because they come right around to the guys in the tract who originally sued you.

Once they pay off on the bond, they have the right to subrogate, as they call it, back against the guy who started the lawsuit. So, your enemy neighbor ends up by footing this bill. You collect it from the bonding company and then the bonding company goes to them. This can be something to think about.

Let's briefly talk about some of these restrictions. They come in all shapes and sizes, just as amatuers do, I guess. Probably the least offensive one is in Saratoga, Calif. That's where we collected on the bond. Their restrictions had three possible things that could be used against us. One, no lots shall be used except for residential purposes. We were able to lick that because we had authority from Supreme Courts of other states which were reliable authorities that the courts here in California follow. So, the amateur antenna is a residential purpose in use.

The next thing was architectural control which is, no building shall be erected unless it has been approved by the architectural control committee. They argued this tower was not approved by the architectural control committee. We licked this is part because we showed when the developer built the tract he violated his own regulations right and left.

There were all kinds of regulations about fences, garages and various other things that were just rampant through the tract. The law says when the tract has so far drawn from the purposes from one of these restrictions (that is there had been so many deviations from it) over the years that the accumulative effect was such that there was no sense to continue and they won't enforce it against you.

So we showed, we had pictures taken of some 30 different other houses in the tract which showed that every one of those houses had a violation of some sort of their own restrictions. I don't know what really influenced the judge, but he found in our favor in that part of it too.

The third part was this word "nuisance" is in here, "no noxious or offensive activity shall be carried on". I wish to discuss "nuisance" as a separate segment here in a minute and show you how we got around that one. Anyway, that's the one that really went through the courts, that one was litigated.

(continued in next month's issue)

Mobile noise Supression

Bonding

Each one of these 15 items play an important part in the reduction of ignition noise in your vehicle. Be sure to use inside-outside lock washers above and below bonding straps at each bonding point.

1. Bond motor to frame both front sides.
2. Bond fender to fender skirt to frame both sides in motor compartment.
3. Bond across both hood hinges to fenders or firewall.
4. Bond radiator shell to fenders on both sides.
5. Bond cover plate over power brake fluid compartment. On late model cars this is a large dish type cover.
6. Bond cover plate over heater and air conditioning motor compartment. If cover plate is plastic, install copper screen shield over it and bond to firewall. Copper screening is available at any lumber yard or hardware store.
7. Bond air cleaner.
8. Bond coil bracket to coil case by inserting inside-outside lock washer between mounting bracket and coil case.
9. Bond firewall to fenders both sides.
10. Bond co-ax feed line at antenna base to firewall.
11. Bond rear body both sides to frame.
12. Bond gas tank flange both ends to frame.
13. Bond tail pipes at center section to frame.
15. Bond co-ax line to frame ½ way between antenna base and transceiver.

Capacitors

Install capacitors per information contained in the Champion Booklet, except, install .002 ceramic capacitor in series with 6 ohm resistor from field connection of regulator to ground.

Ignition Cables

Remove ignition cables supplied by manufacturer with the vehicle and install Whitaker solid wire cables. These cables have the suppression unit built into the rubber head that plugs on the spark plug. These cables will give you much better ignition life and better noise suppression. These cables are available at most auto supply houses. If you have trouble locating the cables, contact Ernest Scroggin, WØSJE, you will be supplied with the nearest dealer.

Noise suppression falls into three categories. Bonding is the most important factor with ignition suppression cables of the proper type as the second phase. Any further noise can be reduced by the proper capacitor filtering as outlined in the Champion Booklet. Copies of "Giving Two-Way Radio Its Voice," published by Champion Spark Plug Company are available through WØSJE.

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Navassa

(continued from page 1)

Friday, 29 November. This schedule would have capitalized on the latter part of the CQ WW DX contest CW weekend to let people know we were on the air, so we would have good activity for the remainder of Sunday until the bands (or the operators) folded.

Unfortunately, this goal was not achieved. Our 65-foot chartered boat encountered a severe storm at sea during Saturday evening; heavy pounding and seasickness reduced the available watchstanders to the point where the Captain was forced to steer back to Jamaica. About eight hours later, with the storm subdued though still in progress, we again headed for Navassa. At 11 p.m. Sunday we reached the island and anchored off-shore in heavy swells, with the engines idling all night in case the anchor failed to hold.

At daybreak on Monday, 25 November, we began to offload from the boat to a small dinghy and then to the landing ladder. A hurried station was aired and the first QSO was made shortly after 10 a.m., just one day later than scheduled. We had lost the contest operating period and with it went our initial goal of 10,000 QSO's. We were all quite beat, physically, and the task of setting up the remainder of the gear went rather slowly. It took us a couple of days to begin to feel anywhere near normal again, and the all-too-short hours of sleep didn't help much, either. Even so, during the four days on Navassa, which included the setting up and dismantling of three stations, camping facilities, and seven antennas, we did manage to make 7,321 QSO's, including 89 on 160 meters. To our surprise the total contacts were nearly equally split between SSB and CW. We had expected SSB to be more top-heavy, but the final count showed 53% were on SSB and 47% on CW.

(please turn to page 18)

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How to DX on top band

By Martin Laine, OH2BH

Top band is often a topic of lively discussion.

The so-called HF-amateurs regard it as something special. A band they will not dive into. DX on top band carries with it something extraordinary which is rendered with silent esteem. The top band amateurs are a group of their own not heard on other bands. They have dedicated their lives to this marvel.

I wonder if they even consider themselves a bit higher rank compared to the ones working DX on easier bands.

Is all this true? I will tell you and at the same time I hope to be able to arouse some healthy criticism which will most probably benefit top band. I will explain to you what top band is today and I sincerely wish it would not be the same tomorrow. Quite a few might contest this idea: Why should it not remain the way it is? I shall give an answer. Everything has to change and everything does change — also within our dynamic radio amateur hobby.

What is top band today?

I will explain it with a few words. Top band is a museum of the skills of radio amateur operating. Everyone on the band, with a very few exceptions, represents an era 40 years ago when they operated with crystals and practiced the so-called across-the-band technique. This technique of the 1930's has rooted so prominently within top band that the ''younger generation'' amateurs cannot feel at ease on top band.

The best top band contacts and country scores have been carried through via mail and so it is still today. Just as well as you come out with a contact after intensive correspondence you would be able to manage without the postal services. And think of the experience in gaining a real fat DX as a result of your own operating skills. Top band activity in many magazines is led by these very heroes of the 30's and this is why the situation remains stable. They regard the representatives of newer times — people like Herb Schoenbohm, KV4FZ — as some kind of long hairs with nothing to offer to top band. In reality Herb is a skillful operator 40 years ahead of the others. Or is it so that Herb uses his transmitter also in receiving?

Antenna picture at OH2GH taken from airplane, The Hy-Gain 204BA at 150 feet off ground.

Martin Laine, OH2BH, and XYL Lenna at the home in Hakunila, Finland. They have three-year-old girl whose godfather is Frank Cuevas, W6AOA.

OK, I shall verify my examples — with examples

For me, it is easy to provide evidence. I'm from a particular area which has great difficulties in working top band. Top band and also 75 meters here in Northern Europe are very difficult paths, especially to the states. Only as far from here to England is the situation completely different, and contacts arise easily. It is not impossible, however from Finland either. It could even be easy.

I have been well-equipped for top band for the last five years and been involved in contests where activity is highest. In January, 1974 I decided to give a serious effort in the CQ World Wide DX Contest. I was stationed at a link station at the southern coast of Finland where I was able to raise the antenna 200 feet off ground. The antenna was facing directly out to sea. Nobody can say that there was something wrong at the other end of the cable — everything was first class.

I shall take the pleasure of telling you what happened: W1BB, W1HGT, K1PBW, K2GNC, W3BUR, W3GN, W4YWX, K4CIA, K4GSU, W4REZ, W5RTQ, WA8IJI, K8KAS, K8CCV, and KP4AST could be heard here continuously from two to five hours and were peaking up to S9 several times. What did happen? Did I not contact any one? Was my equipment out of order? Was there one-way propagation? None of these. Absolutely two-way propagation and everything in top condition. Simply all the above mentioned stations were around 1800-1810 KHz but didn't give me the slightest chance. I could have held a solid two-way QSO with every one had I been able to explain the situation, e.g. by mail. I was stationed in a so-called DX-window which had spread out from 1820 to 1830 kHz. We were on different frequency strips. We knew it but still didn't make it.

Wal Eckles, WB8APH, was undoubtedly the strongest U.S. station. Wal could be heard over six hours during the competition, but he never consciously gave me a chance. OK, we made it solid with Wal. He writes in his QSL-card: ''I couldn't believe my ears when I heard the OH-station come through.''

Great Wal, I had no problems believing my ears because I had been calling you on and off for almost three hours. Next year Wal, give me two small numbers e.g. 29 — that's all. Tell me where you left your R4C knob. It is seldom that I can stay alone at the frequency of the station that you have just worked, because people want to keep their good channel in the window.

(please turn to page 14)

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EDITORIAL

Armond Noble, WB6AUH
Editor, Worldradio

A portent of things to come?

Appearing before the International Radio and Television Society in New York on 13 November was FCC Commissioner Robert Lee. In his remarks he told about the International Telecommunications Conference in Geneva on allocation of maritime frequencies. Lee, who headed the US delegation, said he felt that third-world nations ganged up on the rest of the world and forced the adoption of an allocations plan that major telecommunications users regarded as administratively unsound.

What troubled Lee and representatives of other industrialized nations, was a caucus organized by 40 delegates from the Arab states, Africa and South America. Lee said "with little or no engineering support" the countries successfully pressed for a new allotment table and a new allotment procedure for the costal radiotelephone band.

In reporting on his talk, **Broadcasting** magazine in their issue of Nov. 18 interpreted it this way, "FCC Commissioner Robert E. Lee has been brooding about the outcome and what it augers for the major telecommunications users such as the U.S."

Wake up!

At about the same time Commissioner Lee was delivering his remarks, the director of ARRL Pacific Division, "Doc" Gmelin, W6ZRJ, was mailing a questionnaire to over 60 clubs in the division. In the questionnaire was the material about the Sister City Program which we have reprinted on page 22 of this issue.

During an era when we need all the overseas friends we can muster, Gmelin received only three replies to the Sister City query. One asked for more information and two clubs informed him that their clubs wanted "absolutely nothing to do with such an idea".

What's the matter?

While many concerned amateurs are investing many hours, and their own funds, to bring the Sister City Amateur Radio cooperation about, there are amateurs who are hostile to the idea.

While Pacific Division vice-director Al Gaetano, W6VZT, called it "one of the greatest avenues we have to insure the survival of Amateur Radio" sixty clubs were too apathetic to even return the questionnaire.

Where are we going?

It's no secret that a World Administrative Radio Conference is coming up in 1979. The fate of Amateur Radio lies in the hands of the delegates voting at the conference. About 150 countries will be represented. The U.S. has but one vote.

Who cares?

The ARRL is doing everything their resources allow as well as asking amateurs whose business travels take them into countries considered hostile to Amateur Radio to reach people whom they might influence.

A major effort is going on to protect something for such a great number who appear to be indifferent about the whole thing.

Why bother?

In the FCC's Basis and Purpose for the Amateur Radio Service (Subpart A, paragraph 97.1) we find (e) Continuation and extension of the amateur's unique ability to enhance international good will.

How many amateurs can name one activity of theirs (or anyone else) that fits into that definition?

At one time there was an organization set up to assist overseas amateurs travelling in this country. But, through apathy it died. (One amateur, Gil Baker, W5QPX, is now trying to bring it back.) We are at the point now, when an overseas amateur writes to a US radio club that he will be in their area and would like to know the meeting night and location so he can meet some of the amateurs, he doesn't even get the courtesy of a reply.

Is this the era when nobody wants to do anything? Have we passed through our peak? Where is the action and the dynamics? Will historians look back and call this the "Vegetable Age"?

How it could die?

We have talked about the attacks on Amateur Radio from other countries. We must convince the world, and our own country, that Amateur Radio is indeed a far more important usage of the valuable spectrum space than whatever other services want it. But, our biggest fear may turn out not to be external but internal.

When it could die?

At the present rate of attrition in the amateur ranks, within the lifetime of a person licensed now, Amateur Radio in the United States could cease to exist.

For some time now we have been losing 350 amateurs a month. Multiply that by 12 and it's 4,200 a year. Divide 4,200 into the 255,000 licensees and you will see that in 60 years it would have faded away. Actually it would end sooner than that, for if our own government looks up 30 years from now and sees half as many amateurs they will probably give all our frequencies to other radio services. And we will have brought it upon ourselves.

How could it happen to us?

Why is it Bill Welsh, W6DBB, and his wife have taught more than 25,000 people to get their licenses and most people have never taught one?

How many people care? About anything? How many people have an interest that is really meaningful to them? How many people can say "I'm involved in something fascinating, challenging and important?

Who is doing something?

There are a few who can say they are active, because they are.

There are a few (very few) who are deeply concerned.

To show the kind of thinking going on, we are reproducing below a letter that is being circulated by one deeply concerned amateur to those he considers to be leaders and the molders of Amateur Radio's future.

(1) Is Amateur Radio properly regarded as a growth activity, and should the number of amateur radio licensees be related to the size of the overall population, the gross national product, or some other societal index?

(2) Can Amateur Radio become a larger service and still maintain its characteristic spirit of togetherness and cooperation?

(3) Is "Amateur Radio" a misnomer in today's context? Is it, in fact, more nearly "Citizen's Radio" in terms of its value and accessibility to the general public, and should CB be redefined as "utility radio"?

(4) Does Amateur Radio have a special social obligation toward the young, the aged and the handicapped?

(5) Can the concept of Amateur Radio as an international brotherhood be further developed with the objective of exerting a more beneficial influence on world affairs?

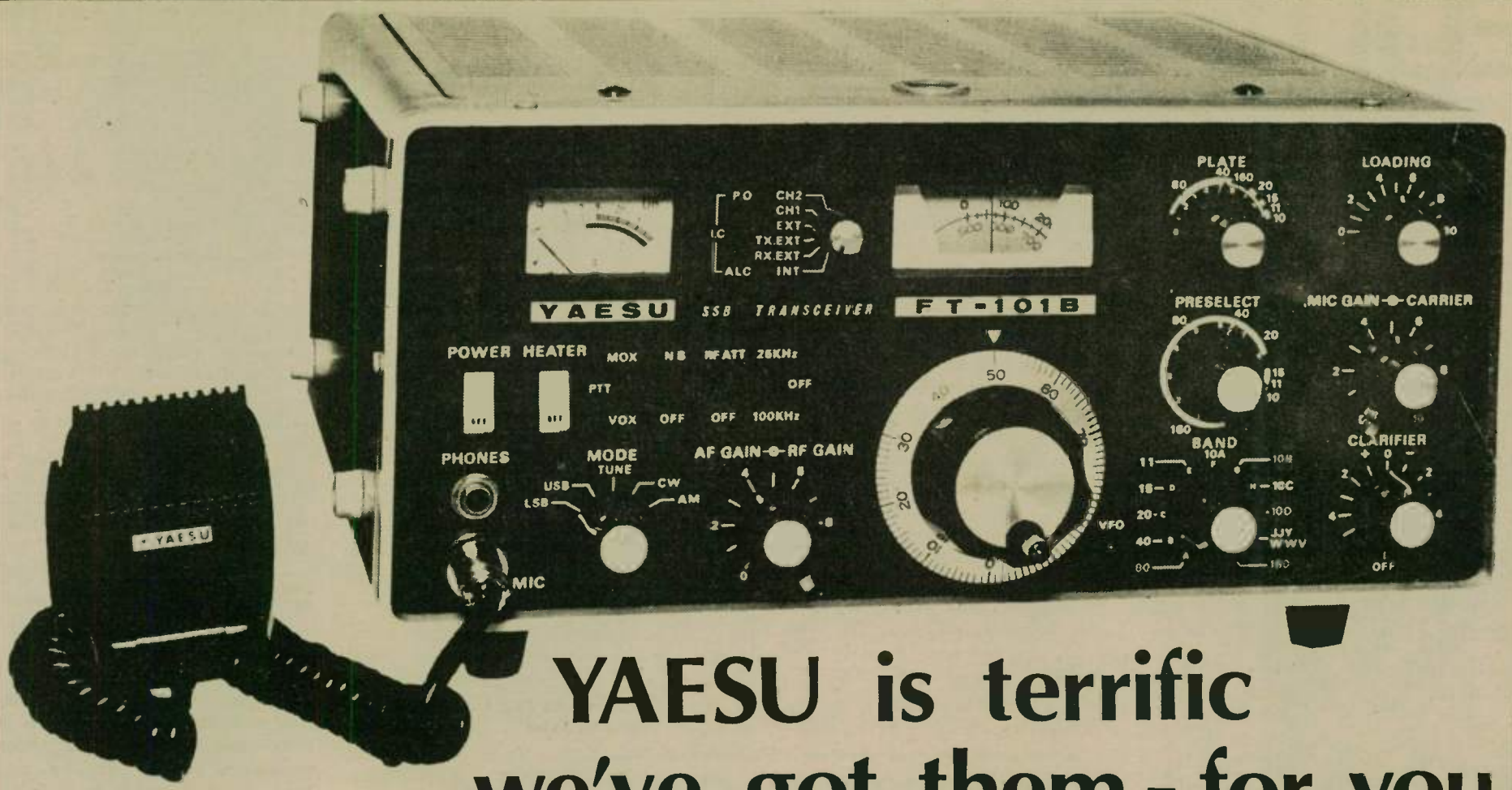
(6) Should a formal regulatory program be developed to effectively "select out" that small segment of the amateur fraternity that misuses the resources and privileges of the service?

(7) Can new positive and cooperative relationships be established with industry and government which will encourage their support of the Amateur Radio Service, rather than raids on our frequencies?

(8) Should license examinations be redesigned to require a demonstration of procedural competenece and place greater emphasis on individual responsibility for avoidance of offensive language and behavior?

(9) Should the Amateur Radio Service seek to become more self-sufficient in conducting examinations for its own members, thus relieving

(please turn to page 39)



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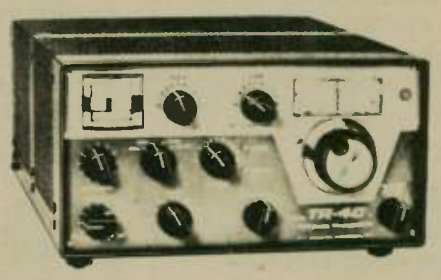

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The Fraternity

By Steve Adair, WA6WEI

When I found what I thought was a good buy on a tower, I contacted Jerry Skinner, K6LU. He was willing to go to Oakland with me to give me his expert opinion of the merchandise. The word was "buy".

So a couple of weekends later Jerry, Al Hoffmeyer, WA6WER, and Gary Mason, WB6AHC, made the trip with me to transport it to San Jose on a trailer loaned by Ron Rueter, WA6WEQ.

