



# Worldradio

NEWS of the month of October, 1972 - 50¢

November issue



(Excerpts from remarks by A. Prose Walker, W4BW, Chief of the Amateur and Citizens Division, Federal Communications Commission. Mr. Walker addressed the Greater Bay Area Hamfest, October 15, 1972.)

There is no more urgent and time consuming issue, and we must prepare for the greatest opportunity in our lifetime - to obtain more frequencies.

Since I can remember, the attitude towards the amateur bands has been a defense of the existing bands ... which is a negative response.

The result of such an attitude is that amateur bands have been slowly whittled away until now 40 meters is a shambles.

The last conference dealing with amateur radio frequencies was in 1959. At that conference a great portion of the 40 and 80 meter bands were saved by the head of our delegation, the late FCC Commissioner, T. A. M. Cramer. He was keenly aware of the value of Amateur Radio to our country and it is a tribute to him that we have our present bands.

If in my remarks you find a measure of urgency it is intentional. Some countries are reporting a startling increase in their amateur population and we can expect 800,000 hams world-wide by 1980. If it is anything near that many there will be much greater congestion ... what would the bands sound like on the weekend - during a contest? (Turn to page 12, please.)

## around the world in 115 minutes the flight of OSCAR 6

by A. David Middelton, W7ZC

It is 1717 GMT, Sunday, October 15, 1972. WA6ICZ, acting for W6AB, is giving the count down on the launch of Oscar 6 at Vandenberg AFB. "T minus two and counting!"

It is past 1720. "We have a launch!" Oscar 6 left the ground on schedule at 1719. 18 after a two-day hold due to adverse weather.

It is 1727 and WA6ICZ announces, "All systems GO!"

After many months delay and thousands of hours of preparation, the sixth Amateur Radio satellite is hurtling into the heavens. Separation from the launch vehicle is expected at 1834 when O-6 is over Europe.

The minutes tick by. At 1900 the first peep is heard from Oscar 6 at W7ZC. The first bit was a "P" followed by a call - W6RP (?). Then another signal, this time clearly heard - W7HYG. The satellite is working and being heard in Zion Canyon, Utah at W7ZC - and many other places!

Again, amateur radio enterprise, ingenuity and persistence has paid off. At long last, the hams of the world have a new tool to work with in their quest for the frontiers of radio communication!

I missed O-1 and O-2 due to travelling with no two-meter gear available. I regret the loss of participation in those two historic events! Oscar 3 found me unprepared. Hurriedly, I collected my two-meter gear and started listening only to discover (after much kidding on 7 mc SSB) that my coax leading to the J-slot antenna was a dead-ended cable! After this was corrected, over 125 stations were logged through O-3 and as the wife was out of town, I did nothing but work on the Oscar program for several weeks. I was even heard once on 15 watts.

The abortive flight of O-4 was short and sour (due not to any fault of the hams, but to a poor orbital launch). Then came O-5 and again many signals were logged at W7ZC but no transmitting was done.

Now, after months of waiting, Oscar 6 is up, flying, and two-way QSOs are possible. The two-meter uplink and the ten-meter downlink are working! :

The official information was gratifying! O-6 had a perfect launch and is on a near (Turn to page 2, please.)

## Eye Bank OK

In the Matter of

Inquiry into the extent to which amateur stations should be used on behalf of non-amateur organizations.

### REPORT AND ORDER

Adopted: October 5, 1972

Released: October 11, 1972

By the Commission: Commissioner Johnson dissenting; Commissioner Reid absent.

1. On April 28, 1971, the Commission issued a Notice of Inquiry in the above-entitled matter. The Notice which was published in the Federal Register on May 8, 1971, requested that comments be filed by interested parties by July 1, 1971. Subsequently, the time for filing comments was extended to August 31, 1971. Seventy five comments were filed by many individuals, amateur organizations, and other organizations which have in the past used the facilities of amateur radio stations.

2. The Notice of Inquiry was the proximate result of s97.39 which prohibits certain organizations from both obtaining an amateur station license or having an amateur operator use his station on behalf of those organizations. One of the effects of this Rule is to prohibit amateur operators from using their stations on behalf of such parties as the Eye Bank, American Red Cross and the March of Dimes as well as commercial businesses.

3. Our Notice requested comments regarding whether any restriction on the use of amateur radio stations by non-amateur organizations is needed. We also requested comments on what those restrictions should be. The Notice further related to the fact that unlimited operation on behalf of organizations (third party communications) could lead to the creation of large numbers of new networks which would create additional unwarranted interference on the amateur bands.

4. The comments received in the Docket suggested many solutions to the problem of which organizations, if any, should be allowed to use amateur radio facilities. The comments covered the full range from no third party communications to any (Turn to page 2, please.)

1972 Oct 15  
715 Contact St.  
Pearl Harbor



# OSCAR 6

(Continued from page 1)

polar route at 910 statute miles up, with a time of 114.95 minutes at an inclination of 101.73 degrees. The receiver pass-band was 145.9 to 146 MHz, with the transmitter working with its pass-band of 29.45 to 29.55. A beacon was planned for 29.45 and one at 435.1 MHz.

The first few orbits produced signals from W6RP, W7HYG, K6HAA, K6QEH, K7KOT and many incompletd calls. W6ELT, WA6ICZ and W6EJJ reported (via low-frequency QSOs) hearing W7ZC on Orbit #1.

The location of W7ZC is not ideal. The station is on a mesa about 150 feet above the Virgin River in Zion Canyon, three miles west of the West Gate of Zion National Park. High rock mountains circle the location in all directions.

The gear at W7ZC for Oscar 6 is simple: a home-built exciter (75 W DC input to a 9903-crystal-controlled CW on 145.957 MHz) with 30 feet of coax (foam) to a balun, thence through 25 feet of 300-ohm Marine-Core to the horizontally polarized 16-element J Slot at 20 feet. The antenna is tilted 10 degrees and rotatable by Armstrong method. The receiver for 10 is a Yaesu FR dx 400 (which is low in sensitivity on 10). The antenna is a 3-band Yagi at 65 feet, and poor on ten meters. Better Oscar antennas are planned but so far all work has been on the above.

Orbit #5 produced signals from the East, W4AWS and K1VYU. All signals dropped out after a few minutes. Checking with the West Coast it was learned that the repeater on O-6 had turned off!! Would it restart? A Minnesota ham told me that he had heard stations from 1st through 4th call areas on Orbit #5. I had heard some fine West Coast signals including W6EJJ, K6HAA, K7KOT, K7GCS, K6QEH, K6YNB and K7BBO. I heard my first two-way with K7MWC and K7KOT battling away!

So it went, orbit after orbit. Sometimes Oscar was on and sometimes he was off. So far no official word has come from AMSAT as to why this performance, but it is assumed that the unit is overloaded, the batteries run down from excessive transmitting power, the unit shuts down, the batteries recharge and it restarts. Disconcerting and annoying to be sure, but it never fails (to date) to come back on - eventually.

Cockpit problems at W7ZC! Unfamiliarity with the new receiver resulted in not tuning all of the 100 Kc pass-band. When corrected I started to hear more as I tuned the entire band. (Turn to page 26, please.)

2

# Newsfront



October 19, 1972

## ATTENTION DXers:

The October, 1972, issue of QST carried a DXCC Note announcing the addition to the ARRL Countries List of Mellish Reef. Acceptance date for DXCC submissions for Mellish Reef was announced as November 1, 1972. Most unfortunately, serious questions have been raised concerning the operations that have taken place from Mellish Reef and until such time as the validity of the points in question have been ascertained, no DXCC credits for Mellish Reef have been, or will be, made. Therefore, please do not submit any Mellish Reef confirmations for DXCC credits until an announcement does appear in QST. Because of the delay in granting DXCC credits for Mellish Reef, the bottom number for the December submissions for DXCC Honor Roll will be 311 deleted and submissions for that total will be accepted.

October 26, 1972.

## ATTENTION CONTESTERS:

The November issue of QST details new contest disqualification criteria to become effective with the November 3 Sweepstakes. If the claimed score of a participant is reduced by 2 percent or more, the log may be disqualified. Disqualification carries with it prohibition from submitting an entry in the next annual running of that specific event. Calls of those disqualified will be routinely carried in QST. Duplicate contacts removed by Headquarters will incur a penalty of 3 additional contacts to be deleted from the score totals. Full details on page 55 of November QST.

## international travel health information

This booklet tells immunization requirements for entering most countries, as well as recommended immunizations and other health precautions for international travel. Ask for Public Health Service Publication No. 2045 - for sale by the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402 - Price 10 cents.

## Washington Report: FCC



(Continued from page 1)

communications that individual amateurs wish to carry. Most of the comments advocated a position between those two positions. Three comments suggested that amateur radio be used on behalf of non-amateur organizations but only when normal communications are unavailable. Many other comments suggested that third party communications be allowed for charitable non-profit organizations but only during emergencies. A majority of the comments agreed that it is not a sound practice to allow commercial organizations to use amateur radio stations but there was no consensus as to what other organizations should have use of amateur stations.

5. The Commission believes that the best solution lies between the extremes of prohibiting entirely third party communication and permitting unlimited third party operations. To prohibit entirely third party traffic would tend to stifle one of the basic purposes of the Amateur Radio Service which is to provide a voluntary non-commercial radio service. But to allow all third party communication would tend to cause increased congestion in the Amateur bands. A basic principle permeating our rules and the international radio regulations is that amateur radio shall not be used for any pecuniary interest to any party or for commercial communications. The international rules specifically provide that amateur radiocommunications must be of a technical nature or remarks of a personal character for which, by reason of their unimportance, recourse to a public telecommunications service is not justified. There can be no legitimate reason for an amateur station to carry message traffic of a commercial nature. Radiocommunications, the sole purpose of which is to facilitate regular business or commercial activities, do not enhance the intended purpose of the Amateur Service and should not be allowed except for an emergency communication as defined in our rules.

6. Several comments were received which suggested that the thrust of the Commission's Notice of Inquiry was to censor the Amateur Radio Service. These comments suggested that any categorization of groups, some of which could use amateur radio facilities and others who could not, (Turn to page 42, please.)

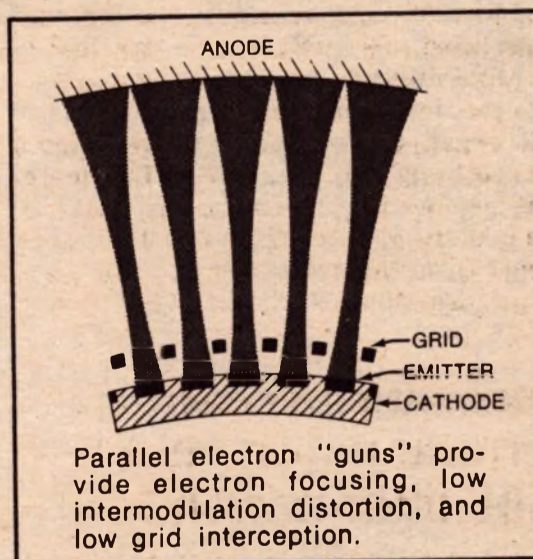
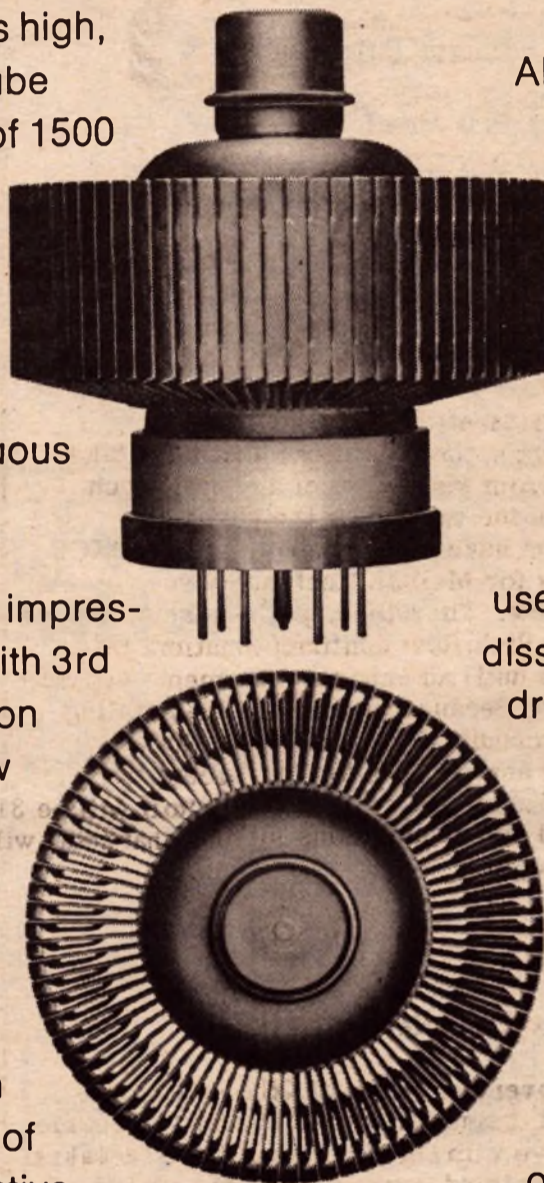
# EIMAC's new 8877 high-mu triode delivers over 1500 watts output at 220 MHz. (2000 watts output at 30 MHz is easy)

On your right is the new, rugged, ceramic/metal 8877 high-mu power triode by EIMAC. Another state-of-the-art tube. Only three and one-half inches high, this low-profile, heavy-duty tube has a plate dissipation rating of 1500 watts, a maximum plate voltage rating of 4000 and a maximum plate current rating of one ampere. In the HF region, typically, the 8877 coasts along at a continuous duty level of 3500 watts PEP input. A peak drive signal of only 65 watts is required. This impressive power gain is achieved with 3rd order intermodulation distortion products — 38 decibels below one tone of a two equal-tone drive signal.

This magnificent power triode is rated at full input to 250 MHz. The low impedance grid structure is terminated in a contact ring about the base of the tube, permitting very effective intrastage isolation to be achieved up to the outer frequency limit of operation. The close tolerance grid, moreover, is composed of aligned, rectangular bars to achieve maximum grid dissipation and controlled transconductance. This aligned grid, plus the

EIMAC segmented, self-focusing cathode provide low grid interception and the low grid drive requirement; both of paramount importance in the VHF region. Although primarily designed for superlative linear amplifier service demanding low intermodulation distortion, the 8877's high efficiency permits effective operation as a class C power amplifier or oscillator, or as a plate modulated amplifier. The zero bias characteristic is useful for these services, as plate dissipation is held to a safe level if drive power fails, up to an anode potential of 3 kV.

The sophisticated circuit connoisseur will appreciate the many advantages of this newly developed power tube. Write for detailed information. And remember — the 8877 is another example of EIMAC's ability to provide tomorrow's power tube today. For additional information on this or other products, contact EIMAC, 301 Industrial Way, San Carlos, California 94070. Phone (415) 592-1221 (or call the nearest Varian/EIMAC Electron Tube and Device Group Sales Office.)



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# Worldradio

NEWS of the month of October, 1972 - 50c November issue



## around the world in 115 minutes the flight of OSCAR 6

by A. David Middleton, W7ZC

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The last conference dealing with amateur radio frequencies was in 1950. At that conference a great portion of the 40 and 80 meter bands were used by the band of our delegation, the late FCC Commissioner, T. A. M. Cravens.

Mr. Cravens was fully aware of the value of Amateur Radio to our country and it is a tribute to him that we have our present bands.

If in your remarks you find a measure of urgency it is intentional. Some countries are reporting a startling increase in their amateur population and we can expect 100,000 hams world-wide by 1980. If it is anything near that many there will be much greater competition.

What would the bands sound like on the weekend - during a contest? (Turn to page 12, please.)

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## An International Newspaper

Second Year of Publication



# Beyond the World Worldradio "the people paper"

## INFORMATION

WORLDRADIO is published monthly by Armond M. Noble, WB6AUH, and friends. Subscription rates: \$5 per year, \$9 for two years, \$13 for three years, and \$50 for life. IRCs, mint stamps and local currency will be accepted from overseas readers.

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WORLDRADIO is two-way communication. Send in Amateur Radio news and information. Share your knowledge and experience with your fellow amateur and "Worldradio" reader. Photographs will be

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# This year why not invite your overseas friends over here?

Too expensive for them?

Maybe not, this year.

Because, this year, there are made-to-order bargains to lure them here. Bargains in trans-ocean sea fares, and air fares, just-for-them. And reduced bus, rail, and air rates, once they arrive.

And lots more. But some of them may not be available next

year. And many of them must be arranged before your friends leave the other side.

So write to them. Tell them to talk to their travel agent or overseas carrier. (That way, they can get all the details.)

Then add one more thing. Tell them America is not so big and bustling that no one will have time for them—and you'll

be around to show them the ropes when they arrive.

Now sit back and wait. With any luck, you may soon be showing them America as you see it. But better be prepared for one surprise.

You may soon also be seeing America as they see it—rediscovering it through their wide and startled eyes.

cared for properly and returned. We are most interested in your suggestions and comments. We would appreciate being placed on the mailing lists of club bulletins.

WORLDRADIO has a Swan 270 Cygnet (220v.) transceiver, in carrying case, available for loan to medical personnel, relief agency staff, etc., going overseas on short-term volunteer tours.

Subscriptions and advertisements, most essential to the support of this project, will be thankfully received.

STAFF  
Armond Noble, WB6AUH  
Craig Rutledge, WB6NUM  
Ken Welsh, WB6FKV  
Norm Brooks, K6FO  
Sid Hall, WB6BNZ  
George Fong, WB6DTZ

Application to mail at controlled circulation rates is pending at Sacramento, California.

## We're a little late, folks - sorry

Please accept our apologies for the lateness of this issue. This edition has eight more pages than last month's. We are growing. Over the last six issues we doubled the number of pages. Such growth presents problems. We have had to enlarge the area devoted to circulation, our press run is four times what it once was, we are putting in a new addressing system. Then there were two ham conventions in California this past month (see stories-this issue and next) they were fun but pulled time from our work schedule. The typesetting gear broke down twice! We are getting some new IBM gear to do away with that problem. This paper has but one full-time employee and from the ham community here in Sacramento we draw upon what time our part-timers can spare from work, family and other obligations. (Some go to school, some teach school. They are a hardy gang, wish we had more like them.) We look forward to adding to our staff soon, both part and full time, if we could just find the right people. (That seems to be a problem all over these days.) Please bear with our growing pains. We're going to bring you a great newspaper.



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**FIRST WITH**

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TRANSCIEVERS  
UP TO 200 WATTS**

... See you at SAROC!

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- IF Derived AGC
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Mobile is "First Class!" Operates directly from 12 volt DC requiring less than 500 ma on receive. Ideal for net operation. No tune-up necessary, simply dial the station and talk!

Compatible AC power supplies and a host of other accessories available to provide "Top-Of-The-Line" fixed station operation. Operating ease and flexibility makes it a winner for contests or rag-chewing!

**CHOICE OF 3 MODELS:**

SWAN SS-15, 15 watt P.E.P. ....	\$579.00
SWAN SS-100, 100 watt P.E.P. ....	\$699.00
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**ACCESSORIES INCLUDE:**

SWAN PS-10, 115V AC power supply for SS-15/SS-100 .....	\$ 89.00
SWAN PS-20, 115V AC power supply for SS-200/SS-100/SS-15 .....	\$139.00
SWAN SS-1200, 1200 watt P.E.P. Linear Amplifier (tube type) .....	\$299.00
SWAN SS-208, External VFO .....	\$159.00
SWAN 610X, Crystal Controlled Oscillator .....	\$ 53.95
SWAN SS-16B, Super Selective Filter .....	\$ 79.95

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# Worldradio NEWS



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

### W7KHC Is PhD On Eye Bank Radio Network



Around the University of Washington Hospital (Seattle) Dr. Arthur W. Guy is known as Director of Rehabilitation Medicine Research Laboratories. But after 7:00 p. m. almost every day he becomes "Whiskey Seven King How Charlie."

Dr. Guy, who holds a PhD, is a member of the eye bank network, a group of ham radio operators who exchange information about the need and availability of human eyes.

W7KHC are Dr. Guy's call letters and when he receives information over the airwaves, he passes it on to the Lions Eye Bank at the university's Health Sciences Center. In the bank are stored human eyes for corneal transplantation and other operations designed to restore sight to

blind persons.

Dr. Guy relays information to the bank through his daily contacts with 25 hams in Washington, Montana, Idaho, Oregon, and California. In addition, two of the 25 members of this network tune into a national network each day at 4:00 a. m. or 5:00 p. m. to determine needs in other areas of the country.

Recently, Dr. Guy relayed a message to the eye bank in Seattle of the need of a youngster in New York. Eye tissue from a Seattle child, 3, was sent by air express.

Patients who have been aided through the Seattle eye bank live in San Francisco; New York; Logan, Utah; Denver, Colorado; Boise, Idaho; Anchorage, Alaska; and Seattle, Bremerton, Everett, Puyallup, Spokane, Tacoma, Wenatchee, and Kennewick, Washington.

In addition to providing eyes for specific patients, the Lions Eye Bank has obtained eyes for research and teaching medical students about the major causes of

blindness - cataracts, glaucoma, and diamicetic retinopathy.

The eye bank in Seattle was established by the Washington and northern Idaho Lions Club Sight Conservation Foundation. It receives its financial support from a two-day fund raising campaign known as White Cane Days. Last year \$60,000 was collected, according to Mayor Jack Radford of Tieton, Washington, one of the founders of the eye bank and a member of the eye bank.

This year the eye bank hopes to reach a total of \$100,000 during White Cane Days which will be Friday and Saturday.

Guy said that 5,634 eyes had been supplied through the nationwide network since the broadcasts began in 1962. "Very few of the operators are associated with medicine or ophthalmology," Dr. Guy said. "Some of them, though, have defective eyesight themselves. WA7KDW in Port Angeles, Washington, for example, is blind."

(From the "Los Angeles Times")

## Radio Amateurs Provide Major Communications Link in Elmira

(Editor's note: The following report on the role filled by radio amateurs at the height of the flood emergency in the Elmira-Corning area was submitted by Professor Joseph W. Brownell (W2BSI) of 44 Madison Street, Cortland and chairman of the Geography Department of SUCC.)

Radio Amateurs spend a lifetime hearing how their hobby serves in times of emergency. But seldom do they ever find themselves in the midst of one. Last week it happened in Central New York.

The day the flood came to Elmira, the "Ham" radio began to come alive with emergency messages. By evening the word was out to hams in the Cortland and Syracuse areas that operators were needed in Elmira. By late evening, a small convoy of cars pushed into Chemung County.

Elmira hams had already spent the day building up a communication system and they were buried in their work. With almost all the telephones out of service, the bulk of messages had to be passed by radio.

By midnight Friday, the local operators were close to exhaustion. Still, many worked through their second night. Now newcomers were snapped up and sent to new communications posts throughout the city's north side. The south side of the city was by then inaccessible to any pedestrian or motorized traffic. Typical was the six meter station serving the Elmira Free Academy.

The Academy was filled with about one thousand people evacuated from their homes. There was a constant need to communicate with other evacuation centers, particularly those across the river, with the command post at Elmira College and with hospitals. But the telephone was completely quiet. Strangely, the little buttons blinked in arrogance while the instrument remained dead.

During the night other centers steadily inquired about the whereabouts of missing children and parents. Too often families had been split when members were working or visiting on the "wrong" side of the river, for every bridge was out or blocked.

Toward morning messages began to border on the medical. Awakening evacuees voiced need for medication. But the dosage and sometimes the medicines themselves were missing. This led to long radio searches for doctors, druggists and family members.

At dawn, radio traffic picked up. The Academy was the center from which the Army helicopters took supplies to other evacuation points. Demands for food, water and paper plates poured in. The soft voice of a woman ham on the south side would ask for two thousand of each item and the plea was always, "When is the first chopper flying?"

With daylight, more hams turned out to help and the command post asked for those with radios in their cars to help cover

other parts of the city. Two cars were dispatched to link the Power Company with the Horseheads Police Department.

The simple matter of picking up a telephone and reporting a broken gas main had now become a small nightmare. People drove to areas where telephones were known to be working. There they contacted the Horseheads Police Department which still had phones in operation. In the parking lot of the police department, one ham in the link kept in constant touch with another. The second was also in a parking lot, this time at the gas company. After furious scribbling, shouting, running back and forth and radio chatter, a utilities truck drove off to close the main.

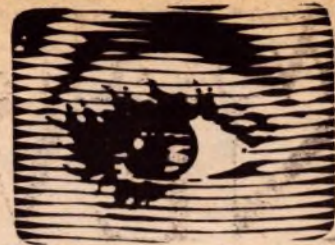
Saturday was a day of decision. The water began going down! The airways were crowded with inquiries about relatives and friends. Relief crews arrived from Binghamton in the late afternoon, and the central New York hams began to drive slowly back through the great puddles of water in Ithaca, looking for food and sleep. It had been a long night and day. But in Elmira it was still going on.

During the past week amateur stations in Elmira, Corning and other parts of New York State have maintained round-the-clock services handling inquiries to and from flood victims, waiting for telephone services to return.

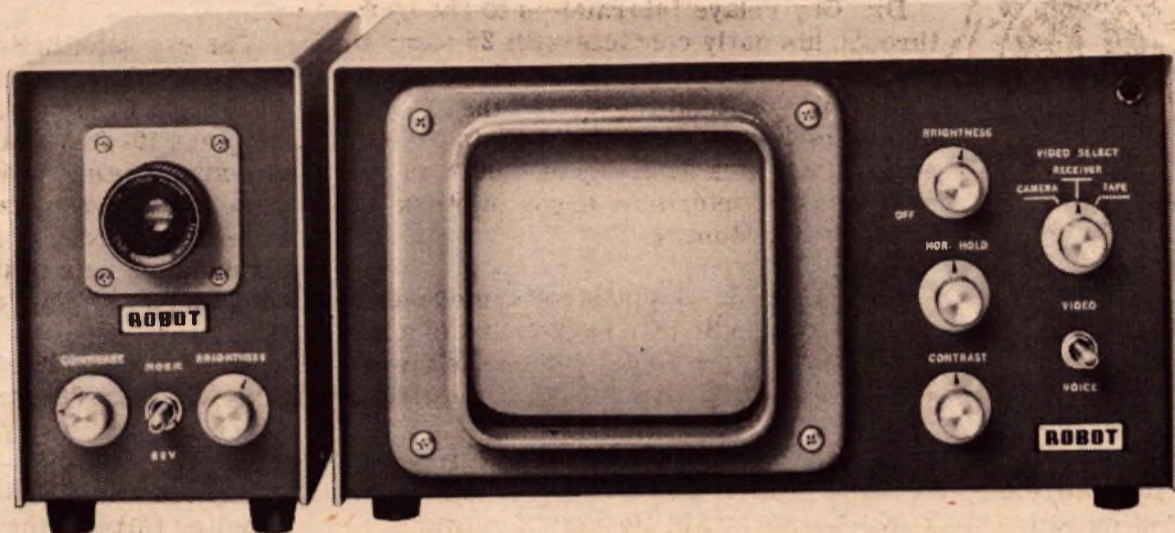
(From the Cortland (NY) Standard,



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# Project ECO

(Editor's Note: The letter, reproduced below, has been sent to several overseas amateurs by the Southern California DX Club. It is reprinted here so as to reach as many interested parties as possible. During the recent ARRL Southwestern Division Convention we met with members of the club who are most dedicated to the proposition as set forth below. Their efforts deserve the widest dissemination and support.)

