

Worldradio/NEWS

Vol. 2, No. 6

March 1973

50c



WB6KPZ

by David Dickman

Lines of communication between earthquake-torn Managua, Nicaragua and the rest of the world are being kept open largely through the efforts of ham radio operators.

A Canoga Park man who operates his own 1000-watt radio unit has been in contact with Nicaragua and has used his facilities to help transmit news to people in the Los Angeles area.

Hank Desjardin 46 of 7507 Asman Ave. is known on the air as WB6KPZ. Since the earthquake struck Dec. 23 Desjardin has spent an average of 10 hours a day at his transmitter-receiver setup, sending and monitoring calls.

Operating through a communications network that includes stations in Caracas, Venezuela; Dallas, Texas; Jacksonville, Florida and throughout California, Desjardin relays "health and welfare" messages through one of two Nicaraguan-government assigned frequencies.

Following the earthquake, Desjardin explained, the government of the Central American nation consolidated radio operations into two separate frequencies. One of the frequencies, 14.295 megahertz, is used for military and government radio traffic.

The other, 14.280 megahertz, is used for health and welfare calls - performing such functions as putting relatives in different countries in touch with one another and relaying emergency information.

Relay Messages

Mrs. Sylvia Albert, vice consul at the Nicaraguan embassy in Los Angeles,

Hams-Radio Link With Managua

and her husband George, special assistant to the Nicaraguan consul, are both ham operators and have been in contact with Desjardin and others in the communications net since the earthquake struck.

Albert, who was on the air constantly for about 18 hours a day during the two days following the disaster, told The News he wanted to offer a special note of thanks and appreciation for the cooperation he had received from ham operators in the United States.

Desjardin, likewise, was proud of the work done by amateur radiomen in distant cities. "I've been in contact with a tremendous bunch of people, both stateside and in Central America, since the earthquake", he said.

The Canoga Park man offered the use of his equipment and services to anyone in the area who wishes to contact friends or relatives in Nicaragua. He may be contacted by telephone at 887-1890.

The spirit of cooperation shared by ham operators worldwide comes to the fore during emergencies, but apparently exists all of the time among those who share an interest in the hobby.

Desjardin's radio room is bedecked with QSL cards - post cards sent to confirm radio contact - from all over the world. A former airline pilot and salesman for aviation equipment, Desjardin began his amateur radio work by monitoring overseas commercial radio stations and sending them tapes to indicate how well their signals were received internationally.

He has a scrapbook filled with contact cards from commercial stations in South America, Europe, Asia, Africa and Australia.

He is most proud, however, of the work he has done in emergency situations. When a flood devastated Rapid City, S. D., last June, Desjardin manned the radio for 15 hours at a stretch.

Aids in Emergency

His radio also made contact with a doctor in Torrance who made an emergency flight to Ensenada, Mexico, and saved the life of a man who had a foreign object lodged in his intestine.

His ham operation has also given Desjardin a feeling for people in such distant places as Antarctica, where mail is received only about four times a year, and amateur radiomen provide the only available up-to-the-minute contact with the United States.

Desjardin has been disabled for more than a year with a muscular disease,

and said his interest in radio is one of the things that keeps him going. His wife Jolaine seems justifiably proud of her husband's accomplishments on the airwaves, and their 14-year-old son Henry J. III probably can't help himself from being interested in his father's hobby.

"But let's give credit where credit is due," Desjardin said. "All of the hams in the country are cooperating in this. It's at a time like this when you really feel that the hobby is worthwhile."

(From the Valley News, Van Nuys, Calif)

Alameda Jet Crash

by Mike Flaherty, WA6UBW

One Wednesday night recently radio and television shows were interrupted with a terse announcement that a plane had crashed into an Alameda (Calif.) apartment house. Details were so sketchy as to be non-existent. By 11 p. m. the news reported a Navy jet had screamed into a 3-story building with the possibility that none of the occupants had escaped... that dozens may have perished.

Alert to the possible need by the American National Red Cross for emergency communication was Charlie Weber, WA6RPK, who contacted Board Member Roy Everhart, WB6GWQ. Roy in concert with Trustee Al Nielsen, WA6AGA, discussed the situation and officially committed the resources of the club during the emergency. Adolph Kelly, WA6CCG, works in Alameda and was on his lunch break when the jet hit. His quick reconnaissance confirmed a need for the service amateur radio and Grizzly Peak could provide.

Forces quickly gathered with Don Smith, W6NKF, and Mach Myovich, K6KAP, at the scene with portables linking them to Betty Smothers, WA6GCS, at the Alameda Red Cross headquarters. Betty and her relief compiled a 17 page radio log before they finally secured operations some 3 days later.

Many reported to and remained at the scene throughout the night as the fire blazed. Still more made themselves available for uncounted hours during the gruesome cleanup and search for victims. Personnel were located at the scene, the Red Cross Alameda chapter office, and the Oakland ARC office.

This provided the communications link (Turn to page 41, please)

Handwritten notes on a piece of paper at the bottom left of the page, including the name "Jean Perkins" and the address "1715 Contact St. Washington, Mich. 48133".



Newsfront



Wayne Green, W2NSD, Indicted by Grand Jury

... Also returned was a 12-count criminal indictment for evasion of federal income tax against Wayne Sanger Green 2nd of Peterborough. The indictment charges Green with wilfully and knowingly understating his income by more than \$30,000 in the calendar year 1966, more than \$15,000 in the calendar year 1967, more than \$7,000 in 1968. In addition, the indictment charges Green with understating the income of a corporation of which he was the president and sole owner, "73 Incorporated," by some \$20,000 for 1966, more than \$15,000 for 1967 and more than \$10,000 for 1968. The indictment also charges Green individually and in his capacity as president of "73 Incorporated" with making false declarations on his personal and corporate income tax returns for the years 1966, 1967 and 1968.

(From the "Manchester (N. H.) Union Leader - Wednesday January 10, 1973)

From the editor of WORLDRADIO--

It is with mixed emotions that we printed the above news item.

The purpose of this publication is to present the best in Amateur Radio, and we have no desire to "wash our dirty linen in public". However, we also have a journalistic obligation to report the news to our readers.

The above article is not printed as an item about the personal business of an individual, for that would have no place on these pages.

But we must inform about organizations and institutions and 73 Magazine is an institution in the field of Amateur Radio.

Also, since the above was widely distributed and word-of-mouth being what it is, possibly several inaccuracies had been bandied about. Best the record be made clear.

Let us also remember that under our American system of justice the accused are presumed to be innocent until judged otherwise by our courts under due process of law.

**EACH MIND
CAN
CHANGE ITSELF
& SO
CHANGE
THE WORLD.**



January 11, 1973

November SS scores and entries are down slightly from last year. High claimed single operator cw scores are W7RM operated by K7VPF 167, 325, W6MAR 163, 425, WB6ABK/6 159, 600, W6HX by WB6OLD 156, 954, K6EBB by W6CUF 155, 250, W3CRE 149, 400, K1ZND 145, 440, K1LPL/3 143, 420, W9YT by WA9TPV 136, 080 and K6QYB by K6OVJ 135, 675. High claimed single operator phones are W7RM operated by K7VPF 241, 050, WA9GMK by K9KGA 211, 875, W9YT by K9LBQ 199, 650, WA5JMK 195, 750, W5WMU/5 195, 150, WA8ZDT 192, 696, K1VTM 184, 500, W7OAD by W7MWR 183, 150, VE7WJ by VE7BDJ, 178, 125 and WAØQLH by WBØDJY 176, 100. A full listing of claimed single and multioperator high claimed scores will appear in the March issue of QST.

January 18, 1973

ATTENTION DXers:

Announcement is hereby made of the addition to the ARRL Countries List of Mt. Athos. Submissions for credit for contact with Mt. Athos may be made starting March 1, 1973. Confirmations submitted before March 1 will be returned without credit. Additionally, announcement is made of the deletion from the Countries List of Swan Island, KS4. Credits for Swan may be claimed for contacts made with FCC authorized stations through August 31, 1972. Contacts with stations operating from Swan under authorization by Honduras, made September 1, 1972 and after, will be considered the same as contacts with Honduras. Deletion of Honor Roll credits for Swan will be effective as of February 1, 1973. Full details on these items appears on page 98 of February 1973 QST.

January 19, 1973

The Board of Directors of the American Radio Relay League met in Hartford, Conn. January 18 and 19 for two days of intensive evaluation of amateur radio matters in general and League affairs in particular. A major action was the unanimous adoption of a resolution expressing deep concern over the apparent trend toward (Turn to page 37, please)

Washington Report: FCC



Rules for Expansion of Telephony Sub-Allocations in Two High Frequency Amateur Bands Affirmed by FCC

(Jan 4)--The amendments of Part 97 of the Amateur radio service rules adopted in the Report and Order in Docket 19162 (FCC 72-849), released October 2, 1972), have been affirmed by the Commission, and petitions by The American Radio Relay League (ARRL) and Gerald N. Seligman, and others, for reconsideration have been denied. The Report and Order expanded the telephony sub-allocations in two of the five amateur radio high frequency bands, and made other adjustments to the sub-allocations for operator privileges.

ARRL requested that the Commission make frequencies 3, 825-4, 000 kHz available for radiotelephony operation to all but Technician and Novice Class amateur radio operators to relieve the "severe" overcrowding in the 3, 900-4, 000 kHz telephony segment.

The Seligman petition requested that the Commission return the requirement for the frequency of a transmitter operation by a Novice Class control operator to be crystal controlled, stating that the deletion of the requirement was harmful to the Amateur Radio Service and would prove to be detrimental to Novice Class type of operation.

The Commission said that although it fully realized the difficulties of communicating under the prevailing over-crowded conditions on many amateur bands, its actions "must be in the overall interests of the amateur radio service."

ARRL did not provide a rationale for the specific frequency sub-band allocation requested and had not supported its claim of "severe" overloading, the Commission said. The FCC stated that it agreed with ARRL that it was unfortunate that key members of the amateur radio networks did not choose to upgrade their operating skills and privileges, but did not agree that the solution was to compromise the upgrading system by authorizing additional privileges of some licensees at the expense of others. Rewarding those who have not upgraded at the expense of those who have, would be "an unwise and illogical approach", it said.

(Turn to page 36, please)



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



K3DML

"Ham" to the rescue

by Bruce Levenson

Dick Hayman's decision to "fiddle" with his ham radio rather than watch Saturday's Baltimore Colts-Miami

Dolphins football game with his "fanatical Colt-fan wife" may have saved the life of a 6-month-old boy in Quito, Ecuador.

Hayman monitored a call at his home in Potomac from a man in Quito, known only as "Fred", requesting emergency medical assistance. The call was for Usher's Marlex mesh, a fine wire mesh used to repair ruptured diaphragms.

After acknowledging the call, Hayman contacted Holy Cross Hospital in Silver Spring where officials agreed to donate the material.

Then Hayman called Red Cross headquarters here to make arrangements for getting it to Quito.

Robert Martin, Red Cross international relations officer in charge of Latin American affairs, agreed to take the mesh to National Airport.

At the airport, a pilot for National Airlines offered to fly the Usher's Marlex to Miami on his scheduled flight.

In order to avoid complications in passing through customs inspection, Martin used an official Red Cross stamp on the package and marked it "a matter of life or death" in Spanish and English.

He then contacted Equatoria Airlines in Miami and they agreed to meet the National flight and fly the mesh to Quito.

Hayman, meanwhile, had radioed a message to the president of the Ecuadorian Red Cross who was to pick up the package at the airport in Quito and take it to Baca Ortiz Hospital there.

At 7:15 a. m. Sunday, Fred contacted Hayman. The mesh had arrived.

Hayman, 27, has been a ham radio operator since he was 12 years old.

"Until Saturday," his wife said, "I never appreciated Dick's hobby. It seemed like a waste of time. But when you have a baby of your own, what Dick and all those other people did really hits home," she said.

Yesterday morning, 6-month old Darwin Jijon underwent what hopefully will be life-saving surgery. Later in the week Hayman will fiddle with his radio again to check with Fred on the outcome of the operation.

"Until then, I'll be pretty nervous," he said. "The operation is apparently a very delicate one."

(From "Washington Star-News")

Help your neighbor

PANAMA RADIO CLUB A note from Juan Chen, HPLJC, advises why he has been absent from his usual haunts. Juan writes:

The YN-Nicaragua disaster took us as a surprise and in 18 hours the Liga Panamena de Radio Aficionados, dug up their last \$450.00 to buy a light, portable Honda 2.5kw generator, loaded some gasoline and drinking water and was in Managua and on the air by Saturday at 2300 Z.

We ran traffic for twenty hours a day and most of this due to propagation conditions was on 40 and 75 mtrs and we operated with all the YN 3, 4, 5, 6, 7, 8, 9 etc calling us just about all the time.

An FT-101 was donated to a Nicaraguan radio group, this handled some of the international traffic including an early request to Cuba for medical aid and medics.

After the fifth day the U. S. Communications facilities took over most of the load and we stayed on to handle phone patches and other calls for communications.

A HC mobile left Managua the Saturday after the earthquake at 0230 in the morning and put out the news on 20 mtrs. A W6 and K4 refused to handle the emergency traffic and a kind K5 and a WB9 did pay for the long distance calls to Washington to the International Red Cross. By 1250Z there was a cargo plane loading medical and hospital personnel at Miami.

(de "West Coast DX Bulletin")

Quake alters image of airwave amateurs

by Marc Rangel

NEW YORK(NANA) - The average amateur radio operator, or HAM is sometimes thought of as a self-indulgent adult who, having outgrown his toy trains and other childhood gadgets, spends most of his spare time fiddling with switches and dials, his ears filled with static sounds and scrambled call letters.

It takes a natural disaster like the shattering earthquake that literally leveled Managua, Nicaragua, to erase this unflattering image.

In the wake of the last of six tremors that rocked Managua, all normal radio and telephone communications with the outside were cut off.

Almost immediately, with their stricken city crumbling all around them, Managua's HAMs took to the airwaves.

One of the first to go on the air was Dr. Fernando Fuentes, a dentist. Others were Roberto Vasali and Ernesto Solorzano Thompson, businessmen; Alfonso Lobo Cordero, a government official, and Dr. Harvey Leach, an exchange professor at the University of Nicaragua. Also, Tito Chamorro, in the nearby city of Granada.

For the first four days, these and other local HAMs were the only constant source of information on the disaster.

"The courage and devotion of these HAMs is extraordinary," says Enrique DeBayle, a Nicaraguan-born Morgan Guaranty Trust Co. assistant vice president drafted by the Center for Inter-American Relations at 680 Park Ave. to serve as chairman of its

hurriedly created Nicaraguan Relief Committee.

"The HAMs were on the air almost continuously since the earthquake," said DeBayle. "They seem to sleep only when the weather interferes with their operations."

DeBayle, who is in constant touch with Tito Chamorro from his temporary fourth-floor office at the center is equally grateful to American HAMs.

(From the "Daily Times-Advocate")

Starting next month, an AMSAT-OSCAR column with late, up-to-date news. **WORLDRADIO - First, Fast, Factual.**



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Hams-Radio Link With Managua

and her husband George, special assistants to the Nicaraguan consul are both ham operators and have been in contact with DeJardin and others in the communications net since the earthquake struck. Albert, who was on the air, contacted for about 10 hours a day during the two days following the disaster. The News wanted to offer a special note of thanks and appreciation for the

An International Newspaper
Second Year of Publication



Around the World Worldradio

"the people paper"



INFORMATION

WORLD RADIO 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, local currency and mint stamps will be accepted from overseas readers.

Correspondence regarding article contributions and subscriptions should be addressed to: WORLD RADIO, 2509 Donner Way, Sacramento, CA 95818, USA. Telephone: (916) 456-6725. Advertising inquiries are invited.

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

WORLD RADIO furnishes a Swan 270 Cygnet transceiver (220v.), in carrying case, 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
 - Norm Brooks, K6FO
 - Tom Dunston, WB6VAR
 - Ken Welsh, WB6FKV
 - Craig Rutledge, WB6NUM
 - Sid Hall, WB6BNZ
 - George Fong, WB6DTZ

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

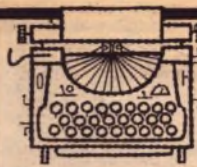
Participants



Worldradio Subscribers Communicate

Worldradio Subscriber roll furnished to further your acquaintance with others of mutual interests.

- (Continued from last month's issue)
- George Pugsley, K6SVT, Escondido, CA
 - Jack Hollander, WB6UDC, Tustin, CA
 - Ben Cavender, Lake Placid, Florida
 - Eugenio Muratore, Alyangula, Australia
 - Clifford Efav, WA7IOF, Morton, Wash.
 - G. Walter Carlson, W6DSV, San Mateo, CA
 - Morrie Rice, Coeur D'Alene, Idaho
 - Anthony Knott, WA2TRK, Princeton, NJ
 - Clayton Ankeny, WB6OGZ, Long Beach, CA
 - Stirling Olberg, W1SNN, Waltham, Mass.
 - Ray Evans, K7HLR, Clearfield, Utah
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 - J. R. Welters, CX6AM, Montevideo, Uruguay
 - Harold Wollam, W6LB, Santa Maria, CA
 - Richard Garlock, WA8SNR, Canal Fulton, OH
 - Harold Steinman, K1FHN, Hanover, NH
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 - L. G. Lamp, WB6EAH, El Cajon, CA
 - Leonard Hughes, WA0ZYC, Sioux City, IA
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 - Edward Gallagher, W1DD, Quincy, Mass.
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 - Roger Dow, WN4EUI, Hampton, Virginia
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 - Lawrence Schwartz, W2AWK, Skypset, NY
 - Garnet Owens, WN4TMZ, Asheville, NC
 - Karl Sieber, WA3GSB/Ø, Northfield, Minn.
 - John King, WB2WWD, New Rochelle, NY
 - Greg Hyman, WA2OTG, New Rochelle, NY
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 - Gene Violino, W6INH, Glendale, CA
 - Alfred Bagdon, K9YJQ, Argo, Illinois
 - Rev. A. E. Capener, KL7EGE, St. Paul, AK
 - Walter Keleher, WA6FAQ, Vallejo, CA
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 - Earl Warford, W6MEL, Bakersfield, CA
 - Stuart Warford, Westlake Village, CA
 - Mary Allton, KH6HPS, Kula Hawaii
- (Continued in next month's issue)



Letters

Great paper - congratulations. . . Paul Mercado, W3FBF/WA1KHP

What intrigues me about WORLD RADIO is its emphasis on the human side of things-- something which is very important for us hams who love the hobby. . . Karl Sieber, WA3GSB/Ø

Truly an enjoyable paper. . . Martin Schrenk, Jr., K2YFF

I think it is one of the best Ham Radio publications around. . . Denny Nolte, WA3-HVY

WORLD RADIO has a very interesting and informative format--we read it from cover to cover. . . Art and Madeline Greenberg, W2LH-W2EEO

Oftentimes, while operating my rig, I am delighted to hear the mention of WORLD-RADIO. . . Charlie Zelikovitz, W3FQT

I enjoy your articles. . . W. A. Roussel, Jr., K5RVF

Think your approach to ham radio is fine. The personal and friendly theme is what's needed. . . Edward Gallagher, W1DD

It has given me lots of reading pleasure and opened my eyes to what ham radio is really all about. . . Ladd Smith, WN6KQF

Have been greatly enjoying your publication and look eagerly for the next issue to arrive. . . Joseph Dearth, K9BPT

Enjoyable reading. . . Jeff Hobbs, W4RMB

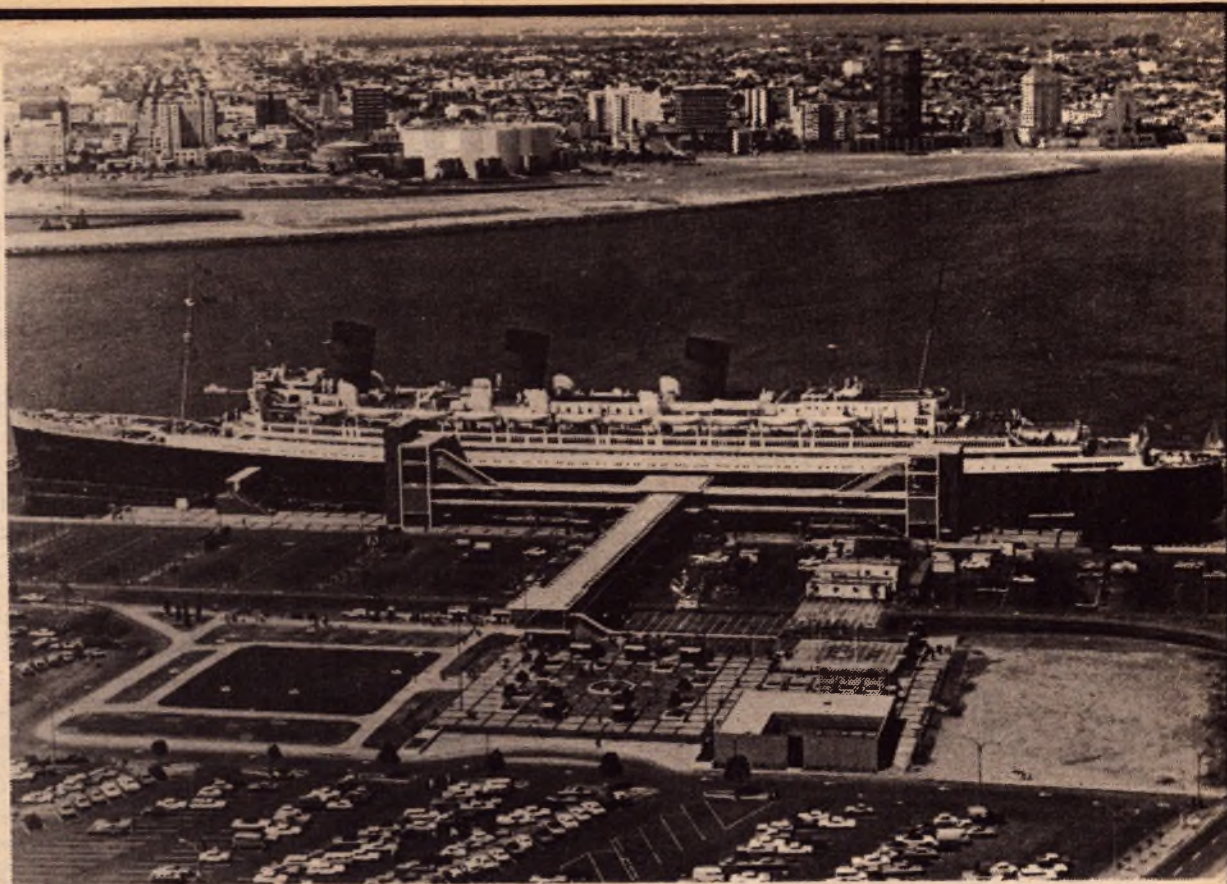
A fine down-to-earth "Human" paper. . . Dick Wilkins, WB6EDR

It's a fine publication and one I don't want to miss. . . Dick Ehrhorn, W4ETO

Thanks again for WORLD RADIO. It's best thing to happen to Ham Radio since Marconi. . . Ernie Zumbrunnen, WB6UOM

Keep up your good work; the beat that you take with ham radio is one that has been needed for a long time. . . Dave Bradley, W6CUB

We'd like you to write us letters. Lots of them. Letters of intelligence, sobriety, anger, humor, wisdom. We enjoy the "great paper" back-slapping letters (they fuel the fire) but also want letters that speak specifically about what the paper is good for or, for that matter, lousy. Debate our writers. Tell us what we should have covered but didn't. Write an article if you wish. But write - it's your paper, what do you want in it?



West Coast Repeater Clubs Meet On Queen Mary

by Les Cobb, W6TEE

The Winter meeting of the California Amateur Relay Council was held on February 3, on board the Queen Mary in Long Beach Harbor. Full accommodations for the business meeting, a dinner, the evening's entertainment, and for those staying overnight were made available to members and visitors on the former luxury liner which is now a popular Southern California tourist attraction. All advance arrangements were made by the host group, the Gronk Radio Network.

The CARC business meeting was brought to order a little after 1:30 in the Grand Salon by Chairman Ross Stevens, W6FRE, of Sacramento with 120 present. Eight new groups were voted into membership, increasing the present membership of repeater and remote base operators in California, Nevada and Hawaii. Visitor Bob Drester, K7VOR, of the Arizona Repeater Association spoke on FCC compliance problems experienced in the Phoenix area and made some comments on procedures for relicensing under the new repeater regulations.

Doug Macheel, K6HLE, reported on FM and repeater publicity activities by the CARC at the Greater Bay Area Hamfest and ARRL Convention last October. Jay O'Brien, W6GDO, reported on a question and answer session on the new regulations between Council members and Prose Walker of the FCC at the same convention.

A resolution passed by the ARRL Board protesting the shift in philosophy reflected by the barrage of new FCC regulations was read to the Council. It was moved and accepted to send the ARRL a letter of support and to encourage all CARC member organizations to do the same.

A motion was introduced for a by-laws change which would raise the annual dues from \$8 to \$10 for Full Members and from \$6 to \$8 for Associate Members. This will

be voted on at the next meeting on May 19, at which time a supporting budget for the following fiscal year will be presented.

The portion of the Report of the Governor's Earthquake Council dealing with emergency communications was discussed. The report states that OES (Office of Emergency Services), RACES and regular amateur communications would each have a distinct role in emergency communications. It was pointed out in the discussion following that RACES planning and frequencies needed drastic modernization to permit full RACES operation without interference to non-RACES amateur communications performing in the same emergency. The original concept that RACES would be called upon to operate only after normal amateur communications had been ordered off the air has been discredited with time, but RACES frequency assignments continue to be incompatible with other organized amateur use of these frequencies. Citizens Band Radio was conspicuously absent from the report.

A discussion was started about the users of repeater frequencies which they have unilaterally selected without coordination with the respective technical committee involved. It was agreed that this minority can undermine the good work done by the majority to minimize mutual interference problems. It was decided that the only way to combat this problem is with education, logical appeals, and moderate social pressure. One Central California community in particular was mentioned, whereupon a representative from another group in that community good-naturedly denied any involvement.

It being customary to select meeting locations two meetings ahead, it was voted to hold the October meeting in Bishop, California, again hosted by the Gronk Radio Network. The only other

location proposed was Fresno which also lost out at the previous meeting. The meeting was then adjourned.