About a week later a friend of mine, who had moved from his QTH in Oakland, gave me a 70 foot guyed tower, a TA36 beam and a rotor if I would take it down. So another call went out for help. This time Dick Yow, WB6KUK, joined the group.

These and many other of our club members worked very hard to make our Field Day one of the best ever — fun as well as competitive.

This is the kind of help and cooperation that makes Amateur Radio such a great fraternity. I have never belonged to, or seen an organization with such an intense spirit for, or a desire to help another person, with no thought of personal reward.

It is the same story across the country. Not just helping fellow amateurs, but helping the public. Not just in times of emergency, but any time there is a need for communications to make an event successful.

Do you take an active part in the various club activities? Do you volunteer to serve on committees? Do you attend club meetings? Are you helping a Novice to upgrade?

Or are you always looking for excuses to shy away from all these things?

If you are not active, find ways to become active. Share a few hours a month, go to club meetings. Become a part of the team by letting them know your ideas. Find out what's happening to make the club better and the meetings more interesting. It will make your life more meaningful.

Then, maybe you will be as proud as I to be a part of the great fraternity — Amateur Radio.

•

How to DX on top Band

(continued from page 10)

Herb, KV4FZ, was as great as always. He could be heard a few hours but didn't reach the level of the best U.S. stations. Herb always mentioned where he was listening and I probably could have contacted him several dozen times.

Fred Laun, LU5HFI, is known to be one of the top operators in the world. He had also adopted this style of the thirties on top band. Fred was peaking S9 and I had the pleasure of listening to even his sideband voice.

CQ EU CQ EU DE LU5HFI K was Fred's style. I was in panic. For two hours I kept calling around the window . . . I was under the QRM . . . I was under the strong Central-European stations. I was praying in total bewilderness: "Tell me where is Fred's receiver, where is there a silent place in Argentina."

My prayer was heard. Conditions were peaking and Fred was 20db over S9. I was at 1828 and suppose Fred was listening around 1823, but heard the clicking of my T4XC keying which I had adjusted loud. Fred gave me a solid 589 and we even had good time to chat. Fred understood that I had been calling for several hours and changed his tactics. CQ EU CQ EU DE LU5HFI 29 29 K was heard in ether. I was just a big smile when I heard Fred bring forth an EU pile-up and exchange reports even with Northern Europe.

I know that at this point many will come up with questions: "Why are you listening and monitoring there? Why don't you park somewhere in the window and fervently call CQ DX?" That is exactly what I did . . . so fiercely in fact that I just sat there with a bunch of hair in my fists. I left 1820 and moved up in 500 Hz steps. I was shouting into the woods. One-way propagation? Absolutely no. Once I happened to park in an empty place where W3IN was keeping his receiver. We made it solid before the strong Central--Europeans trampled over me. I kept trying another couple of hours, but it's like winning in state lottery if you wish to hit an empty channel in this manner. W3IN completed my U.S. pile-up and left me waiting for better times. The rest of the stations were not in good luck. They play their own games in which they never reach weak signals except via air mail. Believe me K1PBW that you were peaking 10db over S9 but I never quite understood what you were up to on the band. W4EX was handling everything all right but for some reason we did not make it.

Some advice for next winter — for modern times

Who is able to give advice as to how to work DX? That is DX itself. DX will tell us how it is to be treated, if you wish to catch it. This is how you will become satisfied with your accomplishments. I need not be right in my advice, that is why I present them quite broadly to all of you. Maybe we could combine all styles into one top-style and thus benefit the future of the band. Maybe the grand old man Stew, W1BB and "long hair" Herb, KV4FZ could meet and fill in the one chapter missing from Dr. Miller's DX handbook.

Martin Laine, OH2BH at seminar in Helsinki.

A group called big guns (you can decide for yourself as to which group you belong into)

When conditions are peaking and you hear and work other overseas big guns do as follows: find out an empty place and calmly call DX and at the end tell where is an absolutely empty place and also where you can hear a weak signal. CQ DX CQ DX DE WA8IJI WA8IJI QSX 28 28 K might work as one way of doing it. Whenever the QRM covers up your listening frequency change it. Be cleverer than the QRM. You will be surprised and you can save the stamps for your Xmas cards.

A group called weak guns — also big guns from weak areas

If conditions are fair just keep on listening. When you hear an overseas Big Gun calling and mentioning his hearing frequency your chances are up. Do not become discouraged even though all the Big Guns from your continent are bound to strike first. Be patient, you are a weak gun, aren't you? When you hear the overseas weak guns become audible your time has come. Move to the Big Gun group and park somewhere. It is your turn. The overseas Big Guns will hear and answer, sometimes even two weak guns might catch each other.

If you don't know if you are a big gun, a weak gun or a so-called old gun you have to peek in the mirror and also check your log book for the past two years — how many good DX stations have you worked without using the mail? It will help you in the analysis — you might even end up realizing that you are not a gun at all.

The wireless world is dynamic and is developing every day. We made it across the Atlantic years and years ago. We can do it today with whichever frequency we please via the moon or the satellite if not otherwise.

We can do it on top band as well, any time, as soon as we know how to do it.

South Pacific DX trip

By Gary Stillwell, W6NJU

Coming to Australia was not a new idea.

My wife's brother had emigrated to Australia several years ago and so every now and then a visit discussion was held. About five years ago I took on the QSL duties for Bob Lusk, YJ8BL, and over the years due to weekly on-the-air schedules when band conditions permitted, a friendship had developed. One night during one of our weekly schedules Bob mentioned that he probably would be leaving the New Hebrides in March of 1975 and returning to his home in New Zealand. He mentioned if I wanted to come by for a visit, time was running out. From there, the pieces very nicely fit into place. It would be (1) a trip to Australia to visit my brother-in-law and his wife in their summertime period. (2) A stop-over in New Hebrides during their summertime when weather conditions in that area would be at their best. (3) A place to operate radio and conveniently a DX contest weekend.

So the decision was made to make the trip which concentrated primarily in stops in New Hebrides and Tasmania (the Island State of Australia), and which would include stops in Hawaii, Fiji, New Caledonia, New Zealand and Tahiti.

Bob Lusk, YJ8BL

The first leg of the trip was an easy relaxed flight, leaving behind cold weather in Sacramento, Calif. for the nice warmth of Honolulu. Upon arrival we were hosted by Pat, KH6GQW, and Denise Corrigan. Denise took my wife Pat out to the Corrigan home for a lovely evening while Pat escorted me to a meeting of the Honolulu DX club.

The club meets in various members homes and that particular evening we were hosted by Joe KH6GDR. The club is an enthusiastic one and it was indeed a pleasure to meet such well known hams as Jack Wheeler, KH6CHC, and John Oka, KH6DQ, who runs the KG6-QSL bureau. We were given a hearty welcome by the club members headed by their President Joe Locascio, KH6IGJ. The program that evening was very interesting as Tom Hawkins, KH6HDA/ZM7AI showed pictures of his recent ZM7 trip.

It was nice during inactive moments to get down on the beach at Waikiki and get a few short swims in the ocean. We were also hosted by Lee Wical, KH6BZF, and his wife Laura. Lee had provided some wheels so we could make the circle tour of Oahu, which ended up at Lee's home for dinner. Wouldn't you know it when Lee and Laura took Pat (my wife) out sightseeing I elected to sit in the shack and get in a few hours operation in the phone Sweepstakes which just happened to be in progress. My sincere appreciation to all those in Honolulu that got the trip started off on the right track.

Pat Corrigan, KH6GQW

From Honolulu, we flew to Nandi, Fiji. We stayed in the Hotel Tanoa, which just happens to be managed by Fred Carter, 3D2CC. The hotel is quite convenient to the airport and sits atop its own little hill. Fred has devoted one room on the second story to amatuer radio activities and his two-element quad is well situated on the roof of the hotel.

We operated a little bit on 75 meters and also reestablished contact with Bob, YJ8BL, over in New Hebrides. The anticipation and excitement of arriving in Port Villa began to build.

Fiji sits in almost the same location south of the equator as Hawaii does north of the equator,

(please turn to page 25)

international friendship

DK2HW visits Sheboygan

by Art Pahr, WA9UEK

Back in June of 1971, the Municipal Band of Kiel, Wisconsin, flew to Kiel, Germany, to perform several concerts. To complete the exchange by the two sister cities, **Das Musikkorps der Freie Turnerschaft, "Vorwarts,"** of Kiel, Germany, came to Kiel, Wisconsin, in July of 1973.

At a reception for the German visitors at the beginning of their ten-day visit, I was visiting with a member of their group and trying to make conversation in my rather poor German.

It turned out that his English was better than my German, so we continued talking in English.

I asked him if he knew what an amateur radio operator was and if their might be one in their group. Considering that three members of the 55-member Kiel, Wisconsin, group are hams, I hoped the odds might favor finding one in their of 63.

His face lit up and he said, "I am one! I am DK2HW!"

Hans-Walther Wagner and I had a two-hour eye-ball QSO and made arrangements to spend the following Saturday visiting the stations of a few members of the Sheboygan County DX Association.

We gave Chris Bauer, W9NVJ, hand fixing the rotator on his quad and chewed the rag about DX at the same time. Later we stopped by to see Marv Bartz, W9MYG, and George Menart, K9YXA, for more DX talk. Then, at my station we did some operating during the RSGB Field Day event and netted a few contacts. A "CQ DX" fizzled but we did respond to the "CQ" of Max Chaplin, HC1ML, and talked with him for a short time. Hans was also quite interested in my two-meter link with K9YXA. Hans and I set up a schedule for when he returned to Germany. It came off as planned, although his signal was not too strong here.

Hans is a college student in Hamburg, Germany, majoring in economics. As result, he gets home to Kiel only on weekends, which limits his radio operation. He does enjoy DXing but the confirmations are slow to arrive (whose aren't?).

Hans would like QSOs with the western USA but he has a hard time hearing them due to "the very strong signals from the USA east coast." His rig is the FL-100 transceiver to a dipole hung from the ceiling of his tenth floor apartment. The landlord will not permit him to put an antenna on the roof of the building. Despite this apparent handicap, Hans had about 115 countries worked as of his visit here.

Now, truth can certainly be stranger than fiction. Here is a footnote to Hans' visit.

During our visit with Chris, W9NVJ, he pulled some old QSL cards from a desk drawer and began talking about one in particular. Way back in 1936 Chris had a contact with Kurt Braune, D4YTM, who lived in Dresden. Chris and Kurt maintained schedules and also corresponded via the mails until WWII put an end to their radio contacts and letter writing.

After the war Chris tried to locate Kurt to re-establish the friendship. Every contact he had with a German amateur he would ask about Kurt, but no one knew of him. As the years passed, Chris resigned himself to the fact that, perhaps, the war had, in one way or another, eliminated any hope of ever finding Kurt again.

About this time Hans spoke up and said he thought there was a Kurt Braune living in Kiel, Germany, as he recalled that name from one of the radio club meetings. In answer to Chris' question, yes, this Kurt Braune was an older man, maybe in his 60's or older, "but I think he spells his name with a 'C'," said Hans.

Could this possibly be . . .? Well, Chris had a photocopy made of both sides of that old QSL card for Hans to take along back to Germany. He also sent along a 1936 version of the W9NVJ QSL card. Hans promised he would look up this Curt Braune and see if it could be Chris' long-lost friend.

Hans -Walther Wagner, DK2HW

Hans had been back in Germany for about three weeks when, one day, Chris received a letter from Curt Braune. Yes, it was the same Kurt Braune who once lived in Dresden and signed D4YTM, and is now signing DL1CN. Chris replied with a lengthy letter to Curt and has maintained a regular schedule with him since finding him again.

Strange (or weird) that a chance meeting by two amateurs at a non-radio event and subsequent conversations resulted in re-uniting two old radio friends after a 37-year interval—and, neither Hans nor I had yet been born at the time of that first D4YTM and W9NVJ QSO.

Wonder what the odds makers would say about the chances for such a situation to happen exactly the way it did? Truth certainly is stranger than fiction!!

The motto adopted by the two musical groups is **"Freundschaft durch Musik"** (Friendship through Music).

A slight re-wording of the motto kind of sums up this entire story and chain of events—**"Freundschaft durch Radio."**

•

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spectrum

Emergency

by Ted Spain, WA0YGE

Today we want to talk about emergencies that are reported and aid requested via Amateur Radio and in particular those that occur on the highway and a mobiling amateur appears on the scene. This has been of concern to some of the NCS on PAW and we hope it will be of help to them. LeRoy Youngs, WA0YVT (net manager for PAW) and I discussed this at some length recently and came up with the following suggestions:

1. CLEAR THE NET
   a. Declare an emergency exists
   b. Accept no more checkins, traffic or calls until the emergency is over
   c. Ask all stations to stand by to help with relays
   d. If, as the NCS, you don't copy the reporting station, relinquish the net to one who does and let him handle the situation.
2. GET ALL NECESSARY INFORMATION
   a. Location — address, landmarks, which lane of highway
   b. Nature of emergency — injuries, type of emergency
   c. What is needed — highway patrol, ambulance and fire department.
3. GET CALL SIGN AND NAME OF REPORTING STATION
   Carefully consider all the facts and determine if a real emergency exists.
4. INITIATE ACTION

Point No. 3 is most important because there are people even in Amateur Radio who enjoy instigating a "hoax" by turning in a false alarm. Helen Haynes, WB0HOX, told me of this very thing happening to her recently on 40 meters. All of the necessary precautions were taken and in the judgment of everybody on frequency it was considered a bona fide emergency but to their dismay it turned out to be someone "crying wolf"! This is very disappointing and it gives Amateur Radio a bad name, but take heart — there are far more real emergencies where lives have been saved or pain eased . . . thanks to some 'on the ball' operators.

Emergencies don't happen very often but when they do — be calm . . . be ready . . . and be prepared to help.

("The Flyer")

How to 160

by Robert Cobaugh, W2NX

Sometimes in conversation with an amateur, I will ask him what bands he works, and he will assure me that he works "all bands." When I ask for a schedule on 1818 kHz he gulps and says, "Sorry, but I mean 80 through 10 meters." After all, 160 is an amateur band, in fact the granddaddy of all amateur bands, and many new amateurs are completely unfamiliar with it. When I suggest to someone that he should look into 160 operation, this is the usual line I get.

1. Does anyone operate up there?
2. I have no gear for 160, how do I get started?
3. Once I listened in, and heard nothing, why?
4. In any event, I don't have the space for a 160 meter antenna.

I will try to answer the above questions.

Yes, there is a lot of 160 meter operation. I sometimes join a net on 1.845 MHz during the morning around 8:00 a.m. that includes a mobile W1.

Daytime is usually quiet, but activity usually starts about an hour before sunset and continues through the nighttime hours. The general characteristics of the band are similar to 80 meters.

The 160 meter band is shared with a navigational service called Loran, and in this area we are permitted to operate between 1800 and 1825 with a daytime power of 500 watts, and a nighttime power of 100 watts, and in the portion 1825 to 1850 with a daytime power of 100 watts and a nighttime power of 25 watts. The Loran system is going to be phased out soon in favor of Omega, a VLF system and someday we will get the entire band back for amateur use.

Examples of new gear that provides for 160 meters, are the Signal One, Yaesu FT-101, and KW-2000 transceivers, the Drake T4X R4 combination. Older rigs are the Central Electronics, Lakeshore, Hammarlund HX-50 rigs that work 160 SSB as well as AM and CW.

Older gear that only works CW and AM on 160 is the Johnson line, including the Ranger, Viking and Valiant, the WRL rigs, which can be picked up very reasonable these days. Many fellows homebrew a rig just for 160, either using tubes or solid state.

Most of the pre WW2 receivers cover the 160 meter band, and there is always the little surplus ARC-5 that covers 1.5 to 3 MHz, which is a pretty hot receiver for 160, after you add a little extra audio stage between the detector and output stage.

When you listen on 160 with one of those old receivers, don't use your 20 meter beam, that just amounts to a dead short circuit on 160. Ground one side of the antenna terminal, and just add a long piece of wire, the longer the better. If you still don't hear anything at night, there is something wrong with the receiver.

Now about the antenna situation. A dipole for 160 would be 262 feet long, and might be difficult for city dwellers to put up such an antenna. Actually, few stations use such an antenna, even out in the country. There are amateurs in the country that have long wire antennas, 600 and 1,200 feet long and with 25 watts, they work out better than many 1 KW stations on 75 meters. The loaded vertical is a popular antenna on 160. It is even possible to shunt feed a steel tower with a beam on the top with reasonably good results.

I think the most practical antenna for 160 is the end fed random wire Marconi, which uses a ground. Such an antenna can be any length, and could be the regular 80 meter dipole, the inner conductor and outer braid tied together. I once had an antenna for 160 meters only 30 feet long, and it worked. Of course, such a short antenna is very inefficient and you will not get a very high score on a DX contest, but you will make contacts.

The name of the game is to get copper in the air by hook or crook. It can zig and zag all over the place, and still work out on 160. If the transmitter has a pi network it will probably tune up almost any sort of a random wire, sometimes a series condenser is necessary. If the rig has only a 50 ohm output, a simple antenna tuner can be constructed. The ground can be a water pipe or even a heating pipe.

If the antenna system is resonant, that is, will light a neon bulb, or show antenna current with a thermocouple ammeter, it will work out. Things are not too critical on the top band.

Hope some of you fellows get up there soon.

("News Fuse" Hall of Science ARC, Flushing, NY)

Word from ZE1EF

by George Goldstone, W8AP

Several of us are personally acquainted with Rev. Orval Dunkeld, ZE1EF, whose present address is Chironga Mission Station, P/B 2002, Mt. Darwin, Rhodesia.

Back in 1957, a group of amateurs in the Detroit metropolitan area supplied Orval with a 100 watt AM rig, which he used successfully at ZE1JK to maintain a Saturday morning sked on 10 meters. This went on for over a year; and finally, Orval came home on a sabbatical leave.

During the time he was back in the States, SSB completely took over DX phone operation and the original group, plus several additional amateurs in the area, put a fund together which made it possible to supply Orval with a Drake TR-3, RV-3, AC-3 and MS-4 — the usual transceive package — plus a Hy-Gain 2-element quad antenna.

Due to transportation difficulties, it took some time for this gear to catch up with Orval; all freight has to go through the Union of South Africa.

To make matters worse, Orval had to take the amateur exam all over again, as his previous license and call had expired. When he had his new license and call — ZE1EF — and was established in his new mission station, located in the northeast part of Rhodesia, another problem arose.

The local native independence movement — calling themselves "freedom fighters," or "liberation army," or whatever their fancy of any given day dictates, began harassing Caucasians — and also any blacks who seemed to get along with whites. Many of the natives who had been converted to Christianity and had become religious teachers have been murdered. Land mines are planted in the roads Orval must use on rare trips to Salisbury (usually made by missionary aircraft) or to the mission hospital, which is five miles from Orval's mission.

For some months, Orval was hesitant to erect the quad antenna. He tried hard-to-see dipoles, a vertical ground-plane, and a wire beam — but none of these put in a reliable signal stateside. Finally, he put the quad together and made a 40 foot tower out of 2" pipe, with steps welded to it for climbing. His youngest son, Ron, (before coming back to the States for enrollment in LeTourneau College in Texas) put the quad up on top of the tower — and it has been putting a great signal into the Detroit area on 21.332 MHz at 1 p.m. local Detroit time each Saturday.