Dear

Our Club has started a project to encourage nationals of emerging or lesser developed Pacific Basin and/or Asian countries to become active (or more active) ham operators. This is not an attempt to foster DX-peditions or to promote clandestine operations. We intend to restrict our efforts to those areas where amateur radio is an activity that has official government sanction.

To reflect our objectives and to facilitate discussion, we have succumbed to the use of an acronym and call it Project ECO (echo) for Education, Construction, and Operation. In brief, we would like to arrange for carefully selected individuals to receive, at little or no cost to them, three types of assistance:

1. Published material such as handbooks, manuals and/or magazine subscriptions. These would be from whatever source is most appropriate (ARRL, RSGB, REF, or other IARU societies that print the required information). The intent is that the recipient would use this material to obtain or up-grade his (or her) license, and to stay current with the latest ham radio techniques and topics = Education.
2. Information and suggestions on the construction, modification, maintenance and/or trouble-shooting of new or existing equipment and antennae. Also, we could provide individual components that might not be available locally, (such as small toroids, TV-sweep tubes, etched circuit boards, etc.) to be used for repair or home-construction of equipment. The aim here is to promote more and better quality signals = Construction.
3. The last part of the Project - Operation - is for us, as a Club, to do whatever we can to get these individuals to spend more time on the air: first, working anyone; second, working W's; and last, working W6's - in other words, this is not intended to make any of the recipients the exclusive or captive property of the Club. How we achieve this facet of the project we aren't too sure - maybe it's acting as QSL manager, or providing QSL cards, maybe just log books - anything to make it easier for the operator to be on the air.

As a long term part of the project, we would like to sponsor an operating manual to be used by fledgling DX-station operators - one written by successful operators in similar situations. This might reduce the number of bad habits picked up through imitation of questionable operating practices.

A number of projects similar to what we propose have been started in the past, but have not been too successful. As much as anything, this can be traced to the selection and evaluation of candidates, as well as determining the suitability of the aid to be preferred. To reiterate, it is not our intention to provide equipment, or money, but to encourage local hams to get on the air within the perimeters outlined above.

Our Club would be most interested in your evaluation of Project ECO as well as any suggestions you might have as to its implementation. Hopefully, you might even have a name or two of a deserving candidate.

Sincerely yours,

73

Reply to: Ed Jay, K6LOM  
3290 Via Campesina  
Palos Verdes Estates, California 90274

# Welcome!

October 20, 1972

## ALIEN AMATEURS (OTHER THAN CANADIANS) AUTHORIZED TO OPERATE IN THE UNITED STATES

The following Alien Amateur licensees have been recently granted permits to operate their stations in the United States pursuant to the provision of Section 97.301 of the Commission's Rules and Regulations.

Eran Agmon, 4Z4AI, Israel  
Carlos Alberto Avila, LU2BW, Argentina  
Julio Rafael Brea, HI8JRB, Dominican Republic  
John W. Dawson Chiriboga, OAN4AIL, Peru  
Robert M. Dawson Chiriboga, OAN4AIM, Peru  
Juan Gregorio Chen Chong, HP1JC, Panama  
Aldo Jacinto Da Rodda, LU8EV, Argentina  
Lilliam Jaramillo De Ruiz, HK3CTR, Colombia  
Enrique Escallon, HK3CHF, Colombia  
Abraham Freidberg, 4Z4MM, Israel  
Mario Giudicelli, Jr., PY4BDY, Brazil  
Daniel E. Gomez, YV5DWB, Venezuela  
Otto A. Gutierrez, TI2OT, Costa Rica  
Reinhard Haak, DK6DO, Germany  
Peter Jenus, DJ8XW, Germany  
Arieh Michael Karger, 4X4JH, Israel  
Eduardo Azuero Martinez, HR1CSU, Colombia  
Olga Patricia Melo, HK3CPV, Colombia  
Dieter Mindhoff, DJ3GI, Germany  
Luis Dario Madrid, HK6AGH, Colombia  
Silvio Massone, LU2AJE, Argentina  
Carlos A. Molina, LU4HCQ, Argentina  
Eduardo Nacer, HC2NH, Ecuador  
Nicolas Paszkiewicz, LU9HBR, Argentina  
Marco A. Pazmino, HC2EPL, Ecuador  
Carlos M. Cuello Pereyra, HI8CMC, Dominican Republic  
Gustavo A. Pimentel, HI8GAP, Dominican Republic  
Leonardo Cosio Revuelta, CP5FBS, Bolivia  
Carlos Tomas Pollak Rindler, CE6DQ, Chile  
John Exel Rogers, G3UHC, Great Britain  
Carlos Gonzalo Saavedra F., CP1EVS, Bolivia  
Eduardo Alberto Sarquis, CE3AKO, Chile  
Pedro Miguel Schmitz-Bucken, CE6IC, Chile  
Risto O. Siikarla, OH1XO, Finland  
Felix Alberto Toranzo, LU1ACN, Argentina  
Windsor S. Vick, HR1WS, Honduras  
Alfred Henry Watts, G3FXC, Great Britain





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**Freq. range:** 144-148MHz.  
**Channels:** 12  
**Power output:** 10 watts  
**Emission:** F3  
**Max. deviation:** ±15kHz.  
**Mod. system:** Phase  
**Osc. freq. range:** 6MHz band

**Antenna impedance:** 50 ohms  
**Rec. sensitivity:**  
0.5  $\mu$ V for 20 db quieting.  
**AF output:** 1 watt.  
**Selectivity:**  
± 12.5 kHz @ 6db.  
**Filter:** Ceramic type

**Operating voltage/power:**  
Transmit: 13.8V @ 1.9A approx.  
Receive: 13.8V @ 0.35A approx.  
**Size:** 6-11/16"W, 2-3/8"H, 9-1/16"D.  
**Weight:** 4.62 lbs.  
**Crystals supplied:**  
34-94, 94-94, 16-76.

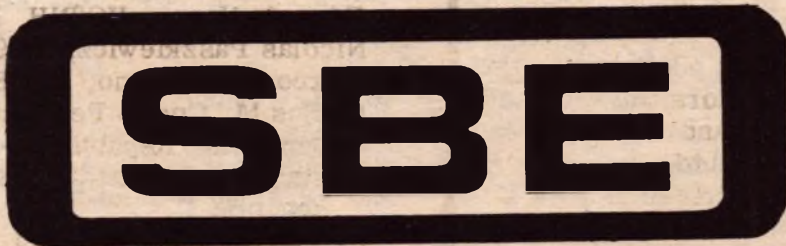
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**SB-450 TRANSCEIVER**

Complete w/dynamic mic/coil cord/plug, and two sets of crystals.

**Freq. range:** 420-450MHz  
**Channels:** 12  
**Power output:** 5 watts.  
**Emission:** F3  
**Max. deviation:** ±15kHz.  
**Mod. system:** Phase.  
**Osc. freq. range:** 24 MHz band.

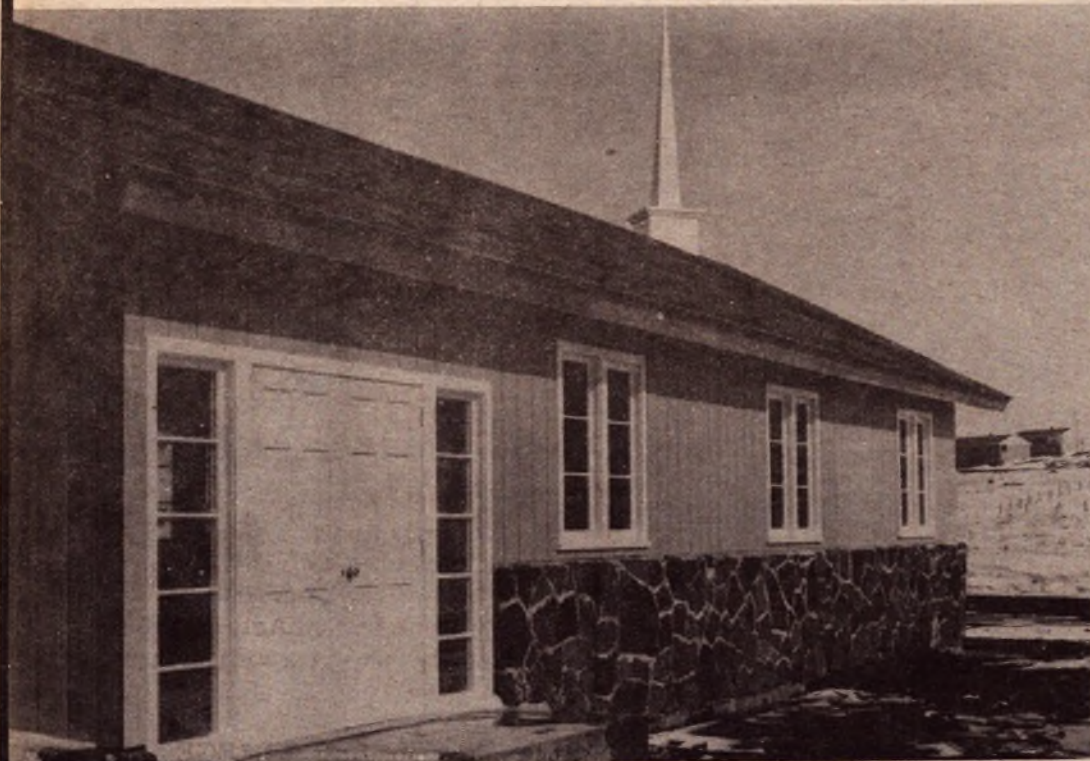
**Antenna impedance:** 50 ohms.  
**Rec. sensitivity:** 0.5uV for 20 db quieting.  
**Selectivity:** 6db @ 25kHz, 50db @ 50kHz.  
**Operating voltage/power:**  
Transmit (5W out), 2.0A.  
Receiver (5W out) 0.6A.  
Receiver (squelched) 0.4A.

**Filter:** Crystal lattice type.  
**Size:** 6½"W, 2¼"H, 8¼"D  
**Crystals supplied:**  
444.5MHz rec, 449.5MHz trans.  
446.0 MHz transmit and receive.

the story of KL7EGE

# Ham Radio in Remote Alaska

by Lou Huber, W7UU



Church completed in 1972 by the Rev. Al Capener, KL7EGE, on St. Paul Island in the Bering Sea, Alaska. St. Paul Island, in the Pribilof group of islands, is where fur seals are harvested annually under provisions of the international treaty between the United States, Soviet Russia, Japan and Canada. Its occupants are Aleuts who were brought there in the 18th century by the Russians, who owned Alaska at that time (the U.S. bought Alaska from Russia in 1867).

Suppose you are a minister in a remote village in Alaska. It's your task to spread the gospel where none was found before. To do this you have to build a church. You have done this in other remote localities in the northland so you know the problems, which are not so much the actual building of a church. What slows you down is the slow communication with "the outside." Indeed, that's not just your problem; it's the problem for all remote areas up north.

The Rev. Al Capener found this out - the hard way. His experience in Alaska began in 1944 in Nome where he built an Assembly of God church on his own, more or less (since the administrative branch of his order was not yet ready to support missionary work in Alaska). He went on from Nome to Barrow in 1954, again building a church. Next it was Wainwright, about 90 miles southwest of Barrow, for the building of a church in 1960, and on to Point Hope in the northwest corner of Alaska for the building of still another church.

A look at a map will explain to anyone the transportation/communication problems one encounters in the Far North. None of these communities has any road or railroad connections. Everything must go by air or water.

"I decided I must do something to facilitate the ordering of supplies," Al (as he is known to all his friends in ham radio) explains. "Learning to fly an airplane - and, of course, buying an airplane - would be one solution, but I had heard about ham radio and I

decided that was the way to go."

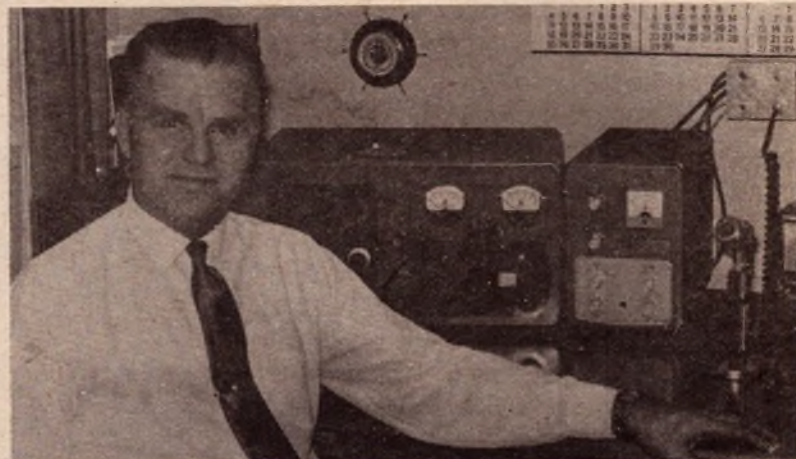
Gene Bloom, director of the U.S. Navy's electronic research laboratory in San Diego, came to Alaska to make some arrangement for survey work there. From him Al received several books published by the American Radio Relay League which dealt with study for the ham radio license exam. Though they were beginner-oriented, Al found them too advanced, so he took a correspondence course in radio servicing from the extension division of the University of Nebraska.

"I knew absolutely nothing about electricity or electronics," says Al, "and there was nobody around to show me. I had to dig it all out of books by myself."

His study was spread over a two-year period, during one year of which he was traveling throughout most of the United States. The Assembly of God church administration by this time had begun to support his work; however, it was up to Al to travel among the various churches and promote the raising of funds, so he carried a record player and records for learning the code. Later he bought an Instructograph with perforated tapes.

"My best help in understanding radio came from the AMECO RADIO THEORY book which I have since recommended to others who have found it the best solution to their problem in understanding radio theory," Al remarked.

During his two-year study Al was as busy



The Rev. Al Capener, KL7EGE, of St. Paul Island, Alaska. His rig consists of a Johnson Viking 500 with a sideband adapter. He assembled the rig himself from a kit.

as ever with his church-building work. Finally he was ready to take his examination. He had attained a code speed of about 15 wpm and he felt he knew the theory well enough for the written test.

"I wrote the examination at the office of the Alaska Communication System (a part of the Army Signal Corps) in Kotzebue while traveling through there on my way to Barrow and on to Wainwright where I was building a church. I had read AMECO RADIO THEORY through four times and I believe I passed with a high score," Al recalls.

Incidentally, it was a general-class license examination; he never did hold a novice-class "ticket." However, there was a delay before he got on the air. In filling out his application he had dutifully stated that his station would be within a certain distance of the local airfield. Now, if you have ever been in an interior-Alaskan village you will realize that the airfield usually is lined on both sides with homes, a store or two, the church, etc. So Al's antenna at that time was in violation of the FCC rules and regulations; however, he included the explanation that this could not be avoided and that it did not interfere with air traffic at all.

"There were other structures that violated the rule much more than my antenna did," Al said.

Time marched on, however - and marched and marched. Finally Al wrote to Senator Ernest Gruening and appealed for help. Within a few days came a telegram: "Go ahead and get on the air," it said. "Your call letters are KL7EGE."

Already Al - living at Point Hope then - had his equipment on hand and, fortunately, a conditional-licensed ham (WA6RWW, Herb Sonneborn, of Lakewood, California) had come to Point Hope as a teacher. Herb came over and tuned up Al's rig and worked someone in Okinawa with it.

"I was of course very nervous when I

got on the air on my own and called CQ," Al remembers, "and I was thrilled when someone in Juneau answered."

Presently ham radio was - as Al knew it would be - an important part of his work and of the life around him. Now he could order materials he needed for his church construction, and order them in time to get there before weather conditions threw in a six-month delay, or perhaps a ten-month or twelve-month delay.

The electric generating system at Point Hope wore out. ("When an engine runs out of oil while its caretakers are out hunting, and puts a connecting rod through the side of the block, we say 'it is worn out,'" Al explains). There happened to be some surplus 40-kilowatt General Motors generators from the DEW Line, stored at Barrow; one of them could be sent to Point Hope. It would be ten months before a ship would run between Barrow and Point Hope. Advised of the need by ham radio (KL7EGE) the Alaska National Guard came to the rescue with a C-130 airplane and the generator was brought within a few days.

A child in Point Hope ate a whole bottle of his mother's pills; it was likely he would die. Al reached Sitka via ham radio; the hospital there relayed the information to Juneau, whence the hospital in Kotzebue was contacted - and a charter plane was on the way within 20 minutes. The child lived.

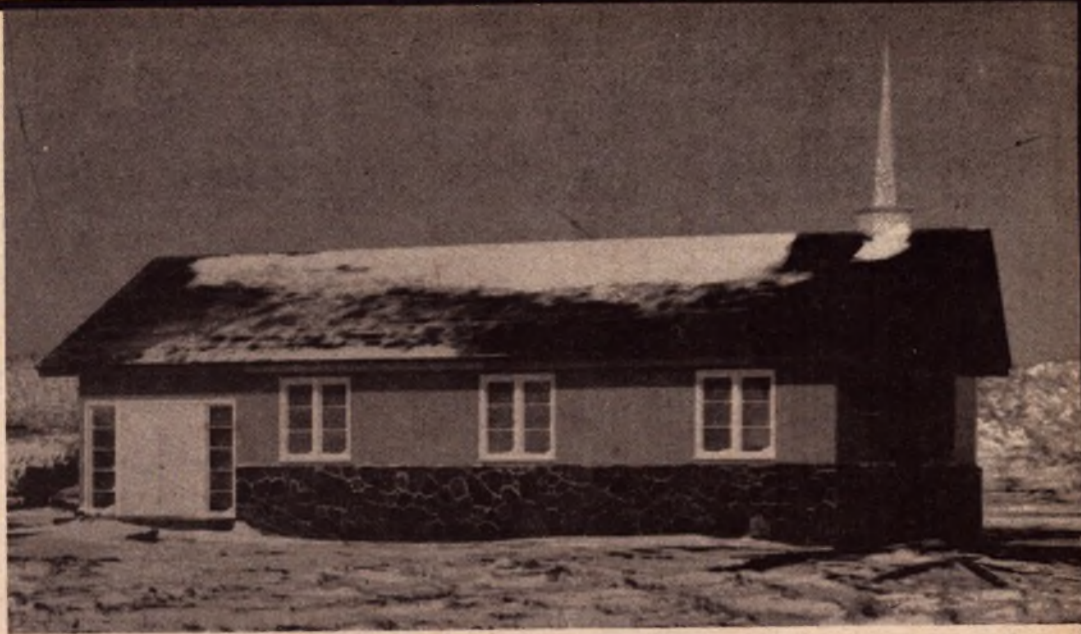
A 12-year-old boy in Point Hope shot his 7-year-old sister. It appeared to be murder. Via ham radio an Alaska state trooper was sent within a short time.

The work of a minister in Eskimo Alaska is considerably different from that of a minister in "the lower 48." When Al and his wife and two boys arrived in Barrow they found no building whatever that could be used for a meeting place, hence the need to build a church. Even the house where they lived for a few weeks was so low he could stand erect only in the middle of it.

When Al finished the Barrow church he found it was not large enough. At the very first service it was jampacked - more than 200 attended. Later he removed the roof and built a second story - which provided for a Sunday School. Al's greatest satisfaction came, however, from knowing what he had done in improving the lives of the men and women who attended his church.

"We helped a great many people who were hopelessly locked in drunkenness and immorality. They are now wonderfully-fine Christians, sober and sane, and they are sought as employees by the various federal and state agencies working in Barrow," he says.

About the time Al was getting on the air in Point Hope he did some more church building in even-more-remote Barter Island, off the Arctic coast of Alaska. Things were moving faster by this time (thanks in part to amateur radio): \$5,000 in construction funds was raised, and construction materials were shipped north to Barrow in



Church, built by KL7EGE on St. Paul Island, Bering Sea, Alaska.

the Bureau of Indian Affairs ship, NORTH STAR. Al leased two 34-foot boats to carry 16 tons of building materials from Barrow to Barter Island. It was December and Al was cautioned not to attempt it; however, he did - and he succeeded.

"It was a rough experience," he recalls. "We had engine trouble with one boat; there were storms; but we delivered the 16 tons and in 30 days had the church finished - of course with the help of the many fine people on Barter Island."

With church buildings in Nome, Barrow, Wainwright, Point Hope, and Barter Island to his credit, in 1966 Al and his family moved to St. Paul Island in the Bering Sea - 300 miles west of mainland Alaska and 300 miles north of the Aleutian Islands - at "the end of the world."

Here Al has just completed his sixth church, in which the author of this story has had a small part - in running phone patches for the ordering of materials, and so on. With so many remote communities, Alaska hams do quite a lot of this kind of public service - which, unfortunately, sometimes is misunderstood by radio amateurs of "the lower 48" states.

KL7EGE sometimes is turned down when he asks for a phone patch in which a commercial transaction is involved.

"Father, forgive them, for they know not what they do," is Al's reaction when this occurs. It has long been established, of course, that if a radio amateur does not receive compensation for handling a message (which includes phone patches, of course) and the message is not obscene or profane in nature, he can handle it. The circumstance that someone else may profit financially as a result of the message going through has no bearing on the matter.

This ham long ago encountered difficulty of the above sort when some misguided person attempted to "lay down the law" (a law which did not exist, except in misunderstanding) on ham radio handling of "business" communications. The matter was quickly settled when the FCC Rules and Regulations were interpreted correctly. As W6EUV (Judge Maurice J. Hindin of the Los Angeles Municipal Court), for 37 years a practicing

attorney, pointed out to this writer, it would be censorship on the part of anyone who sought to interfere with the free handling of messages by amateur radio under the Communications Act, and censorship, of course, is a violation of constitutional right.

The only other obstacle KL7EGE has encountered is a breakdown of equipment once in a while; however, he has usually been able to make repairs himself. For a chap who knew absolutely nothing about electricity in the beginning, this is quite a step, but then Al Capener never has been one to stop for obstacles. When he developed his dream of being a missionary in Alaska he had no money and no support; however, he took up tuna fishing off the Columbia River in the spring of 1944 and must have had the blessing of the Lord: he caught more albacore tuna in seven weeks of fishing than anyone else with trolling gear - 39,000 pounds, worth \$6,300. After deducting operating expenses and income tax he had his grubstake for God's work in the north-land - which is still going on.

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ARRL Pacific Division Convention

October 14 - 15, 1972

We could ask the FCC for another 100 kHz on the top of the 20 meter band. But the FCC can't do it. It is up to the ITU with headquarters in Geneva. The different countries submit their allocation proposals at the conference. How do we get enough countries to vote with us? We get their concurrence before the conference.

The U.S. government has always championed the cause of the amateurs but we need support in the committees and on the floor. It won't be easy; there is no guarantee of success. But this is a time of golden opportunity.

What should we do between now and the next conference? We should send a team of competent amateurs to other countries and demonstrate what amateur radio could do for the young people of their country. We should make friends for the amateur service - and we need them! Unless we get a majority on our side there will be no allocations. We cannot be mice - think big. If we don't get all we want - don't let it be because we didn't try.

We should work to get 160 meters returned as an amateur band. 3.5 and 4.0 MHz should be an exclusive amateur band world-wide. It is possible to get the broadcasters out of 40 meters and expand the band to 7.0 to 7.5 MHz. As a minimum we could expand the 20 meter band to 14.5 MHz, and we should try for another amateur band from 17.5 to 18.0 MHz or 18.0 to 18.5 MHz.

On the 15 meter band we should be able to go to 21.5 MHz and the 10 meter band should be 28-30 like it used to be. Above 15 meters there is almost 2 MHz now allocated to the fixed services who are now going to satellite and cable. We may get another band from 23.5 to 24 MHz. With bands every 3 MHz amateurs could follow the MUF curves like the commercial services.

In order to achieve the goals we need to organize a professional team who could work for the next six to eight or ten years as full time as the job requires. They would prepare professional position papers armed with facts, figures and proposals. The time to do the job is while we have the time and are not pushed.

It will be an extraordinary effort to coordinate with all the IARU societies. But if out of the 125 countries a dozen propose the same it would auger well for Amateur Radio.

We need support throughout the world for our proposals. We need several teams of people to travel the world working on the positions. It must be explained throughout the world so societies can influence their governments.

We need professional telecommunications people and it will take people with confidence who would not get discouraged when the going gets rough - which it will.

What is the alternative - if we don't get more spectrum space?

It is logical to conclude (as more amateurs use wide band emission) we may have to reduce power for certain class licenses - reduce bandwidth - reduce wideband emissions or restrict to higher class licensees - encourage CW (least amount of spectrum space). If the bands get too crowded CW may become the primary mode.



Attorney Ed Peck, K6AN, who has handled a great many cases involving amateur antennas, gave the following advice:

Be nice to your neighbors; they can be animals at a planning commission hearing. City officials are politically motivated so don't infuriate your neighbors. A little public relations goes a long way.

If you need a building permit to erect a tower, face the issue head on and get the permit first. Don't bootleg it up.

Shake hands with your neighbors; you may need their signatures on a petition. If you have TVI, spend three dollars and hang a trap on their TV set. It may be quite an inexpensive investment on your part, for even if the planning commission may approve your tower permit the neighbors can file an appeal.

Peck warned that an amateur has no legal right to have his antenna overhang a neighbor's property line. Such could result in a court order to take the antenna down.

An interested crowd heard the San Francisco lawyer point out that when an amateur is moving to a new home he should carefully check out the tract restrictions before he buys.

Peck said as his contribution to the hobby, amateurs are welcome to call his office on matters regarding antennas and towers and he will attempt to give an answer.

(In next month's issue will be a report on the Emergency Communications Conference that took place at the Greater Bay Area Hamfest.)



"I am impressed with the enthusiasm of the amateur; there is greater involvement than ever before." Such were the words of Harry Dannals, W2TUK, President of the American Radio Relay League.

Dannals said that since he was elected president he has travelled more than 40,000 air miles and talked to thousands of hams. He said he has found vitality and that Amateur Radio is really moving forward. Referring to the OSCAR launch that took place while the convention was in session Dannals said, "Young folks are standing on the brink of true Amateur Radio history - there will be experimentation and utilization, not merely just for fun, but for true hands across the sea."

Dannals told the 515 attending the dinner, "We are living in a wonderful era, on the way to true Amateur Radio friendship internationally."

