



# Worldradio

Vol. 2, No. 5

January 1973

50¢

## Amateurs Aid Nicaragua Victims

Only Ham Radio Operators Provided Links With The Outside World .... (Associated Press)

### Amateur Radios Link Managua To World

MIAMI, Fla. (AP) - When an earthquake shattered Managua, Nicaragua, yesterday, ham radio operators from Chicago to Venezuela formed a link with a Managuan ham who for many hours represented one of the city's only links with the outside world.

The man, known only as "Enrique", broadcast in Spanish from a mobile radio unit in a truck and for nearly 12 hours relayed descriptions of death and destruction and appeals for help.

#### RELAYED

Andy Clark, (W4IYT), a Miami ham, and Jose Diaz, a Spanish-speaking friend, said Enrique's broadcasts were relayed to a U. S. State Department short wave station in Washington.

Clark said Enrique reported that the city was without electricity and water and was in urgent need of blood plasma, drugs and other medical supplies because Nicaraguan Red Cross stores had been destroyed by the quake.

#### CATASTROPHIC

Other Spanish-speaking hams said that Enrique described the battered and flaming commercial district where "people run through the streets like zombies, with terror. Big buildings are cracked. There is blood on people's faces, legs, arms as they leave their houses. We have never seen a catastrophic thing like this."

Larry Hull, another Miami ham, monitored a conversation between a ham outside of Managua and another in Chicago who were discussing plans to send supplies through the World Church Service.



Dennis Scannell, WB6IXC, one of hundreds of amateurs helping Nicaraguans.

By the time daylight came to battered Managua, hams in Venezuela, Panama, Costa Rica and other nations were informing their governments and countrymen of the magnitude of the Nicaraguan disaster.

#### HAMS ORGANIZE

In El Salvador, Radio Nacional reported that the ham operators had called on citizens to make donations to the victims through the Salvadorean Red Cross.

In Miami, radio station WFAB, a Spanish-language station, broadcast Enrique's appeals and called on the area's 300,000 Latin residents to do all in their power to send aid.

"The hams are telling Enrique to take care of himself," Clark said. "He's exhausted. He's been transmitting since early this morning.

"But he just keeps driving around the city, trying to do the work of 100 guys and report it all. He must be quite a guy."

#### NETWORK

Hams in Venezuela, Colombia and Mexico formed an "International emergency network" to communicate with any amateur radio operators in Managua.

At one point, the network contacted a Managuan ham identified only as "Norman" who said there were 5,000 estimated dead and 50,000 injured in the city. He did not give the source of the estimate.

## EARTHQUAKE Communication

"I have an emergency message for Miami."

That and many similar calls made up the sound of the amateur 15 meter band on 23 December when a devastating earthquake struck Managua, Nicaragua.

Amateurs, running on gasoline-driven generators were the only form of communication from the tragic scene. One of the first on was Jim Hingst, YN1HJ, of San Antonio, Texas. Hingst, employed in Managua, has been in Nicaragua since 1967.

"At 12:30 this morning the house fell down, we've had one hell of an earthquake here. The family is well but the offices and the facilities are badly damaged. Trying to do the best we can. Will tell you more when we evaluate what has happened." Such was one stunned early report on a phone-patch from Managua.

"The U. S. is sending a portable 400 bed field hospital and is sending many, many planes with supplies", was a message heard on the amateur 20 meter band. With the (Turn to page six, please)

1973 Jan 15  
St. Louis, Mo.  
1973 Jan 15



# Newsfront



## Blind Ham to Paraguay with help for eye defects

There are many Paraguayan slum children having difficulty with their vision, but a Topeka man who has been blind for 50 years is going to help.

M. A. (Augie) McCollum, WØHS, consultant on blind services for the Kansas Services for the Blind, said last night he will leave from Kansas City alone Tuesday morning for Paraguay to deliver 1000 refurbished eye-glasses for the children together with 40,000 dosages of antibiotics to deal with eye diseases.

McCollum, who lost his sight in a bicycle-car accident when he was 12 years old, will go to Paraguay under the sponsorship of the Paraguay-Kansas partnership, Inc., which has been promoting friendly relations between Kansas and the South American nation since the group was established under Gov. Robert Docking.

"The biggest problem we have had is trying to make the necessary arrangements to get the antibiotics there because of the current clamp down on drug traffic," McCollum said. "There were some problems with customs, but the consulate for Paraguay in Washington has been of help in getting the necessary clearance."

McCollum will send the antibiotics in one 40-pound package by air express to Miami International Airport. Braniff International Airways has agreed to let him carry the drugs aboard the flight he will take to Asuncion, Paraguay. Braniff officials will help him with the package when he leaves Miami.

The 1000 eye-glasses he will be taking in two additional packages, each weighing 40 pounds, were collected by Lions clubs across Kansas and were refurbished by optometrists in Wichita who donated their services.

Dr. Edward Steichen, a Lenore, Kansas physician who serves in the Kansas House and is chairman of the board of the Paraguay-Kansas partnership, Inc., on which McCollum serves, helped get the antibiotics, which were donated by drug firms.

"We think what he is undertaking is a great thing for us and for Paraguay," Dr. Steichen said yesterday. "We've been working on this thing for over a year."

McCollum will travel first to New York to confer with representatives of the American Association for Overseas Blind, a group assisting the Paraguayan government in establishing a rehabilitation program for the blind and sight clinic in Asuncion.

In Paraguay he is to be met by an old  
(Turn to page 12, please)



December 14, 1972

ARRL is pleased to announce the establishment of a new award. The Satellite DX Achievement Award recognizes two-way communications via Oscar 6. To qualify, 1000 points must be accumulated. Each new contact via the satellite counts 10 points, each new country 50 points, and each new continent 250 points. Confirmations must clearly indicate two-way contacts via Oscar 6, contain a date of December 15, 1972 or later, plus usual information. Photocopies of QSLs are not acceptable. Only one contact per station, regardless of mode. Details page 58 December QST. Application forms are available from ARRL, 225 Main St. Newington, CT 06111.

December 21, 1972

The composition of the three ARRL Advisory Committees for the coming year has been announced by President W2TUK. The contest committee chairman is W1-BGD, with members W2EIF, W3BQV, K4-BAI, K5TSR, W6DQX, K7NHV, WA9AUM, WØHP, VE2NV and KH6LJ. The DX committee chairman is WA2FQG, with members W1BIH, W3BWZ, K4IKR, W5AO, W6RGG, W7LFA, W8BF, W9NN, WØELA and VE3MJ. The VHF Repeater committee chairman is W2ODC, with members K1-ABR, W3DTN, K4GHR, W5VPQ, W6MEP, W7FHZ, W9BUB, WAØWZY and VE3BUI. Correspondence for any of the committees may be addressed directly to the members or routed via ARRL Headquarters.

### Simulated Emergency Test

The next ARRL Simulated Emergency Test will take place January 27 and 28, 1973. This serious operating exercise tests emergency preparedness on a community to community basis as well as long haul traffic facilities. There is a part for every amateur in the SET. Help do your share to justify the amateur service in terms of public interest, convenience and necessity. Plan to participate by coordinating with your local officials. Further information can be obtained from your Section Communications Manager, address page 6 QST. SET rules appeared in the December issue of QST.

### Opportunities Abroad For Teachers---

Brochure details how U. S. teachers may teach in schools of other countries and how other country teachers may spend an academic year in the U. S. Send for Item 31-Y, 1789-1083, Public Documents Distribution Center, Pueblo, CO 81001 - 25 cents.

## Washington Report: FCC



In the Matter of

Amendment of Section 97.307(a) of the Commission's Amateur Radio Service Rules to allow alien permittees to continue operating pending action on their application for renewal.

### ORDER

Adopted: November 1, 1972  
Released: November 6, 1972

By the Commission: Commissioners H. Rex Lee and Hooks absent.

Public Law 88-313 authorizes the Commission to grant permits to aliens temporarily residing in the United States to allow them to operate an amateur station. These permits are issued for a period of one year or less and are renewable.

5 USC s558 and 47 USC s307(d) provide that when a licensee makes timely and sufficient application for a renewal of a license, a license of a continuing nature will not expire until the application has been determined. Pursuant to Public Law 88-313, the provisions of Administrative Procedure Act and the Communications Act are not applicable to alien permit applications. Thus, when an alien's permit expires, his authority to operate his amateur station ceases even though he has filed a timely and sufficient renewal application.

Under the provisions of Public Law 88-313 when the Commission receives an initial or renewal application, the Commission must notify the appropriate government agencies. Before any further action can be taken on these applications, these agencies must submit any information they may have regarding the application compatibility with national security. The time in which these responses are received from these agencies varies between several days and months. The Commission believes that there is no legitimate reason in the case of renewal application to require an alien permittee to cease operation while the Commission obtains the required clearance from the appropriate agencies in light of the fact that clearance has been previously obtained within a year of the permit's expiration date. To prevent undue hardship to the alien permittee, Part 97 of the Commission's Rules is being amended to allow the  
(Turn to page 24, please)

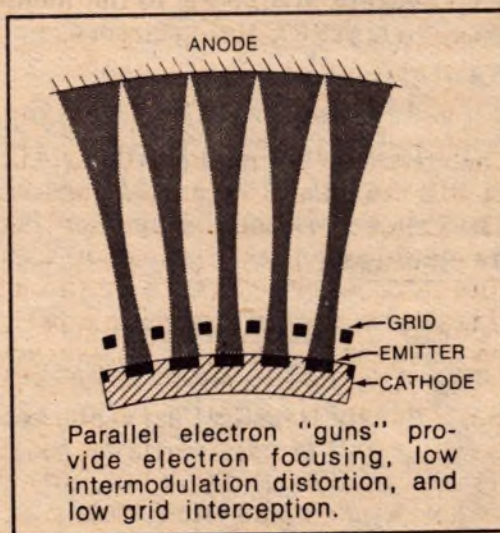
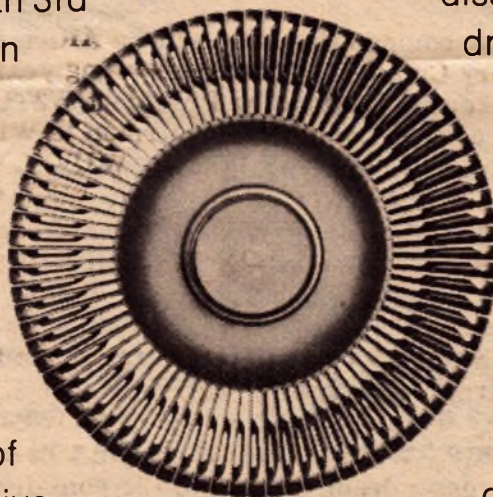
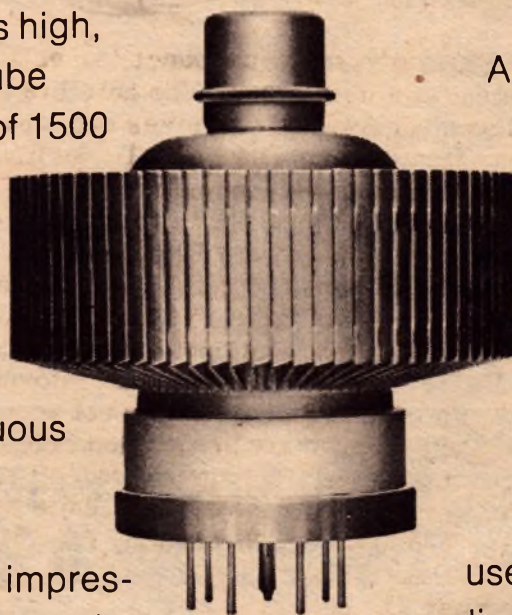
# EIMAC's new 8877 high-mu triode delivers over 1500 watts output at 220 MHz. (2000 watts output at 30 MHz is easy)

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

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

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

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



**Eimac**  
division  
varian

# Worldradio

Vol. 2, No. 5 January 1973 50c

## Amateurs Aid Nicaragua Victims

Only Ham Radio Operators Provided Links With The Outside World (Associated Press)

### Amateur Radios Link Managua To World

MIAMI, Fla. (AP) — When an earthquake shattered Managua, Nicaragua, yesterday, ham radio operators from Chicago to Venezuela broke a link with a Managua ham who for many hours represented one of the city's only links with the outside world. The man, known only as "Donnie," broadcast in Spanish from a mobile radio unit in a truck and for nearly 12 hours relayed descriptions of death and destruction and appeals for help.



Donnie Bennett, W6DNC, one of hundreds of amateurs helping Nicaraguans.

**RELAYED**  
Andy Clark, W4YFI, a Miami ham, and James Dale, a Spanish-speaking friend, used Europe's ham radio operators were relayed to a U.S. State Department short wave station in Washington.

Clark said Europe reported that the city was without electricity and water and was in urgent need of blood plasma, drugs and other medical supplies because Nicaraguans Red Cross stores had been destroyed by the quake.

**CATASTROPHIC**  
Other Spanish-speaking hams said that Europe described the battered and flaming commercial district where people ran through the streets like zombies with terror. Buildings are cracked. There is blood on people's faces, legs, arms as they search for homes. We have never seen a catastrophe this big in this area.

**NAME ORGANIZE**  
In El Salvador, Radio Nacional reported that the ham operators had called on citizens to make donations to the victims through the Salvadoran Red Cross.

### EARTHQUAKE Communication

I have an emergency message for Miami. This and many similar calls made up the sound of the amateur 15 meter band on 23 December when a devastating earthquake struck Managua, Nicaragua.

Amateurs, running on gasoline-driven generators were the only form of communication from the tragic area. One of the first on was Jim Huron, W1NHJ, of San Antonio, Texas. Huron, employed in Managua, has been in Nicaragua since 1967.

At 12:30 this morning the house fell down. We've had one hell of an earthquake here. The family is well but the office and the facilities are badly damaged. Trying to do the best we can. Will tell you more when we receive what has happened. Such was our situation early report on a phone patch from Managua.

The U.S. is sending a portable 400 watt field hospital and is sending many, many phones with supplies. Was a message heard on the amateur 30 meter band. With the (turn to page six, please)

**NETWORK**  
Hams in Venezuela, Colombia and Mexico formed an "international emergency network" to communicate with an amateur radio operator in Managua.

At one point, the network contacted a Managua ham identified only as "Norman" who said there were 5,000 estimated dead and 50,000 injured in the city. He did not give the source of the estimate.

# index

January 1973 - Vol. 2, No. 5

- ② Newsfront
- ⑥ Nicaraguan Earthquake
- ⑧ Don Johnson, W6QIE
- ⑩ Ham Radio / A Service
- ⑪ Charlie Wells, K4SKI
- ⑪ Chester Ferguson, W6UDC
- ⑫ Lend a Helping Hand
- ⑫ Life-Saving Antidote
- ⑭ Dave Fraser, KH6BIH
- ⑯ Ham Camp
- ⑱ Steve Kaplan, WB4SJQ
- ⑳ Travels of Darleen, HC2YL
- ㉒ Hams are People
- ㉔ Federal Communications Comm.
- ㉘ Greatest Hobby in the World
- ㉚ Electronic Investing
- ㉜ Two Hundred Meters and Down
- ㉞ International Mission Radio Assn.
- ㉟ Letters
- ㊱ The Mart

An International Newspaper  
Second Year of Publication

The story of Amateurs aiding Nicaragua begins on Page One.

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

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

WORLD RADIO, an independent newspaper, is not affiliated with any other organization, group or firm. Its pages are open to all. Permission is hereby automatically granted to reprint from WORLD RADIO. If there is something useful we wish to share it.

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

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

Too expensive for them? Maybe not, this year. Because, this year, there are made-to-order bargains to lure them here. Bargains in trans-ocean sea fares, and air fares, just-for-them. And reduced bus, rail, and air rates, once they arrive. And lots more. But some of them may not be available next

year. And many of them must be arranged before your friends leave the other side. So write to them. Tell them to talk to their travel agent or overseas carrier. (That way, they can get all the details.) Then add one more thing. Tell them America is not so big and bustling that no one will have time for them—and you'll

be around to show them the ropes when they arrive. Now sit back and wait. With any luck, you may soon be showing them America as you see it. But better be prepared for one surprise. You may soon also be seeing America as they see it—rediscovering it through their wide and startled eyes.

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

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

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

**STAFF**  
Armond Noble, WB6AUH  
Craig Rutledge, WB6NUM  
Ken Welsh, WB6FKV  
Norm Brooks, K6FO  
Sid Hall, WB6BNZ  
George Fong, WB6DTZ  
Tom Dunston, WB6VAR

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



## a note from the publisher

We regret the lateness of this issue. The last few were late with the November issue out the end of November. The December issue would have been out the end of December but the Nicaragua earthquake struck and we scrapped the cover story and inside pages. For days we monitored, taped, wrote and rewrote. Due to Post Office regulations we could not mail the December dateline issue in January. So this is that one. To compensate, when you receive your renewal notice, deduct one dollar. It has been an exciting time. Articles and subscriptions have been pouring in at an unprecedented rate. Which puts a strain on our limited staff. A lot of midnight oil has been burned lately. An apology is also due here to the new advertisers whose ads we were unable to fit in this issue. Look for them next month. Speaking of things to come—a column on SSTV and another on AMSAT -and more-will be appearing soon. Thanks for your patience. Cordially,  
Armond, WB6AUH



**SWAN,**

**FIRST WITH**

**FULLY**

**SOLID-STATE  
TRANSCIVERS**

**UP TO 200 WATTS**

Swan was the first to provide a low cost single sideband transceiver the average ham could afford. Again, Swan leads the field with "state-of-the-art" concepts!

- Receiver uses FET's, IC's, and Operational Amplifiers
- IF Derived AGC
- Minimized Front-end Overload, Distortion and Cross-modulation

- Selectable Sideband, 80-10 Meters
- Built-in VOX
- Noise Blanker, with Threshold Control
- 25 KC Calibrator

- No Transmitter Tuning
- Infinite VSWR Protection
- Semi-CW Break-in and Monitor
- 10 MHz WWV Receive

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

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

**CHOICE OF 3 MODELS:**

SWAN SS-15, 15 watt P.E.P. ....	\$579.00
SWAN SS-100, 100 watt P.E.P. ....	\$699.00
SWAN SS-200, 200 watt P.E.P. ....	\$799.00

**ACCESSORIES INCLUDE:**

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

*Just 10% down is all that is needed if you use your Swan Credit Service account to put an all solid-state rig in your ham shack.*

Detail specifications may be found in the New 1973 SWAN Catalog. Write for your FREE copy, today!



**SWAN  
ELECTRONICS**

A subsidiary of Cubic Corporation

305 Airport Road • Oceanside, CA 92054 • Phone (714) 757-7525



# Nicaraguan Earthquake

(Continued from page one)

usual communication links shattered, William Criswell, YN1TC, was handling the traffic between the U. S. Ambassador and the State Department in Washington.

Furnishing one link for Nicaragua were YN1JFP and Melvin Amick, WA5TYT/Ø. Inquiries came in from throughout the U. S. in such abundance that Nicaraguan stations had to take them in call number sequence. Cleveland Marshall, W4WF, was able to relieve the anguish of a family when he relayed from his Virginia home, "The Watkins are all right."

The 21 MHz band carried the words, "The U. S. government is sending an emergency team from Panama with 20 doctors and are flying in 17 experts to assess the damage done and determine what has to be done to bring normality to the chaos."

Slowly the scope of the tragedy became apparent when the first report of a thousand known fatalities came out of Managua.

John Kiener, W8AVH, of Cleveland, Ohio relayed information that the Chevron factory suffered nearly a million dollars damage. He later reported that a gas station blew up involving ten square blocks in a fire that gutted the center of Managua. To compound the problems, two major hospitals were damaged. Kiener told that the Baptist Hospital was 80 percent demolished and all the medical supplies had been destroyed. He told later that the 400-bed field hospital from the U. S. had arrived in Managua.

"The Jacksons are all right" was typical of the messages handled by YN1HJ to amateur stations such as Richard Gilson, W4-DOO, in Florida.

John Hutchins, W3OBD, at the U. S. Naval Academy at Annapolis, made a call to YN1HJ on behalf of David Luria, Director of the Partners of the Americas. The people of Wisconsin (the sister state of Nicaragua) were wanting to know what medicines they could send down. The answer came back, "antibiotics".

It was now into the afternoon and YN1HJ had been on the air all night and all day. He admitted he was getting tired... but he stayed at the radio and would pass out the messages such as, "The Pfeiffers are all right", thus comforting a relative suffering the agony of worry.

At 2041 GMT - from Managua-"Tell Rebecca her husband is OK." James La Porta, W5QWZ, was most active in running messages into Texas.

Then Ray Meyers, W6MLZ, came on with an inquiry from the Red Cross in Los

Angeles. They were ready to fly medicines in and wanted to know if the airport was operational. They were told to come ahead, planes were landing but there were no navigational facilities.

The hours rolled on, inquiries came in as to the conditions of people and various locations. The reports went out. Earth tremors occurred frequently but the operators in Managua remained at their radios.

It sounded like this... "They had some severe damage to their house but they are all right... The Malones are all right... The high school collapsed... The damage was greater east of Roosevelt Avenue than west of Roosevelt Avenue... A doctor in Corpus Christi is very worried and inquiring about his brother... The Grand Hotel was on fire... No, I can not make a phone patch to that area, all the land lines are down... The El Roquido Hospital is completely out of commission, the juvenile home is completely demolished..."

Amateurs around the world heard a fellow amateur... "Just had another tremor... shook us up a little... downtown is still smoking... people here say 90 percent of the buildings are in such bad shape they will have to be torn down rather than be repaired... another shake is going on, the floor is wiggling."

Martin Forrest, WB6VPC, places a phone call from San Jose to San Francisco to relay the message from Managua, "The Peter Puschendorfs are fine, please do not worry".

From Managua... "Please stand by, I have to go out and re-fuel the generator... Tell him--his family is fine... a little tremor there, the radio jumped all over the table... Bill Newmann lives just down the street from me, he is in real fine shape"

Joe Smisek, WØUYL, sent an inquiry down on behalf of the concerned brother of a young woman. She had arrived in Managua just the night before to visit another brother, a Marine guard at the U. S. Embassy.

Maurice Singer, K5YMM, relayed the message in New Orleans that, "The Enrique Ostado family is fine"... Messages were going all over the nation such as, "Tell him his brother and family are all right."

Then YN1HJ said, "I have to go off the air now, some guys from the office are here and we have to do some emergency planning. I'll be back on at 1200 Zulu. Thank you for all the hours you have spent at your rigs. We are very grateful for the traffic you handled. We appreciate it from the bottom of our hearts."

The traffic continued the next day. What the hams were doing was evident when a message that a family was safe was received by an amateur in the U. S. He said, "You should see the smiles coming on the faces here... it has been a long, long night for them".

Traffic was so heavy that Johnny Davis, W5LZA, was helping take a list so the traf-

fic would move more orderly with "Buck" YN1BCD, and Charles "Bud" Kennedy, YN1BUD. Another station making lists was James La Porta, W5QGZ, who helped out for several days.

One message concerned a man who, hearing of the disaster, left the U. S. for El Salvador. From there he would drive to Managua to look for his wife and children. Unknown to him, his family had already left for Miami. The ham on the receiving end in Managua knew the searcher personally and where their home was. He said he would deliver the message of family safety.

Concerned parties in the U. S. went right to the shacks of hams they knew, such as Jesse Hill, W6BFU, in Oakland. Lewis Campbell, W6ULB, in Sonoma, was another with the worried people right in the radio room to get the word. One health and welfare inquiry concerned a man who, it turned out, was the family doctor of the ham who received the inquiry in Managua.

The word went out by ham radio to the agencies sending relief by plane that Colonel William Hunter, Chief of the U. S. Air Force Mission, was at the airport for those who needed help on arrival.

Phone-patch traffic went like--It's so good to hear from you."

Imagine the sense of relief when a ham in battered Managua relays through Robert Lowe, WB8GTO, "Tell his wife I saw him this morning and he is fine."

Coming on the air, relieving YN1BUD, was Imogene Currin, YN1IMO. Joe Hertzberg, K3JH, called in on behalf of the Nicaraguan Consul in Philadelphia to get the latest information.

With W5QGZ running the list, YN1IMO was taking hundreds of inquiries. The story at 2155 Z was, "No one hurt in the Grand Hotel". That brought a sigh of relief as several had asked about residents there after hearing that it had been on fire.

But not all the messages were good ones. One phone-patch told, "Peter died in the earthquake." Back from the U. S. a member of the family said, "We'll try to keep Mary company." An amateur's heart hangs heavy when that type of message moves through his station.

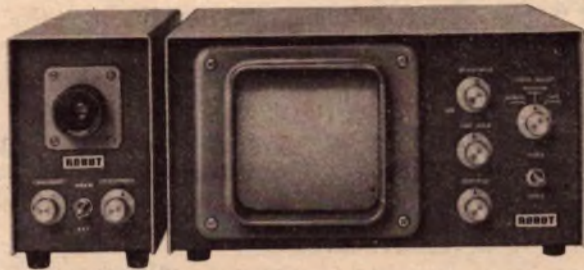
Health and welfare messages moved into the local area nets such as Western Public Service System and others. Handling some traffic on 75 meters were William Yost, WA6PIU, and Frank Rasmussen, WA7LNQ.

Back in Nicaragua, Imogene, YN1IMQ, was going like this... "WB6IXC (Dennis Scannell), I can give information on Mullins. He is fine, my husband says."

Forty-eight hours after the earthquake struck, Charles Long, WB6YFO, picked up a message on a 75 meter net, moved to 20 meters and passed an inquiry to W5QGZ. It was from a young lady in San Francisco hoping to learn about her sister and her father, a Major in Nicaragua's Army.

Several hundred amateurs participated in helping the people of a stricken country. The above account tells only a portion.

(The Nicaragua earthquake occurred a few days before this newspaper's deadline. We will have more news, of the amateur's role in helping people during this disaster, in next month's issue, as the accounts are sent in to WORLD RADIO.)



## Operating SSTV is easy.

### True or False

How much do you really know about the newest activity in amateur radio? Take this 3 minute TRUE-FALSE quiz and see.