If any of our readers would like to join this logistical support group for ZE1JK, get in touch with me for I'm coordinating the project.

("Bulletin" Detroit ARA)

Repeater tips

DON'TS

Don't break into a contact unless you have something to add. Interruptions are no more polite on the air than in person.

Don't monopolize a repeater. The best repeater users are the ones who do a lot of listening, and little transmitting.

Don't forget that what you say over a repeater can be heard over many square miles by anyone with a monitor. Don't leave the listener with a bad impression of our hobby by making thoughtless or off-color remarks.

Don't respond to jammers. This only gives them their "jollies." If you ignore them completely they will go away. Lack of feedback will turn them off.

Don't belittle another amateur on the air at any time. If you want to tell him what you think of him, do it in person or on the telephone.

DO'S

Do keep all transmissions short. Emergencies won't wait for monologues to be finished. If you talk to hear your own voice what you want is a tape recorder, not an FM rig.

Do think before you transmit. If you can't think of anything worth saying, don't say anything.

Do pause a couple of seconds between exchanges. Someone with a high priority need for the repeater may want to break in; also, some repeaters are configured so a brief pause in transmission is necessary to reset the three-minute timer.

Do identify properly. "W6XYZ mobile" is not enough, even if you're three hundred miles from another call area. "W6XYZ mobile 6" is required. You must give the call of the station with whom you are in contact at the end of the contact.

Do use simplex whenever possible. Leave the repeater for a calling frequency. Only carry on conversations on the repeater if you can't hear each other on simplex.

Do use the minimum power necessary to maintain communication. Not only is this an FCC requirement, it's also common courtesy.

Set an example for others to follow in your operating habits. People respect a courteous operator, and they lose respect when an operator is rude.

Keep your signal on frequency and the deviation levels optimized at all times. Check them often.

(Squelch Tales — San Diego Repeater Assn)

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The perfect present for the thinking radio amateur is a subscription to Worldradio News.

profile

Radio vignettes

Bill DeWitt, W2DD

Starting with this issue, "Worldradio" will bring you a series of little stories or vignettes to introduce you to some of the interesting and outstanding personalities of Amateur Radio. You'll meet amateurs of every persuasion whose interests cover all facets of our avocation. And, by the way, if you know someone whose story belongs in this column, I want to hear from you. Address W2DD at 2112 Turk Hill Road, Fairport, N.Y. 14450.

It's ladies first — and the attractive gal in the above picture is Fran Berry (Mrs. Robert Berry), VE3EYL, of London, Ontario, Canada. Fran can be heard frequently on at least three nets. She occasionally holds down the anchor spot for Ont-Cars (3.750 MHz) as well as the White Caner's Net of Ontario, and the Happy Gang Net of Quebec.

Sideband transmission is sometimes hard on female voices, but not Fran's! It's a pleasure to hear her cheery call for check-ins on Ont-Cars. Fran is a fine CW operator too. Her code copying capability is the product of her determination and the effectiveness of a teaching program conducted by the Canadian National Institute for the Blind. With the cooperation of local clubs, the C.N.I.B. sponsors a continuing project to assist those with a sight problem to obtain radio operator and station licenses.

The Institute also has a plan whereby Heathkit Single Band rigs can be rented by "White-Caners" on either a long or short term basis in accordance with their needs. These transceivers were assembled for the purpose by local individuals and club groups. What a generous and commendable project — people helping people!

Fran Berry, VE3EYL

Fran reports that there are three "White Cane" nets operating regularly in eastern Canada: The White Caners of Ontario, The Happy Gang of Quebec, and the White Caners of the Maritime Province.

Fran's husband is also an amateur. His call sign is VE3EBG, and both calls appear on the attractive map of Canada QSL card. South of the border radio operators who enjoy working Fran generally give her a call on CW to arrange for a chat in the "W" portion of the band.

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Navassa

(continued from page 9)

The costs for the Navassa expedition were expected to run about $500 per man when the trip was first proposed. Things swelled a bit as we got deeper into the arrangements, but we decided to see it through. However, because of inflation, some unforeseen expenses, and an unfavorable US dollar exchange rate, the actual cost per man has nearly doubled from the original estimate. Still, we enjoyed providing Navassa for the gang, even though the costs were more than expected.

Obviously, if anyone is interested in offsetting some of the trip expenses, this would be most appreciated. We hope to consider future DXpeditions. A reasonable final cost per man for our Navassa venture would facilitate such plans (especially with the XYL's!). Any donations may be sent to the following address: Southern New Jersey DX Association, c/o Bill Gallick, K2FT, 17 Coles Avenue, Cherry Hill, NJ 08034

nterference

Dr. Theodore Cohen, W4UMF

In a speech before the IEEE Chapter Group on Electromagnetic Compatibility (Washington, D.C., 22 November 1974), Raymond Spence, Chief Engineer of the Federal Communications Commission, said the Commission would ask for legislation which would give it the authority to regulate consumer electronic devices such that the susceptibility of these devices to RFI is reduced.

While the Commission would continue to work with the Electronic Industries Association (EIA), the manufacturers, and with such groups as the ARRL RFI Task Group, Spence made it clear the Commission would be aggressive in its work on the RFI problem.

Addressing the situation where technically adequate, legally radiated signals from an amateur station are intercepted by a device of some type, Spence said, "there are only two things we can do if there is RFI from this — stop operating a legally approved radio service that has already been deemed to be in the public interest, or go to the device itself . . . and consider (that) perhaps it should live in a given noise environment."

Manufacturers of home-entertainment electronic devices have long argued against the latter position, stating that only 1% of the devices in service ever experience interference. But Spence said the 1% argument "is gone . . . down the drain . . . not valid."

Today, the FCC estimates the probability of a device being in an RF field sufficient to produce RFI is between 50 and 70%. To lend credence to this statement, Spence produced a map of Arlington County showing the locations of all licensed Amateur and Citizens Radio Service stations. The only place potentially strong RF fields were not present was in Arlington National Cemetery, and even it isn't free from mobiles!

While concerned with the RFI problem, Spence said he couldn't fault the manufacturers for not individually taking the lead, and incorporating the necessary components in their equipment to make it impervious to interference. "The consumer entertainment device market is a highly competitive one . . . a nickel saved in the cost of parts reflects in a $.50/$1.00 decrease in the market price of the equipment."

On the other hand, the Commission feels that the manufacturers could do more than to respond to a consumer's letter on an RFI problem by suggesting the consumer install a switch in the speaker lead to stop the interference, or that he (the manufacturer) never heard of the problem. As Spence noted, "This situation has to improve."

In concluding his remarks, the Chief Engineer stressed that the Commission will work with everyone on the RFI problem . . . and do so to the maximum extent possible.

That the RFI situation is changing is attested to by a bulletin on audio rectification which was recently published by the EIA. The bulletin, Consumer Products Engineering Bulletin No. 7, is offered as a guide to engineers involved in the design of consumer entertainment audio products and television receivers.

Noting the proliferation of RF transmitting equipment over the past few years, the EIA states that "it is a necessary requirement of good equipment design to engineer circuits with built-in interference rejection.

"Original equipment manufacturers can no longer expect the serviceman to correct normal type interference problems in the field. The cases are becoming too frequent and the cost of correction too high to ignore this interference in the original design."

We heartily applaud the EIA in undertaking to resolve RFI problems experienced with home-entertainment products.

By the way, have you sent for the ARRL RFI Packet? It's available from the ARRL RFI Task Group upon receipt of a large (9x12) Manila envelope with 40 cents postage affixed. Write:

Secretary
ARRL RFI Task Group
8603 Conover Place
Alexandria, Va. 22308

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OSCAR

(continued from page 1)

29.25 kilogram (65-pound) OSCAR (Orbiting Satellite Carrying Amateur Radio) will "talk" to children in the classroom, transmit hurricane warnings, relay important medical information to isolated areas, and provide other emergency communications functions.

OSCAR 7 was built by radio amateurs from Australia, Canada, Germany and the United States, and is the culmination of a four-year project by the Radio Amateur Satellite Corporation (AMSAT), a worldwide organization of amateur radio operators.

The group — many of whom are invcolved professionally in the aerospace industry — assembled the spacecraft generally on evenings and weekends. NASA agreed to carry it into orbit "piggyback", on a space-available basis, much as a standby airline passenger awaits an unoccupied seat on an airplane.

The primary payload launched by the Delta from the Western Test Range was ITOS-G, fourth in a series of advanced meteorological satellites. INTASAT A, Spain's first satellite, is also a "piggyback" passenger.

Unlike most communications satellites, OSCAR is designed so that relatively simple, portable equipment can be used to communicate with it. OSCAR user terminals can be used to communicate with it. OSCAR user terminals can be located in automobiles, small pleasure boats, aircrafts, or city apartments, and transported where needed in emergencies.

One important function of AMSAT-OSCAR 7 is its planned use in schools throughout the country to acquaint youngsters with space science. This is a cooperative program between NASA's Educational Programs Office and the amateur radio community. With inexpensive ground terminals, students will be able to receive satellite signals firsthand in their classrooms. Systems in the satellite will make it possible for the students to monitor transmissions originating from stations as far away as 5,000 miles, and to receive the spacecraft's telemetry data.

Special curriculum material is being offered to teachers at no cost by the American Radio Relay League (ARRL), 225 Main Street, Newington, Conn. 06111. The material, according to William Dunkerley, Jr., director of the ARRL's satellite education program, explains how OSCAR can be used to demonstrate the basic concepts of orbital mechanics, radio wave propagation and the physics of the space environment. The 105,000-member ARRL, which represents licensed radio amateurs in the United States and Canada, will also put teachers in touch with local volunteers to set up their personal radio equipment for classroom demonstrations.

In addition to its educational use, AMSAT-OSCAR 7 is designed for emergency communications. Amateur radio operators have traditionally played an important communications role during past disasters, such as the earthquake in Managua, Nicaragua two years ago. OSCAR will also be used to relay hurricane warnings and to pass messages between amateur radio operators in various parts of the world.

According to Project Manager Jan A. King of Goddard Space Flight Center, Greenbelt, Md., a satellite performing the functions of AMSAT-OSCAR 7 would cost nearly two million dollars to build commercially. OSCAR was built largely from volunteer help with a cash investment of about $60,000. The funds came from contributions by individuals and organizations. A principal sponsor of the project was the ARRL.

Space-qualified components and test equipment worth thousands of dollars were donated by a number of aerospace companies, including RCA, Amatek-Hunter Spring, Hi-Shear, Eimac, Yellow Springs Instruments, Microwave Semiconductor Corp., Communications Transistor Corp., National Semiconductor Corp., J.W. Miller Co., Hewlett-Packard, Fluke Manufacturing Co., Wide-Band Engineering, and Savoy Electronics. In addition, surplus satellite hardware, such as solar cell panels and nickel cadmium rechargeable batteries, all left over from other space projects, were made available for OSCAR.

Dr. Perry I. Klein, AMSAT's president, reports that 2,400 amateur stations in 87 countries have been using AMSAT-OSCAR 7's predecessor, AMSAT-OSCAR 6, since that spacecraft's launch over two years ago.

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Navassa

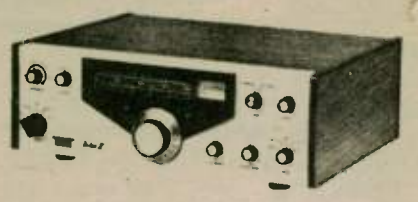
(continued from page 18)

We hope we provided you with a "new one" on some band or mode. Those of us who missed a Navassa QSO (because we were there) are looking forward to the next Navassa activity! Until the next trip . . . good DXing!

73 from the KC4NI gang,

Sy Adler, K2KZ (ex W2GEY); Frank Adler, WB2BXV; Miles Brown, W2PAU; Joe Duffin, W2ORA; Bill Gallick, K2FT; Amor Klotzbach, W2FYS.

The mighty M-TRON players
present



Art: Doug.

Doug: Yea, Art.

Art: What do you think about this Ten-Tec line of gear?

Doug: Well, you've been working here a couple of months now. You should know by now that I only stock what I think is really good equipment.

Art: Uh-huh, I thought you'd say something like that.

Doug: I say something like that only because it's true.

Art: OK, OK.

Doug: OK, wise guy, don't just take my word for it....Where's that copy of QST I had around here?..... .....

Art: You probably left it in the head.

Doug: Ha, Ha..... Here it is, November.... look in the index.... Page 155..... Look what Bill Eitel said about it, " The Triton has better break-in performance than any separate receiver transmitter combination I have used. " How 'bout that, huh? And he's talking about a transceiver!

Art: They probably gave him the radio to say that, you know how that is.

Doug: Ho, Ho, not HIM!! He wouldn"t lend his name to anything that he didn't really, really believe in. And look, he says, "the CW filters are excellent".

Art: I see he has a two letter call, so he spent 25 dollars.

Doug: Twenty-five dollars, my eye. He's been a top ham for more than 50 years. When guys like him have a two letter call, you should have a five letter call.

Art: Very funny.

Doug: You asked for it. Look, he says, "I'd recommend the Triton to anyone interested in MODERN CW operation. "

Art:Hmmm. Who makes that radio?

Doug: The president of the company is Al Kahn, K4FW. He's a real hot shot DX, CW and contest operator. He's a real respected individual. He used to be president of Electro-Voice.

Art: Sounds pretty good.

Doug: Yea, and it's a great radio for the contester. You just change bands. No more of that tune-up, loading, etc. You can run full power on RTTY or SSTV. It's got amplified ALC and being all solid-state, there's less heat.

Art: You sound pretty enthusiastic about this Ten-Tec.

Doug: That's what I've been trying to tell you all along.

Art: Well, if you like it all that well, maybe I should try to sell them.

Doug: You don't have to sell them. You don't "sell" these radios, you just stand around and accept orders for them.

SOUND: Bell on door at M-TRON

Doug: It's a customer. Go see if you can help him.

Art: May I help you?

Ham: Yes, please. I'm interested in OSCAR, does the Triton cover all of ten meters?

Doug: Yes, it does. It receives WWV, has a built-in SWR bridge and ALC and offset tuning indicators. It has plug-in circuit boards which we stock for quick repair.

Ham: Hmm, well, I've heard them on the air and they sure have clean, crisp audio. It's about time I got rid of all that old tube stuff, especially mobile. Oh, I left all my credit cards at home. Do you take cash?

Doug: We've been known to.

Art: I'm going to read some more about what that Eitel had to say about the Triton so I can answer questions about it.

SOUND: Telephone ringing

Customer on phone: Do you have the Ten-Tec Tritons there?

Art: Yes, let me tell you about it, a really great radio.

(in the skit above, only the calls have been changed to protect the real Doug Murray and Art Mayoff)

315 80-10 rcvr	$249
405 linear amp	159
505/5X5 Argonaut 5W	319
510 Triton I	579
510W Triton I w/ walnut cabinet	599
520 Triton II 200W xcvr	669
520W Triton II w/ walnut cabinet	689

601/KR-1 paddle assembly	22
602/KR-2 paddle assembly	15
605/KR-5 keyer	38.50
620/KR-20 keyer	67.50
640/KR-40 squeeze keyer	99.50
220 VFO	77
205/AC5 antenna tuner	9.95
206 xtal calibrator	26.95
210/PS-10 12V @ 1A	27.50

235 CW filter for 315	16.50
245 CW filter for Triton	25
251/PS 12.5V @ 9A regulated	79
251W 251w/ walnut panel	99
252/PS 12.5V @ 18A regulated	99
252W 252 w/ walnut panel	119
261/PS deluxe 12.5V @ 9A	109
261W 261 w/ walnut panel	129
262/PS 12.5V @ 18A deluxe	129
262W 262 w/ walnut panel	149

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Ledu quality draftsman type lamps, 245A - was $29.95 ...sale $19.95

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Special values in used gear. M-TRON top features of the month. Super keen.

SWAN MB-40 - 40 meter Monoband, 75 W solid-state transceiver, like new w/manual. A fine buy, sale $199. With this you don't care if the repeater is off.

STANDARD SR 826M 2 meter 10 W xcvr w/matching AC supply/spkr, Turner R-90 mike, DC line filter and 94/94, 16/76, 76/76, 34/34 w/manual...sale price $229. own this and you'll want repeaters on.

PICKERING KB-1 Keyboard. This electronic keyer is the ideal CW sender. w/manual...sale $185 heh,heh, use this and tell them you are on a hand key. Get real compliments for gud fist.

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New: Atlas 180 in sealed cartons , has 160 M regular $499 now 429

Hallicrafters FMP-300 - 80-10, AC/DC ps internal , AALC w/ 12 db compression, CW sidetone, sensitive, selective. This was a store demo, full warranty. Regular $525, now 449

ICOM IC-21, the leader in FM, store demo, was $429, yours for 299

ICOM IC-21 VFO (receive only) hear everything. Store demo, was $119, now 79

We are an authorized dealer for the ATLAS 210. What can we say about the ATLAS that hasn't allready been said hundreds of times by the very satisfied owners. This is a real winner. ATLAS 210 for $599.

POW!
We have the KLM 5-element 20 M "big stick" $219.95. big signal. Also in stock, the KLM antennas for 2 meters and 450. And KLM's 2 M amps 2-12 $44.95 and 10-70 $129.95.

SOUNDS GOOD
like a keyer should. Curtis EK-430 electronic keyer-$124.95. Jack makes good stuff.

OSCAR
Four-element 10 meter beams by Cushcraft, $62

AND
Rubber Duckies, noise bridges, B&W antenna switches, baluns, keys, police scanners, 12 V reg. power supplies for 2 M rigs up to 8 A.

FMers:We have the B&W coaxial filter, double tuned cavity to keep out of band crud out of your receiver. $39.95 and worth it. Regency owners: contact us for some super buys on crystals. M-TRON does it again!

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The Alpha 374 amplifier by ETO. Demo model. Was $1,295-get the best for 995. Forget that "maximum key down time" with this brute. Quality construction.

ROTATE----
CDR rotors, CD-44 was $109.95, sale 89.95. HAM II was $159.95, sale 129.95.

PROCESS
The leader-Magnum 6- in stock for Collins, Drake, Heath, Yaesu, Swan and Kenwood. Prices from $150. 6 db more oomph, keen.

DRAKE and ATLAS rigs and the accessories are in stock. No wait at M-TRON.