He mentioned that he has had lots of fun with Amateur Radio and that it has been a family affair. His late father, brother and son are all amateurs. "Satellites will bring more fun, but we have to look at the obligations." He went on to say, "My feeling is that Amateur Radio is a well: if we keep taking out but don't worry about keeping the well filled up the next guy may face a thirst."

"I run into many who are just having fun and say don't bother me about obligation - but I feel, if it's worth having, it's worth saving."

Dannals said we should make an effort to increase the number of amateurs because "there is strength in numbers; if it is educated strength - educated numbers." He made a plea for spectrum conservation and gave an example of two hams in the Bronx in a QSO on 20 meters, running kilowatts, who rotated their antennas away from each other and were complaining that their receivers were still overloaded.

Dannals said that at the distance involved between the two stations, "They could have communicated with a milliwatt on 2 meters."

As to the League, Dannals said, "Without the ARRL we wouldn't have Amateur Radio as we know it. I am proud of the League progress. As for critics - we'll always have them and constructive criticism is welcome."

(Also in next month's issue-a report on the ARRL Southwestern Division Convention which attracted nearly a thousand hams.) (12)



# Antennas

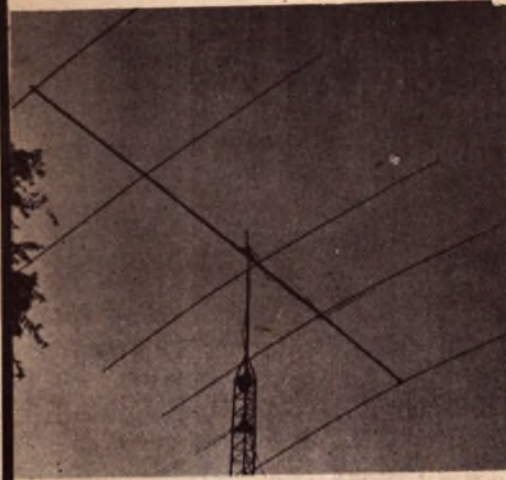


## Wilson Electronics

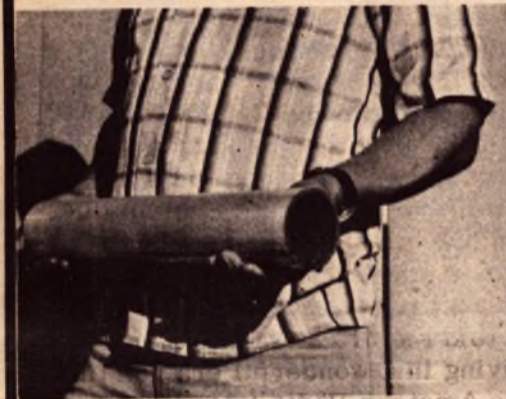
PO Box 116 - Pittman, NV 89044 - (702) 457-3596

Nothing will beat a full size beam for gain. Ask the ham who has 250 or 300 countries what type of antenna he uses.

<b>5 ELE. 20 METER BEAM</b>		<b>6 ELE. 20 METER BEAM</b>	
GAIN	12DB	GAIN	13DB
FRONT TO BACK RATIO	26DB	FRONT TO BACK RATIO	26DB
BOOM LENGTH	40 FT.	BOOM LENGTH	50 FT.
3" OD .065 WALL		3" OD .250 TO .065 WALL	
MAX. ELE. LENGTH	36 FT.	MAX. ELE. LENGTH	36 FT. 1 IN.
SWR	1.1 TO 1	SWR	1.1 TO 1
WIND SURFACE AREA	10.5 SQ. FT.	WIND SURFACE AREA	12.5 SQ. FT.
WIND LOAD (80 MPH)	240 LBS.	WIND LOAD	280 LBS.
WIND SURVIVAL	100 MPH	WIND SURVIVAL	100 MPH
TURNING RADIUS	26.5 FT.	NET WEIGHT ASSEMBLED	110 LBS.
NET WEIGHT ASSEMBLED	85 LBS.	TURNING RADIUS	30 FT.



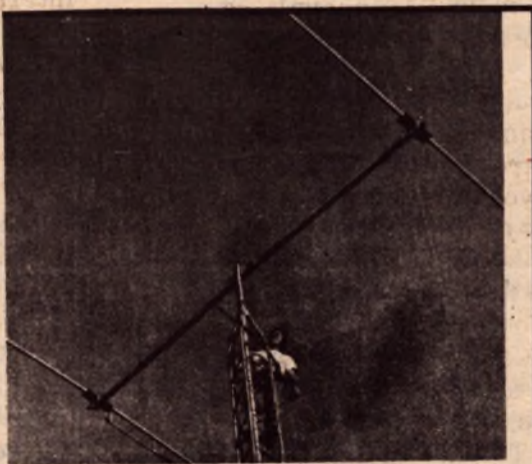
W7CVD's 5 ELE. M520



MACHINED 18" BOOM COUPLER FOR 30 TO 40 FT. .065 WALL BOOMS

All 40, 20, 15 and 10 meter beams have 3" OD booms .050, .065 and .250 walls depending on model of antenna. Made of top grade aluminum alloys 6063-T6 and 6061-T6.

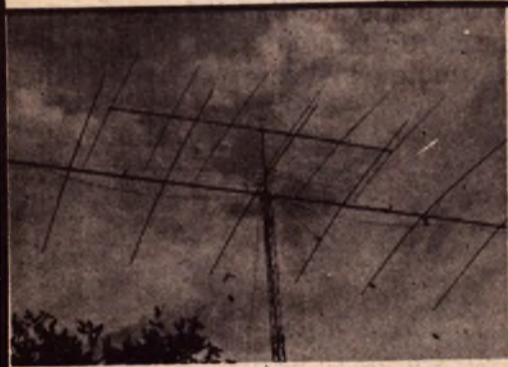
<b>3 ELE. 20 METER BEAM</b>		<b>4 ELE. 20 METER BEAM</b>	
GAIN	8.5DB	GAIN	10DB
FRONT TO BACK RATIO	20DB	FRONT TO BACK RATIO	25DB
BOOM LENGTH	20 FT.	BOOM LENGTH	30 FT.
3" OD .050 WALL		3" OD .050 WALL	
MAX. ELE. LENGTH	36 FT.	MAX. ELE. LENGTH	36 FT.
SWR	1.1 TO 1	SWR	1.1 TO 1
WIND SURFACE AREA	6 SQ. FT.	WIND SURFACE AREA	8.0 SQ. FT.
WIND LOAD (80 MPH)	145 LBS.	WIND LOAD (80 MPH)	195 LBS.
WIND SURVIVAL	100 MPH	WIND SURVIVAL	100 MPH
TURNING RADIUS	21.5 FT.	TURNING RADIUS	21.5 FT.
NET WEIGHT ASSEMBLED	41 LBS.	NET WEIGHT ASSEMBLED	41 LBS.



40 METER 2 ELE. BEAM

<b>2 ELE. 40 METER BEAM</b>	
GAIN	5.5DB
FRONT TO BACK RATIO	17DB
BOOM LENGTH	16 FT.
3" OD .065 WALL	
MAX. ELE. LENGTH	66.5 FT.
SWR	1.1 TO 1
WIND SURFACE AREA	10 SQ. FT.
WIND LOAD (80 MPH)	230 LBS.
WIND SURVIVAL	100 MPH
TURNING RADIUS	34.5 FT.
NET WEIGHT ASSEMBLED	67 LBS.

<b>3 ELE. 40 METER BEAM</b>	
GAIN	8.5DB
FRONT TO BACK RATIO	20DB
BOOM LENGTH	38 1/2 FT.
3" OD .250 TO .065 WALL	
MAX. ELE. LENGTH	69 FT.
SWR	1.1 TO 1
WIND SURFACE AREA	15 SQ. FT.
WIND LOAD (80 MPH)	335 LBS.
WIND SURVIVAL	100 MPH
TURNING RADIUS	40 FT.
NET WEIGHT ASSEMBLED	145 LBS.



W7GVA's 7 ELE. M720 AND 6 ELE. M615

<b>7 ELE. 20 METER BEAM</b>	
GAIN	14DB
FRONT TO BACK RATIO	26DB
BOOM LENGTH	58.5 FT.
3" OD .250 TO .065 WALL	
MAX. ELE. LENGTH	36 FT. 1 IN.
SWR	1.1 TO 1
WIND SURFACE AREA	13.8 SQ. FT.
WIND LOAD (80 MPH)	340 LBS.
WIND SURVIVAL	100 MPH
TURNING RADIUS	34 FT.
NET WEIGHT ASSEMBLED	135 LBS.

<b>6 ELE. 15 METER BEAM</b>	
GAIN	13DB
FRONT TO BACK RATIO	26DB
BOOM LENGTH	32 FT.
3" OD .065 WALL	
MAX. ELE. LENGTH	24 FT.
SWR	1.1 TO 1
WIND SURFACE AREA	7.7 SQ. FT.
WIND LOAD (80 MPH)	190 LBS.
WIND SURVIVAL	100 MPH
TURNING RADIUS	20 FT.
NET WEIGHT ASSEMBLED	65 LBS.

All 20, 15 and 10 meter beam elements are constructed of the finest aluminum available, 6063-T832 a top quality alloy. All tubing is seamless extruded hard drawn.  
A 20 meter element consists of a 12 ft. section of 1 1/8" OD .058 wall center section, two six ft. pieces of 1" OD .049 wall middle section, and two six ft. pieces of 7/8" OD .049 wall end sections. Reflector has two additional 2 ft. end sections of 3/4" OD .035 wall. 15 meter elements use 1 1/8" and 1" tubing. 10 meter elements use 1" and 7/8" tubing.

All our beams come complete with adjustable reactance tuned gamma match network which can handle 4,000 watts plus on CW and SSB.

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WILSON MONO BAND BEAMS		
Model No.	Description	Price
M340	3 ELE. 40 METER BEAM (full size) Gain 8.5 DB gain. Boom length 38.5 ft. 3" OD .200 wall to .065.	\$375.00
M240	2 ELE. 40 METER BEAM (full size) Gain 5.5 DB. Boom length 16 ft. 3" OD .065 wall.	\$189.95
M720	7 ELE. 20 METER BEAM Gain 14 DB. Boom length 58.5 ft. 3" OD .200 wall to .065 wall.	\$389.95
M620	6 ELE. 20 METER BEAM Gain 13 DB. Boom length 50 ft. 3" OD .200 wall to .065 wall.	\$299.95
M520	5 ELE. 20 METER BEAM Gain 12 DB. Boom length 40 ft. 3" OD .065 wall.	\$169.95
M420	4 ELE. 20 METER BEAM Gain 10 DB. Boom length 30 ft. 3" OD .065 wall.	\$139.95
M320	3 ELE. 20 METER BEAM Gain 8.5 DB. Boom length 20 ft. 3" OD .050 wall.	\$ 89.95
M715	7 ELE. 15 METER BEAM Gain 14 DB. Boom length 40 ft. 3" OD .065 wall.	\$169.95
M615	6 ELE. 15 METER BEAM Gain 13 DB. Boom length 32 ft. 3" OD .065 wall.	\$139.95
M415	4 ELE. 15 METER BEAM Gain 10 DB. Boom length 20 ft. 3" OD .065 wall.	\$ 89.95
M810	8 ELE. 10 METER BEAM Gain 14.5 DB. Boom length 40 ft. 3" .065 wall.	\$169.95
M510	5 ELE. 10 METER BEAM Gain 12 DB. Boom length 20 ft. 3" .065 wall.	\$ 89.95

WILSON DUO BAND BEAMS		
Model No.	Description	Price
DB62	6 ELE. 20 & 2 ELE. 40 INTERLACED BEAM Gain 13 DB—20 5.5 DB 40. Boom length 50 ft. 3" OD .200 wall to .065 wall.	\$449.95
DB52	5 ELE. 20 & 2 ELE. 40 INTERLACED BEAM Gain 13 DB—20 5.5 DB 40. Boom length 40 ft. 3" OD .200 wall to .065 wall.	\$349.00
DB54	5 ELE. 20 & 4 ELE. 15 INTERLACED BEAM Gain 12 DB—20 10 DB—15. Boom length 40 ft. 3" OD .065 wall.	\$229.95
DB43	4 ELE. 20 & 3 ELE. 15 INTERLACED BEAM Gain 10 DB—20 8.5 DB—15. Boom length 30 ft. 3" OD .065 wall.	\$179.95
DB32	3 ELE. 20 & 2 ELE. 15 INTERLACED BEAM Gain 8.5 DB—20 6 DB—15. Boom length 20 ft. 3" OD .050 wall.	\$109.95
DB76	7 ELE. 15 & 6 ELE. 10 INTERLACED BEAM Gain 14 DB—15 13 DB—10. Boom length 40 ft. 3" OD .065 wall.	\$239.95
DB65	6 ELE. 15 & 5 ELE. 10 INTERLACED BEAM Gain 13 DB—15 12 DB—10. Boom length 32 ft. 3" OD .065 wall.	\$219.95
DB44	4 ELE. 15 & 3 ELE. 10 INTERLACED BEAM Gain 10 DB—15 8.5 DB—10. Boom length 20 ft. 3" .065 wall.	\$109.95

If not available from your dealer write direct to factory for catalog or information and fast service. All prices F.O.B. factory. Wilson beams are available at the following dealers:  
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OAKLAND, CALIFORNIA  
BURLINGAME, CALIFORNIA  
LONG ISLAND, NEW YORK



# Phone-Patching for service and satisfaction

by Carl Sletten, W1YLV



Do you hesitate to put through the phone patch? This article treats both the difficulties and dividends and should add to your experience in hamming that involves the general public. Most Worldradio readers are inclined to be helpful in message handling but worry a bit about situations that arise.

Observing hams these days you will note that many have acquired considerable finesse in this business. For example, I was impressed the other day when a South American mother was trying to reach her daughter in a Washington, D. C. hospital. This young student had apparently left her NFS (National Field Service) home on a farm in the Midwest and became ill in route home. When the telephone numbers that the Latin family provided failed to locate the girl, the ham, a W4 operator, asked for the address of the American farm family. He knew that most American farmers have telephones and soon the mother had a clear report on the girl's health and whereabouts.

People looking for patches are often South or Central American because that is the part of the world where patches are allowed. Many times patches are for students, service men on ships at sea or overseas, missionaries, peace corps workers, and in general people one likes to help. It is hardly worthwhile running patches between points in the U.S. these days. Telephone rates in continental USA are so low that it is seldom worth congesting the bands for interstate traffic. The growing satellite communication systems may soon make international patching unnecessary too, but at present a lot of places in South America are practically unreachable by long distance telephone. Remember the cost of a Satellite channel does not depend on the distance apart of the points on the earth, at least not so directly as for land lines or cables. So as technological advances proceed, the need for voluntary and emergency communications by ham radio operators may well disappear.

Because in patching we deal with non-hams and often cross cultural barriers, caution and care are needed at times. First of all the ham operator has to learn to interface with the telephone operator. These girls are usually very nice and of course respond as everyone does to courtesy and patience. It is usually best to state that you are an amateur radio operator and wish to place a station-to-station collect call for a party in "Chile" or wherever. Give her the information clearly and professionally and normally you will get the same friendly treatment that operators give each other.

How that girl got a line into the flooded city of Harrisburg for an Argentine family I will never know but she worked at it until we got through in the emergency situation caused by Hurricane Agnes.

The cross cultural differences are sometimes more imaginary than real, like the love-sick boy in the Andes trying to reach his girl friend at an eastern college. The telephone number was for a pay booth in the dormitory and the surprised girl had no change. That call got put on the ham's bill - a procedure recommended only in dire emergencies.

Usually there is sincere and sometimes profound gratitude for the service we render. I recall a patch for a young Argentine student about to return home after a year in the States. In a Spanish conversation prior to the patch it developed that his father was dying and his family didn't want him to know before his final exams. But they did want him to cut his long hair before returning to Argentina to see his father. His mother and brother needed time to persuade him to tidy up before he returned. That patch ran for quite a while and the family really appreciated the successful call. Many emotional situations come up where the ham needs to keep his cool. Grandmothers hearing their grandchildren in faraway places sometimes break into tears. Soldiers and sailors often get bad news first by radio. Then too there are humorous situations, like a boat load of cadets under strict discipline in MM Region One getting a chance to talk to girl friends back in port.

It is worth having a clear understanding about the rules and regulations governing patches and third party traffic. It is well to have this list of countries posted in your station: Argentina, Bolivia, Brazil, Canada, Chile, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, El Salvador, Guyana, Haiti, Honduras, Israel, Liberia, Mexico, Nicaragua, Panama, Paraguay, Peru, United States, Uruguay, and Venezuela. Check the latest ARRL license manual for more details, but generally speaking we can handle patches in emergency situations relating directly to safety of life or property and messages on behalf of third parties provided that they are of the character that would not normally be sent by any existing means of electrical communication or except for the availability of the amateur stations. In no case can there be compensation to the ham. It is wise to size up the request first on the CQ and then after answering. Business transactions should not be handled of course and the call sign must be from the countries

with third party agreements with the U. S. Foreign languages may be used in any amateur communication provided that station identification is performed in English. From a practical point of view, the amateur operator in control of the station must understand enough of the language being spoken over his station to exercise his duties under FCC regulations. It is worthwhile learning enough Spanish to monitor patches and establish them in view of the large amount of requests by our Latin neighbors. Most of the contacts needing patches that you get by monitoring the Halo net on 21.390 MHz or the IMRA net of 14.280 MHz fall within the intent of the agreements summarized above. It is worthwhile too asking people to be brief because, after all, spectrum and time on it are a premium on 20 and 15 where much of the long-haul patching is done.

I guess all you need to enjoy this sport is the interest in other people, a first-rate SSB station (especially a good antenna and tower), a good phone patch set-up, and the experience, courtesy and patience that makes a good operator.

## Bill Eitel, W6UF

During the banquet at the Greater Bay Area Hamfest a special award was presented to Bill Eitel, W6UF.

Recounting here but a partial list of the contributions that Eitel has made during his 50 years in Amateur Radio that led to the honor at the convention:

A traffic man in the early 1920's he was then one of the first to show the DX potential of the 10 meter band. He worked for a strong League and was closely associated with the rapid growth of Amateur Radio. Active in Field Day, RTTY, SSB, Moon-bounce and was an early supporter of the OSCAR Program. He built OSCAR in his basement and installed the OSCAR tracking station at Foothill College.

He was praised for a significant contribution to National Defense during WW II as well as contributions to industry. It was said he has been most generous with funds for many projects, especially helping Amateur Radio in the underdeveloped countries.

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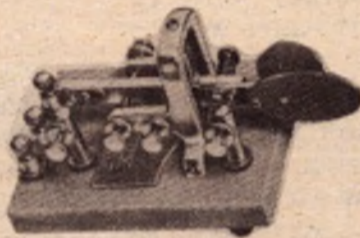
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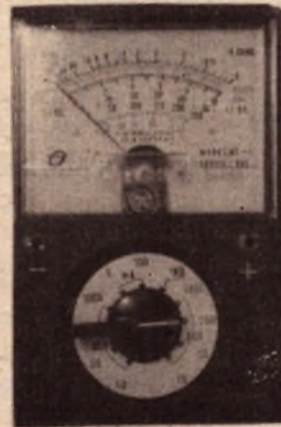


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Radio Amateurs



# the travels of DARLEEN

## and the people she meets

For over a year the imagination of Amateur Radio was captured by the world-wide travels of Darleen Souigny, WA6FSC. She operated from exotic spots, was the guest of King Hussein, JY1, and visited amateurs on every continent. On May 18, 1972 she and Joe Magen, HC2OM, were married. Darleen is now living in Guayaquil, Ecuador and is licensed as HC2YL. WORLD-RADIO has been carrying an account of her journey (which resulted in thousands of QSL cards) which now resumes with her in Peru.



Wednesday, February 16

With regret the day had come when I must leave Lima and the wonderful friends I made. OA4OS, Natan, took me to the airport. Before doing so we determined if the flight would be going to Guayaquil okay since they had a revolution the night before, but they would take me to Guayaquil okay. When the plane landed there the airline announced that none of the in-transit passengers would be allowed to get off the plane because of the political situation. Actually, all that happened was a change in government with no violence and a curfew for a couple of days. As soon as I arrived HC2JX, Ray Jones, was on hand to greet me. He told me that I could identify him easily because he was skinny and tall and he was right - he was the only one who fit that description. We got through Customs okay and immediately drove to their penthouse apartment on the top of a building. What a wonderful couple Ray and Helen, his wife - HC2HV - are. They took care of all my problems of converting the necessary travellers checks into local currency, picked up my airline ticket for the Galapagos Islands, talked to the President of the Quayaquil Radio Club, Mr. Landin, HC2TN, and my license was delivered the following morning. I took it easy my first day in Guayaquil and took several siestas. The weather was rather warm and humid and I wanted to get rested

up for the trip to HC8land. Got on the air and talked to many of my old friends, including Natan, OA4OS, and his family in Lima. In the evening Ray went out and brought back some steak and French fries, just like back home, and the food was delicious and the company delightful. Helen is very active in running traffic and both Helen and Ray were quite active in running emergency traffic during the Peruvian earthquake and have made many friends throughout the world.

Thursday, February 17

My license arrived and unfortunately I did not get the HC8DK which I wanted but got WA6FSC/HC8 which is just as good. Took it easy and got packed for my trip to Galapagos. In the evening another YL, Joy Cooper, HC2CD, came over and visited for awhile. Unusual to have three YLs together at one place at one time.

Friday, February 18

Today is the day. Got up early and Ray dropped me off at the airport to catch my Tame flight to the Galapagos Islands, and after a three hour flight we landed on the Island of Baltra which has a 9000 foot runway and was built during World War II by the Americans. The only other lady who was going to the Galapagos Hotel off this flight was a French lady from Quito who is

working for a French company there. She spoke only French and Spanish, and I, of course, did not speak either language, but with a combination of a few words of English and sign language we managed to get our luggage off the plane where HC8PS, John Spare, from the Hotel Galapagos met us. We drove to the pier to get on the "Vagabond" and met HC8FN, Forrest Nelson. After a four hour trip we arrived at the Hotel Galapagos and got settled. Got on the air shortly thereafter and my first contact was VE3IG, Vic Olacke, in Sarnia, Ontario and the second contact was my QSL Manager, VE6ALV, Bud McKoen, in Calgary, Alberta, Canada. Spent a considerable time on the air and got to bed about 2:30 a. m.

Saturday, February 19

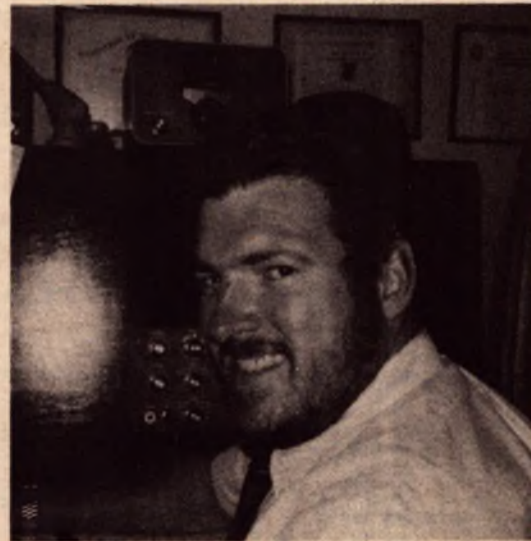
After breakfast the French lady and I went over to the Darwin Station, about a ten minute walk from the hotel. It was a lovely sunshiny day with hardly a cloud in the sky and in Academy Bay were anchored a number of yachts. It was a beautiful sight. When we got to the Darwin Station I delivered some mail from the Guayaquil Radio Club to Rolf Stiever from Germany, HC8RS, who has been working at the Darwin Research Station for several years. He gave us a tour of the turtle section. On (Turn to page 18, please.)



Arq Miguel Heredia, HC1HV,  
16 Pres., Ecuadorian Radio League

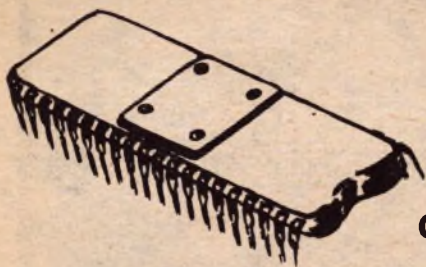


Earl Lubensky, HC2LB  
U. S. Consul-General, Guayaquil



Dick Farrow, HC1RF  
NASA





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 10 LU321 W/data \$4.00

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- 7400, 7401, 7402, 7404, 7405, 7410, 7420, 7430, 7440, 7450, 7451, 7453 100 for \$22.00; ea. \$ .25
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- 7442 BCD decoder ..... 1.15
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- 7493 4 bit binary counter ..... 1.15
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- 74193 up/down binary counter ..... 2.00
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- 8200 4 bit magnitude comparator ..... 1.60
- 8280 preset decade counter ..... 1.15
- 8281 preset binary counter ..... 1.15
- 8520 25 MC divide by "N"  
 2 to 15 ..... 2.00
- 7495 4 bit SHIFT REGISTER ..... 1.15
- 8590 8 bit shift register ..... 2.00
- 8270 4 bit shift register ..... 2.00

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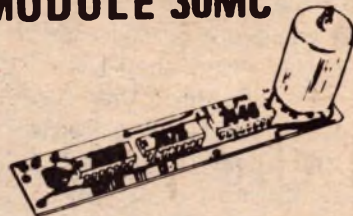
**LINEAR IC's (dual-in-line)**

LM100 positive voltage reg..... .80

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**DIGITAL COUNTER MODULE 30MC**

unit includes board, SN7490, SN7475 quad latch, SN7447 7-segment driver and RCA "numitron" display tube W/decimal. 1" x 4.5" module will mount on 1" centers.



kit \$10.95 — wired and tested \$13

**LAST MINUTE ADDITIONS**

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complete \$9.25



CD-3 Universal Counter Module can be programmed to count to any modulus 2-9 for one kit, 2-99 for two kits, etc. Includes board, 7490, 7447, RCA DR2010 Numitron display tube and five programming components. Full instructions included - perfect for displaying second, minutes and hours, etc.



All IC's are new and fully tested — leads are plated with gold or solder. Orders for \$5 or more will be shipped prepaid. Add 35¢ handling and postage for smaller orders. California residents add sales tax. IC orders are shipped within two workdays of receipt of order — kits are shipped within ten days of receipt of order. Money back guarantee on all goods sold.



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# Darleen



Monday, February 21  
Spent most of the day on the air and made quite a number of contacts.