- |  |  |
|--|--|
| <p>1 A slow scan television picture is similar to that projected on TV. <input type="checkbox"/> T <input type="checkbox"/> F</p> <p>2 Motion can be portrayed on slow scan television. <input type="checkbox"/> T <input type="checkbox"/> F</p> <p>3 To broadcast slow scan television just add a Robot monitor and camera to your present station. No other equipment is necessary. <input type="checkbox"/> T <input type="checkbox"/> F</p> <p>4 Slow scan occupies no more space on the band than an audio signal. <input type="checkbox"/> T <input type="checkbox"/> F</p> | <p>5 Any licensed amateur radio operator, except Novice, may operate SSTV. <input type="checkbox"/> T <input type="checkbox"/> F</p> <p>6 \$295 each for a Robot SSTV monitor and camera is the lowest price in the world for SSTV equipment. <input type="checkbox"/> T <input type="checkbox"/> F</p> <p>7 Robot guarantees your satisfaction with all Robot equipment, or your money will be refunded. <input type="checkbox"/> T <input type="checkbox"/> F</p> <p>8 New SSTV operators all suffer from lack of sleep. <input type="checkbox"/> T <input type="checkbox"/> F</p> |
|--|--|

#### 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 \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

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

# ROBOT

ROBOT RESEARCH, INC. 7591 CONVOY COURT, SAN DIEGO, CA 92111 (714) 279-9430

# Don Johnson, W6QIE

by Tom Dunston, WB6VAR



The San Francisco Bay Area contains the largest concentration of Nicaraguans, outside of Nicaragua. That fact brought San Francisco area hams to the forefront of handling traffic for worried families.

Don Johnson, W6QIE, swung into action when he received a call from the Nicaraguan Relief Committee in San Francisco. Almost round-the-clock message handling took place on 14 MHz in the morning, 21 MHz in the afternoon and 7 MHz at night.

As a public service, Pacific Telephone, at no charge, installed two more phone lines at W6QIE so as to speed the message handling.

Fifteen men and women from the Bay Area Nicaraguan community rotated duty time at W6QIE to act as interpreters. One man used a week of his vacation in order to help.

Fifty local hams either went to W6QIE to operate or called to offer assistance. For Hal Franklin, WA6CCM, it was a 70 mile round trip to lend a hand. They were joined by Nicaraguan hams residing in the San Francisco area.

Through the station, located a few miles from San Francisco International Airport, moved health and welfare inquiries. Other traffic was from relief agencies wanting to send materials and asking Nicaragua what was needed and for shipping instructions. The inevitable incoming death messages were relayed to Catholic churches where a priest would have the duty of informing the relatives.

W6QIE worked with about 15 different Nicaraguan stations. Some were outside of Managua and they would relay the mes-

sages into the stricken city. Among the Nicaraguan stations were: YN2JM, YN8EP, YN8JN, YN8MB and YN8IR.

Messages were personally delivered when possible by members of the Grizzly Peak Repeater System (WB6AAE). Paul Kitagaki, W6NDA, provided technical assistance to keep all equipment in operation. At W6QIE, four stations were on the air at once utilizing SSB, CW and RTTY.

Handling messages on Christmas Eve, the hams gave unselfishly of their time to help others. George Gabriel, WA6KQB, acted as net control of Grizzly Peak. Among those working were Ed Peck, K6AN, Jack Lopez, WB6QPS, (a ham since 1914); Roy Everhart, WB6GWQ, and many others.

With 25,000 Nicaraguans in the Bay Area there was a lot of work to do. Lauren Styles, WA6CIE, and his fiancée, spent Christmas Day at the Oakland Red Cross building routing the messages to the Grizzly Peak units waiting to deliver them.

Dick Altman, WA6AXV, hand-delivered one of the first messages to a San Francisco family. He said the reaction of the family to the message, that their relatives were safe, was the best Christmas gift he ever received. He was pleased to see them relax upon receiving a message unexpectedly so soon after the disaster had struck.

Lou Dorn operated WB4MUL/6 at Travis Air Force Base and made many reassuring telephone calls to Southern California at his own expense.

Others involved included Charlie Weber, WB6RPK, ARRL Section Emergency Coordinator, who worked with the International Red Cross. Weber is also chairman

of the Alameda County Red Cross Disaster Committee.

Also on hand was Ralph Green, WB6UPD, who helped to coordinate local activities. Green, an executive with Pacific Telephone, was assigned a few months ago to the Office of Emergency Preparedness to work out a plan for emergency communications in California.

It all revolved around the shack of Don Johnson, W6QIE. Public service is nothing new to the 67-year old retired U. S. Navy Chief Radioman. First licensed in 1922 as 9ACW, in the spark days, Don has been a deeply involved amateur ever since.

This 1960 winner of the Edison Radio Amateur Award (for teaching blind students to become amateurs) has furnished on-the-air Morse Code instruction for the past 20 years. And he has assisted more than 1,000 hams get their licenses in face-to-face instruction.

Johnson's station was active during the Crescent City floods, the Alaska earthquake and every other incident that brought traffic into the Bay Area.

After the fire on the U. S. S. Forrester, 5,000 messages moved through W6QIE in three days. For his efforts following the fire aboard the U. S. S. Enterprise, Don was presented the second highest Navy award available to a civilian, the "Meritorious Public Service Citation."

Though not of that faith, he has gone into Catholic convents to help Sisters get a license. The Nuns were going to a location in Peru so remote (12,500 ft. above sea level) the only communication would be Amateur Radio. He is also involved in Navy MARS and County Disaster Communications.

Herb Anderson, WA6RBS, District Coordinator of 12th Naval District MARS, says of Johnson, "To do what Don does you must have time, desire and equipment. Others have the time and the equipment but what they lack is the desire or purpose that Don has."

Asking Don why he was so active brought this answer... "A person must feel he is actually doing something. I could be a crossing guard for children or drive handicapped people where they need to go. But I think I can do the most good this way. I think this kind of activity is good for our country. Amateur Radio is like a championship team. You have to work hard to keep it that way. You can't lean back on what happened 100 years ago. A person should never feel that they have done enough. You just can't do something and sit back, you've got to keep going, got to do something."

Don pointed to a stack of recent mail. It was QSL cards from hams. Some were from new Novices and others were Novice cards with the "N" covered over with an "A" or a "B". They thanked him for the on-the-air code practice that led to their licenses. He has over 4,000 such cards and letters, having kept and stored every one. He said, "That's all the thanks I need."

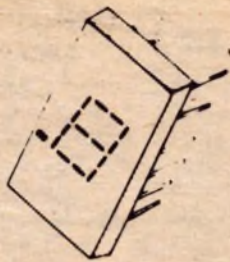
Don Johnson, W6QIE, is truly an inspiration to all hams.

W6QIE Code Practice-8:00 to 9:30 p. m. Pacific Time, daily except Mondays. 3590 kHz - speeds from 5 wpm through 30 wpm.



# MAN 1 LED

- high brightness--350ft-L @20ma
- single plane, wide angle-viewing---150°
- standard 14 DIP
- long life---solid state
- operates with IC voltage requirements
- displays all digits and 9 distinct letters



\$4.25 EACH

## Schottky TTL \$3.00 EACH

- 82S30 8 input multiplexer
- 82S33 2 input 4 bit multiplexer
- 82S41 quad EX/OR element
- 82S42 4 bit comparator
- 82S62 9 bit parity gen./checker
- 82S67 2 input 4 bit multiplexer

## 7400 series DIP

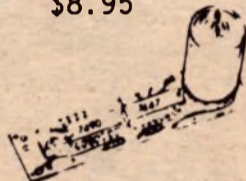
7400	.25	74H11	.50	7451	.25	74H74	.85
74L00	.35	7413	1.75	74L51	.35	7475	1.15
74H00	.35	7420	.25	74H51	.35	7476	.55
7401	.25	74L20	.35	74H52	.40	74L78	1.00
74H01	.35	74H20	.35	7453	.25	7480	.50
7402	.25	74H22	.50	74H53	.40	7483	1.15
7403	.25	7430	.25	7454	.30	7486	.65
7404	.25	74L30	.35	74L54	.35	7489	3.00
74L04	.35	7440	.25	74L55	.35	7490	1.00
74H04	.35	74H40	.40	7460	.25	7491	1.15
7405	.25	7441	1.30	74L71	.50	7492	.90
74H05	.35	7442	1.00	7472	.40	7493	.90
7406	1.00	7446	1.50	74L72	.50	7495	1.15
7408	.40	7447	1.50	7473	.55	74L95	2.00
74H08	.50	7448	1.25	74L73	.80	74107	.55
7410	.25	7450	.25	7474	.40	74153	1.75
74L10	.35	74H50	.40	74L74	.80	74192	2.25
						74193	2.00
						74195	1.00

all IC's shipped within 24hrs.

## CD-3 universal counter

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

KIT \$8.95



## CD-2 digital counter

Unit includes board, 7490, 7475 quad latch, 7447 seven segment driver, and RCA DR2010

KIT \$9.95  
ASSEMBLED 12.00



## 8000 series TTL DIP

8200	4 bit comparator	1.60
8210	8 line to 1 line selector	1.40
8220	parity gen/checker	1.00
8223	256 bit programmable ROM	7.50
8230	8 input multiplexer	2.00
8233	2 input 4 bit multiplexer	1.75
8242	4 bit comparator	1.00
8251	BCD to decimal decoder	1.00
8261	fast carry extender	2.00
8266	2 input 4 bit multiplexer	1.50
8270	4 bit PI, SI, PO, SO	2.00
8271	4 bit shift register	2.00
8273	10 bit SI, PO register	3.00
8274	10 bit PI, SO register	3.00
8280	45MC presetable decade counter	1.15
8281	45MC presetable binary counter	1.15
8290	presetable dec. counter 75MC	3.50
8292	presetable dec. counter 10MC	.90
8520	25MC divide by "N" 2 to 15	2.00
8551	tri state quad latch	2.00
8570	8 bit SI, PO	2.50
8590	8 bit PI, SO	1.50
8275	quad bistable latch	.90

748	op amp T05	1.50	CA3065	TV/FM sound system DIP	.75
NE555	prec. timer MINI	1.25			

## linears

LM100	positive DC regulator T0-5	.80
NE526	high speed comparator DIP	1.00
NE560	phase lock loop DIP	3.25
NE561	phase lock loop DIP	3.25
NE565	phase lock loop T0-5 or MINI	3.25
NE566	function generator T0-5 or MINI	3.50
NE567	tone decoder T0-5 or MINI	3.50
709	popular op amp DIP	.35
710	voltage comparator DIP	.50
711	dual comparator DIP	.75
723	precision voltage reg. DIP	1.00
5558	dual 741 op amp MINI	1.00
810	dual op amp DIP	.80
747	dual 741 op amp DIP	1.00
LM302	op amp voltage follower T0-5	1.25
LM308	op amp T0-5	2.00
LM311	comparator T0-5	1.50
LM380	2W audio amp DIP	1.50
LM703	RF-IF amp epoxy T0-5	.80
LM309K	5V-1A power supply module T0-3	2.50
LM309H	5V-200ma power supply T0-5	1.00

## calculator on a chip 40 pin DIP

- Add, subtract, multiply, and divide
- 12 digit display and calculate
- Chain calculations
- True credit balance sign output
- Automatic overflow indication
- Fixed decimal point at 0, 2, 3, or 4
- Leading zero suppression
- Complete data supplied with chip



SILICON  
signal diodes  
100 PIV - 80 ma  
60 for \$2.50

## RCA 2010 NUMITRON

- digital display tube
- incandescent 5V
- 7 segment
- .6" high numeral
- visible at 30 feet
- left hand decimal
- 9 pin base (solderable)

EACH \$ 5.00  
5 FOR 20.00



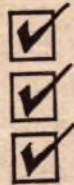
# BABYLON ELECTRONICS

P.O. BOX J CARMICHAEL, CALIF.  
95603 (961) 966-2111



### Needle in a haystack? - Found: Amateur Radio does it again.

by R.C. Kyle, K6GRP



They found her down. She, in her eighties, had fallen and broken her hip. The hospital in Fresno telephones her son's home in Placerville. Son, K6SJM, and wife gone on a recreational mobiling trip north into Oregon. No itinerary. Whereabouts or places they would stop unknown. He had been heard on the California Weather Net from Redding the previous morning.

K6SJM's (Warren Flint) daughter took the telephone call and in turn phoned W6BQL, Warren Triplett, in Diamond Springs, 3 miles away, to help try and get word to her father as he had a mobile rig in his pickup and was towing a 16-foot vacation trailer.

Triplett phoned R. C. Kyle, another mutual ham friend, in Kelsey, ten miles away. Triplett said he would monitor and search the 75-meter band and requested

Kyle, K6GRP, to do likewise on 40 meters.

K6SJM's location, bands he would be on, or frequencies - unknown.

Kyle got on WCARS net about 11:30 a. m., Friday, October 13th. Gave the Net Control meager information known: white Ford, 3/4 ton pickup, license number, Fireball 16-foot vacation trailer, and probably somewhere in Oregon. Asked that a QST be broadcast frequently to look and listen for K6SJM mobile and if contacted to tell him to telephone Diamond Springs - he would know the number to call - that there had been an accident in the family.

K6KEV, Doug, in Menlo Park, California, heard the QST and finally found K6SJM on the air in Portland, Oregon the following morning. He gave him the information and instructions, so terminating another episode of Amateur cooperation and service.

### Help when needed

by Bill Miller, K6EEF

On October 10 my son Allen called me from Stanford Research Institute and asked me if WCARS could find a ham in Palo Alto area who could work 15 meters, speak Spanish, and work a station HC5JE in Ecuador. I assured him that good old reliable WCARS could always come up with the answer. I went on net and K6KDB, Merrien, received my request. She relayed it on net a few times and K6OAM, Ed Thompson of Palo Alto, responded. I called K6OAM and filled him in on the details.

A 16 year old girl from Ecuador was being operated on for open heart surgery and contact was desired with her parents in Ecuador. Maria Ilene Pallacios was to be operated upon on October 10, 1972.

K6OAM took on the job of setting up the schedule with HC5JE, George, who was Maria's uncle. True to the tradition of amateur radio, he held several QSOs with George, HC5JE, allowing Maria to talk with her parents via patch.

Maria has had her operation and it was a success and her spirits were greatly elevated by the contact with her parents. My thanks to K6OAM and all other net members who assisted on this project. (From West Coast Amateur Radio Service (WCARS) "Sentinal".)

## "Am I my brother's keeper?"

by Fred Marvin, WA6BXJ

Thursday, November 16, 1972  
6:00 P. M.

Our new neighbor (Mrs. Frank Davey) knocked at our door. She was extremely upset and told us the following:

She and her husband (a newly-retired Bay Area school principal) decided to sell their home and retire in Crescent City (California). He then signed a general "power-of-attorney", packed his new Datsun pickup/camper, and took off for a 30-day sabbatical leave, slowly touring Mexico. Mrs. Davey came to Crescent City and purchased their new retirement home (borrowed \$10,000 for down payment and consummation contingent upon the sale of the Bay Area home). The house sold immediately and escrow was scheduled to close in 10 days. (So was her \$10,000 note.) The title company had just phoned and informed here that in Real Estate title transactions the "power-of-attorney" had to be specifically for that specific transaction! The problem: to locate Frank Davey (who was somewhere between Hermosillo and Matsatlan) before they lost their \$40,000 sale and the \$10,000 became due and payable. She said she had heard that "Hams" did emergency work, that she was absolutely "at sea" and could I help? I said I would try.

6:15 P. M.

Checked into WPSS Net on 3952 (WB6LRY, John - NCS) with urgent priority for Mexico. John immediately called K6MVF, J. C. took the message and said, "QSY to 3855 (Taco Net) and verify my transmission."

6:18 P. M.

Taco Net (3855) members present and assisting: K6MVF, J. C.; XE2BY, Duane; XE2MMK, Bob; W6HCD, Nash; W6WMO, Hal; K6SMT, Earl; and XE1CAM, Raoul. J. C. called XE2BY but was too close and skipping over. I re-transmitted the emergency. XE2BY QSY'd to the Mexican Emergency Net and came back to report: QSL and the hunt was on. (Only 30 minutes had passed since I had started.) I left my phone number with K6MVF and XE2MMK for a "one-ringer" if anyone wanted me and signed with the net at 6:45 P. M.

Friday, November 17, 1972

7:00 P. M.

"One-ringer" - 3952 - QSY 3855 - XE2BY reporting: "No info yet but working."

Saturday, November 18, 1972

6:25 P. M.

Checked in WPSS 3952 (K6ZZB, Frank - NCS). Contact from K6MVF - QSY to Taco Net. XE2BY: "No info. Not seen on highway yet. Probably holed up for weekend. Still looking."

Sunday, November 19, 1972  
9:10 P. M.

"One-ringer" - checked 3952 - contact from XE2MMK. Bob had official military friend. He would "put him on it" early Monday morning and "things should happen." (Note: they did!)

Monday, November 20, 1972  
9:15 A. M.

Mrs. Davey arrived at our door and breathlessly told me that Frank had just phoned. The police had found him in the last camp in Matsatlan!

Nearly 1000 miles of roads and highways had been checked!

This is what it's all about - Amateur Radio and Nets working together to help people in emergencies and communications! The courtesies and help individually offered by everyone concerned was heart-warming. (Mrs. Davey wishes she could thank each one individually.) Surely when the chips are down the fraternity of Hams clearly affirms that: we ARE "our brother's keeper."  
(From "Newsletter" of the Western Public Service System)

## Will The Real K4SKI

### Please Stand Up?

by Larry Cotariu, WA9MZS

The real K4SKI is Charlie T. Wells, Jr. of Greenville, North Carolina. Back in 1959 Charlie appeared on a popular American television show, "To Tell the Truth". The object of this panel show was for 4 panel members to sort out the real person from 2 impostors.

The appearance on "To Tell the Truth" by Charlie was the highlight of commendation he received after using his ham gear in arranging for medical aid for an automobile accident victim in Africa.

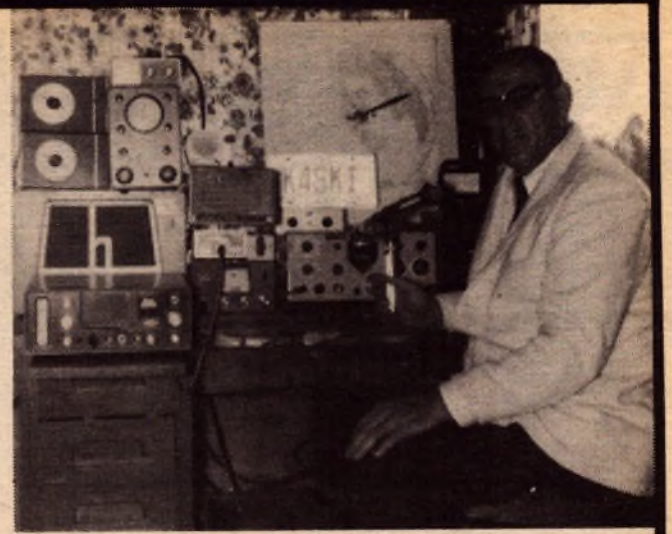
The situation that received worldwide attention 13 years ago was an Israeli boy

seriously hurt in an auto crash in Ghana. Charlie received an urgent transmission from 9G1AA asking for assistance. Charlie ran phone patches into the Israeli embassy in Washington, D. C., the result being the sending of a brain surgeon to aid the boy.

Charlie is 49 years old and is a plant engineer for a bakery in Greenville, N. C. He is married and has 6 children and 5 grandchildren. He has been a ham since 1957 and has always been ready to handle emergency as well as routine traffic on the ham bands.

This year Charlie was commended by Liberian president W. R. Tolbert, Jr. for his part in providing assistance during the Liberian Lassa Fever epidemic last April.

During the first part of November, this year, Charlie embarked on a journey to Africa. On his itinerary were personal visits with several hams of that continent.



Charlie Wells, K4SKI

The longest duration of traffic handling involving K4SKI was the time he ran 39 phone patches from a U. S. Coast Guard ship. The total time was 3 hours.

## W6DUC Aids Civil Defense

Chester "Bud" Ferguson, a retired commercial radiotelegrapher, is the operator of amateur radio station W6DUC and serves as the volunteer civil defense communications coordinator for this area.

While many coastside people are asleep in their beds, "Bud" will be found at his radio key or microphone maintaining communication by radio waves to stations hundreds or thousands of miles away.

In event of a regional disaster such as a mammoth tidal wave, an earthquake, or attack by foreign power, W6DUC would swing into action to assist local police and rescue agencies. Ferguson receives no pay or even "out of pocket" expenses for his toil and responsibility. Such people are volunteers.

A resident of Half Moon Bay (California) since 1933, Ferguson lives in his own home built about 100 years ago with hand-made nails. It is located at 636 Purisima Street, Half Moon Bay.

Before he retired several years ago he worked for I. T. T. World Communications receiving station at Lobitos, a few miles south of Half Moon Bay. Previously the station was operated by Mackay Radio and earlier by the Federal Telegraph Co. which built the facility after a long survey after World War I. It found that Half Moon Bay is one of the finest radio receiving areas in the world because it is outside the notorious McAllen belt which creates interference in long-distance communications.

### Weird Experience

As a radio man, "Bud" has had numerous interesting experiences. At one time he assisted the ship, "Our Lady of Peace", when the entire crew deserted near Moji, Japan.

Only the ship's captain, the radio officer, and the ship's electrician were aboard as the vessel wallowed in the treacherous seas not far from the typhoon regions.

Ferguson became their sole communication since he was their "stateside channel" that enabled recovery of the troubled vessel.

Although the main power was inoperative, the ship's radio officer had an amateur radio transmitter and receiver with independent power supply aboard. This was used to communicate with Ferguson who gave his assistance.

(From "Half Moon Bay Review")

## MARN News

In accordance with MARN's Masonic family concept, Toni, W4KJE, has been appointed the Principal YL Coordinator for MARN. Her task will be to initiate and preside over all MARN YL activities in an administrative capacity. At the present, Toni is arduously engaged in forming a MARN YL net. Those who are interested and are members of concordant bodies such as the Eastern Star, White Shrine, Rainbow Girls, etc., may inquire by writing to Antoinette S. Delson, W4KJE, 4455 Marlane Drive, Pensacola, Florida 32506

Presumably, all organizations have members who conscientiously strive for the common good of the organization. With this in mind and to recognize those who exemplify and pursue the aims and policies of MARN, the administrative headquarters is designing a certificate-type award for deserving members. Since antiquity the figurative mind of man has considered the beehive a symbol of industry and persevering activity and taking a cue from history the award will be named the "Sublime

Order of the Hive". In order to render it meaningful within the organization the number available will be limited to fifty; therefore, those who earn it will be known as members of the "50 Club". The recipients will be determined by administrative headquarters and in the interest of fairness and impartiality, the Recorder and Corresponding Secretary have disqualified themselves and are ineligible to receive the award.

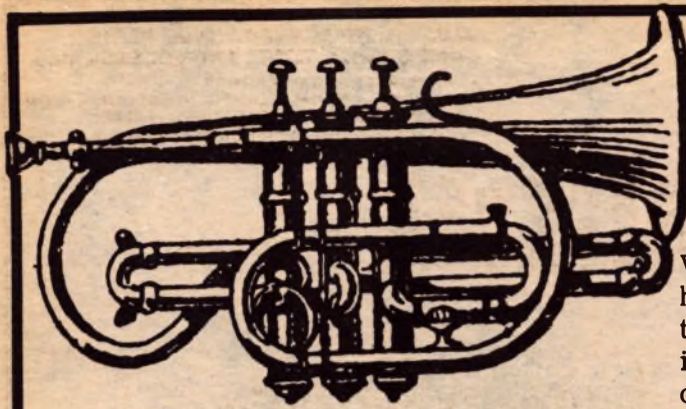
One of the facets of MARN membership is the opportunity to meet and become acquainted with brethren residing in other countries. The practice is encouraged by administrative headquarters to carry into effect one of the reasons for the inception of MARN and provides the means for the development of lifelong friendships among those who would otherwise have remained strangers. Understandably, not all members can participate in either the international or one of the local net activities owing to the time differential, the vagaries of the frequencies used, preference for a mode other than SSB, and various other causes. Realizing that individual effort is an essential component in the overall scheme of an organization

such as MARN, the administrative headquarters will provide the mailing address information to members who desire to set up schedules on an individual basis with members in Canada, Australia, New Zealand, Tasmania, Venezuela, Guatemala, Germany, Scotland, England, Kenya, Singapore, and the Seychelles. Consult the Recorder and the courtesy of a S. A. S. E. will be appreciated.

W4LCY



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.



# Lend a helping hand



Project ECO, an effort of the Southern California DX Club to assist hams in emerging and lesser developed Pacific Basin and Asian countries, is receiving requests for application notes and manuals covering the use of solid-state devices.

Project ECO, has had sufficient offers of conventional reading material such as handbooks, past issues of QST, CQ and other magazines to meet their immediate needs. They would appreciate being able to obtain, for overseas hams, solid-state data. Material may be sent to Pete Hoover, W6APW, 1520 Circle Drive, San Marino, California 91108, for relay overseas.

## Ham Speeds Life-Saving Antidote

"Is there a doctor on this frequency?" was the urgent plea on Harry Kroll's (WB4NFI) ham (amateur) radio last Sunday.

Mr. Kroll, a physics teacher at Bearden High School who lives on Wright's Ferry Road, was at his set because he had an appointment to connect a Venezuelan missionary, Rev. George Harbuck, via a telephone patch with relatives here.

When nobody else answered the urgent call, Mr. Kroll did.

### Needed Serum

The call for help came from Harold Rey, director of a Church of the Nazarene-sponsored hospital in Rosario, Argentina. Doctors at the hospital had used up their supply of an antidote for metal poisoning on a lead-poisoning case earlier that week.

They had none left to treat a 6-year-old child who had come in with mercury poisoning, and there was none to be had in Argentina.

Mr. Rey normally contacts ham radio operators and medical centers in Los Angeles or Chicago for help, but they were all busy on other calls last Sunday.

### Checked University Hospital

Mr. Kroll (WB4NFI) called the University Hospital Emergency Department and patched Mr. Rey through to Dr. James Hoffmeister, the staff physician on duty, while nurses checked Poison Control Center data.

The two men decided a Miami, Florida, hospital could get the antidote on a flight faster than University Hospital could, so the University Hospital staff contacted Mt. Sinai Medical Center, Miami.

Mt. Sinai sent its entire stock of five vials of the antidote by Pan American Airways to Rosario. Despite attempts by Mr. Kroll yesterday, it is not yet known whether the emergency action taken here and in Miami was in time to save the Argentinian child's life.

HELP! A recent note from 4S7PB to W9DDL, Dennis Eksten, asked for some help in securing some items for amateurs there in Ceylon. Paddy is asking that old issues of QST, CQ, Ham Radio, or any other radio publications be sent to 4S7-land to help with the development of more technical knowledge there. Paddy is also asking for the donation of a HW-32A Heath-kit for use in 4S7-land to develop more amateur activity. Anyone who can help with these can ship them direct to Paddy Gunasckera, 4S7PB, 9/1 Cleaessen Place, Colombo 5, Ceylon.