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Swan 117XC	85	69.95
Swan 500C	339	295
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Drake T4XB	360	319
Galaxy GT-550	289	239
Galaxy SC-550 spkr	19	14.95
Drake 2NT	-	99
Hallicrafters FPM 300	-	395
Ameco HE 73 preamp	39.95	29.95
Linear Systems 400-12 mobile power supply	95	75
Drake DC4	-	89.95
Galaxy XO-550	29	19
40 meter traps	-	14.95
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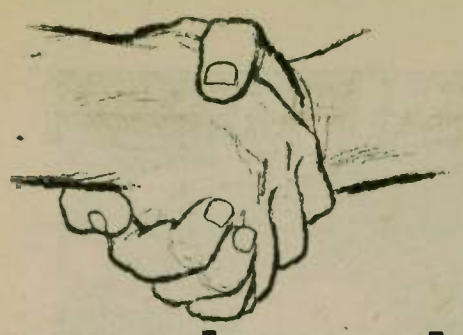

reach out

By Jon Verrair, WAØWWP

At the Sioux City Convention just passed, an announcement was made by Bruce Humphrys of the very fine Minnesota Society for Crippled Children and Adults (MiSSCA) organization that plans were being laid in the hopes of starting a nation-wide, if not world-wide, Handi-Ham organization.

The idea of the Handi-Hams is to give handicapped people some kind of an outlet through amateur radio. We try very hard along with the MiSSCA to achieve this goal. This fact has prompted me to relate the following story that happened almost two years ago. I have debated about writing about this event because of my part in it, but am doing so because of the many others who took part and did so much more than I. All the people involved are amateurs, nothing more; they all helped, not because they had to, but because they wanted to . . .

Thursday evening, 13 April 1973

After working late in Minneapolis and on my way home to Buffalo, I checked in as usual with the Mid-States Mobile Monitoring Service from my car. It was the usual bantering from the Kansas and Missouri boys that only those who have monitored that net can appreciate. If I'm in a rotten mood from the overtime, they can usually bring me out of it; this night was no exception. The net control was a new one on me, Gene Kilbury, W9MXE, he really made me feel even more at home with the group than usual, especially with the 5-9 report, and on 75 meters mobile considering our distance from each other that was FB.

When I got home the usual changed the minute I hit the door. My wife had company and had forgotten my dinner; she got right at it. I very rarely get on-the-air when I work late, but I had just enjoyed the trip home (35 miles) so much that I decided to tune up the home rig and check-in with the Mid-States bunch again.

The moment the receiver came down off the peg after warming up and I had checked the frequency, I heard Ken Brown, WAØRXK/Ø, check in with what he said was a very unusual request for equipment for a handicapped person. Thinking it was radio equipment and being a member of the Minnesota Handi-Ham System, I was all ears thinking that I may be of help.

Well, this was the start of a very strange saga. Ken was not looking for radio equipment but a page-turner for a quadriplegic in Kansas. I asked what a page-turner was. Ken said it was a device operated by a button that could be pressed by the chin of a quadriplegic and turn the page of a book. A good friend of his was looking for such a thing for his severely-handicapped wife and could not afford to buy or rent one. I told Ken that I may be able to help. I asked him to check back the next few evenings and I would let him know how things were progressing.

Friday evening, 14 April 1973

My wife, Judy, had made a couple of quick calls for me during the day and found out that there was such a thing, but that it might be very difficult to come by. I relayed this to Ken and let him know I was going to make a project out of it for the weekend and to keep monitoring Mid-States for me over the weekend.

Saturday — all day — 15 April 1973

The day started early on the PICO Net, made up of many handicapped hams, as I made by first inquiry on the air. Jerry Elfstrang, WBØFMI, who also happens to be a quadriplegic, was net control. I checked in with him and explained the situation. He was the first person to know what I was talking about and said he would do all he could to help out. I then got on the telephone to MiSSCA and talked to their representative, Joe Klawetter. He said that it was very possible that he could get a page-turner for me and that he would get back to me on it.

But, this was to end up as an all-amateur endeavor, the most important being handicapped operators.

That afternoon, I had a regular net for the people in the Handi-Ham System and others to get together and try to help out with our usual problems. This was to be quite a day for all of us. I called the roll call and took check-ins as usual and then started asking if anyone could help out with a page-turner, no takers; we resumed regular business, finished, then once more put out the plea.

This time, a new Handi-Ham, Dan Hedberg, WBØJGL, who is also a quadriplegic, gave me a call and let me know that he had a page-turner that this gal could use free of charge, as he wasn't using it; he even offered to send it himself.

At that time Jerry, WBØFMI, who was mentioned earlier, broke in and said that he and his wife, Dolores, were going within a few miles of Dan's the next day and this would be a good excuse for them to get together and meet each other. Jerry said that he could then drop the page-turner off with me that night.

Called Ken on Mid-States that evening and let him know.

Sunday evening, 16 April 1973

Jerry and Dolores brought me the page-turner. Need I say how I felt at that time?

Monday, 17 April 1973

I called Ward Jensen, WØTLE, the president of the Handi-Ham System, and let him know I had the page turner; could he help me get it sent? Ward is also associated with Electronic Center in Minneapolis and has access to United Parcel Service. He said sure, bring it over and we'll take care of it (which he did personally). I said let me know what the cost of shipping is and it will be taken care of. (I'm still waiting for the bill.)

Got hold of Ken that evening and let him know it was on the way.

Wednesday evening, 19 April 1973

Called Ken on Mid-States, no sign of the page-turner yet.

Thursday, 20 April 1973

Called Ken and got the very wonderful news that the page-turner had arrived and was working beautifully, his friend's wife was smiling from ear to ear at being able to do something for herself again. Ken put her husband on the phone patch so he could thank everyone who had something to do with getting the page-turner to his wife. He described how what to most people turning a page in a book is nothing, but to his wife, it's the only thing she can do for herself.

Maybe this would have come about anyway. But, in fact, it came about because of the Handi-Ham System and Amateur Radio. Can you imagine the possibilities with a world-wide organization? The amount of people with such a simple request that could be helped if they knew where to turn? Who to ask for help, and where to go?

We will need a lot of dedicated people to make such a thing happen and a lot more people to help when they can. Please help us by letting us know of your wish to help, or even start a Handi-Ham System in your area. We will do all we can to help you in your efforts. We also are looking for suggestions to aid us in this, hopefully, world-wide endeavor.

Once again, I wish to thank all who had a part in making someone smile again.

•

Sister City Program

Chuck Towns, K6LFH, President of OSCAR, and a special committee from the Northern California DX Club, are working to organize Amateur Radio support of the Sister Cities Program.

This program is established to promote good will and intercommunications between cities in the U.S. and other countries. The program works by having cities in the U.S. select a city in another country to be their sister city and the two cities exchange communications and culture.

As an example, San Jose, California has as its sister cities both San Jose, Costa Rica and Okayama, Japan. Much communications has taken place between the cities and there has been cultural exchange. This type of program does a great deal to build good relations between the U.S. and other nations on a people-to-people basis.

Here is a place where Amateur Radio can provide a service while at the same time building our image in other countries around the world, as well as in the U.S. In the case of San Jose, California and San Jose, Costa Rica and various city officials have communicated via Amateur Radio in this program. It is this type of Amateur Radjo Service that can make us the friends that we need at the next frequency conference in Geneva in 1979, the WARC.

How can your radio club help? By working with your local city government and with amateurs in your Sister City to provide this type of service. We need friends both at home and in other countries. To find out more about the program, read an article on this subject in the June issue of Worldradio and September issue of QST.

Would you like to include your club in some of our planning?

Please fill out the attached questionnaire and return it to Chuck Towns, K6LFH, 13035 Regan Lane, Saratoga, CA 95070.

Name of your club

Club Address

Does your city have a Sister City?
Yes No Don't know

Is your club interested in taking part in this program? Yes No

Check here if you wish more information:

•

ATTN. CLUBS

Worldradio and the **Callbook** announce a new service for radio clubs. Each month we will send yuo a gummed label for each newly licensed amateur in your area. Use it to invite them to your meetings. Here's how it works — send 12 self-addressed stamped envelopes to **Worldradio**, 2509 Donner Way, Sacramento, CA 95818. Tell us the first three numbers of the zip code areas you want covered. Each month you will receive an envelope back. At the end of a year you will be billed three cents for each gummed label.

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- Stimulating international appreciation and awareness of Amateur Radio

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dx digest

by Gary Stilwell, W6NJU

After being in the tropics for a few weeks it's hard to come back to the cold and rain. Guess after a few weeks the jet lag effect will go away and my pep will return.

Fortunately, radio conditions while I operated at YJ8GS were better than they had been and it was a real thrill to work all my friends back home and around the world. In all, over 2,500 stations were worked in my brief stay. Sorry, but it will be awhile before the QSL cards get printed and go out in the mail. For those lacking an address, you certainly can send the QSLs through Worldradio.

The group on New Hebrides is very enthusiastic and my appreciation to all of them and especially to Bob Lusk, YJ8BL. I can appreciate why Bob would rather be out sailing in their fine harbor rather than fighting the pile-ups.

My thanks also to Pat Corrigan, KH6-GQW, and Lee Wical, KH6BZF, for such a good time while in Hawaii.

Sean Flannery

Sean Flannery, EI5HSI, will be testing out his gear in January and February from Sardinia. Look for EI5HSI/IS QSL via WB6QHL.

Jamaica and Bahamas

The West Palm Beach Radio Club operated VP7BC and 6Y5BF. QSLs go to Box 6834, West Palm Beach, FL 33405. W9NFC stayed on after the contest at 6Y5BF and those QSLs should go to Charles O'Brien, 56085 Harman Drive, Mishawaka, IN 46544.

Turks/Caicos

W1WQC plans to be active from here during the period January 7th to 12th signing VP5AA.

British Virgins

W1WQC and WA5QXR plan to be active beginning January 12th signing VP2VZ.

Czechoslovakia

To commemorate the 30th anniversary of the liberation of Czechoslovakian territory by the Soviet Army in 1945. call signs OK30 and OL30 will be used between January 1 and May 9th.

Gambia

Effective January 1, 1975 call signs will be changed to C5.

South Shetland

CE9AT should be active from Base Naval Arturo Prat until his return home in May, 1975.

Here and There

DJ5RT plans to operate from FH0RX, 5Z4RT and FR7/G the first part of 1975.

FB8WB has been active from Crozet Is. most days from 1500 GMT on 14135.

Roger, ST2AY, should be active thru November, 1975.

QSL Info

CE0ZG to CE2AA
CT3WA to W2AYJ
CT3WH to W2AYJ
FH0RX to DJ9ZB
FK0DX to WB6LTJ
FK0GA to K6RIR
FK0IC to K6YFZ
FR7ZL/J to F8US
FW0AA to K6YFZ
FW0DX to WB6LTJ
FW0GA to K6RIR
FW0IC to K6YFZ
FY7AA to F2QQ
HA5HA to WB6DXU
KG6SX to WB4SPG
KH6GI to W3HNK
KH6HC to W3HNK
KT4VMI to W4COP
OD5IQ to OH2BH
WB4KSE/KW6-K2BT
WI9NDY to WA9ZGU
YB0ABV to WA70BV

DXpedition operating practices

The Long Island DX Association has announced a contest "in order to assist in the improvement of the calibre of future DXpedition operations, to develop a set of precepts and/or suggestions for DXpedition operations." Contest entries should include the criteria to be followed by both the DX station and by those amateurs wishing to work the DXpedition. For the best entries the LIDXA will award the following prizes:

1st Prize — 3 year subscription to LIDXA Bulletin
2nd Prize — 2 year subscription to LIDXA Bulletin
3rd Prize — 1 year subscription to LIDXA Bulletin

Entries must be received by March 1, 1975. LIDXA will be the final judge of winners. Send your entry to Box 73, Westbury, NY 11590.

Advisory Committees

The ARRL has announced the following appointments to the DX Advisory Committee for 1975:

J. Sheller, WA8ZDF, Chairman
L. Lamb, W3BWZ, Vice-Chairman
J. Thompson, W1BIH
T. Marks, WA2FQG
W. Christian, K4IKR
L. Muhleisen, K5FVA
G. Stilwell, W6NJU
A. Clark, W7YTN
R. Baird, W9NN
R. Wood, K0HUD
J. Ravenscroft, VE2NV

Larry Price, W4DQD, will be the Board liaison and Bob White, W1CW, continues as Headquarters liason.

The Contest Advisory Committee for 1975 will be as follows:

A. Francisco, K7NHV, Chairman
P. Chamalian, W1BGD
S. Branca, WA2BLV
M. Keown, W5RUB
K. Keeler, W6PAA
C. Ray, W9LT
A. Vitt, WA0CVS
L. Sawkins, VE7CC
R. Epstein, K8HLR
E. Zimmerman, W3BQV
J. Laney, K4BAI

Stan Zak, K2SJO, will be Board liaison while Ellen White, W1YL, continues as Headquarters liaison.

Remember to let your Committee members know how you feel. Correspondence can be sent to ARRL and will in turn be distributed to all Committee members.

Honolulu DX Club

The Honolulu DX Club was organized in October, 1968 as a spin-off of what used to be called the Aloha DX club. This club has grown from about eight members to a current roster of about 25 and is continuing to grow.

The club has adopted an informal atmosphere and meetings are held quarterly at various members' homes. Meetings are of the social type, but the only topics allowed are DX and contests. The club became affiliated with the ARRL in 1970.

In 1969 the Honolulu DX club became interested in serious contesting and decided to submit their scores from aggregate club score in DX contests. Within 2 years the Honolulu DX club had climbed to 4th in the world for the CQ World-Wide DX Test.

The first club president was Pat Corrigan, KH6GQW. Current officers are Joe Locascio, KH6IGJ, President; Gary Belcher, KH6GMP, Vice-President; and Larry Villados, KH6GVS, Secretary. The members of the Honolulu DX club are very enthusiastic in their pursuit of DX and contesting and we know the club will continue to grow. Your DX editor thoroughly enjoyed their November meeting.

Thanks for information to DX News Sheet; QSL Managers Directory, Long Island DX Association Bulletin, and the West Coast DX Bulletin.

Next month: Details on the Worldradio DX award. This new award will be quite meaningful, prestigious and difficult. (Difficulty is what makes things prestigious.) The first amateur, on each continent, to qualify will receive a trophy.

South Pacific DX

(continued from page 15)

thus they are both pretty similar in climatic conditions. The island is mountainous and rugged in various locations. The countryside is devoted mostly to sugar cane. Fiji is surrounded by hundreds of little atolls or islands and a trip to one of the outer islands is a must when visiting. The lagoons were very quiet and the water so pure blue you can get a good look at the coral and fish life.

It isn't too far from Fiji to the New Hebrides. However, there is a striking difference, at least, between the island of Efate and Fiji. Port Villa is the capital and center of the New Hebrides condominium. Efate is a fairly level island with dense green vegetation. Bob Lusk, YJ8BL, our host, had said we would move faster through customs if we used the French side as most people automatically go through the British side. Bob was right and we would have sailed through if I hadn't misplaced some of my entrance documents.

After five years of weekly schedules we had finally met for an eyeball QSO. I had carried with me a rotator for Bob's beam and after clearance through customs we were on our way to an enjoyable five day stay.

Bob was very gracious and fortunately band conditions were much better than they had been when I left the states. In all over 2,500 contacts

Lee Wical, KH6BZF

were made. I had the opportunity to work several stations on 75 meters and even made a few contacts on that band with the East coast of the United States.

Most U.S. tourists do not go through YJ8 in the normal course of their travels, therefore it appeared somewhat rare for someone from the United States to be visiting. The shopping atmosphere at Port Villa was quite different from that in Fiji and shopping in the local stores was quite a pleasure. We were able one day to go out to one of the local beaches and enjoy the fine swimming and a look at the beautiful underwater life in that area.

Bob also hosted a party in which most of the active YJ8's on Efate attended. It was very interesting to chat with these people and to discuss Amateur Radio with them.

Of course from this location the JA stations are quite plentiful. Whenever we would get on, if all else failed there would be JA anxiously awaiting a contact. The CQ Magazine World Wide CW Contest was quite an experience and it was exciting to hear a band like 10 meters open to Europe at midnight. It was extremely difficult to come down to 40 or 80 meters to work a few W's when 15 and 10 produced many more contacts during the 0800 and 1200 GMT time period.

Unfortunately the five days went extremely fast, and the time came to continue with the trip. As we lifted off the runway heading for Noumea, New Caledonia the rest of the travels became anti-climatic. New Caledonia is yet another striking contrast to the other islands in the South Pacific. This island is very rugged and mountainous. It sets fairly close to the northeast tip of Australia and is a rest and relaxation mecca for Australians and New Zealanders.

New Caledonia evidently was at the end of a boom centered around the nickel industry. Nickel became a very popular item around 1968 and nickel mining had skyrocketed their economy. Unfortunately hills had been cut away and rain had washed the mud and debris into the ocean. In the nickel mining areas you can see bald cut-up mountains and brown polluted water rather than the clear blue in other areas.

repeaters

$X&%*XX!!

by Vic Clark, W4KFC

As if there wasn't enough to worry about, with declining sunspots, inflation, and raids on our frequencies, there's another troublesome matter that bubbles up from time to time. It is the appropriateness of language used on the air.

The growing popularity of the repeater, for one thing, has had the effect of piping our amateur conversations into many a household. If one is to "guard" a repeater or popular FM simplex channel, he is also going to be privy to all of the exchanges that take place between others using the frequency.

In our enthusiasm, it is easy to overlook the fact that our choice of words or attempts at humor may not be always suitable for a larger audience . . . particularly one that includes wives, children and guests in the homes of other amateurs. Increasingly, too, we are being listened to by a host of non-amateurs who have acquired VHF "weather" radios. This is good, because it can be the means of introducing Amateur Radio to many who might otherwise never learn of it (and many have deplored the loss of our SWL audience with the switch from AM to SSB).

On the other hand, if we fail to use discretion in what we say and the language we employ, it can mark us as clods . . . unfit custodians of our valuable frequencies.

No two amateurs are likely to agree on just where the limits of propriety occur. "Hell" and "gosh" mean exactly the same thing to many of us, and some of us have difficulty expressing ourselves or making a point without resorting to salty language. If we take our cue from the media, the sky is the limit. But the real issue, it seems to me, is not so much what may be permissible in today's social usage; rather, our concern should be how what we say and do on the air reflects upon the Amateur Radio Service as a whole.

One thing we're all agreed upon, Amateur Radio is tops as an avocational activity, and we want it to thrive and improve; we want to preserve it so that future generations can benefit from it just as we are doing today.

This suggests that our on-the-air deportment should be to try to put our best foot forward, being mindful of the judgment of an unseen audience. Certainly, we should be careful to avoid behavior that we would regard with contempt if it originated with another service.

One fellow has suggested that, rather than settling for the lowest permissible common denominator, or arguing endlessly over the acceptability of this word or that topic, each of us confine his (or her!) language and conversational subject matter to those we might employ in the home of a person whom we respect, but with whom we are not well acquainted. Most of what we say is likely to be heard by just such an individual, even though he isn't on the other end of the QSO.

In the years ahead, we must surely "sell" the usefulness and social benefits of amateur rádio as never before. The spotlight will be on us to justify our existence and our claim to be part of the public domain.

The help of every amateur will be needed.