Tuesday, February 22  
Through the consideration of the management, HC8PS and HC8FN, I was able to join HC9KG/MM, Captain Mike Gordon, with four other people to take a journey to the Plazas and take some pictures of the land iguanas, sea lions, etc. What a thrill! When we tried to take a launch into the island the bull sea lions weren't very happy about it, but we finally found a place and as soon as we got on the island the land iguanas came down from the hills to welcome us. We had brought food for them, including potatoes, bananas, etc. They were so tame they would eat out of our hands and even sit on our laps. They were extremely friendly and I wouldn't have missed this for anything. I do not have a telephoto lens so tried to get near what I thought was a sleeping bull sea lion, but he must have heard me coming and when he let out a roar and came toward me I must admit I did not snap the picture but immediately ran back and got safely out of the way. I guess I don't have much courage! The cactus on the islands were blooming in beautiful yellow and I understand that this is one of the foods of the land iguanas. It was with regret that I had to leave but Forrest had made arrangements for the "Vagabond" to pick me up on its return from the airport. It was extremely rough and I got seasick. Usually I don't have much problem and I'm not sure it was the flu rather than seasickness. When we returned I was unable to keep food down and unable to eat so was not on the air. As much as I wanted to make contacts I was not physically able.

Wednesday, February 23  
Was sick all day and stayed in bed. I still couldn't keep any food down. It was not until early evening that I finally began to feel better and after a small dinner got on the air. Didn't stay very long but went to bed early and then got up early to check into the Southeast Asia Net which meets at 6:00 a. m. local time.

many of the islands in the group some of the varieties of turtles are becoming extinct so they bring the eggs over to hatch and raise the little turtles and keep them there for a number of years until they are able to survive. Some of the turtles I saw were 6-8 years old and s till very small. Then we went outside and saw some giant size turtles. When you think how many years it takes them to get that size it is difficult to imagine. We were told that some of the ships which used to come in would take many hundreds of turtles aboard and place them upside down in storage and in that way would have food for many months but it also made for a scarcity of turtles. Turtles are an excellent source of protein and are delicious.

In the afternoon we walked into town and I met Lucio Saltos, HC8GS, whom I had many QSOs with prior to my visit. He took us on a tour of his school which is very modern. They have a home economics section with Singer sewing machines, modern electric stoves, and a good library most of which has been contributed by the U.S. Through the able direction, hard work, and monetary contributions of Jack Binsford, HC8LB, a new section is being added to the school. We found Jack up on top of a scaffolding mortaring some of the concrete blocks together. He and his wife live on a yacht which is anchored in Academy Bay. He told us to go down and visit his wife on the yacht which we did and it was a delightful experience. Lucio took us on a tour of the new hospital, where there was only one patient at the time, and also to the new church which has a baptismal fount made of giant turtle shell, then back to the hotel and some more time on the air.

Sunday, February 20  
Spent most of the day on the air and conditions were quite good. The weather was excellent with sunny nearly clear skies, unusually good, with no rain - most unusual we were told. Got rather warm in the mid-afternoon but cool at nights - needed a blanket on the bed when I finally QRTd.



Darleen with Lucio Saltos, HC8GS, on Gallapagos.



Joy Cooper, HC2CD, from Jamaica, Joy works at the American Consulate in Guayaquil

Thursday, February 24  
Spent most of the time on the air running some traffic as this would be my last day. Did some 40 meter work and conditions weren't too bad. I then stayed on the air until 3:30 a. m.

("The Travels of Darleen" will be continued in next month's issue.)



Forrest Nelson, HC8 FN  
"Friendly Neighbor"



John Spare, HC8PS



Darleen with Fernando Landin, HC2TN, Pres. Guayaquil Radio Club



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we can beat any price quote!!


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## TEMPO FMH

- 6 Channel Capability
- 2 Watts Output
- All Solid State, 12 VDC
- 144-148 MHz, any two MHz
- Supplied with one pair of crystals.
- Built-in charging terminals for ni-cad cells
- S-Meter, Battery Level Meter
- Telescoping Whip Antenna
- Internal Speaker and Internal Microphone
- 8.5" long x 2.9" wide x 2.0" deep
- 1.7 pounds with batteries
- 3.0 pounds shipping weight
- PRICE: \$189.00



**TEMPO/fmv 2**

So much for so little! This little 10 Watt VHF FM transceiver offers high quality performance and features usually found only on more expensive units. Features such as AFC on receive and separate switchable Transmit/Receive sections. Includes mounting bracket, heavy duty power cord and provisions for accessory AC power supply. Frequency: 146-148 MHz, 11 channels, 25 KHz channel spacing, 13.8 VDC  $\pm 10\%$  operation (standby -100 ma, receive -150 ma, transmit -3.0 amp.)  
The price: \$199.00



**TEMPO/TPL  
high power  
fm amplifiers**

Miniature power houses! Operates directly from a 12 VDC power source, automatic antenna switching, incorporates Balanced Emitter transistors and state of the art design practices, making it virtually immune to damage due to high VSWR or misloading conditions.


MODEL NUMBER	POWER INPUT	POWER OUTPUT (min)	BAND	PRICE
TPL1002-3	5 to 25W	100-135W	2M	\$220.00
TPL1002-3B	1-3W	80W	2M	\$235.00
TPL802	5W	80W	2M	\$180.00
TPL802B	1 to 3W	80W	2M	\$195.00
TPL502	5 to 15W	35-55W	2M	\$105.00
TPL502B	1 to 3W	45W	2M	\$130.00
TPL252-A2	1W	25W	2M	\$ 85.00
TPL445-10	1 to 2.5W	12W	440MHz	\$125.00
TPL445-30	4W	30W	440MHz	\$215.00
TPL445-30B	1W	30W	440MHz	\$235.00
TCP 12A Control Head				\$32.00



FMV

### TEMPO/fmv SPECIFICATIONS

- Frequency: 146-148 MHz
  - 8 Channels
  - 25 KHz Channel Spacing
  - 13.8 VDC  $\pm 10\%$  Operation
    - Standby 100 ma
    - Receive 150 ma
    - Transmit 3.0 amp
  - 2.4" H x 5.9" W x 8.2" L
  - 5 pounds.
  - Channel 1 supplied with 146.94 MHz simplex and Channel 2 through 8 you must provide.
  - Frequency Stability:  $\pm 0.001\%$ .
- RECEIVER SPECIFICATIONS**
- Crystal controlled double superheterodyne receiving system.
  - Squelch Control.
  - 1.0 watt Audio Output to 8 ohms load at less than 10% distortion.



**TEMPO DKT  
ELECTRONIC KEYSER**

The Tempo DKT keyer is the latest in electronic keyer design. Using integrated circuit techniques it provides the unique features of dot memory and single dot injection which, with a specially designed twin lever key assembly, affords effortless sending and perfect character formation regardless of speed.

Price: \$89.00.

- Audio Response based on 1000 Hz:
    - +6 db ( $\pm 3$  db at 300 Hz)
    - 8 db ( $\pm 3$  db at 3000 Hz)
  - 50 ohm unbal. input impedance.
  - Sensitivity: Less than 1 uv for 20 db quieting.
  - Selectivity (20) db quieting):
    - 6 db at  $\pm 6$  KHz
    - 70 db at  $\pm 15$  KHz
  - Spurious Rejection more than 60 db
- TRANSMITTER SPECIFICATIONS**
- 10 watts RF Power Output.
  - 50 ohm unbalanced out. impedance.
  - Spurious emissions more than 60 db below carrier.
  - FM ( $\pm 10$  KHz for 100% at 1000 Hz)
  - Audio Sensitivity is 0.15 volts  $\pm 3$  db for 70% deviation.
  - FM Noise is -40 db below 70% deviation at 1000 Hz.

PRICE: \$249.00



### TEMPO/fmp

Truly mobile, the Tempo/fmp 3 watt portable gives amateurs 3 watts, or a battery saving  $\frac{1}{2}$  watt, FM talk power anyplace at anytime. With a leather carrying case included, this little transceiver will operate in the field, in a car, or at home with an accessory AC power supply. The battery pack is included. The price: \$225.00

(Accessory rechargeable battery available: \$22.00)

# NEWS ROUNDUP



T.D Photo by T.D.H. Barnett

**Dewey W. Martin Jr. Checks Out Ham Radio Set in His Office**

He Hopes to Teach Radio Operations to Disabled Youths in Scouting Program

## Public Relations, Scouting

### DAV Leader Has Two Aims

(Sent to WORLDRADIO by Dr. Charles Meistroff, W4TFA)

By T.D.H. BARNETT

Dewey W. Martin Jr. of Highland Springs is a big, burly man who looks as though he would be at home playing tight end on a pro football team. Instead, because of a fluke World War II explosion he is the first blind, deaf state commander of a Disabled American Veteran chapter in the nation.

Although considered deaf, Martin can hear with two hearing aids. He is able to converse over the telephone with little trouble.

### 'Ham' Operators Help Save Girl

MENDOZA, Argentina (UPI) — Estela Maria Azar, 18, is recovering from botulism poisoning, helped by antitoxin sent from a New York hospital alerted about the case by ham radio operators.

Radio operators in Argentina passed the message about the poisoning to a colleague in Massachusetts who contacted Mount Sinai Hospital in New York and the antitoxin was sent to Argentina. Estela's 12-year-old sister died after both girls were apparently poisoned after eating a can of beans.

(From the "Sacramento Bee")

His accident came after the end of the war in Europe. On July 2, 1945, while he was serving with the 164th Engineer Combat Battalion, 8½ tons of mines and rockets exploded while they were being readied for shipment to the Pacific theater. Martin was injured in the blast.

Martin, 47, was elected department commander of the Virginia DAV at the July convention in Roanoke.

#### Two Main Projects

As state leader, he will concentrate on two areas: public relations and Boy Scouts.

Martin said that from 1945 until 1960, he could not find any trace of the DAV in the Richmond area. "I looked for it but couldn't find it. This was due to a lack of public relations on the part of the organization," he said.

"I would bet that there are literally thousands of disabled veterans who don't even know the organization exists. In Virginia alone there are about 47,000 and we have only 5,200 in the DAV," he said, adding that for the first time in the state a public relations department had been formed to send out news.

"Every time the VFW (Veterans of Foreign Wars) or the American Legion stubs its toe there are 10 reporters and photographers there to report it. But not for us," he said. "There haven't been 10 pictures or stories in the Richmond papers about the DAV in the last 20 years, and we

intend to do something about this," Martin added.

In the second area, Martin talked with pride about the two Boy Scout troops, in Roanoke and Virginia Beach, that are made up of disabled scouts and scoutmasters.

"For the first time ever, these troops enable boys to become scouts, with some modification of the Scout Manual by the national office of the Boy Scouts of America."

"And this will cover scouting from Cub to Eagle Scouts," Martin said.

"We plan to go the State Health Department, parent-teacher associations and churches to find disabled boys," he said, "and we will probably find more than we can handle."

Martin said the boys will be taught such things as how to operate an amateur radio set.

"I hope to handle the communications classes, as I am licensed to teach up through the novice level," Martin said.

Although he doesn't talk about it much, Martin was voted the outstanding disabled American veteran of 1970, the first person to win the award.

In addition to founding Paul Long Chapter 44 in Highland Springs, Martin has served as its commander five times since 1961. He also has been the senior vice state commander (1965-66) and for four years he served as legislative chairman of the state DAV.

(From the "Richmond Times-Dispatch")

## OOPS! band-edge violations

Word comes that FCC has sent a number of citations for operation too close to band edges, so that the sideband emissions extend out of the band. This is a violation of FCC Regulations, Section 97.63, which requires that all sideband frequencies shall be confined within the authorized band.

Such operation also indicates a violation of Section 97.75, which requires regular measurement of the transmitted (or suppressed) carrier frequency, by means independent of the transmitter control, and of sufficient accuracy to assure operation within the band.

Official Observers (a name which may be changed) are in the process of sending out about 200 co-operative report cards to stations noted to be too close to the band edge to ensure keeping all emissions in the band. Most cases were for operation within about one kHz of 14348 and 21448 kHz. Some common causes of this operation are:

- Mobile operation, in which frequency checks to close accuracy may not be feasible.
- Secondary frequency use by members of several nets such as County Hunters, Missionary, Confusion, and the like.
- Replies to foreign and maritime-mobile stations.

Many more signals too close to the band edge have been noted; but without clearly spoken (spaced) letters) calls, or use of authorized phonetics (FCC accepts only three types), the ARRL rules prevent sending out the O. O. cards.

### Colegas y Tenth Annual Ensenada Motorcade Amigos October 27-29, 1972

by H. R. "Duke" Ellington, W6OZD

The Motorcade was very well attended. We numbered over 125 hams, families, friends, etc. Sr. Jorge Mendoza, XE1SH, President of the LMRE, assisted our Group by presenting our request for 46 temporary XE2 operating permits to the Departamento de Telecomunicaciones. This permission was granted for three days covering the Motorcade weekend. The caravan of fifty or more cars, led by Ensenada Radio Club members in two antique "horseless carriages", travelled from the assembly area to the City Hall for an official welcome and greeting by the Mayor of Ensenada. Then we journeyed to a large co-op seafood plant for a tour and buffet snack. From here on to the El Cipres Military Reservation for an afternoon of food, prizes, etc. Sunday morning the Group met for breakfast on the Kon Tiki floating restaurant, managed by Sr. Rudolfo Ana Soza, XE2EBC.

Thanks to the generosity of our many faithful members, we were able to accumulate a large quantity of food, clothing, school supplies, and cash which we presented to the Asilo por Ancianos and the St. Theresa Orphanage and school. It is very gratifying to witness the spirit of warm friendship and brotherhood that our members continue to maintain with their fellow hams and families in Mexico.

Our next Group activity will be the Breakfast-Meeting in Long Beach on February 18, 1973 at the Convention Center, Rochell's, 3333 Lakewood Blvd. Advance reservations ONLY.

# SWAN's Open House



Oceanside, Calif.: 1,160 licensed amateur radio buffs and their families gathered at one of the world's largest producers of radio equipment to take part in the second annual Swan Electronics factory open house.

The two-day event, which took place Saturday, October 7 and Sunday, October 8, featured plant tours, equipment displays, and awarding of more than 20 prizes to those in attendance. Eighty-five campers and other recreational vehicles jammed the company's parking lots to spend the weekend at Swan's factory.

Aside from tours and displays, the event had special factory sales of ham equipment, as well as lectures and movies, all pointed to amateur radio use of communication in general.

Presiding over the two days of festivities was Swan's president, George McGinley (W6OGM), who told the throng, "We hold this event each year in hopes that we can let people learn how much fun we hams have. We open our doors to the general public, letting them see for themselves how inexpensive and what a unique hobby this is," McGinley explained. "Hams talk to other hams all over the world, making it perfect for handicapped and shut-in persons," McGinley added. "Hams learn others' customs, languages, and make life-long friends over the radio."

A total of 3000 persons turned out at Swan's factory in Oceanside, an increase of 50 per cent over the first open house staged last year.

The prizes that were given away during the two days totaled \$3000 and ranged from a Swan Model 270B transceiver priced near \$500 to a Model 404 hand mike which sells for about \$22.

In all, 22 hams won prizes during the open house, with the grand prize, a Swan 270B Transceiver going to Harold J. Treloan (W6IGI) of San Clemente, California.

Swan's third annual factory open house will most likely be held during the same time period next year in Oceanside, McGinley said. He stated that everyone is invited. The Swan executive concluded saying he felt the 1973 event would be even better, with more prizes and additional things to see and do, plus a more extensive program.



George McGinley, W6OGM, president of SWAN, (left) is shown giving a Cygnet 270-B transceiver to Walter Huchabee, W6JRQ, who won one of the two grand prizes.



SWAN's marketing manager, L. "Whit" Whitley, K6PKC, (left) looks pleased as he hands John Clinsky, K6TLU, his prize.



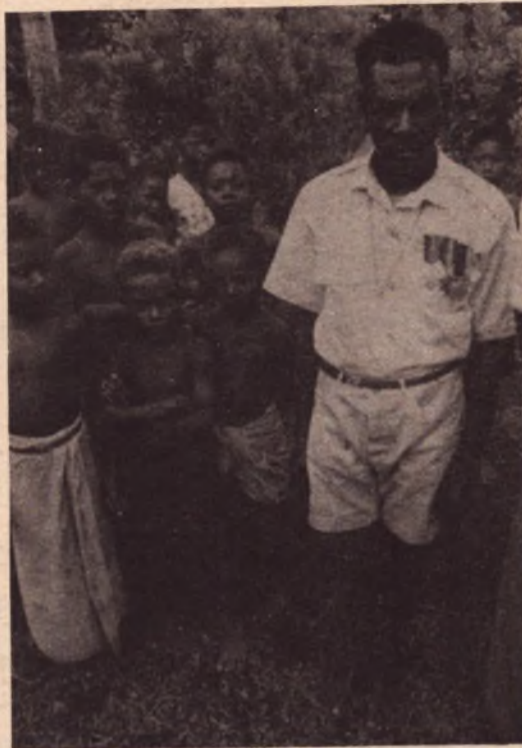
# VK9FH - "the man who kept his promise"

## NEW GUINEA

by Armond Noble, WB6AUH



Fred Hargesheimer, WØEBG-VK9FH, chats with some old friends on New Britain.



Gabu, who found Fred wandering in the jungle and became his companion and protector.



Australian government medals on his chest, this old soldier remembers the days when he helped the downed fliers back to safety.

"One day I will come back. I will thank you properly for what you have done."

From that 1944 promise, made to a New Britain native, has sprung the only school of its kind in the world.

Redeeming his World War Two pledge is Fred Hargesheimer, WØEBG-VK9FH, of White Bear Lake, Minnesota. As a P-38 pilot shot down over the jungle of New Britain, he wandered alone, in equatorial heat, for 30 days before being found by the primitive Nakanais. For eight months the natives hid him from enemy patrols and nursed him through attacks of dysentery and malaria.

Fred Hargesheimer's promise was made on a moonless night as a U. S. submarine sneaked in to rescue him from an island, off the New Guinea coast, held by seventy thousand enemy soldiers. From this has come the first education for 200 children who live near the village of Ewasse on the barren north coast of New Britain. The area's natives call him "The man who kept his promise."

In 1960, Hargesheimer, now a sales engineer for UNIVAC in St. Paul, Minnesota, returned to New Britain. Natives who had saved him, welcomed him 16 years later with open arms and feasting.

Upon his return home, Hargesheimer started a non-profit organization - The Airmen's Memorial Foundation. Contributions to the foundation have built a school for 200 children, some of whom walk two hours to get to school. All classes are conducted in English. Children enter at age six, and attend through the sixth grade.

In 1969, Hargesheimer returned for the fifth time to Ewasse to dedicate a clinic for the area's five thousand people. Formerly, the nearest hospital was a two day trip by dugout canoe.

I first met Fred on the amateur 20 meter band. He told me of his project and I found it one of the most intriguing endeavors I had ever encountered. During our first contact, (during which I had mentioned a photographic background) Fred said he wished he had a 16mm motion picture camera to

take along. He also mentioned he had intended to take some slides on previous trips but became so involved with his activities that he neglected the picture taking.

Our first contact was on a Friday night. On Monday I called him on the telephone, offered to make a documentary film on the Airmen's Memorial School, and he accepted my offer to go along.

Three short weeks later, we met at San Francisco International Airport, and flew to Sydney, Australia, via Quantas Airline. Meeting him, I found Fred Hargesheimer to be everything I had imagined and more - quiet, unassuming and modest about what I believe is one of the most humanitarian efforts in today's impersonal world.

After an overnight stop in Sydney we flew to New Guinea. We landed at Port Moresby, where Fred had been based during the war. In 1943 he flew his unarmed photo-reconnaissance Lockheed P-38 "Lightning" out of Schwimmer Field.

In Port Moresby, I met Norm Casey, Fred's long-time friend, known all over the world as VK9NT. Norm and I checked out the 260 Cygnet which Swan had loaned us. The rig had survived the flight and we were soon talking to operators in California and later in the evening all over the U. S.

Fred first contacted Norm on 20 CW in late 1959. Norm was then living in Rabaul, 100 miles north of where the school is now located. Fred says that contact with Norm in Rabaul reminded him again of those early days. He says the QSO had much to do with reviving his interest and probably was the "clinch" in his decision to return to New Britain.

The next day we left Port Moresby. Also on board the plane were Royal Australian Air Force Air Vice-Marshal William Townsend and Dave McClymont, a sheep raiser in New South Wales, Australia, and their wives. In 1943, Townsend was a Group Captain and McClymont was his gunner when they were shot down in the same area as Fred. Five months after Fred went down, the three met in the jungle at a camp of the legendary "Coastwatchers". Townsend is now a trustee of the Airmen's Memorial Foundation.

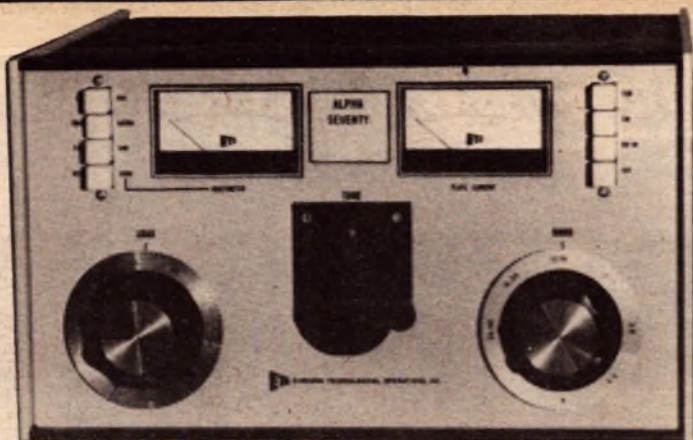
Our air trip ended in Hoskins, New Britain. A six hour sea trip by trawler took us to the village of Ewasse (pronounced E-vah-see.) The late afternoon arrival was thrilling. One hundred school children were massed on the wharf singing a native song of welcome.

The next day gathered at Ewasse, having come long distances to greet Fred, were thousands of natives, government officials and Catholic and protestant missionaries. At one time the area's natives had been headhunters, but the missionaries had converted many to Christianity.

Fred told me he hadn't known whether the natives were friendly or not when they found him after his plane had been shot down. He was fearful they might turn him over to the enemy. But one night around a fire they sang a song. He didn't understand the words, but did recognize the tune of "Onward Christian Soldiers". Then he was sure he was in safe hands.

Fred says enemy search planes came so low over the village that he was able to see the pilot's face. The children would walk (Turn to page 24, please)

Don Payne, K4ID  
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 presents the  
**incomparable**



# ALPHA 77

Power Amplifier  
 of the  
*Seventies*

The ALPHA 77 is a no-compromise powerhouse; designed and rated for continuous commercial service, it is available for use by advanced amateurs who demand the ultimate in every respect. It is compatible with all modern exciters and transceivers.



We believe it is the finest power amplifier ever offered for this class of service. As you study the following details, count the corners that could have been cut in creating the ALPHA 77 - but weren't.

\*PLATE POWER INPUT: 3000 watts PEP continuous-duty for commercial service. A cool, quiet loafer at 2000 watts PEP.

\*TUBE: Eimac 8877/3CX1500A7 ceramic-metal triode, air cooled with 4000 volts on plate. A conservative 1500 watts of plate dissipation. Only 65 watts drive for the legal limit.

\*1500 WATT continuous-duty power transformer: Tape-wound core of grain-oriented steel cuts size and weight to 40% of conventional design.

\*25MFD, 4000 volt oil-filled polypropylene filter capacitor: (modern design yields superior quality and size).

\*RUGGED BANDSWITCH: with 20 amp silver contacts and 6000 volt insulation.

\*VACUUM VARIABLE tuning capacitor: permits efficient operation over wide frequency.

\*Grid EXCESS CURRENT RELAY; Will "kick-out" if final tube is under-loaded or overdriven. A warning before "flat-topping" occurs - Protects input circuit and tube.

\*VACUUM RELAYS: Provide silent transmit-receive switching without "clanking" - are fast enough to be keyed for instant CW break-in with exciters with reed relays such as the Signal/One.

\*COOLING: Forced air through entire cabinet and tube by MIL-SPEC, ball bearing, low speed extremely quiet blower - thermostatically controlled.

\*METERING: Two 3-1/2" taut-band illuminated meters. All circuits metered including 0-5000 RF watts forward and reflected.

\*BATTLESHIP CONSTRUCTION: Utilizes 1/4" thick aluminum sides.

\*MODULAR ASSEMBLY: Power supply, RF deck, and control panel easily removable.

\*MASSIVE PLATE COIL: Silver-soldered and heavily silver-plated for efficiency. HUSKY toroids minimize coupling between pi-L network sections.

\*PRIMARY POWER REQUIREMENTS: 120/240 volts, 50/60 Hz, single phase, 3 wire, 3000 watts.

\*HARMONIC and other spurious outputs: Second-harmonic 50 db nominal, third order intermodulation 35 db below peak output.

\*SIZE/WEIGHT: 17" wide, 9-1/2" high, 18" deep. Net - 70 lbs., shipping 90 lbs.

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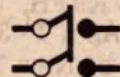
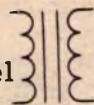
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# VK9FH



Fred operates an amateur radio transceiver near the area where 25 years ago a radio message told him he would be rescued from the island by a submarine.



Somehow a T-shirt from Yellowstone Park found its way to New Guinea. (Turned out it had been donated by a Minnesota family to a Methodist mission which gave it to the school.)



The children who walk several miles a day to get to school.

(Continued from page 22)

behind him and brush away his boot prints so they would not be seen from the air.

One of the times enemy patrols went into the village searching for Fred, the natives led him into the jungle and hid him in a tree. They didn't return for him until after midnight. It seems they couldn't remember in which tree they had hidden him.

Many natives on New Britain were killed by the enemy for assisting the Allies. Soldiers hunting for Fred once tried to force Lauo, the village chief, at bayonet point to disclose Fred's hiding place, but he led them on a false chase. Lauo's son treasures the medals awarded by the Australian government to the late village chief for his efforts.

"I owe my life to these people," says Fred. "After all these years, I've forgotten the physical hardships, but I could never forget the brotherly love shown to me, a stranger, in that savage land." Talking about the Airmen's Memorial School, Fred says, "I wanted to help in some way. It has given both me and our family a little more purpose in life, and that's what's made it so much fun."

Fred believes, "the school idea is sort of a grass roots diplomacy which will return dividends in international relations, as well as serve as a practical expression of our thanks to these good people of New Britain."

The jungle school has grown from 30 students to 200. One little girl walks 14 miles a day, barefoot, to go to school. Thirty-two youngsters from more distant villages board at the school. They are the grandchildren of the natives who saved Fred.

The Airmen's Memorial School is playing an important part in the development of country. Even those children who do not continue their education past the sixth grade (only thirty percent will finish high school in Rabaul) will have been given reading skills. Fred believes this will give them the ability to vote and choose the leaders of their country.

Self-government will soon be a gift of the Australians. Fred believes that contributors to the Airmen's Memorial School are helping these island people to attain full stature as world citizens. He wants to help them take their place as equals in the world community. Fred was guest of honor at the dedication of the Ewasse local government house. Locally elected officials form what is similar to a city council. On a higher level New Britain has an Assembly with the vast majority of elected members being native. Local languages, Pidgin and English are spoken at the Assembly sessions.