W5QPX, Gilbert Baker, RFD 1 - Box 185, Dalhart, Texas 79022, is deep in the overseas amateur development plan and has been casting around for a reasonably good SSB receiver to be shipped to a destitute European Radio Club to get the group on the air. He is looking for something in the SX-96-100-111 class or a Drake 1A-2B or HQ 110, RME 6900, etc. Drop him a line if you are interested.

(de West Coast DX Bulletin)

### Miami Child Released

Ironically, Mt. Sinai was treating a 3-year-old girl for a case of lead poisoning at the time of the emergency. They sent their supply on because they could always get more, while the Argentinian hospital could get none. The Miami child was released.

The closest Mr. Kroll (WB4NFI) has ever come before to being actively involved in an emergency medical situation was when tornadoes hit Nicaragua and radio operators there were trying to contact Vanderbilt Hospital, Nashville, for medical advice and aid.

He has been interested in amateur radio for 40 years, but has only been an active "ham" for three. His wife, Nell, is also licensed, and their 14-year-old daughter, Ann Ellen, has a novice license.

### Sponsors Club

Mr. Kroll is net manager for the East Tennessee 10-Meter Net, a local group of ham operators organized to handle non-emergency calls. He said he spends "from eight to zero" hours per week on the radio, depending on his spare time.

He is also sponsor of a ham radio club at Bearden High.

"The first messages to reach the outside when the East was stricken by floods this summer were from radio operators," he noted. He feels ham radio is a hobby with a purpose.

(From "The Knoxville News-Sentinel",

## Blind Ham-Paraguay

(Continued from page two)

friend, Dr. Carlos Santacruz, a university professor in Paraguay and a consultant to the national health ministry who is on the board of the partnership for Paraguay.

In October the Northern California DX Foundation was incorporated under the laws of California as a charitable foundation. The objectives of the Foundation are still in the formative stage but will possibly include all facets of DXing from handling QSLs to county-hunting efforts and the sending of equipment to qualified DX stations. In the first meeting of the Trustees of the organization, it was emphasized that the approach of the Foundation will be that "DX means difficulty, not distance".

The incorporated status of the DX Foundation indicates that contributions to it will be tax deductible. The organizing trustees for the Foundation include a large number of prominent DXers including W6BH who is the President of the Foundation; W6ISQ who is Vice-President; W6MAV, the Secretary; K6KQN, Treasurer; and K6DC, W6HVN, and WA6AUD who are Trustees.

This Northern California DX Foundation is regarded as a new approach to the matters of fostering international good will through the DX efforts and it is expected that this group will come up with some interesting projects in the coming year. The address of the present secretary is Vincent Chinn, K6KQN, 738 Washington Street, San Francisco, California 94108.

(de West Coast DX Bulletin)

McCullom (W0HS) is an avid ham radio operator and maintains communications between Kansas and Paraguay. He also serves as a member of the Eye Emergency network, representatives of eye banks in various parts of the country who nightly exchange information on eye tissue available in banks in their areas and on tissue needed for certain types of eye surgery.

"We have about 90 members on the net and you'd be surprised how much information we exchange that is of help to a lot of sightless people," McCullom said.

McCullom also has been asked by the American Association for Overseas Blind to fly as a visiting consultant to the Helen Keller Institute here to provide rehabilitation for South American blind.

McCullom will get the red carpet treatment when he arrives in Asuncion. Among those greeting him will be Enrique Barrall, an engineer who is chairman of the Paraguayan segment of the partnership and is minister of public works; a representative of the president of Paraguay, Gen. Alfredo Stroessner, and representatives of the Santa Lucia Mission Assoc., which is building the clinic and rehabilitation center.

McCullom originally began working for the Kansas School for the Blind in Kansas City, Kansas, in 1936, moved here the next year to help set up a new program of services for the blind, and has done work for Iowa and the Veterans Administration in rehabilitating the blind.

(From "The Kansas City Star")



# QUEMENT ELECTRONICS

40,000 SQ. FT. OF ELECTRONIC PARTS, COMPONENTS, TUBES AND ACCESSORIES.  
 • ANTENNAS • NEW SERVICE DEPT.  
 • HAM GEAR • ACOUSTIC SOUND DEMONSTRATION ROOM  
 • CITIZEN'S BAND • COMPLETE STEREO HI-FI DEPT.  
 • COMMERCIAL AND INDUSTRIAL PARTS SUPPLY  
 • BANKAMERICARD • FIRST NATIONAL • MASTERCARD



**T-4XB**  
TRANSMITTER \$495.00



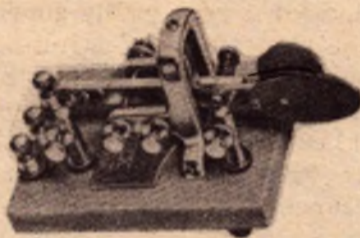
**FM144 10L DENSHI**  
\$239.95



**TR-22**  
2-METER FM  
TRANSCEIVER \$199.95



**R-4B**  
RECEIVER \$475.00



VIBRO-KEYER

\$29.95



**ML-2**  
VHF-FM  
TRANSCEIVER \$299.95



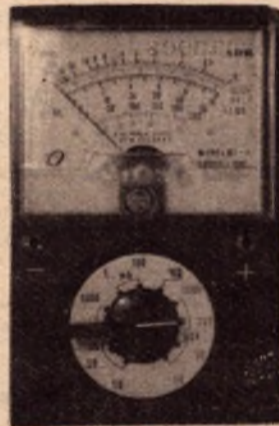
**SWB-2 \$15.95**

SWR BRIDGE READS FORWARD & REFLECTED POWER  
SIMULTANEOUSLY 'EASY READ' METERS

DUAL 100-MICROAMP METER MOVEMENTS  
LOW INSERTION LOSS SIZE 5X2X2  
MAY BE LEFT IN LINE UP TO 2,000 WATTS

ADD \$1.00 FOR POSTAGE

OUR BEST "HAM" BUY

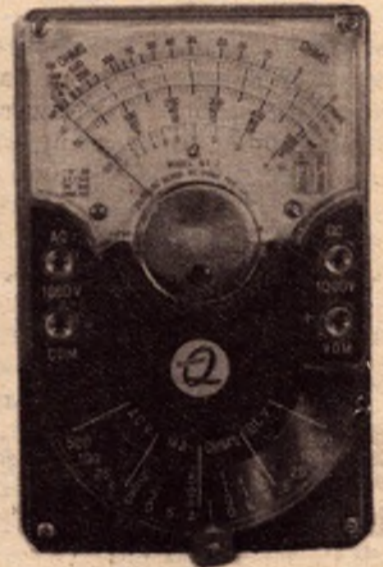


**MT-1 \$5.25**

BABY TESTER

1,000 OHM PER VOLT  
MEASURES AC VOLTS,  
DC VOLTS & CURRENT,  
& OHMS

SHIRT POCKET SIZE  
ADD \$.50 FOR POSTAGE



**MT-2 \$15.95**

DELUXE 20,000 OHM-VOLT VOM  
WITH LEATHER CASE,  
TEST LEADS, & BATTERIES  
ADD \$.50 FOR POSTAGE

**QUEMENT  
ELECTRONICS**

1000 SOUTH BASCOM AVE.  
SAN JOSE, CALIFORNIA

95128

408 294-0464

Serving the World's  
Radio Amateurs



# The World At His Fingertips

## The Story Of Dave Fraser, KH6BIH

David Robertson Fraser, KH6BIH, lives in a silent dark world. The window of his radio shack in Captain Cook, Hawaii, overlooks a giant field of poinsettias and in the distance there is the blue Pacific Ocean, but Dave has not seen this beautiful scene for 18 years.

Dave's body is badly crippled. He has only slight sideways movement with his arms and he does a variety of things with two fingers which still have touch sensitivity. He could read Braille until a short time ago and he can get the vibrations of CW when he inserts these two good fingers into the center of a floppy speaker cone rigged up by a very good friend.

A victim of rheumatoid arthritis, Dave, who is now 36 years old, is confined to a wheelchair, blind, and for the past 15 months, deaf. His sense of smell has become fantastic, and he can actually tell when cars pass the house by the smell of their exhaust.

It all started when Dave was 6 years old. He fell out of a tree, and while the fall had nothing to do with producing his future difficulties, it was at this time that the rheumatoid arthritis was diagnosed. This disease is progressive and degenerative and has so far defied medical scientists and researchers as far as a cure is concerned.

Dave spent a year in the Shriner's Hospital in Honolulu and it was while he was there that he had to decide which way he wanted to spend the rest of his life - in a semi-upright position (sitting) or prone. He chose the upright position. This was when he was 12 years old. Four years later Dave lost his eyesight. He spent several months at the Mayo Clinic where new procedures were tried to retard the progress of the disease. Nothing helped so he returned home to complete his schooling. Dave graduated with his class with highest honors and then passed some extension courses in college from the University of California at Berkeley.

It was at this time, about 1947, that he discovered Amateur Radio. He got his ticket, became active in MARS and the local KH6 Net activities. It was also about this time that he met his two most cherished friends and helpers, Jessie and Pete Billon, an XYL/OM team of WA6OET and WA6MWG, respectively. Dave gave Jessie cw practice when she was a novice, and the Billons kept daily schedules with Dave for more than 6 years. The Billons have enjoyed the very wonderful Fraser hospitality many times since their first meeting and in March of 1970, after hours and hours of studying for the Advanced ticket (his aunt read him the material and what he did not understand Dave would ask Pete Billon to explain to him. It took many

hours of "air" time), Pete flew down to Captain Cook with the FCC exam. Dave passed it with flying colors - making a near perfect examination score and without ever having seen a piece of Amateur radio equipment in his life.

In April of 1970 Dave's hearing began to fail. The loss was a shock to him, but not unexpected. He was flown to Honolulu to a specialist. A blood clot on the artery to his ear was diagnosed and blood thinning medication was tried; however, the side effects of the medicine were so severe that it had to be terminated, and with the cessation of the medication the hearing loss was complete.

Dave's parents and friends now communicate with him by tapping Morse Code on his arm. He replies in clear, well-enunciated speech. Dave was worried that his ham radio days would end, but, again, Pete Billon thought of a way around this latest difficulty. The method Peter suggested and then rigged up utilizes Dave's keen sense of touch. A floppy little speaker was arranged so that Dave could insert his two good fingers right into the center to get the vibrations of the code. The speaker cone is dotted with bits of sandpaper to accentuate the vibrations that he feels. He can copy a good signal at 25 wpm and sends even faster with a bug which lies alongside the speaker. It's no wonder they say he has the "hottest fingers in the Islands."

Another close friend of Dave's is Dale Miller, W7CGF. Dave first met Dale in 1966 when he was able to hear and was still on voice communication. Now they talk for about two hours daily via CW. Dale keeps Dave up to date on world news events and he also gives him the baseball standings, some football once in a while, and he keeps Dave informed as to what is going on on his favorite TV serial, "The Edge of Night."

Without his hearing Dave says the furthest he has worked is Guantanamo Bay in Cuba. He says, "I 'felt' a station in Liberia once, but I didn't try to work it."

Dave has two exciting moments each day. The first, when the mail comes and there is a note for him (Dave's dad handles all his correspondence for him). The second comes at 2300 GMT each afternoon after his lunch, when Dave is rolled up before the CE-100 which has kept him in touch with the world for the past 12 years, to listen with his fingers for the CW vibrations of Dale, or Jessie, or anyone who breaks in to chat. Many of the people he has never seen and most of the people he talks with are unaware that he can neither see nor hear. Breakers are welcome on the 2300 GMT schedule and the frequency is usually 14075 MHz. Dave will slow the CW down to your speed if he receives a QRS, but be prepared for a lively conversation.

In closing this story, this writer is reminded of a poem composed by a young friend:

"I'm not gonna say that I'm all alone  
Inside this soft warm skin.  
'Cause sometimes SOMEBODY else  
Breathes awful hard."

Dave Fraser, KH6BIH, is closed in a very small world, but don't let this fool you. He is sharp as a tack. Dave remembers everything, helps his dad "cook" by planning the menus, remembering the recipes. As a matter of fact, exchanging recipes is one of Dave's favorite pastimes, that and teaching Hawaiian to anyone game enough to learn.

(The author expressed the desire to remain unidentified.)

2-6-10-11-15-20  
Cubical Quads



A quad is one of the best DX amateur radio antennas on the market today, with its very low vertical angle of radiation. A 2-element quad is equivalent to a three-element flat-top beam. A four-element quad is equivalent to a five-element flat-top beam. All our quads are for all three bands, 10, 15 and 20 meters. Designed for a wind velocity of 75 MPH. Special deal on a tower/quad combination. Literature free.

2-element quad, complete --- \$ 69.95  
3-element quad, complete --- \$ 99.95  
4-element quad, complete --- \$129.95

Skylane Products, 406 Bon Aire, Temple Terrace, Florida 33617.

First manufacturer of amateur quads in the world, building quads exclusively since 1954.

### Attn: Mobilers

Save your gear with  
**CONVINCING PROTECTION**  
**Record Breaking Action!**

12/\$2  
24/\$3  
48/\$5



They do the job! Flashy WARNING STICKERS state property is protected by Electronic Automatic Alarm System. Would-be burglars, robbers, hold up men, rapists and other criminals decide to pass it up and go down the street. Thousands have been sold for Home, Warehouse, Car, Store, Office.

Impressive 1 3/4 x 3 3/8" GREEN AND YELLOW SELF ADHESIVE VINYL. Adhere without water to windows and doors. Two styles—for inside of glass, facing out, or on solid surfaces with back adhesive.

MAX R. OTTO WOLFF  
733 West Benton Street  
Iowa City, Iowa 52240

A set of 12 consists of:  
8 for inside of glass  
4 for outside surfaces



# Antennas



## Wilson Electronics

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

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

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



W7CVD's 5 ELE. M520

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

<b>3 ELE. 20 METER BEAM</b>		<b>4 ELE. 20 METER BEAM</b>	
GAIN	8.5DB	GAIN	10DB
FRONT TO BACK RATIO	20DB	FRONT TO BACK RATIO	25DB
BOOM LENGTH	20 FT.	BOOM LENGTH	30 FT.
	3" OD .050 WALL		3" OD .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.



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

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.

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

### QUALITY MONO & DUO BAND BEAMS AT LOW PRICES

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

M340	3 ELE. 40 METER BEAM (full size)	\$375.00
	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

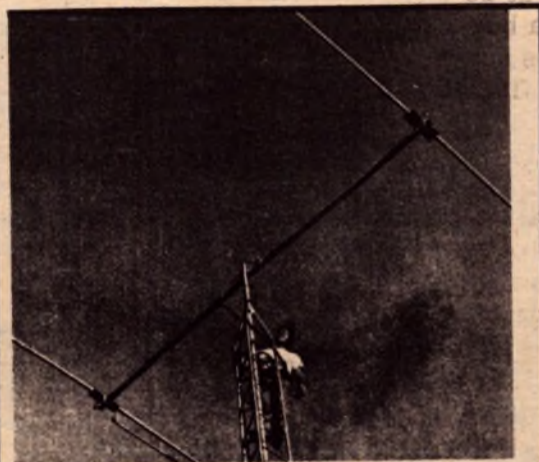
DB62	6 ELE. 20 & 2 ELE. 40 INTERLACED BEAM	\$449.95
	Gain 13 DB—20 5.5 DB 40. Boom length 50 ft. 3" OD .200 wall to .065 wall.	
DB52	5 ELE. 20 & 2 ELE. 40 INTERLACED BEAM	\$349.00
	Gain 13 DB—20 5.5 DB 40. Boom length 40 ft. 3" OD .200 wall to .065 wall.	
DB54	5 ELE. 20 & 4 ELE. 15 INTERLACED BEAM	\$229.95
	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" .065 wall.	

If not available from your dealer write direct to factory for catalog or information and fast service. All prices F.O.B. factory. Wilson beams are available at the following dealers:  
 HENRY RADIO STORES LOS ANGELES, CALIFORNIA  
 AMATEUR ELECTRONIC SUPPLY MILWAUKEE, WISCONSIN  
 AMRAD OAKLAND, CALIFORNIA  
 HAM RADIO OUTLET BURLINGAME, CALIFORNIA  
 HARRISON RADIO LONG ISLAND, NEW YORK



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

<b>7 ELE. 20 METER BEAM</b>	
GAIN	14DB
FRONT TO BACK RATIO	26DB
BOOM LENGTH	58.5 FT.
	3" OD .250 TO .065 WALL
MAX. ELE. LENGTH	36 FT. 1 IN.
SWR	1.1 TO 1
WIND SURFACE AREA	13.8 SQ. FT.
WIND LOAD (80 MPH)	340 LBS.
WIND SURVIVAL	100 MPH
TURNING RADIUS	34 FT.
NET WEIGHT ASSEMBLED	135 LBS.
<b>6 ELE. 15 METER BEAM</b>	
GAIN	13DB
FRONT TO BACK RATIO	26DB
BOOM LENGTH	32 FT.
	3" OD .065 WALL
MAX. ELE. LENGTH	24 FT.
SWR	1.1 TO 1
WIND SURFACE AREA	7.7 SQ. FT.
WIND LOAD (80 MPH)	190 LBS.
WIND SURVIVAL	100 MPH
TURNING RADIUS	20 FT.
NET WEIGHT ASSEMBLED	65 LBS.



40 METER 2 ELE. BEAM

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

Nestled at the 3800 foot level in the picturesque Blue Ridge Mountains of North Carolina is a unique QTH which has been shared by nearly 700 hams since its inception in 1960. It is Camp Albert Butler, which is a YMCA camp for most of the summer. But for the first two weeks of every August, the air is filled with "di-dahs" as the annual Amateur Radio Session gets under way.

The camp is a lot more than just a vacation spot for hams, however. It's a school, complete with code practice sessions, theory instruction, and college professors.

The basic purpose of the camp is to help hams obtain a higher class of license. Most of the campers are Novices working on the General, but many come to prepare for the Advanced and Extra exams.

The idea for this novel way of training originated with YMCA Executive Carl Peters (K4DNJ) of the Gilvin Roth YMCA in Elkin, North Carolina. For many years he has operated Camp Albert Butler as a summer camp for boys and girls. But in 1960, he conceived the idea of offering hams and prospective hams a place where they could obtain help in learning about radio while enjoying the beautiful setting of the mountains.

The first step was to obtain instructors who could get the material across equally to men and women in their 50's and 60's and to teens and pre-teens. After extensive searching he found three college professors who were hams and seemed to fit the demanding requirements. (Two of the original three were back this summer as instructors.)

The next step was to interest hams in the camp. He obtained lists of Novice and Technician licensees and wrote them personal letters of invitation. He ran advertisements in the ham magazines.

Thirty-five students signed up that first year, ranging in age from 11 to 65, and in educational background from grammar school students to a retired college professor.

This past summer 74 students took the two-week course. In the 11 years in between, campers have come from 47 states and several foreign countries. There have been physicians, housewives, ministers, professional men, businessmen, teenagers, retired persons, farmers, and teachers.

Most of them have left with a higher class of license. Some who didn't pass have returned to try it again. Some have passed and returned anyway, just for the fellowship and the chance to meet hams from all around the world.

The generation gap seems to have a way of disappearing behind the common interest of amateur radio. This past summer, campers from 9 to 78 sat side by side sweating out the high speed code and learning the theory.

# Vacation with a purpose - Camp Albert Butler

by Dan Blackburn, K5ZCO



Camp Albert Butler Amateur Radio Session campers from the summer of '72.



Camp Albert Butler Amateur Radio Session instructors, and Camp Director Carl Peters, were presented plaques of appreciation by amateurs attending the camp last summer. Making the presentations are Jack Jarrett (far left) and Harvey Turner (far right). Instructors are (l. to r.) Fred Harriman, W4NMU; Jim Thurston, W4PPB; John Wallace, K4TU; and Director Carl Peters, K4DNJ.

Of course, two weeks without relaxation would be nerve shattering, so Carl has planned for daily release of the tension. Recreation is a vital part of the course. Classes are held in the mornings and evenings, and in the afternoons interests turn to swimming, hiking, golf, and other recreational activities.

The students, to a man (and YL), declare the utmost respect for Peters and the camp, including the instructional staff: Jim Thurston (W4PPB), Clemson College; Fred Harriman (W4NMU), Pinellas County

(Fla.) School System; and John Wallace (K4TU), Georgia Tech.

Added to the beautiful location, good instructors, and recreational activities are good food and comfortable accommodations, and the end result is a virtual paradise for hams. It's really quite a site, way up there in the Blue Ridge Mountains, to drop in and see so many enthusiastic and happy hams learning more about their hobby. And it all springs from the idea of a fellow ham, K4DNJ.



# Let's Get Acquainted



Larry Webster, K6RPH

Dear Fellow Amateur:

The proper equipment can make quite a bit of difference in the amount of pleasure we obtain from Amateur Radio. I would appreciate the opportunity to assist you in obtaining your gear. So you would know who you are dealing with I would like to introduce myself.

I started in radio with a crystal set which I built while in the 6th grade at William Land Elementary School in Sacramento, Calif.

A big step up for me then was building, on a breadboard, a two-tube receiver using 1T4s. Then it was a super-regen receiver out of the ARRL Handbook. My first transmitter was a 6AG7-6L6 homebrew job. In 1957 that "great moment" occurred when an envelope from the FCC was hurriedly opened to tell me I was KN6RPH.

Like many of us, the transmitter was a Globe Scout and the receiver was a Hallcrafters SX-100. With a folded dipole antenna a bit of excitement was working a JA on 40 meters. After dropping the "N" a Johnson Ranger kit was built and a beam was put up for 15 meters.

From El Camino High School I went into the Navy and the hamming led me into a rate as Aviation Technician working on radios in A3D "Skyraiders", the Super Constellations and others.

Cubic Point in the Philippines was the QTH for some time and then Whidby Island, Washington where I operated the military club station and ran many phone patches for Navy personnel at Kodiak and Adak.

The MARS station at McClellan AFB took up a lot of my time while I was employed at Aerojet, in Sacramento, as an Instrumentation Technician working on the Gemini rocket and Titan II.

I had a lot of fun in Amateur Radio then as my father, the late Robert Webster, WA6GPN, was licensed and we did a lot of things together including building a 4-1000 linear.

I was married in 1963 and we moved to Fresno, Calif., shortly after. There I operated a Collins 75S1, 32S1, the linear and a Hy-Gain TH-4. Then I built 5 elements on a 40 foot boom. The interest was "DX" and I liked to "work the new ones" and the DX-peditions. Now I'm up to 197 countries, am a member of the Northern California DX Club and the Fresno Amateur Radio Club.

Activity has also occurred on SSTV and RTTY. I'm a member of the JPU Repeater Associates in Fresno and run an SBE-144 and a Tempo FMV while 2 meter mobile. The home rig is a Kenwood TS-900 transceiver.

I opened my store on July 28, 1971, and since then have become the largest ham dealer between Los Angeles and San Francisco. We have satisfied customers from coast-to-coast and would appreciate the opportunity to serve you. In stock we have Swan, Kenwood, SBE, Tempo, TPL, Ameco, Hy-Gain, Moseley, Cushcraft and more.

We offer personal service, helpful information, fast shipping (UPS), Master Charge, Bank Americard, and the Swan Credit Plan.

On our shelf is "previously owned" gear which we took in on trade-ins. All have been checked, reconditioned (in our shop), and carry thirty-day guarantee on parts and labor. We take trade-ins and buy gear.

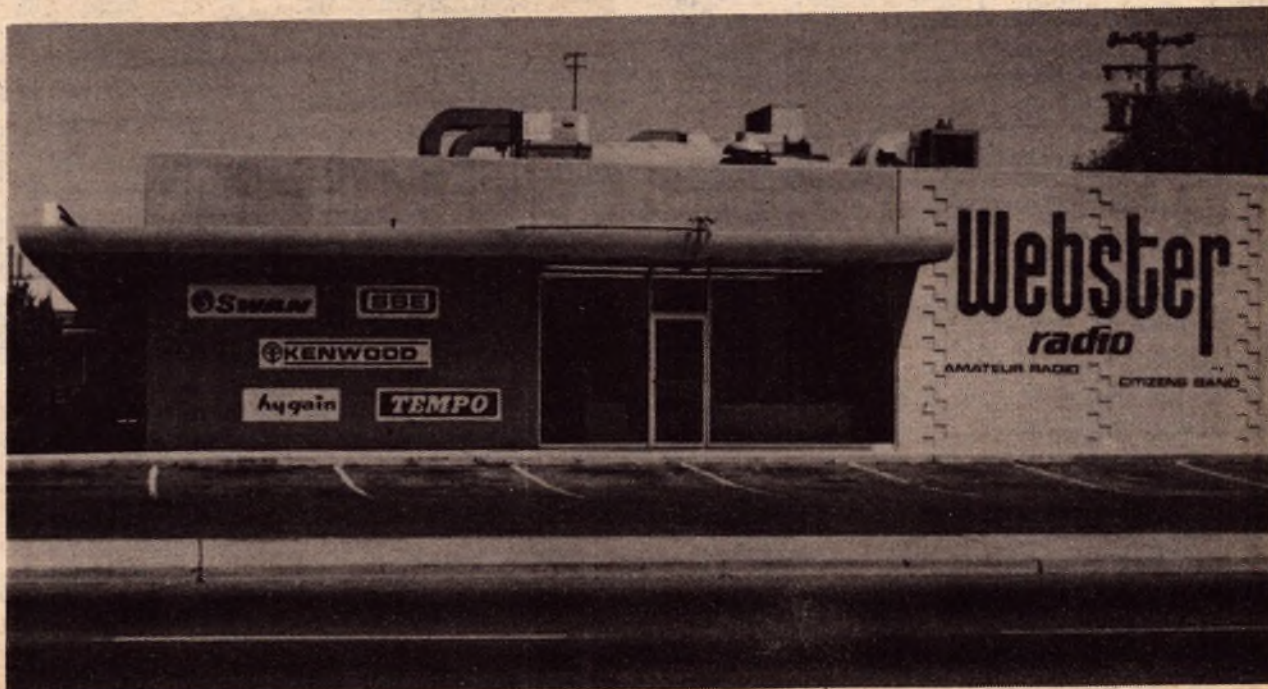
Shopping by mail is quick. You save time, gas money and avoid parking aggravation. And we say "Customer Satisfaction is Guaranteed."

Let's get acquainted. We are as close as your phone, our number is (209) 224-5111. The address for Webster Radio is 2602 E. Ashland, Fresno, CA 93726.

The opportunity to offer a quote on your equipment requirements would be appreciated.

Cordially,

Larry Webster, K6RPH





# A Very Busy Young Man



(From various newspaper stories)

## Steve's Hamming It Up For Bicentennial Plans

Are "hams" as much a part of the United States as hotdogs and hamburgers?