In outside committee meetings, new members to the Southern California Technical Committee were appointed. Agreements were reached with the Southern California Repeater Association for mutual coordination and sharing of responsibilities for repeater frequency coordination in that area.

The evening's entertainment after dinner in the King's Grill featured Mike Gauthier, K6ICS, and his slides of the Baja 500 and Mexican 1000 off-road races and the associated ham communications (see *WORLD RADIO*, August 72, pg. 26). Bob Kely, WA6GEL, gave a talk and showed the very latest GE FM transceiver for commercial service. A sound film was shown promoting the next CARC meeting in Sacramento. A tape slide spoof using telephone company scenes, modern and turn-of-the-century, and a strictly ham repeater oriented narration, was presented by a telephone employee's club from Sacramento. The evening was concluded with a reshooting of Lew Barnard, WA6ESA's 1971 sound movie, "We Cover Sagebrush", covering Northern Nevada repeater operation in a light vein.

The next meeting will be held in Sacramento, California on May 19 at the Sacramento Metropolitan Airport, hosted by the Radio Amateur Mobile Society, Inc. (RAMS). Everyone is welcome to attend. Those who do not normally receive CARC meeting notices may send a self-addressed stamped envelope to: Les Cobb, W6TEE, 4124 Pasadena Ave., Sacramento CA 95821, and details will be returned sometime in April.

The CARC was organized in 1966 and has since served as the prototype for many other similar organizations around the country.

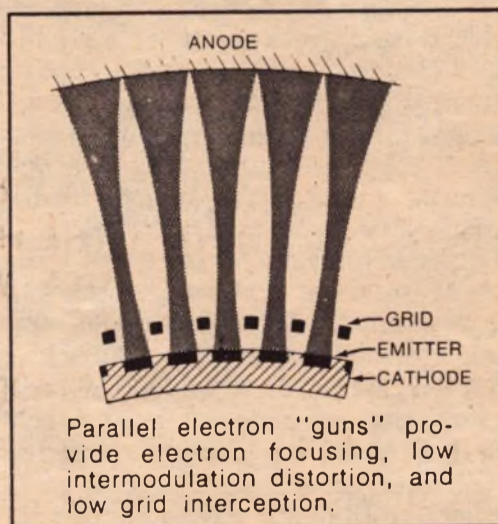
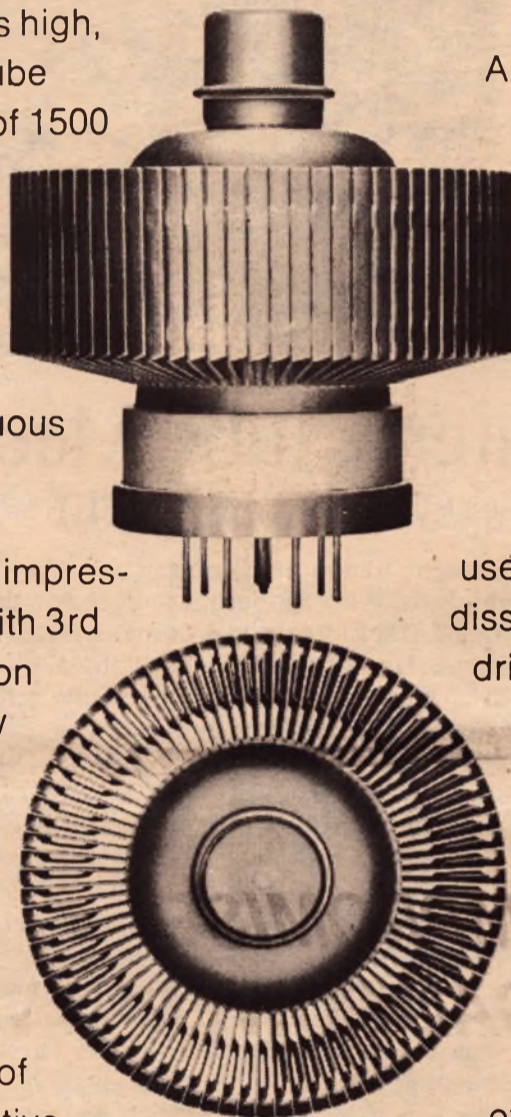
EIMAC's new 8877 high-mu triode delivers over 1500 watts output at 220 MHz. (2000 watts output at 30 MHz is easy)

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

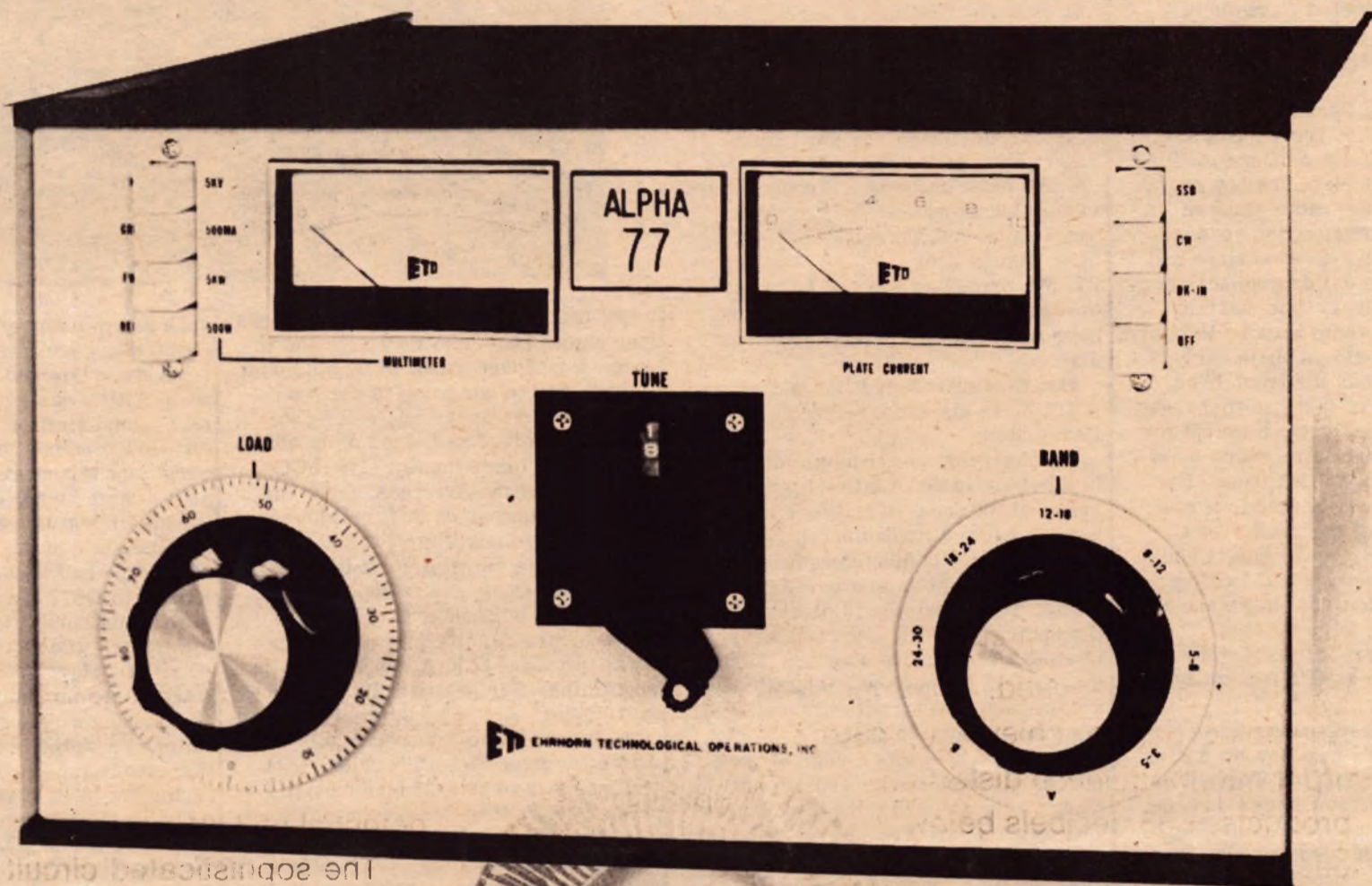
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ARRL at SAROC

by Norm Brooks, K6FO

When "Worldradio" asked me to cover the ARRL meeting at SAROC, I accepted with mixed emotions. Since I am a 25-year pin-carrying member of ARRL, I anticipated a couple of hours of boring, dry discussion on subjects I had heard over and over before.

You see, in the Pacific Division of ARRL, Doc Gmelin, the Pacific Division Director holds pre-board meeting conferences to which he invites representatives of all the radio clubs in the Division. I had attended several of these as a club representative and each year the same old "gripes" were raised and each year, Doc dutifully promised to take them back to Hartford.

I got to the meeting a little early and took a seat near the front. The room was filling up fast, as there was no competition for the time except for the commercial exhibits, which most everyone had seen by that time. The ARRL officials were seated in a row across the front of the room. As I looked them over, one by one, I had to admit they weren't a bad looking bunch. You couldn't say they were a bunch of old men, because they weren't. They were a pretty virile looking crew with even a few younger ones too.

One thing was certain: we knew the meeting wouldn't go beyond 3 p. m. because Len Norman, the Convention General Manager, announced that the drawings for prizes would start at that time. He reminded Doc Gmelin, who was the M. C. that his audience would probably walk out on him if he didn't wind up the meeting by 3:00 p. m.

While I was waiting for things to happen, I was thinking of some of the new ARRL philosophy coming to light here. Why was ARRL even here? This wasn't an "officially sanctioned" convention. SAROC is more of a fun thing that has proven successful over the years. I recall hearing Harry Dannals say earlier that he felt ARRL should go to where the hams were and that the hams at SAROC were no different than hams at any other radio convention. Harry has travelled 40,000 miles in 1972 on League business. He intends to keep going to meet hams, wherever they might congregate.

In my mind's eye I recalled Harry at the ARRL booth - shaking hands and answering questions. And he was getting a lot of them, usually starting "Why doesn't the ARRL . . ."

My wandering mind was brought back to the present with Doc Gmelin opening the meeting. Now there's a real ham for you. His voice is so powerful he doesn't really need a P. A. system. I'll bet he gets three or four times the output power from his rig with his ability to modulate. How could a meeting be dull with Doc shouting into the mike?

In his role as M. C. and moderator, Doc set the stage for the discussion. He said, "We may be fiddling while Rome burns if we allow ourselves to be too busy working on nitty-grittys, without looking at the big amateur radio picture."

He went on, "There are seven critical points to be considered in amateur radio:"

1. If amateur radio is to survive another 50 years, we must prepare

carefully for the next ITU. (International Telecommunications Union Conference)

2. We must search for a more effective organizational structure for ARRL. We must organize to be able to react more effectively and quickly when problems arise.

3. We must build a solid organization with a plan to bring amateur radio into the space age.

4. We must find more effective ways to handle traffic in an emergency. There must be more planning in emergency coordination.

5. As to restrictive ordinances on amateur antennas, we must fight restrictive local ordinances.

6. We must build up a strong local radio club program. It is through local clubs that we will get all the other things done.

7. We must find ways to keep our own nest clean. It is unfortunate we have deliberate interference to our nets.

Doc then introduced Harry Dannals, W2TUK. In his prepared remarks, Harry said:

-He observes one dynamic difference in amateur radio of late - there is a renewed interest in amateur radio coming back to fundamentals. What does it mean? It means we have to participate to help amateur radio forge ahead. Harry said he is pleased with the dedication of the current leaders in amateur radio. In no other hobby do you find so much participation on a voluntary basis - not only on the air, but also organizationally.

-The year 1972 was a year of tremendous progress for ARRL, and Harry expects 1973 to be even better. The League has taken a long departure from its traditional approach. It has split the presidencies of the ARRL and the IARU (International Amateur Radio Union). Harry says this is important because ARRL members deserve a full time president. So does the IARU, as there is no other organization to handle the national and international problems.

Harry said "You've heard this before from the President of the United States, and now you hear it from me, a much lesser figure - We need your help. Assistant directors and SCM's are needed. We (ARRL) know the job we have to do and we are prepared to do it but we can't do it all by ourselves. Amateur radio has barely started. If amateur radio could be pictured on a yardstick 36 inches long, we are no more than an inch along the way. There is all the rest to come, and many of you will be around to see it. Satellite communication is here today, and this is just a beginning."

The meeting was then opened for questions and answers, moderated by Doc Gmelin.

One of the members in the audience commented that hams are no longer "scared of the R. I." He said 30 years ago there was never any malicious interference. Today this is no longer the case. "It is time for the FCC to clamp down and be rough". (Applause) Bob Booth, General Counsel for the ARRL fielded that comment. He said this comes along with an aura of permissiveness all through society. There are young radicals carrying on in many activities, not only in amateur radio but in all interests in many countries of the world. This is creating increasing requirements for law enforcement. Further, with late constitutional interpretations, the accused is entitled to be heard. You must have



proof that will stand up in courts. We (the hams) know who they are, but the hams say "I don't want to be mixed up in it." We're not going to get convictions until accusers are willing to become involved and stand up in court. Further, it takes money. The FCC budget is set by Congress. Over the years the number of FCC employees has remained unchanged, yet the workload has multiplied. It is our duty to tell Congress to support the FCC and to help make it go.

There are currently proposals to make personal federal services self-sustaining. For example Parks, Amateur Radio, etc. The current proposal is to increase the Amateur Radio License fee from \$9 to \$10. The ARRL will support additional funds for the FCC, but for it to come from Congress. The Board will also consider supporting a recommendation that FCC be given an additional allocation of funds for better enforcement.

Another member asked if audio tapes were admissible as evidence against an interferer. Bob said that the FCC has now changed from a previous position - they are now using tapes made by others. But these must be tapes that are backed up - they cannot use anonymous tapes.

Bill Eitel then asked why ARRL voted in a new organizational plan? Harry explained that they simply put on paper what had been the organization for some time. He pointed out "You are the League. You elect the directors, who elect the officers. They are all paid no salary. They are reimbursed for expenses only. The paid staff consists of General Manager John Huntoon and a staff of 75+ people, hired to run the headquarters. The ARRL President's job is two-fold. He is chairman of the board at meetings, and he represents you and the ARRL before Government agencies. All the power exists out there (pointing to the audience) - you elect and replace."

Bill Welsh then asked from the floor why there was no place for the presidents and officers of affiliated clubs in the ARRL structure? Doc Gmelin responded that he had always recognized clubs in his pre-board meetings. Some of them are not ARRL affiliates, and attend but can't vote. He said clubs are generally proud of being independent groups, and that some of them may not want to be in the ARRL structure. A heated discussion followed, in which it was pointed out that affiliated clubs need have but 51% ARRL members, and that the president or officers need not necessarily be members of ARRL. Under the ARRL corporate structure,

such a non-member could not be granted any special status.

Goodwin Dosland explained that when ARRL was first incorporated in 1917, consideration was given to making 100% member clubs a part of the corporate structure. However, this never came about, and the 51% affiliated club status was devised.

A member of the audience complained he had sent some well-prepared letters to QST, but that they were never published. He said that instead, his letters were pushed aside by a batch of "I love you ARRL" letters. Harry Dannals explained that they are making a real effort to publish letters on subjects in proportion to the letters received. He said they are trying not to be biased, but can't possibly publish every letter received. Some are too long to publish, and they feel they shouldn't edit letters for publication. "Partial quotes draw more ire than not publishing a letter at all." He suggested writers look at the length of letters in QST and try to write with a reasonable length in mind. He suggested that the member try again, and send him a copy - "Although I don't want you to think that this is the only way to get your letter into QST."

A member on the floor accused the Affiliated Club Bulletin as being biased. He said that information has been left out that has been sent in by Club Bulletins. He felt this was especially true of West Coast Clubs. He said Perry Williams reads all the Club Bulletins, but that George Hart sends out the Affiliated Club Bulletin. It was suggested that the data sent in with the annual questionnaire be split out, written up and sent in separately.

It was announced that W6KW was chairman of the committee to set up a Hoover Memorial Station, and that the idea was explored in the Southwestern Division Bulletin. The member suggested that the station be dedicated to VHF and UHF, and work in space communications. He said that the JPL and Hughes Radio Clubs had the know-how. It was generally agreed this idea should jell at Board level.

General Counsel Bob Booth then told of things he was working on. He said ARRL was discussing with the FCC their proposal to increase amateur fees by \$1. But he pointed out "We can't ram it down their throats." He then told about the Environmental Docket. The League has filed a strong protest. He said it comes from an unfair law, poorly worded. It was hastily prepared and passed by Congress, and "all government agencies were directed to cooperate." Hence the



(SEE PIC) ARRL officials were lined up at the head of the room.

- L to R:
 W3PS Bob Booth General Counsel
 WA6LLC Paul Grauer, Midwest Division Vice Director
 W6NJU Gary Stilwell, Vice-Director Southwestern Division ARRL
 W4KFC Victor Clark, Director Roanoke Division
 W6VZT Albert F. Gaetano, Vice-Director Pacific Division
 W6KW John Griggs, Director, Southwestern Division
 W0SIN Charles Cotterell, Director Rocky Mountain Division
 W2TUK Harry Dannals, President ARRL
 W6ZRJ "Doc" Gmelin, Director Pacific Division (Emcee)

FCC docket. He said things can be carried to a ridiculous extreme, and that he hopes for some remedial legislation. In the meantime, he hopes we can hold in the FCC. However, there seem to be more and more local planning boards adopting restrictive zoning.

Booth opined that the Repeater Docket, the Phone Band Expansion and the Eye Bank Dockets, have created more questions than answers. ARRL's petitions for rehearings on the first two were denied by the FCC only that day.

Booth said we should anticipate a spot check of mail order exams by the Field Engineering Bureau. Recently in Nevada, 100 conditional license holders were called in, and 70 didn't show. Of the 30 who did, only 15 to 20 passed. Both code and technical exams were involved. He said

this has only supported what the Commission has suspected over the years - that there is a certain amount of fraud in mail order exams. He added "I'm not saying that the League is supporting this program - I'm just reporting the facts." He recommended conditional license holders work toward a Commission-given exam - "It's better for you to pick the time and the place for reexamination."

He said that the Commission is looking at new standards for power in amateur transmitters. Also, they are considering a change in call signs, which would show the class of license held.

At this point, member Dave Beard said "Since Prose Walker took over the FCC", amateur radio has become tremendously complicated. He said he felt the FCC was creating some

sort of paper-work dynasty. This remark brought applause.

Charles Cotterell told the audience that they can best get things done through their senators and congressmen.

Bob Thompson, K6SSJ, of the Northern California DX Club said that the ARRL organization chart "shows Harry down with the janitor". He said he felt that the ARRL president does not have the authority as a corporation president. Harry Dannals took the rostrum to respond to that remark, and introduced himself as the "head janitor". He said he felt he has the authority he needs to get his job done - "I feel I can perform effectively with the current structure."

The meeting must have been interesting because no one left before 3 o'clock, and that magic hour seemed to come quickly.

where in North, Central and South America responded. The network discipline, maintained in the face of many instances of unwitting adjacent channel QRM, was exemplary. Further, the spirit of cooperation among the network participants was excellent. But perhaps most important of all was the fact that for each of the participating stations passing traffic there were certainly scores more standing by in case they were needed, and who assisted in maintaining clear frequencies.

Several amateurs took the lead and worked long hours (and continued to do so) in this emergency. Among them are Carlos Silverstrine and Roberto Monte who established the OAS Official Emergency Network. Furthermore, the CIDA Emergency Network, headquartered in Miami and under the control of Herman, HK3CDJ/W4, made excellent contributions in world wide shipment coordination of relief supplies. Also, Andy Clark, W4IYT, and YN1ARG/W5, Antonio in Texas, at the very beginning set many of the wheels in motion which grew to full net operation.

Summing up the operation is difficult. Priority traffic was indeed "priority traffic." Personal inquiry or "health and welfare" requests were the exception. Frankly, so much happened so quickly that details have become a blur. However, the overriding feeling is one of great pride in the accomplishments which may be credited to Ham Radio. This operator was truly humbled by this emergency.

It is a privilege to be a "Ham" and to be able to serve in a situation like this.

As indicated by press reports, amateur radio provided virtually the only means of communication between the U. S. and Managua during the first 12-18 hours following the earthquake. W4HU and another club member, W9MSA, spelled each other manning W3DOS throughout Saturday. In addition, K4HQP was on duty at the USIA operations center while W3UV, WB4RYF and W4HU operated from their home stations. Among U. S. foreign service amateurs overseas who handled emergency traffic were HC2LB and HR1ERB.

Our apologies to those amateurs omitted from the above incomplete listings and our thanks to the area hams who lent a hand directly and to the many who relinquished frequencies in order that communications could be provided during this critical period.

by K3KWJ and WA5SPI

* * *

Managua - - Morgan Allen, WA3NYU got amateur radio some very positive publicity as a result of the earthquake in Nicaragua on December 23. Couldn't sleep, he said and was twiddling dials in the early morning when he heard YN1FFX calling for help. Morgan made both the TV and radio networks by alerting WWDC (the only local broadcast station which answered "live" at that hour of the day - - not by recording).

by Ed Kennedy, W3GPI

(Above news from AUTO-CALL)

Thanks for checkin' in

(Continued from page 29)

Finally, opposition to a monitoring service can (and does) arise for undetermined reasons. Perhaps it is the newness that does it. Whether from this source or another, this kind of opposition may occur anonymously - perhaps by tuning up on the monitored frequency, or by other intentional interference - which, of course, is illegal. California monitoring services in particular have had a great deal of this kind of opposition. I have heard them QRMed by catcalls, childish prattle, blooping of VFOs, transmission of broadcast-radio programs and so on.

The best way, as a rule, to handle such nuisances is to avoid noticing them. "Treat jamming as if it were QRN," urges the Roster of WCARS. Take comfort in the realization that you are a part of the best there is in ham radio. The usefulness of a monitoring service soon becomes so obvious that everyone (almost) will like it.

Louis R. Huber, W7UU, is an experienced writer; he has had articles in such publications as THE ATLANTIC MONTHLY, THE PROGRESSIVE, TRAVEL, COLLIERS and other magazines. For ten years he was a special correspondent for THE CHRISTIAN SCIENCE MONITOR for coverage of Alaska.

He has been a ham since right after World War I -- first using his initials (LH) for a call and then 9DOA when he obtained a license at the age of 13 in 1921, and he has held his ham license continuously from that date. He was active in ARRL affairs in the '20s, serving for several terms as Section Communications Manager for Iowa. He worked at ARRL headquarters in 1928-29 as assistant to Communications Manager F. E. Handy, and was elected Director of the ARRL Midwest Division for one term, 1930-31.

Lou (his "handle" on the air) also has government and commercial radio experience to his credit. He was a radio operator for three seasons in the '30s aboard the U. S. Coast and Geodetic Survey ship DISCOVERER in Alaska waters. During World War II he was a chief radio officer on three different vessels in the U. S. merchant marine.

For the past 15 years Lou has been in the educational-film business (Northern Films, Seattle), producing and distributing motion pictures used in schools and libraries; also he has turned out a number of sponsored films for public-relations use by government and industry.

Starting next month he will have a regular column in WORLD RADIO.

"I'll 'call the shots' as I see them in this column," Lou says. "Ham radio has been the brightest thing in my life. I want to keep it bright."

 The latest lifetime subscribers are:

- Lifetime
 Charles Simmons, K0MOH/6
 Dr. Jadakazu Sekine, JA5CK
 Bill Eitel, W6UF-WA7LRU
 Charles Wilson, K1GVA
 Ed Comeau, W1JWA

We would also like to thank the great many subscribers who upon renewing their subscriptions have renewed for a three year period... much appreciated.

Managuan Emergency

by Lee Kerbel, W4EDE

I picked up the phone early that morning, still asleep, and through my slumber-clouded mind came the voice of my close friend, the Minister of the Embassy of Nicaragua, Dr. Alvaro Bizo. His request was urgent. "Lee, there's been an earthquake in Managua and we cannot get any additional information. Apparently communications have been knocked out. Will you see what you can do?"

Still pajama-clad, I hurried to the shack, tuned up on 20, oriented the beam on Central America and got to work. Fortunately I was able to make contact with YN1EGL/M, Enrique Douarde in Managua, and with the assistance of several other amateurs established what may have been the initial disaster network.

Enrique, who typifies precisely what Ham Radio is all about, took over as the principal "pipeline" in and out of the city. His reactions and efficiency were superb in spite of the fact that for hours and days on end he was surrounded by death, destruction and confusion.

The Nicaraguan Embassy here utilized this emergency network as the initial means for the coordination and implementation of international relief efforts. Amateurs from every-

* * *

SWAN ELECTRONICS IS FIRST AGAIN!!

LAS VEGAS, NEVADA (Jan. 1973) — An unprecedented milestone was achieved during the SAROC convention here, when SWAN ELECTRONICS unveiled the first 200 Watt fully solid-state transceiver in the evolution of amateur radio equipment.

Amid resounding acclaim for providing this first practical solid-state power-breakthrough benefiting the Ham fraternity, SWAN confidently demonstrated the unparalleled characteristics of their model SS-100 transceiver. Hams marvelled over the ease with which this unit is operated. Absolutely no transmitter tuning is required. Reliable broadband circuits are integrated with frequency selection by the positive dialing action of a single dual-ratio planetary control.

Many conventioners were astonished at the clarity of reception obtained in the noisy, interference-prone, environment. Several powerful signals were being generated nearby, clashing with the static generation of numerous fluorescent and neon lights. Even a simulated ignition noise was resoundly wiped out by the built-in variable control noise blanker system of this sophisticated new device.

Amazed viewers watched the minute fluctuations of a wattmeter, connected between the output stage and a variable dummy antenna load, as the final amplifier of the SS-100 was subjected to a variety of changes from an open to a short circuit — without

damage to the unit! This demonstration of infinite VSWR protection convinced many skeptics that this was truly a remarkably rugged and reliable transceiver.

Numerous other characteristics disclosed a minimum of front-end overload,

distortion and cross-modulation. Quality receiver components were revealed, showing use of the very latest in practical state-of-the-art devices such as FET's, IC's and operational amplifiers.