I am certainly not alone in my admiration of Fred Hargesheimer. While he was missing in action, his squadron mates, believing he was dead, named a lake in New Britain for him. The lake, nine miles east of Ewasse, is two and a half miles long and three-quarters of a mile wide. It is identified on all maps of the area as "Lake Hargy". It is typical of Fred that he has never gone to visit "his lake".

On Fred's first visit back to New Britain, the New Guinea Times-Courier commented, "an orchid to Fred Hargesheimer, the pilot who came back. As everyone who met him said, 'What a helluva nice bloke! Yes it's good to get visits from fellows like that.'"

An article in the Air Force Times said in part, "Hargesheimer is very much like the late Dr. Tom Dooley, who founded Medico and performed untiring medical work in Laos." Minnesota Congressman Joseph Karth recognized Fred in his newspaper column noting "humanitarian contribution". After Fred had returned from his second trip to New Britain the newspaper in his home town said, "Fred Hargesheimer has a Peace Corps all of his own going for him in the jungle bush of New Britain."

After five months in the jungle, Fred came into contact with a "Coastwatcher" team that had been landed on the island to report on enemy movements. Being a licensed amateur radio operator since 1932, he was of great help to the team. He took his turn on the battery-operated radio copying the coded instruction to the team.

He was on radio watch when one particular message came in - a message which had his hand shaking as he decoded it. The high pitched staccato had spelled out - - "Airmen will be evacuated by submarine."

A three-day walk out of the jungle brought the party to the shore. They narrowly missed being spotted by an enemy patrol boat. With heavy hearts, they feared the sub had left because of the enemy presence. To come so close, and then miss the rendezvous, was a depressing experience. Submarines were in short supply and they knew it would have to be sent on another mission. But the next night, the U. S. Gato surfaced and blinked a light.

Fred took aboard the conch shell natives had used to warn him of the approaching enemy patrols. Before getting on the sub Fred reached out his hand to Gabu, a loyal native who found Fred in the jungle. Gabu became Fred's companion and acted as cook and guide for the Coastwatchers. It was to Gabu that Fred gave the promise, "I will return someday, and thank you properly for what you have done."

A plaque at the school reads, "In memory of the Nakanai people of New Britain who risked their lives during the war to aid and protect members of the U. S. Air Force."

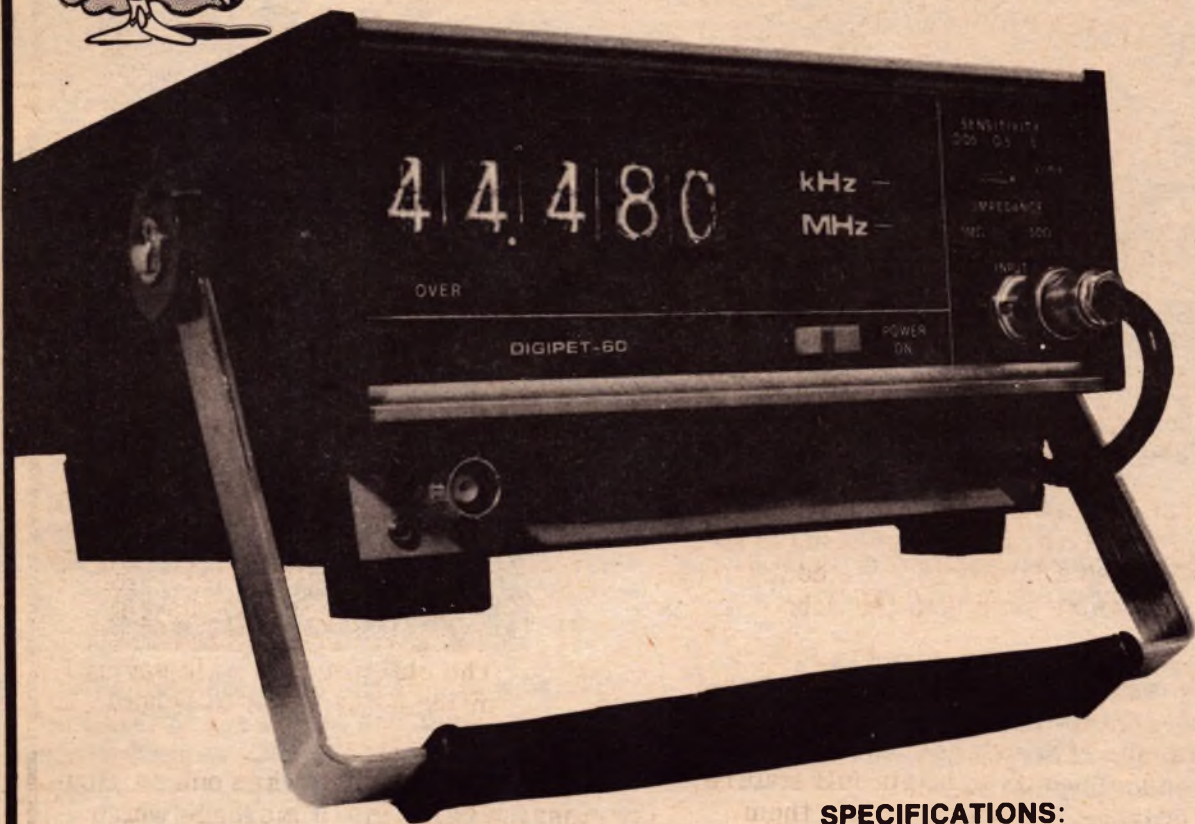
From his 1943 hiding place Fred could see the searchlights of the enemy aimed at Allied planes during their bombing runs over Rabaul. In 1963, lumber pre-cut in Rabaul was coming by small boat to be used in construction of the school. Helping with the work, the native men carried gravel on their backs for over three miles to the school site and the women hauled water in buckets on their heads.

The school's realization is due to many donations from diverse sources. A California resident contributes 100 dollars a year in memory of his son who was a P-38 (Turn to page 26, please)





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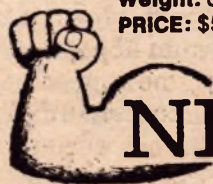
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# FRIED



Fred talks to the people who saved his life many years ago.



Children receive some candy from Fred. The protruding stomach on the child indicates malnourishment. There is very little protein in the local diet.



A typical dwelling on the island of New Britain.

it was a lot of fun and quite instructive to see the DX picture from the other side.

We had been hosted by hams in Sydney and Lae, New Guinea. We must agree with the many who say one has to go a long way to beat the great hospitality offered by our good friends the Australians.

What kind of background influences a person to take on such a task as Fred Hargesheimer has? Son of a pharmacist, Fred graduated from Rochester Senior High School (Minnesota) in 1933, having earned varsity letters in swimming and tennis. Then during those depression years he would go to college, then work, then return to college, then work some more, then continue his education. After many years of alternate saving and studying he graduated from Iowa State College in 1940 with a degree in Electrical Engineering. Prior to entering the service he worked with Major Edwin Armstrong when the gifted inventor was perfecting his system of frequency modulation.

Fred has had to overcome, what for most others would have been insurmountable difficulties, to bring his promise to reality. About that first trip he says, I wanted to go back but the price of a ticket seemed out of reach. So we gave up quite a few things and saved."

Making the trip back even more impossible were massive medical problems arising from his eight months in the jungle. After he was evacuated he spent two months at the Walter Reed Army Hospital. In 1949 Fred was hospitalized at the Mayo Clinic with a recurrence of intestinal disorders. In 1955 he was again hospitalized and blood transfusions were necessary to save his life.

Fred's whole life serves as an example of what the word "courage" really means.

All of the expenses of Fred's trips to New Britain have been paid out of his own pocket. Of the money donated to the Airmen's Memorial Foundation, ninety-nine cents of every dollar goes directly to the school. It must be one of the lowest budgeted charities or causes in the world. Since its existence it has collected about forty-thousand dollars. This has gone to build

the school, for student dormitories, residences for the Australian headmaster and native teachers, an electrical generator, a water supply system, desks, books and supplies. It took two years to raise the first twelve-thousand dollars.

The school now has a motion picture projector which was purchased by Fred in Australia. Recently the natives themselves donated fifty dollars - this in a land where money is indeed precious. A native school teacher (well up on the economic ladder) earns three hundred dollars a year.

A future for the people is coming and it is due to what some call "The school that fell from the sky". Slowly but surely, the area is striving for self sufficiency. The school now has its own sawmill. It is hoped the sawmill will provide income, as well as lumber, and supplement the area's scanty agriculture and fishing. The people still suffer from a great lack of protein. The life expectancy is 45 years. Pneumonia is the greatest cause of death.

One of Fred's projects was the starting of a pig farm operated by the school, later chickens will be added. It is hoped the school will eventually be self-supporting. Towards that goal a farm is in the beginning stages. The government will lease land at extremely low rates to anyone who will use the land profitably. The plan is that the school's farm will be eventually managed by a native with a degree in Agriculture.

To bring these plans into reality Fred has now taken a leave of absence from UNIVAC and for the past year has been at the Airmen's Memorial School full-time. He has been teaching mathematics and his wife, Dorothy, has been running the library.

Life is quite different for Fred and his wife, living in the bush is a marked contrast from a pleasant suburb. But he knows there would be no life if it had not been for the people of New Britain island. Fifteen other fliers had been saved from certain death by the area natives. Fred had contacted most of them. They declined to give any assistance to the people who made their present life possible. The only reward the natives received were some hatchets and saws that were air dropped during the war. But the tools had to be dumped into the deepest river, for if the enemy had seen the tools it would have been a tip-off the (Turn to page 30, please)

(Continued from page 24)  
pilot who died in the service. A widow donates in memory of her husband, who was shot down in the New Guinea area and was never heard from again, and a Minneapolis Sunday school class collected 13 dollars. The South Dakota World War One Pilots Association has contributed, as well as Rotary Clubs in St. Paul and St. Louis. Kiwanis, Sertoma, The Royal Air Forces Escape Society and churches of all denominations have helped, too. Nearly a thousand persons in 30 states, Canada, South America, Australia and England have helped support the project. And on the trip during which I accompanied Fred donations came in from an unexpected source.

Using the rig loaned to us by Swan, we made over 500 contacts. The hams asked us what we were doing in that remote location. Many of them found it as interesting as I had. One high school teacher in Pennsylvania taped our remarks about the local people, agriculture, and why we were there for his social studies class. I worked several hams who had been in New Guinea during the war, and they found Fred's story of particular interest.

It was certainly an indication of the big hearts possessed by hams when donations came in from amateurs in the U. S. and other countries. We decided an appropriate gift for the school (due to the electronic interests of the donors) would be a tape recorder with a rechargable battery. The recorder is now being used at the school in conjunction with the children's instruction in English. The recorder's battery is recharged at night during the few hours that the school's generator is fired up.

We gave many hams their "first VK9", were the 100th country for several, was 200th country for another. We were told "I've been a ham for 20 years and you are the first VK9 I've ever heard". All in all

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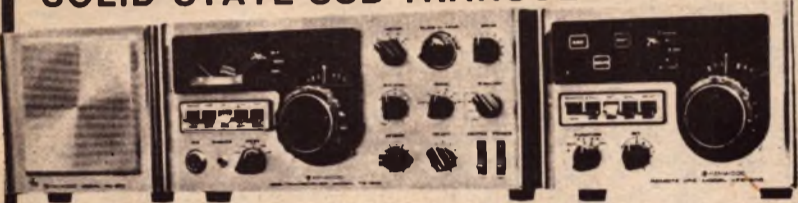


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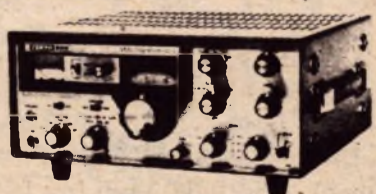


TR-44

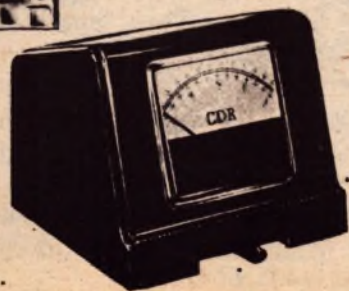
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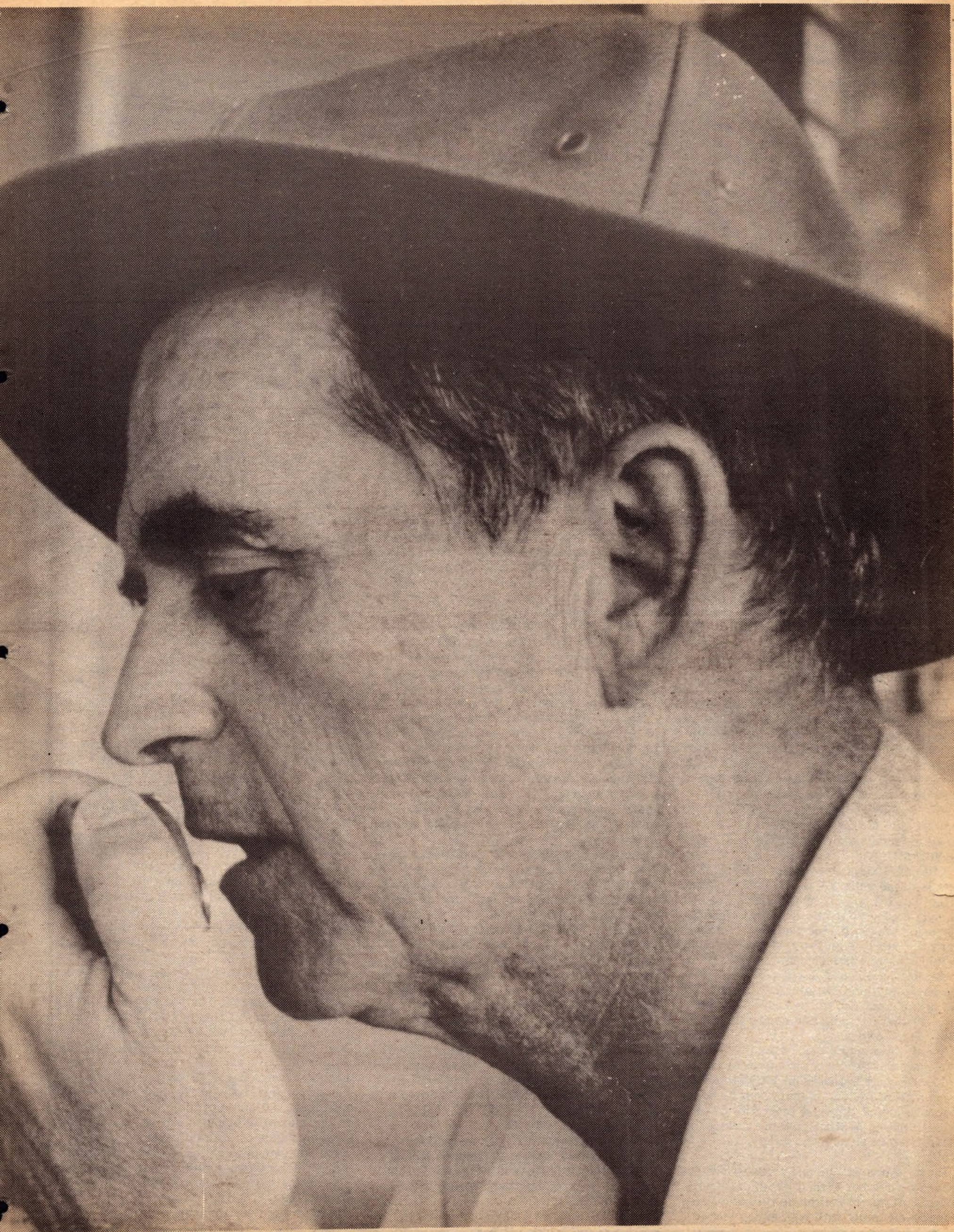
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# HARGESHIEMIER

(Continued from page 26)  
natives were helping the Allies.

Of his first return in 1960, Fred says, "The trip had a profound impact on me. They had diseases that would tear your heart. The natives were still gardening with old stone tools and I thought of the fancy new schools we were building back home."

His goal was then to raise some money for scholarships to send one or two students to Rabaul to school. But a missionary in New Guinea said it would be difficult to pick just one or two students for scholarships, and it would not be a good idea to take them away from their family and village at such a young age. A school was the only other choice. Fred says the idea of a school seemed completely beyond hope, but with further consideration, it did seem a possibility.

Look for VK9FH on 20 meters. Before he left his Minneapolis home for his extended stay at the school the hams of his area gave him a tri-band quad (a lot of people admire Fred). The school site gets 300 inches of rain a year so he will have some interesting weather stories to tell you.

If you ask he may tell you of their progress in turning out the future leaders of an emerging nation.

Winston Churchill once said, "There are no great men, just great challenges." I must disagree. There are great challenges all around us, it is only rarely that there is a great man to rise to the challenges.

The story of Fred goes beyond the enormous gratitude that he has shown. It is also the story of what one man can do, if he wants to.



Armond Noble, WB6AUH-VK9AM

# OSCAR

(Continued from page 2)

For the benefit of those who have not received any of the Oscars, and particularly for those who wish to try their hands at O-6, here is the modus operandi at W7ZC, an easy way to Oscar!

I copy orbital data from W1AW. I could calculate this information but it is available in detailed form and beats my internal calculator! This information consists of five pieces of data. Example - W1AW says, "Orbit 24 1430 265 Detroit 1514."

Translation - Orbit #24 crosses the Equator at 1403 GMT (the start of an orbit is always when it crosses the Equator) at 265 degrees West of Greenwich, and will pass over or near the designated area (Detroit) at 1514 GMT.

W1AW transmits such data on its regular schedules (see QST) and also a special weekly prediction is given at 2100 GMT on Sunday. The data is accurate to within normal tolerance and has proven out over the years.

If the expected orbital pass is East of me, I set both the antennas to the East; if West, to the West. I do NOT rotate the 2-meter antenna during an orbit, but I do rotate the 10-meter beam with the Ham-M. I cannot track the satellite on two meters. How to do this simply was suggested by K4RJ who wrote that he planned to put a pair of Yagis, one horizontal and one vertical, on a boom, and at the front end of the boom he would put a 10-meter dipole and rotate the whole thing. A good idea.

About ten minutes before the designated time (say at 1504 for a pass over Detroit at 1514) I start listening on 29.45 to 29.55. If the satellite is on, signals may be heard at any time and may last from 5 to 20 or more minutes. W5ORH told me that he heard his own signals for 23 minutes on one orbit!

First, there will be one or two scattered letters or numbers, then whole calls will form, SSB words will come through. One must tune rapidly with both ears cleaned

out. The Doppler shift (up to 8 Kc) and the tumbling (about 15 RPM) of the satellite really raises havoc with copy. A sharp CW operator can decipher the calls, which are usually sent rapidly (and often not too clearly) and on SSB, a keen sense of hearing is required. You must listen quick and sharp! I tune with my left hand and send on the old pump with my right. Some stations are heard using code wheels (such as W5HN) and some ding-aling seems to park on MY frequency with a dit dit dit keyer and never signs!.

My FIRST Oscar 6 QSO came on Orbit #30 at 0214 on October 18th when W9YYF (SSB) replied to my CQ. A good two-way exchange was made. This was highly gratifying! It takes a lot of calls to get results.

That same orbit brought in W2AZL, XE1PY and K8DEO and my own signals were logged for 16 minutes, but only the one lone QSO was made.

I listen close to or on my own frequency, following the Doppler carefully. A VFO is a mixed blessing. On some QSOs it is a help, I'm sure, as those with VFOs are doing great! But the jumping around is hard on the copy.

Some results follow: on Orbit 49, again over Detroit, on October 19 I logged W2UK, W3RUC, (VHFer deluxe) VE2BYG, K7BBO, K0WPK, W9RLI and my own signals for 12 minutes. No QSOs however.

An orbit over Dallas on October 20 at 1519 resulted in a QSO with WA6ICZ and I heard W3RUC, K6DS and W5HN's wheel, plus many incompleated calls.

Orbit 80 (Detroit 0204 on October 22) pulled in VE1RG, W5HFV, VE2BYG, W1YY, K6QEH, in an orbit that gave signals only for 8 minutes.

On Orbit 168 I had QSO number six with K5WXZ at 0240 when O-6 was on an over-Dallas pass. Also heard on that orbit were W7UBI, K2GUG, K2RTH (I had worked him previously), W9UIF, VE2BYG, W9YYF and others.

Orbit 212 was a honey. Passing over mid-America I had three Qsos: W4OTE, K7BBO (he on SSB), and K6DS (one of the original Oscar gang) and a steady signal on O-6 at W7ZC.

Results to date - I have had fourteen two-

way QSOs and some possibles that I did not count as complete. As I write (November 16, 1910 GMT) Oscar 6 is tumbling its way around the Earth on Orbit #402. The satellite has travelled over 11 million miles to date! I wish I knew how many QSOs had been made through that little box. I have logged several hundred calls from all U.S. districts and VEs 1, 2, 3 and 6, plus XE. The many hours spent, the CQs sent, and all the effort is worth it for just ONE QSO accomplished!

Why? Because the flight of Oscar 6 (as were the flights of its predecessors) is a portent of the future of ham radio. I am thrilled to have even a tiny bit of the action!

In spite of the excellent in-depth reporting on the design, fabrication and operation of previous Oscars, in spite of the widespread publicity given the results in each flight in ham media, and in the face of the inevitable and necessary trend toward satellite communication for amateurs - the rank and file ham continues his merry (?) way sans any participation in the Oscar program! A rugged statement but the truth if one really studies the situation.

As in previous flights and between flights I, and many others, have striven to interest more hams in the Oscar program as we have told all who would listen about the thrills of the Oscars, even if one merely listened to the signals from it. Since O-6 has been up I have worked several hundred stations (via SSB and CW on 10 through 160) and I have inquired, "Are you playing with Oscar 6?" The results of my inquiry have usually been a disappointing negative or an indifferent remark! The reasons range from the sublime to the ridiculous. Here are a few choice ones: "What is Oscar?"; "I have not read any ham magazines for years so did not know about the satellites."; "My receiver won't cover 29.45 to .55." (a commonplace reply due to manufacturers who leave out some of the bands, and due to the lack of interest in full band coverage by the owners of such receivers); "I do not have any two-meter gear so I can't transmit."; "All my two-meter gear is on the FM band."; "I don't know where to find orbital data."; "I don't have time to fool (Turn to page 40, please)

Everybody wants one!

# Live it up

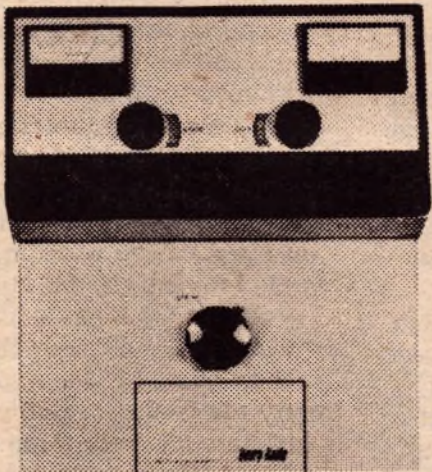
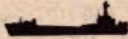


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# The Neighborhood Emergency

by Arthur Smith, W6INI  
Asst. Director, SW Div. ARRL

## THE NEED

Have you ever stopped to think what you would do if you needed a doctor, ambulance, fireman, or policeman and, when you picked up the telephone, you found the line dead? After rushing around the neighborhood you find that the entire area is without telephone service. What to do?

If you lived in the city of San Diego, California an Amateur Radio Emergency Corps (AREC) plan would provide you with vital communications if the telephone service was interrupted for any reason.

## DISCUSSION

Telephone service can be interrupted for a variety of reasons, not all of them necessarily associated with natural or man-made disasters. Accidents do occur which can sever important telephone cables, especially those carrying trunk lines. An entire telephone system can be made unusable when it is overloaded by well-meaning citizens making inquiries relating to disasters in adjacent communities. The latter happened in Los Angeles as a result of the earthquake in February, 1971. Also, sabotage of telephone facilities is a real possibility which could disrupt telephone service on a substantial scale. Vehicle collisions with telephone poles have been known to cause isolation of entire communities.

It is manifestly impracticable for public agencies to be prepared to provide the magnitude of communications that a large city would require under such conditions. To do so would present the taxpayer with an astronomical tax bill. What is the solution? The personnel and equipment resources of licensed amateur radio operators!

## THE PLAN

**Purpose.** To provide communications of an emergency nature to the residents of an area which has had its normal telephone service disrupted.

**Concept.** This plan envisages setting up Neighborhood Communication Centers at all elementary school sites within an affected area, with appropriate tie-ins with fire, police, medical, ambulance, and utility services. Disaster relief agencies may be represented also if circumstances warrant it. This plan may be used in conjunction with other emergency plans as the situation may require. The use of phone patch stations is planned to provide a link into the unaffected telephone system.

**Net Organization.** The ten-meter band is considered to be the ideal band for the

purpose of this plan. The greatest single pool of amateurs is those having HF equipment, nearly all of which can be used on ten meters. With a suitable portable antenna, portable operation is feasible by most of them. A large percentage also have mobile capability. The uncrowded conditions at the upper end of the band will permit the operation of a number of nets which are needed to provide an efficient, high-capacity system.

Nets are organized to facilitate direct contact between the Neighborhood Communication Centers and the agency with which communication is desired. Alternate routes exist in all cases for greater flexibility.

**A. San Diego Emergency Net.** This net will have representation by any or all of the following as circumstances may require. Stations desiring contact will check in with the net control station and then move to a working frequency with the desired station: Net Control Station, Doctors Service Bureau, San Diego Red Cross, Phone Patch Station(s), Amateur Radio Control Center, City Operations Center, San Diego Gas and Electric Company, Office of Emergency Services, Relay Station.

**B. Zone Nets.** For the purpose of this plan, the city has been divided into six zones with provisions for the larger zones to be divided into two zones each, if needed. The zones generally follow the battalion areas of the San Diego Fire Department. Stations in a zone net will be: Battalion Headquarters (SDFD) Net Control Station, Police (Central, Zone 3; Southern, Zone 6; Northern, Zone 5), Neighborhood Communication Centers (one per elementary school), Phone Patch Station, Relay Station (if needed).

**Frequency Plan.** Pre-planned frequencies will permit the rapid implementation of this plan. One calling and one working frequency is provided for each Zone Net. The San Diego Emergency Net (SDEN) has one calling and four working frequencies. In general, greater frequency separation is given adjacent Zones to minimize interference. The thirty-one frequencies are spread over the band 29.195 to 29.495 MHz. Eight spare frequencies are provided for assignment by the Amateur Radio Control Center (ARCC) as needed.

**Operator and Equipment Organization.** Assignments to Neighborhood Communication Centers, as well as most other assignments, will be made in teams of four licensed operators. They will work in shifts of two operators each, one working, one resting. Only one of them needs to have suitable radio equipment but all may contribute to the overall team resources.