"Ham" radio operators are, according to Steven Kaplan, 12-year-old North Miami Beach amateur radio operator best known for his single-handed efforts to promote tourism for North Miami and North Miami Beach by way of the 1976 Bicentennial Celebration at Interama.

Steven's plan is to set up radio equipment at the Bicentennial site through which visitors may call their home towns and announce they've arrive in North Dade.

He'd also like special QSL cards printed up for the occasion. A QSL card is the size of a post card and is sent from one amateur to another as confirmation of a radio contact.

If QSL cards showed points of interest in the North Dade area, think what a boost for tourism it could be, Steven observed.

He isn't an idle dreamer in his campaign.

Steven has contacted the American Radio Relay League which has a membership of some 100,000 "hams" and has received the League's full support. He's also writing to Mayor Steve Clark who has promised assistance in his campaign. And Third Century, USA, the organization in charge of coordinating Maimi's Bicentennial, has assured him it will print up the official QSL Bicentennial cards in 1976.

The one person Steve hasn't heard from is Interama Authority Chairman Elton Gissendanner. Gissendanner recently asked for "people participation" in the planning of the nation's Bicentennial celebration at Interama. Interama's professional planners also recommended it.

Calling himself the "unofficial liason" between the amateur radio operators, Third Century, and the Bicentennial Committee, Steven wrote Gissendanner asking to be made the "official liason" and be made a member of the Interama Bicentennial Committee.

"In spite of my age, I am a member in full standing of the American Radio Relay League and hold an FCC amateur radio license," Steven wrote. "I hope you and your committee will grant my request and will hear from you soon."

If Steven can convince Miami's Bicentennial Committee that amateurs are as much a part of the United States as hotdogs and hamburgers, he may succeed in his campaign to permit "hams" to play a part in Dade County's 200th birthday celebration.

## NMB Ham Operator Living Up To His Title

Steve Kaplan, 12-year-old "ham" from North Miami Beach, seems to be living up to his label. Now the ham radio operator has received not only newspaper exposure - courtesy of the Journal - but television limelight as well.

Steve's television exposure was courtesy of Channel 6 who asked Steve to appear recently as part of the local news program.

It seems Steve has created a radio operators course for blind people which started at John F. Kennedy Junior High School. The 10-week program will be given once a week with classes being taught by volunteer teachers assisted by Kaplan. Participants may take the FCC license test after completing the course.

Steve, of course, is best known in his "ham" capacity as the one man Chamber of Commerce who is trying to promote North Dade as part of Miami's bicentennial celebration. But that's not until 1976 and a "ham" needs all the publicity he can get.

## Two Demonstrations at Kennedy Jr. High

They were on Ham Radio - exciting but peaceful. Steve Kaplan, WB4SJQ, 12 year old 7th grader, explained to NMB Kiwanis that their support is needed to up-grade the radio club's equipment at the school. Mr. Swartz of the Kiwanis talked over the radio to a Ham on a boat off the coast of Puerto Rico and also to a man in the British Virgin Islands.

Steve showed how, with an electronic device and the help of a local Ham station, Mr. Swartz was able to talk over radio to Principle Lloyd Pierce on his office phone. The second demonstration was to 60 students of a Civics and Science class at JFK to show that though books may change and get old, if you want up-to-date information, talk to the man who lives there. They did and found out that teachers in Quito, Ecuador schools get their birthday off. JFK teachers, of course, felt this was a very nice custom.

To the Ham in Pompano, who boasted of his city and its boat building; and the Ham in Friendly Harbor, Maine, who told of lobster fishing and all about his part of the world; and to the Ham, 9000 feet up, in Quito, Ecuador - if you didn't hear the applause on Radio, the teachers and students both thank you for a wonderful tour by radio.

Steven does, too! He got an "A".

## Radio Class to Start at School

A class in amateur radio with special emphasis on helping blind aspirants starts at 7 p. m. tomorrow at John F. Kennedy Junior High School under sponsorship of the Dade County Amateur Radio Public Service Corps. Further information can be obtained from Steve Kaplan at 651-1190. (18)

## Steve Kaplan Wants To Make New Hams

Steve Kaplan has a new project and he needs help. The 12-year-old son of Mr. and Mrs. Norman Kaplan, 17111 NE Sixth Avenue, has started a radio class at the VA Hospital.

"I'm going to have a class every Wednesday at the hospital beginning at 2:30 p. m.," said Steve, who holds an amateur radio license (WB4SJQ).

"There's a radio station at the hospital, but no one can use it unless he's licensed. I'm going to teach blind patients the Morse code and theory so they can get novice licenses. I'll teach sighted patients, too, if they're interested."

Steve doesn't mind giving up one afternoon a week to this service.

"I'll have the satisfaction of seeing blind people, and others who are cooped up in a hospital and can't get out to do much, have a new hobby. They can have the pleasure of talking to people all over the world."

Steve would like a few volunteers to help him with the class - maybe retired people who are licensed "hams". He also needs some extra code oscillators and keys with which the veterans can practice tapping out the Morse code alphabet.

A little money with which to buy teaching materials would come in handy, too. Anyone who can help may call Steve at 651-1190 after he gets home from school at 12:30 pm.

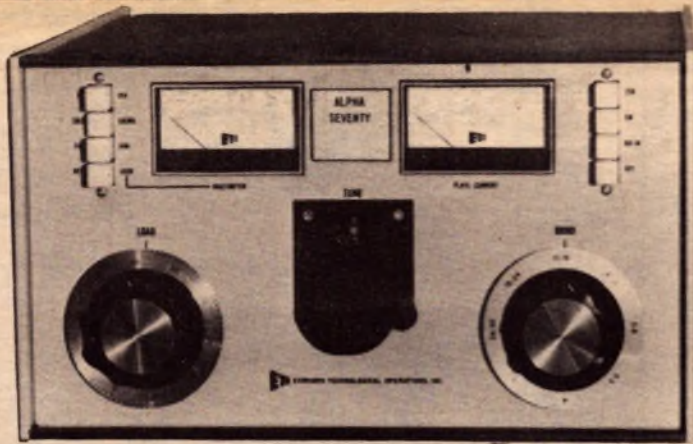
## 12-Year Old Submits Design For 1976 Celebration Seal

Twelve-year-old ham radio operator Steven Kaplan may be the first person to submit a design for a commemorative seal for the 1976 bicentennial celebrations.

Steve, who lives at 17111 NE 6th Ave., has written Florida Congressman Claude Pepper, asking him to draw the attention of President Nixon to the design, which bears the legend, "1776-1976" and shows the Great Seal of the United States with the words, Third Century U. S. A. - the name of a non-profit corporation organized to promote Miami as a bicentennial city.

The seal would be printed on QSL cards, which are mailed by ham radio operators to confirm contacts with one another.

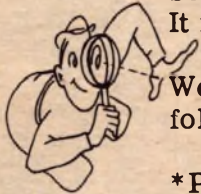
Don Payne, K4ID  
**PAYNE RADIO**  
 presents the  
**incomparable**



# ALPHA 77

Power Amplifier  
*of the*  
**Seventies**

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



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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

**SPECIAL INTRODUCTORY OFFER:**

Shipped prepaid by AIR anywhere in the world for \$1795. Available immediately.

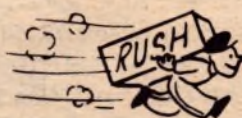
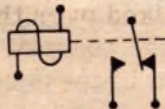
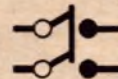
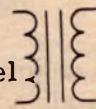
exclusively distributed by:  
**PAYNE RADIO**

Box 525 Springfield, Tenn. 37172

Phones: Six Days (615) 384-5573 - Nights, Sundays (615) 384-5643

Manufactured By

**ETO** EHRHORN TECHNOLOGICAL OPERATIONS, INC.  
 Brooksville, Florida 33512 • Phone (904) 596-3711





# The Travels Of Darleen

and the people she meets

Friday, February 25

A tap on my door at 4:30 a. m. to wake me up - I had just been in bed one hour! It was time to finish packing and to leave by foot for the pier and take a launch in moonlight to the fishing vessel "Elizabeth" which would take me to Baltra to catch the plane. Since I was so extremely tired I immediately laid down upon getting aboard and I am sure that prevented me from getting seasick although it was amazingly smooth. We arrived around 10:00 a. m. and then took a rickety old pickup to the airport and patiently waited for the plane. Shortly after 12:00 we took off in the DC6 for Guayaquil and upon my arrival Ray was waiting for me. I stopped in his office (he is Chief of Maintenance for helicopters and airplanes for Agra Aereo which sprays bananas, etc.) then back to their QTH and a long visit regarding my trip, contacts, etc.

Saturday, February 26

After a leisurely breakfast Anita Lubensky, wife of the Consul General, picked me up in their chauffeur driven car and took me to her local beauty salon so I could get my hair done and perhaps feel a bit more human. Only Spanish was spoken so Anita was very kind and explained how I wanted it done. Then when I was finished Earl Lubensky, HC2LB, picked me up and we drove over to the Guayaquil Radio Club where I met Fernando Landin, HC2TN. He was most gracious and took us on a tour of their new building which is very nice. We went into the radio room and we met KØLXM, John McMasters, who was operating the Club call of HC2GRC. He is a counselor for the American School in Guayaquil and is formerly from Goodlin, Kansas. His father is WØSUJ, John McMasters, from Goodlin. Really a small world. You never know who you are going to meet. In the evening Anita and Earl Lubensky had a party for me at their residence. Among the guests were Fernando Landin, HC2TN, President of the Guayaquil Club; Ray and Helen Jones, HC2JX and HC2HV; Joy Cooper, HC2CD - she works at the Consulate, is formerly from Jamaica, and has a very lovely accent - and her husband, Allen, HC2CK; JoeMagen, HC2OM, who owns a phonograph manufacturing business and has lived in Guayaquil for a number of years (is formerly from New Jersey and held the call of W2BTT for a number of years but has been in Ecuador for about 30 years) and Raquel, HC2RV; Marlo, HC2MV, and his wife danced to some Ecuadorian music. What lovely dancing. A wonderful evening.

Sunday, February 27

Since Ray had to go to Quito to repair an airplane we had the opportunity of driving there, about a 7 or 8 hour drive, and what a delight from the low altitude of Guayaquil to the 9248 foot altitude of Quito. Quito is

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



Arq Miguel Heredia, HC1HV, President Ecuadorian Radio League. He was the first Ecuadorian to operate under reciprocal agreement in the U. S.



John McMasters, KØLXM, (Counselor at the American School) operating at the Guayaquil Radio Club HC2GRC. His father is John McMasters, WØSUJ.

very lovely and scenic and quaint. When we arrived we checked into a hotel. We were invited over to the QTH of one of the Ecuadorian Colonels and afterwards another Colonel took us out to a quaint Italian restaurant in Quito where we feasted on pizza and giant size shrimp Yugoslavian style. Needless to say we were quite exhausted from the trip so we dropped the Colonel off at one of the places he wanted to visit and we retired to our hotel and went to bed since Ray had to work the following morning.

Monday, February 28

At 9:00 a. m. we were picked up by the chauffeur from the American Embassy and taken on a tour of Quito and surrounding vicinity including the Equator Monument which is on 0° Latitude and 0° Longitude. This was through the courtesy of Max Chaplin, Assistant Ambassador, and soon, I am told, to become a ham. His schedule was so busy that we did not have an opportunity for an eyeball QSO. When we returned to the hotel I found three messages from a Mr. Alvarez whom I did not know. The messages were in Spanish so I asked the girl at the desk to interpret. It was an invitation to us for a dinner party for that evening. I called Mr. Alvarez and found out that he is HC1XA, Xuaco Alvarez, President of the Quito Radio Club. He made arrangements to pick us up at the hotel and for a few other hams to join us. In the meantime Dick, HC1RF, who works for the Bendix Corporation at the NASA Tracking Station, came by to visit me at the hotel. At 8:00 p. m. Mr. Alvarez came by with his attractive wife who is from New York. We journeyed to a lovely restaurant and a few other people joined us, including HC1HV, Miguel Heredia Vega, President of the Ecuador Radio League, and we celebrated his XYL's birthday as well. Even had a birthday cake. I found out that Xuaco Alvarez was formerly from Spain and got his first license when he was 15

years old, operated as EA2XA, then came to W4land and operated at his brother-in-law's QTH - W4ORT - then operated as HK3XA in Bogota from 1955-1959, and now holds the call HCØXA for mobile operation and HC1XA for his Quito QTH. He has been a ham for 37 years. Also in attendance were HC1RF, Dick, from the NASA Tracking Station; HC1HV, Miguel, the first Ecuadorian to operate under reciprocal as HC5MH/W4; Ray and Helen Jones, HC2JX and HC2HV, who had brought me up to Quito; Miguel Andrade Marin, HC1AB, and HC1RH, Raymondo Aubelle. Needless to say, a wonderful time was had by all. We had also brought one of the Colonels along that had taken us out to dinner the preceding night and it was his first exposure to hams. Then he took us out to a local night spot to see some of the local dances and girls. He was very interested in seeing the pretty girls! So very late we finally got back to the hotel and tried to get a few more hours rest.

Tuesday, February 29

Around noon journeyed to the airport and I left for Bogota via Air France, said my good-byes to Helen and Ray and thanked them for all their help and friendship. Immediately upon my arrival in Bogota, altitude 8600 feet, I got in touch with Larry Lazar, WA2AAD/HK3 and he came to the airport to pick me up. He had made arrangements for me to join Ruth, HK3BLD, and her family for dinner and also to stay at their home. However, prior to getting to Ruth's QTH we stopped at the Radio Club where I met Francisco Lewro, HK3AOM, President; Dr. Carlos Martinez, HK3BMX, Vice President; Ignacio Garraques, HK3CCO, Secretary, and P. A. Olga, HK3BL. Unfortunately they spoke very little English but Larry was kind enough to interpret. Then back to Ruth's QTH and what a delightful family they are. Ruth uses the phonetics "Big Lazy Dog" and it sure gets through in a pile-up. She is not a DXer but mainly runs traffic through the



Intercontinental Net. She raises canaries as a hobby and has some beautiful ones; also, they have lapidary equipment and have cut some beautiful stones - emeralds, topaz, etc. We had a visitor for dinner that night from Caracas who had gone to school with Tony, Ruth's husband. Tony is a structural engineer and specializes in foundations, soil tests for big buildings. Their dog took such a liking for me that he slept on my bed. It was wonderful to meet another charming YL although I had not had a QSO with her previously.

Wednesday, March 1

After we ran some traffic in the morning and after a leisurely breakfast and sleeping late, Ginny Collawn, WB8LSW/HK3 came by and took me to her QTH. She had gotten her license about two weeks previously and was very excited about meeting another YL. She and her family have lived in South America a number of years, in Mexico, Argentina, etc. She has a beautiful pet parrot who is very photogenic. Her husband is Finance Director for Chrysler Corp. in Bogota. After a quick chat we picked up Larry and headed for a 3-hour leisurely drive into the country down to Melgar where we stopped at a lovely motel for lunch beside the swimming pool. It was nice to come down in altitude for a change. The drive was through jungle areas with bananas, coffee plantations, small typical villages, and was really a delight. For lunch we started with a tall cool fruit drink, non-alcoholic, but with lots of various kinds of small cut-up fruit in it including pineapple and papaya. Then we had riboli, a white fish with tartar sauce, which was excellent. Then we took the new highway back to Bogota and arrived early in the evening and had a lovely dinner at Larry's QTH and met his roommates. Then Ruth and Tony came by and we went back to their QTH since it was necessary for me to leave for Panama the following morning. We chatted for a bit, then went to bed early.

Thursday, March 2

After packing, Ruth's chauffeur took me to the airport and I boarded my flight to Panama. We had already made contact with Ivor Shaw, HP1XIS, and he said he would be on hand to meet me and would have a copy of CQ Magazine in his hand. So as soon as I cleared Customs I looked all around and saw no one fitting that description, but did see a fellow who looked like a ham - after all the hams I have met, I have been quite lucky in spotting them - and it was Ivor. Actually, the story I told was that I went up to every strange man and inquired if he was a ham but this is really not true. Ivor took my luggage and then we drove to his QTH which is on the top floor of a modern apartment building in Panama City. I rested for a few moments adapting to almost sea-level and heat again. Soon his wife returned from work and I met his dancing girls - three lovely young ladies. In the afternoon I went grocery



Darleen with Bob Shaw, HR1RTS, First Secretary, U. S. Embassy, Honduras (now WA7OJW/4)



Ivor Shaw, HP1XIS, Panama City



Fernando Landin, HC2TN, President, Guayaquil Radio Club



Francisco Lewro, HK3AOM, President, Bogota Radio Club



Darleen with Ruth Paez, HK3BLD, Bogota, Colombia



Larry Lazar, WA2AAD/HK3

shopping with Jo, Ivor's wife, and saw a little bit of the place. Then in the evening after dinner we took a drive into town and I bought some flashcubes for my camera and we stopped at the hotel and had some fattening dessert (which at this point I really don't need). Then on the air for awhile but the local QRM at times is quite bad.

(Continued in next month's issue.)

Worldradio  
takes  
YOU  
places





Spotlight on Amateur Radio Operators  
 who - what - where - when - why - how  
 people . events . achievements

Worldradio

# HAMS are people

## Santa Claus Is a Ham

A ham radio operator in Nicaragua and a Sacramento telephone operator teamed up in true Santa Claus tradition to make Christmas very special for Mrs. Inez Scuro of 7496 Kiefer Blvd., Sacramento.

Mrs. Scuro received the best Christmas Eve present of all Sunday when she learned that her daughter and son-in-law and their three children had survived the earthquake that struck Managua, Nicaragua Saturday.

The word was relayed, Mrs. Scuro said, by a Managua ham radioman who called the good news into the phone company here late Saturday night. But the operator—who did not identify herself—was not sure of Mrs. Scuro's name until she read it in a Sacramento Union story Sunday.

The Rev. Kenneth Smith, Mrs. Scuro's daughter, Terry, and the Smith's three children arrived in Managua last week after completing missionary training in Costa Rica.

(From the "Sacramento Union")

## Ambassador Porter

Bill Porter, K1YPE, F0ADL, 7X2VX and the one who did manage a large number of contacts from South Vietnam in 1966 signing K1YPE/XV5, has been nominated by President Nixon as Under Secretary of State for Political Affairs, this all coming with the changes in the cabinet following the election. K1YPE was recently assigned to Paris, before that he was Ambassador to Korea, to Algeria, and was Deputy Ambassador to Vietnam. His recent assignment in Paris was as U. S. representative at the Vietnam peace talks.

In commenting on the appointment, the Wall Street Journal stated that Porter is a good organizer, smart, and effective in a low-key way. "He will administer the department making sure that everybody reads the cables he should, gets his comments in on time, and carries out policy orders."

(de West Coast DX Bulletin)

## Help for Handicapped

During May of 1973, Phil Rosenstein, WA5YRL, will be going on a 90 day auto trip through Texas, Oklahoma, Missouri, Iowa, Minnesota and South Dakota.

Handicapped hams in these states who need dipole or inverted V antennas and are unable to put them up should contact Phil at 5426 Union St. Corpus Christi, Texas 78408.

Phil's services are free to the handicapped and it will be his pleasure to accommodate.

James Russell, W8BU, (44126) at age 73 is still practicing law. Seven members of his family are hams, including XYL Elia, WA8EBS. Holding his first license in 1912, he got across the Atlantic on spark and CW participating in the Godley transatlantics in 1921. In QCWA, OOTC, life member ARRL, his other hobbies are astronomy, and telescope making.

Roy Silvester, WN6TKF, (93940) is a young ham fulfilling his service obligation in the Navy. He is a systems analyst and weather forecaster. He is working part-time as a radio announcer, is studying radio engineering by correspondence and belongs to three radio clubs.

Elmer Dunscombe, W1ESG, (01109) who runs 1200 watts on SSB and CW likes to use his QRP rig and spray 2 watts into the ether that he has been using since 1932.

Jack Forbes, W6QP, (92083) has been a ham since 1927. A member of Colegas y Amigos, if there's something going on "South of the Border" he and his wife are there. Most activity is on 2 meters.

Thomas Warren, WA1REG, (02139) who was licensed at the age of twelve, has spent the last ten years since DXing and contesting.

Milton Chaffee, W1EFW, (06489) another QCWA-OOTC member, is strictly CW and spends 90% of his time on traffic nets and averages 4 to 6 BPL each year.

T/Sgt John Sullivan, WA4KUK, (80230) is currently stationed at Lowry AFB. After duty hours he sticks with his outfit as a member of Air Force MARS.

Harold Whitaker, CT3AS, (Madeira) is active on CW. He has worked at least 9 Ws on all five bands. He has more than 1,000 QSL cards from "6" land alone and says he is on the look out for more.

Rufus McCracken, W4YJK/KH6 (96818) is interested in bringing young people into Amateur Radio. Instead of just saying we should, Rufus does something about it. He teaches two classes a week at a high school that never had a radio club before.

Carl Stengel, W6JEO, (93105) Active on the bands 80 through 10, and 2 meters, has just started operating on 160 meters using AM, CW and SSB.

L. B. McIntyre, KG6APP, (96910) likes 20, 15, 10, 6, and 2. He reports that eight hams on Guam are active on 6 meters. They have had QSOs with Japan, South Korea, Hong Kong Nauru, Okinawa and Kwajalein. He has heard VK8 5x9 and Hawaii 5x5 on 6 m.

William Whitlow, WB6LRQ, (94107) keeps the soldering gun hot with solid state and IC construction projects. His interests range from VHF-AM and FM to RTTY to Navy MARS.

Carl Frank, W0COS, (55901) licensed since 1924, is now retired. Other interests included recording the sounds of wild life, mostly birds. Carl is a long time friend of Fred Hargesheimer, W0EBG, of VK9FH and "Jungle School" fame.

Martin Schrenk, Jr., K2YFF, (07032) is a handy guy to have around a club. Past vice-president of the Kearny Amateur Radio Club he is now serving as secretary. Civil Defense-VHF-SSB are his interests.

Edward Yoder, W3YMB, (21090) exhibits interests in a broad spectrum. This life member of the ARRL likes to chase DX and chew the rag from the QTH and work 2 m FM while travelling.

John Kwei, K6QZX, (94403) likes amateur clubs. He is a member of the Ampex Amateur Radio Club and the San Carlos Radio Club. Having had so much fun on CW and the 2 meter repeaters, he wants to share it and is getting his 14 year old son interested in Amateur Radio. A member of the Belmont Masonic Lodge 745 he recently joined the MARN group.

Jack Maus, W0MBD, (56301) works with the Handi-Ham group and is trustee for the Camp Courage station.

Ole Rasch-Olsen, LA1GM, (Norway) spent the holidays in the U. S. Main reason for the trip was a young lady friend in Boston.

Phil Pector, W9LDX, visited with Bob Moore, W3AXR, (18102). After hearing of Bob's experiences studying Spanish in Mexico, Phil headed to Cuernavaca to do the same at the Centro de Artes y Lenguas.

A Yuk from the West Coast DX Bulletin:  
 "I worked this DX station the other night on forty and at the end I asked him... 'What's your name there for the log?'... and he comes back and tells me... 'Old Man, here I just call it the "log"... have done that for years'.".....

22

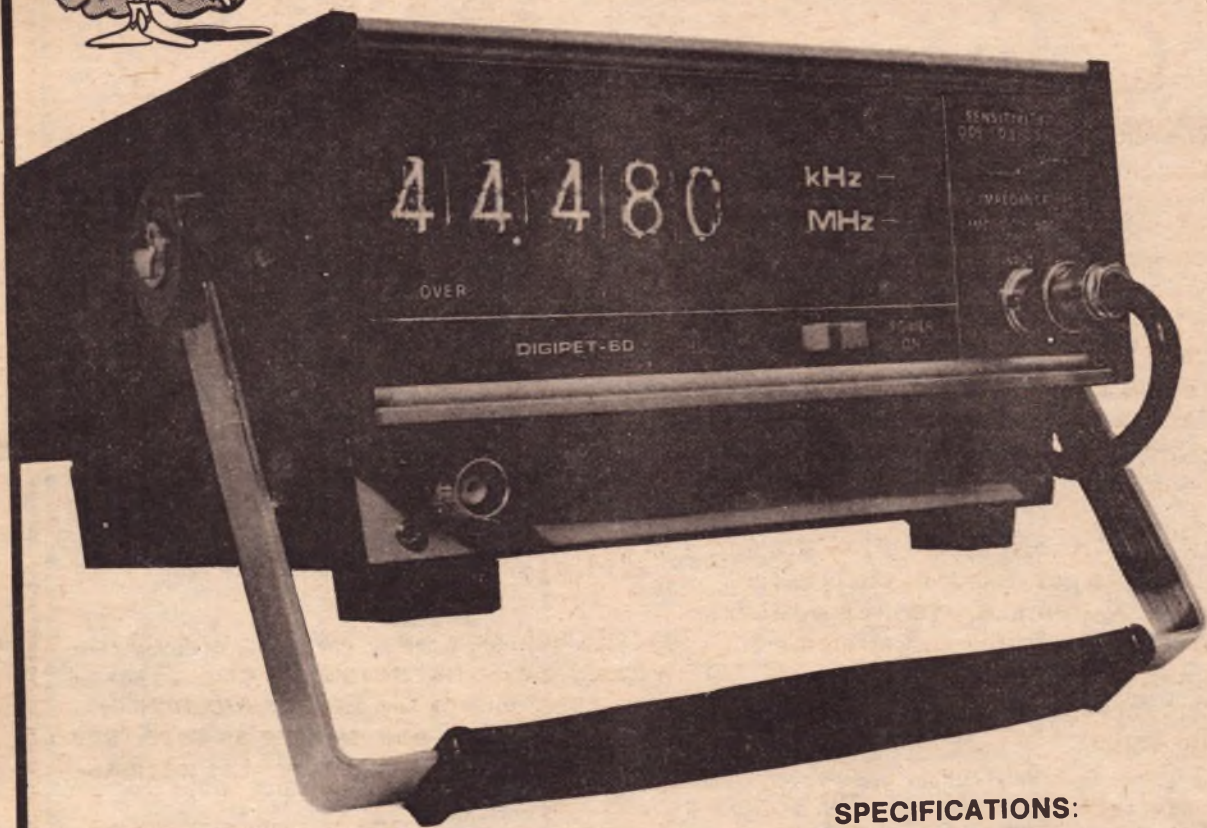
**CRYSTALS** de - W6DOR  
 FT-243 FOR ALL BANDS.



NEW NOVICE BANDS are immediately available.  
 p/p \$2.50 ea. - 3 for \$7.00  
**GOLDEN WEST CRYSTALS**  
 2921 Loyola Drive  
 Davis, California 95616  
 phone: 1-(916) 756-7372



# SUPER COUNTER



at a super  
good price!