Many other features are standard with this extraordinary new product from SWAN ELECTRONICS. Among them are: full 80-10 meter band coverage; CW and selectable upper or lower sideband modes of operation; an IF derived AGC; a built-in VOX; CW semi-break-in, with CW monitor; WWV receive; a 25 kHz crystal calibrator; and unique packaging that places all controls on the front panel within easy reach of the operator.

Alert to the desires of the Ham, SWAN polled the convention delegates on their choice of color styling to be applied to the

scheduled mass production of this family of transceivers. Black, with exposed metal trim, won out hands down! Reasons offered for the choice ranged from "It will please the XYL" to "It'll match handsomely with my new automobile interior."

No additional power supply is required for mobile operation of these transceivers. Simple connections to a standard automobile 12 volt DC source, and an antenna, gets you on the air. This can mean a savings of up to \$140.00 when compared to the special power supplies that must be purchased for mobile use of conventional tube-type transceivers.

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|--|--|

ANSWERS:

1. False. The slow scan television picture is a greenish-yellow color which takes 8 seconds to transmit. Like radar, the image should be viewed in a darkened room for best results. Also like radar, as the picture progresses it has the appearance of being painted onto the screen by a bright writing line except that the line moves from top to bottom. 2. False. Motion results in a blurred picture. 3. True. Robot equipment is compatible with all brands of amateur radio equipment and antenna systems. 4. True. The SSTV signal contains frequencies ranging from 1200 Hz to 2300 Hz. Therefore, it

is comparable to an audio signal. 5. True. 6. True, as far as we can determine. 7. True. 8. True. New SSTV operators are so enthusiastic about the fun of operating slow scan television, they hate to quit.

Please send your new factory direct price list.

Enclosed \$_____ Please send the following equipment via AIR or SURFACE

Instruction Books \$2

Model 70 Monitor \$295

Model 80 Camera \$295

25mm F1.4 Macro Lens \$54

Name _____ Call _____

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California residents add 5% sales tax. Prices do not include shipping.

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W1YLV

A peek at Poland by Carl Sletten, W1YLV

Although most "Worldradio" readers are experienced travelers, not too many Americans have as yet gotten behind the Iron Curtain and, in particular, into SP-land. This report on my 10-day trip to the General Assembly of the International Scientific Radio Union (URSI) last August in Warsaw may be helpful to some of you seeking a new adventure.

I was worried about accepting the invitation to this conference. As a civil servant employed by the US Air Force I wondered if I might be singled out for harassment. Back in 1963 I had talked to a Fulbright lecturer who gave me a pretty dismal picture of living conditions and the economy of Poland. These were my preconceived ideas when I boarded a Russian TU 134 aircraft at Copenhagen for the short flight to "Warsawa".

We packed into the plane with some Norwegian and Swedish delegates who also had fat brief cases. There was very little room under the seats for our feet and the brief cases, and the stewardess, in rather good English, made a crack about our feet in the aisle. But these girls were jolly enough, and soon we were settling down at the big airport outside of Warsaw. Now for the first encounter with customs officials as we headed toward our baggage - it was simple and fast. Few questions and our passports and visas were stamped with no more ceremony than in London or Madrid. We were taken in tow by "Orbis" girls, the official tourist bureau. Large free buses moved us to our hotels. Our Orbis girl spoke French, not English, but with a few words of broken French we were able to negotiate hotel rooms and convert money for both lodging and meals at the official rates, about 35 Sloty per dollar. The amount of Polish currency issued me for over a week of meals seemed far too little. Soon I was to learn however that for about \$2 I could enjoy a luxury meal in the best restaurants. That was one of the many pleasant surprises I was to get during my visit over there.

Although we weren't in a luxury class hotel our rooms were plain but comfortable and clean with toilet but no baths in our individual rooms. Obtaining a key to the public bath room and picking the hours when hot water was available was rather a sporting game. Now to see the city on our own. I did not expect to see such beautiful buildings, parks, wide streets and especially the numerous book stores, churches and concert halls. The people were well dressed and very few police or soldiers were in evidence. There appeared to be plenty of goods in stores at very low prices (for us) and the hardware and machine tools looked very good. Apparently Poles are much like Germans in their emphasis on trades and skills.

Language was a problem. Unlike Western Europe where American tourists have made English an important commercial asset for taxi drivers, bell boys and waiters, Poles have not yet undergone any American invasions. The older Poles usually speak some German which makes that language extremely useful in Poland. My travelling companion, Dr. Ed. Altshuler, and I had a strategic advantage--we brought a small Dover phrase book which couldn't be purchased anywhere in Warsaw. Soon with a vocabulary of about 50 words we were the interpreters for our friends in restaurants!

What about radio--scientific or amateur--in Poland? Again I got very favorable impressions. I was a delegate to Commission 6 of URSI which reviewed world progress in Radio Waves and Circuits. This technical field includes antennas, information theory, diffraction of electromagnetic waves and such things. My job was to learn all I could from the oral reports by Italian, Japanese, Russian, etc., presentations in sessions held at the huge Palace of Culture and Science. I had little time or opportunity to locate amateurs but I soon found that amateur radio enjoys a high reputation among scientists in Poland. In a dinner conversation with a bright young professor from Gdansk he said that amateur radio flourished in that northern Polish city. He suggested that Mr. Karolczak would be a good contact there. He told me that Dr. J. Rutkowski at the Institute of Telecommunication near Warsaw was interested in ham radio. Fortunately I was able the next day to visit this experimental research facility and meet Dr. Rutkowski. After a

tour of the laboratories featuring microwave components and atomic frequency standards I with about 25 visiting foreign scientists sat down in a conference room to discuss our tour of "IL". I asked Rutkowski about amateur activities in Poland and he responded warmly saying that he had been a license examiner many years ago and he believed that amateur radio was beneficial to Polish electronics. He invited some young scientists from the institute to join us (SP5PIL and SP5AJB). Marek Kessowski declined "nyeh" to show us (without notice) the club station but he wished me 73 and good DX in English. What I saw of Polish-made electronics equipment was very good. They have a fair amount of export trade - both east and west - in Electronics.

I was able to take a weekend tour to Lomza (pronounced Womsa). Although Orbis presented us excellent folk music and art I enjoyed seeing the farms among the gentle hills and woodlands. The crops were good, the livestock fat, and the farms looked thrifty and well tilled. I had not expected to find this. I was told that about 80% of the farms are privately owned.

I'd recommend Warsaw on a tourist itinerary for hams or anyone. Imagine getting the best seat in the house at an elegant concert for only \$2. The young people dance to American type music at many spots in the capital. An American ham of Polish descent (not on official duty as I was) could probably meet a lot of Polish hams and have a great time. The language barrier is as big as the iron curtain so suggest Polish-speaking amateurs should do this missionary work. I met an American couple on my flight from Warsaw to Frankfurt who told of a fabulous visit with the family he left behind as a boy-prisoner of the Germans. Interestingly enough he was now stopping off in Germany to visit the German farmer where he worked as a forced laborer during World War II.

Radio waves pass easily over international borders and even over the Iron Curtain. Imagine your next contact in Poland as a young man full of pride in his technical skill and eager to be friendly.

73 (Siedemdziesiąt trzy),
Dowidzenia! W1YLV

You have 24 hours to live.

Today, that is. So what are you doing with your time? Are you helping another human being toward the dignity you want for yourself? Are you doing anything to overcome the hate in this world—with love? These 24 hours can be a great time to be alive. If you live right.

Break the hate habit: love your neighbor.



Send a friend

Send a friend a copy of WORLD RADIO. We would be most happy to send a free copy of this paper to anyone of your choosing. Just drop us a card with their name and address (with zip) or call letters and we'll take it from there.

Many of today's readers received their first copy by being recommended by a friend.

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4X4 International Radio Contest

First Prize:
a trip to Israel



Upon the 25th Anniversary of Israel and of Israel Amateur Radio, the Israel Amateur Radio Club (IARC) has the honor to invite radio amateurs from all over the world to participate in an International Radio Contest to be run as a prelude to the International Symposium of Radio Hams in the Satellite Era to be held in Netanya, Israel June 24 through 29, 1973.

1. **Contest Period** - 0001 hours GMT March 10 through 2400 hours GMT March 11, 1973. The contest stands 48 continuous hours.

2. **Modes** - Fone and CW, but only CW to CW and PH to PH QSO's will count. Only one QSO per mode, per band, per station counts.

3. **Bands** - 3.5 MC thru 28 MC.

4. **Classification** - Single operator only.

5. **Rest Periods** - Thirty-six hours of operation permitted out of the forty-eight hours. The twelve hours of non-operation may be taken in one but not more than three periods anytime during the contest. Rest periods must be indicated in the log.

6. **Exchange** - A contest QSO will consist of the usual 5 or 6 digit number ie RST/RS, RPT and progressive QSO number starting with 001.

7. **Points** -

Each continental QSO: 1 point

Each intercontinental QSO: 5 points

QSO in own country: 0 points but allowed for a multiplier. Only one QSO per mode, per station, per band permitted.

8. **Multiplier** - Each different country on each band will act as a multiplier. The sum of all different countries on each band will act as final multiplier. The ARRL DXCC list will be the official country list.

9. **Qualification** - Each contest log must contain 25 different 4X, 4Z call signs. Reciprocal calls issued by Israel count as 4X. Logs that do not have the required number of 4X or 4Z call signs will not be considered for the first prize, but will be considered for continental prizes.

10. **Scoring** - The final score is the total QSO points (minus duplicates) multiplied by the sum total of multipliers from all bands. Only one QSO per mode per band permitted.

11. **Contest Awards:**

The Israel stations are not eligible for the grand prize but will be competing for a transceiver.

1ST PLACE GRAND PRIZE

Airline ticket to Israel and return, from nearest international airport, plus ten days prepaid hotel accommodations, breakfast and dinner. The winner will be guest of honor at the International Symposium of Radio Hams in the Satellite Era meeting in Netanya, Israel, June 24 thru 29, 1973. At the opening ceremony the winner will be presented a special trophy by Mr. Joseph Lieberman, 4Z4HF, Contest Committee Chairman. The winner of the trip will be notified by telegram by May 22, 1973, and be contacted shortly thereafter for travel arrangements. Verification of acceptance may be made on the air daily from 1330 - 1500 GMT 21 360 MHz plus or minus QRM to 4Z4HF or K4EVY, by checking into the 4Xnet.

The grand prize winner must accept the trophy in Israel. If declined, the high scorer becomes eligible for continental trophy and the second place winner notified, etc.

Seven trophies will be awarded to

the continental winners in Africa, Asia, Australia, Europe, North America, Oceania and South America.

12. **Disqualification** - Violations of the rules of this contest or unsportsmanlike conduct or logging duplicate QSO's in excess of 3% will be deemed sufficient cause for disqualification. No member of the contest or organizing committee is eligible for the grand prize but will be eligible for continental trophy.

13. **Logs** - Forty QSO's per page. Separate logs per each band. Clearly indicate changing mode and band of operation. Columns: Date, GMT, Station called/by, Sent RST/SER NO., Receive RST/SER NO., MODE, MULTIPLIER and points. A summary sheet is necessary and will contain band by band breakdown of points. A separate sheet indicating the log extract for the 25 4X or 4Z QSO'd will be prepared.

14. **Deadline for Submission** - All logs must ARRIVE in Israel no later than April 30, 1973. The logs will be sent to 25th Anniversary of Israel Radio Contest, c/o 4Z4HF, Joseph Lieberman, Kibbutz, SASA, ISRAEL.

GOOD LUCK,
SHALOM,

Joe Lieberman 4Z4HF
Contest Chairman

Individual copies of contest information may be obtained from WB2WOU, Herbert Rugoff, 306 Hooper Ave., Toms River, New Jersey 08753, USA by including SASE or SAE w/2-IRC for airmail return.

Search in MEXICO

by J. C. Ellison, K6MVF

On 27 January, I received a call that I was wanted on WCARS for emergency traffic.

Checking in at 2:07 p. m. I made contact with Hal Spaulding, K6GMI in Palm Springs. Hal wanted to get a message to a Billy Dyer from Gilbertsville, Kentucky who was on a hunting and fishing trip in the La Paz section of Baja, California. Mr. Dyer's father had suffered a heart attack and his family wanted him to call home.

K6GMI received the message from Wilmer Haas, W6DOM/7, who had received the message from James Kunnecke, K4YGE, on 21 385 MHz. We knew that Billy Dyer was traveling in a 1972 jeep, dark in color, with Tennessee license plate PD 224, towing a boat trailer and boat. He was in a convoy of 5 other trucks all towing boats and all from Tennessee except one from Kentucky.

Public Service



At 11:25 p. m. K6MVF gave the information to Tom, XE2JN, in Mazatlan, Mexico and requested that he pass it to police and the American Tourist Office. At 7 p. m. K6MVF gave the information to Mike Novtney, W5TJ/XE2PMC, in Mazatlan, Mexico and requested that he pass it to ferry personnel to be passed to the La Paz area. At 7:20 p. m. with the aid of Earl Wiederhold, K6SMT, who speaks Spanish, the information was passed to XE2GMN in Tezo Paco, Mexico. He was asked to pass it on the Mexican Emergency Net to La Paz and that police and army units be notified.

On Sunday, 28 January, at 12:15 p. m., it was again repeated to XE2GMN in English as he had an English-speaking person present.

On Monday, 29 January, Mike, W5TJ/XE2PMC, reported that he had given the information to the consulate office who passed it to La Paz over the consulate radio system.

On Friday, 2 February, at 7 p. m., W5TJ/XE2PMC reported that on Thursday, 1 February, about 10 a. m. he was sitting in his trailer in a trailer court in Mazatlan when he noticed a 1972 jeep towing a boat park about 10 feet from him. He checked and it was the sought after Billy Dyer.

Mike, W5TJ/XE2PMC, went over and introduced himself and asked if he had received the message. Billy Dyer said he did get the message, he had called home and his dad was doing fine but he was returning home just in case his father should have another attack.

Dyer was amazed and flabbergasted that the amateurs were able to get the message to him in that remote area. He wanted to thank all stations helping to get the message to him.

It proves what Fred Marvin, WA6BXJ, said when we located a Mr. Davey near Mazatlan about two months earlier. "We are our brother's keeper."

Antennas

Wilson Electronics

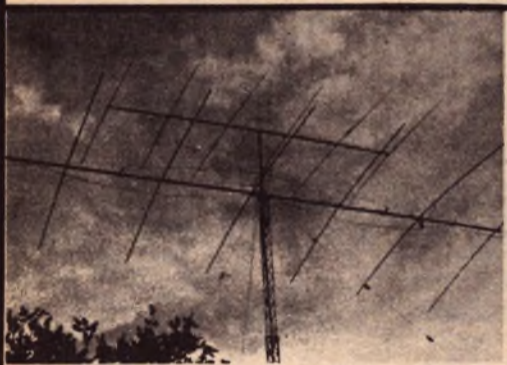
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W7CVD's 5 ELE. M520



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



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

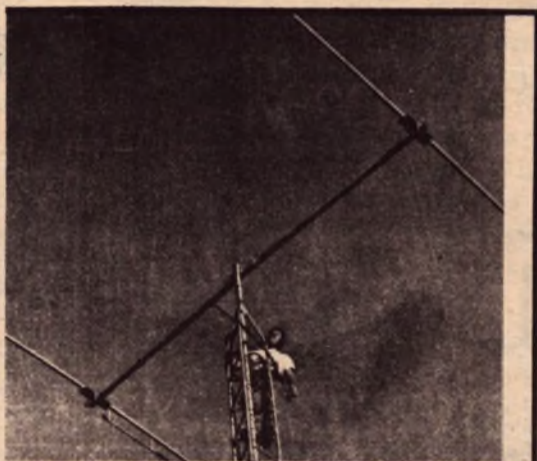
7 ELE. 20 METER BEAM	
GAIN	14DB
FRONT TO BACK RATIO	26DB
BOOM LENGTH	58.5 FT.
3" OD .250 TO .065 WALL	
MAX. ELE. LENGTH	36 FT. 1 IN.
SWR	1.1 TO 1
WIND SURFACE AREA	13.8 SQ. FT.
WIND LOAD (80 MPH)	340 LBS.
WIND SURVIVAL	100 MPH
TURNING RADIUS	34 FT.
NET WEIGHT ASSEMBLED	135 LBS.
6 ELE. 15 METER BEAM	
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.

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

5 ELE. 20 METER BEAM		6 ELE. 20 METER BEAM	
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.

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.

3 ELE. 20 METER BEAM		4 ELE. 20 METER BEAM	
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 .250 TO .065 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

2 ELE. 40 METER BEAM		40 METER 2 ELE. BEAM	
GAIN	5.5DB	GAIN	8.5DB
FRONT TO BACK RATIO	17DB	FRONT TO BACK RATIO	20DB
BOOM LENGTH	16 FT.	BOOM LENGTH	38 1/2 FT.
3" OD .065 WALL		3" OD .250 TO .065 WALL	
MAX. ELE. LENGTH	66.5 FT.	MAX. ELE. LENGTH	69 FT.
SWR	1.1 TO 1	SWR	1.1 TO 1
WIND SURFACE AREA	10 SQ. FT.	WIND SURFACE AREA	15 SQ. FT.
WIND LOAD (80 MPH)	230 LBS.	WIND LOAD (80 MPH)	335 LBS.
TURNING RADIUS	34.5 FT.	TURNING RADIUS	40 FT.
NET WEIGHT ASSEMBLED	67 LBS.	NET WEIGHT ASSEMBLED	145 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.

NEW IMPROVED WIDE SPACED 40, 20, 15 & 10 METER BEAMS

All W7GVA beam elements are constructed of the finest aluminum available, 6063T832 and 6061-T6 both top quality alloys.

All Wilson Electronics beams have a 3" O.D. boom made of top grade aluminum 6063-T6.

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Wilson Electronics offer a complete line of Mono & Duo Band Beams. With our purchasing power on large quantities of aluminum and low overhead, we can give you a rugged heavy duty top quality beam for a much lower price than any other manufacturer.

WILSON MONO BAND BEAMS

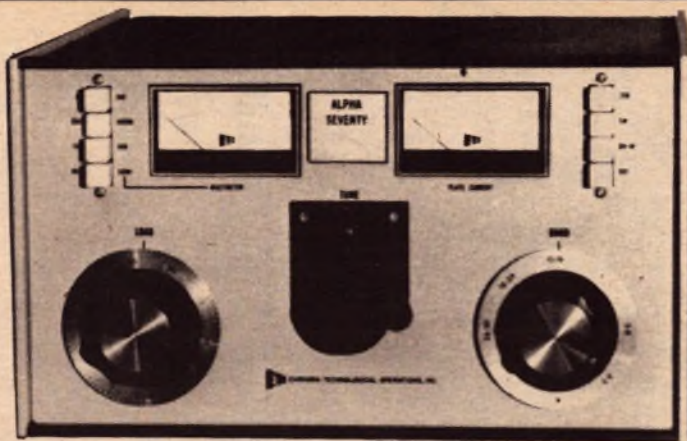
Model No.	3 ELE. 40 METER BEAM (full size)	\$375.00
M340	Gain 8.5 DB gain. Boom length 38.5 ft. 3" OD .200 wall to .065.	
M240	2 ELE. 40 METER BEAM (full size)	\$189.95
	Gain 5.5 DB. Boom length 16 ft. 3" OD .065 wall.	
M720	7 ELE. 20 METER BEAM	\$389.95
	Gain 14 DB. Boom length 58.5 ft. 3" OD .200 wall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

WILSON DUO BAND BEAMS

DB62	6 ELE. 20 & 2 ELE. 40 INTERLACED BEAM	\$449.95
	Gain 13 DB—20 5.5 DB 40. Boom length 50 ft. 3" OD .200 wall to .065 wall.	
DB52	5 ELE. 20 & 2 ELE. 40 INTERLACED BEAM	\$349.00
	Gain 13 DB—20 5.5 DB 40. Boom length 40 ft. 3" OD .200 wall to .065 wall.	
DB54	5 ELE. 20 & 4 ELE. 15 INTERLACED BEAM	\$229.95
	Gain 12 DB—20 10 DB—15. Boom length 40 ft. 3" OD .065 wall.	
DB43	4 ELE. 20 & 3 ELE. 15 INTERLACED BEAM	\$179.95
	Gain 10 DB—20 8.5 DB—15. Boom length 30 ft. 3" OD .065 wall.	
DB32	3 ELE. 20 & 2 ELE. 15 INTERLACED BEAM	\$109.95
	Gain 8.5 DB—20 6 DB—15. Boom length 20 ft. 3" OD .050 wall.	
DB76	7 ELE. 15 & 6 ELE. 10 INTERLACED BEAM	\$239.95
	Gain 14 DB—15 13 DB—10. Boom length 40 ft. 3" OD .065 wall.	
DB65	6 ELE. 15 & 5 ELE. 10 INTERLACED BEAM	\$219.95
	Gain 13 DB—15 12 DB—10. Boom length 32 ft. 3" OD .065 wall.	
DB44	4 ELE. 15 & 3 ELE. 10 INTERLACED BEAM	\$109.95
	Gain 10 DB—15 8.5 DB—10. Boom length 20 ft. 3" OD .065 wall.	

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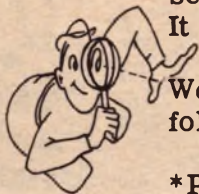
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The ALPHA 77 is a no-compromise powerhouse; designed and rated for continuous commercial service, it is available for use by advanced amateurs who demand the ultimate in every respect. It is compatible with all modern exciters and transceivers.



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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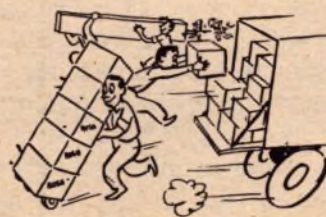
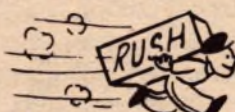
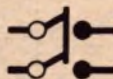
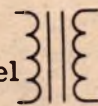
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DXpedition: Vermont

WA1KWJ

by Doug Stivison, WA1KWJ

There's a nasty rumor coming out of W9 land that the sturdy little state of Vermont does not really exist. That Vermont is difficult to work under ordinary conditions and just about impossible to work on the Novice bands, is after all, only circumstantial evidence.

Living in neighboring New Hampshire, I know Vermont exists. I have even been to Vermont, crossing the bridge with the sign proclaiming, "Welcome to Vermont--The Last Stand of the Union." I even met two alleged Vermont amateurs at the International Field Day on Lake Champlain. I know, however, that most amateurs can not reassure themselves of Vermont's existence simply by taking an hour's drive.

In December, 1971, Pat Philippi, then WN9DDA, had worked 49 states and lacked only a contact with the Green Mountain State for Novice WAS. In a more despondent moment, Pat let it slip that he was sure that he was the victim of a huge hoax--Vermont did not exist and all that maple syrup really came from Texas.

Innocently enough, I offered to drive the 40 miles to Vermont, to get on the air and to work him.

Somehow that force that controls the ether intervened and in the last few days of Pat's Novice career, he worked a Vermont-er who had strayed into the 40-meter Novice band. WAS at last, and no longer any need for me to activate Vermont for Pat.

I knew that Pat had not been alone in his search for that elusive contact with Vermont. More experienced amateurs than myself told me that everybody works Vermont eventually. It was just a question of time.

Novices, however, don't have all the time in the world. Across this country thousands of dipoles resonate in the hopes of entering more states in Novice logbooks.

I felt my mission, then, was to put Vermont on the Novice map. I would drive to Vermont, set up the very best station I possibly could and I was going to work right in the Novice bands.

The dead of a Yankee winter, a broken down SAAB, a DX-60 and a 21-year old receiver do not exactly lend themselves to enshrinement of one's name with Danny, Gus and Darleen.

And there were other problems. More than one local amateur questioned the sanity of a DXpedition to 50 miles away, or a Novice band only venture, or purposely setting

out to work at seven words a minute and preparing to repeat everything as many times as necessary. Some suggested that I was working too hard or taking the hobby too seriously. One fellow amateur questioned if perhaps I was having a bit of difficulty putting some reasonable boundaries on a healthy interest in Amateur Radio.

When an anonymous group of well-meaning amateurs sent me a stamp album and pamphlets on the relaxing hobby of philately, I put aside my thoughts of giving the kids a break, of serving Amateur Radio. I was going to Vermont.

I was going to work a lot of Novices and show a few of my more rational amateur acquaintances a thing or two.

Time passed. A Volkswagen bus simply made for DXpeditioning replaced the old SAAB. The transmitter and receiver were replaced box by box by a Collins S-line. My good friend John Viemeister, WB8MAD, lent me his 18AVT/WB vertical--without any idea of its eventual use. Two college buddies succumbed to a \$10 long-distance telephone call in which I drew upon the memory of the Yasme, the tradition of the Old Man, threats of the Rettysnitch and Woulf Hong, tears, a recitation of the Amateur's Code and an appeal to the memories of their own Novice careers.

Al Bloom, WA3JSU, a whizz-bang brasspounder and Net Control Station of the Eastern Area Slow Net was hooked. After the phone call, Chris Schenck, WB2SEZ, another ace brasspounder and traffic man enlisted. Things were falling into place.

Chris' and Al's graduation from Wesleyan University set the date for the DXpedition--May 20 and 21, 1972. As all Vermonters know, the Green Mountain State doesn't really have four seasons, but has 11 months of snow and 30 days of pretty poor sledding. The end of May approaches the period of poor sledding.

During a QSO in February, George Smith, W2JNO, introduced me to Frank Somers, W1FUQ, Frank lives in Middlebury, VERMONT. A series of contacts followed and the last remaining loose end was secured. Frank offered us the large field behind his house for our DXpedition.

There was no backing out--Chris, Al and I were DXpedition bound.

The first three weeks of May were a fury of antenna experimentation, advice gathering, packing and spare parts stockpiling. I

practiced assembling and erecting the 18-AVT --cut every guy and ground radial to length so when the big day came, getting up the skyhook would be the least of our problems.

On the eve of the big event, I went to Middletown, Conn., to pick up Chris and Al and their equipment. Returning to my home in Peterborough, N. H., we scurried around dismantling the antenna (in a down-pour, naturally) and trying to solve the last minute logistical problems which can only be faced when you have the bus, the people and all the gear right in front of you.