(Auto-Call)

Discussing joint 2 meter repeater activity recently in Mexicalli, Mexico were (L-R) John McKee, WB6VKS, Raul, XE2AZR, Pedro Lopez Verdugo, XE2LLP, Ramon, XE2ND, Don Needham, W6JNM, and Joe Tourtelot, WB6PHA. The Northern guests were from the Desert Radio Amateur Transmitting Society, Palm Springs, Ca. and the hosts were representing the Club De Radio Experimentadores, Mexicali.

Hams across the border

Mexican/American relations and cooperation was the theme of a recent informal gathering of amateurs from Palm Springs, California and Mexicalli, Mexico.

Members of the Desert Radio Amateur Transmitting Society and the Club De Radio Experimentadores, Mexicalli, met primarily to discuss joint repeater usage. The Mexican amateurs often work the Palm Springs system, WR6ADA, some one hundred miles North of the border community.

The Mexicalli group are now in the planning stages of their new repeater system to be built on La Rumoros Mountain, 4,000 feet above sea level.

Making the Sunday afternoon trip to Mexico were: Joe Tourtelot, WB6PHA, John McKee, WB6VKS, and Don Needham, W6JNM, as well as their XYLs. Greeting them with authentic Mexican hospitality, tacos and tortillas were Raul, XE2AZR, and his lovely XYL, Dlila, as well as Pedro Lopez Verdugo, XE2LLP and Ramon, XE2ND.

Next month: **Worldradio** starts a new column for radio class instructors. It will be an "idea exchange".

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Henderson, NV 89015

by Bill DeWitt, W2DD

Best wishes to all Worldradio News readers for a Happy and Successful 1975!

And, my thanks to all the readers of this column who have responded to my invitation to make this a "Two-Way" communication center for those interested in amateur TV in any form. In the short time that I have been associated with Worldradio News, your letters and comments have been both encouraging and rewarding. I hope that the letters and photos will continue to come in during 1975!

Recent letters from Willi Richantz, HB9ADQ, Frank Pardy, GW3DZJ, and George Davis, VE3BBW, were loaded with news of interest to their many friends around the world. Willi Richartz, HB9-ADQ, sent along a foto too. Willi designed and built his own SSTV monitor, seen in the upper left of the picture. Very good looking job, Willi! (My wife was more interested in Willi — "Wow, let's go back to Switzerland!" was her reaction). So far, Willi has no camera but has a collection of tapes prepared by his friend Peter Steuer, HB9IT. Willi reports that there are now about 20 monitors and 10 cameras in use by HB9 slow scanners.

Willi Richantz, HB9ADQ

Special licenses for SSTV and RTTY are no longer required. There is no SSTV net in Switzerland, but HB9ers call in on an OK-land net every week.

Favorite European frequencies for SSTV are 3.735, 14.235 and 21.335 MHz., but there is activity all the way to two meter (FM). HB9IT seems to be sort of an Alpine Mr. TV. He has received SSTV from OSCARs 6 and 7, and is active on fast scan. At present he is building a camera for fast scan contacts on 70 cm. and has pioneered on HF with color SSTV! Hansruedi Schaer, HB9TJ, has a complete fast scan station on 70 cm. I gather from Willi's letter that the 70 cm. operators in the Alpine areas are often limited in certain directions by "the next higher Alp"! (And I thought it was "VHF/UHF heaven" over there!) Currently active SSTV stations in addition to HB9ADQ and HB9IT are: Rico Koebeli, HB9ALB; M. Kohli, HB9AIP; Paul Kueng, HB9AVK; Christian Lindenmaier, HB9ASI, and Franz Acklin, HB9NL.

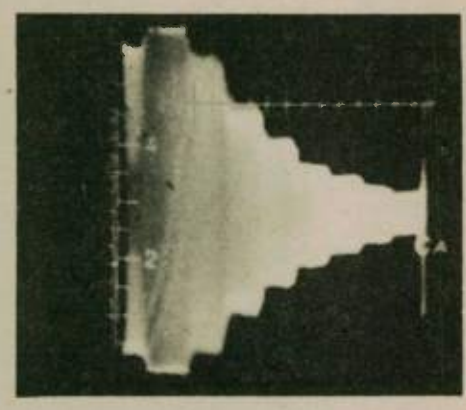
From Wales, Frank Pardy, GW3DZJ, offered these comments on fast and slow scan in the UK: Any UK amateur can apply for special authority to operate on SSTV. He must quote the standards he'll be using. Permission is then granted for 80 meters through 70 cm. There is some fast scan on 430 MHz., but Frank did not mention licensing requirements. SSTV activity at this writing stands at about 27 G stations, 2 each GM, GI, and GC. A Sunday morning net on 80 meters usually attracts about eight stations — most of whom have homemade gear. Approximately one-half of the UK stations have cameras. GW3DZJ had some SSTV contacts through OSCAR 6, hopes to repeat through OSCAR 7.

Across the border to the North, the Ontario ATV Association has published an excellent brochure to help TV-minded hams get started in Fast-scan. George Davis, VE3BBW, kindly sent me a copy of this four page compendium covering everything from licensing requirements to circuit diagrams for a transmitter and video modulator. The brochure notes that Canadian amateurs can obtain special endorsements for A5 operation by application to the local DOC office (station license must be enclosed). Fast-scan operation is permitted on frequencies of 420 MHz and above. An Advanced Amateur Certificate is required for SSTV endorsement. George teamed up with his neighbor Tom Atkins, VE3CDM, to get started on FSTV about two years ago. Both are using 8 over 8 Yagis, W6ORG pre-amps with T-44 receivers, CMU-15 transmitters, and Hitachi CCTV cameras. Having covered the local scene fairly well, George and Tom are now burnishing their beams and tweaking the finals in the hope of swapping pix with Ray Lamy, W2PBU or Walt Bieda, W2ELF, to run their "country" score up to TWO! All of this action is on 439.25 MHz.

In mid-November, I managed to get W2DD operational on Fast-scan, at last! I was lucky to find a Motorola base type unit all set up with the video modulator. On the receive side, the base unit is used for a voice channel, and a Janel converter feeds a Panasonic portable with the video. A Sony CCTV camera with random interlace completes the equipment roster. Storm conditions have limited my efforts to get an antenna up where it counts (!), but a homebrew Yagi hanging in the attic works surprisingly well here on the hilltop. The accompanying fotos represent early contacts with Bob Erskine, W2NVZ, about 13 miles away. Strangely (?) enough, his big "dish" antenna seems to have more gain than my "rafter-Yagi"! Incidentally, after about four years of SSTV, I keep waiting for the eight second frame to complete!

A Video Analyzer is a device that can be used to view the "swing" of SSTV camera video (or received signals) on a scope. This is one of the most useful tools a slow scanner can own. Ed Arvonio, W3LY, has been telling me this for years — and although I believed him, it took Ed's prodding to finally get me to build one! One of SSTV's pioneer designers, Nick Stavrou, W4TB, published the circuit for this gadget some time ago. You need a couple of tuned toroids, a resistor and a scope — that's all, period.

It works, and it really works JUST GREAT! The frequency swing of a camera signal or received signal (as it appears at the output of the limiter stage in your monitor) is used to produce the vertical signal input to your scope. The horizontal sweep for the scope is 15 Hz derived from your monitor or from the scope itself. A pattern is developed on the scope screen that is related to the frequency swing of the vertical input signal. Frequency calibration marks representing 1200 to 2300 Hz. are established on the scope screen using a gray scale tape played back through the monitor.



The foto with the "Christmas Tree on its side" pattern shows how a Robot Gray Scale tape appears on the scope. In the foto, the horizontal synch pulse and blacks are at the left with a height of about two inches, while the whites at the right are about one-quarter inch high. (Dimensions will vary with scope adjustments and CRT sizes.)

If the scope pattern does not vary in height appreciably, the frequency swing is insufficient and the picture seen on the monitor will be lacking in contrast. For graphics, there should be a series of sharp swings up and down from minimum to maximum calibration levels — indicating BLACK blacks, and WHITE whites. However, where photographs of people and things are involved, the scene contrast may vary widely. Here is where the Video Analyzer makes it easy to adjust your (SSTV) camera for optimum contrast through the system.

In addition, you can use this device to accurately describe the swing of received pictures. (It also wipes out those occasional worries about whether maybe your monitor has gone haywire!)

You wouldn't believe how simple this gadget really is, but if you'd like to put one together, call me on the air and I'll show you the diagram on SSTV. (If you can't find W2DD on the air, send along a SASE for the details.) My hat is off to W4TB for putting some very basic principles to work!

SLOW SCANNING THE BANDS:

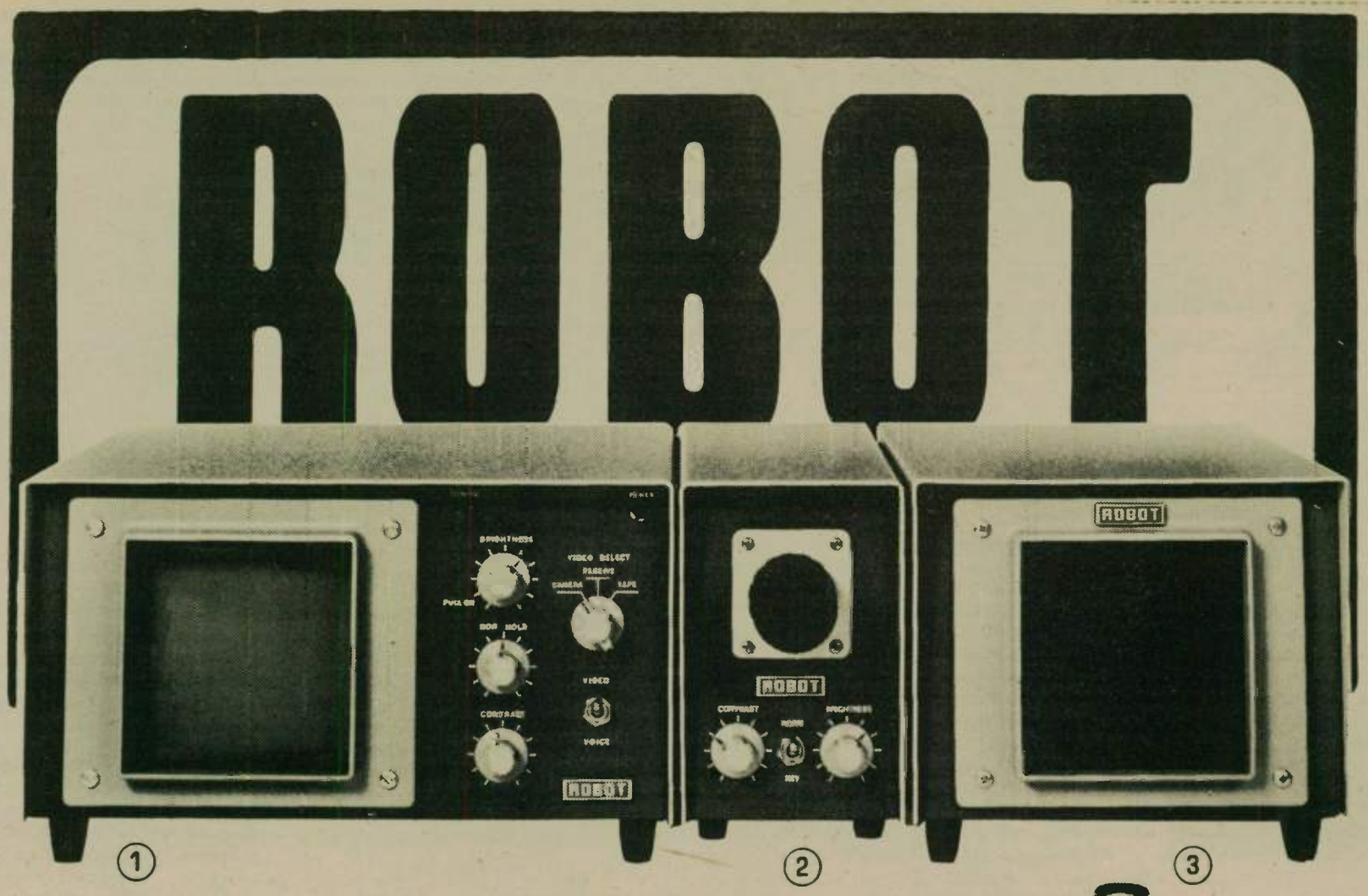
Don Miller, W9NTP, and Robert Suding, W0LMD, are at it again! (Did they ever let up?) They're hard at work on a black — oops, a COLOR BOX to make possible transmission and reception of color slow scan signals for viewing on a conventional color TV set. The complex circuitry of the BOX will include control logic for both camera and monitor functions in addition to the scan conversion capabilities required. The system will be compatible with present slow scan. This determined duo has decided that "Dayton" is the due date for their dazzling demonstration.

Robot Research and Sumner Electronics and Engineering are offering SSTVers new opportunities to bolster the faltering economy. Both companies showed new gear at SAROC earlier this month. Robot has a new triple-capability monitor, the Model 70B, and a conversion kit for fast scan viewing on their earlier models. The Model 70B can be used for either slow or fast viewing. It can also display the video waveform for receiver tuning purposes, a feature called Videograph.

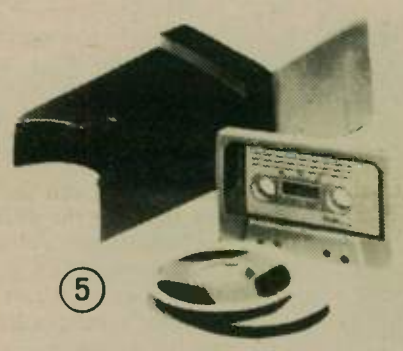
Sumner Electronics and Engineering announced their new keyboard, the Model

(please turn to page 31)

ROBOT



① ② ③



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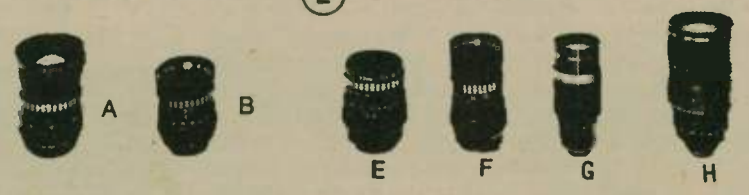

④

Slow Scan TV Equipment Line.

① MODEL 70A SSTV MONITOR

Displays amateur standard pictures from any SSTV audio source: station receiver, tape, camera. Six inch (diagonal) display, all station cabling included.
Front panel controls for easy station operation. Connectors for receiver, transmitter, microphone, tape, waveform monitor. LED tuning indicator, auxiliary demodulated video output, phone line connection.

$345

② MODEL 80A SSTV CAMERA

Generates amateur standard SSTV pictures and fast scan video for viewfinders. High-resolution separate-mesh vidicon provides ample sensitivity in ordinary room light. Controls for contrast, brightness, vidicon beam, SSTV signal level, black/white video reversal and 1/4, 1/2, full frame selection.
All solid state except vidicon. All station cabling included; requires suitable C-mount lens.

$345

③ MODEL 61 VIEWFINDER

Displays Model 80A Camera's fast-scan video on six inch (diagonal) display to simplify setting camera focus and field of view before and during transmission. All solid state except cathode ray tube; cabling to camera fast-scan output included.

$265

④ LENSES

Lens	Focal Length mm	Min. f stops (All 22 max)	Min. Focus (in inches)	Price
A	12.5	1.9	10	$ 60
B	25	1.9	24	$ 30
E	25	1.4	6	$ 65
F	50	1.9	42	$ 55
G	150	3.2	96	$ 90
H	20-80	2.5	60	$195

⑤ VIEWING HOOD

Two piece detachable hood. Fits monitor bezel to block outside light.

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A thrill

by Paul Shuch, WA6UAM

Communicating through an orbiting satellite is a thrill for any radio amateur. But nothing compares with the jubilation felt after a successful satellite launch, by those who participated from the beginning. My observations following the recent launch of the AMSAT/OSCAR VII communications satellite from Vandenberg AFB follow.

The challenge

I first became involved in satellite communications a few months after the October 1972 launch of OSCAR VI, amateur radio's first long-life orbiting communications translator. Beginning with crude equipment and operating skills which were "rudimentary," I sought to upgrade both my station and myself. With prospects of the improved OSCAR VII package in the offing, I spent months building equipment, erecting antennas, and learning the ins and outs of tracking and computerized obital predictions.

Starting

A 432 MHz-to-145 MHz linear translator, heart of OSCAR VII's communications system, was test flown over the West Coast last October in a private airplane. I was ready with "100 mW of chirpy CW to a 432 ground-plane lashed on the chimney. My receiver was an ancient vacuum-tube converter, the W2-AZL design, with cascode 417-A's. It was the ultimate, state-of-the-art 2 meter converter . . . about 20 years ago." Nonetheless I contacted a dozen stations through the translator during the test flight, and I emerged determined to make myself heard immediately after the package was orbited.

It works

That goal was realized last month. On 15 November, the day OSCAR VII was blasted into orbit aboard a Thor-Delta launch vehicle, I was busy copying telemetry data from the satellite's 435.1 MHz beacon. The 2-to-10 meter translator was activated the next day. I was one of the first stations to communicate through it, with 10 watts PEP of output. On 17 November the 70 cm-to-2 m translator was turned on, and I began working stations with 4 watts of sideband on 432.

Where is it?

"Accessing an orbiting communications satellite from a QRP ground station," is like downing a soaring eagle with a hurled ping-pong ball, while blindfolded." Your only chance is in knowing in advance where the bird will be in the sky, at any given moment.

That's where the computer programs come in. Starting with my earlier OSCAR VI efforts, I've generated a series of computer printouts which list AOS (Acquisition Of Signal) and LOS (Loss Of Signal) times for every orbit which intersects my area of coverage. The first computer runs for OSCAR VII, amazingly, were produced about a month prior to actual launch. I wanted to be ready.

Assuming that a perfect orbit is achieved, it is possible to project any number of future orbits, knowing only the orbital parameters and time of liftoff. As this information had been approximated well in advance, I disseminated around the West Coast a set of pre-launch predictions covering the first week of OSCAR VII's life in space. I was surprised, the day of the launch, to hear the Vandenberg AFB club station, W6AB, reading my predictions over the air. We got such a nearly perfect orbit, that the data worked.

After a few days it became evident that the satellite's orbital period was slightly less than had been expected. Errors of two, three, and four minutes began cropping up in the printout. But by then, we had a good fix on the bird's actual orbital parameters, and were able to run out fresh data. I'm now able to hit OSCAR VII at will, within ten or fifteen seconds of my predicted window."

Making it

Knowing where the satellite will be in the sky is not enough; it's necessary to point one's antennas there. The ultimate in tracking would be an Az-El rotor system, which would permit the antennas to be rotated both in compass bearing (azimuth) and angle above the horizon (elevation).

My antenna system employs a compromise approach: "Two separate antenna systems, both rotatable in azimuth only. The first, higher gain set of antennas is oriented on the horizon. On a separate tower, a lower gain antenna array is set at a fixed elevation of about 30 degrees. Coax relays allow me to change 2-meter and 432-MHz antennas at will, with the flip of a toggle switch located at the operating position. The antennas on the horizon work best for a few minutes after AOS, and just before LOS. When the terrestrial range between the satellite and my location is down to within about 1000 miles, the elevated antennas really shine. Between the two systems, I can track the satellite over just about the entire sky."