\$299 - to 60 MHz  
\$349 - to 160 MHz  
(with scaler)

Look at these features:

- Frequency Range: 1 KHz to 60MHz (basic unit).  
130 MHz to 160 MHz (with Digipet 160 Converter).
- Resolution: 1 Hz
- Sensitivity: 50 mV
- Xtal Stability: 1 part in 10<sup>6</sup> per week
- Operates AC or DC
- Equivalent 8 Digit Display

## SPECIFICATIONS:

### DIGIPET-60 FREQUENCY COUNTER

**Range:** 1 KHz to 60 MHz.  
**Display:** 5 digit in-line numerical tube display with display storage. OVERFLOW: "OVER" indicates when display range is exceeded.  
**Resolution:** 1 KHz, 1 Hz (according to the gate time selected).  
**Gate times:** 1 ms, 1 s.  
**Sensitivity:** 50 mV, 0.5V, 5V r.m.s.  
**Impedance:** 1 MΩ shunted by 20pF. (1 KHz to 60 MHz). 50 Ω (5 MHz to 60 MHz).  
**Overload protection:** 150 V r.m.s. (1 MΩ impedance). 5 V r.m.s. (50 Ω impedance).  
**Reference frequency:** 10 MHz.  
**Stability:**  
 Aging rate: 1 part in 10<sup>6</sup>/week.  
 Temperature: 5 parts in 10<sup>6</sup>, 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

Here is the professional grade counter you have been waiting for at a price you can afford. Get digital readout on your present low band rig for just \$299, or for just \$50 more, you can count up to 160 MHz on your VHF unit, and have the satisfaction of knowing that you are on frequency.

The engineering design, construction and performance of this unit is absolutely outstanding, and at this price -- it just can not be beat !!

Call or send in your order today for this unit, and we will air ship it to you at our expense. This includes a full one-year warranty !

We are also the authorized dealer for the Inoue 2 Meter FM line, which is the top of the line of two meter gear available today. We have the 12 channel IC-20 mobile unit at \$269.50, and the 24 channel base/mobile unit, IC-21 at just \$349, complete with 6 xtaled channels, mike and warranty. Write for more information on these units. Call or send in your order to:



## NHE Communications

specializing in VHF communications equipment

15112 S.E. 44th St.  
Bellevue, WA 98006

phone:(206) 747-8421



Bob  
Brunkow,  
K7NHE





# Before the Federal Communications Commission

Washington, D.C. 20554



(continued from page two)  
alien permittee to continue operating his amateur station pending Commission action on his renewal application, provided the application is timely and sufficiently filed.

While the Congress in Public Law 88-313 provided that the provisions of the Administrative Procedure Act and the Communications Act would not be applicable to alien permits, it also gave the Commission broad authority to administer the public law under any rules the Commission deems appropriate. Our action in this Order is both within the scope of our authority granted by Public Law 88-313 and within the intent and purpose of the Congress.

We have notified the appropriate government agencies of our proposed rule amendment and they have voiced no objection. No other public interest will be served by any other form of public notice. Accordingly, under these circumstances, public notice and an opportunity to file comments are not required.

In view of the foregoing IT IS ORDERED that effective December 15, 1972, Section 97.307(a) IS AMENDED as shown in the attached appendix.

By: Ben F. Waple, Secretary FCC

### APPENDIX

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

1. Section 97.307(a) of the Commission's Rules is amended to read as follows:

#### §97.307 Issuance of Permit.

(a) The Commission may issue a permit to an alien amateur under such terms and conditions as it deems appropriate. If a change in the terms of a permit is desired, an application for modification of the permit is required. If operation beyond the expiration date of a permit is desired, an application for renewal of the permit is required. In any case in which the permittee has, in accordance with the provisions of this subpart, made a timely and sufficient application for renewal of an unexpired permit, such permit shall not expire until the application has been finally determined. Application for modification or for renewal of a permit shall be filed on FCC Form 610-A.

\*\*\*\*\*  
November 1, 1972

### SAFETY AND SPECIAL ACTIONS

The Commission, by its Safety and

Special Radio Services Bureau, took the following actions on the dates shown:

October 27 - SAMUEL C. McCLUNEY, III, JACKSONVILLE, FLA., Amateur radio operator license KØECG. Designated for hearing the matter of suspension of the amateur radio operator license, before an Administrative Law Judge to be named and at a time and place to be specified by subsequent order upon five specified issues; and consolidated for hearing the proceeding on the Order of Suspension and the proceeding on the issues on the Order to Show Cause why the license for the amateur radio station should not be revoked (Docket 19562).

Issued orders to show cause why the licenses should not be revoked for repeated violation of section 1.89 of the rules by failing to reply to Commission Communications, to the following:

October 27 - ROBERT E. JACKSON, SYRACUSE, NEW YORK, licensee of Amateur radio station WB6HJD.

\*\*\*\*\*  
November 1, 1972

### ACTION IN DOCKET CASE

By Chief, Safety and Special Radio Services Bureau on October 27:

Designated for hearing before an Administrative Law Judge to be named and at a time and place to be specified by subsequent order the matter of the suspension of the Amateur Radio Operator license of Samuel Copp McCluney III on the issues whether McCluney committed violations of Sections 97.19 and 97.129; whether his actions described in the Order of Suspension released June 29, 1972 are contrary to the public interest, convenience and necessity and contrary to the provisions of Sections 301 and 307(a) of the Communications Act of 1934, as amended; whether he misrepresented or concealed material facts or was lacking in candor; whether the Commission would be warranted in refusing to grant an application by him for an Amateur radio station license if the original application were now before it. Since the proceeding on the Order released June 29, 1972 (Docket 19562) directing McCluney to show cause why the license for Amateur radio station KØECG should not be revoked involves the same person and the issues are substantially the same, consolidated the two proceedings (Docket 19562).

\*\*\*\*\*  
November 3, 1972

### ACTION IN DOCKET CASE

Walnut, Calif., license suspension proposed for Amateur Station in initial decision:

Suspension of the license issued to Peter K. Kuehn, Walnut, Calif., for amateur station WN6IER, has been proposed in an Initial Decision by Chief Administrative Law Judge Arthur A. Gladstone. Judge Gladstone recommended that the license be suspended until March 20, 1973 - the balance of its term.

On December 8, 1971, the Commission ordered Kuehn to show cause why his licenses for WN6IER and KCU-9338 in the Citizens Radio Service should not be revoked. The Commission charged that on April 6, 1971, his Citizen's radio station was operated in violation of Sections 95.41(d) (operation on a frequency reserved for the U. S. Government), and 95.43 (use of excessive power). He was also charged with failing to permit an inspection of his station on that date, in violation of Section 95.103. The Commission further alleged that Kuehn misrepresented material facts in his response to an Official Notice of Violation mailed May 20, 1971, and contended that refusal to grant his application for either a Citizens or Amateur radio station license would be warranted if the original license applications were now before the Commission.

During the hearing, held in Los Angeles, on August 22, 1972, Kuehn submitted his Citizens radio station license for cancellation. The hearing record was closed on the same day.

Judge Gladstone said that the evidence showed that Kuehn and his wife were transmitting on the government frequency 26.80 MHz on the evening of April 6, 1971, from their residence in Walnut, and that experienced FCC engineers, monitoring the signal for approximately an hour and a half, located the Kuehn's station by means of "reliable electronic direction finding equipment." After one of the engineers identified himself and requested permission to inspect the station, the Kuehns delayed for about nine or ten minutes before allowing him to enter the house, Judge Gladstone said, but when he was permitted to see the transmitter it did not have the capability of transmitting on the frequency which was monitored up to the time he knocked on the door. "Whatever excuses are offered for this approximate ten minute delay, it must be concluded that, during that time, the crystal for the monitored frequency was removed from the transmitter and its dials reset for Amateur frequencies," Judge Gladstone said. Pointing out that "the uncontroverted facts show" all of the radio equipment was turned on when the engineer entered the radio room,

Judge Gladstone said that the Kuehn's explanation that they were getting dressed "is not credible" and is in conflict with the testimony that both Kuehn and his wife were copying code at the time.

Kuehn also attempted to persuade the inspector that he had no equipment capable of transmitting on 26.80 MHz, but when the crystal for that frequency was found in a figurine on top of the transmitter, he claimed that he had never used it, the Judge said. Kuehn's assertion that another licensee admitted to him that he was responsible for the illegal transmissions "is not credible in light of the facts in this case," Judge Gladstone said. He concluded that Kuehn's testimony about the other licensee's address was fabricated because the record demonstrated that at the time of the monitoring the other licensee lived in an entirely different direction, two miles away.

The evidence shows that the Kuehns were using at least one of the two microphones attached to the transmitters, Judge Gladstone said, pointing out that this was illegal since this would cause the output power of the Citizens station to exceed the four watts limitation of the rules, and Kuehn's Amateur Novice license allowed him to make only telegraph transmissions. He said it makes little difference whether Kuehn's use of 26.80 MHz violated the Citizens rules or the Amateur rules, since that frequency is not available for use by licensees of either service. He also noted that Kuehn used a QSL card with his post office box listed on it to confirm long-distance radio contacts made over his Citizens radio station.

Judge Gladstone concluded that on April 6, 1971, Kuehn had wilfully violated the rules concerning unauthorized excess power and use of government frequencies, misrepresented and concealed facts from the Commission, and was subsequently lacking in candor in his response to the violation notice. He said Kuehn's actions were contrary to the public interest, convenience and necessity, and the Commission would be warranted in refusing to grant an application for an Amateur radio station if the original license were now before it.

The Initial Decision becomes effective fifty days from its release date unless there is an appeal by one of the parties or the Commission moves for review.

\*\*\*\*\*  
November 3, 1972

### ACTIONS IN DOCKET CASES (Turn to page 26, please)





# ICOM

# FM GEAR

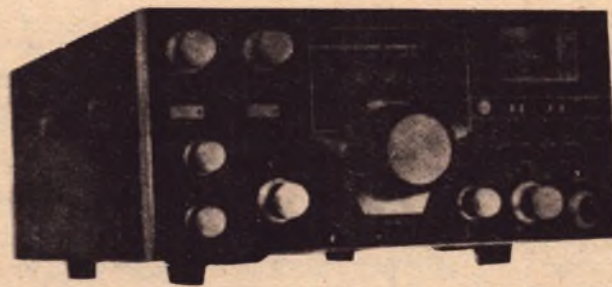
## 6 METER

## 2 METER

## 450 MHZ



**IC-60** 6M Mobile  
12 Channel w/mount  
\$279.50



**IC-71** 6M Base Continuous Tune  
CW-AM-FM  
\$329.50



**IC-200A** 2M Mobile  
Synthesized w/mount  
\$399.50



**IC-20** 2M Mobile  
12 Channel w/mount  
\$279.50



**IC-21** 2M Base  
or Mobile 24 Channel  
\$389.50



**IC-30** 450 MHz Mobile  
12 Channel w/mount  
\$399.50

**MODULAR CONSTRUCTION • 10 WATT OUTPUT • ALL SOLID STATE • MIKE INCLUDED**



**BANKAMERICARD**

Acct. No. \_\_\_\_\_  
Expires \_\_\_\_\_  
Name of Acct. \_\_\_\_\_ (print)  
Amount of Purchase \_\_\_\_\_  
Signature \_\_\_\_\_  
Print Name \_\_\_\_\_  
Address \_\_\_\_\_

IC-60 - \$279.50  
 IC-71 - \$329.50

## SPECTRO CO.

P.O. BOX 284  
SIERRA VISTA  
ARIZONA  
85635

90 DAY WARRANTY  
EXTRA CRYSTALS @ \$4.00

IC-20 - \$279.50  
 IC-200A - \$399.50

Ⓜ INOUE Communication Equipment Corp.

**INTERBANK  
MASTER CHARGE**



Acct. No. \_\_\_\_\_  
Bank No. \_\_\_\_\_  
Expires \_\_\_\_\_  
Name of Acct. \_\_\_\_\_ (print)  
Amount of Purchase \_\_\_\_\_  
Signature \_\_\_\_\_  
Print Name \_\_\_\_\_  
Address \_\_\_\_\_

IC-21 - \$389.50  
 IC-30 - \$399.50

\*John Stanis, W7TKI



(Continued from page 24)  
By Chief Administrative Law Judge Arthur A. Gladstone on the dates shown:

JACKSONVILLE, FLA. (SAMUEL C. McCLUNEY, III) AMATEUR RADIO PROCEEDING. Struck "Response to Respondent's Request for Appointment of Counsel and Clarification of Hearing Proceeding" filed by Chief, Safety and Special Radio Services Bureau, by separate action designated Administrative Law Judge David I. Kraushaar to act as presiding officer in Lieu of Chief Administrative Law Judge Arthur A. Gladstone and ordered him to schedule the matter for hearing as to coordinate it with his disposition of the proceedings in Docket 19592 in St. Petersburg, Fla.

By Administrative Law Judge Lenore G. Ehrig on the dates shown:

SAN LUIS OBISPO, CALIF. (STEVEN E. LOULTON) AMATEUR RADIO PROCEEDING. Continued prehearing conference and hearing presently scheduled for November 18, 1972 without date *sua sponte*.

DAVENPORT, IOWA (RICHARD L. TALLMAN) FOR AMATEUR NOVICE AND TECHNICIAN CLASS OPERATOR AND RADIO STATION LICENSES. Granted motion of Safety and Special Radio Services Bureau and dismissed Tallman's applications for failure to prosecute; terminated the proceeding.

November 3, 1972

ACTIONS IN DOCKET CASES

By Administrative Law Judge Lenore G. Ehrig on November 1:

GARDEN GROVE, CALIF. (RUSSELL E. JANTZEN) FOR AMATEUR RADIO STATION AND TECHNICIAN CLASS OPERATOR LICENSE. On the request of the Safety and Special Radio Services Bureau, set November 9 as the date the applicant must exchange with the Bureau his written exhibits and list of witnesses.

November 3, 1972

ACTIONS IN DOCKET CASES

CINCINNATI, OHIO, AMATEUR RADIO SERVICE PROCEEDING, REVIEW BOARD EXTENDS TIME TO REPLY TO EXCEPTIONS TO INITIAL DECISION. On motion by the Safety and Special Radio Services Bureau, the Review Board has extended through November 10, 1972, time in which to file a reply to the exceptions by Herbert L. Rippe to the initial decision in the Cincinnati, Ohio, amateur radio service proceeding. In the Initial Decision, released September 14, 1972, Administrative Law Judge Isadore A. Honig proposed denial of the application of Herbert L.

Rippe, Cincinnati, Ohio, for amateur radio station and Extra Class Operator licenses.

November 14, 1972

ACTIONS IN DOCKET CASES

By Administrative Law Judge Lenore G. Ehrig on November 10:

GARDEN GROVE, CALIF. (RUSSELL E. JANTZEN) AMATEUR RADIO PROCEEDING. Granted request by Jantzen for dismissal of his application, and terminated the proceeding.

November 7, 1972

ACTIONS IN DOCKET CASES

By Chief Administrative Law Judge Arthur A. Gladstone on November 6:

Terminated the hearings and certified to the Commission, proceedings on orders to show cause why the licenses for the following stations should not be revoked: MICHAEL PECSEK, JR., HIGHLAND, INDIANA, licensee of Amateur radio station WA9PKO.

November 13, 1972

SAFETY AND SPECIAL ACTIONS

November 7 - Dismissed the following proceedings on orders to show cause why the licenses should not be revoked since the monetary forfeitures incurred under section 510 of the Communications Act have been settled and the licensees have taken corrective measures to preclude a recurrence of the violations which formed a basis for these proceedings:

PATRIC D. FULMER, CONCORD, CALIF., licensee of Amateur radio station WB6CNT.

ARTHUR J. SPEZZA, PLACERVILLE, CALIF. licensee of Amateur radio station K6AEU.

November 20, 1972

SAFETY AND SPECIAL ACTIONS

November 14 - WALTER P. SHREIVER, SACRAMENTO, CALIF, licensee of Amateur radio station WA6KFN. 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.

November 21, 1972

SAFETY AND SPECIAL ACTIONS

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

November 9 - ROLLAND F. SPOONER, FALLS CHURCH, VIRGINIA, licensee of Amateur radio station WB4NWG. Ordered the license revoked effective December 14, 1972 for repeated violation of Section 1.89 of the Rules by failing to reply to official communications.

November 10 - ROY F. HILL,

CONCORD, CALIF., licensee of Amateur radio station W6QCM. Ordered the license revoked effective December 15, 1972, for repeated violation of Section 1.89 of the Rules by failing to reply to official communications.

November 14 - UNIVERSITY OF COLORADO RADIO CLUB, BOULDER, COLORADO, licensee of Amateur radio station W0YQ. Dismissed the proceeding on order to show cause.

December 1, 1972

SAFETY AND SPECIAL ACTIONS

November 24 - MICHAEL PECSEK, JR., HIGHLAND, INDIANA, licensee of Amateur radio station WA9PKO - revoked effective December 29, 1972.

December 1, 1972

ACTIONS IN DOCKET CASES

By Acting Chief Administrative Law Judge Jay A. Kyle on the dates shown:

Terminated the hearings and certified to the Commission proceedings on orders to show cause why the licenses for the following stations should not be revoked: JOSEPH H. ENGELSMAN, SAN DIEGO, CALIF., licensee of Amateur radio station W6OVO.

December 7, 1972

SAFETY AND SPECIAL ACTIONS

By Chief, Safety and Special Radio Services Bureau on December 5:

Denied petition by Richard Ebeling for amendment of Part 97 of the Amateur Radio Service Rules to allocate segments of the 15, 20, 40, and 80 meter amateur bands for the exclusive use of amateur stations using AM telephony emissions. Ebeling asserted that exclusive AM segments were needed since the use of AM emissions is declining with the advent of single side band operation and because of the variable atmospheric conditions in the amateur ten meter band. The Bureau said the proposal represented neither efficient utilization of the amateur frequency spectrum nor sound conservation of the already crowded amateur bands.

Denied petition by K. A. Fichthorn and Peter Iaccarino for amendment of Part 97 of the Rules to prohibit double side band emissions on all amateur frequencies below 32 MHz. The petitioners asserted that the elimination of double side band would alleviate the crowded conditions in the amateur frequencies and represented an efficient use of the frequency spectrum. Although agreeing that the use of double side band was decreasing and that its use did not represent sound conservation or wise use of the amateur frequency bands, the Bureau said it was not necessary to begin rulemaking proceeding to eliminate the use of double side band emissions.

December 21, 1972

ACTION IN DOCKET CASE

RULES FOR REPEATER STATIONS IN AMATEUR RADIO SERVICE

AFFIRMED BY FCC

The amendments of Part 97 of the Amateur Radio service rules adopted in the Commission's Report and Order in Docket 18803 (FCC-72-757, released Sept. 8, 1972) have been affirmed by the FCC and numerous petitions for reconsideration, stay or changes have been denied. The Report and Order established rules for licensing and operation of repeater stations in the Amateur Radio Service.

(Repeater stations receive and automatically retransmit the radio signals of other amateur radio stations and are used primarily to extend the radio-communication range of vehicular and hand-held mobile stations.)

The majority of petitioners objected to the rules requiring a control operator to be in attendance at a control point while a repeater station was in operation and to the placement of responsibility for the proper operation of the station on the control operator. Seven petitioners requested that the burden for proper use of repeater stations be only on the user station operator transmitting on the input frequency of the repeated station and that the rules "limit the responsibility of a repeater station control operator to properly maintaining the technical operation of the station."

Several petitioners proposed a tone-access system in which the user would activate the repeater station by transmitting a certain combination of tones on the repeater station input communication frequency channel.

Stating that petitions added nothing to the information considered in adopting the Report and Order, the Commission explained that operation of a repeater station in the Amateur Radio Service could present unique problems not comparable to other radio services such as Land Mobile or Citizens Class A where control operators were not required at repeater stations.

In response to the tone-access system proposals, the Commission pointed out that a basic principal of radio control was that there be a reasonable probability the remote station would not be activated by unauthorized persons and the control operator could indeed effect supervisory control of the station from the remote control point just as well as if the control point was located at the station.

Stating that the ingenuity of amateurs could eventually "develop the techniques, technical and operational," that would permit the adoption of rules for automatically controlled repeater stations and that it was conceivable that automatic and reliable means could be developed to perform "all of the supervisory functions of repeater station control operator under certain specific conditions", the Commission said provisions for automatic control were not warranted at this time.

Material in WORLD RADIO may be freely reprinted in any publication. Prior permission is not necessary. Credit line and a copy of the publication would be appreciated.



# MODERNIZE NOW!

## WITH PLASTIC QSL CARD HOLDERS

### frame-display-protect

20 cards in individual frames  
instant insertion or removal from front center  
universally used and approved  
satisfied users say:

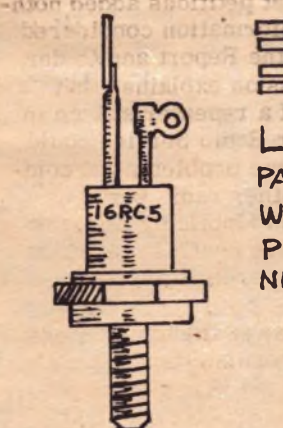
"I find them a most convenient and neat display system."  
Schnectady, New York.  
"Thank you for the service you have given. We are writing QST and  
thanking them for having advertisers like you." Lewis, Delaware.  
"Your QSL card holders are GREAT!" Gardena, California  
"They certainly do a good job." Neptune Beach, Florida  
"The holders are an ingenious and necessary addition to my Ham  
Shack." Woodstock, New York

(If you are ever in our area you are invited to drop in and visit us--de John, K4NMT)

two holders \$1 - seven holders \$3  
prepaid and unconditionally guaranteed  
at your favorite dealer or order direct from:

## TEPABCO

Box 198W, Gallatin, TN 37066



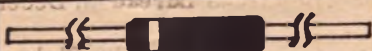
35A, 50V SCR  
IRC TYPE 16RC5  
50¢ - 3 FOR \$1.



LAMP/P.B. SWITCH  
PANEL MOUNT LAMP  
WITH SINGLE POLE  
PUSH BUTTON SW.  
NE-2H NEON BULB.  
15¢ - 8 FOR \$1.



MINI FEED-THRU CAP  
1300 PF. #8 BUSHING.  
#C10011 10 FOR \$1.



TRIGGER DIODES  
• 25-35V BREAKOVER  
• SPECS & APPLICATIONS  
#D10101 25¢ 8 FOR \$1.

IN270  
10¢

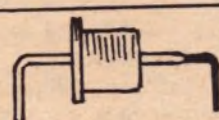


SPDT  
4AMP  
QUALITY U.S. MFG.  
SLIDE SWITCHES  
IDENTICAL TO THE  
SPC-12 CONSOLE SW.  
#S12003 (REG) 10/  
#S12004 (MOM) \$1.



DIPPED  
MYLAR  
CAPS  
.068  
50V  
10¢  
14 FOR \$1.00

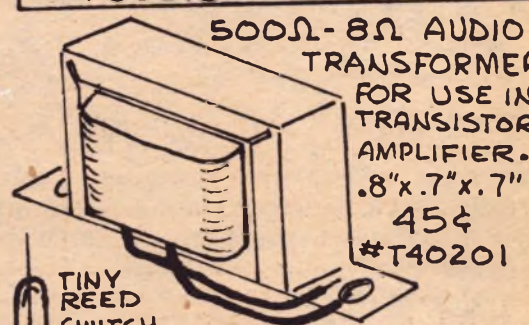
• POWER SUPPLIES  
• R's AND C's AND Q's  
• EXPERIMENT KITS  
• ASSORTMENTS  
• MEMORY STACKS  
• MUCH MORE IN  
CATALOG AND LISTS



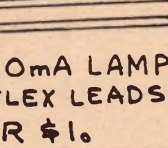
50V-750mA  
RECTIFIER  
PC LEADS  
2 FOR 5¢



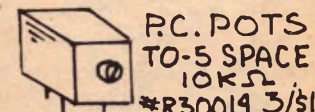
TERMINAL BOARD, TURRET.  
• 2 ROWS OF BRASS TERMINALS  
STAKED TO HEAVY WHITE  
PHENOLIC BOARD. 2.5"x2.5"  
• 10 TERMINALS • 4 MOUNT HOLES.  
#T30010 15¢ 8 FOR \$1.



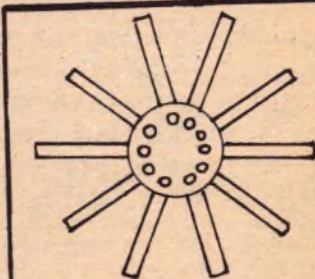
500Ω-8Ω AUDIO  
TRANSFORMER  
FOR USE IN  
TRANSISTOR  
AMPLIFIER.  
.8"x.7"x.7"  
45¢  
#T40201



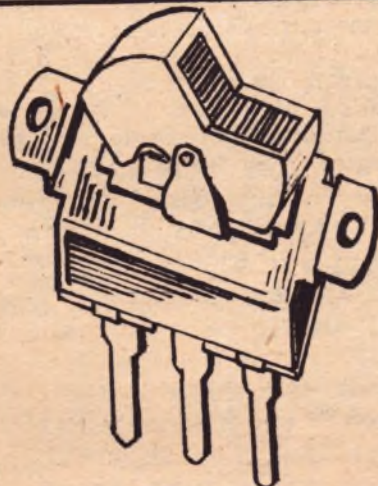
TINY  
REED  
SWITCH  
AND  
MAGNET  
20¢



PC POTS  
TO-5 SPACE  
10KΩ  
#R30014 3/5¢.



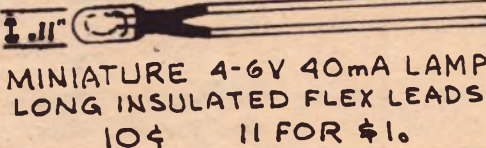
10 PIN TO-5 SOCKET  
RADIAL LEADS FOR  
SOLDERING FLAT ON  
PC BOARD OR BEND  
AT 90° FOR STAND-UP  
#S10510 3 FOR \$1.




SPDT ROCKER SWITCH  
• BUILT-IN NEON LAMP & RES.  
• MOMENTARY ACTION  
• RETURN SPRING REMOVABLE  
• CLEAR RED OPERATOR  
#RSP-011 8 FOR \$1.00



HIGH VOLTAGE FEED-THRU  
• 2 PIECE CERAMIC WITH  
RUBBER SHOULDER INSUL-  
ATING WASHER. FITS IN 1/2"  
HOLE. 1/16 TO 3/8 THICK PANEL.  
#F10001 35¢ 4 FOR \$1.00



MINIATURE 4-6V 40mA LAMP  
LONG INSULATED FLEX LEADS  
10¢ 11 FOR \$1.