Two of the operators may have Novice or Technician licenses, thus taking advantage of this pool of operators. Such a team can maintain a continuous operation indefinitely.

Teams should provide themselves with a minimum of three days supply of food, water, gasoline and operation supplies unless it is known that such will be available at the assigned site. Two emergency-type generators would be required if commercial power is disrupted. This would provide for alternating generators to prolong their life and allow time for servicing.

Portable operation, with equipment set up inside buildings and an antenna on or near the structure, is preferred to mobile operation.

**Station Sites.** Elementary school sites are selected for the Neighborhood Communication Centers for several reasons. First, there is an elementary school within easy walking distance of every home in San Diego. Second, to publicize the plan before or during the emergency it minimizes confusion by enabling radio and TV stations to make a simple announcement, "... go to your neighborhood elementary school." Otherwise, they would have to give long lists of locations and addresses. Third, school buildings will provide shelter and other needed facilities.

Fire stations, particularly those housing battalion chiefs, have several advantages. Many are equipped with emergency power systems. They provide a means for decentralized direct-reporting of fire emergencies and a tie-in with the Fire Department's communication system for relay of other emergency traffic. Further, the battalion chief is an officer of the city who can make certain decisions on his own initiative.

The station at the City Operations Center will provide direct communications with the fire department headquarters and access to other communications to police, utility, and public works departments.

Phone patch stations may be located in private homes or public buildings where power and telephone facilities are operational to provide phone-patch telephone service. A location to enhance ten-meter coverage is also a consideration.

Stations located at the Doctors Service Bureau, Office of Emergency Services (formerly Civil Defense), and Red Cross will tie these important agencies into the system.

The Amateur Radio Control Center (ARCC) is the headquarters for the AREC and must be located where there are



# Communications Plan

facilities for setting up and operating stations on each band and/or net involved in the emergency. Its function is to organize, make assignments of personnel and equipment, assimilate volunteers into the system, and provide liaison through the Southwestern Division AREC Liaison Net. The latter net provides the means for requesting aid from adjacent ARRL sections. The ARCC is staffed by top-level officials such as the Section Communications Manager, Assistant SCM, Section Emergency Coordinator, one or more Emergency Coordinators, and a staff of operators.

**Traffic Routing.** The Neighborhood Emergency Communication System is designed to provide a primary routing for each type of emergency traffic and one or more alternate routes. There are many combinations of alternate routing.

**Implementation.** The above is an idealized plan. If it were to be implemented today, many modifications would have to be made. Some nets would have to operate on 75, 6, and 2 meters as well as 10 meters. The odds are that only a part of the city might be affected so that the overall requirements would be reduced. On the other hand, if requirements could not be met with resources from the San Diego area, adjacent AREC organizations would be called upon for assistance through the Southwestern Division AREC Liaison Net.

To get initial coverage a team might consist of only one operator and minimum equipment. Additional operators and equipment would be assigned as they became available.

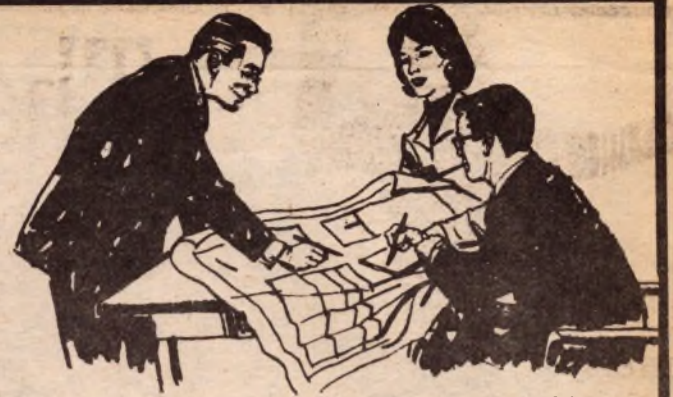
To get rapid, initial coverage, heavy reliance would be made on those with mobile capability. Then, as additional operators and equipment become available, a shift to portable-type operation would be made, using emergency power equipment if needed.

The above are some of the tasks to be performed by the Amateur Radio Control Center.

It might be feasible to make permanent assignments, to be reviewed periodically, to schools and key locations from among those amateurs living nearby, with instructions to "move out" on their own initiative when an emergency requiring this plan is known to them.

## CONCLUSION

This plan has had a test! Although on a relatively small scale, it was tested on July 1, 1970 when 60,000 telephones in a large residential area of San Diego were virtually isolated from the rest of the world as a result of an equipment operator inadvertently digging up and severing seven important telephone cables carrying trunk lines. Amateur radio teams were distributed to elementary school sites with a control



center functioning in a fire station within the area. Use was made of 75 meters, 2 meter AM and 2 meter FM teams. Several emergency situations were handled during a six-hour period from 6 p. m. to midnight at which time a sufficient number of telephone trunk lines had been restored to handle expected emergencies. Radio and TV stations cooperated by announcing the availability of emergency communications at elementary schools throughout the area.

It must be emphasized that this plan has not as yet had any official sanction by any governmental agency. Although there has been some discussion with government representatives, further refinements and ground work are necessary to be able to present a complete, workable plan to them. City agencies will be asked to allow us to set up stations in their facilities, with, perhaps, pre-installed antennas. The school district superintendent will, likewise, be asked for permission to use the school facilities.

From the basic ideas outlined herein, any residential community can make a similar plan for the protection of its citizens when normal telephone service is not available.



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## APPLYING FOR A PASSPORT FOR THE FIRST TIME



### Where to Apply

A person applying for a passport for the first time may have his application executed by (1) a clerk of any Federal Court; (2) a clerk of any State court of record or a judge or clerk of any probate court; (3) a postal clerk designated by the Postmaster General (postal clerks have been designated only in certain areas); or (4) an agent at one of the Passport Agencies located in Boston, Chicago, Honolulu, Los Angeles, Miami, New Orleans, New York, Philadelphia, San Francisco, Seattle, and Washington, D. C.

If husband and wife are to be included in one passport, both must appear before the clerk or agent. Unmarried children under the age of 18 years who are to be included in a passport are not required to appear in person. A person included in the passport of another may not use the passport for travel unless he is accompanied by the bearer. An unmarried person who has attained the age of 18 years must obtain a passport in his own name.

### Proof of Citizenship

Persons who apply for passports must present proof of their U. S. citizenship and that of any person to be included in the passport.

A native-born citizen shall present his birth certificate or, if not obtainable, his baptismal certificate or a certified copy of the record of baptism (a Jewish Certificate of circumcision may be submitted in lieu of a baptismal certificate). The birth certificate bearing the original seal and/or signature must be presented. If such primary evidence is not obtainable, he shall submit a notice by appropriate authorities that no birth record exists and such secondary evidence as one or more affidavits of persons with personal knowledge of the birth, or a combination of other obtainable records such as early census records, newspaper files, family bibles, school records, and insurance records.

A naturalized citizen should present his naturalization certificate.

A person claiming citizenship through the naturalization of a parent or both parents must present the parent(s) naturalization certificate(s), evidence establishing the parent-child relationship and evidence of admission to the United States for permanent residence. His own certificate of citizenship is equally acceptable as proof of citizenship.

A person claiming citizenship through birth abroad to a citizen parent or parents may present an approved Consular Report of Birth (Form FS-240) or a Certification of Birth issued by the Foreign Service or by the Department of State (Forms FS-545 or DS-1350).

A previously issued passport will be accepted as evidence of U. S. citizenship.

### Identification

An applicant is required to establish his identity to the satisfaction of the person executing the application either through personal knowledge, the presentation of an acceptable document of identification, or by an identifying witness.

The following documents are acceptable for identification purposes, provided they contain the signature and either a physical description or a photograph of the applicant: a previous passport, a certificate of naturalization or of derivative citizenship, a driver's license (not temporary or learner's) or a government (Federal, State, municipal) identification card or pass.

An identifying witness who is a United States citizen or a permanent alien resident of the United States and who has known the applicant for at least two years is required only when the applicant cannot satisfactorily establish his identity through the other acceptable methods. He shall subscribe to his statement before the same person who executes the passport application. The witness shall be required to establish his own identity to the satisfaction of the person executing the application by one of the above means.

### Photographs

Two duplicate photographs taken within 6 months of the date of application and portraying a good likeness of the applicant shall accompany the passport application. Both photographs shall be signed by the applicant on the front, left-hand side without marring the features. A group photograph is preferred when a wife and/or children are to be included in the passport.

Photographs may be in color or in black and white. They shall be clear, front view, full face on thin unglazed paper, with a light background. They shall not be smaller than 2 1/2 by 2 1/2 nor larger than 3 by 3 inches in size.

Vending machine, acetate or film base prints, snapshots, magazine or full length photographs are not acceptable.

### Passport Fees

The passport fee is \$10. In addition, \$2 fee is paid to the person executing the application. The fee may be paid in currency or by check or money order payable to the Passport Office. Currency should not be sent through the mails. When applying in person, service will be expedited by presenting exact fees.

## APPLYING FOR A PASSPORT BY MAIL

A person who has been issued a passport in his own name within the past 8 years may, under certain circumstances, obtain a new passport by mail. Information regarding this procedure is printed on the reverse of Form DSP-82, Application for Passport by Mail. Copies of this form are available from any office authorized to accept applications.

### VALIDITY OF PASSPORT

Passports are usually valid for a period of 5 years from the date of issue. However, the Secretary of State may limit a passport to a shorter period.





### AMENDMENT OF PASSPORTS

Upon the request of the bearer a passport may be amended to show a name changed by marriage, or to include or exclude a husband/wife or minor child. Form DSP-19, Application for Amendment of Passport, may be used for this purpose. This form is required and must be personally presented to and executed by an authorized person when an individual is to be INCLUDED in a passport. A wife/husband to be included, must also appear in person with the passport bearer and sign the application. A person may be included and excluded from a passport only once, but a passport cannot be amended to exclude the person to whom it was issued. Amendments to passports may be made by the Passport Office, Department of State, Washington, D.C. 20524, by one of the Passport Agencies, by American diplomatic and consular officers abroad, and by the chief executive officers of the Commonwealth of Puerto Rico, Guam, the Virgin Islands, and American Samoa.

### CARE OF YOUR PASSPORT



#### Signature

As soon as you receive your passport, sign it as indicated. Until you do so, it is not valid. Be sure to fill in the information requested on the inside front cover.

#### Loss or Theft

Your passport is an important and valuable document. Guard it carefully and keep it in good condition. Its loss or theft while you are abroad can cause you considerable difficulty, expense, and delay.

Do not let your passport get into the possession of an unauthorized person. Do not give it to anyone to hold as collateral for a debt.

A lost passport in the hands of an unscrupulous individual may cause considerable embarrassment - financial and otherwise - to the U.S. citizen involved as well as to his government. To protect the integrity of the U.S. passport and the security of the person bearing it, the Passport Office has found it necessary to take special precautions in processing lost passport cases. These precautions, which include verification of the circumstances

of loss as well as a review of the applicant's file in the Department, may involve considerable delay before a new passport is issued. New passports which are issued to replace lost passports are limited in validity.

It has been found that the main cause for losing a passport or having it stolen is carelessness on the part of the U.S. citizen. Experienced travelers are acutely aware of problems which arise abroad when a U.S. passport is lost. They exercise every precaution to see that the passport is carried in a secure pocket or in a special compartment of a handbag.

The loss of a valid passport should be reported immediately to the Passport Office, Department of State, Washington, D.C. 20524, or to the nearest American consular office.

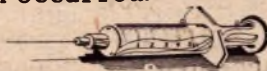
If you are applying for a new passport to replace one that has been lost, you must furnish a detailed statement, in the form of an affidavit, explaining all the circumstances under which the loss occurred. You should also report the loss of the document to the nearest local police authorities.

Remember also, your passport is a tangible souvenir of your trip. Keep it in a safe place.

#### Destruction, Mutilation, Alteration

If you mutilate or alter your U.S. passport in any way, you may render it invalid, cause yourself much inconvenience, and expose yourself to possible prosecution under the law.

If your passport is destroyed or if it is mutilated or altered while you are traveling abroad, you should report it immediately to the nearest American consular office. If it is necessary to apply for a new passport, you will be requested to furnish a detailed statement, under oath, explaining the circumstances under which the destruction, alteration, or mutilation occurred.



### VACCINATION AND IMMUNIZATION

The International Health Regulations adopted by the World Health Organization stipulate that vaccination against smallpox, cholera, and yellow fever may be required as a condition of entry to any country.

For return to the United States, a Smallpox Certificate will be required only if, in the preceding 14 days, a traveler has visited a country reporting smallpox.

Many countries require entering travelers to possess a valid International Certificate of Vaccination against Smallpox. In addition, some countries require travelers to possess valid Cholera and/or Yellow Fever Certificates.

Required immunizations must be recorded on approved forms such as those included in the booklet International Certificates of Vaccination (PHS-731) available through most local health departments and passport offices.

Details concerning recommended and required immunizations and prophylaxis, for travel to all areas of the world, may be obtained from your local or State health department.



BON VOYAGE

### VISA AND OTHER ENTRY DOCUMENTS

#### Visa Usually Required

Most foreign countries require an American citizen to obtain a visa from one of their consular officials in the United States if he wishes to enter their territory. Americans who arrive abroad without the necessary visa may be refused entry into certain countries. It is the responsibility of the bearer of the passport to obtain any necessary visas.

A visa is generally a stamped notation in a passport indicating that the bearer is to be permitted to enter the country involved for a certain purpose and length of time.

#### Omission of Visas

A number of foreign countries waive the visa requirement for certain kinds of travel, such as the brief visits of tourists. Most Western European countries do not require visas for temporary visits, the specific time depending on the individual country. Travelers should be careful to check the length of time for which the visa will be waived.

The Passport Office of the Department of State issues on request a circular entitled "Fees Charged by Foreign Countries for the Visa of United States Passports." In addition to the list of visa fees, the circular includes information concerning the waiving of the visa requirement by various foreign countries.

#### Duration of Visas

Certain foreign visas are valid for one trip only or bear restrictions as to the period of time for which they may be used. When you apply to a foreign consular officer for a visa, make it a point to tell him how many trips you plan to make into his country and the length of time you intend to stay.

### WARNING TO DUAL NATIONALS

A person is considered a dual national when he owes allegiance to more than one country at the same time. A claim to allegiance may be based on facts of birth, marriage, parentage, or naturalization. Thus, one country may claim a person's allegiance because of his birth within its territory. Another country may claim his allegiance because of the nationality of his parents.

A dual national contemplating travel to a country having a claim to his allegiance is advised to obtain from the Consulate of that country in the United States information concerning his status and obligations while in that country.



#### TIMELY TIPS

Arrange hotel and other accommodations in advance of travel.

Inform family and business associates of your plans and where to reach you if need arises.

Avoid areas where disturbances exist or seem imminent. Your presence might bring you personal injury or detention causing considerable inconvenience and delay.

Communicate promptly with family and (Turn to page 36, please.)

# Passport



associates to allay concern for your safety if the area of your visit experiences a natural disaster (earthquake, flood, fire, etc.) or an outbreak of civil unrest.

Respect the law of the area in which you travel. Heavy penalties are imposed by foreign governments for violation of narcotics control laws, which are being strictly enforced. A conviction for possession of, or transporting, a dangerous drug may result in a penalty of from 6 to 10 years in a foreign jail and a heavy fine.

Respect currency and customs regulations overseas and restrictions on travel in or photographing restricted areas. If in doubt on such matters, consult your travel agent or the Embassy or Consulate in the United States of the country to be visited.

Do not carry messages, money or packages of any kind into or out of any country for any other person, unless authorities of that country have confirmed that by so doing you will not be breaking their regulations.

Some countries impose severe penalties for activities directed against the State or its political system, including actions which might be thought insulting to the State or its national flag.

## PURCHASES ABROAD



Personally take from the seller and mail to your home address small items purchased abroad. This practice should markedly reduce the incidence of a misaddressed package, non receipt of merchandise, receipt of the wrong merchandise, etc., which is so disappointing.

## GETTING ALONG ABROAD



The responsible U.S. citizen is keenly aware that he is a representative of the United States and he thus conducts himself in a manner designed to cause those he meets abroad to think well of him and his country. He avoids making critical or derisive remarks on foreign customs, thinking and economic conditions. Nor does he become loud and ostentatious about his personal wealth or that of the United States or show contempt for those seemingly less fortunate.

## THE AMERICAN CONSUL



American consuls will advise or help you if you are **IN SERIOUS DIFFICULTY OR DISTRESS**. But they cannot do the work of travel agencies, information bureaus, banks, and the police; nor can they help you find work or get residence or driving permits; and it is not a part of their duties to act as travel couriers or interpreters, to search for missing luggage or to settle disputes with hotel managers.

During the tourist season especially, consuls are likely to be working under heavy pressure and must give priority to cases of grave emergency or distress. They cannot provide a free round-the-clock travel agency service, and above all cannot spare time to deal with casual inquiries.

However, if you find yourself in a dispute which could lead to legal or police action, however right you may be, it is wise to consult the consul. He cannot give you legal advice, but if necessary he can provide a list of attorneys and tell you what local arrangements there are for free legal aid. He will also do whatever he can to protect your legitimate interests and to ensure that you receive just treatment according to local law.

## DETENTION



While you are within its borders, you are subject to the laws of the country you visit to the same extent as is a national of that country. If you are detained by the police or other authorities in a foreign country, you should ask at once to be allowed to communicate with the consul. While the American consul cannot obtain your release or act as your legal representative, he can provide a list of local attorneys if you require a lawyer. He can also attempt to obtain relief should you be subject to inhumane or unhealthful conditions of detention or be accorded treatment less favorable than are others in the same situation. He may also be able to assist you in other ways. In those countries where travel is organized by the government, the state travel agency may be better placed to help and, if you find yourself in difficulties, you should make every effort to contact that agency or

its local office; but contact the consul also if only to inform him that your problem has been solved. If you do need the consul's urgent help in a country where travel and communications present problems it is usually better to telephone or telegraph rather than to send a letter.

## PRIVATE MAIL



"Post Restante" (General Delivery) services exist at all large post offices in most countries, and mail for travellers should be addressed there. American embassies and consulates do not ordinarily handle private mail.

## FINANCES



Take with you your airline and any other credit card which could be used abroad. Some countries have regulations restricting the amount of their currency which may be carried in or out. Consult your bank or travel agent.

Some countries will not admit a traveller unless he has ample funds both for his stay there and return to the United States. In most places jobs for foreigners are very scarce and cannot be relied upon as a means of support; living costs can be very high and cheap accommodations hard to find.

If your money is lost or stolen, inform the local police. If the money was in travellers' checks, also inform the issuing authority.

In an emergency you can arrange, if necessary by telegram or telephone, for funds to be remitted to you by your bank or by relatives or friends through a bank; they can do this even if they do not have a bank account. The bank can usually transfer money quite quickly.

The American consul is not provided with funds to disburse to American citizens who find themselves in financial difficulties while abroad; nor can he cash or guarantee checks for you.

## DESTITUTION



If you become destitute abroad, the consul may be able to assist you to make inquiries of your family, friends, bankers and employers, or anyone else you may designate, to see if there is any way of getting you out of your difficulties.

The consul cannot pay your private debts.

## ILLNESS OR INJURY



Before going abroad, contact your insurer to find out what medical services, if any, will be covered for you while outside the United States. If your health insurance policy provided coverage abroad, take your policy identification card with you. In general, health insurance programs under social security **MEDICARE** do not provide for payment of hospital and medical services furnished outside the United States.

If you are injured or become seriously ill and have no friends or relatives with you, the consul may be able to assist you to locate appropriate medical services and inform your next of kin or anyone you wish.

## passport

It is a wise precaution to note in your passport the name and address of anyone - relative, friend or legal representative - whom you may wish to be informed of such an emergency.

### BENEFITS FROM FEDERAL AGENCIES

A person who wishes to make a claim, request information or file a change of address with the Social Security Administration, Veterans Administration, Railroad Retirement Board, Civil Service Commission or any other benefit paying or federally administered retirement system should write directly to the office in the United States of the agency with which he wishes to communicate. A change of address for delivery of checks often takes several months to process.



### BALANCE OF PAYMENTS

American travellers to: Ceylon, Guinea, India, Israel, Pakistan, and Tunisia, you can assist the United States balance of payments by purchasing your foreign currency needs from the U.S. embassies and consulates in these countries.

Department of State, Publication 7728, Department of Foreign Services Series 127, April, 1972 (Revised)



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# Electronic Investing

a monthly column

by Clayton Ankeny,  
WB6OGZ

Let's face it - International Business Machines is a high-priced stock. Selling around \$380 a share (it has been as high as \$426 and as low as \$331 this year), with 115 million shares outstanding, makes the stock worth over \$44 billion. It is the largest manufacturer of business machines, including computers, data-processing equipment and typewriters, in the world. IBM stock is rated "A+" in quality. Its prestige is such that the stock is in the portfolios of many insurance companies, mutual funds and bond trust departments. Owning IBM is somewhat like operating a KWM-2 or driving a Cadillac - a "bare your head and bow" deal.

Listening to the conversation around the board rooms of brokerage houses, IBM is one of those "if-I-had-a" stocks. "If I had only bought IBM at 135 in 1965..." One hears this type of remarks all the time. This is because of the company's steady rise in sales and earnings over the years, which have been reflected in a steadily rising stock price - a true "growth situation".

Every company that becomes a leader in its field becomes subject to pot shots. Recently the federal government filed antitrust lawsuits against IBM, contending the company is a monopoly in restraint of

trade. This has caused the stock to sell off from its high for the year.

In contrast to buying a few shares of IBM or some other high-priced stock, many would-be investors in the stock market will go to the other extreme and buy shares of stock selling at a dollar or two or less per share, the so-called "penny stocks". Their reasoning seems to be (1) they can buy more shares of a low-priced stock, and (2) it appears mathematically easier for a \$2 stock to go to \$4 than for a \$400 stock to go to \$800.

Well, 'tain't so, Magee.

The catch here is that experience has shown the probabilities are that the \$2 stock is in a speculative venture which will fall out of bed and the stock go to zero much more readily than the higher-priced stock will decline.

Stop by a brokerage house some day and ask to see the 18 volumes of Fisher's "Manual of Valuable and Worthless Securities" listing the thousands of companies that have gone up against the wall.

The point to remember is that price and price alone should not be the sole determinate in buying a stock. We must look at the price in relation to earnings and dividends, past records of performance and future prospects.

Next month we'll take a look at a couple of stocks in the semi-conductor industry.

(Additional information on IBM is available by contacting the writer.)

Clayton Ankeny, WB6OGZ, is a Registered Representative associated with Crowell, Weedon and Co., member of the New York Stock Exchange with offices at 200 Pine Avenue, Long Beach, California 90802. Inquiries concerning stocks are invited.

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### TELEPHONE EQUIPMENT

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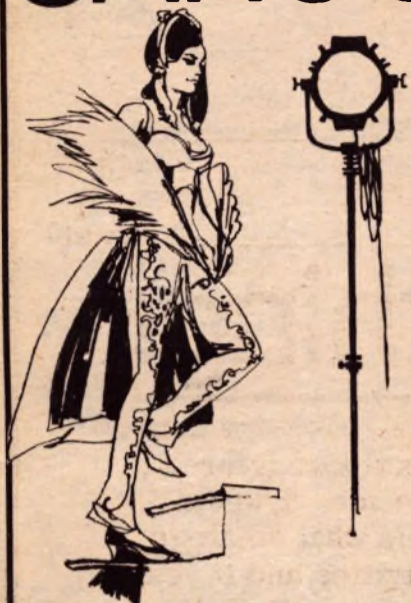
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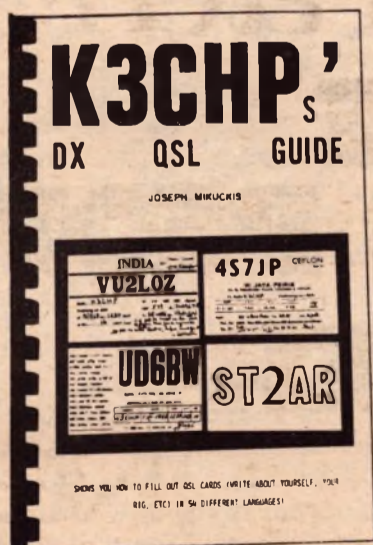
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(Continued in next month's issue)

## OSCAR

(From page 26)

with such things." "I read about it some time ago and forgot all about it - where is the latest poop?" "I'm delighted to learn about Oscar 6 - tell me about its results and what you work and hear!" To that kind of reply I give the works, with all the info the lad will take! We need more hams like the last type! Many have called me later and said, "Say, OM, I did listen as you suggested and I HEARD SIGNALS!" What a thrill - many thanks!" You're welcome, OM!

I have asked many DX stations about their compatriots participation in O-6 and to date their replies have been negative. I just have not hit the right ones, I presume, as there must be wide-spread DX operation. I had reports that a ZE worked a German, that a 9 worked an SM and a G, and that a Z worked an LA. Personally, I have heard no DX except XE1PY and the farthest were the VE1RG signals.

There is a sometimes critique on 3855 and other frequencies after a pass, but in general nothing about Oscar is heard on the low bands. There is a report that in certain areas 29.4 is used for rap sessions, but I have not heard them here.

Apparently the rank and file is going their way discussing the weather, handles, plus endless descriptions of illnesses, operations (medical), and the QRM situation plus a clutch of inanities and banalities while history is being made by a handful of dyed-in-the-wool hams who are carrying the ball toward a goal of international communica-

tion via ham satellites!

There must be something contagious about the Oscar program as I note the repetition of many calls from each flight plus the advent of a lot of new calls which are welcome. New hams are joining in Oscar at a good rate - thank goodness - and with unlimited enthusiasm and endeavor. However, the majority of U. S. hams are indifferent to or ignorant of the significance of the Oscar program, in spite of wide-spread publicity in the ham media. Public relations on the Oscar program has been somewhat low key, however, and on O-6 almost totally absent. I do not know why the AMSAT PR group does not release lots more information on the results of Oscar 6 right now, when it is operating and receivable. Perhaps they will do so at some future time.

Anyone can become involved and participate in the O-6 game. Orbital data is easy to obtain (via W1AW) on both CW and phone. AMSAT (their formal name is Radio Amateur Satellite Corp.; QTH, P. O. Box 27, Washington, D. C. 20044) will send you blank forms (if requested with a large size SASE) for reporting signals heard. AMSAT is open to anyone interested in the space communication field, and membership is only \$5 per year. All monies go to further the projects!

As shown by the foregoing, anyone who has the interest, and a receiver capable of hearing 29.45 to .55, can listen. Anyone with a simple CW rig on two meters can transmit. K4RJ (Smitty of W3GKP and Moon Bouncer deluxe) worked W7FN with a ground plane antenna located in North

Carolina with a handful of CW watts.

It does NOT require high power. In fact, AMSAT is urging use of less than 100 watts ERP as high power apparently overloads the system and causes it to shut down to recharge and recuperate.