After a fitful night's sleep, we left the next morning. At four o'clock we established contact with W1FUQ, and he talked us in through the local repeater. We arrived at his QTH, and I had my first in-person meeting with our host.

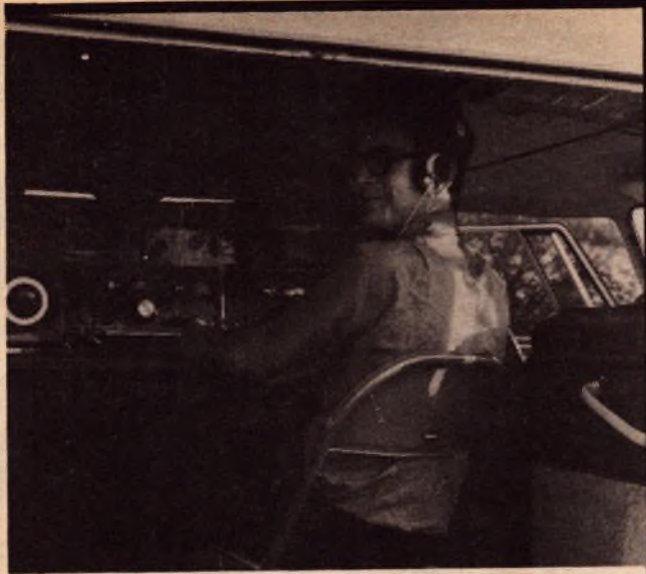
The next two hours must have looked like a speeded up segment of an old movie as the 18AVT rose on its 45-foot mast, a long AC cord was stretched to the house and two complete CW stations were assembled in the bus. George, W2JNO, turned up and later Ray Ferguson, WN1PRF, came over. A real hamfest was going on as we finished stringing antennas and made our first QSO.

For the next 42 hours the S-line never was off the air; never was left unmanned. Every minute that 15 meters was open, we were there. For at least 20 hours, the secondary station was also operating--on 40 when the main station was on 15; on 80 when the main rig was on 40.

The operation was truly unique. It was not a contest, not a well-publicized DXpedition nor a high-powered station. We voluntarily limited ourselves to the Novice band segments and sought out Novices. We worked 107 stations, 30 states and 11 countries. Our average QSO length was over 20 minutes as we worked as slow or fast as the operator at the other end demanded. We repeated our QTH as frequently as necessary and we explained to dozens of Novices just what an SASE was--a self-addressed stamped envelope--and why we would appreciate receiving one with their QSLs.

We operated around the clock. We had no formal shifts--one operator would just replace another as fatigue started blurring things into one seemingly endless QSO.

Well over half of our contacts thanked us for a first Vermont QSO. We got a tremendous charge out of three stations informing



MARCO

Speakers and reports from many parts of the world will be featured in the scientific program of the Seventh Annual Meeting of the Medical Amateur Radio Council to be held in conjunction with the Annual Meeting of the American Medical Association on Thursday, June 28, 1973 at the Hotel Plaza in New York City.

A key feature of the scientific session in the afternoon will be a paper presented by William H. DeWitt, W2DD, Technical Coordinator for the Photographic Technology Division, Eastman Kodak Company, Rochester, New York. Mr. DeWitt will speak on slow scanning in color S. S. T. V. . . Mr. DeWitt is credited with transmitting the first intercontinental slow scan color television picture to South Africa; in addition he has sent other color photographs to Australia, England and across the United States. He will discuss the systems that he used to make these contacts and some of the technical problems he has encountered. Mr. DeWitt is the author of a paper on the subject published in *CQ Magazine* in September of 1972.

Robert Fleck, M.D., W30JP, Director of the Employee Health Unit, NASA Headquarters, Washington D. C. will present his paper entitled "Dynamic Electrocardiography in Preventive Medicine." Dr. Fleck, who retired from the Navy as a captain in 1965, has been doing preventive medicine at NASA Headquarters since that time.

Dr. J. Charles Jordan, Jr., K4IEP, will present an illustrated talk on his photographic safari in East Africa. Doctor Jordan was in East Africa attending the U. S. /Kenya conference on Obstetrics and Gynecology in Nairobi. Traveling through most of Southern Africa he brought back over a thousand feet of movie film and over eight hundred 35mm color slides.

Doctor Masami Saito, JH3PJ/WØ, who is assistant professor of Psychiatry and Neurology at Kansai Medical School, Osaka, Japan, and who is currently doing post graduate work at the University of Missouri, School

medical amateur radio council

of Medicine, will present a paper on "Amateur Radio in Japan", in particular, the activities of the MARCO members in that part of the world.

Although not present in person, tape recorded messages from overseas will be presented. The topic of Amateur Radio in Great Britain will be presented by Theodore M. Newland M. B., CH. B., G3TMN, a general practitioner in England. "The Flying Doctor in Australia", will be the topic of a tape recording from Robert Callandar, M. D., VK3AQ, of Melbourne, Australia. Doctor Callandar is not only a very active amateur radio operator, but an avid flyer.

A membership meeting will be held at 10:00 a. m. at which time the election of officers for 1973 will be held, and it is expected that Thomas R. Shoupe, M.D., WA8TXG of Finley, Ohio will become the new president of the organization. Present officers are President, Donald W. Needham, DVM, W6JMN of Indio, California, Treasurer, John W. Banzer, Jr., M.D., W2KDI, New York, and Secretary, William L. Sprague, M.D., WA6CRN, of Montibello, California.

Three short papers presenting the story of Amateur Radio in Germany, Liberia, and in the Netherlands by Sigurd Meng, M. D., DL2HI, of Munchen, West Germany, F. deBoer M.D., PAØMT of Vieland, Netherlands and Dr. Polycarp Gadegboku, EL2CI, of Monrovia, Liberia, will be read at the meeting.

The meeting will be concluded in the evening with a banquet and an illustrated lecture. The meeting is open to all amateur operators who hold doctorate degrees of any type in the medical field and to nurses and other medical technicians who may qualify for associated membership. Information on registration, hotel accommodations, program etc. may be obtained from Joseph J. Boris, Meeting Manager, MARCO, P. O. Box #229, Manchester, Connecticut, 06040.

us that we were their 50th state for WAS.

I took time out to work Pat--now WB9-DDA--whose original comments some five months before had gotten the expedition rolling. Needless to say, his rig blew a fuse in the middle of our QSO.

Chris and Al checked into the Eastern Area Slow Net and gave out VT contacts to some of the regular traffic handlers.

Concentrating on 15 meters, most of our contacts were with the West Coast. Our 175 watts and groundplane seemed to do their job well as one fellow called us the strongest East Coast signal he had heard all day.

Perhaps being in a band segment in which 75 watts is everybody else's maximum power might have helped us. Also, the location on a crest a few miles east of Lake Champlain was one of the finest and quietest QTHs I have ever seen.

Al, Chris and myself are all under 22, and the DXpedition was one last adventure together for college buddies before graduation would find us going our separate ways.

There was real excitement in our operation and it caught on with Frank, George and Ray. Although together they represent over 120 years of amateur and commercial radio experience and although each of them has worked just about all there is to work, they got caught up in our excitement. They had a ready cheer for every new state and every new country. There was almost always somebody at the door of the bus listening to our seven-word-per-minute QSOs.

On Sunday morning, May 21, quite well satisfied with our 107 contacts and giddy with fatigue, we packed up and went home. There were three tired but happy voices on all the FM repeaters from Burlington, Vermont to Hartford Connecticut recounting how they had just put Vermont on the Novice map.

So, all the QSL cards are mailed out and my friends are talking surreptitiously of SSTV and RTTY expeditions to Delaware and Vermont.

You really don't have to be terribly rich and go to some exotic spot way on the other side of the world for a fun-filled DXpedition. Truly, one man's local is another man's DX. What could have been just another 20 meter contact on sideband was instead a triumph for dozens of West Coast Novices.

Everybody connected with the Vermont DXpedition had a great time, and that, after all, was our greatest achievement.

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Send in the information as to whom you manage QSLs for. If you have any photographs of your overseas chums send them along also so we may print them.



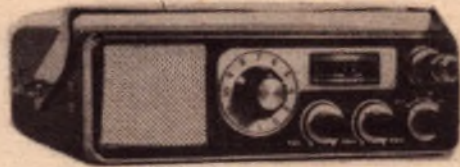
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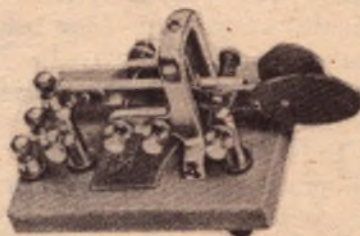
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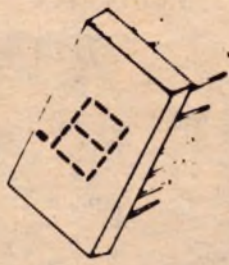
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74H01	.35	74H20	.35	7453	.25	7480	.50
7402	.25	74H22	.50	74H53	.40	7483	1.15
7403	.25	7430	.25	7454	.30	7486	.65
7404	.25	74L30	.35	74L54	.35	7489	3.00
74L04	.35	7440	.25	74L55	.35	7490	1.00
74H04	.35	74H40	.40	7460	.25	7491	1.15
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"When the chips are down, the antennas go up."

This is the feeling of the ham radio operators—and they were able to prove it during the flood crisis. The ham operators were everywhere, taking messages, dispatching helicopters, sending doctors, nurses and supplies to key points.

They were ready from the beginning. And it was no accident that the hams were on alert and ready for action the day before the flood.

The Chemung County Amateur Radio Emergency Corp (AREC) has held numerous practice sessions during the past years for every type of disaster - plane crashes, tornadoes, accidents. That is, every type of disaster except a flood and atomic fallout. These were scheduled for later.

Nonetheless, as a result of these tests, AREC members were prepared when the flood emergency arose. In the other simulated disasters, they had set up portable stations at Arnot-Ogden and St. Joseph's Hospitals, the Red Cross Chapter House and other locations.

The weekend of the flood, another practice was scheduled—National Field Day, in which amateurs take their equipment to a spot where there is no antenna and no power and make as many connections as possible with other hams in the same situation, using portable antennas and generators.

So, instead of National Field Day, some 180 operators and other nearby cities took part in the real thing.

The Federal Communications Commission defines amateur radio as "an emergency service." The service began the day before the flood.

On June 22 at 8:30 a. m., Civil Defense Director called Theodore Riggen (K2HNM) on Bridgman St. and asked him to establish a "net alert." Riggen, a retired engineering consultant, immediately began calling all stations to tell them that high water was expected.

By the time H. Mettler Henrich, AREC emergency coordinator, returned home about 5 p. m. from work at Harding Brothers, a half dozen ham operators were standing by "on frequency" from Corning to Binghamton. By 9:30 a dozen were on.

What started as an overnight watch by Chemung County AREC members suddenly exploded into almost a statewide operation as the water began to flow over the wall on Friday, June 23 at 5:35 a. m.

Transceivers - "rigs" to the hams were pulled out of cars, off operating benches, down from shelves and taken to "hot spots." They knew from practice sessions that they should take them to the hospitals and to the governmental command post. A mobile unit was put into operation Thursday night for City Engineer Clarence Fleming to use in touring the dike area.

Antennas were thrown together, using anything available. Some used coaxial cable, pieces of wire, coat-hangers and old television antennas. But the disaster communication traffic was moving.

When St. Joseph's Hospital officials requested Thursday evening that a radio link be set up between the hospital and police station, Henrich went on the air and called AREC. Members responded and a schedule was set up through the night.

Mrs. Grace L. Henrich (WA2TCZ),

wife of the coordinator, set up an amateur station at the hospital. William Stoker (K2PAZ) and Frank Roll (K2MZA), both of Horseheads, set up a station at City Hall Thursday night at 10.

Jeff Strailey (WA2LUC) of Elmira was assigned to CD. Lloyd Trimmer (WA2STG) of Elmira was dispatched in the mobile rig to the city engineer.

Through the night, shifts changed. Richard Rohrer (WB2DHR) went to City Hall. Strailey stayed at the CD office with Romanta Woodford (WA2HFL) of Elmira, and Henrich went to St. Joseph's.

At 5:35 a. m. Friday, the report came that water was coming over the dike at Gridley's Motors on E. Water St., north of Madison Ave.

The radio equipment was moved from the basement of St. Joseph's to the first floor. Equipment also was moved from the CD basement office in the county building to an upper floor. The City Hall station was moved to the new command post in the McGraw Bldg., Elmira College.

As the swirling waters rose, debris began to float by and parked cars began to disappear.

Mr. and Mrs. Elliott Hood were awakened in their home on Wall St. by fire sirens. So was Samuel Semel (W2SHE), owner of Chemung Electronics. Hood turned his station on and found activity Semel went to the Hood home and they began to alert other hams in the area.

At 9:12 a. m. of Friday, the telephones at St. Joseph's went dead. Riggen was dispatched to the Arnot-Ogden Hospital to set up a ham station. Realizing that communications must be maintained - especially between the two hospitals - Semel removed the rig from his car, got 12-volt batteries from a car dealer, and took them by boat to St. Joseph's Hospital.

Amateur radio was the only link between the two hospitals. It was set up and operated by Henrich, who worked 60 hours before he collapsed, exhausted, and was hospitalized. A relief operator, Roger Sykes (W2INY) was rushed to St. Joseph's.

Ham radio was placed in all the evacuation centers, which by then were "bedlam". The communications kept moving. Nurses were assigned. Doctors orders were handled. Ambulances were dispatched. Soon calls came for sleeping arrangements, then calls for food.

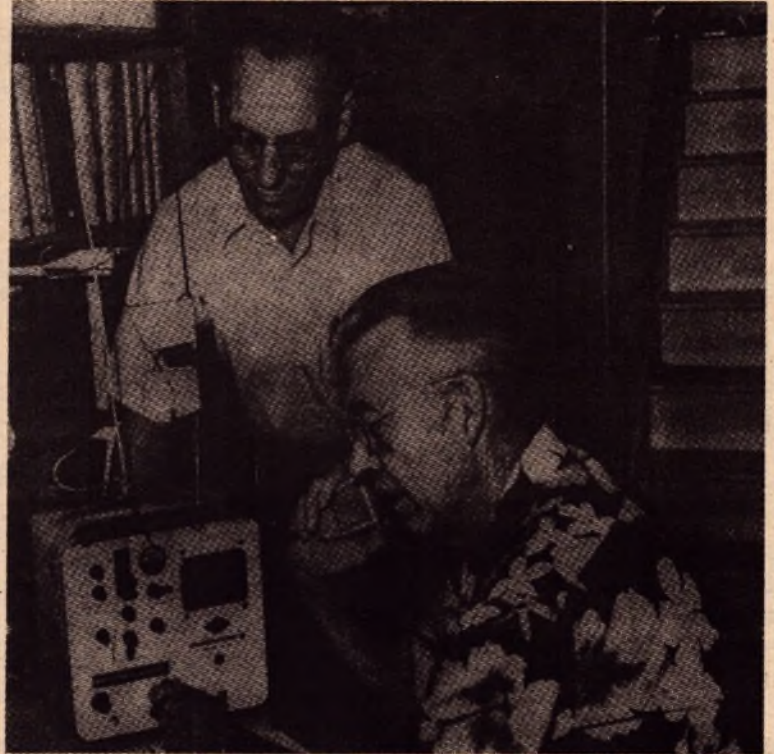
John and Hazel Mulligan (W2RTW) and (W2QBJ) in Southport activated their stations. John acted as a relay between the hams and Air Force Military Affiliated Radio Service (MARS).

A box car plane filled with food needed clearance to land. A military convoy, sidetracked by flooded roads, was lost on its way in with bedding and clothes. Milk trucks loaded with water from other cities needed places to unload.

The problems were difficult but with communications going, the material was moved.

Meanwhile, Grace Henrich was losing her voice, trying to shout out the noise in crowded Broadway School, to assign operators.

By that time, hams from other areas began arriving to relieve the exhausted Chemung County operators. With extra gear, they came from Rochester, Syracuse, Binghamton



and other areas, sometimes by far and sometimes hitching rides in planes.

Net Control, a station that keeps order on the airwaves, was quickly established at the Hood home on Wall St. His "shack" also was used for equipment control and assignment. Supervising, assigning equipment, and operating the radio, Hood worked until near exhaustion. His wife provided sleeping space and food for the weary hams operating from the control center.

Mr. and Mrs. William Blovsky of Newfield, both operators, arrived. He operated a station and she delivered messages from outside the area, as did Hood's mother, Mrs. C. Paul Hood.

After recuperating in the hospital, Henrich went to the Hood home and operated the network control station and later went to St. Joseph's, when it was moved there.

Reflecting now, the hams figure that communications stories from the flood will be retold for years to come.

Hal Horton (K3MCK) came from the safety of the hills in Mosherville, Pa. to operate at Pine City or Edgeworth School.

When the generator failed at Arnot, Tom Dietrich (WA2LZD) of Endicott passed messages through an open window, while Dr. Colin McKinley (WB2YGG) rushed to the parking lot to remove a rig from his car. Then Bob Young (WB2LGD) of Tompkins Corners arrived with a storage battery for power. The Arnot was back on the air.

Jim Beckett of Pine Valley and Bob Young, along with hams from Rochester and Syracuse "jury rigged" a repeater to link ham stations between Corning and Schuyler Hospitals and Beaver Valley School.

How many hams worked? A total of 180 are recorded but no one is sure.

How many hours? Again, no one knows. Riggen logged 190 hours in 15 days. After things quieted down, during one two-hour period, he handled 512 messages. He figures this is probably less than average.

But they don't feel statistics are important. The important thing is they fulfilled their function - as defined by the FCC.



a note from the publisher

A few issues ago we announced a rather innovative idea. That was instead of dating the magazine with a cover date three weeks ahead (which all monthly magazines do, to allow for the time it takes it to cross the country by mail) we would instead date the issue with the month of what news was reported inside.

For example, if you wanted to look up what the FCC did in February, you would look in our February issue. This issue (in your hands) would have been the Feb. issue.

However, this striking idea ended up confusing advertisers (who wanted product news released on a certain date), readers, and alas, ourselves. So we are going to just do it like everybody else.

Before we use any more brain storms like that, we're going to give it a bit more thought.

A lot of good ideas have been coming in from readers.

Julius Van Dongen, WA6FOX, has suggested a net for WORLD-RADIO readers, possibly on the weekend on 15 meters. The net could handle traffic, be on the lookout for emergencies, etc. Julius says the theme of the net could be "Getting to know you".

John Adams, W6UBJ-W7OTC, has suggested that WORLD-RADIO readers might enjoy getting together for a social dinner gathering in their local areas. No club or organization idea, just a social evening with stimulating conversation. John suggests the restaurants which have a banquet room would be a good place. If there is interest in this we could print a list of calls in the various areas and some volunteers could take it from there.

How to drive 5,500 miles and "ham it up" too.

by George Hinds, WB8JYR



Unless you are enjoying 2 Meter FM, you cannot conceive how much a long vacation by auto can be brightened by the presence of a multi-frequency rig in the car! A year ago I took a GE Progress Line on vacation; this year, we had a 12 frequency Standard with a Dycomm Amplifier and it multiplied the fun vastly. More than one hundred (100) stations were contacted for QSO's of varying length. Miles that were formerly tiring or boring became smiles of friendly conversation. Hams were met, not only on the air, but in person, and new friends made.

Repeaters to enlarge coverage were found in areas where, but a short year ago, 2 meters was empty. In our previous home town (Cedar Rapids, IA) we found the hams in this base of Collins operation with an excellent machine on 16/76. Both

the 22/82 and 34/94 repeaters in the Council Bluffs/Omaha area were manned by friendly voices anxious to offer road advice. Nebraska proved to have plenty of 2-meter activity and it was evident from the conversation that old time hams are flocking to 2M FM for basic local communication. Just as in Ohio, 146.52 seems to be taking over as the second simplex frequency.

Though presently on a "leave of absence" as a railroad conductor, it was a real pleasure to contact Larry Tremain, K0CFR, in Nebraska, an electrician for Union Pacific and later to hear the history of the Moffat Tunnel through the Continental Divide from John Hamilton, W0MDS, over the Denver Repeater on Squaw Mountain; John is a D+RGW passenger agent in Denver. So this old "rail" had the door to

friendship opened by other "rails" as well as hams from every field, it seems!

There were so many eye-openers: Atop Squaw Mtn. at 11,500 feet at the Denver Repeater site with Frank Swanlund, W0WYX and his XYL with thirty-one transmitters and forty-four receivers in operation filling their year-round home on the peak; a never-to-be forgotten experience. Being able to work the Colorado Springs repeater 90 miles out! The many repeaters while driving the miles, all with friendly, welcoming voices! A warm response to a call made in lonely areas away from the larger cities!

If you haven't given 2M FM a fair trial, do so. Like me, you may never be without it!

Hamming Helps the Handicapped

Mineral Wells, Tex. (AP)--The sun is shining brighter for Olin Chancellor of Mineral Wells. This is because he is a member of a special radio net for the handicapped. No longer is he lonely and cut off from contacts.

Chancellor has seen many dark days in the past six years, but now he is well up on world affairs and has many special friends - few of whom he has seen.

Chancellor suffered a severe stroke six years ago which left him speechless and which paralyzed his right side.

After a stay in a veteran's hospital, he was brought home to what would appear a life of loneliness. But a few people thought differently.

Although Chancellor could not speak, nothing was wrong with his hearing. So the group interested him in amateur radio, an arrangement by which they could talk to him.

After many months of effort, relates staff writer Carol Canterbury in a recent edition of the Mineral Wells Index, Chancellor began to talk slowly into a microphone. The patience shown by his friends encouraged him to keep trying. He even became a member and officer of a local club.

Then followed much study and hard work and Chancellor passed his ham radio license test.

Thus he is now a member of the unusual association - the Handicapped Information Net of more than 80 members.

The net was organized and is directed by a group of handicapped amateurs. One of its aims is to help handicapped persons to obtain a license which will connect them with the outside world.

The net, however, contains some amateurs who are not handicapped. They are vital to the operation, since they maintain the equipment, install antennas

and provide instruction.

The net includes some members who are blind, others crippled and some bedfast.

Simple conversation with people they can never hope to meet is what gives the members the desire to keep going and gives the lonely ones the lift they want to live and be part of something, the Index reporter relates.

If a member misses two days of roll call, the group sends one of the non-handicapped to find out what is wrong. Or one of the members will telephone long distance to make sure the member is all right.

The net offers the handicapped physical as well as spiritual help, for someone is listening on the net at all times and is ready to seek help in case of trouble.

The net got its beginning February 12, 1969, with the first roll call receiving five replies. Today there are 80 to 85 replies at each of the three roll calls each weekday.

Managing and one of the first members is Ralph "Buddy" Boyd of Conroe. He operates his radio with a self-tuning rod between his teeth. He had a swimming accident at the age of 15 and is bedfast.

Otto Huggens of Whittett is assistant manager and the man who calls the roll. Velma Lee Rudel serves as secretary. She has assisted in the care of Boyd for 19 years.

Trouble shooter is Bob Johnson of Houston. He has a respiratory problem and is confined to his home. His duties are to listen for anyone with radio trouble and get help to them.

There are many members who are not handicapped and these are the ones Johnson calls on to assist with repairs.

One of the most active members is Phillips Rosenstein of Corpus Christi. He travels hundreds of miles every year to set up radios, antennas and to teach

beginners. John Beach and John Kendrick are among those who set up Chancellor's radio.

Members from Fort Worth who came to Mineral Wells and installed Chancellor's antenna were Nat Davis, Noah Pritchett and Paul Spock. Paul Hopkins of Mineral Wells also aided in arranging Chancellor's installation.

Some of the members are known on the net largely by first names.

One is Dianne, a 14-year-old sightless girl who obtained her license in the past year.

There is Ben, a justice of the peace at Santa Anna, who gets around in a motorized wheelchair and can only move from his neck up.

Another active member is Dorothy of Oklahoma City. She is starting a school to teach new operators. Although Dorothy is blind, she has a master's degree.

(From "Q Beat", Colorado Springs,

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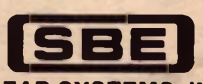


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Is Amateur Radio worthwhile?

by Dennis Scannell, WB6IXC

Is Amateur Radio just a play-thing to while away the idle hours, or is it really worthwhile?

If you don't know the answer to that question, I can tell you who to ask: Ask the families of those in a disaster area like the recent earthquake in Managua--or ask the Amateur Radio operator who was able to pass the words, "Tell them we are safe and well", to maybe only one of those grief-stricken families.

To my own knowledge, the amateurs in San Diego, WB6BAC, Bobbie Underhill, K6KFY, Ben Wytttenbach; W6SK, Don Campbell and myself, WB6IXC, passed upwards of 150 pieces of health and welfare, urgent and emergency traffic for the Nicaraguan people (this number represents inquiries concerning about 300 individuals).

I was fortunate (if you can call being unemployed fortunate) in being able to monitor the entire saga from the very first trickle on Saturday morning, through the onslaught during the following 3 days (or 3 daze?), until General Somoza got things organized and made communications out of confusion, on through the first week of the new year, until it became a trickle again.

You certainly can learn a lot about propagation when you monitor a band for 10 or 12 hours a day--you can hear it come in, build up, fade away, build and fade, build and fade, until it is finally gone--very educational.

You can learn about people too, and Amateur Radio people in particular--and you wonder. There are many, many, fine, wonderful human beings who are Amateur Radio operators, and there are a few rotten, rotten, monstrous, hateful human beings who are Amateur Radio operators--where do these rotten ones come from, how did they ever get amongst us?

Like the one who informed a YN operator working out of his home that was no more than a pile of rubble around him, trying to establish communications using portable emergency power, that his signal was too broad! Oh really?

And the one that was calling YK1AA for nothing more than a signal report, who informed the Net Control of the official Nicaraguan Government, that he had been listening on the frequency and all he could hear was the Net Control, so he would call his DX station as he pleased. With his beam on Syria long-path, I'm not surprised that he couldn't hear Nicaragua. I hope he got his signal report and his pretty little piece of cardboard to gloat over. He certainly destroyed for a time the only contact General Somoza had with the outside world during his first hours of tribulation. I've got something he doesn't have, though--a tape recording of his little act, and someday, God is going to get him for that!