## tri-tek, inc.

P. O. Box 14206 • Phoenix, Arizona 85031

ALL ORDERS ARE POST PAID TO YOU.  
CASH OR CHECK OR MONEY ORDER. \$3 MIN.  
MANY OTHER ITEMS FOR THE PRO AND THE  
SERIOUS AMATEUR. CATALOG WITH ORDER OR  
8¢ STAMP. NEW AND SURPLUS ELECTRONICS.



MINI POTS  
PC.B. TYPE  
1KΩ or 1MΩ  
• 15¢-8 FOR \$1.  
HEVI-DUTY  
5' LINE CORD  
10¢

# Amateur Radio

## "The Greatest Hobby In The World"



(From AUTO-CALL, Publication of Foundation for Amateur Radio, 2012 Rockingham Street, McLean, Virginia.)

"Ham" radio is the greatest hobby in the world. That is the honest opinion of thousands of people who talk regularly with other amateur radio operators around the globe and who provide, and train for, public service through this marvelous hobby.

With an amateur radio station, you have a "direct line" into the homes of thousands of people throughout the world. You can talk to Gerhard in Luderitz, Southwest Africa and hear about the sand storm that is raging in his little fishing village. Then you can turn to Nick in the Soviet Arctic and hear his report of the blizzard that is howling across Dickson Island.

There are no barriers in age, race, creed, sex or economic status. King Hussein of Jordan keeps regular schedules with a housewife in Pennsylvania. Ten year old Chuck Morrison takes time out from his 6th grade studies to add to his list of countries worked. Barry Goldwater relieved the tensions of his presidential campaign by operating his amateur radio station from the solitude of his hotel room.

Hams have a pretty well respected unwritten law regarding good judgment in their subjects of conversation. When you "work" a fellow ham, you are essentially a guest in his home; and while there are a few legal restrictions, most people use the same good judgment they would use in a guest situation.

On the other hand, many groups with similar interests and ideals get together regularly on "nets". Many religious groups have such networks. A number of "Young Ladies" (YL) networks swap recipes and house-wifely chatter - plus a surprising amount of technical discussions and public service work.

The public service aspect of Ham Radio is the basis for its very existence. In every major disaster in the past 50 years, amateur radio operators have provided invaluable service by supplying emergency communications to supplement - if not replace - normal services during the first critical hours of the emergency. Then they have stood by for days handling messages - free of any charge - to and from distraught friends and relatives.

Perhaps the best publicized efforts of Amateur Radio came from the Alaskan earthquake in 1964. It was estimated that 80% of all communications during the first two days of the disaster was handled by amateur radio. After the immediate emergency, personal inquiry traffic began to pile in and all normal communications -

that were not disrupted by the earthquake - were bogged down with thousands of messages. Red Cross officials estimated that something like 70,000 messages were stacked up at one time. Amateurs operated around the clock in an effort to get the messages through. An emergency station set up at the Anchorage International Airport operated continuously for 144 hours following the quake. Reports showed that 314 Alaskan amateurs participated in the emergency communications and a total of over 1600 amateurs from the other 49 states took part in one way or another.

In the Los Angeles earthquake in February, 1971, amateurs again supplemented, and in some cases replaced, the necessary communications services during the first few hours after the disaster struck. Amateur radio units were installed in make-shift ambulances to provide for central dispatching. Other units were provided to assist the Civil Air Patrol, and so on and on. Again, thousands of "health and welfare" messages were handled after the immediate emergency.

In floods, earthquakes, hurricanes, tornadoes, blizzards, forest fires, amateurs have played a major role in effecting emergency communications. Amateurs have also played an important part in many expeditions. An amateur accompanied MacMillan to the Arctic and subsequent expeditions to the Antarctic, and perhaps two hundred voyages and expeditions since then have been assisted by amateur radio.

But efficient communications in time of emergency doesn't just happen because a person has an amateur radio station. Advance planning and training are essential; and thousands of hams every day participate in training networks designed to develop organization and techniques which will prepare them to serve whenever and wherever disaster strikes. The "Traffic Nets" handle a lot of mundane messages for the general public - at no cost. To the casual listener, birthday greetings, family news, etc., may not sound like a very important use of these valuable radio frequencies, but the constant handling of these messages develops the organizational networks and operator proficiency that becomes vital when a real emergency strikes. It also provides the incentive for the amateur to participate regularly and thus to keep his radio equipment to peak operating condition at all times.

Every June the amateurs of the U. S. hold a "Field Day" where they go to some remote area and operate under "field conditions" - with no commercial power, no permanent antenna installation, and few if any conveniences. Hundreds of amateurs maintain their own electrical generators so they can supply their own power requirements for a Field Day and for real emergencies.

There are all kinds of contests - to see who can work the most "DX" (rare and distant stations), the most contacts in a given time, etc. There are certificates issued for the various accomplishments,

such as "Worked All Countries", "Worked All States", etc. "Contest Hounds" and "Certificate Hunters" develop exceptional skills in copying very faint signals through great interference and a fine understanding of the propagation conditions that affect radio communications.

Many amateurs devote the greatest part of their activities to the technical aspects of ham radio. In fact, a separate "Technician Class" license recognizes this phase of the hobby. Amateurs are traditionally builders and experimenters and the knowledge gained through these activities very often leads to careers in electronic fields. Both the government and private industry have recognized the value of amateur radio experience. The new development of amateur radio satellites (launched on a space available basis from government space shots) has opened up new frontiers for amateur radio experimentation.

Ham radio opens up a whole new world to the handicapped. The blind, the crippled can have hundreds of personal friends throughout the world with whom they "visit" regularly. No physical handicap is so severe as to keep a person from becoming a ham, and his status in the ham fraternity is determined solely on his ability as a radio operator.

A unique service provided by amateurs is the "Eye Bank Net" which meets twice a day, every day of the year, working with the Eye Bank hospitals throughout the country to determine the need for and the availability of human eyes for use in corneal transplant surgery. Since eye tissue must be used within two or three days, the rapid dissemination of information throughout the country is essential to the program.

Ham radio is on a strictly voluntary, non-profit basis. All equipment is bought and maintained by the operators at their own expense. No compensation of any kind is accepted for any of the services they render. (Some quasi-amateur organizations such as the military-sponsored MARS and Civil Defense-sponsored RACES do make some equipment available to their active members.)

Equipment required for a ham radio station can vary from a "home brew" rig built from a junk box to the most elaborate and costly commercial equipment. But there is just as much, if not more, fun and challenge with the inexpensive homemade equipment. The average ham will probably spend around \$150 to \$300 in setting up his first station. With secondhand gear and do-it-yourself kits, it can be much less.

Amateur radio is licensed by the Federal Communications Commission. Aspirants must take a written examination and prove their ability to copy and send International Morse Code. There are several classes of license of varying privileges. None of the exams is so difficult as to eliminate anyone who really wants to study for it.

Ham radio is for everyone. See you on the air?



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.

**Do new ideas turn you on?**

**YES!** While I am thinking about it, enter my **WORLD RADIO** subscription.



published every month

Call

Name \_\_\_\_\_

Address \_\_\_\_\_

City, State, ZIP \_\_\_\_\_

Check:  New-Renewal



**communications**

People need to talk to each other.

**Discover a new world every month**

**Subscriptions**

World-wide Rates

- One year \$5
- Two years \$9
- Three years \$13
- Lifetime \$50

IRCs, local currency, mint stamps-will be accepted from overseas readers.

**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 help 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 invited to subscribe.

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

We offer this guarantee. If at any time you are not satisfied we will face the music and refund the unused portion of your subscription.

**Make the world a brighter place.**

gift



To give **Worldradio** as a gift to an overseas friend (or one in your own country), fill in blank about recipient. Put your name below and we will send a gift card in your name.

**WORLD RADIO NEWS**

reporting on the human side of Amateur Radio



Light the way for a friend-

Send in the name and address (or call) of another amateur that would be interested in **Worldradio** and we will send them a complimentary sample copy.

**DX special**

To help give you a hand across the sea-- When you purchase a **WORLD RADIO** gift subscription for a ham in an overseas country the special price for that gift subscription is only four dollars a year.

**tell us something**

So that we may better serve you, the space below is for any comments or suggestions. We would like to know what your interests are and what news and features you would like to see. It would help if we knew how long you have been a ham and what amateur organizations you belong to. Tell us of your activities and if you have any news or information you are invited to share it. Tell us how we may help you enjoy Amateur Radio.


---CLIP AND MAIL TO---  
**Worldradio**  
 2509 Donner Way  
 Sacramento, CA 95818  
 thank you USA



# participants Worldradio Communicate

Worldradio  
Subscribers



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

(Continued from last issue)

F. H. Deardorf, K6KQ, Yucca Valley, Ca.  
James Russell, W8BU, Fairview Pk., Ohio  
Edmond Colliau, W6JFQ, S. Pasadena, Ca.  
Vern Mills, W9GR, Park Ridge, Illinois  
Ronald Titus, WA7PSC/6, Sacramento, Ca.  
David Urfer, WA7ROJ, Missoula, Montana  
Ray Frith, WB6UCQ, Fresno, California  
Dana Parks, Jr., W1BYS, Salisbury, N. H.  
Ed Gillis, WB6QFX, Fresno, California  
Louis Ross, Jr., K5RSR, Covington, La.  
R. H. Rhodes, W6ZLE, Santa Maria, Ca.  
Stew Perry, W1BB, Wintrop-b-t-s, Mass.  
Joseph Singer, K6HJN, Lawndale, Calif.  
Rev. Nich. Maestrini, WN8NAD, Detroit, Mi.  
Thomas Dollard, Jr., WB6WFG, Sacramento  
Stanley Kohn, KC6SK, W. Caroline Islands  
Ray Stevenson, W6HDV, S. Lake Tahoe, Ca.  
Martin Schreck, Jr., K2YFF, Kearney, NJ  
Guy Ottinger, K6CN, Sunnyvale, California  
Fred Rose, W2VMH, W. Caldwell, N. J.  
J. Wren, K6IZY, Oakland, California  
C. J. Bolvin, K4KQ, Miami, Florida  
Charles Phares, WA6GYZ, San Mateo, Ca.  
Bob Brunkow, K7NHE, Bellevue, Wash.  
Andrew Memmel, WA6CBN, San Francisco  
Paul Mercado, W3FSF, Broomall, Penn.  
Edward Haviland, Daly City, California  
Larry Oakley, W7DNX, Reno, Nevada  
Will Harris, W6HST, Mill Valley, Calif.  
Charles Thomas, WA3MWM, Pittsburgh, Pa.  
Donald Mason, Sunnyvale, California

Ralph Dailey, WB5AVS/YV6, Venezuela, SA  
Gordon Tuller, WB6OVH, Mill Valley, Ca.  
Harold Whitaker, CT3AS, Funchal Madeira  
H. R. Hodges, W6AQP, Oceanside, Calif.  
Roy Bucher, K3YVS, Berlin, Pennsylvania  
Martin Libbey, WA6KXN, Brentwood, Ca.  
Ken Lantry, APO New York  
Dick Altman, WA6AXV, San Francisco, Ca.  
Dan Gooding, WB8FGZ, Ypsilanti, Mich.  
Robert Thompson, K6SSJ, Los Gatos, Ca.  
John Daniel, W2CSQ, Teaneck, N. J.  
Walter Jones, WB6PIZ, San Francisco, Ca.  
Dick Fitzsimmons, Victoria, Australia  
V. Dawson, K6RRC, Rio Linda, California  
Marcos Yniguez, DU2MY, Philippines  
Jim Duffy, WA6AUE, San Jose, California  
Winfred Ross, CE3LIM, Santiago, Chile  
Charles Roach, Lafayette, California  
C. K. Chrismon, W4GWW, Springfield, Va.  
Betty Smothers, WA6GCS, Concord, Calif.  
Albert Harris, WA9VZR, Blue Island, Ill.  
Jim Neiger, W6BHY, Lompoc, California  
P. A. Lien, W0LTB, Northwood, Iowa  
Wayne + Theda Nail, W6CBW, Fremont, Ca.  
Bob Swanlund, W0WYX, Idaho Springs, Col.  
Archie Waring, W6ACN, Castro Valley, Ca.  
Michael Hayes, Landover, Maryland  
Kathy Braunstein, WB6BOY, Culver City, Ca.  
R. Haddemo, SM7ANL, Helsingborg, Sweden  
Ben McGlashan, W6GY, Los Angeles, Ca.  
Leander Panter, W7EUG, Coquille, Oregon  
Stanley Ostrom, WA6WXP, Fresno, Calif.

Troy Dunson, Standing Rock, Alabama  
John Kwei, K6QZX, San Mateo, California  
Wayne Day, WA5WDB, APO New York  
Hal Silvey, K6RFQ, Oxnard, California  
Don Lidonton, Poplar Bluff, Missouri  
Farrell Belliston, WB6QGU, Mont. Pk., Ca.  
Vernon Dameron Jr., K1DRN, Bedford, Mass.  
Fay Elzey, W6FAX, San Francisco, Calif.  
Dr. Stan Karaskiewicz, SP1UZ, Poland  
Jack Bean, K6SKQ, Citrus Heights, Calif.  
J. E. Chambers, WA9SMJ, Evanston, Ill.  
George McKay Jr., W6WVG, Pomona, Ca.  
Marshall Dues, Spring, Texas  
Leonard Goldman, WA6DDQ, Morro Bay, Ca.  
J. R. Burkhart, W0BA, St. Louis, Missouri  
Jack Forbes, W6QP, Vista, California  
Steve Maziarz, K7VOY, Tempe, Arizona  
Frank Dougherty, W6EDX, San Francisco, Ca.  
J. S. Wagg, W2JBF, Barnegat, New Jersey  
Arthur Mayoff, VE2AQV/W6, Pleasant Hill, Ca.  
Thomas Murray, W8LDR, Canton, Ohio  
Carl Stengal, W6JEO, Santa Barbara, Ca.  
Hugh Morris Jr., WB4GLG, Frankfort, Ky.  
Zane Sprague, K6WK, San Diego, Calif.  
Pat Stewart, W7GVC, Walla Walla, Wash.  
Alec Brown, W6BWM, Madera, California  
L. A. Spinner, WA0MHB, Marshall, Minn.  
Lucius Lindley, WN6TPY, Beverly Hls, Ca.  
D. G. Larison, W7HKL, Edmonds, Wash.  
W. E. Stem, WA6OXO, Huntington Beach, Ca.  
Elmer Dunscombe, W1ESG, Springfield, Mass.  
(Continued in next month's issue)



## Free Gifts Welcome France's Off-Season Visitors

Under the "Welcome to France" plan, Avis gives one free day during a 3-day rental in Paris or Nice, or 50 percent discount on the regular rate for one-day rental.

Among the variety of free gifts and services offered under the plan are free admission to the Eiffel Tower, the Louvre Museum, the Arch of Triumph top-level, and the Palace of Versailles. The George V Hotel gives a gourmet meal at Les Princes Restaurant during a two day stay at the hotel. A free bottle of champagne is served during the Eiffel Tower dinner show.

Travelers using the services of the Hostesses Internationales receive a free drink at Montparnasse or St. Germain-des-Pres. A bottle of cologne is offered by the Freddy perfume shop in Paris, and a gift is presented at Molinard Perfumes in Grasse. Le Printemps Department Store in Paris gives a free appointment book illustrated with views of Paris.

In addition, one free entrance is given to the first 1500 visitors to the Casino de Paris, as well as one free pass to the Palais de la Mediterranee in Nice, up to March 31 only, as is the case with car rental discount.

The "Welcome to Paris" brochure is available through American travel agents, who must validate the brochure's back-

cover certificate for individual travelers. This certificate is exchanged for the voucher booklet in Paris at the Invalides Air Terminal, at 127 Champs-Elysees, or in Nice at 32 rue Hotel des Postes.

Individuals may secure the brochures at Air France and Pan American offices. The free F. G. T. O. offers are available to individual passengers of all airlines, provided the brochures are endorsed by their travel agents or airline offices.

## The Old Old Timers Club

Should you hold a valid amateur license and operated a station prior to 1933 you are eligible to become a member of the Old Old Timers Club.

The White House paid homage to this group in the following message dated February 8th, 1971.

"I welcome this opportunity to applaud the Old Old Timers Club and pay tribute to the pioneers of "Wireless". Two-way communications and broadcasting are an integral part of the daily life of our nation, and indeed of the tenure of the world.

You who have had the imagination, skill and perseverance to inspire and initiate an effort that has so revolutionized our society have earned the admiration of all men; and your wisdom and experience continue to be valued by those who build on your achievements."

If interested in membership in the Old Old Timers Club, drop a line to Ray Meyers, W6MLZ, Box "B", San Gabriel, CA 91778, giving him the date you first went on the air and your present amateur call.

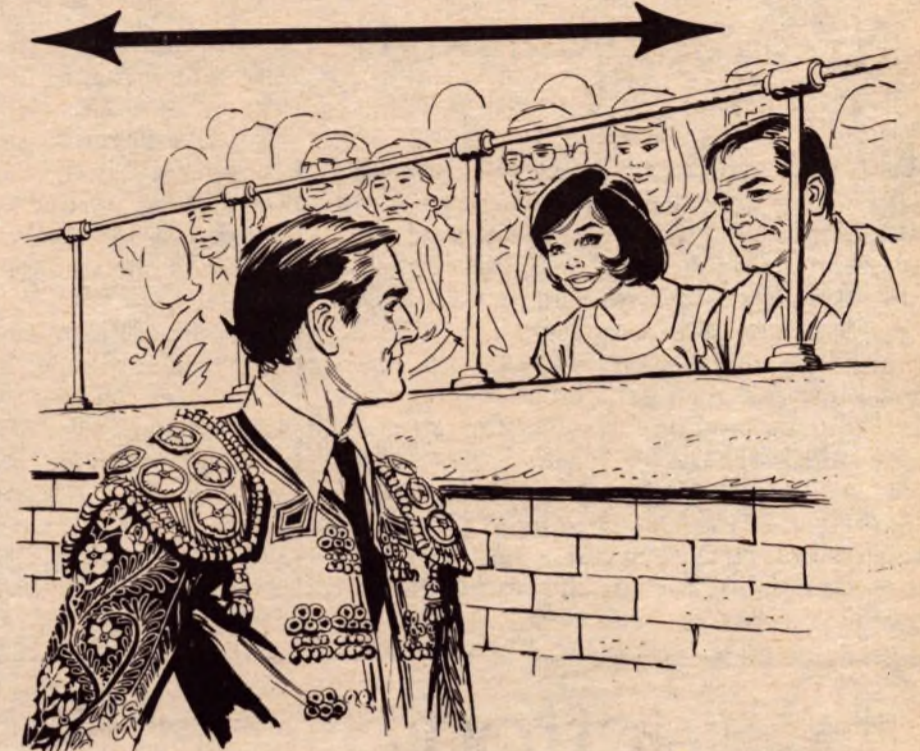
(Paris)--- France's off-season visitors now save significantly not only with the low 8-day GIT independent tour fares, but also through sixteen free travel bonuses that add up to the new program entitled "Welcome to France".

Between \$75 and \$100 can be saved by individual travelers starting or finishing their trip in either Paris or Nice during the attractive off-season period from November 1 through April 30. It's the uncrowded time to see the Frenchman's France at the peak of an eventful calendar in the capital, or on the sunny Riviera.

Key savings center on accommodations. At Paris' new 1000-room Hotel Meridien a 3-night stay affords one night free with breakfast, plus a discount for another two nights, and also a free half bottle of champagne. Throughout France, the prestigious chains of 82 Relais de Campagne, and 41 Chateaux-Hotels all offer a 50 percent discount on the room-rate with breakfast. Hospitality also includes a free cocktail. On the Riviera, the Palaces de la Cote d'Azur chain gives one free night during a 3-night stay.



# Foreign Language QSOs Communicate



The goal of international friendship and good will through Amateur Radio is best reached by understanding the language of other countries. Your use of his language tells him immediately that you have more than a superficial interest in his culture. With conversational use of a foreign language, travel is much more interesting, too.

The amateur bands provide an interesting language laboratory for stimulating, progressive experience in oral communication in foreign languages.

It is easy to learn greetings and how to exchange signal reports. This regular practice in listening and speaking enables one to advance from passable communication to lengthy pleasant chats.

FOREIGN LANGUAGE QSOs tapes and manuals give you the proper technical phrases to enter this game. We have complete audio-lingual courses in Spanish, German and Japanese. Also available is an English course for native Spanish speakers.

Manuals give complete translations for QSOs, special radio jargon and radio terms. These tapes are prepared by native hams who know the right phrases actually used by foreign hams.

Learn Spanish on the amateur bands through QSOs  
EN ESPANOL

Audio-lingual tapes and cassettes give the right dialog for Amateur Radio contacts in foreign languages. New simple courses available exclusively through FOREIGN LANGUAGE QSOs.

English-Spanish course, QSOs EN ESPANOL, One hour and 20 minutes, on 7 inch tape is \$11.95, C-90 Cassette-\$10.95, on 5 inch tape-\$11.95. For the Manual only - \$2.50

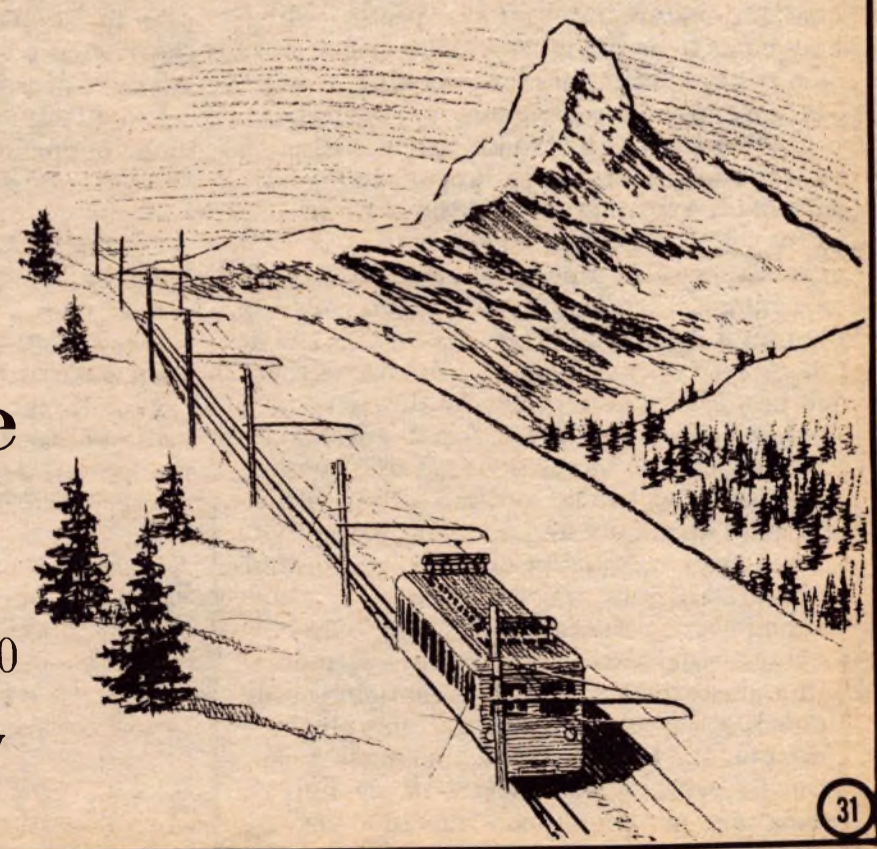
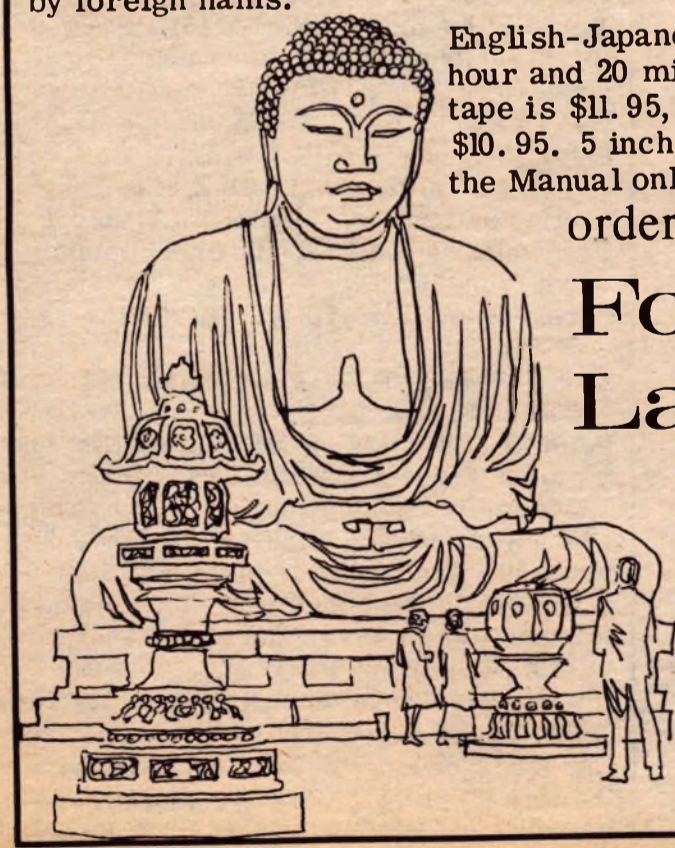
English-German Course, QSOs AUF DEUTSCH, One hour and 30 minutes, on 7 inch tape is \$13.95. C-90 Cassette-\$12.95, on 5 inch tape-\$11.95. For the Manual only - \$2.50

English-Japanese Course, One hour and 20 minutes. On 7 inch tape is \$11.95, C-90 Cassette-\$10.95. 5 inch tape-\$11.95. For the Manual only-\$2.50

order from:

## Foreign Language QSOs

Box 53  
Acton, Mass. 01720  
Carl Sletten, W1YLV





# NEWS ROUNDUP-

## UHF record established

By David Middleton, W7ZC

On November 22, 1972, K4RJ (ex W3GKP), William Smith, and W6YFK, Stephen Mieth, established a new world's record for two-way communication via Moon Bounce, on 2304 MHz, when they worked on CW between North Carolina and Santa Ynez, California for a distance of 2080 miles (3347 km). Four tries were required before successful two-way QSO was held on CW. Portions of K4RJ's SSB signals were heard.

Smitty, K4RJ (of Moon Bounce and ARRL Technical Merit Award fame) and W6YFK are to be commended for this effort and their new record on 2304 MHz.



