

The Worldradio News

Vol. III, No. 5

March 1974

50¢

Amateurs test emergency ability

New 2304 MHz Tropo DX record

On 16 February, 1974, at 0325 GMT, Joe Reisert, Jr., W6-FZJ in San Jose, Ca., and Harley Hardon, II, WA6HXW, completed a CW QSO on 2304.000 MHz.

The airline distance between stations is 330 miles and this is believed to be a new worldwide Tropo DX record on this amateur band. W6FZJ is located in the center of the Santa Clara Valley in Northern Ca. about 7 miles from the mountains. WA6HXW is located on the side of the Rolling hills area of Southern California at 450 ft ASL overlooking Los Angeles.

Setups were as follows:

W6FZJ:

RX: All solid-state, 3.5 db N.F., with 2 Fairchild FMT 4005 transistors driving a balanced HCD mixer. All were home-brew.

TX: All home-brew solid-state up converter from 50 MHz delivering 200 milliwatts to a modified Huggins surplus TWT which had a 5 watt output.

Ant: An Andrews 6-foot dish with cavity-backed dipole feed and 1 db feedline loss. The center of the antenna was only 13 feet above ground.

WA6HXW

RX: Similar to W6FZJ with 2.5 db max NF.

TX: All solid state home-brew varactor up converter from 50 MHz delivering 500 milliwatts to a Varian Va 802B Klystron running 1 KW.

Ant: 6 foot dish dipole feed. 1 db line loss.

Background Info:

This project was started one and one-half years ago.

W6FZJ first heard WA6HXW several times this past summer on a 4 foot dish but was unable to transmit back. Considerable experience on this very mountainous path was gathered from three years of

(turn to page 11, please)

Disabled boat rescued

by Ken Loomis Louisville, KY Courier-Journal

WB4ZML was on the job Saturday night in Shively, and a very lucky thing it was, too, especially for W5RDH of Las Cruces, N. M., and two companions.

To most of this friends and neighbors in Shively, WB4ZML is known as Gerald E. Hite, Jr., a manufacturer's representative who lives at 3517 Shaffner Drive.

But to many other acquaintances around the country and world, most of whom he has never seen, Hite is known by his call letters as an amateur radio operator, WB4ZML.

Along with 1,000 other hams, as licensed amateur radio operators are called, Hite is a member of the Midwest Amateur Radio Service, and he takes an occasional turn at manning the group's volunteer emergency service.

Most of the time, Hite said, all it involves is helping ham operators contact other ham operators, although there also are calls occasionally from hams with car mobile units reporting highway breakdown or accidents to be relayed to the authorities.

But at about 6 p. m. Saturday, Hite picked up something a little different - a distress signal from what turned out to be a 28-foot inboard-outboard cruiser in the Gulf of Mexico, 30 miles from Port Arthur, Tex.

The call came from W5RDH, registered as Robert G. Dehart of Las Cruces. Dehart explained to Hite that both engines of the vessel had broken down, and although it was moored at an oil rig and seemed in no immediate danger, the craft was disabled.

Dehart had his ham trans-

mitter aboard but no marine band facilities, so he was unable to call the Coast Guard. And because of an atmospheric condition called ionospheric skip, said Hite, Dehart was unable to contact any other ham operator between the boat and Shively, more than 800 miles to the northeast.

Within minutes, Hite made a long-distance call to the Coast Guard station at Port Arthur, which dispatched a rescue boat to the oil rig.

Then, while the Coast Guard vessel chugged through the Gulf, Hite did his best to maintain radio contact with the disabled boat, where Dehart and two friends waited.

But because the atmospheric conditions continued to change Hite had to enlist the aid of other hams around the nation in an intricate network to hold Dehart's signal. All in all, some 10 hams from places as widely separated as Maine and Los Angeles helped during the next few hours until the Coast Guard arrived.

For Hite, 45, and a ham operator for only two years, it was an exciting and particularly satisfying evening. "After all", he said, "This kind of thing is the whole reason for our existing."

But even Hite didn't know Saturday night just how important his work may have been.

Radioman William Black of the Port Arthur Coast Guard station said yesterday in a telephone interview that no one realized until the disabled vessel was towed to land at midnight that "it was taking on water."

There was no doubt, said Black, that it would have sunk before morning and, at best, Dehart and his two companions "might have sat on that oil rig for days, until someone found them."

Light a lantern for peace and understanding throughout the world by communications with Amateur Radio... theme of the Alaska QCWA group



Les Cobb, W6TEE, participating in the SET

Throughout the United States hundreds of amateur radio groups were involved in the SET. Typical of such exercises was the one in Sacramento, Calif., as reported below.