And then there were the individuals who came back with the

absolutely startling information that they ALWAYS have a schedule on Sunday morning with their crony in Nowhere, USA to talk about their pet duck's latest adventures and about the new chintz curtains their wife had hung in the privy! How do you balance the need for a story about a lame duck against the need for a mother to know if her missionary son is dead or alive?

It's not terribly difficult for a person with any sensitivity at all, but do you know who these other people are? They are the same ones who leave the shopping carts in the middle of the parking lot, the same ones who drive down the freeway in the fast lane at 35 MPH, the same ones who force their way past a block long line at the post-office or the bank because they really can't see any reason why they should wait in line for their turn. Can you figure it out? Tell me!

Well, enough of that; let's talk about the good guys: First of all, those staunchest of individuals, the YN stations who set up and maintained communications hour after hour, day after day, when their own lives were on the brink of disaster, and who put up with the most incredible amount of pandemonium the human mind can imagine!

Among them were YN1IMO, Imogene Curran and YN1BCD, her husband, Buck, who were among the first on the firing line. YN1NIC, Dick (who is really YN1YN) who put in endless hours at General Somoza's headquarters station. YN1JMP, Jo Ann, doing a beautiful job of handling a most disheartening task of trying to locate missing persons and to provide family and friends in the States with a ray of hope. YN3IA, Jack Gurdian, clearing traffic from Leon. YN6HJ, Norm, fantastic signal from the bush. YN6MBT, Melvin Broxton, in Chinandega, passing traffic when he could. YN1 ZBZ/6, Freddie helping Melvin out (or vice versa). YN1HJ, Ed and Jim handling outgoing traffic.

And those wonderful, wonderful men of the International Missionary Radio Amateur Net who acted as the net controls during the fray, and who worked under as much duress as the YNs, what can you say except, "BRAVO! for a tough job well done"? I'll tell you, 14, 280 was where the action was. I never knew any of these fellows before, I don't even know if they are all men of the cloth. I do know they handled themselves like Saints. How many times can a Net Control call for YN stations with out-going traffic and have a dozen well-meaning stations come back with, "This is Minnesota calling. I have a friend who has a cousin somewhere in Nicaragua, but all I have is a first name--Carlos". Do you know how many Carlos' there are in Nicaragua? About as many as there are Bills in Pennsylvania!

How many times can a Net Control call for "emergency or urgent traffic, no check-ins please,

no incoming health and welfare (H and W) traffic from the states, ONLY EMERGENCY OR URGENT TRAFFIC FOR NICARAGUA, PLEASE!" and have ten stations come back with, "Any traffic for East McKeesport?", or "Can you tell me what happened to my girlfriend Maria? She has been down there for three years and I haven't heard from her since--I think she works in a pharmacy somewhere"? How many times? I can tell you--about 30,000 times, that's how many times! And never, never, NEVER, a discourteous, sharp, or sarcastic reply from those magnificent Net Controls--NEVER! Always, "Thank you very much for checking in, we have no traffic for your area at this time, but we appreciate your offer to help". Or, "Sorry, this is an emergency channel only, we are not allowed to take incoming H and W traffic at this time. Please try frequency such-and-such for incoming traffic. Thank You." THIRTY-THOUSAND TIMES! You try that sometime!

Who were these giants? W9LII, Tom Barbour, Net Manager. WA5YOI, Frank Savat; he was on everytime I checked the frequency. WA2BPV, Warren Mulhall, firm and helpful. W4ORT, George Werner, supreme organizer (as he told Dick at YN1NIC, "Tell General Somoza, that as an ex-military man, I can tell him that he had better get himself some runners there at the headquarters station or he will never get rid of any of that traffic." Came back Dick, "Well, the General is standing here right now listening to you, so you can tell him yourself." Gulp!)

HCIMH, James Morrison, welcomed assistance from the south in the early morning hours. K5TYP, Larry, LOUD and very efficient. WA9CCB, Louie Forster, filling in when needed. WA7LUB, Ted Wewer, having a little trouble with propagation. These are only a few of the many who participated, but they are all over my log book, so they must have been doing something! If you ever hear any of these fellows, or the YNs above, take time out to call them and say, "Hey, I heard you were an A-1 operator."

Now let me tell you something about competent operators: First thing, we have more good guys than we have competent operators--that is fact! I don't deny their good intentions, but a guy who can't run an efficient phone patch (you don't dial and place calls with the operator with your transmitter on the line, you get the party on the line and then call your station), or a guy who can't copy the name of his own town without asking for repeats, a guy who does not have a first-class station and can not copy the station with traffic better than a 4 X 4, a guy who has no experience with message handling whether from AREC, RACES, CD traffic nets, MARS, or what have you, has NO BUSINESS getting involved in an international disaster! And a guy who can't keep his mouth shut and listen has even less

business in an emergency net.

I'll tell you one thing: you never had any trouble telling an operator with AREC experience from the casual rag-chewer-Sunday-morning type of operator. Those AREC and traffic net boys know what they are doing! You know, that's what those weekly AREC check-in drills and the ARRL/SET drills and those traffic nets are all about--training, training, TRAINING--for the time when you have to COMMUNICATE!

If you found yourself all thumbs and tongue-tied on some traffic you tried to handle, look up your friendly AREC Net or your Station Emergency Coordinator--he will be delighted to meet you, and you may just learn what is expected of you when someone says, "We have emergency traffic for the Nicaraguan Consulate in San Diego (there isn't one) from General Somoza."

And the first time you have to deliver an urgent message to someone who doesn't speak your language and you don't speak his, you may wish you had thought a little beforehand about it, too. Do you know how to set up a conference call with a linguist to pass traffic in a foreign language? Think about it.

Well, what else would you like to know about the situation as it developed in Managua? Chronologically, it went something like this: The log shows 23 Dec., 2105Z 14. 260 EARTHQUAKE! Didn't pay much attention to that at the time. 24 Dec., Sunday: Had a call from the Nicaraguan Consulate in Israel via 4Z4 JT while rag-chewing with DL5DD, F8ZS, etc., with their regular group, K6MOO, Harry; K6AQV, Fred; K6GLC, Jim, inquiring into the H and W of his family in Managua. Couldn't do much for him; found out from YN1BE, Benjamin Elizondo that power and water were gone and that there was heavy damage in the city.

24 Dec., 14. 303, 1634Z, YN1HO reports the American Embassy destroyed, a secretary and her visiting friend killed. Later on that day (the log gets kind of foggy about now) YN1IMO and YN1BCD start passing info regarding extent of damage and areas damaged on 21. 344. Messages start pouring in from all over Southern California for H and W of family and friends in Managua. Thirty-one messages passed to YN1IMO by W6SX (Hamilton Jeffers), K6KFY, (Ben Wytttenbach), WB6BAC (Roberta Underhill), K6SMT (Earl Wiederhold) and WB6IXC in San Diego. YN1IMO reports telephones out and city being evacuated. Official Nicaraguan Government station advised priority of supplies needed.

Next day (Christmas): More info from YN1IMO on damaged areas. Couple of days pass with not much going on because General Somoza is trying to get communications organized. Incoming H and W from the States has been halted but we have passed about 75 more messages up to now. It is now 28 Dec., Thursday. Most of the time was spent trying to figure out what was going on.

Organization of communications is decreed by General Somoza as follows: 14. 295, official

government net--incoming and outgoing emergency, urgent and official traffic only; 14. 280 (IMRA Net), outgoing H and W YN traffic only, 14. 325, 14. 345, incoming U. S. H and W traffic only. Things are getting better now, except that there are thousands of outgoing U. S. H and W messages, and no one to give them to (SIGH!). General Somoza attempts to set up additional frequencies for incoming H and W for States on 14. 143 to alleviate congestion in U. S. phone band, but FCC does not (or cannot) comply. General Somoza suspends all YN1 (Managua) amateur licenses and orders all license holders to report to his National Director of Radio and TV, Major Luna, so that they can assign emergency call signs and enlist all available stations to help out with the emergency. (I don't know who this General Somoza is, but he must be quite a guy. I would like to shake his hand sometime, I wonder if he would shake mine?)

29 Dec., Friday: Both emergency channel and IMRA outgoing YN channel functioning. Fifteen H and W messages received and delivered for California. (If I forgot to tell you before, if you get into a situation like this where they fire 15 messages at you at a time in Spanish, it is fortunate if you have a flexible tape recorder--you can handle 15 messages while someone without a recorder is handling 2 or 3.)

30 Dec., Saturday, 17 more consecutive H and W messages received and delivered for California (thank God and Bankamericard for the recorder).

31 Dec., Jo Ann, YN1JMP establishing incoming U. S. H and W channel on 14. 345, going is rough because there is very little she can do as far as locating any specific persons--the commercial radio station is helping some now.

1 January 1973--Happy New Year--in a lot of places, but not in Nicaragua. Things are pretty efficient now, outgoing YN traffic has slowed but still having a problem getting YN stations to accept incoming U. S. H and W traffic. If sufficient information is available, they can be gotten through.

2 Jan., Net Controls now having difficulty keeping the frequency clear, YN stations coming up periodically with outgoing traffic. Plenty of U. S. stations around to handle. Some phones in Managua now restored. Food and supplies getting to where they are needed.

3 Jan., only a few incoming and outgoing messages. Incoming U. S. H and W traffic still the big problem -- should improve to a satisfactory degree in the next couple of days.

Is Amateur Radio worthwhile? YOU BET! Just ask the mother who found her children to be safe, or the doctor who got the right medicine when it was needed, or the wife who was given at least a ray of hope that her husband was OK, or, last of all, ask the Amateur Operator who heard the yell of joy in the phone as he delivered a message that all was well, and was told in parting, "YOU AMATEURS ARE DOING A WONDERFUL THING. GOD BLESS YOU ALL!"

Girls Find Via Shortwave that Receiving Is a Form of Giving

Christmas is over now but it will be long remembered by the children in the Mexican village of San Vincente who watched a plane swoop from the sky, laden with toys for them. And the pleasure of the youthful recipients was matched by the joy of another group of youngsters - miles away in another country - who had sent the presents.

The story really started in the fall, when 29 brand new Junior Girl Scouts in the fourth grade at Fremont School, began thinking about their Promise... to do good deeds, help others, be friends to all. Since Christmas is important to children, the thought occurred that perhaps they could do something to help make Christmas brighter for other less fortunate children.

With the help of their leader, Mrs. Dudley Warner, and her assistants, Mmes. Richard Everett and Keith Sheffer, the girls began collecting toys, and before long had a truck full nearly 200 pounds, and Mrs. Warner knew just what to do with them.

While trying to make wireless contact with Ensenada, she became acquainted with the little Mexican village in a remote area of Baja California. "There are no telephones at all, and I learned that aid - medical and other - is given to the area on a regular basis by a southland group called the Good Samaritans."

Seeking out members of the group, Mrs. Warner became better acquainted with them, finding several who

flew their own planes, and with the wholehearted endorsement of her Girl Scouts decided that the children of San Vincente would most welcome the toys the girls had gathered.

Arrangements were made with the Foothill Chapter of the Flying Samaritans, and soon the plane, full of gifts, was on its way.

However, that's not the whole story, although it could be. "Feeling that Scouting is not just doing, but learning as well" continued Mrs. Warner, "I thought it would be an opportunity to help my girls learn more about another country and culture. We are working the village and its people into our program in other ways. Several of the girls in the troop are working on the Pen Pal Badge, and are writing letters to San Vincente."

Mrs. Warner also obtained slides of the village, and particularly a school established by the Flying Samaritans, and showed them at a meeting, so that the Scouts could better visualize the people and the way they live. Soon the girls will tour Olvera Street in Los Angeles, where they will sample typical Mexican foods and visit the historical sites. The arrangements are being made with Las Damas de Los Angeles.

Perhaps the most exciting event in the whole story occurred this week, when Bob Heusser (K6TUY), communications specialist for the Flying Samaritans, Foothill Chapter, brought his "Ham" radio to a troop meeting, and established contact with San Vin-



K6TUY

cente. Members of the Girl Scout troop and children from the village met "voice to voice" for the first time. Each Girl Scout was prepared with questions: what do you eat? what is your school like? what do you do at home? what games do you play? Mrs. Warner aided in translation and the children in San Vincente were helped by "Miss Evelyn," an American school teacher there.

Besides providing transportation for the toys and the radio, the Flying Samaritans are still helping the Scouts in their project by financing the mailing expenses from Mexico.

Perhaps in months and years to come, some of the Girl Scouts and some of the Mexican children will meet - on an exchange visit, or troop trip. "That's in the future," says Mrs. Warner, "but right now my girls are learning that the Girl Scout Program works - when you try and care and do for others, you get more out of it for yourself."

She adds that without the assistance of the Flying Samaritans the project would not have been possible, and encourages members of the community to support this group in its efforts. Information on the group can be obtained from Flying Samaritans Inc., P. O. Box 813, La Canada, Ca., 91001.

The Worldradio Fund

"I believe in the family of mankind"...Mark Twain

WORLDRADIO donates ten percent of its subscription income into a fund which is equally divided among those listed below.

Radio Amateur Invalid and Bedfast Club-

The organization, based in London, helps blind and disabled amateurs in Britain, New Zealand, Australia, Canada, South Africa, Finland and the USA. Equipment is repaired, antennas are erected and literature is distributed to the handicapped amateurs.

Hadley School for the Blind-

The school, located in Winnetka, Illinois, operates an Amateur Radio correspondence course, given without charge to the blind. The course has over 150 blind students (and a waiting list). Students are located in the USA, Australia, New Zealand, India, Hong Kong, Scotland and other countries. Volunteer chairman of the program is Byron Sharpe, W9BE.

Handi-Hams -

A group in the Midwest (W0) who teach blind, handicapped and bedridden persons to become amateurs. The group also, through donations, gives radio equipment to the handicapped.

Airmen's Memorial School-

Located on the island of New Britain, off the coast of New Guinea, the

school was the first education for Ewasse Village children. The school and clinic is a non-profit foundation project of Fred Hargesheimer, W0EBG, of White Bear Lake, Minnesota. The area's natives nursed Fred through illnesses and protected him for eight months during 1943 after his P-38 crashed. Fred, an electrical engineer, is currently on leave of absence from UNIVAC and is teaching math at the school. He is operating as VK9FH.

Rancho Sordo Mudo-

Located one mile south of Guadalupe, Mexico, the school cares for 15 Mexican deaf-mute orphans. The school's director is Ed Everett, XE2YX.

Amigos de las Americas-

Working in Guatemala, Honduras, Nicaragua and Colombia, this group of U. S. high school and college youth administer immunizations, teach hygiene and reading and help in many ways. The volunteers go down for three week tours, paying their own expenses. Many amateurs are involved in the project.

Colegas y Amigos-

The Southern California and Mexico Amateur Mobile Group has as its primary aim the promotion of international good will. They assist an Old Folk's Home and a Girl's Orphanage

in Ensenada, Mexico. The group also works with the "Flying Samaritans", the pilot/doctors who fly into remote areas of Mexico to give medical assistance.

S. S. Hope-

Amateur Radio has always been a part of the journeys of the HOPE as she covered the world treating the ill and serving as a teaching hospital. HOPE also maintains permanent medical facilities in Nicaragua, Peru, Colombia, Ceylon and Tunisia.

Minh-Quy Hospital-

Located at Kontum in the central highlands of Viet Nam, the hospital is staffed by an American woman doctor from Seattle, Dr. Pat Smith, and two nurses. The facility which attends to the illnesses and injuries suffered by civilians, also receives help from a Swiss medical team. Assisting the hospital is a continuing project of Sgt. Steve Olson, W6EQM, who was stationed near the hospital with the Special Forces. He is now in Fresno, California.

International Mission Radio Association

The Association furnishes communication for those in remote areas of the world such as Peace Corps workers and missionaries. Funds are used to purchase radio gear for ham missionaries of all faiths.



Reach Out!

The Southern California DX Club recently started a program to encourage nationals of emerging or lesser-developed Pacific Basin and/or Asian countries to become active (or more active) amateur radio operators. The Club has given its program the name Project ECO (echo); E for education, C for construction and O for operations. In brief, the Club would like to arrange for carefully selected individuals in the geographic areas previously mentioned to receive, at little or no cost, three types of assistance.

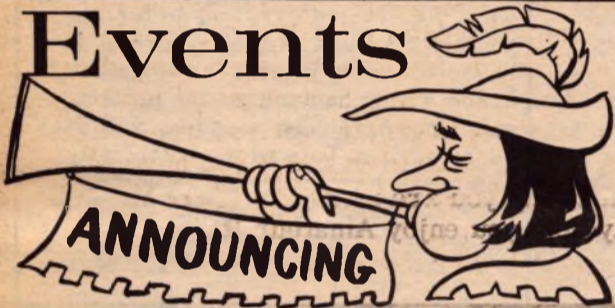
1. Published material such as handbooks, manuals and/or magazine subscriptions, such material would be provided in the most suitable language available, e. g., English, French, German or Spanish. The intent is that the recipient would use this material to obtain or up-grade his (or her) license, and to stay current with the latest ham radio techniques and topics = Education.
2. Information and suggestions on the construction, modification, maintenance and/or troubleshooting of new or existing equipment and antennae. Also, the Club occasionally 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 of home-construction of equipment. The purpose of this is to promote more and better quality signals = Construction.
3. The last part of the Project would be for us, as a Club to do what-

ever we could to get these individuals to spend more time operating amateur radio. However, it is not the Club's intention to superimpose any operation requirements, such as established schedules or lists of preferential stations to be worked, unless the DX-operator involved specifically requests such assistance. It is envisioned that the Club would act as QSL manager, or provide QSL cards or perhaps provide log books. In short, the Club would encourage on-the-air activity = Operation.

The concept of Project ECO is not unique and the Club does not regard the type of assistance outlined above as its exclusive perquisite. Quite the reverse, in that we seek participation by any person, group or club that is interested in achieving the same long term objectives - Education, Construction, Operation - to promote world wide amateur radio.

Pete Hoover W6APW
1520 Circle Drive
San Marino, CA 91108

Events



The Fresno Amateur Radio Club presents the thirty-first annual FRESNO HAMFEST.

It will be held at the Sheraton Inn (formerly The Hacienda) at Highway 99 at Clinton. Dates - May 4, 5 and 6, 1973.

For motel reservations contact: Sheraton Inn, 2515 N. Parkway Drive, Fresno, CA 93705. Rates: Singles \$13.00; Doubles \$15.00; Twins \$17.00

For Hamfest-Registration contact: Fresno Amateur Radio Club, P. O. Box 783, Fresno, CA 93712. Pre-registration \$10.50 before April 27; after April 27 \$11.50. Home in on the Club Repeater 146.34/146.94.

Friday May 4 - Registration 4:00 to 8:00 p. m. - Choral Room; Champagne Get Together - 6:00 to 8:00.

Saturday May 5 - Swap tables; Code Proficiency; Transmitter Hunts 2 and 5 M; Equipment Displays; Ladies Luncheon and Tour.

Sunday May 6 - Breakfast Meetings - Sign up at registration tables when you arrive.

The Hamfest will feature Tech Talks, Slow Scan Television, Explore FM, WARS - WCARS - WPSS, and more.



Send news of upcoming hamfests to Worldradio
2509 Donner Way
Sacramento, CA 95818

FRESNO - Don't forget to set aside the weekend of April 7 and 8 for the big Fresno International DX Conference. NCDXC is host this year, and a fine program is planned. Out of state visitors will include Joe, W3HNK. The conference will be held at the brand-new Fresno Hilton, and it would be advisable to make your reservations soon. The Hilton is located at 1055 Van Ness Ave., Fresno, CA 93721.

DAYTON: World's largest hamvention. The 22nd annual "Dayton Hamvention", 28 April 1973. Located at Wampler's Hara Arena. --Technical Sessions- Exhibits- Flea Market- Hidden Transmitter Hunt- Awards- Banquet- Ladies Program-. For Information write: Dayton Hamvention, Box 44, Dayton, Ohio 45401

The Apricot Net

The Apricot Net Membership certificate reads, "This certificate is hereby presented to a member of the Apricot Net whose chief purpose is dedication to Public Service, uplifting Amateur Radio's Image and pledging harmonious relationships on net frequency - 51.0 MHz." Net members live by this creed, and have for almost 14 years. Two incidents, typical, this month:

Net members, who send messages for nuns in a cloistered convent, were asked if they would give advice on installation of television antennas. President Kenneth Simon, WA8QFK, and Associate Net Control Andrew Doles, W8UDG, quickly responded by traveling to the convent, after working hours, where they inspected the large building's layout.

Simon followed through the following day

by traveling to Finco Beam Co. where its Board Chairman, M. L. Finneburgh, Sr., contributed two large beams plus feedline and accessories.

On the third day, W8UDG and WA8QFK returned to the convent, worked until nightfall when the antenna installation was completed, with much gratitude from the cloistered occupants.

Monday nights informal portion of a Meeting-on-the-air found Edward Hoffman, K8NQA, reporting his wife's decline in health and her need for a wheelchair. Apricot Net member William Zahuranec, WA8LIP, an American Legion Commander, responded with an offer to give a wheelchair as long as it would be needed. WA8QFK drove across county, picked up the wheelchair, delivered it to Hoffman's home; all . . . within 24 hours.

Apricot Net members honored Werner Saubers' 50th year in Amateur Radio. Sauber, W8KC, (volunteers) teaches ham radio classes at Society for the Blind, at the VA hospital. Surprise guests appeared on frequency to pay honors to this dedicated public servant.

Net members handled mobile communications for downtown Cleveland's Columbus Day parade.

Hark!

If this newspaper came to you in the mail and you are not yet a paid subscriber--it was a free sample copy sent to you to introduce you to WORLD RADIO. If you find the contents of interest you are cordially invited to subscribe.



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WORLD RADIO is determined to be useful and valuable to you. We hope the news in this paper is of benefit and that you find it helpful in achieving the fun, and opportunity for service, in this wonderful hobby.

We are most vigorous in our efforts to bring you news of the warm and wonderful people who engage in this wholesome activity known as Amateur Radio.

Those amateurs who thrive on being industrious, who find joy in doing good for others will be forever youthful. We hope the feature stories about these productive hams will help others to understand the victory of success in using ability - possibly as many hams have done - in winning the battle to save a human life.

Amateur Radio can make a holiday even more pleasant. It is a great advantage for the traveler. You will meet charming, kind and pleasant people.

The beauty of Amateur Radio is that it can satisfy so many needs. It can build character in the young, bring a smile to those in ill health, provide the only reliable communication in time of need and help the whole world profit by bringing about a greater unity among peoples. What activity is more comprehensive?

The truth is, those who find the knack of lasting enjoyment in an activity are those who make a maximum effort. We rejoice that there are such people in the ranks of Amateur Radio Operators.

We have put the views of this publication out in the open for your judgment. If you agree, you are cordially invited to subscribe.

As a matter of pure economy it is necessary to charge for it. Considering the costs of printing and postage, we believe five dollars a year is quite reasonable.

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"Thanks fer checkin' in" by Lou Huber, W7UU



There's one test for everything in amateur radio - for equipment, systems, modes or what-not - which determines whether or not it will survive. This test is not over how something looks, how it sounds, or even how far you can hear it - though all these considerations are important. What really matters more than anything else is does it improve communication?

Ham-radio history bears this out. The ancient battle between spark and continuous wave ended with c. w. the victor - because it provided better communication. Sparks sounded better (when they were run right); No wonder many of us loved the sound of a rotary gap running slightly out of sync with the 60-Hertz supply. 'Twas music to all ears.

And so with more recent battles. The long-drawn-out conflict between c. w. and phone finds phone (with help from single-sideband) winning. Why? Because more information, more ideas, and more intelligence can be transmitted via phone than by c. w.

Of course it's human nature to become attached to modes, procedures and equipment. Who doesn't know the ham who won't even listen to phone (nothing but c. w. for him!), and if spark had not been outlawed there might still be some incurable rock-crusher addicts around.

On the whole, however, amateur radio is a remarkably up-to-date activity. Though a hobby, at its best it often beats its commercial counterparts by a wide margin. (Note the qualification at its best; sometimes ham radio is not at its best, as we all know.)

Accepting the thesis that communication (that is, the transmission back and forth of information, ideas and intelligence) is the most important aspect of ham radio, let us review that development.

One of the first big steps was recognition of the value of relaying; indeed, this was so important that it led to the founding of the American Radio Relay League. With this step ham radio put itself squarely into the position of helping others; henceforth, the hobby was not just for the delectation of those practicing it: ham radio became a public asset as well.

Harking back to those days, one can realize what an innovation relaying was. There were nothing but spark transmitters in those days, and getting out of your own state was an accomplishment. To send a message into a third or fourth state, or clear across the country, usually was impossible - but it could be done easily by relaying through one or more other stations farther along the line.

Public Service
Of course the handling of messages

"for free" undoubtedly cut into the profits of Western Union. Land telegraph was the only practical means of long-distance communication then (cross-country telephoning at that time being very costly and rather ineffective), but this did not deter the hams of those days. Hiram Percy Maxim (a personal friend of this ham), who is credited with much of the drive toward public traffic handling, was a bold and imaginative man. I don't think he or any other ham of those times gave any thought to loss of revenue for Western Union because of their activities. Perhaps even Western Union didn't.

The thrust of amateur radio thus was quite early turned into a fortunate direction, that of public service. Eventually (1934) the communications act passed by Congress embodied this very tenet: that the radio spectrum is public property, and that it be used by all "in the public interest, convenience and/or necessity."

The beginning of message-handling activity by hams found us without any experience, of course, so we turned to others who had been handling messages to see how they did it. Western Union, Mackay Radio, Radio Corporation of America, and others had developed forms for messages which provided numbering, filing time and a sequence of preamble, address, body of message, signature and so on - including a "check" for number of words. This "bookkeeping" was essential to efficient communication of those days. Dipping into this fund of experience, hams added some "goodies" of their own (such as the "ARRL" abbreviations) and lo! the formal, or written, message was born.

For a good many years this type of message, along with c. w. (code) and the network of relays that was set up, was THE way to go - and nobody questioned it, for there was no other way to go. But it's not so any longer (though a lot of hams don't seem to realize it): today we have single-sideband radiotelephone which punches through with astounding fidelity and clarity. It is difficult now to uphold the tenet that c. w. assures the utmost in reliability. One suspects that those who try to do so haven't been listening much.