## Electronic Investing

a monthly column  
by Clayton Ankeny,  
WB6OGZ

As those of us interested in radio and electronics know, semiconductor material in the form of a transistor usually performs one of two functions: (1) acting as an "on" or "off" switch, or (2) amplifying the signal going out over that fed into the circuit.

Integrated circuits or "ICs" as they are called are the next step up from the individual transistor. Integrated circuits, which may contain as many as 17,000 transistors on one chip, is the fastest growing segment of the semiconductor industry. From the beginning of the electronic age 50 years ago with the invention of the vacuum tube, on through the introduction of the transistor in the 1950's, we are now using the integrated circuit in a number of novel ways.

Hand held calculators are made possible by miniaturization. (You will be amazed at the variety of mathematical functions that can be performed on the new Hewlett-Packard calculator). The wrist watch and clock market is in the process of changing from hands on the face of the watch with mechanical wheels and springs inside to digital readout, quartz crystal control and integrated circuit works.

Computers, Memory Systems, Automotive Electronics, Electronic Organs and a great deal more. The semiconductor field is so large today and gaining all the time that it is difficult to comprehend. For example, one company alone is manufacturing and shipping at the rate of TWO BILLION transistors a month.

## Hams Help

The American Cancer Society Bike-A-Thon was held on October 28 in San Francisco, California. This is an annual event and it was well attended by bike riders and sponsors.

The course starts in Golden Gate Park, then out through the park to the Great Highway, then south to the Fleischackers Zoo, then around Lake Merced, back on Sunset Boulevard, and finishes in Golden Gate Park. It takes about two hours to cover the course. One eleven-year-old girl was checked out as riding 40 miles.

The San Francisco Radio Club furnished communications at all six check points on the route. The SF Club participants were: Bill Whitlow, WB6LRQ; Don Pfohl, K6HWI; Hensley Morehen, WA6DJI; Fay Elzey, W6FAX; Dick Altman, WA6AXV; Rick Altman, WA6JBJ; and Edison Fong, WB6IQN.

(From the SFRC News)

Following are listed the largest companies in the integrated circuit field. (The figures represent: Recent Price - Earnings per share in 1971 - Earnings Per Share in 1972 (Est.) and Earnings per share 1973 (Est.) as of 11 January 1973.

American Micro Systems (AMMS) OTC  
17-1/2 .12 .15 1.25

Fairchild Camera and Instr. (FCI) NYSE  
54-3/4 (1.79) 1.55 3.00

Motorola (MOT) NYSE  
135-1/4 .33 .57 .90

Texas Instruments (TXN) NYSE  
184-1/8 3.05 4.25 5.00

In judging these semiconductor stocks the dividend currently paid or yield basis is not the important factor to be considered. Rather they are essentially growth companies in a rapidly expanding business and their stocks should be appraised on the basis of capital gain potential.

Individual reports discussing each of these companies in more detail are available 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.



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

## International Reciprocal Operators

An organization aimed at establishing world-wide reciprocal privileges for all amateurs is the International Reciprocal Operators Club. Any reciprocal operator can join free by sending a copy of the home and foreign reciprocal license along with two IRCs to cover the postage. These go to I. R. O. C., Box 11, Medway, Mass. 02053.

The group does offer a certificate for working twenty different reciprocal operating stations including licenses issued under so-called "alien operating privileges". Thus calls such as DL2AA/W1 or XUØIR counts for the award and stickers for additional multiples of 20 are available.

Further information can be obtained by sending a s. a. s. e. to the above address and asking for the IROC kit.

(de West Coast DX Bulletin)

## Welcome!

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

- Luis Fernando Aragon C, HK3AAT, Colombia
- Hatherleigh Percy H. Barnes, G3HXM, United Kingdom
- Ismael Blanco, HK3CUJ, Colombia
- Jorge Enrique Bravo, HK4CVC, Colombia
- Wadih Chamoun Brine, HI8WC, Dominican Republic
- Herman Calero, HK5CH, Colombia
- Miguel Jorge Champalanne, LU5AJP, Argentina
- Anthony R. Gold, G3SKR, United Kingdom
- Hector Patine Icaza, HC2IP, Ecuador
- Hector Eduardo Iglesias, LU2DLE, Argentina
- Bertil Wilhelm Ivarsson, SM6BJD, Sweden
- Johannes Jons, DL7JS, Germany
- Luis M. Knipping, HI8LMK, Dominican Republic
- Peter Koebsch, PY1HU, Brazil
- Uve H. W. Lammers, DL9WZ, Germany
- Aquiles S. Lentino, LU3AHJ, Argentina
- Bienvenido G. Leonor, HI8BLA, Dominican Republic
- Carlos Betancourt-Lopez, HK3CNB, Colombia
- Maria Gizlena De La Pava Marin, HK5CGF, Colombia
- Peter G. Martin, G3PDM, United Kingdom
- Giovanni Francesco Mioli, YV1TP, Venezuela
- Champil A. Ninan, VU2CAN, India
- Marcelino C. Popa M., HI8MPM, Dominican Republic
- Manfred Przygode, DJ7RJ, Germany
- Luis A. Quintero, YV4KG, Venezuela
- Jose Arturo De La Rosa Rodriguez, HI8JAR, Dominican Republic
- Samuel L. Saunders, TG9CB, Guatemala
- Charles K. Street, G3DKS, United Kingdom
- Manuel A. Valdivieso, HC2VA, Ecuador



# THE BIG SIGNAL

ATTENTION ALL NEW HAMS

## "W2AU" BALUN \$12.95

The proven balun



IT'S WHAT'S INSIDE THAT COUNTS!

1. HANDLES FULL KW INPUT—THEN SOME. Broad-Banded 3 to 40 Mc.
2. HELPS TVI PROBLEMS By Reducing Coax Line Radiation
3. NOW ALL STAINLESS STEEL HARDWARE. SO239 Double Silver Plated
4. IMPROVES F/B RATIO By Reducing Coax Line Pick-Up
5. REPLACES CENTER INSULATOR. Withstands Antenna Pull of Over 600 Lbs.
6. BUILT-IN LIGHTNING ARRESTER. Protects Balun —Could Also Save Your Valuable Gear
7. BUILT-IN HANG-UP HOOK. Ideal For Inverted Vees, Multi-Band Antennas, Dipoles, Beam and Quads

NOW BEING USED EXTENSIVELY BY ALL BRANCHES OF THE U.S. ARMED FORCES, FAA, RCA, CIA, CANADIAN DEFENSE DEPT. PLUS THOUSANDS OF HAMS THE WORLD OVER

They're built to last  
**BIG SIGNALS DON'T JUST HAPPEN—GIVE YOUR ANTENNA A BREAK**

Comes in 2 models. 1:1 matches 50 or 75 ohm unbalanced (coax line) to 50 or 75 ohm balanced load. 4:1 model matches 50 or 75 ohm unbalanced (coax line) to 200 or 300 ohm balanced load.

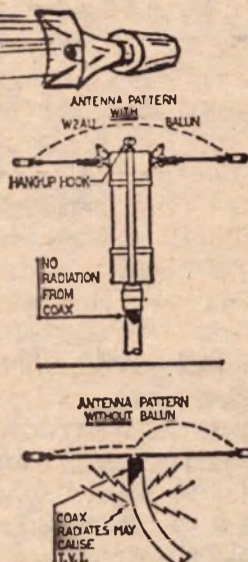
AVAILABLE AT ALL LEADING DEALERS. IF NOT, ORDER DIRECT

UNADILLA RADIATION PRODUCTS

MFRS. OF BALUNS  
Tel: 607-369-2985

RD 1

UNADILLA, N.Y. 13849



We'll GUARANTEE no other balun, at any price, has all these features.

The most important part of your new ham station is the antenna system.

Without an efficient set-up, even the most expensive rig you can buy, would be a waste, both on receive and transmit.

Therefore, a good quality-built balun, such as "The Big Signal W2AU Balun" is a must.

The Big Signal W2AU Balun will improve the transfer of energy to the antenna, eliminating stray rf from the feed line. It will minimize coax feed radiation, thus improving your radiation pattern.

It will help eliminate TVI interference plus help keep your neighbors happy. When using a beam, it will improve your front-to-back ratio.

This is the only balun with a sealed type built-in lightning arrester. This feature alone could, some day, save your valuable equipment.

This balun is made to last. All components are made of the highest quality material obtainable and over 50 years of electronic know-how to back them up.

So--start right and get yourself a "Big Signal W2AU Balun". We'll guarantee that no other balun at any price has all these features.

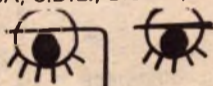
73 and good hamming from W2AU

UNADILLA RADIATION PRODUCTS  
R. D. 1 Unadilla, NY 13849 Dept. W  
Tel: (607) 369-2985

# THE BIG SIGNAL

## SUB-AUDIBLE TONE ENCODER and DECODER KITS

- Compatible with all sub-audible tone systems such as Private Line, Channel Guard, Quiet Channel, etc.
- Glass epoxy PCB's and silicon transistors used throughout
- Any type reeds may be used: Motorola, G.E., RCA, S.D.L., Bramco, etc. except special dual coil types
- All are powered by 12 vdc
- Use on any tone frequency 67 Hz to 250 Hz



### \* ENCODER

- Small size 1.5 x 4 x .75"
- All parts included except reed and reed socket
- Output 4v RMS sine-wave, low distortion



\$8.95 - Kit

\$13.95 - Wired-Tested

### \* WIRE-IN TYPE DECODER

- Same small size as encoder 1.5 x 4 x .75"
- All parts included except reed and reed socket
- Output relay included, low profile sealed type.
- Driven directly off discriminator of any FM receiver



\$9.95 - Kit

\$14.95 - Wired-Tested

### \* MINIATURE ENCODER

- Miniature in size 2.5x .75x 1.5" high
- Any miniature dual coil contactless reed may be used (Motorola TLN6824A, TLN6709B — Bramco RF-20)
- Complete less reed (Available in 33 frequencies for \$17.50 ea.)
- Output 3v RMS sinewave, low distortion



\$14.95 - Wired-Tested

All material shipped postpaid (Calif. residents add 5% sales tax)  
Send check or money order to:

## Communications Specialists

P.O. BOX 153 • BREA, CALIFORNIA • 92621

## 400% MORE AVERAGE SSB POWER OUTPUT

USE A **MAGNUM SIX** QUALITY R F SPEECH PROCESSOR



Collins, Heath ..... 129.95  
Drake ..... 149.95  
Yaesu ..... 139.95  
Swan and other models available soon. Add 5% Tax in Washington

- Your voice works your transmitter at less than 20% of its key down CW capability. By adding the MAGNUM SIX to your existing rig you can increase your average SSB voice power output by 400% (6db).

- Recent editions of the ARRL handbook describe RF speech clipping as clearly the most effective and efficient method to increase SSB talk power. The MAGNUM SIX achieves quality RF clipping in the IF strip of your transmitter for highest effectiveness and least distortion.

- Voice quality and splatter free narrow-band signal output are assured by use of the high quality American made bandpass filter in the MAGNUM SIX for sideband selection prior to clipping and use of your existing transmitter bandpass filter for elimination of distortion products after clipping.

- PUT YOUR TRANSMITTER TO WORK FOR THE FIRST TIME IN ITS LIFE. POWER UP WITH A MAGNUM SIX FOR THE MOST ADDED POWER PER \$ THAN ANY OTHER METHOD.

Send for FREE Brochure  
Communication Technology Group  
31218 Pacific Highway South  
Federal Way, Washington 98002



A Division of Bitcil Systems Inc.

OVERSEAS DEALERS

CANADA ..... V.E. Amateur Radio Sales — 3768 Bathurst Street Suite 306  
Downsview, Ontario, Canada

SOUTH AFRICA ... C.S. Electronics — P.O. Box 118, Cape Town

OVERSEAS DEALER INQUIRIES INVITED



# 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

... It so happened that isolated individuals - not organized research - made all the important contributions, and some of these can be considered as amateurs, although in most instances their status quickly altered following actual accomplishment, as they were invited to join commercial firms. In fact, from that standpoint, it can be truthfully be said that, almost without exception, every major step forward in radio has had its origin in amateur radio; for almost all the great men of the art - inventors, executives, engineers - got their start as amateurs.

Among these was Greenleaf W. Pickard, one of the first receiving amateurs in America, who attracted attention in that category as early as 1900 through his studies of the vagaries of static or atmospheric disturbances. He had started in radio in 1898. Another experimenter who quickly turned his amateur interest into commercial utility was Reginald A. Fessenden, who in 1906 was to invent a radio-frequency alternator. This was the first electromechanical device to produce continuous waves, in contrast to the interrupted wave trains set up by the spark discharges. During this same year, in Denmark, Valdemar Poulsen was inventing his arc, which also generated continuous waves - as he described it, "the electric ray for which scientists have long been seeking."

In the year 1899 a young graduate of Sheffield Scientific School, Yale University, at the age of 26 attacked the problems of space telegraphy at that juncture in the formative stage of the art which might well be termed its infancy. His name was Lee deForest. In 1905 he was to invent the audion, or three-element vacuum tube, the most important single contribution to the radio art. In 1901, in New York, the deForest Wireless Telegraph Company of New Jersey was formed, and his amazing career of invention, hypothesis, and actual practical achievement was begun. The fact that deForest's commercial enterprises varied so greatly has no bearing on his record of great scientific achievement. While never classifying himself as an amateur, he has always been a strong supporter of amateur radio, offering it his

willing cooperation and aid.

The work of these men, and of many others similarly great, was eagerly followed and emulated by amateurs hungry for knowledge. For years their progress was slow, crude, and fraught with difficulties. There were few books on the subject of radio. While the American popular magazines continued their interest, publishing 150 articles on wireless telegraphy and 18 on wireless telephony during the years from 1904 to 1909, few of these contained constructional information, and that which was given was of an elementary type. There was little opportunity for the individual amateur to keep himself informed on the progress of the art.

The amateur was not alone in his difficulties, however. Commercial and government applications of wireless telegraphy suffered equally from lack of information and correlation. The worst problem to be contended with was the competitive jealousy between rival firms. A number of radio firms refused to permit stations employing their apparatus to work with stations using competing apparatus. In an endeavour to control this situation, a preliminary protocol was signed at Berlin on August 13, 1903, by Germany, Austria, Spain, the United States, France, Great Britain, Hungary, Italy and Russia. This protocol was limited to traffic between shipboard and coastal stations, and was of only impersonal interest to amateurs.

On June 24, 1904, the President appointed an inter-departmental board to consider the growing problem of wireless telegraphy. At that time the U. S. Navy had established twenty shore stations and were contemplating ten more, in addition to twenty-four ships already outfitted and ten additional installations projected. The Army had six stations, the Department of Agriculture two. Eight private concerns operated a considerable number of additional stations. Most of these stations experienced a certain amount of interference among themselves, but their worst trouble was with amateurs who used any wavelength, power, and type of transmitter that they pleased. It was primarily to consider these problems of interference that this board, on which were such famous characters as Admiral "Fighting Bob" Robley and Brigadier General A. W. Greely, was named. Their report, however, while considering the problem of government control of wireless in detail, did not mention amateurs by name.

On November 3, 1906, twenty-seven nations signed the International Wireless Telegraph Convention in Berlin. This was actually nothing more than the final draft of the 1903 protocol. Amateurs were not

mentioned, nor were they even considered, for under the old-world monarchial methods then employed there was no place for such a thing as amateur radio. Perhaps the greatest historical significance of this convention insofar as amateurs were concerned is the fact that it first officially adopted the term "radio". General use was not to be made of this word, however, for many years to come.

Amateurs, if indeed they were aware of these somewhat abortive attempts at legislative control, paid little attention to them. Slowly and painfully they were perfecting their apparatus. The greatest amount of attention was, initially at least, paid to the receiving technique.

Until 1902 the coherer was the only detector of wireless signals in existence. It was used as late as 1912. In 1902, however, Marconi introduced the magnetic detector, while Fessenden invented a thermal device called the liquid barretter which had about equal sensitivity, and the popularity of the coherer rapidly dwindled as the superiority of these new devices was established. At about this same time deForest used a device called an auto-detector, and first employed head-telephone receivers.

The spread of these inventions was greatly augmented by the International Electrical Congress held in St. Louis, Mo., in 1903, which became a clearing house for information on all lines of electrical development. At this meeting scientists from many lands either presented original papers on current practice or discussed the papers presented by others. The papers on radio problems represented the last word in accomplishment, and many an amateur as well as professional went home from the Congress imbued with new inspiration.

In 1904, J. A. Fleming introduced the two-electrode vacuum valve, or diode, popularly termed the Fleming Valve. In effect, it was simply an evacuated glass bulb similar to a light bulb, but in addition to the glowing filament or cathode there was an auxiliary plate, or anode. Its operation was based on the well-known "Edison effect". The reason for calling it a valve was that it was conductive in only one direction, thus making an effective one-way valve for the flow of electric current. As a detector it was little if any better than the other types, except for its stability, and consequently it was little used. But the patent granted in 1905 was a basic one, and held a key position in the later litigation surrounding the development of the audion, or triode, valve.

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

# Printed Circuit DRILL BITS

#56 for large tubular caps.,  
1 watt resistors, etc.

#60 for epoxy bullet diodes,  
bridge rectifiers, and some  
capacitors.

#65 for 1/2 watt resistors,  
mica and disc caps., mini-  
lytics and other caps.

#70 for TO-5 case devices,  
epoxy chip transistors,  
incline ICs, glass diodes,  
polystyrene caps.

Jobber grade bits, \$. 60 ea  
or \$. 50 ea for 4 or more.

Solid Carbide Circuit Board  
grade bits, \$4. 30 ea or  
\$3. 30 ea for 4 or more.

Sizes in each type may be  
mixed. Include \$. 50 postage  
and handling fee for orders  
under \$10.00. NO CODs.  
Include 5% state tax (5 1/2%  
in rapid transit district).

TRUMBULL, 833 BALRA DR.,  
EL CERRITO, CALIF. 94530

## 30 HZ SELECTIVITY

- DRAMATIC IMPROVEMENT FOR  
TRANSCEIVERS ON CW
- BANDWIDTH CONTINUOUSLY  
VARIABLE



**NEW Q-BOX  
ONLY \$17.95**

Ready to use. Add  
\$1.00 for shipping in  
USA. (Calif. residents  
add 5% sales tax.)

Don't confuse our new Q-Box with old fashion-  
ed audio filters! It has no coils, insertion loss,  
or oscillation. Instead, it's a transistorized AC-  
TIVE FILTER variable, to match conditions,  
from 30 HZ (3dB bandwidth) to a flat response.  
800 Hz center. 40 dB skirts. Plugs into rcvr  
phone jack. Output for phones (1000 ohms  
or more) or external amp. 4"x3"x1 1/2".  
Order today and see what 30 Hz selectivity  
will do for your reception!

Sold with 10 day moneyback guarantee.  
One year warranty. Send postcard for  
free brochure.

**AUTEK  
RESEARCH**

BOX 1494A  
CANOGA PARK,  
CALIF. 91304

## MORE RANGE... with NO NOISE

FOR ALL  
MOBILE UNITS



CUSTOM SYSTEMS  
KITS • ACCESSORIES

ELIMINATE IGNITION NOISE  
**ELECTRO - SHIELD®**  
YOUR ENGINE

FROM \$44.95

**ESTES ENGINEERING CO.**

543 W. 184th St., Gardena, Calif. 90247



TRAVEL-PAK QSL KIT-Send Call and 10 cents;  
receive your call sample Kit in return. SAMCO,  
Box 203, Wynantskill, NY 12198.



THIS?



THIS?



or this?

SOLID STATE



DIGITAL CLOCK

This product of space age technology  
computes and displays time of day to the  
exact second. High visibility Nixie® tube  
readout. Encased in handsome oiled solid  
walnut case with matching base for desk  
or shelf mounting in any decor.

- Silent solid state operation.
- Fractional second accuracy.
- Polaroid displays/red filter.
- Three special time settings.
- Full year guarantee (made in USA).
- 12 or 24 hour time display.
- TTL integrated circuits.

Please specify 12 or 24 hr. model. Send  
check or M.O. for \$159, postpaid. COD's  
accepted with \$30 deposit. Calif. residents,  
add 5% sales tax

**MELREX PRODUCTS**

8142 Ridgfield Dr. Box 5  
Huntington Beach, CA 92646



## TELEPHONE EQUIPMENT

For The Amateur

ALL ITEMS NEW, UNUSED AND OBTAINED LEGALLY

### "TOUCH-TONE" Pads (Encoders)

- \*630 12 Button Standard Pad .....\$26.99
- \*631 12 Button Miniature Pad, like the  
one used in the "TRIMLINE" ..... 29.65
- \*635 12 Button Standard Pad Without  
Tone Generators..... 12.85
- \*670 "TOUCH-TONE" Kit..... 34.36  
Includes the standard 12 button pad,  
(\*630 above), a housing with brushed  
aluminum faceplate and mounting brackets

### TELEPHONES

- \*271 Tone Dial Desk Type Telephone with  
12 button pad..... 40.57
- \*490 Tone Dial in Handset Type Telephone  
with 12 button pad and desk type base 53.70  
(Colors: Black, Beige, White)

Almost all types of telephone equipment is available. Send  
self addressed stamped (8 cents) envelope for catalog.

All equipment sent Postpaid. On orders from west of the  
Mississippi please add \$1.00 per item if less than four  
items are to be shipped to the same address.

**JCT JUNCTION  
DISTRIBUTORS**

164 CYPRESS LANE  
NASHUA, N.H. 03060



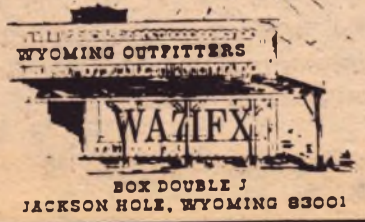
ALSO OF INTEREST

## Skycraft Parts

P. O. Box 15503  
Orlando, Florida 32808

FOR SALE

Government Surplus of all  
types- Electronics-Meters  
Gauges-Instruments-Test  
Sets-Switches-Connectors  
Resistors-Transistors-  
Diodes-Relays-Tubes  
Coils- Filters-Capacitors  
Rectifiers-Panels-Wire  
Indicating Lights-Trans-  
formers-Aircraft Tools-  
Hardware-Electrical-Test  
Equipment--Warehouse at  
1821 Tallokas Ave. (East  
Ramp at Kaley and I-4)  
Orlando, FLA. Phone:  
305-843-6470. Tues. thru  
Sat. 8 a. m. to 5 p. m.



BOX DOUBLE J  
JACKSON HOLE, WYOMING 83001

## SACRAMENTO, CALIF.

SELETRONICS has moved to 1709 Markston  
Rd. ( East of Bell St. off Arden-easy parking)  
We do welcome consignments and trades on new  
and used ham gear, CB gear, Hi-Fi gear and  
photo stuff. Let us turn your excess equipment  
into cash. We could make a trade on something  
you need. Featuring SBE, Regency, Johnson,  
Hy-Gain, Galaxy, Hustler, Drake, Mosley and  
Midland. de Roger, W6VJR. Phone:922-2212

Central New York Specialty Headquarters

FM by STANDARD COMMUNICATIONS

High Power by EHRHORN

Quality-Selected Used Ham Gear

Write for listing, updated twice monthly

**CFP ENTERPRISES**

10 Graham Road West  
Ithaca, New York 14850  
607-257-1575



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



Sister Mary Lumena, K9CJO. One of the finest amateur radio operators in the suburbs of Milwaukee, Wisconsin, is Sister Mary Lumena Kieffer, K9CJO, better known as "Sister Mary" (not to be confused with the other two "Sister Marys", WA0JIE and WA5VBM - Hi!)

Sister has a beautiful station consisting of a KWM-2 and 30L-1 with a TA-33 mounted on an elevator shaft at the Motherhouse of the School Sisters of Notre Dame in Mequon, Wisconsin. All this radio equipment enables Sister Mary to keep in direct contact with their distant Missions in Guam, Paraguay, and Argentina.

Sister Mary has not always had such a complete station. When she first responded to the challenge of the boys in her high school math class in 1955 to learn the Morse Code, Sister had an old Army receiver and a CW transmitter. (She didn't get her first phone rig until 1964.) She pounded out her 13 WPM on this old equipment and received her General operating ticket in early February, 1956. She was 64 years old at the time.

Sister Mary Lumena (pronounced Loo-MEE-nah), was born at Schofield, Wis. in 1892. She entered the Sisterhood of the School Sisters of Notre Dame (an Order of Catholic Teaching Sisters) at Mequon in 1913. She has taught all grades - 1st to 9th and has taught chemistry and related sciences in Brooklyn, New York; Baltimore, Maryland; Caguas and Miramar, Puerto Rico; and in several Wisconsin cities. Sister Mary spent 17 years at the Puerto Rican Mission. At the present time, Sister is in semi-retirement at the Motherhouse, but still does a little teaching.

Sister Mary Lumena Kieffer is 5'4" tall, has blue eyes, and is of 100% Alsatian descent. Sister is keenly interested in mathematics and astronomy and Greek mythology as illustrative of how the constellation and astronomy affected the lives and literature of the ancient cultures.

The IMRA was the natural place for an amateur of Sister Mary's interests and capabilities, and Sister has been a regular check-in to the IMRA Traffic Nets since 1967, in addition to communicating over the YL System and the ICTN. Her activities include traffic handling and phone patching for missionaries, peace corps workers, and exchange students.

Numerous trophies, among the ever-changing decor of Sister's radio shack, mark her as a woman of tremendous energy and unlimited interests. From the Orion award to certification from the Space Center Amateur Radio Society, the shack is a conglomerate of the ham's world. Anyone indicating interest gets introduced to places and personalities on a global scale.

A phenomenal memory for detail, an enthusiasm for persons, and an alertness to events, combine with the persistence of scientific follow-through to make Sister Lumena not only an avid ham radio amateur, but a valuable one. Sister, along with many other dedicated ham operators, has performed important personal and emergency services, making contacts for missionaries during times of domestic and weather disasters, and in one case arranging for an eye transplant.

From her start in Amateur Radio at the age of 64, Sr. Mary - now 80 years old - has proven that you are never too old to become absorbed in a useful hobby.

### IMRA Newsnotes

**IMRA NET MEMBERS ASSIST IN LOCATING LOST CUTTER.** On October 21, 1972, a 42 ft. Block-Island Cutter, "Chanson", left Cristobal in the Canal Zone enroute to Academy Bay in the Galapagos Islands. On board were Mr. and Mrs. Harold Kilmer and the estimated time of arrival in the Galapagos was the first week of November. By the 20th of November there was still no word back home in Los Angeles from the Kilmer couple and the family was getting worried. Peggy Wallace, daughter of the Kilmers, put in a call to Jessie Billon, WA6OET, to see if she could reach the Galapagos by Ham radio. Jessie brought her traffic to the IMRA Net and the members began looking for HC8FN, Forrest Nelson, one of the half-dozen operators on the Islands.