Fascinating

Since Amateur Radio entered the space age in 1960, nearly 3000 radio amateurs around the world have enjoyed adding satellite communications to their activities.

Here at WA6UAM, space communications is more than a hobby: "It's a passion."

Orbital predictions for AMSAT/OSCAR VII Satellite computer-derived by WA6UAM

List includes first ascending equator crossing per GMT day. Orbital period is 114.944 minutes. Orbital increment is 28.736degrees—moveswest.

Orbit	Day	Month	Hours	Mins	Lngtde
581	1	1	1	24.2	71.00
593	2	1	0	23.5	55.83
606	3	1	1	17.8	69.39
618	4	1	0	17.1	54.22
631	5	1	1	11.3	67.79
643	6	1	0	10.7	52.61
656	7	1	1	4.9	66.18
668	8	1	0	4.2	51.01
681	9	1	0	58.5	64.57
694	10	1	1	52.7	78.13
706	11	1	0	52.0	62.96
719	12	1	1	46.2	76.53
731	13	1	0	45.6	61.35
744	14	1	1	39.9	74.92
756	15	1	0	39.2	59.75
769	16	1	1	33.4	73.31
781	17	1	0	32.7	58.14
794	18	1	1	27.0	71.70
806	19	1	0	26.3	56.53
819	20	1	1	20.6	70.09
831	21	1	0	19.9	54.92
844	22	1	1	14.1	68.48
856	23	1	0	13.5	53.31
869	24	1	1	7.7	66.88
881	25	1	0	7.0	51.70
894	26	1	1	1.3	65.27
906	27	1	0	0.6	50.10
919	28	1	0	54.8	62.66
932	29	1	1	49.1	77.22
944	30	1	0	48.4	62.05
957	31	1	1	42.7	75.62
969	1	2	0	42.0	60.44
982	2	2	1	36.2	74.01
994	3	2	0	35.5	58.84
1007	4	2	1	29.8	72.40
1019	5	2	0	29.1	57.23
1032	6	2	1	23.4	70.79
1044	7	2	0	22.7	55.62
1057	8	2	1	16.9	69.18
1069	9	2	0	16.2	54.01
1082	10	2	1	10.5	67.58
1094	11	2	0	9.8	52.40
1107	12	2	1	4.1	65.97
1119	13	2	0	3.4	50.80

(please turn to page 39)

SSTV

(continued from page 28)

HCV-3KB. It's a neatly packaged unit with a long list of built-ins and options, including choice of enclosure colors! The built-in four shade gray scale generator for monitor checking is an excellent feature, as is provision for fast scan output which is an option. Plug in ICs and OP Amps rate a plus. I should warn you that the advertising brochure for the HCV-3KB will give you that spending urge. Sumner's new HCV-2A Monitor also has a long list of built-in goodies that are standard (like a very useful tuning meter). If you want to go "first class," the fast scan viewfinder capability can also be built into the HCV-2A. Recent Sumner advertising refers to a hard copy print out for a slow scan, sounds intriguing, doesn't it?

In my November column, I talked about the creative users of SSTV. A note from 73 Magazine's Dave Ingram, K4TWJ, outlines a good example of what I was talking about. Dave received a circuit diagram for some gear he wanted to build VIA SSTV — and had it built and working within seven hours after getting the info!

The accompanying foto of Jim Young, K4TGC, is a rather conventional one, but Jim is a creative whiz with his SSTV camera. Jim took his camera outdoors to tape a sequence of pictures that includes flowers, trees, antennas, his car, and an exterior view of his home. To this collection, he added interior household views, antiques, clocks, paintings — and you might say, "the whole works"! When you see this sequence of Jim's, you'll get the feeling that you have truly visited K4TGC.

Jim left me a little breathless as he wound up our recent contact with a description of a project in the works. He and a ham friend are planning an SSTV "Travelogue" of the St. Petersburg area. They'll load Jim's slow scan gear into a station wagon, trail a 2.5 KW gasoline-powered generator behind it, and AWAY THEY'LL GO! I can see it now (in glowing P-7 color), "And so, as the sun sinks slowly into the Mercedes-Benz end of the Municipal parking lot, we take our leave of K4TGC/SSTV and beautiful St. Petersburg, Florida"!

Of special interest to vacuum tube vintage hams: Develop a basic feeling for that "solid state stuff" the easy way. Get a copy of "Undersanding Solid State Electronics" by the Texas Instruments Learning Center Staff. This book is a self teaching course in semiconductor theory. It does a terrific job of explaining transistors, ICs, gates, and the whole bit without getting you all fouled up in physics and chemistry. It's $1.95 at your nearby Radio Shack store. Get it, but READ it, you need it! (I know, I still have an AUDIOTRON tube!)

Jim Young, K4TGC

More reading material: A number of companies are now making what is known as charge-coupled devices. They frequently take the form of a 100x100 array of light sensors. These 10,000 element devices can be self-scanning and have an analog output characteristic. Higher resolution capability is in the lab to prototype range. If you're not familiar with these devices, you can find much information about them in the following magazine articles: Popular Electronics, Jan. '75; Electronics, Aug. 8, '74; Optical Spectra, Mar. '74.

Look in next month for some photos of your slow scan friends around the world — and don't forget to send a note and a picture or two to Bill DeWitt, W2DD, at 2112 Turk Hill Rd., Fairport, N.Y. 14450.

maritime mobile

by Bill Yost, WA6PIU

Survival radio

A few years ago the Robertson family was serenely sailing in the South Pacific tradesaboard their 40 foot ketch "Lucette."

They were three days out of the Galapagos Islands bound for Tahiti when out of the depths a large killer whale crashed into the hull. Water immediately poured into the main cabin at such an alarming rate that within a minute the Lucette had gone down. In the mad scramble that occurred, they did manage to get a life raft inflated; and with one orange and a small loaf of bread they boarded their new home. The next 38 days portrayed an incredible act of survival where turtle meat and rainfall provided the essence of life.

In the last chapter of his book, Robertson discusses possible counter-measures that might be taken in future mishaps. He speaks of liferafts having short longevity, of food and water being more accesible in a sudden sinking. His whole epilogue talks of survival. Strangely, little emphasis was put on rescue.

I suppose as new radio amateurs we are amazed when we make our first contact. The idea of all that distance with no wires or mirrors. Later, as we search for the rare DX, bounce our signals off the moon, or phase in on OSCAR as it passes, the idea of a mere contact is certainly taken for granted.

Just think for a moment of our crew in the life raft. Within minutes after settling down in the raft an S.O.S. would have help on the way. Even with QRP and a jury-rig antenna, some contact is inevitable. All it takes is one. One contact worth all the survival provisions and philosophy imaginable.

There is nowhere on the surface of the earth where help could not be obtained within the ten day period whereby man is known to survive on his own bodily resources. Without radio there would be a considerable delay before a search was even initiated, depending on one's ETA at the next port (in Robertson's case at least 30 days). By this time one's QTH is quite nebulous, and with most searches costly and futile.

Visual recognition of small rafts amidst the ocean swells is extremely difficult. Numerous castaways, including Robertson, have reported ships passing very closely only to steam beyond the horizon. Lack on the required watch or no radar monitoring has been blamed on the shipping lines. As one who has stood many a watch, I can certainly appreciate the difficulty in sighting small craft. Even with flares and dye markers a small raft is easily missed. Reliance on rescue means other than radio is purely a matter of chance — a slim one.

For some reason, be it ignorance of a purist attitude toward electronics, many cruising sailors don't carry radio. I like to think that anyone at sea is concerned with safety.

Perhaps they don't realize what potential there is in radio communication. I know I have amazed many people when demonstrating Amateur Radio aboard the "Sea Goose." The ease of making DX contacts is probably not realized. Most people still think of long distance communication as a rare feat rather than an everyday common occurence.

Up to this point I have mentioned radio in the general sense without specific reference to Amateur Radio. Here I think we have two advantages over the marine bands: efficiency and cost.

Marine equipment will cost twice as much and offer less than half the frequency coverage. People have asked me why the great difference in cost? It's the great "rip-off" game again. Marine electronics with a much greater volume than amateur gear (marine licenses second only to CB), take advantage of the fact that your life may depend on the gear. It's the old "how much is your life worth" line.

How about reliability and efficiency? Contrast thousands of antenna arrays beamed in your direction against a few coastal installations with outmoded navy "hand-me-downs" fed to a dipole or vertical. Please don't get me wrong, I'm not "bad mouthing" the Coast Guard. Unfortunately, the warped sense of values of our politicians would rather put the money into warfare than humanitarian endeavors.

Ideally one would have both marine and amateur gear. However, if cost or space dictates one radio, an amateur transceiver would definitely be the better choice. Next issue we'll talk of the various gear suitable for maritime use and my own version of a raft survival packet.

Again I solicit your comments. With no feedback, we have no idea if people read this column. Just a soggy QSL card with "great, bad, or how about?" would be fine.

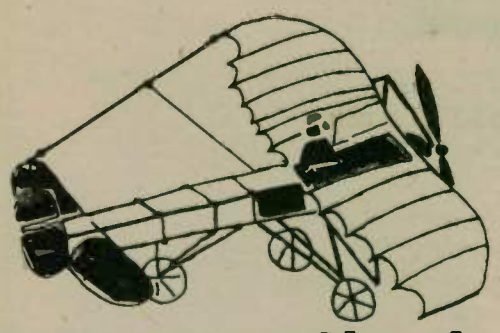
Until our wakes cross in the new year 73, Bill, WA6PIU/R2

•

Memory lane

I would appreciate a helping hand in our club project of reconstructing the history of the club station KH6SP. KH6-SP requests any amateurs who have ever operated from this station to drop us a line or two and let us know when they operated from here, what their call was, how long they operated at 'SP' and any little insight of station they might be able to recall that would be a nice addition to the club station memories scrapbook.

Please write to: Larry Van Horn, Club Secretary, KH6SP, Subase Amateur Radio Station Special Services-Subase, Box 5A, FPO San Francisco, CA 96601



aeronautical mobile

by Vern Weiss, WA9VLK

Strange —

A recent issue of FLYING magazine presented quite a lengthy article on obtaining a radio amateur license and using it to establish air-to-ground communications and telephone-access through repeaters.

The article dealt with all the aspects of getting on two meters. In fact, it brought to view the varying criteria for the popular two meter FM transceivers available. In all the article's detail, however, I am afraid that it did not point out strongly enough the requirements of getting a license. The mention made was that it is easy to pass the theory test and it is simple to obtain the five wpm code proficiency.

Obviously the FLYING magazine article saw that the Technician class license was the only route to go since that would be all which was needed to work all the fine repeaters and make all the fine telephone calls and save all the fine money. Granted, the two meter FM unit is a real handy thing to have aboard, but aren't we making it too "cut and dried." I get the impression that the article harmonized the only purpose for getting the amateur license was so that its two meter FM benefits could be put to practical use.

Isn't this taking the glories out of our precious hobby and exploiting their non-amateur use?

Face it, the only reason the amateur license would be pursued would be to use the repeaters, frequencies and operator's services for a non-amateur purpose. I cannot help but think this article challenged anyone to get an Amateur Radio license for the purpose of genuine experimentation, fraternalism or public service-type pursuits. Using amateur radio as a practical tool is great. But then too, it's nice to know that anyone you talk to has heard of the ARRL, QSL's, international goodwill and the love of Amateur Radio.

Permission —

I knew this would happen. Last month I stated that even the pilot in command of a commercial flight didn't have authority to grant permission to passengers to run their amateur rigs aboard. Zappo. The post office has issued my home its own ZIP code due to all the mail I've got from that one.

Yes, I too have heard of air transport pilots giving permission to use (as well as operating themselves) amateur equipment aboard the airplane.

Well, either the necessary tests have determined that the amateur gear is non-interfering or the operation is done contrary to the Federal Aviation Regulations. In the case of the airlines, determination must be made by the owner of the airplane or the ATCO certificate-holder. Period.

Up, Up and away in my beautiful . . .

This author has some plans of doing some lighter-than-air radio operating this Spring and thus, would like very much to hear (for this column) from balloon buffs. What a great way to go! (You are considered a full-fledged balloon buff if you think of "raven" when the word "Edgar Allen Poe" is mentioned.)

Little airplanes —

Many of you old-timers will become misty-eyed when I mention the Johnson-Smith Company. (Ahhhhh. Oooooh. I hear you now ahhing and oohing) Well, good news! They are still very much alive today. And while they don't put out the large book-like catalogue they used to, they still put out one heck of a catalogue just filled with some super things. Among them is a styrofoam rubber-band powered Cessna 150. Guillow's produces a balsa-wood Cessna 150 (among others), but the Johnson Smith 150 should appeal to many because it is so simple and quick to glue together. It runs for about two or three dollars and is a bargain.

Amateurs who are pilots are nothing more than big little kids and this large-size model Cessna 150 is one of the better big boy's toys I've seen. They can be found in Adrian, Michigan.

Weather broadcasts

Some time ago I mentioned in this column that a VLF receiver is an asset to the pilot who desires 24-hour weather information. You can't beat those old not-too-many-cycles-a-second.

But, there is a poor man's option! In the evening, in most parts of the country, continuous aviation weather can be heard on 3.0 MHz. These stations identify with names such as "Gander Aeroradio" and "New York Radio." The various stations throughout the country (including Canada) share the frequency and are on for a few minutes at a time; in ten minutes time, some station somewhere should broadcast weather information about your area.

Send news and photos to 719 West Water Street, Kankakee, Illinois 60901.

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Airmobile Public Service

The "Happy Flyers" provided two airplanes for the Marin County "Simulated Emergency Test."

The pilots were Vic Borguis, WB6EVH, in his new Warrior and Janie Postlethwaite, WB6ODQ, in a Cardinal. Co-pilots and radio operators were Mike Flaherty, WA6UBW, and Hart Postlethwaite, WA6CQW. It was designed to test Marin County's emergency preparedness and they simulated the bursting of two dams.

All communications were carried over 2 meter FM Amateur Radio via WR6-ACS (Amateur Communications System) 146.10/146.70. The use of telephones or other communications were prohibited as they were simulated out of service due to the disaster. At least 37 volunteer amateur radio operators were on duty despite the fact the test was conducted on Friday — a work day.

Two schools were evacuated, transportation and emergency systems were tested, hospitals were involved, CHP, police and fire, etc. Part of the Board of Supervisors were airborne and made decisions concerning simulated flood, road, and bridge damage. High ground re-routing of traffic

(please turn to page 39)

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★ **Power Rating:** 200 watts P.E.P. Input and CW Input. *On 10 meters the power rating is 120 watts.

★ The same outstanding performance, reliability, and compact size as the Atlas-180 . . . Only 3½ in. high, 9½ in. wide, 9½ in. overall depth, and only 7 lbs. total weight . . . Operates directly from 12-14 volts D.C. All solid state, modular construction . . . No transmitter tuning (special Braille dial available for blind operators at no extra cost).

★ **Plug-In Design,** for quick removal from mobile mounting, and insertion into AC Console as illustrated.

★ **Prices**

Model 210 or 215	**$599**
AC Console, 117 volts 50-60 cycles	**$129**
AC Console, 117-230 volts	**$139**
Mobile Plug-in Kit	**$ 44**
D.C. Battery Cable	**$ 12**
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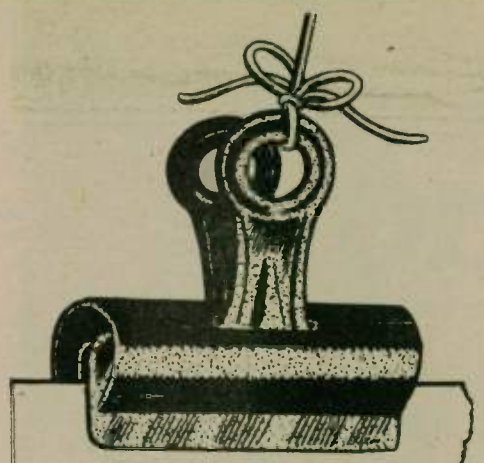

traffic

by
Paul Gagnon, WA6DEI

The Simulated Emergency Test and traffic handling

The nationwide annual test of amateur radio operators' ability to provide valuable communications services in times of emergency will be held 25 and 26 January.

In the Simulated Emergency Test towns and cities throughout the country will be beset with blizzards, earthquakes, floods, tornadoes and other simulated disasters to provide realistic conditions under which amateurs can demonstrate their communication capabilities to local public agencies.

This test is for every amateur! If a disaster struck your area would you be willing to provide a service by supplying communications where needed? Sure you would! And rightly so, since this type of activity is Amateur Radio's major reason for even existing. But would you know how to do it?

Your local Emergency Coordinator is preparing a drill for your area right now. You don't know who he is??? Then contact your Section Emergency Coordinator (see page 58 in December QST) and he will get you in touch with him. Every amateur has an obligation to participate in this learning session. For more information refer to the articles in the December 1974 issue of QST magazine.

How does traffic handling fit in? The National Traffic System is the long range communications arm of the Amateur Radio Emergency Corps. It serves to tie together all the local activities. The AREC is composed of a system of networks to provide communications for agencies. When messages must be passed from area to area, the traffic nets provide the method. The nets get very heavy with traffic in an actual emergency and every available operator is needed to serve as net control, act as liaison between various nets, and to originate and relay traffic. Do you know how to do these things? Well, the SET is the time set aside to train you in these areas.

Most repeaters will have a local net. Most sections have an HF net to tie the various areas together. Make up your mind you are going to learn how this SET. Do a little advanced preparing. Familiarize yourself with traffic handling procedures. Learn the standard ARRL message format. Check into net sessions before the SET and pay attention to net control procedures. Check with your EC or local net manager and make yourself available for the special net sessions on SET weekend.

During the SET period all amateurs are encouraged to originate at least two messages. One should be to your SEC (page 58, December QST) indicating your participation, and another can be to a friend or relative anywhere in the country. In addition to this real traffic there will be a lot of simulated emergency test messages generated to fit the scenarios of the local emergency situation.

In order to prevent panic by the overhearing public we have to take precautions to be sure everyone knows the emergency is simulated. The word "TEST" must appear in the Preamble of the message prior to the precedence if the precedence is anything other than routine. (TEST is not being used with routine messages this year since a routine message is routine regardless of whether or not it was drafted for the SET).

In addition, to insure that test messages are not construed to be the real thing, the words "TEST MESSAGE" must be inserted in the text as the first two words. If you are preparing forms for use during SET include these words on the form.

Depending on the nature of the emergency situation various precedences will be used in the message preamble. The precedences tell the relaying stations and the net control which traffic has the highest priority and must be handled first. The precedences and an explanation are as follows in order of how they should be cleared.

EMERGENCY (spelled out)—Any message having life and death urgency to any person or group of persons.

PRIORITY (P)—Important messages having a specific time limit.