Oxcarts and Jets

The latest (and perhaps greatest) advance in communication in amateur radio is phone patching, or the connecting of telephone circuits to amateur radiotelephone. This, in single-sideband mode, pushes so far ahead of the formal message that there is little comparison - unless one could say that the formal message is the oxcart and phone patching is the jet plane of ham radio.

The formal message is a one-way, one-shot piece of information. The sender is the only one involved, as a rule - initially, at least. A phone patch, by contrast, involves both sender and recipient at the very same moment. Furthermore, it is an exchange of several messages,

one after another, each message modifying the coming answer to it - back and forth, back and forth. A whole week or even a month of formal messages (for it would take that long, at the usual rate) would be needed to accomplish what a single phone patch can accomplish. The impact of all this on persons engaging in a phone patch is tenfold that of a formal message on its sender and recipient. People who have had phone patches run for them really KNOW what a service ham radio provides.

Yet, for all the striking advantages of phone patching, it has received mixed reactions - from open-arms welcome to complete cold shoulder. The reason for this is that a third party - the telephone company - necessarily comes in for consideration. Figuring out this relationship produced some fuzzy thinking - such as the thought that hams with phone patches were depriving the telephone company of revenue. That, of course, is not so. Let us demonstrate:

Suppose you have a visitor in your home. He is welcome to use your telephone, of course. You wouldn't think of paying one extra penny on your telephone bill for local calls your guest makes - nor would the telephone company. Now if that guest comes into your home via ham radio it's essentially the same thing: YOU brought him in; YOU paid all the expenses connected with his visit; it didn't cost the telephone company anything.

Illegal?

One must grant, of course, that it is possible to foul up telephone circuits through faulty operation of a phone patch. No doubt this happens sometimes (but in all our years of phone patching it has not happened, nor do we know of any such instance), but it is not a valid reason for opposing phone patching. That would be like opposing the use of automobiles because some drivers have accidents.

The phone patch in an up-to-date ham station is as important as the microphone or the key. The most active hams, communications-wise, have had phone patches for years - since long before the Hesitant Harrys and Nervous Nellies worried about the supposed (but non-existent) "illegality" of phone-patching.

What made phone patching seem illegal were the tariff schedules of the various telephone companies. These are set up by the state utilities commissions, usually after consultation with the telephone companies. Tariff schedules have various provisions, the principal ones being the rates that can be charged for services. Included, however, are restrictions as to what connections may be made to telephone lines - presumably out of concern for avoiding malfunctions.

Now, these tariff schedules are quasi-legal; that is, they are not laws but they have the force of laws. Just because they appear in print in tariff schedules does not make them right and just. They are what someone thought would be a good idea for regulating telephone operation, and

they can be called into question, and until recently they "outlawed" phone patching - but that did not make phone patching wrong. It should have been the concerted effort of hams, in our opinion, to oppose and remove such provisions. As it was, however, someone else did the job for us.

The legality of phone patching was affirmed through litigation brought on by Carterfone, a manufacturer of commercial phone-patch equipment. At long last, after much stewing and fretting by a number of weak-kneed hams over where amateur radio should fit into the picture, the bogeyman against phone patching was removed. Probably the telephone companies didn't care much anyhow. They have benefited more from ham-radio phone patching than they have ever admitted - in the thousands of paid long-distance calls arranged via overseas phone patches; these mainly are calls that never would have been made except via ham radio.

Of this controversy-that-never-should-have-arisen, Judge Maurice J. Hindin, W6EUV, for many years a highly-respected attorney in the Los Angeles area, observed: "You will recall that the ARRL was originally formed to provide a service of relaying messages, as its name implies. When a newer and more effective form of handling messages developed, i. e., phone-patch operation, the League, in deference to the tariff policies of the various telephone companies, not only ignored this form of activity, but made no effort to get tariff regulations modified to exempt phone-patch operation. They took the position that since the telephone companies had provided in their tariffs provisions against 'foreign attachments' this was the last word on the subject. Hence, they never recognized phone-patch operation as a legitimate amateur activity. The League did not enter the Carterfone cases as an amicus curiae or otherwise interested party as did many commercial groups."

How unfortunate that the ARRL did not! And what a far cry this was from the days when Hiram Percy Maxim and others formed the League so that public service and the free handling of traffic would be the cornerstone of amateur radio."

No "Bookkeeping"

Phone patching, seen in perspective, is the culmination of much technological advancement - so much that it virtually eliminates the need for relaying, for the party originating the message is talking directly to the addressee. But phone patching does even more: it eliminates the tedious "bookkeeping" chore of the formal message, too. No need for composing the bothersome preamble with its various components: all that is needed is a record in your log of the phone numbers and names of the parties conversing.

There is one pitfall in phone patching that one must avoid, how-



ever: entrapment by trivia. One gets a good feeling from running a phone patch where exchange of worthwhile information is involved. But where idle chit-chat occurs it's different. Aunt Millie's new kitten, last summer's vacation, the weather, Bob's new car, and what Susie wore to church last Sunday - all these don't amount to peanuts and have no place in phone patching.

This ham refuses to give up phone patching (as some hams do) because of this abuse. "Can you wind it up soon, folks?" I inquire, when a suitable pause occurs. "I'm sitting here throwing a switch every few seconds so you can talk to each other, and I do have other things to do." If this doesn't straighten things up, I come out with: "Sorry, folks, but I have things to do. Please say what is important right away so I can close the patch." With hints like this one soon builds a reputation for no-nonsense phone patching, and the problem of trivia disappears.

Hams have always been proud of their service to the public, and years ago began competing for honors. Who handled the most traffic? The ARRL listed the highest monthly totals in QST as "The Brass-pounders' League." This emphasis on activity is good; however, sometimes it gets out of hand. What about the quality of the traffic handled? What about the legitimacy of the totals turned in? We hear hams doling out formal messages to each other for no other reason than to pad their totals. Sometimes traffic is sent over circuitous routes in order to boost the count for everyone along the way. This is simply a childish "numbers game", even though those engaging in it may be almost gray-beards.

What Really Counts?

Organization of communication used to be important - when it was all going via c. w. Traffic routes were planned with care. Local and regional nets were formed. The whole set-up under the ARRL was called the National Traffic System. It still is operating today; however, only a trickle of traffic goes over NTS now. Most traffic does not go via c. w. any longer; it is handled by single-sideband radiotelephone.

We suspect that a careful survey of the amount and value of traffic handled by NTS amount to be meager indeed. We are speaking, of course, of worthwhile communication. Rubberstamp off-the-cuff messages of the having-fine-time-wish-you-were-here type would rate low in such a survey.

There has been a trend over the years (especially after the advent of single sideband) away from the National Traffic System. Phone nets with no ARRL connection what-ever have sprung up all over the country; and, most recently, monitoring services have been established. These bring new considerations.

Phone nets often are as much social (or should we say sociable?) as they are utilitarian. They do handle traffic, but it seems to require a great deal of other effort to get it done. The phone nets usually open up with a preamble wherein the rules are set forth: first comes a call for check-in of mobile and emergency-powered stations; then for QSTs and bulletins; and last for listings of traffic. The net-control station doles out the traffic chores as best he can, and then comes the roll call, which lasts from five to 15 or more minutes. Usually a net will get its work done within 15 to 30 minutes, and then it closes down.

Most phone nets duplicate to some degree the nets of the National Traffic System, with refinements or variations of their own; but not everybody is happy about nets - not by a long shot.

"They're just lodge meetings," we heard one critic say. "You sit there waiting your turn to be called - like a little dog waiting to bark. For the amount of traffic they handle, we might as well not have them."

This is an extreme view; actually nets usually accomplish something worthwhile, even if they do have some of the characteristics of lodge meetings. This is not so true of nets in the higher-frequency bands such as the Interstate Single-Sideband Net and the National Sideband Net. They operate near 14, 280 kHz and handle large amounts of traffic. The Confusion Net in the 21-MHz band accounts for much traffic, including many overseas phone patches. The Alaska-Pacific Net on 14, 292 kHz serves as a link between widely-separated points in Alaska and to the south. All these and many other high-frequency nets of course operate over long distances; perhaps that is why they are not like lodge meetings. But none of them are a part of NTS.

Monitoring Services

For many hams the advent of the monitoring service is a welcome relief to the faults they find in nets. With a monitoring service only one station HAS to be on the air - all others can come in at will, or can merely listen and break in as needed, or as they please. The monitor-control job can be rotated so that work for all is lessened. The "ritual" aspect of the nets is absent; a few simple rules suffice.

This concept of monitoring services seems to have originated in California with the now well-known West Coast Amateur Radio Service (WCARS, or "Wescars") on 7255 kHz. It has been duplicated in similar services in the 7-MHz (Mid-CARS in the midlands and EastCARS on the east coast). More recently the Western Public Service System (WPSS) was inaugurated along the Pacific Coast on 3952 kHz. So far as we know, WPSS is the first evening-and-night-time monitoring service (the 7-MHz monitoring services operating in daytime, principally).

Superiority of the monitoring services as communication lie in their use of the new dimension of protracted time. With a net one is out of luck if he misses being there during the brief period it operates. A monitoring service runs for hours: it's there when YOU need it, not just when IT is there.

Newest of the monitoring services is the Northwest Monitoring Service, operating from 9 a. m. until 5:45 p. m. on 3970 kHz and covering Oregon, Washington and lower British Columbia (and reaching now and then into Idaho, California and even Nevada). This ham had a hand in the establishment of NAMS on 15 July 1971 and its growth thereafter. A recounting of how it was done may be of help to others who want to set up a similar service elsewhere.

Just one ham - W7MDM, living near Vancouver, Washington - started NAMS up. Soon, however, he had help from others and it has run steadily from its beginning. It has some unique features which we think are important. There are no officers, no membership list, no dues, no roll call; no certificates are issued and no reports of its operation are filed anywhere except in the logs of its monitor-control stations. The latter are not selected or elected; they are whoever happens to be available. They run the service in what time they have available; when they need relief someone usually volunteers to take over. If no one shows up they "throw it up in the air." It gets picked up before long. Anyone and everyone is welcome to serve as monitor control.

There is no official NAMS publication; however, a single mimeographed sheet was prepared to help the monitor-control stations. It contains the "preamble" (statement of purpose, read every half hour or so), suggestions on how to handle highway emergencies, and a list of "one-ringer" telephone numbers. This sheet is sent upon request to anyone who wants it. The cost for this is negligible; those footing the bill consider it their "dues" to NAMS.

Tolerance Needed

NAMS thus is "all Indians and no chiefs"; its leaders are those who are most active in it. We think this is the way it should be; and it does work - although there are some who predicted failure because of "lack of organization". The success of NAMS leads one to wonder if hams are not prone to over-organization.

On my desk are the publications of two other monitoring services of which I am a member. Each is filled with charges and counter-charges by one group of members against another group. One contains a recall action against that service's officers because they abolished the roll call (a violation, it was charged, of the by-laws). In the other publication is presented a new set of by-laws. In neither is there very much about running a monitoring service. The cost of maintaining the organization is mentioned, however: cash on hand amounts to more than \$800.

Is all this necessary, or desirable? The simple rules for operating a monitoring service, after all, have been tried and tested for several years. The principal concerns are (1) to keep the monitored frequency occupied as continuously as possible and (2) to pause frequently, listen for and pick up all "breaks" and handle their needs. If these two precepts are observed all should go well.

With NAMS all has gone tolerably



well - though we have had some "hassles". In nearly every one of those the difficulty arose from one ham "chewing out" another for a supposed infraction of good monitor-control procedure. This had the effect of discouraging the "chewed-out" ham (and others) from serving any more as monitor control.

"If I want to be ordered around, I'll join MARS," one disaffected monitor control said.

Others concerned with maintaining the monitoring service would not stand for this dissension; they stepped in and chewed out the chews-outer, and this straightened the matter out.

"The important thing is for us to get along with each other," most NAMS supporters said. "This is a hobby we're engaged in; if we want to enjoy it, and if we want NAMS to work, we'd better ask each other, not tell each other."

Coercion has no place in a monitoring service (or elsewhere in ham radio). The example of efficient operation is what counts, along with courtesy and consideration. Even when the rules are broken, we try to bear with each other, hold our tongues and bide our time. How we feel toward each other is far more important than correcting someone in a manner which offends.

Lots of Fun

Serving as monitor control is a lot of fun, for several reasons. One meets people who have a friendly outlook - those who like to help others. There is perhaps no other activity anywhere in the hobby line that embodies the "help-each-other" principle more than does a monitoring service - and, of course, the monitor-control station is in the thick of it. What better way to pass half an hour or an hour of your leisure time?

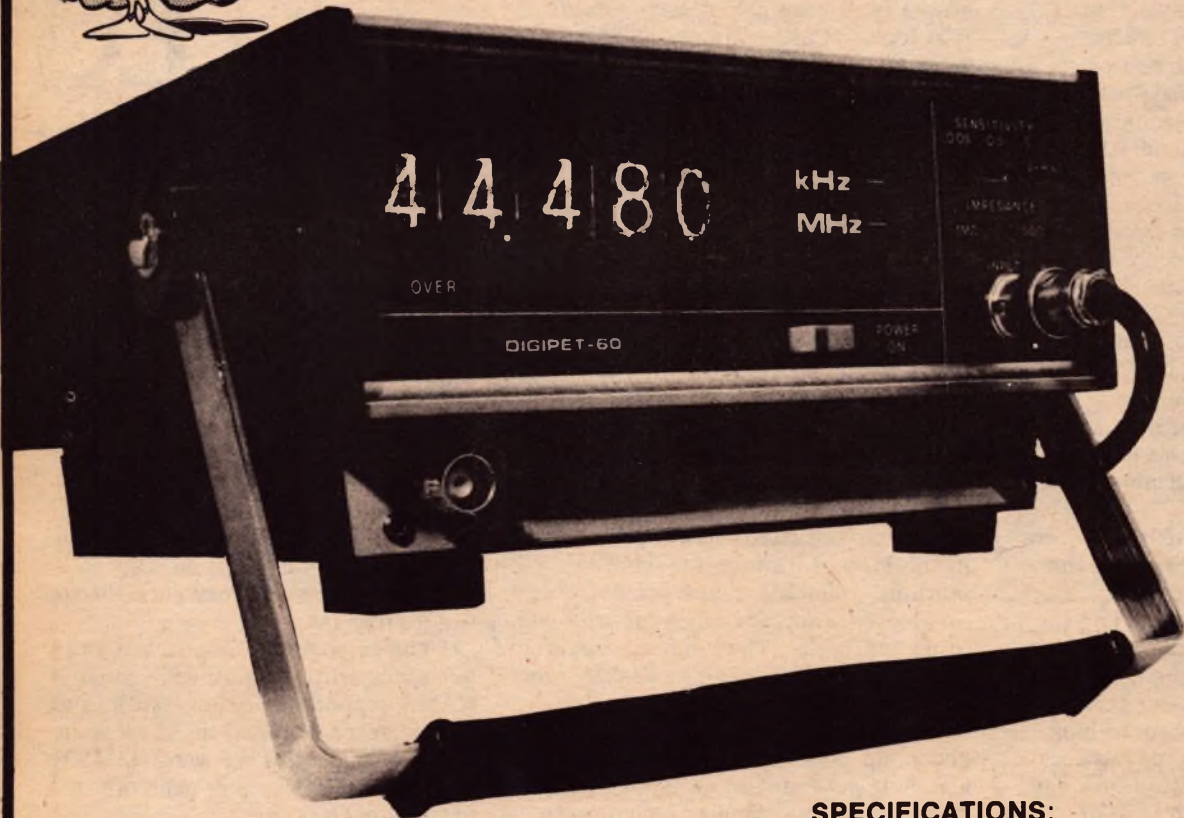
When you start up a monitoring service, don't expect it to run without some opposition: anything new and different is bound to run into trouble here and there. NAMS did, but it weathered those storms and now is more firmly established than it would have been without them, perhaps.

The first dispute of a monitoring service's right to be there probably will be the feeling by someone that the frequency belongs to some other service - despite FCC rules and regulations making it clear that nobody has any claim to any particular frequency in the amateur bands. When a frequency has been used, however, by another group previously and that group wants to reactivate itself it naturally will want to go back to the same spot. If you set up your monitoring service there, you will be the interloper.

Thus you should choose the frequency for a monitoring service with great care. There may be no legal claim to a frequency, but there is a moral claim and respecting it is an excellent policy. (Turn to page 9, please)



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Reference frequency: 10 MHz.

Stability:

Aging rate: 1 part in 10⁶/week.

Temperature: 5 parts in 10⁶, 25°C. ± 5°C.

Operating temperature: 0°C. to 40°C.

Power requirements: AC 110 or 230 volts ± 10%, 50 to 400 Hz. DC 10 to 14 volts. Approx. 8 watts.

Dimensions: 6.7" (width) X 2.6" (height) X 7.0" (depth).

Weight: 3.8 lbs.

PRICE: \$299.00

SPECIFICATIONS:

DIGIPET-160 FREQUENCY CONVERTER

Range: 130 MHz to 160 MHz.

Frequency conversion: Beat-down by 100 MHz.

Sensitivity: 50 mV r.m.s. (-13dBm, 94dBμ).

Overload protection: 2 V r.m.s. (+19 dBm, 126 dBμ).

Impedance: 50 Ω.

Input connector: BNC type.

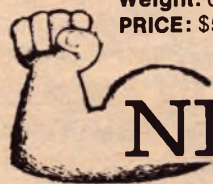
Display: 100 MHz should be added to know the substantial frequency, as the counter when used with Digipet-160 displays frequency subtracted by 100 MHz from the substantial frequency.

Operating temperature: 0°C. to 40°C.

Dimensions: 6.3" (width) X 1.0" (height) X 5.5" (depth).

Weight: 0.7 lbs.

PRICE: \$50.00



NHE Communications

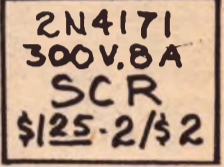
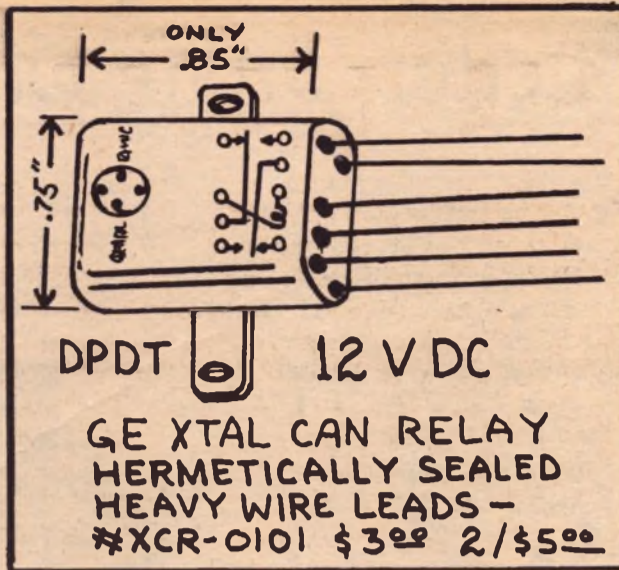
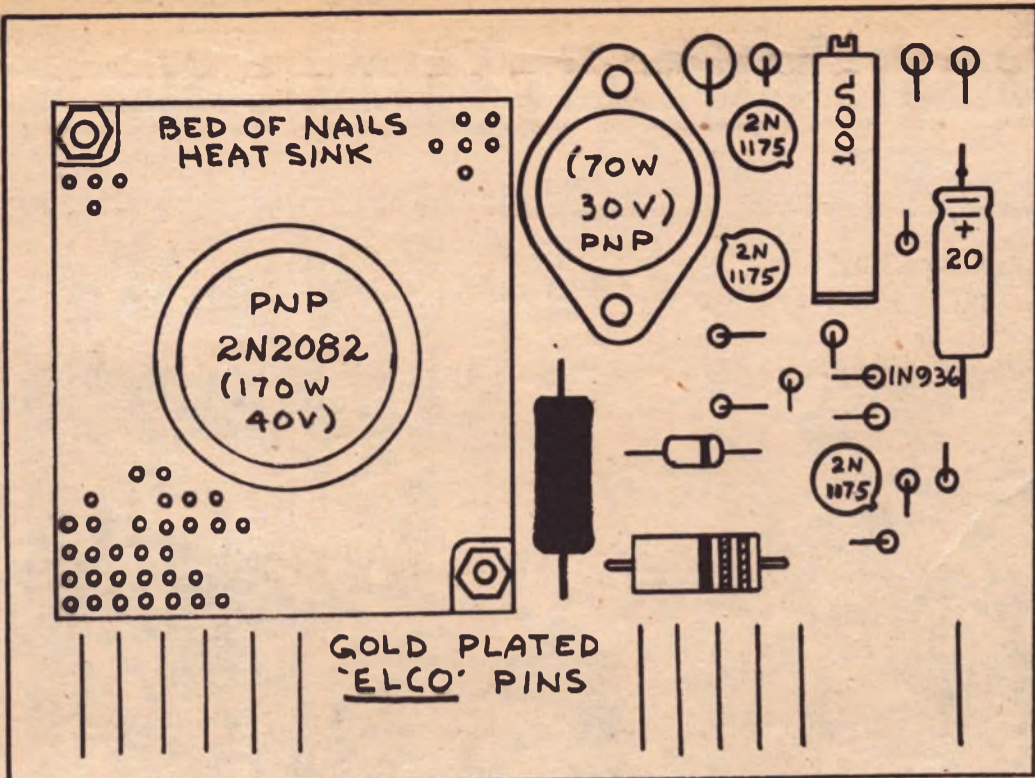
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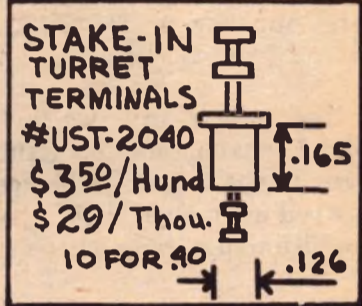
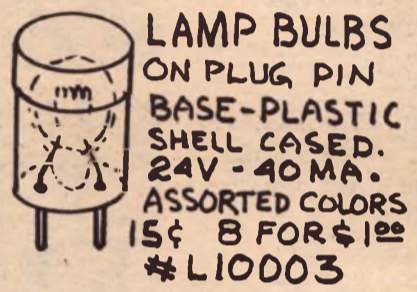
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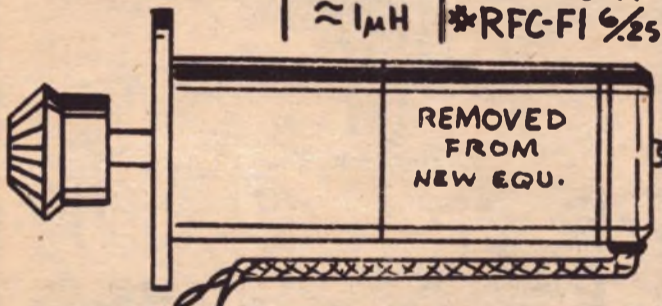
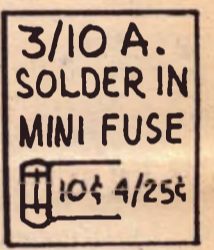
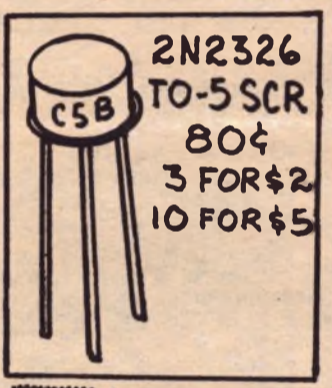




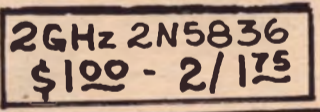
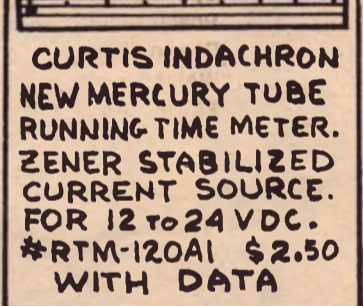
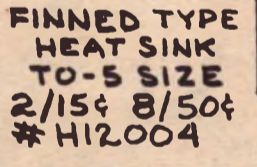
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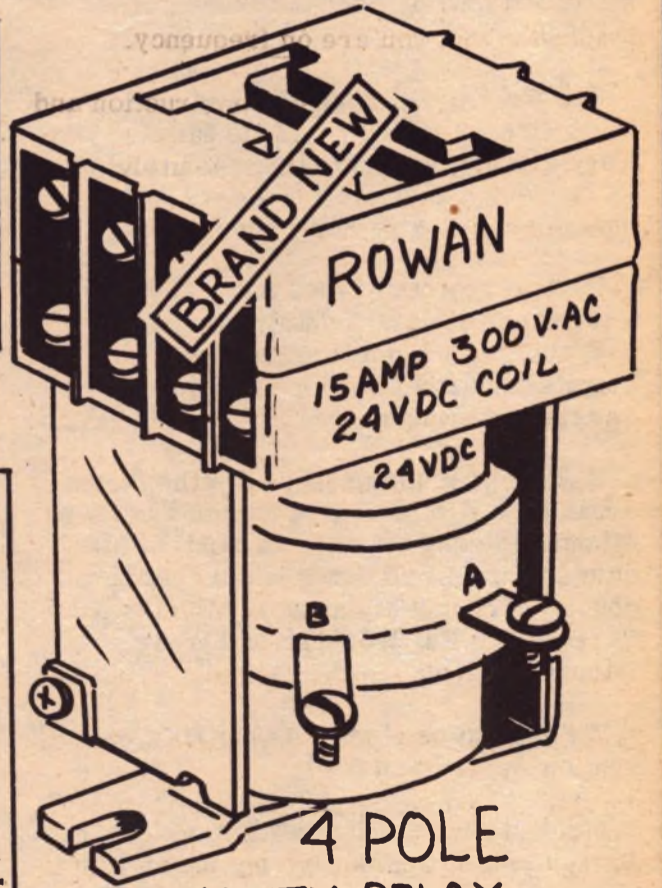
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 FOUR SETS OF N.O. AND N.C. PAIRS OF CONTACTS. RATED 15A, 300VAC OR 50VDC. SUITABLE FOR MOTOR STARTING AND INDUSTRIAL CONTROLS.
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A Letter From Darleen, HC2YL - WA6FSC

Really must apologize for the long delay in writing. . . The day before Thanksgiving I fell down the stairs and although I didn't break any bones was not able to use my right arm or hand for several weeks. I landed in such a way as to hit the top of my head and almost immediately my right elbow got as big as a goose egg and I really felt miserable. Now have much correspondence to get caught up with along with lots of QSL cards.