The writer has been on the air over 53 years and has done about all that can be done on ham radio (sans ham TV and RTTY). Yet I find greater satisfaction and achievement in working with Oscar than in anything I have done in years. I have done it the easy way and yet I helped.

It is very important that we all do our bit toward furthering this latest and most exciting phase of amateur radio operating.

Conditions, QRM, the lack of sportsmanship on the part of many, the permissiveness that has crept into ham radio, plus the ease of operation on the lower bands, has driven many to exotic facets of the game such as ham TV (even in color), slow scan, and now to the popularity of 2-meter FM.

Communication via a ham satellite is a whole new ball game. There is no time for obscenities, weather reports, or tiresome equipment descriptions via an Oscar QSO. That alone should bring some interested parties into the fold.

The future of ham satellite communication is unlimited in scope and brilliance. Technically, and operationally, the space program is the only really new thing on the ham horizon. You will not regret any time or effort you put into the program. The rewards are many and personal as well as additive to the state-of-the-art.

Join us Oscar aficionados in the fun. C U via Oscar!



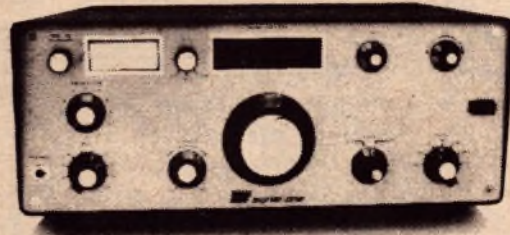
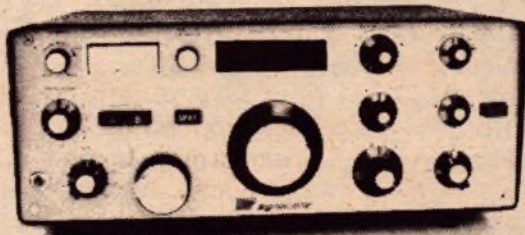
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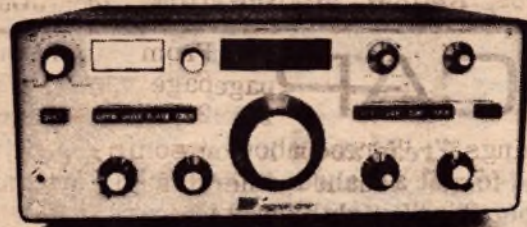
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**Federal  
Communications  
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Washington, D.C. 20554



(Continued from page 1)  
would be in violation of s326 of the Communications Act of 1934 which prohibits censorship of radio communications. It has been established, however, that eligibility restrictions and reasonable rules limiting communications to those consistent with the purpose of the radio service involved are within the scope of the Commission's authority. See Lafayette Radio Electronics Corp. v. United States (2nd Cir. 1965). Moreover, it is not only permissible but an affirmative duty of this Commission to classify radio stations and to regulate the nature of the radiocommunication service that is to be rendered by stations in that class. See s303 (a) and (b). Our rules adopted today regarding commercial third party traffic merely regulate generally the nature of the radio communication service which may be rendered by amateur stations.

7. The Rules adopted today will delete the phrase "nor for its use" which is contained in s97.39. The result of this action will make s97.39 a rule concerned only with who or what organizations may obtain a license. The amended s97.39 will not be directed to permissible communication nor to the use of an amateur station.

8. We are adding a new section, s97.114, which will both prohibit commercial third party traffic and clarify the permissible international third party traffic. As to the provisions of subparagraph (a) concerning international third party traffic, these rules simply incorporate the already existing international rules. As such they make no change in permissible communications and they are therefore considered to be of an editorial nature. Subsection (c) of s97.114 prohibits corporations, companies, associations and other organizations engaged in commercial activities from using amateur radio facilities. It will not prohibit the use of the Amateur Radio Service on behalf of organizations such as the Eye Bank and the American Red Cross except for traffic which relates to the regular business affairs of those organizations. Subparagraph (b) will prohibit amateur control operators or station licensees from receiving any compensation including a salary or reimbursement for non-collect telephone calls for operating an amateur station for transmitting or delivering third party traffic. This provision explicitly sets forth the fact that both domestic and international amateur traffic must not be handled with a pecuniary interest in mind.

9. To prevent unnecessary confusion as to what is meant by third party traffic, we are adopting a definition of that term and are making editorial changes in s97.79(d).

10. The provisions of s97.114(b) and 97.112 will clearly prohibit the American Radio Relay League's long standing practice of providing compensation to the control operators of station W1AW. As a consequence, we are today issuing a Notice of Proposed Rule Making in a separate proceeding which would allow in certain instances involving club stations the compensation of control operators. We are also herein granting a waiver of the necessary rules to the licensee of station W1AW to allow the station to continue to operate pending the final action on our Notice of Proposed Rule Making. Any other club station providing similar services as W1AW may apply for a similar waiver. Such requests will be handled on a case by case basis.

11. The American Radio Relay League and several other individuals filed comments which suggested that the Commission adopt a rule specifically prohibiting communications for any purpose or activity which is contrary to federal, state, or local law. We find that this suggestion as it applies to any radio communications including third party traffic has substantial merit. Therefore, with certain editorial changes, we are adopting their proposal as s97.116.

12. Authority for the rule changes adopted herein is contained in Sections 4(i) and 303 of the Communications Act of 1934, as amended.

13. The Commission finds that further Public Notice in regard to the subject matter of this Report and Order is unnecessary. Notice of the general subject matter and of the issues involved was previously given and extensive comments from interested parties have been received and given careful consideration. No public interest would be served by further notice and public participation in this matter.

14. IT IS ORDERED, effective December 1, 1972, that Part 97 of the Commission's Rules is amended as set forth in the attached Appendix.

15. IT IS FURTHER ORDERED, that a waiver of ss97.112 and 97.114(b) is GRANTED to the licensee of amateur station W1AW.

16. IT IS FURTHER ORDERED, that RM-1687 is denied to the extent that it is inconsistent with the rules adopted in this Report and Order and that this proceeding is TERMINATED.

By: Ben F. Waple, Secretary FCC

#### APPENDIX

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

1. Section 97.3(w) and (x) is added as follows:

##### s97.3 Definitions

(w) Third party traffic. Amateur radio-communication by or under the supervision of the control operator at an amateur radio station to another amateur radio station on behalf of any one other than the control operator.

(x) Emergency Communication. Any amateur radio communication directly relating to the immediate safety of life of individuals or the immediate protection of property.

2. Section 97.39 is amended to read as follows:

##### s97.39 Eligibility of corporations or organizations to hold station license.

An amateur station license will not be issued to a school, company, corporation, association, or other organization, except that in the case of a bona fide amateur radio organization or society, a station license may be issued to a licensed amateur operator, other than the holder of a Novice Class license, as trustee for such society.

3. Section 97.79(d) is amended to read as follows:

##### s97.79 Control operator requirements.

(d) The licensee of an amateur radio station may permit any third party to participate in amateur radio communication from his station, provided that a control operator is present and continuously monitors and supervises the radiocommunication to insure compliance with the rules.

4. Section 97.114 is added to read as follows:

(Turn to page 44, please.)



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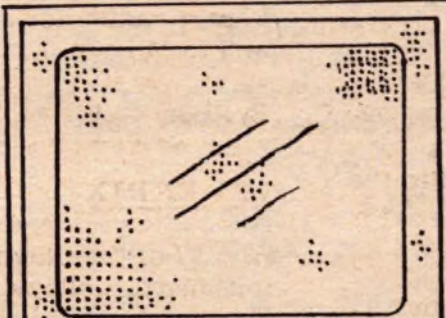
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# Federal Communications Commission

By: Ben F. Waple, Secretary FCC

## APPENDIX

In Section 97.112, the present text is designated as paragraph (a) and a new paragraph (b) is added to read as follows:

### s97.112 No remuneration for use of station

(b) Control operators of a Club Station may be compensated when the club station is operated primarily for the purpose of conducting amateur radiocommunication to provide code practice transmissions intended for persons learning or improving proficiency in the International Morse Code, or to disseminate information bulletins consisting solely of subject matter having direct interest to the Amateur Radio Service provided:

- (1) The station is operated weekly for a period of at least 40 hours;
- (2) The station schedules operations on all allocated high frequency amateur bands using reasonable measures to maximize coverage;
- (3) The schedule of normal operating times and frequencies is published at least 30 days in advance of the actual transmissions.

### ACTION IN DOCKET CASE

October 6, 1972

**RULES AMENDED TO EXCLUDE BUSINESS AND COMMERCIAL THIRD PARTY TRAFFIC FROM AMATEUR OPERATION; NEW RULES PROPOSED TO PERMIT LIMITED COMPENSATION AND TO MODIFY LOGGING REQUIREMENTS**

Part 97 of the Rules has been amended by the Commission to prohibit amateur operators from transmitting messages over amateur radio stations for business and commercial third parties. (Third party traffic is defined as amateur radiocommunication by or under the supervision of the control operator at an amateur radio station to another amateur radio station on behalf of any one other than the control operator.)

In a separate but related action, the Commission issued a Notice of Proposed Rule Making concerning possible limited compensation for amateur club station control operators and possible relaxation of the logging requirement for third party communications.

In a Notice of Inquiry released May 5, 1971, the Commission requested comments on whether any restrictions on the use of amateur radio stations by non-amateur organizations was needed, and if so what those restrictions should be. The inquiry resulted from petitions to change the present rule which prohibits certain (Turn to page 46, please.)

2. The American Radio Relay League operates an amateur station that is engaged in multiple address point to point communications. They broadcast bulletins, informational matter, and code practice of particular significance to amateur licensees. This type of communication is highly beneficial to both amateur operators and the Amateur Radio Service and should be encouraged.

3. The equipment used by these stations is in many instances as complex as a standard or FM broadcast station. As a result, it is impractical to operate these stations with volunteers, especially if the station operates for a substantial period each week.

4. The Commission is considering two different solutions. First, we are proposing specific rules which are designed to allow any bona fide amateur organization to operate a station and provide reasonable compensation to the control operator when the station transmits material solely related to the Amateur Radio Service. The rules, which will be designated as s97.112 (b), set forth specific criteria which a club station must meet in order to provide compensation to their operators. These criteria are designed to insure that stations compensating their operators are in fact engaged in providing a service to a significantly large segment of amateur licensees. Another solution would be to create a new class of amateur station which will be required, before they will be licensed, to make a showing similar to our proposed rules contained in the attached appendix. Comments are invited regarding these two possible solutions and any other proposals regarding this type of operation.

5. Section 97.103(b)(3) requires that an amateur radio station log include a notation of third party messages sent or received, including names of all participants and a brief description of the message content. The Commission invites comments regarding the usefulness of this requirement and whether it should be modified or deleted.

6. Authority for the proposed rule changes contain herein is contained in ss4(i) and 303 of the Communications Act of 1934, as amended.

7. Pursuant to applicable procedures set forth in Section 1.419 of the Commission's Rules, an original and 14 copies of all material requested by this proceeding should be submitted on or before Dec. 20, 1972, and reply comments on or before January 3, 1973. All relevant material will be considered by the Commission. In reaching its decision in this proceeding, the Commission may also take into account other relevant data before it in addition to the specific data invited by this Notice. Responses will be available for public inspection during regular business hours in the Commission's Public Reference Room at its headquarters, 1919 M Street, N. W., Washington, D. C.

(Continued from page 42)

### S97.114 Third party traffic.

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

(a) International third party traffic except with countries which have assented thereto;

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

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

5. Section 97.116 is added as follows:

### s97.116 Amateur radiocommunication for unlawful purposes prohibited.

The transmission of radiocommunication or messages by an amateur radio station for any purpose, or in connection with any activity, which is contrary to Federal, State, or local law is prohibited.

In the Matter of

Amendment of Part 97 to allow the compensation in certain instances of control operators of stations operating in the Amateur Radio Service and modification of the logging requirements regarding third party communications.

### NOTICE OF PROPOSED RULE MAKING

Adopted: October 5, 1972

Released: October 11, 1972

1. In our Report and Order adopted today in Docket 19245 we established rules regarding the type of third party traffic that amateur licensees may properly handle including the compensation of control operators for transmitting such messages. The Commission hereby gives Notice of Proposed Rule Making concerning the collateral issues of compensation of amateur club station control operators and possible relaxation of the logging requirements for third party communications.

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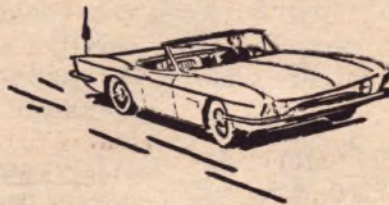
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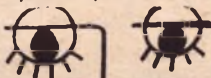


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(From page 44)

organizations from obtaining amateur station licenses or having an amateur operator use his station in their behalf.

The Commission said that radio-communications, the sole purpose of which was to facilitate business and commercial traffic, was not in keeping with the intended purpose of the Amateur Radio Service, and should not be allowed except for emergency communication. Amateur licenses will thus not be issued to schools, companies, corporations, associations or other organizations. The Commission explained that to prohibit third party traffic entirely would tend to stifle one of the basic purposes of the Amateur Radio Service, which is to provide a voluntary non-commercial radio service, but to allow all third party communications would tend to cause increased congestion in the amateur bands.

The rules become effective December 1, 1972.

The provisions of Sections 97.114(b) and 97.112 prohibit the American Radio Relay League's long standing practice of providing compensation to the control operators of station W1AW, which transmits code practice and informational bulletins of particular significance to amateur licensees. In a Notice, however, the Commission proposed rules which would allow this compensation and granted a waiver of the Rules to W1AW to permit it to continue operation pending final action on the Notice. It said that other club stations providing similar services may also apply for waivers. The Commission invited comments on whether to allow any bona fide amateur organization to operate a station and provide reasonable compensation to the control operator when the station transmits material solely related to the Amateur Radio Service or whether to create a new class of amateur station.

Comments were also invited on the usefulness of the Section 97.103(b)(3) of the Rules, which requires that an amateur radio station log include a notation of third party messages sent or received, including names of all participants and a brief description of the message content.

Comments are due by December 20, 1972, and reply comments on Jan. 3, 1973.

Action by the Commission October 5, 1972, by Report and Order and Notice of Proposed Rule Making, Commissioners Burch (Chairman), Robert E. Lee, H. Rex Lee, Wiley and Hooks with Commissioner Johnson dissenting.

October 6, 1972

**POLICY ESTABLISHED FOR TRANSITION TO NEW AMATEUR REPEATER STATION RULES ADOPTED IN DOCKET 18803**

Applications filed after October 17, 1972 - All amateur applications filed on or after October 17, 1972, must comply with the new rules adopted in Docket No. 18803.

Existing stations - A station operating as a repeater station, and/or one authorized for remote control, whose license was granted as a result of an application filed prior to October 17, 1972, should comply with the new rules adopted in Docket 18803 to the extent possible after that date, but must fully comply by no later than June 30, 1973. Applications for such stations received prior to October 17, 1972, will only be granted authorization for operation through June 30, 1973. These stations and any other station whose license must be modified to comply with the new rules may file an application for modification for the balance of the original license term without payment of additional filing fees. If a renewal or additional privileges are requested, normal filing fees will be required. Applications for station license modification filed after April 30, 1973, may not be processed in time to permit continuity of operation.

Waivers - The granting of waiver requests except under the most exigent circumstances are not contemplated.

Intra-community - The Report and Order and the rules speak of limiting repeater station coverage to intra-community amateur radiocommunication. In consonance with the rules limiting to two the number of repeater stations operating in tandem, intra-community is considered the maximum area covered by such a network.

Call signs - Beginning October 17, 1972, a license issued for a repeater station will authorize a call sign having the prefix WR followed by the number of the applicable FCC district. The suffix will be three letters assigned systematically starting with AAA.

**ACTIONS IN DOCKET CASES**  
October 12, 1972

Terminated the hearings and certified to the Commission proceedings on orders to show cause why the licenses for the following stations should not be revoked:

ROY F. HILL, CONCORD, CALIFORNIA, licensee of Amateur radio station W6QCM;

ROBERT L. LANNEN, WASHINGTON, D. C., licensee of Amateur radio station W3BIN;

MELVIN E. GARMAN, CRYSTAL LAKE, ILLINOIS, licensee of Amateur radio station WA9QAL.

October 20, 1972

**SAFETY AND SPECIAL ACTION**

Denied petition by Michael R. Beverly for amendment of Part 97 of the Amateur

Radio Service Rules to revise the station identification requirements for transmissions of less than two minutes. The proposal would require the control operator of an amateur station to identify his station and the station being called at the beginning of a transmission and, if the transmission was less than two minutes in length, the concluding identification would consist of only the calling station's call sign. The present rule requires the control operator to identify both his station and the station he is calling at the beginning and conclusion of every transmission. Noting that the present rule provides rapid identification to prevent one way communication broadcasting, identification of stations conducting international third party communications, and identification of stations conducting radiocommunications with stations in countries which ban communications with U.S. amateur stations, the Bureau said there was no justification for the proposed rule amendment. (By Order).

**ACTIONS IN DOCKET CASES**  
October 18, 1972

CINCINNATI, OHIO AMATEUR RADIO PROCEEDING, TIME EXTENDED BY FCC REVIEW BOARD.

A request by Herbert L. Rippe, for continuance of time to October 24, 1972, to file exceptions to the Initial Decision has been granted by the Review Board. The Initial Decision, released September 14, 1972, proposed denial of Rippe's application for Amateur radio station and Extra Class Operator licenses.

October 19, 1972


REDDING, CALIF. (STEVEN E. LOUON) SUSPENSION OF AMATEUR RADIO OPERATOR LICENSE WA6GJK.

Designated Administrative Law Judge Lenore G. Ehrig to serve as Presiding Judge; scheduled the prehearing conference and hearing for November 18, 1972, in Redding, California.

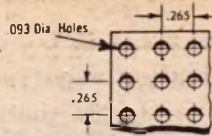
October 27, 1972

WALNUT, CALIFORNIA (PETER K. KUEHN) AMATEUR RADIO PROCEEDING.

Granted request by the Safety and Special Radio Service Bureau and accepted the late filing of the Bureau's proposed findings of fact and conclusions of law.

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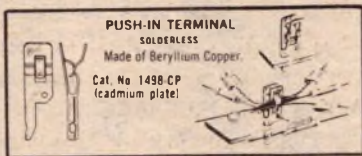
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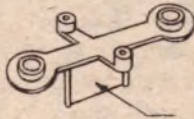
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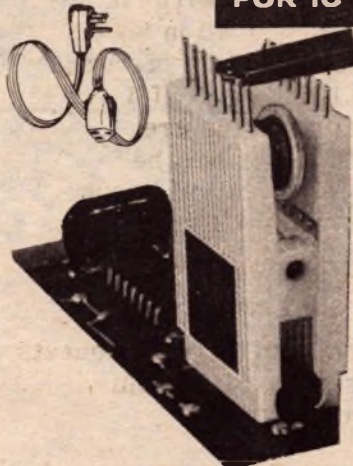
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(de International Coordinator, W3FQT)

# The World Is At Their Fingertips

... and that world is amateur radio

by Janice Robidoux, WØQXA

Amateur (or ham) radio is primarily communication between two or more amateur radio operators. But it is really much more than that. It is sharing experiences, joys, sorrows, and opinions with other human beings; truly knowing people without being influenced by color, creed, wealth, handicap, or appearance. Depending on the desires and interests of each individual, it can be experience in building equipment; experimental work; message handling; telegraphy; teletype; emergency communications; satellite tracking; amateur TV; contests; looking for elusive foreign stations; or just plain talking. Ask hams what their hobby means to them and you will receive a variety of answers.

The operation of an amateur radio transmitting station is a privilege made available by the Government, through an agency called the Federal Communications

Commission, to any citizen of the U.S. who can qualify. The granting of this privilege in the form of a federal license is subject to the applicant's ability to demonstrate basic radio technical and code knowledge, and familiarity with regulations governing the amateur service.

No physical infirmity is a bar to the issuance of amateur radio operator and station licenses, provided the applicant can qualify. A person who is genuinely incapable of traveling is entitled to take the FCC examination by mail. Otherwise, if he lives within 75 miles of the nearest FCC examining office he must appear in person at the FCC office to take the exam.

Eddy Thorson can tell all about getting an FCC license. In 1967 she received her Novice Class license, in 1968 her General license, in 1969 her Advanced Class license, and in 1970 her Extra Class

32

Russ (KØGKI) and asked how to begin. Another ham, Ned Carman (WØZSW) was dispatched to her home and the airwaves haven't been quiet since. Ned brought her a receiver, books, a tape recorder, and tapes and put up an antenna. And Eddy went to work. By the time she was a novice she bought her own receiver, but continued to use borrowed transmitters until, as a General Class operator, she decided which transmitter she wanted to invest in.

Although Eddy has muscular dystrophy, she doesn't require much in the way of special equipment. Everything must be close to the front of the desk and she uses a ruler to tune the transmitter. How she manages to do this would tax the best efforts of a technical writer.

Eddy's favorite amateur activities are cw ragchewing (chatting by code) and relaying messages, particularly for servicemen. Eddy says she especially enjoys working with new radio amateurs on the novice bands and on the traffic nets.

For Eddy, amateur radio provides an "abundant supply of interesting people." She says she became a ham for variety during winter months when she doesn't get out much. She often has trouble squeezing hamming into a busy schedule that includes sewing, making puppets and marionettes, repairing antique dolls, collecting rocks, and studying mythology. Comparing notes about her hobbies provides the subject for many interesting hours on the air.

ACCENT ON LIVING—Winter, 1971

At the same time Eddy was studying for her license, two other handicapped young ladies in nearby towns were also in pursuit of their ham licenses. Charlene Mott and Helen Swanson were learning radio via the Rochester Amateur Radio Club's novice class. The three girls got together and soon became known as Handi-Hams. A short time later Handi-Ham System was formed to acquaint handicapped persons with amateur radio and to help them obtain the necessary licenses and equipment.

By 1968 they all held their General Class licenses. Charlene became WØQWE and Helen became WAØSVD. Helen, who is paralyzed by polio, spends much of her time in an oscillating bed. The few hours she is able to operate she spends on the "higher" frequencies talking to radio amateurs in countries around the world. Often she finds she can be of service to people with relatives in the Mayo clinic by providing a phone patch to the patient. This method couples her transmitter and receiver to her telephone and permits anybody she calls by phone to both hear and speak to the amateur she is communicating with.

In addition to helping Helen and Charlene, the Rochester Amateur Radio Club has been a steady source of equipment and support to the Handi-Ham System since its beginning in 1967. The System is still closely affiliated with the Rochester Club and publishes their newsletter jointly with the club. Other clubs have also helped



Eddy Thorson says, "Amateur radio provides an abundant supply of interesting people." She received her Extra Class license in 1970, the highest class amateur radio license attainable.

license. The call letters of her amateur radio station are WAØRRA. Most hams are satisfied with the General Class license, and fewer than five per cent of them hold the Extra Class license, the highest class of amateur radio license attainable. With each class

of license, she gained additional operating privileges.

Eddy claims she always wanted to become a ham but didn't because there wasn't enough room on the farm. When her family moved into town, she wrote to a handicapped ham she knew, Bob

ACCENT ON LIVING—Winter, 1971

Very early, Piconet, a 13-county SE Minnesota Civil Defense net recognized handicapped persons as being able to provide a unique service to their organization. Being available throughout the day, and being scattered throughout Minnesota, handicapped hams were just what they needed for assisting with emergency communication.

Piconet's continued support of the Handi-Ham System has proven to be fruitful as more and more handicapped persons have joined the ranks of licensed radio amateurs who provide weather and flood information to assist Civil Defense in times of emergency. Among them are Alta Mitchell (WØVTZ) and Sister Alena (WAØUWT) who, in the finest tradition of radio, stayed at their stations to relay information while floods and tornados threatened their city. Both Alta and Sister Alena received awards for their help during the floods.

In 1969, the Handi-Ham System affiliated with MiSCCA, the Minnesota Society for Crippled Children and Adults who is providing some financial aid and the use of their fine camping facilities at Camp Courage.

Although it depends heavily on these other organizations for equipment and teachers, the Handi-Ham System is incorporated independently and has its own board of directors and officers. The only membership requirement is that a member be a licensed radio amateur. No dues are charged. The officers feel that the work a mem-



Janet Bailey shows Sister Alvena how amateur radio works.

ber performs for the System is of more benefit than any dues he could pay.

The Handi-Ham System hesitates to expand its membership beyond its capability of providing assistance to prospective Handi-Hams on a one-to-one basis. They are, therefore, reluctant to expand outside of the state of Minnesota and instead prefer to encourage groups in other areas to form their own similar organizations. Thus, membership for the most part has been limited to persons in Minnesota and nearby communities and includes approximately 150 persons.

Although an amateur radio license is a membership requirement, it does not bar students and prospective handi-hams from benefiting from the organization. The System maintains a list of students, who are a part of the home-study program and lends them tape recorders, equipment, and study materials. As soon as a student re-



WORLD RADIO gives ten percent of its subscription income to a fund which is donated to amateur oriented charitable causes. Handi-Hams is one recipient.



Don Taylor, a quadriplegic as the result of an automobile accident, has his equipment adapted with various leverage devices on the knobs. He spends several hours a day on the air talking to friends he has met through amateur radio.

ACCENT ON LIVING—Winter, 1971

ceives his first radio license, he qualifies as a Handi-Ham.

Students and prospective Handi-Hams are welcome to attend all Handi-Ham activities including the radio orientation days in May and the week-long radio camp held in the fall. Both events are held at Camp Courage.

The purpose of the radio camp is to provide an entire week of intensive instruction to supplement at-home study during the year. Both code and theory classes are provided to prepare candidates for the FCC amateur radio exams given at the camp. Last year 36 handicapped persons attended the camp with eleven of them passing the FCC exams. One person, Don Johnson passed both the General and Advanced Class exams.

Don (WAØEPX) has always been active in the camping program and was program chairman for the May orientation program in 1970. Handicapped by muscular dystrophy, he became interested in amateur radio through friends he met at Camp Kiwanis, several years before the Handi-Ham System was formed.

Don's current station consists of a transmitter provided by an anonymous donor, and a receiver he purchased himself. Other equipment he either purchased himself or has received through his participation in the Military Affiliate Radio System (MARS). All knobs are equipped to provide sufficient leverage for Don to turn.

His particular interest in amateur radio is traffic handling. This con-

sists of receiving, relaying, and delivering messages originated by other radio amateurs here in the U.S. or abroad. Overseas messages primarily come from U.S. military bases through the MARS traffic system. For his active participation last year, Don was named MARS Man of the Year.



Don Johnson is active in the Military Affiliate Radio System (MARS). Don likes amateur radio because other hams must accept or reject him solely on the basis of his skill.

Don likes amateur radio because other hams must accept or reject him solely on the basis of his skill. Unless he tells them, they are unaware of any physical impairment. Thus, he feels he can compete on an equal basis for the many certificates and honors presented to amateurs who qualify for them.