INQUIRY (Q)—Messages inquiring as to the health and welfare of persons in a disaster.

ROUTINE (R)—Routine messages.

As a general rule, an inquiry going into a disaster area is an "INQUIRY (Q)" precedence whereas health and welfare information being sent from a disaster area will carry "PRIORITY (P)." A sample message will look like this'

Nr 283 TEST P HXB WA6DEI CK 17
Camarillo Calif 1915Z Jan 25
To: Ernie Kapphahn WB6HJW
Section Emergency Coordinator
1234 Suey Creek Rd
Santa Maria, CA 93454

BT
TEST MESSAGE X THREE HAND HELD RADIOS REQUIRED SANTA BARBARA AREA ASAP X CAN YOU PROVIDE QUERY
BT
PAUL GAGNON WA6DEI SECTION COMMUNICATIONS MANAGER

Note the HXB handling instruction in the preamble. This means "Cancel message if not delivered within the SET period and send a return message to the originator telling him you cancelled the message." This is a precaution to prevent test messages that get delayed from dragging out all week long after the test. Note though that if you want the message to be delivered anyway, don't use the HXB instruction.

The two reference books to have on hand for traffic handling procedures and information on the AREC and NTS are "Operating an Amateur Radio Station" and "Public Service Communications." You can obtain them from your SCM or from ARRL for a large SASE with 30 cents postage. The "Net Directory" is also available.

PAM AND RM ACTIVITIES

Here are some of the items for Phone Activities Managers and Route Managers involved in pre-SET planning to insure an adequate test of your capabilities and recruiting and training of new operators.

1. Obtain as many net control station volunteers as possible for the test period. The section net (that covers all local nets under your jurisdiction) should be in session as long as any of the local areas are running drills. At a minimum a late Saturday and Sunday session should be held to clear incoming traffic from the NTS.
2. Obtain liaison stations to clear incoming and outgoing traffic to all local and higher level NTS nets that your section interfaces with.
3. Train net control stations. Make sure pre-scheduled control stations know what their time slot is. Insure they keep proper records of the traffic broken down by precedence, time in session, number of check-ins, check-ins on emergency power, and liaison stations.
4. Insure that the net actually gets going on the days of the SET.
5. File the net SET report form with ARRL after the test.

HINTS:

1. Traffic should be listed by precedence with the NCS. EMERGENCY traffic should be listed by its actual point of destination so it can be delivered by the most direct route.

2. Liaison stations must adhere to their scheduled times in order to avoid backing up other nets. Any kind of liaison function should have a basic time schedule coordinated with both nets to be covered.

3. In order to keep timed schedules properly it is possible to designate "Holding Stations" to collect all the traffic from the liaison so he can go to his next sked. The traffic can then be cleared by the holding station as outlets become available. RTTY stations make good Holding Stations.

(please turn to page 39)

South Pacific DX

(continued from page 25)

Our stay in Noumea was a short one in order to make connections down to Tasmania. We were able however to get together for a few hours with Raoul Thomas, FK8AU and Felix Franchette, FK8AC. Felix is the president of the radio club. Raoul and Felix had been aiding the group currently out at Wallis operat- FWØAA and various other calls. The fellows were due back later in the week to operate a few days in New Caledonia.

Going from New Caledonia to Tasmania necessitated quite a weather change. When we landed in Melbourne to transfer planes it was cold, wet and windy. Tasmania would be about the same position as Southern Oregon and the whole island is quite green with rolling hills. It can be quite rugged in some areas. The countryside is dotted with sheep and cows and we had the pleasure of visiting several local farms. My brother-in-law has purchased 11 acres outside of Deleroaine and is in the process of developing his little farm. We did get to see his four sheep before and after shearing. During our stay we were able to drive down to Hobart which is the largest city on the island. While the island receives a great deal of rainfall, we were lucky we were coming into their summer periods.

One of the pleasures of our stay was to drive up to the coastal town of Devonport where a couple from Texas had opened a country restaurant and for the first time in a couple weeks of food on the road I was able to get a good old American hamburger and it was delicious. The stop also gave me a chance to recover from the 48 hour operation in the contest although I don't think everything really caught up with me until after I arrived back home.

Flying from Australia to New Zealand seemed a short one. I guess in the age of jets New Zealand is really quite close to Australia. Although our stay in Auckland was a short one this is probably one country to which I would return. In Auckland we returned to a semi-tropic weather and it was nice to warm up the old bones again.

We had a tour of Auckland and the surrounding area, the afternoon of our one-day stay. Midway through the tour I was getting in the limousine and noticed a QSL card from a WØ on the sun visor. Upon making inquiry I found our guide was Peter Antwis, ZL1AOV. Peter works for the limousine tourist services in Auckland and his work takes him on various tours on both the North and South Islands. He has put his rig in the car and does a lot of mobile operation to and from his various assignments.

The morning of our arrival I had contacted Bob's brother John who resides outside of Auckland and we were invited out to their house that evening for dinner. So that night we were the guests of John and Barbara Lusk in an extremely nice area called Titirangi. On his last trip home on leave Bob had purchased a home in the same area which of course ended up on one of the hills in this area and I'm sure will be a good radio location overlooking the ocean when Bob finally returns home.

From Auckland we went to Papeete, Tahiti for a couple of days rest stop before returning home. Our last day was spent on Moorea, a beautiful paradise with great swimming facilities and underwater coral and sea life. If one is interested in the fish and coral in the South Pacific, if you ever get to Noumea there's a fanstastic aquarium which has everything imaginable in a special coral display.

From Tahiti, of course, we returned home and fact and reality with the memories of a fantastic three-and-a-half weeks behind us.

As we walked in the door upon return it became quite evident from one table piled high that a lot of work lie ahead getting YJ8GS QSL cards. By the way, the card should be available in January and hopefully

Dave Squires, YJ8DS, and XYL Ann

YJ8GS QSL cards should be in the mail by February. I was amazed by the number of cards saying I was the first YJ8 as Bob and others in New Hebrides have been fairly active. But then I guess those that needed a new country probably are the first ones to send their QSL cards.

In discussing the trip a question of my impressions seems to come up. Not to dwell at this time I will relate briefly some feelings that developed during discussions with amateurs on the trip.

It would appear the South Pacific is one area which we have not done too much ground work concerning the upcoming World Administrative Radio Conference. These countries will all have votes at the Conference and probably even more as the trend for all the various islands is to go independent. As they go independent they will join the world organization as separate countries. Very few people knew of or understood ITU and the significance of a world radio conference. They also don't have large amateur populations that formally organize a club and join IARU. It would appear that visiting amateurs going through these countries could be armed with some type of kit in which information could be left and some guideline as to what they can do to prepare their governments for the future as regards to Amateur Radio.

Sometimes in the emotion of perhaps being a rare country and the desire to get on the air we forget some of the social obligations of visiting our friends in other countries. These people meet visitors with hospitality and they expect that they will receive some of your time rather than a 24 hour a day radio operation. Several negative comments were made everywhere I went concerning a couple of then current operations in the area.

Travelling through any country, we have a chance to enhance good-will and to make a favorable impression on those we wish to join us in future amateur radio proceedings.

My thanks and appreciation to everyone along the way that made my trip a most memorable one.

•

Next month Worldradio starts a new column for radio class instructors. It will be an "idea exchange".

clubs

Anatomy of a Public Service Event —

by Anonymous

Local civic agency wants communications for fund-raising event (bike-a-thon, walk-a-thon, etc.) They ask for Amateur Radio.

"Great," you exclaim . . . what with most everyone having two meters and the availability of a repeater, we'll give them a dazzling performance.

Someone assumes chairmanship (or delegated to club VP, etc.) and starts to call people to help. X-amount of souls will be vacationing . . . Y-amount will have to work . . . Z-amount will call you back and let you know. (If there's nothing better to do, they will grudgingly say yes.) You already have a list of definites (the few that you can always count on to drop whatever they're doing and help).

D-Day minus 1: Two or three of committed group call to say they can't make it. (Work, etc.) Borrow their rig, you ask? (It's part of the planned coverage.) They'd rather not . . .

D-Day arrives. You are not sure everyone is going to make it because of the constant changing of plans. Somehow communications comes off surprisingly well, but with some flaws. (It's never perfect.) You look good to the civic group because you "snow" them in areas of lack. In any case, radio works well enough to let the civic group know that their planning did not meet their own criteria. All ends well! Radio gets good publicity . . .

Let's examine a few of the areas in which some light should be shed.

First of all, you are not doing the chairman a big favor by agreeing to help. y ou are doing Amateur Radio and yourself a big favor.

Second, the chairman doesn't have 24 hours a day to devote to the planning and execution of an event in which he gets nothing in the way of recompense. He only has part of his spare time to devote to it, and if he is half as busy as you say you are, do you understand why he may get impatient sometimes?

Some remedies: When you call at the last minute to say you can't make it, please tell the chairman that you have recruited so-and-so to take your place. This is the least you can do, since the chairman had you scheduled for checkpoint duty and has no one to substitute.

If you can recruit no one to take your place, don't say "nothing doing" when asked to donate your rig for a few hours. (Remember, it was already figured in the plans.) Could be he can find a newcomer or non-two-meter type to take your place.

Public service events may seem trivia to you, but they are important to their sponsors (Mental Health, Cancer, etc.) Certainly the SET, Field Day and other drills are important, but in a public-service event, you are helping people DIRECTLY, and in a REAL situation. They appreciate it . . . they cannot thank you enough . . . they give you much local publicity. This is what the public remembers. After all, isn't that what it's all about . . . people helping people?

Please remember, then, whenever you are next called upon . . . BE A SOLUTION TO THE PROBLEM, not part of it.

P.S. If the shoe fits, wear it.

("Bulletin" Central Ohio AREC)

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PRESS RELEASE PRESS RELEASE

A sample press release and suggested cover letter of explanation are shown below. If the sample release is used, don't forget to change the names and disaster situation to fit your own particular needs! It is also suggested that your name, address and telephone number be included on the "copy page" as well as cover letter.

(Cover Letter)

Editor, Roswell Press
73 Main Street
Roswell, Colorado

Dear Sir:

Enclosed is a press release that I trust will be of use to the Roswell Press. Members of the Roswell Amateur Radio Em-Emergency Corps feel that this test will provide a very important contribution to the emergency-communications posture of this community.

I would welcome press representation at the control station (supply address here) and/or one of our several cruising mobile units. If you are interested in further details of this activity, I would be more than glad to supply you with any information you desire. My phone number is 555-8873.

Sincerely yours,
Ralph Wing, W0RDX
42 Bacon Street
Roswell, Colorado

(Copy)

A tornado will hit Roswell sometime Saturday afternoon, but there's no cause for alarm — it will be a storm contrived to test the effectiveness of amateur radio emergency communications.

On January 25 and 26 some fifty members of the Roswell Amateur Radio Emergency Corps will join other amateur radio operators throughout the U.S. and Canada to provide an opportunity to test their communications abilities and equipment and to gain valuable experience under realistic emergency conditions. The Roswell AREC is composed entirely of FCC-licensed radio amateurs who have volunteered their time and stations in the public interest.

Directing the local effort is Ralph Wing, K0RDX, Emergency Coordinator for Calhoun County.

"We will imagine the effects of a tornado going through Roswell," Wing explained, "And amateurs will activate their home stations as well as mobile and emergency-powered portable units to handle messages for the Red Cross, Civil Defense, police and other public-interest agencies."

Wing added that messages going outside Roswell will be handled through the National Traffic System, a network of amateur stations organized to relay messages anywhere in the country.

The Simulated Emergency Test is sponsored by the American Radio Relay League, the bi-national organization of radio amateurs.

Special events station—WC4SFF

by J.L. "Lu" Arendell, WB4RLU
EC Palm Beach County AREC

In the interest of promoting and furthering Amateur Radio activity, the Palm Beach County (Florida) AREC undertook the operation of an Amateur Radio Special Events Station at the South Florida Fair.

The purpose of the Amateur Radio Emergency Corps (AREC) is to provide organized communications during disasters and other emergency situations such as the Nicaraguan earthquake and Hurricane Camille.

In developing the station at the fair, this county-wide organization was fortunate in having the complete cooperation of the three very active Amateur Radio groups, each with own unique interest and operator capabilities.

The diverse interest of these groups and their dedication to Amateur Radio, enabled the presentation of a variety of Amateur Radio activities to the public.

The Goldcoasters Radio Club is comprised mainly of a group of retirees, who have retained their abilities as proficient radio operators. The services of these operators was envaluable during the stations daylight operation. The Gulfstream Society of Radio Operators Inc. (now The Palm Beach Repeater Association, Inc.) installed all VHF and UHF equipment as well as furnishing operators for the lower bands. This group was especially effective in WC4SFF's participation in SET-74, as it provided county-wide repeater communications and phone patch facilities.

The West Palm Beach Radio Club, Inc. furnished the lower frequency equipment, including the rigs, beams, and dipoles. The operation of WC4SFF required the services of 46 licensed amateurs, being the largest group, the West Palm Beach Radio Club furnished some 40 willing operators.

Al Suhr, WB4AID, was trustee for WC4SFF, and as such furnished the experience necessary for the smooth operation. Using the control operator system as outlined in FCC rules, 97.77-97.79 everyone knew who was in charge at any given time. We are very much indebted to Al for his unselfish dedication.

Other amateurs whose response to the call was outstanding were: Bill Howell, WB4PQB, furnishing HF rigs and antenna, Joe White, WB4KZU, operator organizer, and Mark Schauwecker, K4-BDI, and Bob Street, WA4AIB, furnishing their building skills.

As you can see, it took the efforts on many individuals to have a successful operation of any kind. It is my hope that through this kind of cooperation and participation that the Palm Beach County AREC will one day rank as one of the best in the nation.

•

A new program designed to assist radio clubs gain more members has been announced by **Worldradio** and the **Callbook**. See page 22.

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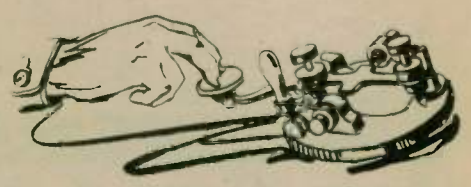

METRUM II
2 meter FM radio

MOTOROLA

Guaranteed Performance Specifications

Size (HxWxL)	2¾" x 11" x 9¼"
Weight (pounds)	8
No. of channels	12
Stability	.001%
Transmitter	
Power output	25 watts, or 10 watts (switchable to 1 watt)
Audio distortion	10%
FM noise	−60dB
Spurious and harmonic emission	−55 dB
Receiver	
Sensitivity 20 db	.35 uv
Sinad	.25 uv
Selectivity @ 25 kHz EIA Sinad	80 dB
20 db quieting method	100 dB
Intermodulation	−70 dB
Spurious and image rejection	−65 dB
Audio Output	5 watts at less than 5% distortion
Standby current drain	300mA

The METRUM II 2 meter FM radio by Motorola provides guaranteed performance, unmatched reliability and the highest quality in the industry. Reflecting Motorola's long leadership in 2-way FM communications, the METRUM II is backed by the most extensive research, engineering, manufacturing and service facilities in the industry. It is available in 10 watt and 25 watt versions, both switchable to 1 watt.

Integrated circuitry provides more efficient operation and reduction of required parts. Because of the METRUM II's compact size and contemporary design, it can be easily adapted to meet changing requirements.

Features

- 25 or 10 watts of power, both switchable to 1 watt
- 12 channel capability
- Shipped to receive and transmit on 146.94 MHz
- Only one crystal per channel is required. Each crystal provides both the transmit and receive frequency for simplex operation.
- Transistorized pre-amplifier in palm-type microphone in shockproof housing
- Solid state design eliminates open or mechanical relays—assures dependable, trouble-free operational reliability
- Push button repeater switch allows simplex or repeater operation
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- Reversible METRUM II control panel provides universal flexibility and allows mounting under the dash, on the hump, or overhead so controls are always visible.
- Antenna "mismatch" protection is provided if the antenna is not matched correctly to the radio—or if the antenna is damaged while the radio is operating
- Polarity protection is provided in the event of incorrect installation
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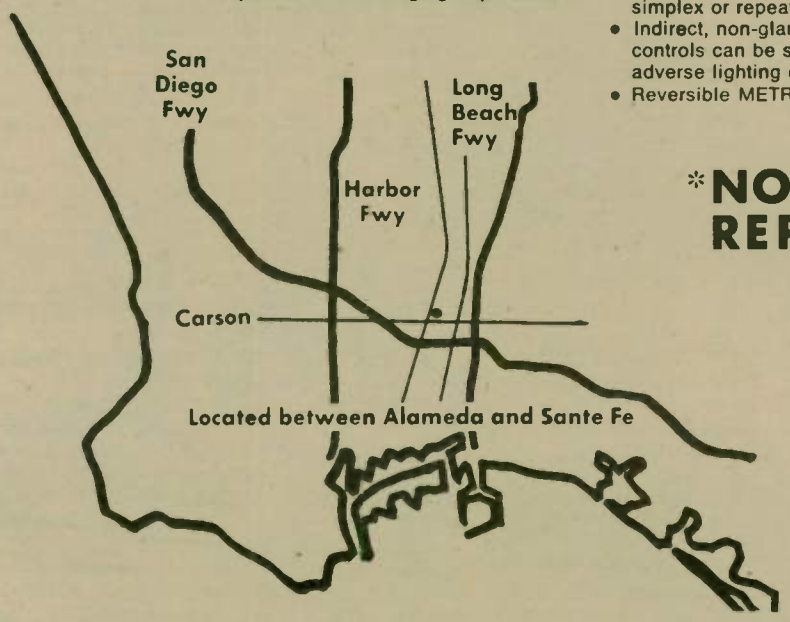

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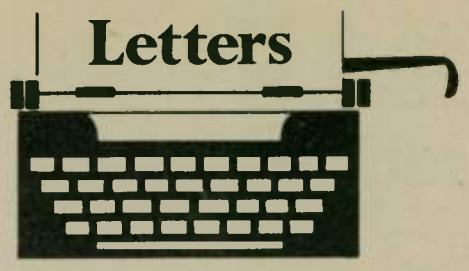

Your news of amateurs all over the world is inspiring. It should be read by every amateur. Then it would show the importance of working together in all kinds of emergencies.... Paul Stack, WA6IPF

Keep up the splendid work... Jukka and Miika Heikinheimo, OH2BR and OH2BAD

All best wishes for continued success with your much needed and most enjoyable publication.... Ernie Zumbrunnen, WB6UOM

Vive WORLDRADIO!!.. Eunice Bernon, K8ONA

The Worldradio News is what the amateur needs. I think it is wonderful, keep up the good work.... Johnny Rose K5ZDW

"WR" is better each issue... Al Shawsmith, VK4SS

I remember that I was impressed with your first issue; now very happy to see the even wider scope and coverage... Walt Short, WB4TBO

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The Worldradio News

an international newspaper

Fourth Year

The Worldradio News is published monthly by Worldradio Associates.