In the middle of November we had a nice surprise. One night while I was working into New Zealand, SM6CNX/MM broke in. I asked his location and we found that he was just outside of Guayaquil. It turned out that he is a good friend of Olle Andersson, SM6CJK, my good friend from Gothenburg.

Needless to say, we invited SM6CNX, Dan Franzen, and his fiance, Anna-Marie, over to the house. Subsequently they invited us aboard their beautiful air-conditioned refrigeration ship.

They had just come from Japan and would be picking up fish off Peru, then up to Panama, to Long Beach and then they would fly back to Sweden.

This past weekend we had a visit from Manolo "Manny" Salazar, OA4AGR, and his wife, Ines Diez Canseco de Salazar, OA4AJG. They are a lovely couple and also good friends of Natan Sterental, OA4OS.

The first week in May we are expecting Geoff Green VS6DA, and his family. They are planning to take an Italian ship to Ecuador and spend a few days with us before returning to Hong Kong.

We had expected Libby Auer, K0MAS, to visit us but unfortunately she took ill with the flu in Florida and had to be hospitalized and therefore postponed her trip to Ecuador.

We are planning to leave for the States around the 17th or 18th of March and fly to Miami. Picking up a car in Fort Lauderdale Joe and I will drive leisurely cross country stopping at Jackson, Mississippi to visit with Ed, W5SML, and Irene Ransdell.

We hope to be at the Fresno DX Convention April 7 and 8.

Incidentally, I won the YL Anniversary Party Contest world-wide for which I will get a gold cup. I also won the YLAP Hager Plaque for highest combined SSB and CW score from any other part of the world as well as a certificate for being the first scorer in Ecuador on phone and CW. Joe, HC2OM, and I hope to be active in the YL-OM Contest the last weekend in February, if all goes well.



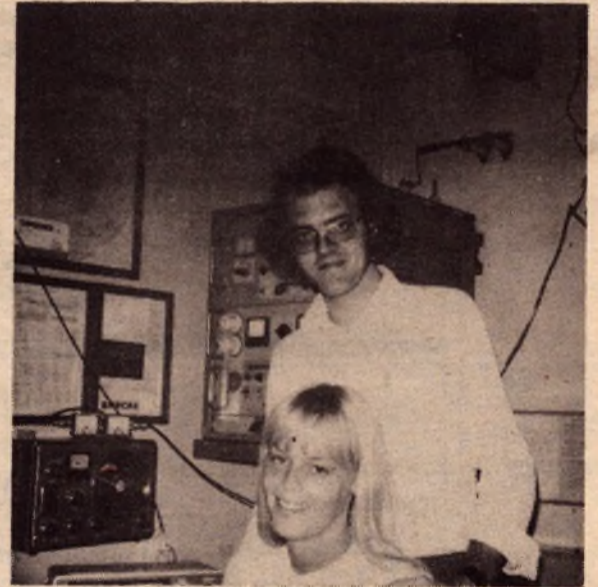
(above) Joe Magen, HC2OM; Dan Franzen, SM6CNX, and Anna-Marie, fiance of Dan.

(left) Darleen Mageen, HC2YL, and Dan aboard the "Australic".



(below) Dan and Anna-Marie in the radio room of the "Australic".

(below-left) Manny, OA4AGR, and Ines, OA4AJG, at the HC2OM/HC2YL shack.



Here is a picture taken December 31st. An interesting custom here is to make a dummy, (stuffing him with firecrackers and explosives) depicting the old year. Then they set him afire thereby getting rid of the old year and wishing in the new. The children of the neighborhood come around soliciting money to make up these stuffed dummies. The exploding dummies come in a variety of types--big, little, fat, skinny, etc. A very noisy custom.



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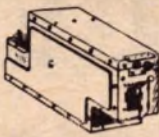
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R-28 RECEIVER with tubes and crystal.
Excellent Used..... \$19.50
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Brand New in Original Carton.... \$23.50
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Set of Plugs for MD-7..... \$ 8.50



BC-659 FM TRANSMITTER/RECEIVER
27 to 38.9 Mhz. Crystal control on any two
preset channels: 80 channels. Uses FT-243
crystal. Range up to 5 miles. Complete
with 13 tubes, speaker and meter.
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Vibrator power supply for above, 6, 12 or
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BC-603 FM RECEIVER
Converted for 35-50 Mhz. 10 preset pushbutton
channels or manual tuning. Complete
with 10 tubes, checked out, like new \$39.50
AC Power Supply, New..... \$14.95
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Technical Manual \$ 2.50
Set of 10 tubes for BC-603 Receiver.. \$ 5.95



TG-10 CODE PRACTICE SET
Fine for schools or groups. Operates from 110V
60 Hz using inked paper tapes. Produces aud-
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10 Watt amplifier. Excellent Used... \$14.95



BB-208/AMT BATTERY PACK contains three BB52 36V miniature lead
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Battery Acid, 1280
specific gravity, for
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All mixed, ready for
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SPECIAL PACKAGE OFFER: BC-645 Transceiver, Dynamotor and all
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Output approx 30 watts. 10 crystal controlled
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4-tube PP power amplifier with dynamotor, works on
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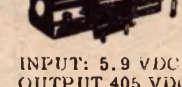
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on side makes mike
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The standard high
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AM-26/AIC PHASE INVERTER AMP.
4-tube pushpull power amplifier. Carbon mike
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WILLARD 2-VOLT STORAGE BATTERY
Rated at 20 Amp.-Hours. Model 20-2. Rechargeable.
Compact nonspill construction. Lightweight polysty-
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IP-69A/ALA-2 INDICATOR 3" scope.
Front panel controls: Vertical Pos.; horizontal pos.
Intensity, focus, gain, width, center freq. Pan.
Operates on 115 V 380 to 1000 cps.
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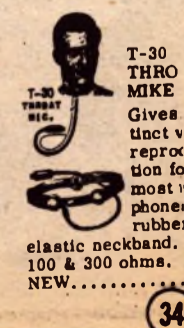
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Extension for cords with PL-54
plug as used on headsets. 65" long
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CD-604 CORD
with impedance mat-
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used with HS-30 Headset, 6' cord
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CD-605 CORD similar to CD-604
Cord but with PL-55 plug instead
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Impedance
HEADSET ADAPTER
For use with headsets HS-33, HS-
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Jack for PL-55 on one side of case
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T-30
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Before the Federal Communications Commission

Washington, D.C. 20554



(continued from page two)

The Seligman petition did not submit any evidence supporting the claim that amateur single sideband transmitters and transceivers normally could not be operated at the maximum power level authorized for the Novice Class, the Commission said. It stated that several manufactured units have this capability, and there is no reason to require crystal control.

The Commission said that the thousands of examinations conducted each year have proven that the primary problems for applicants is difficulty with the telegraphy examination. While it would be valuable experience for the Novice Class operator to construct his own transmitter, his main concern should be to develop the skills necessary to obtain the General Class license, the Commission said. It said that the amended rules should "result in increased operating flexibility which should assist every Novice Class operator in acquiring the necessary telegraphy skills."

Action by the Commission
January 4, 1973, by Memorandum Opinion and Order. Commissioners Burch (Chairman), Robert E. Lee, H. Rex Lee, Reid, Wiley and Hooks with Commissioner Johnson concurring in the result.

January 3, 1973

ACTION IN DOCKET CASE

REDDING, CALIF., AMATEUR WOULD RECEIVE ONE-YEAR LICENSE SUSPENSION FOR RULE VIOLATIONS IN SUMMARY DECISION BY ADMINISTRATIVE LAW JUDGE. Suspension of the General Class Amateur radio operator license (WA6GJK) of Steven E. Louton, Redding, Calif., for a period of one year, for causing interference to other radio stations and transmitting unidentified communications in violation of FCC rules, has been proposed in a Summary Decision by Administrative Law Judge Lenore G. Ehrig (Docket 19616).

A hearing on the charges against Louton would be cancelled.

A one-year suspension of Louton's license was proposed in an order issued August 24, 1972, which charged that Louton and Paul Horvitz, another amateur, "willfully and maliciously" interfered with other stations (Section 97.125 of FCC rules) and sent unidentified transmissions (Section 97.123) on Horvitz's amateur station. (An FCC field engineer had overheard Louton and Horvitz operating illegally, and had located them by using electronic equipment.)

Horvitz waived his right to a hearing. Louton asked for a

hearing, and a prehearing conference and hearing were scheduled. When the Safety and Special Radio Services Bureau requested a Summary Decision, on the ground that a hearing was not required, the prehearing conference and hearing were continued indefinitely.

Judge Ehrig stated that the offense was serious, but that Louton had readily admitted the violations and said he would not repeat them. She noted that Louton is a student and apparently has a continued interest in the Amateur service, and commented that the Commission had obviously considered these factors when it ordered a one-year suspension of Louton's license, rather than proposing that the license be revoked. The ALJ said she concurred in this "lesser sanction."

The Summary Decision is effective 50 days after its release date, unless there is an appeal by a party or unless the Commission reviews the decision on its own motion.

January 8, 1973

ACTION IN DOCKET CASE

By Chief Administrative Law Judge Arthur A. Gladstone on December 19, 1972:

Terminated the hearings and certified to the Commission proceedings on orders to show cause why the license should not be revoked for ROBERT E. JACKSON, SYRACUSE, N. Y., licensee of Amateur radio station WB6HJD.

January 11, 1973

ACTION IN DOCKET CASE

By Acting Chief Administrative Law Judge Herbert Sharfman on January 10, 1973:

Terminated the hearings and certified to the Commission proceedings on orders to show cause why the license for the following radio station should not be revoked: WALTER P. SHREINER, SACRAMENTO, CALIF., licensee of Amateur radio station WA6KFN.

January 12, 1973

SAFETY AND SPECIAL ACTIONS

The Commission, by its Safety and Special Radio Services Bureau, took the following actions of the dates shown:

January 8 - ROBERT R. RICHARDS,

BABYLON, LONG ISLAND, NEW YORK, licensee of Amateur radio station K2SWP. Dismissed proceeding on order to show cause.

January 8 - ROBERT E. JACKSON, SYRACUSE, NEW YORK, licensee of Amateur radio station WB6HJD. Ordered the license revoked effective February 12, 1973, for repeated violation of Section 1.89 of the Rules by failing to reply to official communications.

January 16, 1973

ACTION IN DOCKET CASE

INITIAL DECISION MADE EFFECTIVE BY REVIEW BOARD

WALNUT, CALIF., AMATEUR RADIO SERVICE PROCEEDING. The Initial Decision, released November 3, 1972, proposing revocation of the license of Peter K. Kuehn, Walnut, Calif., for radio station WN6IER in the Amateur Radio Service became effective December 26, 1972, in accordance with Section 1.276 of the rules (Docket 19379). (Action by the Review Board, January 15, 1973, by Order.)

February 1, 1973

SAFETY AND SPECIAL ACTIONS

The Commission by its Safety and Special Radio Services Bureau, took the following actions on the dates shown:

January 29 - JAMES L. WARNER, MARBLEHEAD, MASS., licensee of Amateur radio station W1FUR. Ordered to show cause why the license should not be revoked for violation of Section 97.7 of the rules by operating on a frequency not authorized.

January 24 - JAYE W. STURTEVANT, NIAGARA FALLS, N. Y., licensee of Amateur radio station WB2QZL. Ordered to show cause why the license should not be revoked for repeated violation of Section 1.89 of the rules by failing to reply to official communications.

February 8, 1973

RADIO OPERATOR EXAMINATION POINTS CHANGED IN RULE AMENDMENT BY FCC. Section 0.485 (Commission Organization) and Part 97 (Amateur Radio Service) of the rules have been amended by the Commission to change Helena, Mont., from an annual to a semi-annual examination point for amateur and commercial radio operator licenses. The annual examination points were

also amended by deleting Great Falls, Mont. The amendment becomes effective February 21, 1973. (Action by the Commission February 7, 1973, by Order. Commissioners Burch (Chairman), Robert E. Lee, Johnson, Reid, Wiley and Hooks.)

February 9, 1973

SAFETY AND SPECIAL ACTIONS

The Commission, by its Safety and Special Radio Services Bureau, took the following actions on the dates shown:

January 29 - WILLIAM D. HELM, SAN FRANCISCO, CALIFORNIA, licensee of amateur radio station WB6DMF/1. Ordered to show cause why the license should not be revoked for repeated violation of Section 1.89 of the rules by failing to reply to official communications.

February 15, 1973

SAFETY AND SPECIAL ACTIONS

The Commission, by its Safety and Special Radio Services Bureau, took the following actions on the dates shown:

February 8 - WALTER P. SHREINER, SACRAMENTO, CALIFORNIA, licensee of Amateur radio station WA6KFN. Ordered the license revoked effective March 15, 1973 for repeated violation of Section 1.89 of the rules by failing to respond to official communications.

February 16, 1973

ACTION IN DOCKET CASE

By Acting Chief Administrative Law Judge Lenore G. Ehrig on February 14:

Terminated the hearings and certified to the Commission proceedings on orders to show cause why the license for the following station should not be revoked: JAMES L. WARNER, MARBLEHEAD, MASSACHUSETTS, licensee of Amateur radio station W1FUR.





NEWS ROUNDUP-

(Continued from page 2)

restrictive regulations characteristic of recent FCC actions. Directors reported strongly adverse membership reaction to changes in amateur rules, especially in the areas of repeater operation, message traffic handling, and phone band suballocations. The Board directed League officers to undertake a vigorous program to seek reasonable philosophies of regulation and interpretations, conferring as necessary with appropriate Government agencies for the purpose of assuring the continued availability of traditional latitudes and freedoms and the full public service capabilities essential for the welfare of the amateur radio service. Looking some years ahead, the Board assigned to the new International Affairs Committee the task of updating and formulating more detailed plans for representation of amateur radio at an eventual High Frequency World Radio Allocations Conference. The Board chose AMSAT to receive the Technical Merit Award, paralleling a similar action to Project OSCAR several years ago. Administrative support was again voted for AMSAT, with ARRL assuming responsibility for educational, public relations and international promotional aspects of amateur space communication. Study will be made of a space tracking station installation at League headquarters. An evaluation of amateur performance in providing emergency communications during recent disasters prompted the formation of an Emergency Communications Advisory Committee. Its task is a study of frequency plans, as well as duty assignments at headquarters, seeking improved emergency communications capabilities. The responsibilities of Section Communications Managers were expanded to include voluntary activity in the areas of public relations, clubs, recruitment and training. The Board approved specific goals and objectives submitted by the President and by the General Manager. It reelected the present directors on the Executive Committee, Messrs Clark, Eaton, Griggs, and Thurston. The Board additionally directed a study of the League organizational structure, including duties and responsibilities of the President. Minutes of the meeting will appear in March QST.

WHEREAS, the highly developed radio communications technology existing in the world today is the direct outgrowth of contributions made by radio amateur enthusiasts over a period of more than 70 years; and

WHEREAS, the government of the United States including various administrative agencies, has traditionally followed the policy of permitting and encouraging the development and growth of the amateur radio service by adoption of only minimal regulations and broad general policies; and

WHEREAS, under the policy of minimal regulation the amateur radio service has developed to an extremely high level of proficiency and service to the nation in times of disaster and national emergency as well as in normal periods; and

WHEREAS, the Federal Communications Commission in recent months has adopted a number of amendments to its regulations and issued a number of interpretations of these and other regulations which evidence an abandonment of the policy of minimal self regulation followed so successfully over the years, and has other proposed restrictive amendments under consideration which, if adopted, will further increase the level of governmental regulations; and

WHEREAS, these developments and trends are a matter of the greatest concern to amateurs throughout the nation and to the American Radio Relay League, the only nationwide membership organization representing active amateur radio licensees of all ages and interests; and

WHEREAS, a great number of amateurs, individually as well as through their local clubs affiliated with the League, have expressed deep concern over the apparent trend toward progressively restrictive and unilaterally-imposed regulations governing the Amateur Radio Service, and the potential inhibiting effect of this upon the orderly development of the Service as a public resource, as well as in carrying out the charter in Section 97.1 of the rules,

Now, therefore, BE IT RESOLVED, that the President and the General Manager are directed to undertake a vigorous program to seek reasonable and technically viable philosophies of regulation and interpretation, conferring at all necessary levels with appropriate Government departments and officials, and recommending to the Board of Directors courses of action which may be required to assure the continued availability of traditional latitudes and freedoms, and the full public service capabilities essential to the growth, improvement and usefulness of the amateur radio service.

- Adopted unanimously January 18, 1973, by the Board of Directors of the American Radio Relay League.



February 8, 1973

The FCC has extended the time for filing comments in Docket 19658 to February 28 and the time for filing reply comments to March 15. This docket covers proposed increases in filing and grant fees for virtually every non-governmental radio service regulated by the Commission. In the case of amateurs, the proposed filing fee for new, upgraded, renewed or modified and renewed licenses would be ten dollars, while the fee for modification alone would be five dollars. Duplicate licenses would remain at six dollars, special call signs at twenty five dollars. There would still be no charge at all for new or modified Novice licenses, RACES authorizations, or military recreation station licenses. The League will file in opposition, as on past occasions. This bulletin updates the information appearing on page ten February QST.

February 15, 1973

All Emergency Coordinators, Radio Officers, net managers and other leaders in the January Simulated Emergency Test are urged to complete their SET reports and forward them with appropriate photos at once to ARRL Headquarters. Additionally, all Emergency Coordinators are urged to complete their EC annual reports. Reporting deadline for both is March 1. Also in the public service field, plans for the Daytime National Traffic system are progressing. Most region and national net managers have been recommended and/or appointed in the Eastern and Pacific areas. Volunteers willing to assume leadership roles are still needed in the Central Area.

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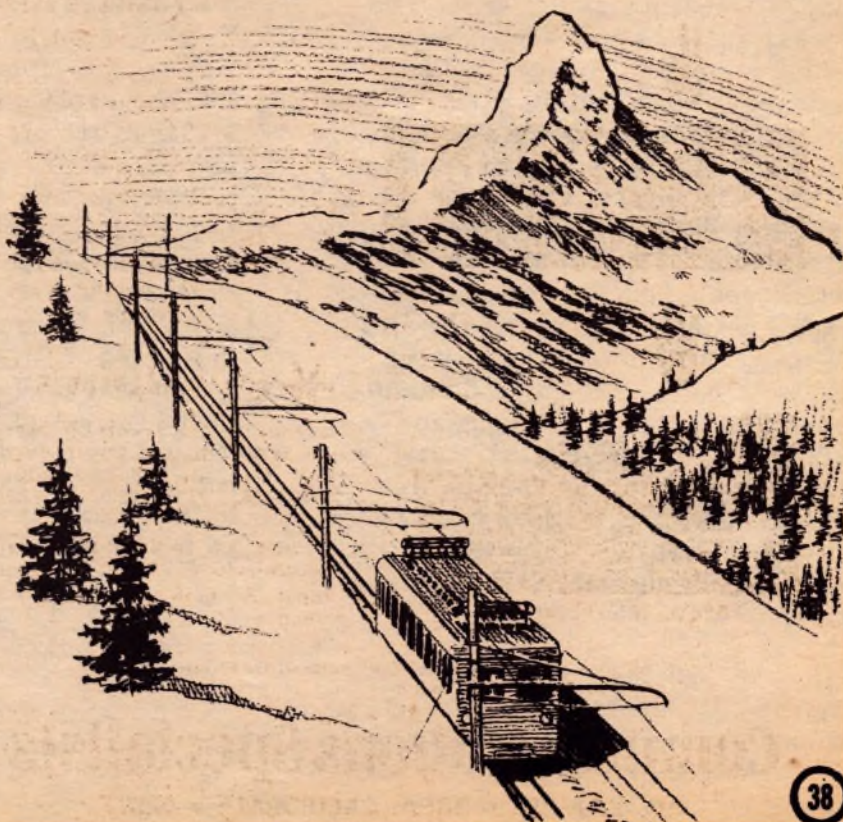
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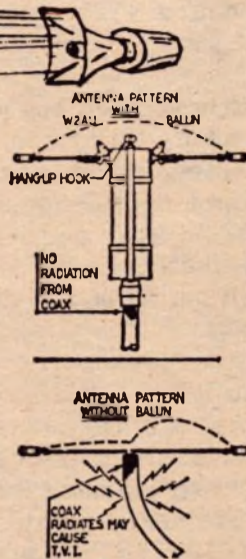
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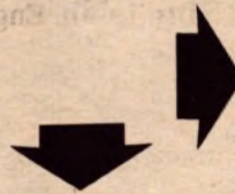
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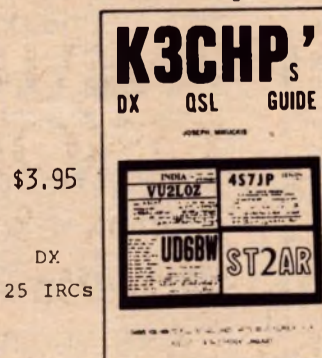
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by Nick Hauck, K6QPE
a monthly column

This column will be devoted to all aspects of Slow Scan Television or SSTV as we call it. It will include news, general information and the exchange of ideas. If you have something you feel others would enjoy hearing about, let me know.

Good news to all for those ready to convert to SSTV. You don't modify your present equipment. The audio is fed into the input on your present SSB transmitter and the monitor, as the television receiver is called, is connected to the receiver speaker. That's all you need to do. I was one of the lucky ones at Christmas--a very understanding XYL surprised me with a complete SBE Scanvision station. In listening that first week, I heard many on for the first time. Much help was offered and I found it easier setting up the controls with understanding buddies on the other end.

I feel like many fellow amateurs that this new mode has been a shot in the arm. Some have even said that they were ready to abandon radio but after seeing SSTV it has brought them back into the hobby. With any new ideas there are some who are negative, mainly from lack of knowledge rather than understanding. It is interesting, new, and exciting. Your video QSO is really a personal contact. Usually on the first contact you put yourself on camera. A combination of SSB and SSTV is used. Because SSTV is continuous duty cycle, you must derate your linear if you are using one or simply cut the gain to keep within the limits of tube plate dissipation. Using a watt meter will help greatly. One thing for sure, you don't need heaps of power for a decent signal.

To digress a bit, there are three basic elements to a SSTV system. In addition to your own transmitter and receiver or transceiver, you need a monitor (receiver), T. V. camera (for making tapes and live transmissions), and a tape recorder. The SBE Scanvision has a built in cassette tape recorder which is handy. Any type of recorder that is free of wow and flutter can be used. It's best to stay away from the straight d. c. type as regulation is poor for good pictures.

The bandwidth used for SSTV is narrow band F. M. contrary to what many think. A bandwidth of about 1100 HZ along with a maximum frequency of 2300 HZ is well within the speech band of your present equipment. The horizontal and

vertical scanning are timed pulses. Bandwidths of 3 KHZ or less are obtained using normal speech. Good quality is possible and remember a little power goes a long way. A weak signal will also pass a picture clearly but QRM will tear the picture up, or to coin a SSTV phrase, "backscatter" got you.

I hope you can see now that SSTV has graduated from the experimenter and engineer stage to the state of the art. Over a decade ago a group of pioneers started with an idea and have given us an addition to our hobby that might very well put an end to the QSO that we know today.

The ROBOT Research Company of San Diego has had the first commercial gear on the market and K6IV deserves a pat on the back for his contributions. I have heard it said many times that 'ROBOT' is the Cadillac of SSTV. Of major interest, he has dropped the price of the monitor and camera to \$295 each, bringing it in the reach of all. Clarence told me the other night on 3.845, a popular frequency, that there are three companies currently building SSTV equipment in Japan. The SBE Scanvision is made in Japan and sold here in California. A copy of the ROBOT monitor and a copy of the MXV monitor are also made in Japan.

For about a year I have maintained a SSTV file of articles from the radio publications. For those of you who can't wait until Wayne Green of 73 Magazine comes out with their SSTV Handbook, a request to Robot Research for their SSTV information pack would be in order. For the homebrewer, the W6MXV monitor information is available from Michael Tallen, W6MXV. And last, but not least, by sending a SASE to ARRL Headquarters, you can get a bibliography of SSTV articles.

For the readers who hold Conditional and General Class licenses, now more than ever it is a good time to get out the ole license manual and update your ticket. Recently a W7 who held a Conditional class license was given 30 days to take the test. He did, but failed, so beware if the shoe fits, study for the test. Most of the frequencies being used are in the Extra/Advance side of the



K6QPE

bands. The following are where you can get in on the action: 21.340, 14.230, 7.220 and 3.845 and all of 10 when it is open. Monitor these frequencies and break-in, the SSTV'er will answer any questions you have.

NEWS OF THE FUTURE

If any of you listened to the YN1 station in Nicaragua, maybe it occurred to you that slow-scan television would be faster than telephony for passing traffic. It seems to me that the time necessary to pass one message using SSTV would be about 24 seconds. (0-8 seconds to catch the sweep at the top of the screen, 8 seconds to recognize that the message is for your area, and 8 seconds to record it if it is for your area.) That turns out to be 150 messages per hour.

Judging from the messages of inquiry and the comments of the news media, there are vast numbers of people in the metropolitan area of Los Angeles that have a personal interest in Nicaragua. Wouldn't it have been great for hams to have had access to one of the commercial U. H. F. TV channels to continuously display the messages originating from Nicaragua?

Does anyone know if there is a method whereby an amateur group could obtain a license for such activity? Or how about a tie-in with an educational institution that already has a license?
de Almon G. Ing, WB6OEZ
(From Palisades Amateur Radio Club "Bulletin", January 1973)

Send SSTV News to Nick Hauck, K6QPE
13248 E. California Ave.
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Jet Crash

(Continued from page 1)

needed to allow Red Cross staffers and volunteers to meet the emergency needs of the victims as well as to provide logistics support for the cleanup workers.

Grizzly Peak and "The REPEATER" recognize K6AN, K6AGT, WA6CBN, WA6CCC, WA6CCW, WB6DFX, WB6EWG, W6FKQ, WA6GCS, WB6GWQ, W6NKF, WA6PRG, WA1PZC, K7QJP, WA6QVS, WA6RPK, WA6TKP, WB6WLE, and WB6ETN for their service. In such a large effort, someone inadvertently will be left out of the list of those who served. If this has happened, it is not intentional as all who helped should be recognized.