To Janet Bailey, who is blind, getting her Conditional Class amateur license was an achievement equivalent to graduating from high school.

Janet's new license (WBØEED)

"Accent On Living" is a special magazine dedicated to serving all handicapped people. All profits from subscriptions and advertising are used for furthering rehabilitation facilities and bringing facts, ideas and the benefits of rehabilitation to its readers. Their address is PO Box 726, Bloomington, IL 61701.

means that she can now operate on additional segments of the amateur radio bands, can use a higher powered transmitter, and can use voice as well as code to talk to other hams. Her Novice license permitted her to operate with limited power and on code only. The Novice license expires automatically after two years and to continue as a ham, Janet needed to upgrade to a higher class of license.

Janet asked the FCC for permission to have a radio amateur (Don Franz, WØFIT) in her home town give her the FCC exam for the Conditional Class of license. The test and operating privileges are the same as for the General Class license; the only difference being that the General Class license is administered directly by the FCC at their offices or at a designated field location. For Janet, getting this license was no small task. Learning the radio theory included studying the complex circuitry used in radio transmitters and receivers. This proved to be her greatest obstacle, which she overcame only after endless hours of listening to taped theory lessons, concentrating first on the questions she could answer and gradually gaining the necessary knowledge. In addition to theory, she had to be able to send and receive code at 13 words per minute.

Now she is anxiously waiting for another radio amateur, Dexter Henschel (WAØDOT) to complete assembly of her transmitter/receiver kit. This transceiver, a gift

from her parents, will have a special audio tuning device and Braille marked dials so that she can use it without assistance. Thus equipped, Janet will be talking to hams all over the world.

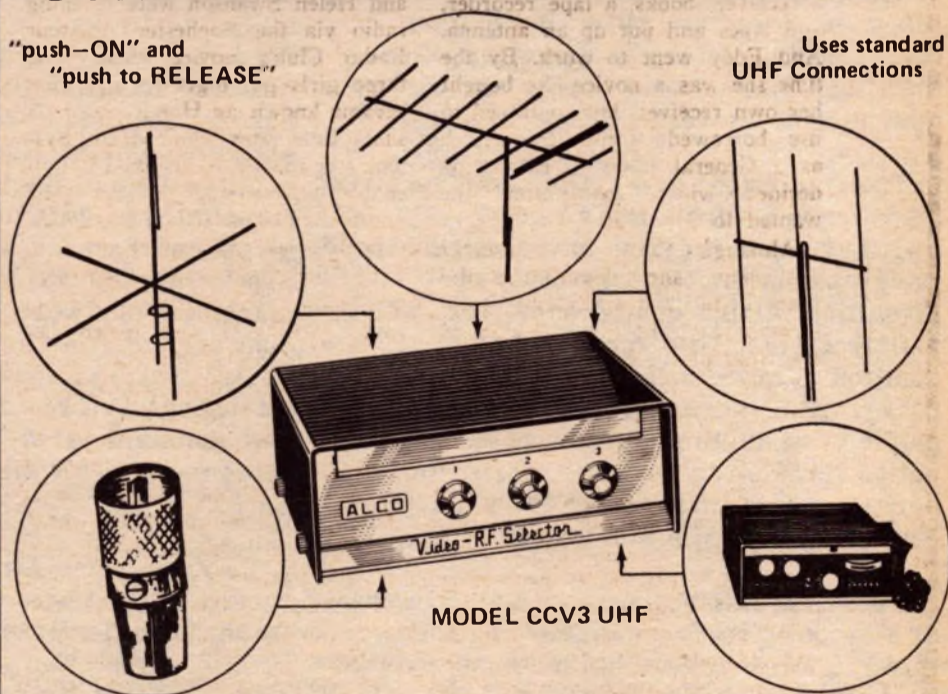
Don Taylor is a quadriplegic as a result of an automobile accident. He received most of his help toward obtaining his license and getting on the air through the Handi-Ham System. They provided instructional materials and loaned him equipment to use as a novice. When he received his General Class license, he got his own equipment, which is adapted with various leverage devices on the knobs. He also uses a splint attached to his right arm for mobility of the arm.

He spends several hours a day on the air talking to other Handi-Hams and friends he has met through amateur radio. One way he meets other Handi-Hams is by checking into the Handi-Ham System net, which meets every Saturday afternoon on the air. The net handles phone patches to friends and relatives, exchanges gossip, and generally provides a means for the Handi-Hams to become better acquainted with each other.

Persons interested are encouraged to write to the Handi-Ham System, Inc. Box 532, Rochester, MN 55901. To obtain the names of nearby radio clubs or amateur radio operators they should write to the American Radio Relay League, Newton, Connecticut 06111.

ACCENT ON LIVING—Winter, 1971

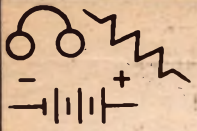
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# Two Hundred Meters and Down

## The Story of Amateur Radio-

By Clinton B. DeSoto-Courtesy of ARRL

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

\*\*\*\*\*

Continued from last issue.

Part I-Pioneers

Chapter One... The Dawn of the Art

.... During this time amateur radio was already developing. It might be said, in truth, that all important development up to Marconi's time was amateur, or at best, experimental. Surely Maxwell, Hertz, Lodge and others were more accurately amateurs, in the fundamental sense of the word, than anything else. Even the illustrious Senatore Marconi, in these latter days, likes to characterize himself as an amateur; and that was certainly his status in the early days of his experiments, prior to June of 1896.

But there were others who could even more accurately be termed amateurs. They were mostly to be found in the United States, where the art of electrical experimentation by amateurs had already achieved a considerable popularity. In the latter years of the nineteenth century there existed a considerable body of these experimenters, of all ages, who made small electromagnets, motors, batteries, static machines, erected neighborhood telegraph lines, and built all the other experimental electrical apparatus within their ken - purely as a hobby, and with no commercial interest whatsoever.

The fascinating new art of radio received many converts from their ranks. Particularly in the case of the neighborhood telegraphists did the possibility of signalling without cumbersome, expensive, deficient wires hold appeal. And in addition to those with an experimental background, there were many of the lay public to whom the romance of wireless called irresistibly; a large proportion, perhaps a majority, of the early amateurs came directly from this group.

These enthusiasts read with avid interest of Marconi's early experiments. They thirsted for details of his methods, so that they might duplicate his feats. The articles in the scientific magazines were barren of constructional information, but finally, in July, 1899, the American Electrician carried the first answer to their prayers - the first actual constructional information on wireless - and it was hailed as a great find by amateurs everywhere.

In this early stage of the radio art, when even the most advanced professional aspects were so pitifully ineffective, it is difficult to credit the proficiency of the

amateurs - and there were more than one or two - who pioneered the art at the turn of the century. They not only built equipment but they actually succeeded in communicating with it over short distances. There is no possible source of information as to the exact numbers of amateurs in those days, but some idea can be gathered from the fact that one amateur of that time, Donald McNicol, built apparatus in Minneapolis and St. Paul in 1900, and lectured with it through the West and Middle West. They even had a manufacturer to cater to their needs: in 1900 Thomas E. Clark, later to become one of the best-known of amateur suppliers and builder of a large continental wireless telegraph system, began the manufacture of wireless apparatus and issued the first wireless catalog. It showed, among other things, a coherer-decoherer that was quite advanced for the time.

In 1901 there came to pass the incident that really brought about the widespread development of amateur radio - and of all other branches of radio, for that matter. On December 6th, Marconi arrived from Europe at St. John's, New Foundland, with two assistants, and proceeded to erect the most advanced wireless receiving station of the time in the old Barracks of Signal Hill, at the mouth of the harbor. On December 10th he sent up a huge hexagonal kite of bamboo and silk, nine feet long. The wind snapped the trailing wire, and the kite drifted out to sea. The next attempt was a 14-foot hydrogen balloon; this, too, broke away and floated off into the fog. Finally, on December 12th, a kite was successfully sent aloft to four hundred feet and held. Marconi cabled his station at Poldhu, Cornwall, on the southwest tip of England, to begin transmitting. With one assistant present he started listening for the signal - the pre-arranged code letter "S". The transmissions were to begin at 11:30 a. m. Just before noon-time, Marconi heard a repeated trio of buzzes in the head telephones... three dots... the letter "s"! His assistant verified the reception. Again, twice in the early afternoon, the signal was heard.

Two days later Marconi released the results of the tests to the press. Two thousand miles of space had been bridged - without wires. The press of the world went mad - pages were filled with jubilation, disbelief, triumph. "Wireless" was on everyone's tongue. But most of all it filled the hearts and minds of the hordes of electrical experimenters and other kindred souls throughout this and other countries, and by the hundreds they turned from their backyard telegraph systems, their electric motors and their wet cells, and all their other hobbies - a bunch of tousled, patient, eager-eyed enthusiasts filled with an insatiable curiosity and undaunted by a thousand failures - and,

perceiving that here was something a hundred-fold more engrossing than all else, they plunged into wireless.

Chapter Two... The New Hobby

It was inevitable that the large body of electrical and other technical experimenters of the previous century should turn in great numbers to the new art of telegraphing without wires. These men and boys who were always doing queer things with wires and coils and evil-smelling jars, with odd jumbles of miscellaneous junk which constituted the apparatus for their "experimental laboratories" located in some private den, found the new art fascinating, almost magical. And yet the apparatus used by Marconi was relatively simple, much of it easily constructed from parts already at hand.

The literature of the art was steadily growing. In the period from 1900 to 1904 American popular magazines contained 115 articles on wireless telegraphy. These appeared in such widely diversified publications as the Independent, Current Literature, North American Review of Reviews, Century, McClure's, Cosmopolitan, Overland, Woman's Home Companion, Delineator, Atlantic Monthly, Harper's Weekly, and World's Work. Although for the most part these articles simply reported occurrences in the art, many, surprisingly enough, contained simple constructional data.

As a result of this widespread publicity, aided by the glowing accounts of the press at the time of Marconi's transatlantic triumph, in the early years of the present century there were hundreds, perhaps even thousands, of amateur radio experimenters in this country, the great majority of them unaware of the others' existence. These early American amateurs were interested primarily in the experimental uses of wireless. Except when a small group of friends banded together for conversations among themselves, there was little communicating activity. A new class of amateurs was to arise to develop that classification; these early amateurs were simply experimenters who had switched their allegiance from less engrossing pursuits to wireless.

Although functioning individually, collectively these experimenters made steady progress in the development of their new art. In narrating the story of the technical progress of those early years, the work done by amateurs and that done by professionals is inextricably mixed. The only logical treatment seems to be to narrate the development of various new accomplishments, and allow it to be assumed that amateurs made use of them.

(Continued next month.)



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The International Mission Radio Association is a group of Amateur Radio Operators and associates dedicated to providing communication facilities and to help in providing equipment, to those engaged in Missionary or volunteer services. It is a non-denominational, non-profit organization with a rapidly expanding membership of men and women from all walks of life throughout the world.

## People Helping People

by Sister Mary, WA5VBM



VOICE OF IMRA

**MEET 'SAM THE HAM.'** Samuel G. Ashdown (W4HLY), Melbourne, Florida, was born in Geneva, N. Y. in 1913. Sam spent his school days in Geneva and entered the army at Syracuse when he was 18 years of age. He spent nine years as an enlisted man and was commissioned as an officer in 1940, having received a reserve commission in 1936.

In 1936 Sam became interested in Amateur radio of necessity - to keep his CW speed up to par. When Sam completed his radio schooling in the signal corps he had a CW speed of 20 wpm but had no communication equipment in his outfit. A couple of hams acquainted Sam with amateur radio when he was at Ft. Devon, Mass. and he soon received his own amateur call sign, W1JTM.

Moving around the country as an army man does, he has held the call signs: W4HLY (several times), W3IYK (in Maryland and Pennsylvania), W9JKP (in Illinois but never active). Sam had the unique experience of assigning himself his own call sign when he was Signal Officer on the island of Okinawa in 1947. He assigned himself the call sign J9ABA.

Sam retired from the army at Fort Gordon, Ga. in 1957 and went to work on the missile testing range for RCA and moved from New York to the Melbourne, Florida area at this time. In 1971 Sam was laid off in the "Space Cut-back" and chose to retire at the end of June of that year.

Sam and his XYL, Marjorie, now make their home in Indian Shores, Florida (local to Melbourne). They have 3 children: Sam Jr. who is Deputy Secretary of Commerce for the State of Florida and resides in Tallahassee, and a set of twins, Michael



who is a Senior at the Coast Guard Academy in New London, Conn., and Michele (the only daughter) who was married recently. (The twins are 20 years of age.)

Of English descent (5th cousin of Sir Winston Churchill), Sam has blue eyes, brown hair, and is 6 feet 2 inches tall.

Sam was first introduced to IMRA in 1968 by Warren Mulhall, WA2BPV, and has been a consistent check-in on the 0100-0200 GMT IMRA Traffic Net, filling in as Net Control or assisting as the need be.

Equipment at the station, W4HLY, is the Swan 270-B exciter and the Heath SB-220 amplifier. The antennas are a Tri-band Quad on a 40 foot tower, backed up by a 14 AVQ and dipoles for 40 and 80 meters.

## IMRA News

New IMRA Membership Roster is in the mail to all members now. It is dated September, 1972 and is out of date already. Hi!

Several members of IMRA received ARRL Public Service Awards for their contributions via amateur radio in saving the lives of the skipper of the 37 foot sloop "Avior" and 4 passengers. The pleasure boat was breaking up on a coral reef near Calabash Bay in the Bahamas when their Mayday call was picked up on the Marco Net which follows the IMRA Net nightly. The IMRA members who participated and received the awards are Earl Weston, W8BXO; John Schindler, W4RFA; Walt Thain, WB4KKB; and Jack Carp, K1EEG. The "Avior" broke up on the reef, but all those aboard were rescued due to the speedy communications set up between the amateurs and the coast guard. Congratulations gentlemen - the awards were really earned!!!

Brother Bernard, formerly WA1FKE (Providence, R. I.), is now located at Garrison, N. Y. His new address is Box 192, Garrison, N. Y. 10524, and his new call is WA2IPM. Dan Kreskowski and Father Joe Moran (both in the States on leave from Honduras) helped Brother Bernard get his new antenna up on the 80 foot tower there in Garrison. It wasn't enough that they had to hoist that big single band Telrex antenna to the top-they had to fight off some hornets who mistook the rotor for their nest. (Because of its shape ???) "You should have seen Father Joe battling the hornets . . . up 80 feet!"

Talking about call sign changes - Sister Alverna (WA0SGJ) has changed her station call to W0ZSW. W0ZSW was formerly the call of Ned Carman (now Silent Key), who was the founder of the Handi-ham System of Minnesota.

Sister Mary (WA5VBM) was also using a different call for the 3 weeks that she was in Houston as an out-patient at Torno

Orthopedic Clinic. She really surprised the Net members when she checked in as W5FR (Fuzzy Rabbit). Sister is back home in Lufkin and using WA5FBM again.

All in the IMRA extend their prayers and sympathy to Tex Barbarite (W3FUS) on the death of her mother, Mrs. Longnecker, of El Paso, Texas.

Marie Sutter (WA8LEI) will be leaving the States the middle of November, enroute to Peru. She will take a side trip to Mexico hoping to arrive in Peru by the 2nd of December. We will miss her, but hope to hear her operating from Peru as soon as she gets settled.

Sister Mary (WA5VBM) has resigned her position as Net Committee Chairman of IMRA after putting in two years of service. Her apparent is W9LII who has been filling in for Sister Mary during her recent illness.

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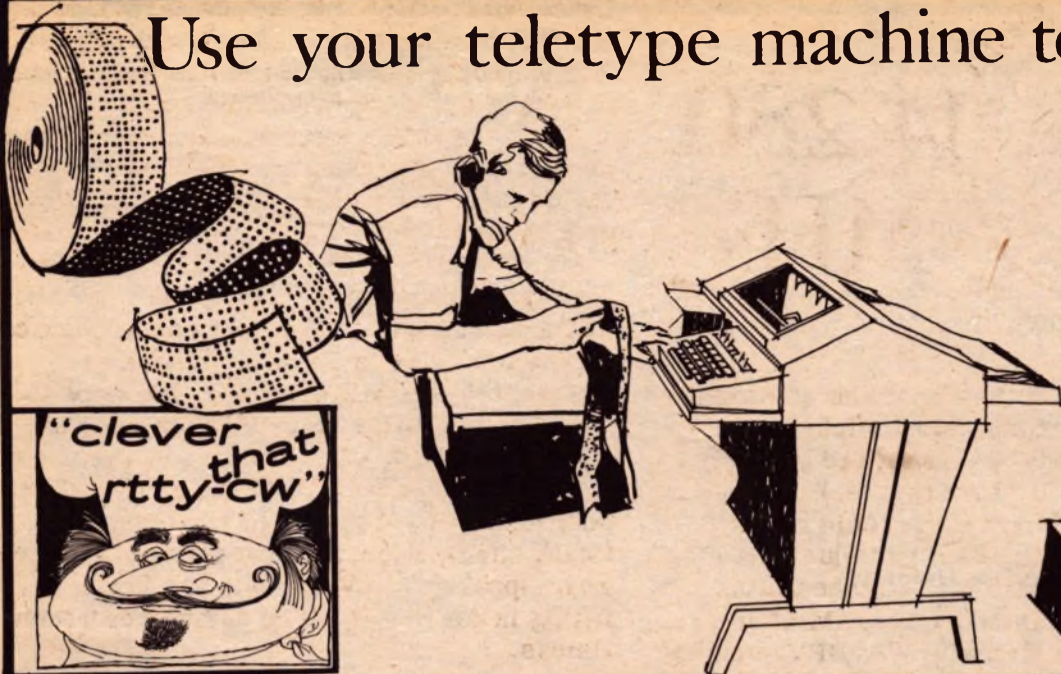
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# Letters

Ed Bookbinder, W6GSV . . . .

For a number of years we have been sending free lifetime subscriptions to our Q&L Managers Directory to blind and otherwise handicapped Hams who are interested in the DX-ing world of Ham Radio. If WORLDRADIO readers know of these fellows or yl's or xyl's who would deserve a copy of the Directory and the services we offer send the calls and qth's to Bookbinder Publishing Co., Box 54222, Terminal Annex, Los Angeles, CA 90054.

Louis Van Slyck, W4YM . . . .

I believe you fill a sadly needed gap in the ham radio picture.

Ken Johnson, W6NKE . . . .

I think, after some 36 years in "ham" radio, your publication is one of the greatest things to happen to our Service... Too little emphasis has been placed on the human factors side, which, in my estimation, is the most important. It's the people who make "ham radio" what it is, good or bad. Since you feature the human and service side of it I think you are doing one of the greatest services ever rendered.

Alec Brown, W6BWM . . . .

Your newspaper is extremely interesting and gives a definite push towards the betterment of world-wide understanding and human relationships. It should have the widest circulation possible.

Bert Neilson, ZM2ANA . . . .

I look forward to receiving WORLD-RADIO. Congratulations to the team on the production of one of the most interesting non-technical publications received here.

Ole Petter "Pep" Rasch-Olsen, LA1GM . . .

Best of luck with WORLDRADIO and keep up the fine good work.

Harold Wollam, W6LB . . . .

It is newsy and interesting. May your paper grow and inspire the ham fraternity to grow with it, sharing ideas.

Stu Meyer, W2GHK . . . .

I certainly enjoyed reading the September issue of WORLDRADIO.

Bob Rose, K6KRZ . . . .

You are doing a fantastic job and a great public service; keep up the good work.

Ralph "Andy" Anderson, K0NL . . . .

You have a fine paper.

Ruth Brown, K7WRS . . . .

It is a much needed paper.

Rush Drake, W7RM . . . .

I have enjoyed the editorial manner in which you approach our mutual hobby, as I find it is distinctive and unique.

Bertha Eggert, WA4BMC . . . .

You are doing a fabulous job.

Harriet Creighton, WA3ATQ . . . .

Both my OM, Harry, K3YJK, and I very much enjoy WORLDRADIO.

Joseph Mikuckis, K3CHP . . . .

I like your publication very much.

Richard Garlock, WA8SNR . . . .

It looks like what I think we need - bright fresh news about people. Looks like you are on the right track.

L. A. Spinner, WA0MHB . . . .

A very impressive newspaper.

Hugh Morris, Jr., WB4GLG . . . .

You and the gang are doing a FB job and I like to keep abreast of what's going on.

Frank Phillips, W4LCY . . . .

You certainly have a worthwhile publication.

Domenic "Moe" Pallotto, W9BOX . . . .

I am happy to see WORLDRADIO growing and feel proud to have helped. Keep up the good work.

Nash Williams, W6HCD . . . .

It looks like WORLDRADIO is really off and running.

Anthony Knott, WA2TRK . . . .

Great!!



LATEST LIFETIME SUBSCRIBER

Greg Knapp, WA6MIN, is the sixth such supporter of this paper. When not DX-ing, Greg is a partner in the law firm of Knapp, Knapp and Knapp in San Jose, Calif.

Hal Silvey, K6RFQ . . . .

The first real newsy ham newspaper I've seen in 16 years.

Tom Monroe, W6GGR . . . .

I do enjoy the publication and am amazed at the mention of my friends and ham acquaintances in the news of the world of hams.

Paul Schuett, WA6CPP . . . .

I find it interesting and informative.

Charles + Shirley Rex, K8MZS-K8MZT . . .

Deep appreciation for the fine way you handle the news.

John Kewi, K6QZX . . . .

I think your paper is great.

Ray Stevenson, W6HDV . . . .

I have heard many excellent reports on the air relative to the news content and general all around coverage of WORLDRADIO.

Bob Klepper, W7IEU . . . .

Many thanks for a fine publication.

Wayne Perry, W5YK . . . .

Keep up the fine work.

Al Segen, W2BP . . . .

I was impressed by the kindly tone in the articles.

Leonard Dolton, W6DYA . . . .

It is a pleasure to support your efforts.

Br. Bernard Frey, WA1FKE . . . .

The greatest radio paper ever published.

Art Mayoff, VE2AQV/W6 . . . .

Looks great.

Carol Ann Gawle, WA1LGU . . . .

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From the October issue of "The NOVICE Magazine" . . . .

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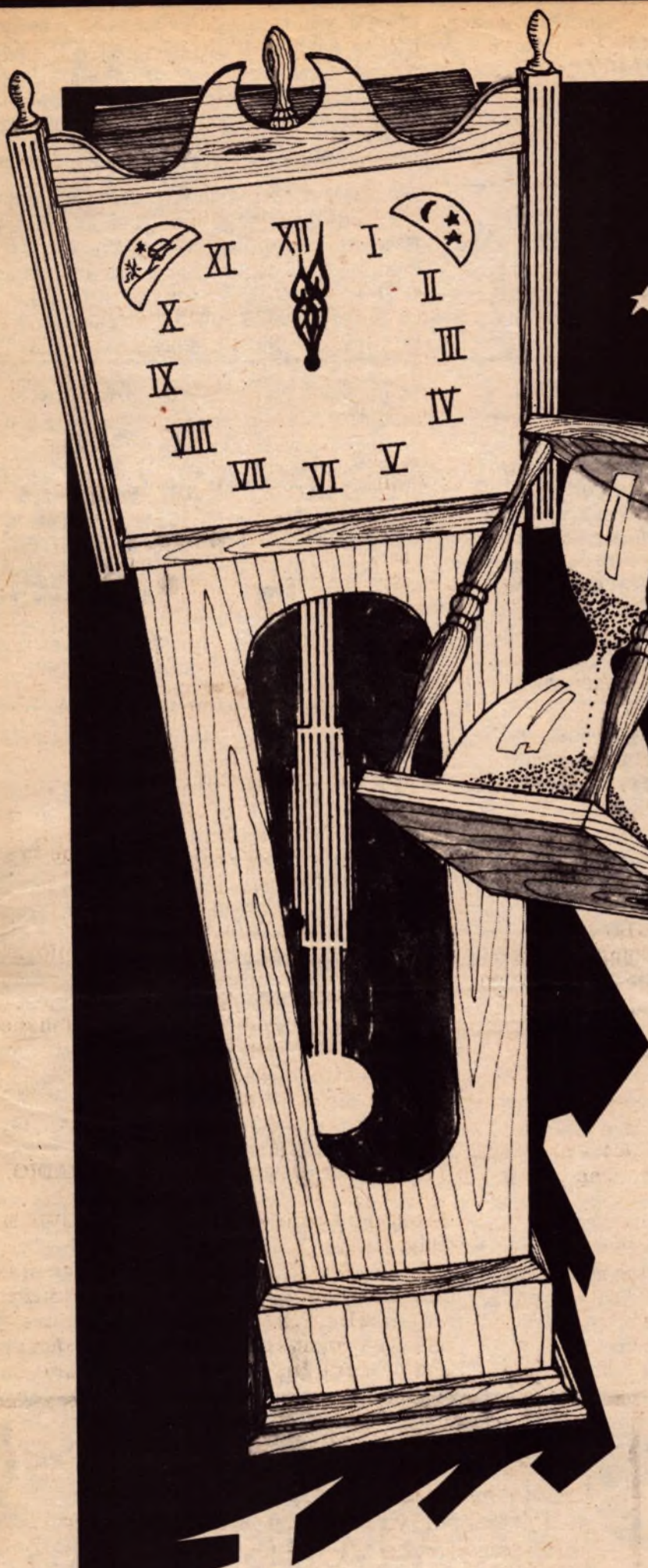


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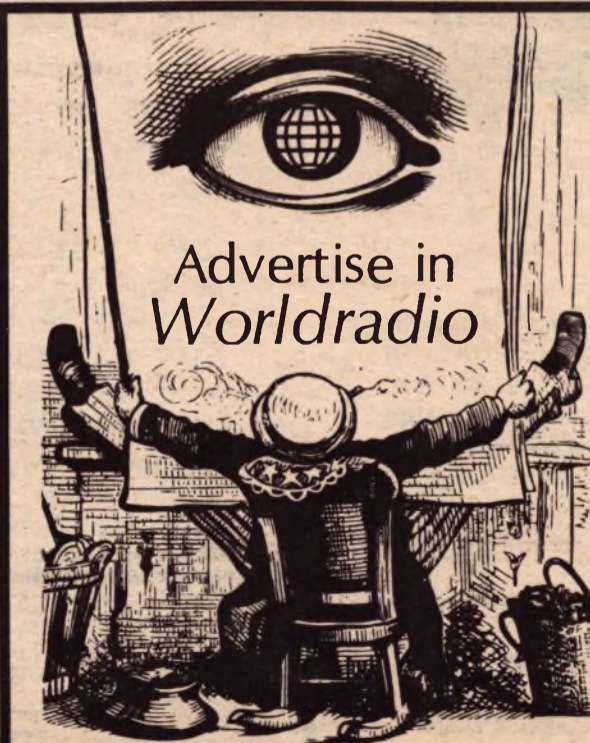
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