On November 22, at 0005 GMT, HC8FN was found operating on 15 meters. He reported that the Cutter "Chanson" had arrived in the Galapagos Islands on schedule two weeks previously, but because of the remoteness of the Islands it had been impossible to keep in touch with home as planned. Everyone was safe and word was relayed back to the Wallaces in Los Angeles.

**CRASH HAM INSTRUCTORS WILL RECEIVE PUPILS.** Pat Healy, WA4VWJ, reports that he has had 5 inquiries about the Crash Program of Amateur Radio Instruction which is designed to help those who are going to other countries (or who are in other countries and desire U. S. Ham Tickets) to get their ham license even though they may be short of time. Two of the five missionaries who inquired have made firm commitments to begin study. One is from Jamaica and one is from Nicaragua.

**IMRA BANNER FOUND.** The IMRA has three big banners which are available to members on request for use in displays. They are blue and orange and are 4 x 3 ft. Kinda hard to misplace, but one of them has been missing for two years. (I am not going to name names - Hi!) We are glad to get it back. Father Gil, K1EMQ, had 3 of these beautiful banners made for the IMRA several years ago and replacement value of each banner is now up to \$150.00. If you would like to borrow one write to Fr. Jude Bradley, WA2YNO.

**MISSIONARY EQUIPMENT.** Several inquiries have been received asking if IMRA supplies equipment to needy missionaries. It does!!! Send names and information or applications to one of the members of the IMRA Equipment Committee: WA2BPV, Warren Mulhall; WA2YNO, Fr. Jude Bradley; or WA2IPM, Bro. Bernard Frey. Each request will be weighed for merit and feasibility against equipment and/or money available.

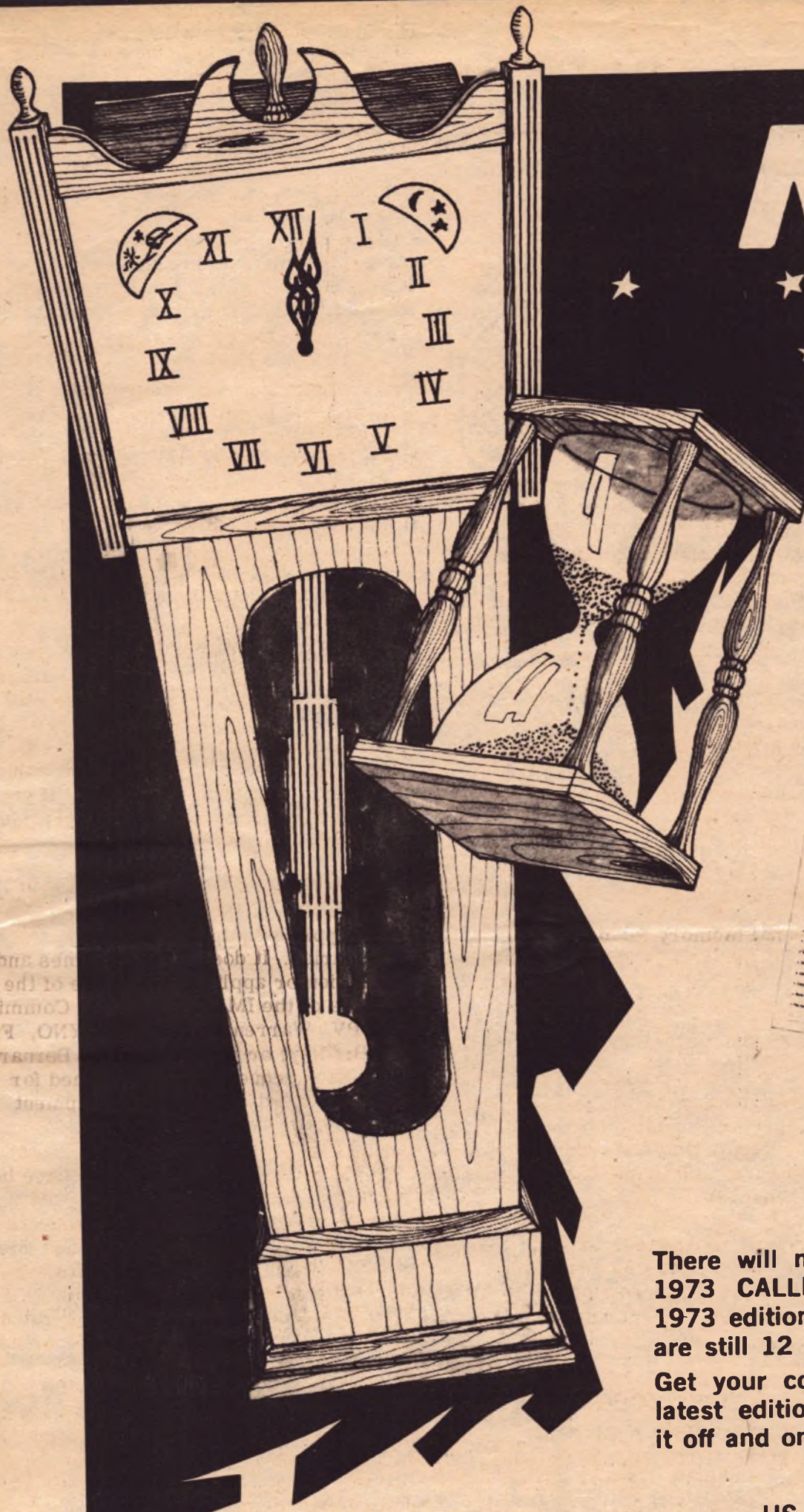
**DONATIONS TO IMRA.** There have been several requests, also, for information as to where to send donations and bequests for IMRA. Please send all to: Fr. Jude Bradley (WA2YNO), Treasurer of IMRA. Address: St. Pauls Abbey, Newton, N. J. 07860. Fr. Jude also has available forms for making final disposition of property to IMRA. Write for them.

IMRA has a new representative in Lima, Peru. Marie Sutter, WA8JLF/OA4, is up to her neck in an intensive Spanish course which she began two days after she arrived in Peru. Not on the air yet, but hoping to be on soon.

Father Allen Gietzen, K3TUC, has moved again. New address: 600 North Paca Street, Baltimore, Maryland 21201. Telephone: 728-6464.

Father Dan Linehan, W1HWK, spent a couple of months in Walnut Creek, Calif., visiting his sister Geri McGlynn, WA6CNW.

~~~~~  
It's the advertisers in **WORLD RADIO** who make it possible. Let them know their support of your paper is appreciated. Please go out of your way to buy from them... and when you do... please be sure to say... "I saw your ad in **WORLD RADIO**". tnx



# NOW

*is*  
**1973**  
**Callbook**  
*time*



There will never be a better time to get your 1973 CALLBOOKS. Here are the brand new 1973 editions — Don't delay, the next editions are still 12 months away.

Get your copies today and you will enjoy the latest edition for the next twelve months. Put it off and only you will be the loser.

The CALLBOOK is a vital part of every amateur radio station. Over 285,000 listings in the US CALLBOOK and nearly 200,000 in the DX Edition make these two volumes an indispensable reference. Not only do the CALLBOOKS list QTH's, but they also have page after page of valuable charts, tables and maps all designed to make your operating more efficient and more fun.

To make these volumes even more valuable special service editions are issued each 3 months, but only to owners of the 1973 CALLBOOKS, which give complete cumulative updated information for the 1973 CALLBOOKS.

**US CALLBOOK**  
 (less service editions)  
 Just \$8.95

**DX CALLBOOK**  
 (less service editions)  
 Just \$6.95

**US CALLBOOK**  
 (with service editions)  
 \$14.95

**DX CALLBOOK**  
 (with service editions)  
 \$11.45

Mail orders add 50¢ per CALLBOOK postage and handling.

See your favorite dealer or send today to:

WRITE FOR  
 FREE  
 BROCHURE

RADIO AMATEUR



**callbook INC.**

925 Sherwood Drive  
 Lake Bluff, Ill. 60044



# Letters

Worldradio  
2509 Donner Way  
Sacramento, California 95818

Dear Sir:

We are a class of Orthopedically Handicapped children. Last year we had the opportunity to visit Mrs. Geri McGlynn (WA6CNW), a Ham Radio Operator residing in Walnut Creek. Our class enjoyed the visit so much and became very interested in Ham Radio. Thanks to the article in Worldradio about our visit we received so many cards from all over the United States, Canada, and even one from Nicaragua. These cards along with the article that appeared in Worldradio are proudly displayed on a wall in our classroom. We have a map with the areas the cards came from pin-pointed. We wish to thank everyone who so kindly sent us cards. We really appreciated hearing from all of you. We recently visited Mrs. McGlynn again but the reception was not good and no one answered her C. Q. for a long time. Finally Dr. Joe Lorber, a veterinarian from Lafayette, California, answered and we talked to him. He gave us advice on how to care for our classroom pet, "Rosie" - our Guinea Pig.

Thanks again for all the cards.

Ms. Silva's Class  
Ellis-Highlands School for the  
Orthopedically Handicapped  
Lafayette, California

Cards received from:  
John B. Thomas, K4NMT  
Gary E. Hale, WN6PKO  
Paul Schuett, WA6CPP  
Frank + Eileen Ross, WB6QVE + WB6QVD  
Jack C. Petree, WB4OVX  
Mike Lintner, WA3HGK  
W. Lee Beckley, W0SRR  
Al Truman, WB6ETG  
W. T. "Bill" Thompson, W0NYG  
Steve H. Hitzeman, WN9JIN

Marge Wegner, K6YOA  
Donald A. Kujath, WN6QJA  
Ronald A. Miara, WA3RJS  
Rev. Daniel Linehan, W1HWK  
Jim Hendry, M. D., VE4DQ  
Jerry S. Stover, W5KZN  
Padre Leopoldo Gleissner, YN4LGS  
Charles E. Dewey, Jr., W0CD  
Charles E. Dewey, Jr., W8LBM  
John J. Schmidt, WB0ACU  
Rocco, K5KXW/MM  
D. J. Richards, ZK4UG  
Colonel D. Titus, K6ART  
Larry Cotarin, WA9MZS  
Dr. Joseph Lorber, WB6CPI



*Write On!*

I do look forward to receiving each issue and reading about the human side of ham radio... Jim Van Nostrand, WA7IFX

WORLD RADIO is the best "people" newspaper I have ever read... Dave Mandelker, WB5BHN

Such positive reporting is a pleasure to read... Thomas Wulling, K9APS

Would like to congratulate the staff of WORLD RADIO on its second year of personal radio news reporting--well done... Frank Savat, WA5YOI

I have heard many excellent reports on-the-air relative to the news content and general all around coverage of WORLD RADIO... Ray Stevenson, W6HDV, Secty., WCARS

Several members of ECARS have recommended your paper... Tony Knott, WA2TRK

You have a wonderful paper. Congratulations on your efforts, they are something new and something we need... Gene Violino, W6INH, SCM, Los Angeles Section



It is my kind of radio reading... A. Howard Ettinger, WB4NJJ

Many highly favorable comments heard on the air... very, very FB paper... Dr. Hugh Avary, W6CD

I think it serves a very useful purpose... Rufus McCracken, W4YJK

My interest in hamming has been flagging, but seeing your paper has renewed my interest... Don Gorgaware, WA6KOT

It's a great paper... Sherman Goldman, K8LUY

You are ably filling a long-time void in Amateur Radio... J. Alan O'Neil, W6GIS

This magazine is headed in the right direction... William Chaffin, WA6OPD

Congratulations on a very interesting paper. Harold and Barbara Knapp, W3BQ-WA3GZT

It is terrific... Hal Kapp, W6WLU

Think your paper is great... Eugene Walter, W2CP

Fine paper... Charles Rex, K6EK

Your paper is FB... Thomas Warren, WA1REG

We enjoy reading it very much. I especially like you keeping us up-to-date on FCC actions... Irma Weber, K6KCI

I look forward to it, believe me... Ray Meyers, W6MLZ

FB paper... Bernard Brink, K0YSX

It sure fills the void in Amateur Radio... Earle Snider, K6TST

Your publication is the finest of its kind... Joe Adinolf... WB6ZWS

You do good work... Lee Delworth, WB6-RDW

Keep up the good work. You're doing great... Lee Shaklee, W6BH

"Ed Moory"

**Moory Electronics Company**

"Horse Trader" Ed Moory

Box 506 Phone 946-2820

DeWitt, Ark. 72042

"HOSS TRADER" Ed Moory says he will not be undersold on Cash Deals! Shop Around for your best price and then call or write the "HOSS" before you buy! Inquire today!  
--New in factory cartons: Full Warranty: DRAKE, GALAXY, NATIONAL, HALICRAFTERS, MOSLEY, CDR, COLLINS, Hy-Gain, Tri-Ex, Rohn

"W5BDR"

LATEST LIFETIME SUBSCRIBERS

Erland Belrup, SM7COS, of Hjartshog, Sweden, and Lee Shaklee, W6BH, of Oakland, CA are the latest such supporters of this paper. We recently had as visitor here LS #2 Phil Pector, W9LDX.

**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.**




**↑ understanding**

Send in the name and address (or call) of a friend of yours who is the type of person who would possibly enjoy this publication. We will send them a free sample copy. If your friend should decide to subscribe, this will mean a bigger and better paper for you, and him (or her). Our address is: WORLD RADIO, 2509 Donner Way, Sacramento, CA 95818. Thank You.




**Do a friend a favor.**

# Use your teletype machine to send and receive CW!



The Morsaverter MT-5 reads hand-sent CW off-the-air and translates it into RTTY code including all necessary LTRS, FIGS, CR, and LF signals. Automatically compensates for reasonable irregularities in sender's timing and copies at speeds from 5 to 40 wpm without adjustment. State-of-the-art computer design uses 64 ICs all on one 8 x 10 inch circuit board. Connect the TMA-1 into your loop and send perfect Morse with your RTTY. Sixty-four letter buffer memory allows smooth output even with unsteady typing and provides repeatable message if desired. Better performance than with Morse keyboards or memory keyers. Kits and completed units available, prices from \$185. Write for information.

**PETIT LOGIC SYSTEMS** P.O. Box 51  
Oak Harbor, WA 98277




## goodies

Drake R4 \$225; Heath HX-30 (6M SSB) plus 144 and 220 MHz transmitting converters and 220 MHz KW Amplifier (less P.S.) \$150; HP405CR Digital Voltmeter \$50; Dumont 304A Oscilloscope \$30; Parks Model 25 code wheel \$10; HP415A SWR Indicator \$20; Heath HO-13 Ham Scan \$30; Royal Electric office typewriter \$60. Motorola "G" strips \$10: 6M trs, 6M rec, 2M rec. 2M unichannel transmitter \$10; "A" strips \$15: 6M rec, 6M trs, 2M trs. TTE1000 450 MHz base Xmtr strip \$10; TU596 50 Watt mobile "T" power supply \$50; T41GGV 6M mobile \$20; "BY" cabinet \$5; Secode base station dialers \$15; 6 pole 11 pos. Clare 32FMX 48 V. steppers \$5; Philco CST-2 hybrid phone line termination units \$20; GE pole mount cabinets \$15; GE preProg. 4ET19A1 450 MHz base station Xmtrs and power supplies, oscillators modified to Progress \$35. Will consider trade for stereo reel or 8-track tape deck. W6GDO, (916)-991-2010, Rio Linda, CA, near Sacramento.

## BEST OF LUCK

to

# Worldradio



and

## ITS FRIENDS

K3DPJ  
**m. weinschenker**  
BOX 353 · IRWIN, PA. 15642



### Fallert's Engraving

121 N. "C"  
Hamilton, Ohio - 45013  
WB8GEW

Identify yourself with our custom engraved call pins

|         |            |        |
|---------|------------|--------|
| 1 line  | 1" x 3"    | \$1.00 |
| 2 lines | 1" x 3"    | \$1.00 |
| 3 lines | 1-1/2 x 3" | \$1.25 |

any color


Special Offer to Clubs, write for prices and samples

Trailer Ident Plates  
2" x 8" any color \$3.00

Engraved Desk Plates  
2" x 8" 1 or 2 lines \$4.50  
1" x 7" one line \$3.00  
Gold or Silver stand included with each desk plate

## For the thinking ham

Give a gift that is a compliment—a subscription to **WORLD RADIO**. Ideal for your friend who is intellectually active and interested in the world.



MADISON ELECTRONICS SUPPLY, INC.  
1508 MCKINNEY AVE, HOUSTON, TEXAS 77002  
(713) 2242668

"DON AND BOB" GUARANTEED BUYS. WRITE QUOTE DRAKE; HALLICRAFTERS; TRIEX; ROHN; USED GEAR.

|                      |                     |
|----------------------|---------------------|
| CDE HAM-M 99.00      | SBE 144 2MFM 209.00 |
| TR44 59.95           | 450MHZ 12CH. 339.00 |
| 8 WIRE CABLE 10¢/FT; |                     |
| HYGAIN TH6DX 139.00  | USED GUARANTEED     |
| HYQUAD 109.00        | COLLINS 75A4 345.00 |
| 204BA 129.00         | DRAKE TR4/AC 475.00 |
| 400 ROTOR 179.00     | HALLI. HT32 150.00  |
| MOSLEY CL36 149.00   | CETRON 572B 13.95   |
| CL33 124.00          | MOTOROLA HEP170 .39 |
| MCQ3B 91.00          |                     |

PRICES FOB HOUSTON-WARRANTY GUARANTEED- WRITE!

## Rent this space in Worldradio

# \$6.23

If you're an advertiser who wants to reach a lot of people without spending a lot of money, **WORLD RADIO** is the place to be. This 1/12 page ad is only \$6.23. (See full rate card on page 40.) Send your advertisement and a check to cover. Display your product in front of the most active, involved amateurs.



Teletype fans-Read RTTY Journal, now in 18th year. Exclusively RTTY-Technical-Operation-DX-VHF-etc. Sample 30 cents-\$3.00 a year. RTTY Journal, P.O. Box 837, Royal Oak Michigan 48068

We buy: electron tubes, semiconductors, transistors, integrated circuits, diodes. ASTRAL ELECTRONICS, 150 Miller St. Elizabeth, NJ 07207 (201) 354-2420

TELETYPES-Wanted-Models 28, 32, 33, 35, 37, and 38. Any condition. Cash available. Also have for sale: Teletypes, acoustic couplers, modems, teletype accessories. Reconditioning service available-ten full time employees-very reasonable rates. Write or call: Vardon and Associates, 930 N. Beltline, Suite 140, Irving, Texas 75062. Phone: (214) 252-7502

Need Toroid Inductors? We are suppliers of 44 and 88 mh. toroids at \$2.00 per stack of five, postpaid in the U.S. Typetronics, Box 8873, Fort Lauderdale, FL 33310

Family death forces sale of the following: Drake 2B receiver, Drake 2NT transmitter, Drake 2BQ mult/speaker, 20 crystals for 2NT, Monarch SWR bridge, Hy-Gain "on the air" illuminated sign, Mastercrafters 24 hour clock, CW key - all in excellent condition-all for \$250-you pay postage-no guarantee. Farrell Belliston, WB6QGU, 720 Ojai Circle, Monterey Park, CA 91754 Call (213) 280-0516

Editing a Club Paper? Need some help? Amateur Radio News Service would like to hear from you. For information write to Rose Ellen Bills, Sec'y, 17 Craig Pl. Pensville, NJ 08070

SBE SB-450 twelve channel 440 MHz transceiver plus Larsen 5db mobile antenna \$340; Genave GTX-2 10 channel 146 MHz 30 watt transceiver plus Larsen 146 MHz 3 db gain antenna \$235; Calif. residents add 5% tax. Electronics Enterprises, 6606 Fifth Street, Rio Linda, Calif., 95673 (916) 991-2010

Tired, Aching Feet? Wear comfortable Knapp, Hanover shoes. Write for brochure. Steven Kullmer, Dysart, Iowa 52224

Printed Circuits from your artwork. Also, P.C.s from popular magazine articles which include a full size lay-out. Custom/Quality work at reasonable prices. Write: D. L. McClaren, W8URX, 19721 Maplewood, Cleveland, Ohio 44135

World's largest DX and ARS Service Society in World. International Amateur Radio Society, Inc., an Education-Social Welfare Amateur Radio Service Foundation 100% non-profit true spirit IRS tax exempt and 100% legal under all nation's laws. Over 75 also non-profit affiliates including Doctors, Lawyers, Ministers, Engineers, Scientists, Educators, Aviators, Lawmen, Firemen, Grandparents, Senior Citizens, Stamp and Coin, Mobiles land, air and maritime, Pharmacists, Musicians, DXers, CW, SSB, RTTY, SSTV, FM, Satellite, QEP, Blind and Handicapped, Military Personnel, Club Stations, Journalists, County Hunters, Awards Hunters, Contesters, YL, SWL's Family teams, each U.S. Call District, JA 9VI, ZL, XE, PY, VE, ZS, OD, I, F, G, DM, DL, HA, HB, YU, OE, ON, OZ, OE, SM, PA, LA, OK, OZ and others. Over twelve thousand members in over 245 countries representing over 750 ITU Call Prefixes. 20 nets all over world all bands. More awards, parties, trophies anyone. Help Blind and Handicapped programs. DX'er Good Will and Friendship programs and Book Gifts to DX'ers programs, low dues/free to B-H. Publishes world's only copyrighted Directory of Certificates and Awards. EXTRA News Letter. 1000% true ARS spirit with no, repeat no commercialism. Abides with ITU treaty, U.S. Communications Act FCC Rules and laws all nations. Read IARS's hot off press FCC Rule change petition seeking laws to read our cherished bands of illegal commercial exploitation. For info on the whole, send 24 cents regular or 33 cents Air s.a.s.e. to IARS, Inc., P.O. Box 385, Bonita, Calif. 92002 USA. Directory is \$5. January 1973 issue just out. Support organizations which are not engaged in illegal commercialism de Old Man K6BX in 57th HAM year.

DIGITAL Computer Equipment Catalog; IC's, Computer Units, photo resist, etc., \$.50 (refundable). Postpaid U.S., MNH-Applied Electronics, PO Box 1208, Landover, Maryland 20785

AUTO-CALL keeps up with the latest ham info from Washington, D.C. Subscriptions \$2.50 a year, sample copies 25 cents. Address: AUTO-CALL, 2012 Rockingham, McLean, Virginia 22101

SWAN 250 6m ssb transceiver with 117-XC power supply and Westcom noise blanker \$195. Swan TV-2 2m transverter \$130. SB-300 receiver with three filters \$130. Each in good working condition. WB6NKM, 2534 El Tonas Way, Carmichael, CA 95608

ELIMINATE QRM. 30 HZ FILTER plugs into headphone jack. Transistorized, lossless, variable bandwidth. Drives headphones. Nothing as selective sold! Use with any receiver or transceiver. \$17.95. Send for brochure. Autek Research, Box 1494W, Canoga Park, California 91304

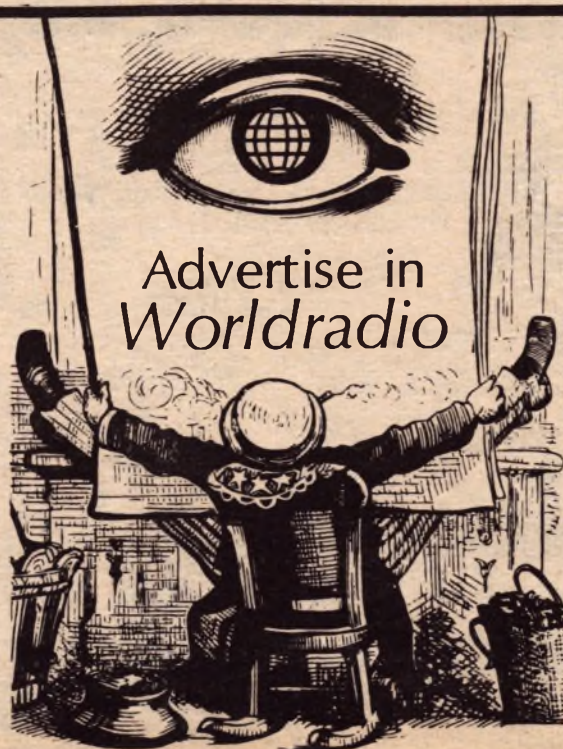
Field Electric Thermometer Tester. Type N-3A. Complete-Manual, all units. Laboratory, research or industrial for checking alloys and metals. \$150.00-Dr. C. L. Meistroff, W4TFA, 7410 Chamberlayne Ave., Richmond, Virginia 23227 1-703-266-3274

INTERESTED in current social problems? So are we! Read OPEN for a different outlook. For a free sample copy write to: Dept. A72, OPEN Box 4731, Columbus, Ohio 43202

TUBES - save \$\$\$\$\$ write TUBES INTERNATIONAL, 442 Central Building, Seattle, Washington 98104 for a \$\$\$\$\$ saving quote on your HAM tube needs.

PURCHASED BANKRUPTCY--NEW EQUIPMENT--DISPLAY MERCHANDISE. Some with no boxes, some with no books. Factory guarantee applies. Drake 2NT, 3 only at \$135. DRAKE SC6, 2 only at \$55. HI GAIN RF 550A Wattmeter/coaxial switch, 3 only \$55. SWAN TV2C transverter 1 only \$245. SWAN VHF 150, 1 only \$210. Hallicrafters SX 122A, 1 only \$325. USED NC 303 excellent working, some scratches, \$275. Heath-built EUW-25 3" scopes Checked OK, 3 only \$95. 300 plus feet transmission line for HIGH POWER radio or TV installation. Approx. 8"OD alum. exterior with approx. 2-1/2" copper tube center conductor. New, unused, crated, 25 ft. lengths. Make offer on all or part. Certified check or M.O. for fastest delivery. Include shipping with order. PACER ENGINEERING, 13911 Lincoln Ave. Dolton, Ill. 60419

Advertise in WORLD RADIO



Advertise in Worldradio



## Advertising rates

CLASSIFIED:-The Mart  
From private individuals - 3 cents a word  
Business firms remit - 5 cents a word  
Non-profit organizations - 2 cents a word

DISPLAY:  
Full page - \$55.51. Half Page - \$30.53.  
Third Page-\$23.67. Quarter Page-\$16.79.  
Sixth Page - \$11.34. Eighth Page - \$9.23.  
Twelfth Page-\$6.23. Sixteenth Page-\$5.07.  
Quotes are for camera ready advertisements. If we make up your ad there is, naturally, a small charge for time and materials. Your ad in WORLD RADIO will be seen by the most serious amateurs. Reach the quality audience.