Col. Harrison and Mr. Harris representing the American National Red Cross expressed to the club that they were thankful that the hams arrived and so professionally assumed the significant role that they did. They felt the communications provided were the most professional they have utilized at any previous disaster. They were pleased with the accuracy of the traffic being handled, a fact important to them since the data included vital statistics of the rescued as well as the fatalities.

The ultimate compliment to the hams came when, as the phone link was being established, a request was made to have the radio operators continue their duties over the phones since they were so proficient as message handlers. True recognition of the job done!

A highly favorable article highlighting the club's participation at the disaster

scene appeared in the "Alameda Times Star" following the accident. Prominently featured in the story was Betty Smothers, WA6GCS, who operated from the Alameda Red Cross office.

EMERGENCY OPERATIONS DISCUSSED

The Board of Directors spent considerable time at its last meeting on the subject of emergency operations, an outcome of the Alameda crash and resulting callout a few days before.

Further refinement of the emergency response concept evolved such that the following positions will be established in future situations:

- 1) Emergency Net Control Station - an individual not at the scene who will handle check-ins and keep overall control of operations from a distance.
- 2) Coordinator - an individual at the scene or in contact with the appropriate officials.
- 3) Assistant Coordinator - an individual to provide help to the Coordinator at larger disasters or activities, where needed.
- 4) Manager - an individual designated to establish priorities and channel assignments.

Appointments will be made in accordance with the policy established by President Fred Lothrop, K6REQ, and published in the January issue of "The REPEATER".

Members working any disaster or public service event are cautioned that persons not directly connected with the operation may assume incorrectly that you are an

official spokesman for the group you are assisting. Therefore, be careful not to pass on traffic, requests, etc. that have not been originated by an official of the event. Persons receiving the message will assume it is from someone with the authority to request or direct the action and will comply not realizing the request is not "official". Organizations like the Red Cross and the Salvation Army normally designate a Press Representative who is knowledgeable of his group's press policies and who will provide releases to the media. The best thing to remember is that we are assisting by providing communications and not actually running the operation.

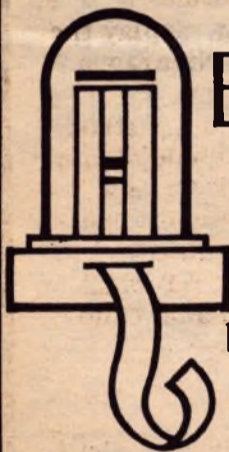
Loaning gear to a disaster scene? Keep track of it personally or loan it to a person you know and give specific instructions how or where it should be returned. Things become hectic and your equipment could easily stray.

Take a moment once in a while to check your gear for readiness. Experience shows it should be serviced and always ready to use. A handy accessory for field work is installation of an earphone. Besides making it easier to hear an incoming message, it eliminates that much unwarranted background noise for an adjacent operator.

Do not disturb anything at the scene of a disaster, particularly a plane crash. At least one TV station is in hot water for carrying a piece of the Alameda debris over to its studio and showing it on the air.

A message handling lesson has been proposed to familiarize members with such practices. It would be short, about 10 minutes in length, and could be studied at the reader's convenience.

(From "The REPEATER", the official publication of the Grizzly Peak (Calif) VHF Amateur Radio Club, Inc.)



Electronic Investing

a monthly column
by Clayton Ankeny,
WB6OGZ

How do we go about picking a stock and making a decision to buy it? Ideas come from many sources. A tip on the golf course, suggestions from friends and neighbors (and stockbrokers. Hi!), the product or service the company provides may call attention to it, etc. The other day this item appeared in the newspaper:

"Researchers at RCA Corp. have developed an experimental computer memory utilizing lasers, holograms and liquid crystals which they asserted would be 1,000 times faster than conventional computer memories and equal in capacity."

This news item attracted my attention to "RCA", formerly known as Radio Corpor-

ation of America. (Company names are getting to be like "Q" signals these days.)

Looking in the paper we find RCA is trading at \$30 a share on the New York Stock Exchange. "\$30" in and of itself means nothing unless we relate the price to a number of factors. First the price range. In 1972 RCA was high at 45 and low at 32. So we may conclude the stock is selling low in relation to its last year's price range.

Next we look at the earnings per share. In 1971 RCA earned \$1.20 per share, in 1972 they earned \$2.05 and it is estimated earnings for 1973 will be \$2.25 per share. A good upward trend in earnings.

RCA pays \$1.00 per year in dividends for a 3.3% yield. This is not a high Current return on our money, but the dividend was increased in 1967, 1966, 1965, 1965 and 1963 in addition to numerous stock splits and stock dividends over the past 10 years.

What does the company do? RCA is the largest maker of color TV sets and a major producer of black and white TV sets, radios, and stereos. They produce picture tubes, vacuum tubes, transistors, integrated circuits, broadcasting and communication equipment. RCA owns NBC television network, Random House publishing company

and Hertz rent-a-car. RCA recently sold their computer business to Sperry Rand for \$70 million plus.

With this broad representation in the electronics field together with growth opportunities in newer products we should see further sales and earnings gain by the company.

Judging from recent news reports on the devaluation of the American dollar and the tariff steps to be taken U. S. electronic companies should be in a stronger competitive position in relation to Japan than they have been the past few years.

RCA stock is rated A- by Standard and Poors and is of investment quality as opposed to a speculation. RCA selling around \$30 a share appears to be an attractive buy at this time.

More extensive reports and information is available on RCA and will be mailed on request. Please address your request to: Clayton Ankeny, % Crowell, Weedon and Co., 200 Pine Ave., Long Beach, California 90802.

Clayton, WB6OGZ, has been in the investment securities business for the past 15 years. He holds Amateur Extra Class and First Phone licenses. All inquiries on stocks will be answered.

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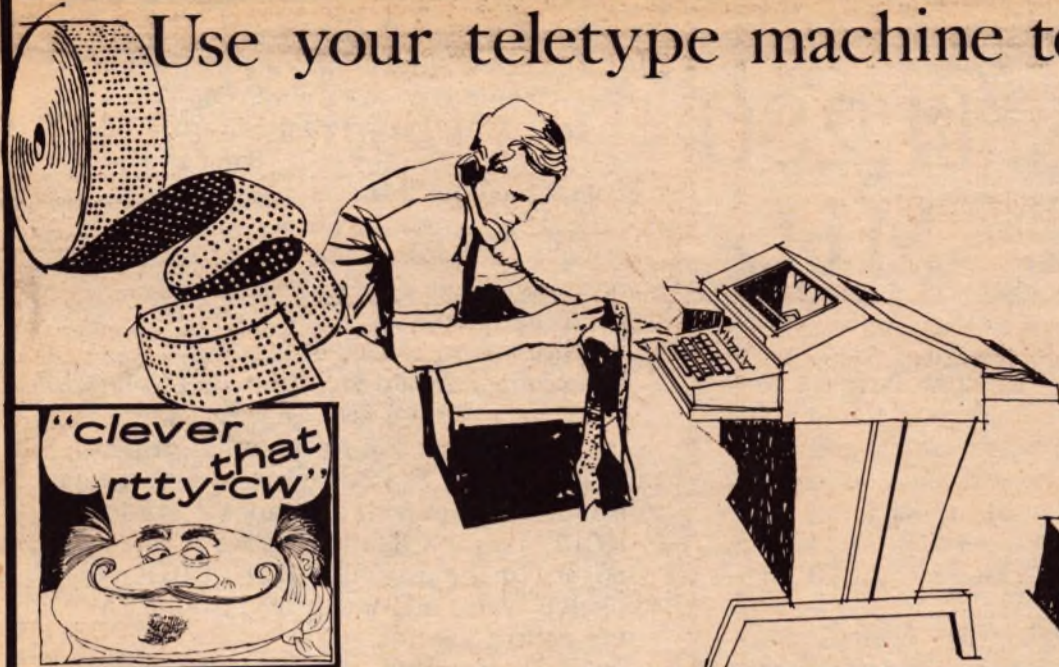


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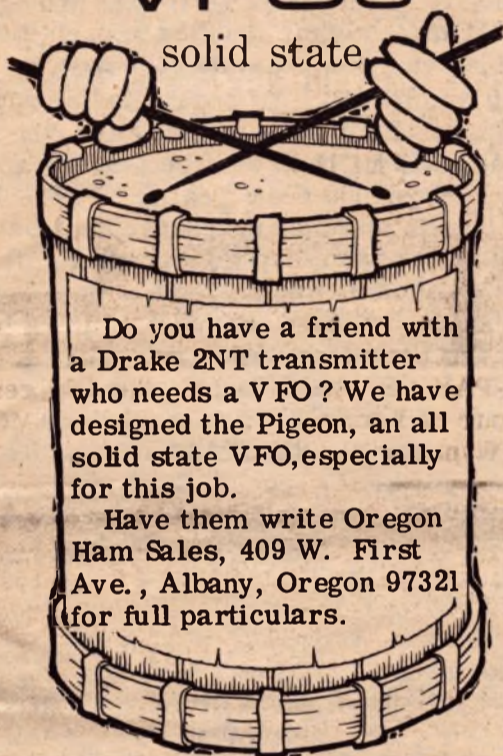
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It is an association of Masonic amateur radio brethren and members of the appendant Orders. Membership in the Mosaic Amateur Radio Net - better known by its acronym MARN - is open to all members of the Masonic Order and those of the appendant Orders who possess any class of amateur radio operator license.

There are no dues and the nominal membership fee is perpetual. You are invited to write for information.

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(adv.) *Deo et Fidei*

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(de International Coordinator, W3FQT)



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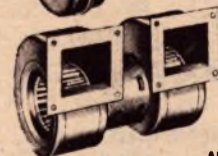
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The International Mission Radio Association is a group of Amateur Radio Operators and associates dedicated to providing communication facilities and to help in providing equipment, to those engaged in Missionary or volunteer services. It is a non-denominational, 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



Brother Bernard WA2IPM (ex-WA1FKE).

For those who do not know that Brother Bernard Frey, OFMcap (that means: Order of Friars Minor capuchin) has moved and changed his call sign, we would like to publish the new QTH and Call. Complete address is: Bro. Bernard Frey, OFMcap, Box 192, Garrison, N. Y. 10524. Brother Bernard's new call sign for the "2" land address is: WA2IPM.

The records show that Brother Bernard joined IMRA in 1967, but he had attended IMRA meetings previous to that time and was extremely interested in it. He is on the Board of Directors of IMRA, is Chairman of the Membership Committee, and is on the Equipment Committee. Brother Bernard put in several years as a Net Control Station and was one of the founders of the 0100 GMT IMRA Traffic Net.

For the past 37 years Brother Bernard has been a member of the Franciscan Brotherhood. In that time he has held the positions of Cook, Porter, Tailor, Sacristan, and most recently ... Vocation Director. He has been stationed in Indiana, Wisconsin, New York, Massachusetts and Rhode Island.

Brother Bernard was born in 1915, at Yonkers, N. Y. He was baptised Walter Francis Frey at St. Joseph's Church (Bernard is his name in the Franciscan Order) and attended St. Casimir's Grade School. Brother Bernard studied at the Capuchin Seraphicate in Garrison, N. Y. and at the Capuchin Novitiate in Huntington, Indiana.

His national origin is German and Polish and he speaks with the distinct Yonkers diction. Brother Bernard is 57 years old, has blue eyes, gray hair (it used to be blond) and stands 5-feet 9 inches tall.

While he was stationed in New York



City in the '60's" Brother Bernard took a correspondence course in Radio and Television Repair offered by National Radio Institute. He was elected Secretary and Chairman of the National Radio Institute Alumni Association and served as National Vice President of NRI for two terms.

It was at this time that Brother Bernard became interested in amateur radio. He got his Novice ticket and call sign WN2KDL, but did not get his General License in 1966 while he was in Springfield, Mass. He received his well-known call WA1FKE which he held until early in 1972 when he was transferred to Garrison, N. Y. It is hard to get used to his new call-sign WA2IPM.

A whole book could be written on the exciting traffic handled through Brother Bernard's station... the lives saved, the sick alleviated, the lonely cheered, death messages delivered. Even falling off a tower three stories high and dangling up-side-down for almost an hour till the hook-and-ladder crew rescued him.

Perhaps the most interesting trip came in 1970 when he went DXpeditioning with a load of radios and voltage regulators to the Country of Honduras. Brother Bernard loaded three mules with 150 pounds of radio equipment each and climbed on the back of a fourth mule. He rode for nine hours to reach a mission at L'Incarnacion, Honduras. The radio at the Mission is powered by a generator. Some of the more easily accessible missions have native power, but it tends to surge anywhere from 60 to 200 volts, and that's pretty rough on the equipment. So... Brother Bernard made this special trip to connect voltage regulators and tune antennas. It was after this trip that the famous cartoon appeared showing Brother Bernard riding a mule, carrying his rig on his lap, and holding a three element beam over his head like an umbrella. The caption under the cartoon was simply "WA1FKE/mobile HR5".

IMRA Newsnotes

When the earthquake struck Managua, Nicaragua on December 23, 1972, IMRA began giving priority to all Nicaragua stations checking in with outgoing traffic. Monday, December 25, IMRA prolonged its regular 1900 to 2000 GMT Net Session, finding volunteer Net Control Stations from among the regular members and accepting outgoing traffic from Nicaragua to the States until the band folded. This continued on Tuesday and Wednesday, with the Net opening unofficially at 1600 GMT and continuing until the band went out, except for the brief "one-hour" devoted

as usual to Missionary traffic.

Thursday, there was an unofficial message delivered to WA5YOI, Frank Savat (Vice-President of IMRA) telling him that General Somoza had designated the IMRA Net to be the official recipient of all out-going traffic from Nicaragua to the United States because of the efficiency of traffic handling exhibited on the Net.

Two radio broadcast stations (Commercial) had Monitors on the IMRA frequency to give spot reports on the local radio and TV stations in Ontario, Canada, and San Francisco, California. Another commercial broadcast station, KGEI, beamed Health and Welfare requests to Nicaragua on 15280 KHz, using 15,000 Watts and monitored the IMRA for return replies.

On Wednesday, December 27, Frank Savat (WA5YOI) consulted with Sylvester Connolly (WIMD), President of IMRA, and Tom Barbour (W9LII), Net Manager of IMRA, and they decided to open the Net as early as possible each day ... 1600 or 1630 GMT (it began earlier each day... as early as 1300 GMT) and continue until the band went out, except for the 1900 to 2000 GMT Traffic Net Session devoted to Missionary Traffic as usual.

It is impossible to give credit to all the stations to whom credit is due. We all know that the major part of the credit for the Emergency Net Operations goes to WA5YOI, Frank Savat. And in the words of WA5YOI, "I want all the credit to go to our regular Net Members. They were SUPERB. General Somoza bestowed a responsibility and confidence in IMRA to allow us to handle this delicate traffic." SILENT KEY.

Ed Webb, WB2OFZ, died Sunday, December 17, and was buried from St. Casimir's Church in Yonkers, N. Y., on Wednesday, December 20 at 9 AM. Fr. Tom Regan, Fr. Joe Moran and Bro. Bernard Frey represented IMRA at the funeral.

Ed, who was a double amputee since the middle '60's, had been inactive except for 2 meter operation, since he had a serious heart attack in 1972, but he was an ardent listener. Ed Webb served as Membership Chairman of IMRA for several terms and was Vice President of IMRA from 1970 to 1972. R. I. P.

SILENT KEY IN NEW ORLEANS.

W5RU, Roy Alciatore, New Orleans, LA., died on September 29, 1972. Roy was the grandson of Antoine Alciatore, founder of the famous New Orleans restaurant. "Antoine's". Since Roy took over the restaurant work, his Hamming was, in his own words, "catch as catch can". For many years though, he kept up his interest in IMRA by a Sustaining Membership and he always responded to any "need" which was brought to his attention. Even in death he did not forget the IMRA, but left a letter of disposition of his station, W5RU. He left his entire shack to IMRA. It was packed up and shipped to the IMRA Equipment Committee to be used by some deserving Mission station.



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 Two. . . The New Hobby

. . . Immediately following upon the announcement of the Fleming valve, Lee deForest began experimenting with various types of vacuum tubes. In 1905 he filed patent applications on a tube with two "wings" or plates, and in 1906 for the familiar combination of grid, filament and plate. The audion, as it was termed, was first publicly announced by deForest at the October 20, 1906, meeting of the American Institute of Electrical Engineers. Neither the inventor nor his contemporaries were able to advance any satisfactory explanation for its operation. The only thing definitely known about it was that in the more advanced stage of the audion circuit, utilizing a local "B" battery, an amplification of 500 per cent per stage was sometimes obtained, and with three audions in cascade energy gains as high as 120 times the input were obtained. Where the common detectors and early valves merely rectified the input signal, the audion also amplified the signal appreciably.

With these advantages it is somewhat difficult to understand the fact that during the next seven years the audion was but little used. Many reasons have been advanced for this state of affairs. Undoubtedly the principal cause for its lack of popularity among amateurs was its prohibitive cost. At first it was but little better than the best of the other available detectors, the audible difference produced by its increased sensitivity not being very great, and the young lads who composed the bulk of amateur experimenters could not well invest such sums as audion equipment demanded at that time. The commercial interests were mainly in a bad way financially, due to untoward exploitation of capitalizations incompatible with the state of the art. Many services were hampered by possible patent litigation. The fact that the principles, use, operation, and production of the audion were all only slightly understood contributed to the period of inattention. But the audion could well afford to wait for the great destiny that lay ahead of it.

Meanwhile the electrolytic detector became popular among amateurs, par-

ticularly following the publication of complete constructional details in the Scientific American and Electrician and Mechanic, in 1906. The instrument which was to attain the most widespread use of any detector for fifteen years to come, however, -the crystal detector- was even then in the offing.

In 1906 the silicon detector was invented by Greenleaf W. Pickard. In the same year, General H. H. C. Dunwoody, at that time with the American deForest Wireless Telegraph Company, invented the carborundum detector. Thus, in two forms, there came into existence the crystal detector, a device to which all early amateurs owed a great debt.

The theory of crystal operation was not understood at the time of its discovery, nor is it completely known even to-day. The important thing was that the operation was a distinct and revolutionary departure from all other methods. Its simplicity, its cheapness, and above all its sensitivity caused it to reach a high degree of perfection very quickly, and in a relatively short while it was in use at nearly every amateur station. Throughout the approximately ten years of almost universal amateur use of the crystal detector, it served two useful purposes: it tided over the period while the audion was being perfected and before its full potentialities were discovered; and at the same time it was sufficiently efficient and effective to provide a great uplift to amateur radio by elevating the performance standards of the amateur stations of that day.

The crystal detector was a fundamental factor, as well, in the gradual change which was taking place in the character of amateur radio. The indeterminate period of the first decade of the new art was slowly crystallizing. In the first place, it became definite that there was to be an amateur radio. The art of radio had shown its ability not only to attract but to hold the hobbyists engaged in its pursuit. There was a change in the character of these hobbyists, as well. Radio amateurs were no longer primarily experimenters, although such activities still occupied a considerable part of their time; instead, they were becoming interested in radio primarily for the sake of communication. Their equipment was sufficiently advanced and powerful by this time to enable them to converse pleasantly with each other over appreciable distances, and some of them found more of a thrill in doing that than they did out of merely getting the apparatus to working. This phase of the hobby began to interest those who had no real desire for experimentation alone, and in conse-

quence the number of amateur stations in operation began to grow markedly. There developed two quite distinct classes of amateurs - those experimentally inclined, and those primarily interested in communication. The art was big enough to hold fascination for all.

Receivers had benefited by the boon of the sensitive, inexpensive crystal detector in 1906, and to this is traced much of the development and expansion immediately following. Progress in transmitters was also taking place. The spark gap went through various stages of development, emerging in each instance in many forms. In 1903 deForest had pointed out the efficacy of a "short, fat spark". The various quenched gaps, the Marconi disk discharger, and finally the Chaffee multiple gap, were respectively successful. It was the era of the fixed spark gap; ubiquitous rotary gap of later years had not yet been developed.

In 1906, too, radiotelephony first became a practicality. True, high-frequency sparks had been used by Fessenden to carry voice during 1900, but their performance was marred by poor articulation and harsh noises. A. Frederick Collins had also attempted to build a spark radiotelephone in early years, with some success. But it was the Poulsen arc that was first applied to provide the requisite continuous waves for the carrying of the voice modulation. At best, however, the scheme was only a makeshift, for huge batteries of carbon microphones which were constantly burning out were necessary to modulate the powerful arcs.

At this stage most of the amateur's transmitting and receiving equipment was of necessity homemade. Only a few concerns in the country carried radio equipment of any kind prior to 1908, and their lines were highly limited. There were numerous radio firms, but they were interested solely in communications; like mushroom growths they sprang up everywhere, overnight, flourished briefly by making claims impossible for anyone to substantiate at that stage of the art, and died leaving just another splotch of murky scandal in the popular black eye that wireless was achieving - for the public, deceived and swindled time after time, still could not be assured that radio was any further advanced than the stage of "it never will amount to anything".

The few hundred amateurs, nevertheless, continued, unheeding the black deeds associated with their commercial cousins.

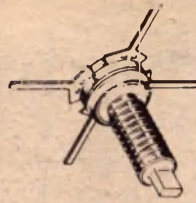
(Continued in next month's issue of WORLD RADIO.)

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2N3950	50 MHz	28v	50w	13.30	25.00
2N4072	175 MHz	13.6v	0.25w	1.00	1.75
2N4073	175 MHz	13.6v	0.5w	1.10	2.00
2N5109	200 MHz	15v	11g	1.50	2.50
2N3866	400 MHz	28v	1w	.75	1.40
2N5583	1300 MHz	10v	5w	4.00	6.00
2N5589	175 MHz	13.6v	3w	4.00	6.00
2N5590	175 MHz	13.6v	10w	6.00	10.00
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2N5942	30 MHz	28v	80wPEP	28.00	40.00
2N6082	175 MHz	12.5v	25w	12.00	20.00
2N6084/MM1668	175 MHz	12.5v	40w	23.00	40.00
MM1500	1500 MHz	20v	250mw	7.50	14.00
MM8006	450 MHz	6v	14g	2.00	3.50
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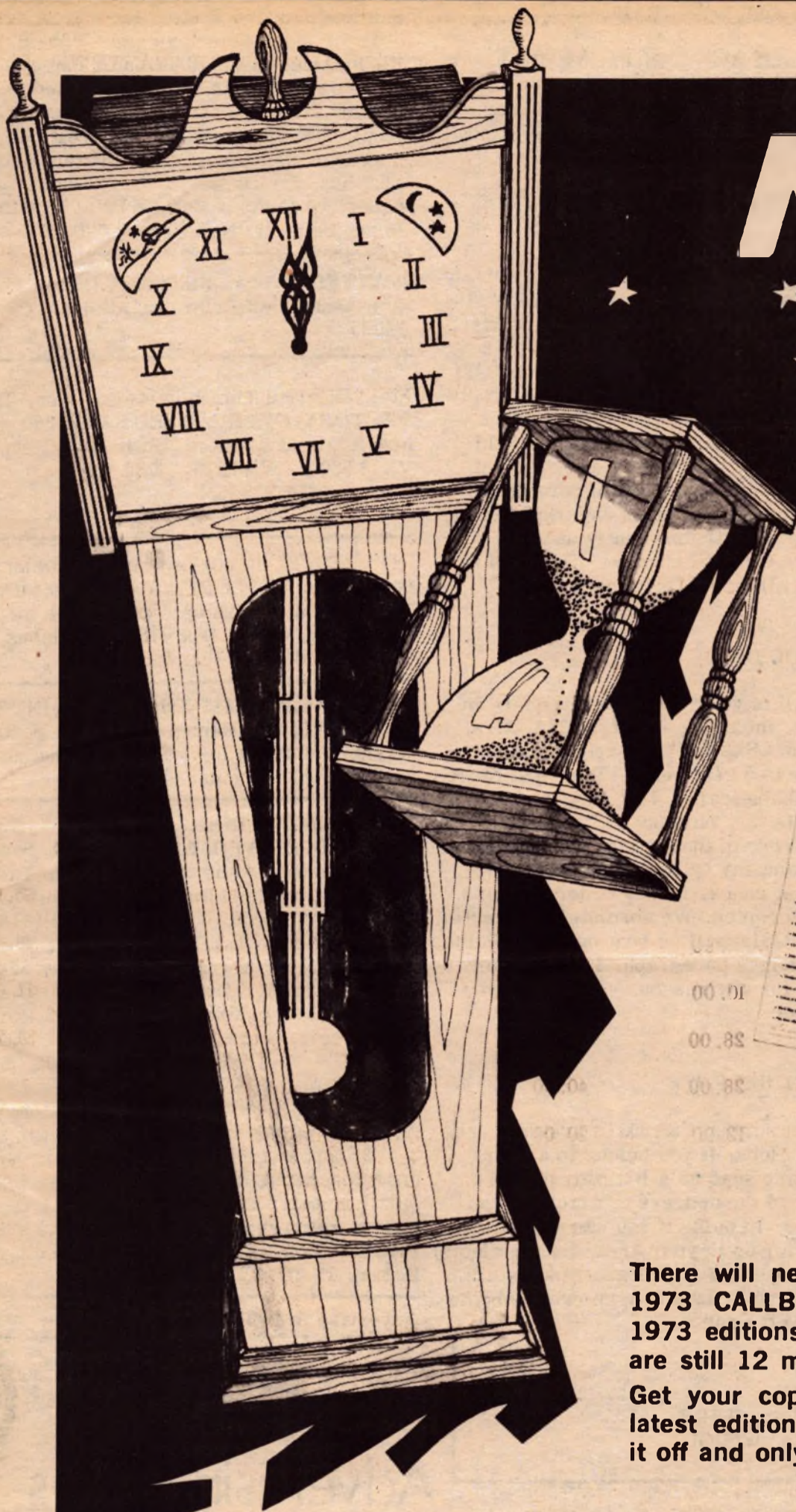
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2N6080	175 MHz	12.5v	4w	3.00	5.00
2N6081	175 MHz	12.5v	15w	4.75	8.00
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