Offices at 2509 Donner Way
Sacramento, CA 95818 USA
Telephone: (916) 456-6725

Subscription rates: $5 per year, $9 for two years, $13 for three years, $36 for ten years, and $50 for life. IRC's and local currency will be accepted from overseas readers.

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

Article contributions and advertising inquiries are invited.

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James Pontius, W2CPB, Niskayuna, NY
Ruth A. Paz, HR2RP, San Pedro Sula, Honduras
Chuck Wilson, K6TKO, Hayward, CA
B.A. Campbell, WA6ZBV, Carmichael, CA
Dentron Radio Co, North Olmsted, OH
Leroy Anderson, Gaithersburg, MD
Rufus Williams, W3UBZ, Washington, DC
Ruthann Klimberg, WN6EFJ, Arcadia, CA
M.H. Grossman, W5FIB, Dallas, TX
Wayne Myers, WB9OLJ, Chicago, IL
Bro. W.J. Bellmer, W8VOS, Dayton, OH
Anthony Foddai, WB2SOE, Jersey City, NJ
Ignatius Ricca, W2VY, Brooklyn, NY
Bob Buus, WA2HVA, Holmdel, NJ
Joe Ehrler, W2OO, Queens Village, NY
Robert Haworth, W8LE, Rocky River, OH
Donald Jones, WA6PWT, San Jose, CA
H. Ostergard, W9ILR, Kenosh, WI
Harold C. Nowland, W8ZXH, Southgate, MI
Porter Evans, W7YP, Sun City, AZ
Andrew Peterson, Mt. Stewart, P.E. Island
Stephen J. Hawes, WB6UZX, Berkeley, CA
H. M. Lindgren, W6CJ, Los Angeles, CA
Earl Brooks, K7BKZ, Seattle, WA
Milo DeLucca, WA6RZK, Holt, CA
James Eldredge, K6TL, Lafayette, CA
Burr Chambless, WA6VYD, Oceanside, CA
Lloyd Cabral, WB6TRR, Felton, CA
R. Billings, WB4PXW, Naples, FL
Jerry Ventre, WA6EDE, Porterville, CA
Bro. R.L. Benish, St. Marys, AK
J. Strockbine, W2KCO, Matawan, NJ
Ray K. Carter, K6OBA, Corona Del Mar, CA
James P. West, W6QLO, El Cajon, CA
Peter Narins, Ithaca, NY
R.A. Roberts, WN8SNH, Springfield, OH
C.R. White, VK3AUP, Melbourne, Australia
David Novoa, KP4BDL, San Juan, PR
John Burtt, Burlington, WA
Douglas Wiseman, WB8SYG, Medina, OH
Don Smith, W6NKF, Walnut Creek, CA
Joseph Quirantes, WA6DXP, San Jose, CA
Paul Stack, WA6IPF, Vista, CA
Clay Curtiss, WA7KBR, Seattle, WA
John Young, WB6TGW, Wasco, CA
George Roush, WN6PWZ, Los Gatos, CA
Robert J. Leonard, WB6MNA, Northridge, CA
Bill Brehmer, W8JEE, Lincoln Park, MI
Ken Anderson, K6CQF, San Jose, CA
Joseph Williams, WA9TSG, Milwaukee, WI
Philip Lawrence, W1RFW, Groveland, MA
Greg Jenkins, W6RNF, San Francisco, CA
George Sperry, W4UKA, Ocala, FL
Russ Garlick, ZL3AA, Greymouth, NZ
Doug Wright, WB6CSL, Sunnyvale, CA
E.S. Kuykendall, W5UXP, Fort Worth, TX
Robert Kelley, WØBW, Fort Dodge, IA
Thomas Wall, WB2VPR, Nutley, NJ
L.A. Muhleisen, K5FVA, Melanie, LA
James Mofils, WA1GOE, Enfield, CT
John Hathaway, W9LMC, Champaign, IL
F. Franklin, W6UDF, Davis, CA
L.H. Zell, WA2PCF, Manahawkin, NJ
Glen E. Smith, Visalia, CA
Bill Harvey, WA6RXI, Oildale, CA
P Fitzsimmons, EI5P, Dublin, Ireland
Fred Nielsen, VE6AVN, Edmonton, Alberta
Earl Lockwood, Redmond, WA
Roy E. Terry, W7MBO, Monroe, WA
Mel Brennan, W8HPT, Lakeside, OH
George Haggerty, Old San Juan, PR
Frank Knull, W8JS, Urbana, OH
S.E. Martin, WA3SAD, Upper Marlboro, MD
R.M. Wilder, W1CNF, Canaan, CT
E.R. Tompkins, K4SZ, Chesapeak, VA
L. L. Hardin, K4 LM, Cape Coral, FL
H.V. Williams, WB4YGE, Boca Roton, FL
Roger Smith, W1EOA, Wellsley, MA
R.T. Peschek, W9LJU, Milwaukee, WI
Yoichi Makase, Gardena, CA
Bill Hawbaker, Las Vegas, NV,
Lester Nafzger, Columbus, OH
Craid A. Thompson, WA9TXL, Peoria, IL
Fred McGee, Moundville, WV,
Wayne Taber, W9BLU, Chippewa Falls, WI
Jack Smyser, W7WN, Scottsdale, AZ
Ed Camp, Menlo Park, CA
Paul Robbins, Jr., W4MKT, Winston Salem, NC
Emery Flinn, Jr., K4WU, Carrolltown, GA
Harry King, Cupertino, CA
Richard Wujciak, K1OJD, Dover, NJ
Daniel Nunn, WA6IAB, Sacramento, CA
(Continued in next month's issue)

...continued from...

...ounty Hunting

...ntinued from page 7)

...m to be in Appalachia, from northern ...bama and Georgia up to western New ...rk. Of course, some of those Nebraska ...nties are rough. You might check ...rself for some of California's moun... and northern counties. It isn't as easy ...you might think, especially after you ... past the first 1500 or so.

...It is rather nice when mobile stations ...a few miles out of their way to give you ...county that you need—several have ...n kind enough to do this for me. Most ...he stations are quite helpful and consi...rate, especially when you get down to ... or two left in a particular state.

...I have earned long-term friendship ...m several stations by giving out the ...t county in California and Nevada. ...fore making a trip I generally check ...the net to see who needs what along the ...neral route and plan the trip that way. ...e easiest counties are the ones contain... the largest cities, or the ones ...ng the interstate highway systems. ...e hardest are those way off the beaten ...ck, such as Keya Paha, Nebraska, or ...coln, Nevada.

...County hunting might be a nice diver...n for you. Give it a try sometime and ... how well it works for you.

...In these days of minimum DX, it will ...e you an opportunity to make some ...ntacts.

•

...SCAR (continued from page 30)

...32	14	2	0	57.6	64.36
...45	15	2	1	51.9	77.92
...57	16	2	0	51.2	62.75
...70	17	2	1	45.5	76.31
...82	18	2	0	44.8	61.14
...95	19	2	1	39.0	74.71
...07	20	2	0	38.3	59.53
...20	21	2	1	32.6	73.10
...32	22	2	0	31.9	57.93
...45	23	2	1	26.2	71.49
...57	24	2	0	25.5	56.32
...70	25	2	1	19.7	69.88
...82	26	2	0	19.0	54.71
...95	27	2	1	13.3	68.27
...07	28	2	0	12.6	53.10
...20	1	3	1	6.9	66.67
...32	2	3	0	6.2	51.49
...45	3	3	1	0.4	65.06
...53	4	3	1	54.7	78.62
...70	5	3	0	54.0	63.45
...83	6	3	1	48.3	77.01
...95	7	3	0	47.6	61.84
...08	8	3	1	41.8	75.41
...20	9	3	0	41.1	60.23
...33	10	3	1	35.4	73.80
...45	11	3	0	34.7	58.63
...58	12	3	1	29.0	72.19
...70	13	3	0	28.3	57.02
...83	14	3	1	22.5	70.58
...95	15	3	0	21.8	55.41
...08	16	3	1	16.1	68.97
...20	17	3	0	15.4	53.80
...33	18	3	1	9.7	67.36
...45	19	3	0	9.0	52.19
...58	20	3	0	3.2	65.76
...70	21	3	0	2.5	50.58
...83	22	3	0	56.8	64.15
...96	23	3	1	51.0	77.71
...08	24	3	0	50.4	62.54
...21	25	3	1	44.6	76.10
...33	26	3	0	43.9	60.93
...46	27	3	1	38.2	74.50
...58	28	3	0	37.5	59.32
...71	29	3	1	31.8	72.89
...83	30	3	0	31.1	57.72
...96	31	3	1	25.3	71.28
...08	1	4	0	24.6	56.11
...21	2	4	1	18.9	69.67
...33	3	4	0	18.2	54.50
1746	4	4	1	12.5	68.06
1758	5	4	0	11.8	52.89
1771	6	4	1	6.0	66.46
1783	7	4	0	5.3	51.28
1796	8	4	0	59.6	64.85
1809	9	4	1	53.8	78.41
1821	10	4	0	53.2	63.24
1834	11	4	1	47.4	76.80
1846	12	4	0	46.7	61.63
1859	13	4	1	41.0	75.19
1871	14	4	0	40.3	60.02
1884	15	4	1	34.5	73.59
1896	16	4	0	33.9	58.41
1909	17	4	1	28.1	71.98

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Aeronautical mobile

was masterminded, etc. The advance brochure distributed to the amateurs was superb and the planning was great. Even with all the fine planning, some interesting and educational observations were made, and those of us who participated wonder what would happen to many communities who have no disaster planning at all!

We must also brag that the communications provided from the "Happy Flyers" airplanes was great — clear, readable and devoid of the usual AM type airplane transmission noises. Even the "emergency" (un-planned) handie talkie provided to the twin engine Aztec was "usable" with a noise cancelling mic. Happy Flyer Steve Hanselman, WA6HZF, was the radio operator using Jack Lopez's (WB6QPS) Drake TR22 with a rubber duckie antenna.

It showed we could provide sudden and usable communications, or quality pre-planned communications. Let's get more equipment ready for quality communications for emergency use.

Our hats, goggles, and scarves are off to all who participated and our thanks to the hard workers who did the planning — proving Amateur Radio does provide a true public service.

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Traffic

(continued from page 34)

4. Volume traffic in the system can hold up traffic for a specific agency from point to point. This looks bad when it takes three or four days for a message to go from one end of the state to another. If your group is going to handle traffic based on an emergency for a specific organization (such as Red Cross) it would be good to arrange your own point-to-point circuits between your locality and the regional offices of the organization in order to demonstrate that Amateur Radio can provide essentially instant service for written traffic when the occasion demands.

Let's get everyone involved in the Simulated Emergency Test this year. It is interesting and enjoyable to handle the traffic for a worthy exercise.

Apologies

The information in the last column regarding the mailing of traffic picked up an error along the way. The manager of the Idaho-Montana Net (IMN) is Bill Smith, W7GHT. IMN now meets at 0230Z on 3582. Bill publishes an informative bulletin for net members each month. If you are interested in obtaining a copy write Bill at Box 241, Craigmont, ID 83523.

HBSN

Kurt Meyer, W8IBX, advises that to assist Novices in passing interstate traffic during the SET the Hit and Bounce Slow Net will hold extra sessions on 25 and 26 January on 7140 kHz at 1800 and 2200 GMT. In addition, net members will monitor 21.140 MHz at 1730 and 2130Z both days watching for eastbound traffic from central and western states Novice stations (and anyone else).

I can't keep up with HBSN! Last month we reported their records and now they have broken them again. November saw 191 Messages and 216 QNI, both a new record. HBN recorded 610 checkins for the month. Congratulations!

Reports

Send me the reports of your net activities during the SET and pass on any information you learn that may be helpful to others.

Awards

We are considering sponsoring a monthly traffic award. There are already several in existence and there have been many fall by the wayside over the years. But the present ones are lacking in many respects. We would like to see the average amateur who checks into nets regularly receive some recognition. Do you have any ideas on how to set it up. Let's hear them. My address is 1791 Hedon Circle, Camarillo, CA 93010.

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Editorial

(continued from page 12)

the government (and taxpayer) of this burden?

(10) What definitive steps can be taken to assure greater unanimity among the various national amateur radio societies, leading to stronger representation at international conferences?

(11) What steps can be taken to assure the support of other governments for the Amateur Radio Service at the forthcoming World Administrative Radio Conference?

(12) Is our concept of "public service" valid? Should it be expanded to include the fact of the availability of the Amateur Radio Service to all who would qualify to participate in its benefits?

(13) With amateur satellites, have we reached the ultimate in technology or should we be looking beyond their use to new technological challenges?

(14) Is the "fun" dimension in Amateur Radio essential to growth and advancement of the Amateur Radio Service?

(15) Should Amateur Radio continue in its present image, or are there new and socially desirable roles not thus far attempted or proposed which might broaden the service and enhance its value?

Quite a "think piece" wasn't it? Considering who the readers of this newspaper are, we will be most pleased to accept your responses and forward them on to the author. And, we would be most pleased to print some of the responses in order to stimulate others.

In next month's issue we will discuss some solutions to the problems facing us and look at the FCC licensing proposals.

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Fifi (continued from page 5)

Fr. Phil Pick, HR2FP, put his rig in his truck in Progresso, Honduras, and gave on the spot reports of damage to bridges and villages. Telling where people were marooned on roof-tops and giving weather reports to incoming aircraft. Father returned to the U.S. for a much needed rest the last week of October. He was due in the States in September, but Fifi delayed him.

Louis Forster, WA9CCB, Durand Wisc., spearheaded a collection of funds for the Honduras hurricane victims. Those who want to send something for the refugess can still do so. It is not too late. Write to W9LII or WA5VBM for proper addresses.

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Sister City

(continued from page 3)

I would like to mention the radio amateurs in our club who have been the prime movers in the Sister City Program: Orve Owen, W6BSL; Peter Bergman, WB6RZX; Ray Montagne, WN6DHN; Hal Mumford, W6CU; Hank Beisheim, WB6TZQ; Mak King, WN6EKT; and Hank Rolphs, WA6WGB.

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A new program designed to assist radio clubs gain more members has been announced by **Worldradio** and the **Callbook**. See page 22.

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MEDICAL: Any licensed amateur radio operator in the medical or paramedical field should join MARCO (Medical Radio Council). Contact: Stan Carp, M.D., K1EEG, 44 Main St., Saugus, MA 01906 (617) 233-1234

BRAND NEW IC-22 Icom 10/1 watt 2 meter transceiver, 22 channels with 5 supplied. $225.00. Send certified check to David Fox K1CJV/3, 6206 Benhurst Road, Baltimore, MD 21209

FOR SALE: Heathkit SB301/401 with manuals and extra set tubes. $500. has SSB-CW-AM filters-FOB Stockton, CA, WA6CPP, Box 10, Wallace, CA 95254. Also collect old atlases, road maps, and the like.

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

SURPLUS CERAMIC 7289s. Tested 449mc. Guaranteed ICAS. $7 ea; 6/$35. Plus postage. Ed Howell, Box 73, Folly Beach, SC 29439

REVOLUTIONARY!!! Learn or improve CW ability the easiest way. Developed by Russ Farnsworth, W9SUV. 13 wpm in half the time. 3 LP records, $9.95, CA + tax. DANA RADIO, 2704 16th St., Sacramento, CA 95818

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HAVE: GR-110 Scanner, New $105.00. KR-5 (Ten-Tec) Keyer, New, $20.00 (Normally sells for $49.) Making up Rubber Duckies for low powered rigs, tuned for 146.52, UHF Connectors, $3.00 each. Can be retuned for your particular frequency very easily. Rigs up to 15 watts out. K8IQB, Lou, Howard Street, Bellevue, Ohio, 44811 S.A.S.E. for full details.

DEALERS WANTED: To sell the World's finest quality Amateur & Citizen Band call plaques. Domestic and foreign. Territories available. For sample and information write Intercontinental Sales, 4215 Darwood Drive, El Paso, TX 79902

TELETYPEWRITER parts, manuals, supplies, equipment. Toroids. SASE for list. Typetronics, Box 8873, Ft. Lauderdale, FL 33310, W4NYF. Buy parts, late machines.

FOR SALE: 4CX5000 tubes new and used, Wind direction and speed indicator with control box $40.00. 75A4 Mint, $275.00. NCX3 with PS Xlent $175.00. New DX engineer speech processor for 32S -1 $60. Eico or HA -1 T.O. Keyer with paddle, $55.00. Amico SWR Bridge $10.00. Prop-pitch rotators, $50. to $75.00. Cliff Dweller 40 MTR. rotatable Dipole and control box $60.00. 60 watt CW AC/DC compact "Spy" Transmitter and receiver 3 to 15 MHz, $75.00. Nick, 10107 Lev Ave. Pacoima, CA 91331 (213) 899-6938

HW2A HP23B $125.00. Lafayette HA460, $50.00. HA460 with squelch, $65.00. Mikes and AC cord, all manuals PP. WA7RKN, Keith, 1781 Anderson Creek Rd., Talent, OR 97540

WANTED: An opportunity to quote your ham needs. 36 years a ham gear dealer. Collins, Drake, Ten-Tec, Swan, Kenwood, Tempo, Clegg, Regency, Icom, Hy-Gain, and all others. Also $25,000 inventory used gear. Request list. Chuck, W8UCG, Electronic Distributors, Inc., 1960 Peck St., Muskegon MI 49441. (616) 726-3198, Telex-22-8411

YAESU TRANSCEIVER OWNERS-Present and prospective. Join the International Fox-Tango Club. Send business-size SASE or two IRCs for complete information and sample of monthly FT newsletter. Milton Lowens, WA2AOQ, 3977-F Sedgwick Ave., Bronx, NY 10463-WR

WANTED: Your discarded and old telegraph keys-bugs, battery operated radios to 1930, National Radio SW7, etc. Description and price please. Walt's Emporium, Dept W, P. O. Box 19406, Dallas, TX 75219

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Want two Atlas 180. Will trade $1000 Bond or New SR 146A w/charger, 2-MTR FM and $300 cash. WØBNF, Box 105, Kearney, NE 68847

FOR SALE... SBE, SB-50 6 meter am/ssb mobile transceiver. Like new, complete with mobile mount. Used field day one year only. $250. WB8HEE, 140 Ash, Whitmore Lake, MI 48189

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MARITIME MOBILERS-Thanks to Bill Yost's column in the October issue WRN you have an introduction to the Cat Whiskers Antenna. Free brochure and details if you need more. M^2 Electronics, 28627 Bridle Lane, Rancho Palos Verdes, CA 90274

FREE KIRLIAN IMAGE ON 35MM SLIDE plus details on Kirlian Equipment. Systecon, Department 70, Box 417, West Hyattsville, Maryland 20782. (301) 596-5654

MOBILE OPERATORS: Improved completely shielded ignition systems now available. Send SASE for info on systems and noise suppression components. Summit Enterprises 20 Eider Street, Yarmouthport, MA 02675

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DAYTON HAMVENTION at HARA arena April 25, 26, 27, 1975. Program brochures mailed March 10th. Write for information if you have not attended the last two years to HAMVENTION, P.O. Box 44, Dayton, OH 45401

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