"Worldradio" would like to hear from other groups who would share their experiences, what they did, what they learned.

SET-Sacramento

by Norm Brooks, K6FO

Can you imagine a bunch of radio hams, in their radio-equipped cars, prowling along an irrigation canal in a "pea-soup" fog? That's what happened Saturday, Jan. 26, 1974 as the Sacramento area radio clubs joined together to participate in the ARRL Simulated Emergency Test (SET).

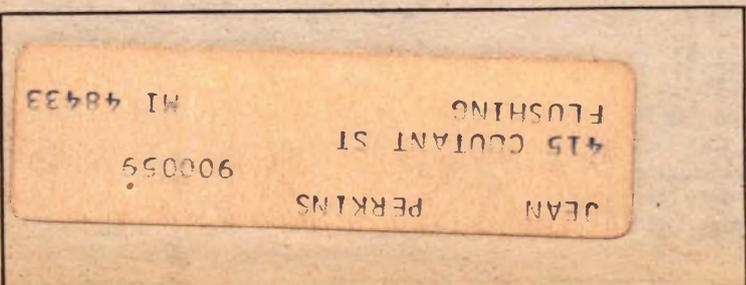
This is the second year that the Sacramento clubs participated as one group. It all started last year under the leadership of Keith Crandall, K6QIF, ARRL Emergency Coordinator for Sacramento County. Keith is the catalyst who was able to get the Red Cross, Army Mars, two RACES groups and all the other amateur radio clubs to work together toward a common goal.

Keith said, "It's not easy to come up with an interesting simulated emergency situation here in the California

central valley. The ideas of an earthquake or a flood have been used so much that I looked around for something new." This year for a command post, he planned to use the parking lot of the atomic power plant being built by the Sacramento Municipal Utility District. There is a large irrigation canal going right by the property, and Keith got a flash of inspiration from this.

At 10 a. m. Keith declared the emergency "on", telling all the net control stations that a ten-year-old boy became separated from his family while they were fishing, and that he was believed wandering near the canal. Those of you who have seen our irrigation systems know that the large canals are really cement-lined rivers, in which people can (and sometimes do) drown. Just to be realistic, a real ten-year-old boy was planted near the canal, just to see how long it would take to find him. The net controls dispatched their mobiles to various points along the canal, and the lad was found in 28 minutes.

The morning of the exercise we had a very thick fog. It was unfortunate, as we planned to show you pictures of the operation with the huge cooling towers of the atomic power plant in the background. The cold, damp fog did not lift at all that morning, thereby providing a real (turn to page 10, please)



Newsfront



around the world

LMRE NATIONAL CONVENTION

DATE: May 23-24-25-26, 1974

PLACE: Guadalajara, Mexico

CONVENTION HEADQUARTERS: Posada Guadalajara Hotel

The following represents the tentative arrangements already made for those wishing to attend the LMRE Convention:

A charter Greyhound Bus will

leave the Long Beach Airport parking lot at approximately 6:00 a. m., Thursday, May 23, and return Sunday evening, May 26. Your cars may be parked at the airport where a 24-hour guard is on duty.

COST: \$6.00 (approx.) each round-trip to Tijuana border and return.

A second bus will take the group from Tijuana to the airport in Ensenada to make connections with a Turbo-Prop Electra departing around noon, Thursday, May 23. Fare on this bus is included in total cost of trip.

TOTAL COST: \$160.00 each

This includes round-trip air fare, Ensenada to Guadalajara and return, bus transportation from the Tijuana border to Ensenada and

return, 3 nights at the Posada Guadalajara Hotel, (required occupancy - 2 to a room), meals aboard the plane, also drinks, all breakfasts, insurance, transportation to and from airport to hotel, and many other items.

NOTE: a 50% deposit is required one month prior to departure date, in other words, by April 23, no later!!

A total of at least 70 persons is required to finalize the charter of flight, so talk it up among your friends and make this a well remembered trip and convention.

REGISTRATION FEE: \$20.00 each The actual registration for the convention may be made at the Posada Guadalajara Hotel upon arrival. The Club de Radio Experi-

mentadores de Occidente A. C. is staging this Convention in cooperation with the LMRE.

If you decide to attend, please send me a self-addressed, stamped envelope in order to receive the Final Convention Bulletin.

"Duke" Ellington - W6OZD
3649 Emerald St. # 108
Torrance, Calif. 90503

TRIP WILL UNITE HAM RADIO FRIENDS

Ham radio friends of 10 years' standing will meet face-to-face for the first time this month, thanks to the Monmouth College (New Jersey) Alumni Association.

The graduate group is sponsoring (turn to page 11, please)



FCC

ACTION IN DOCKET CASE

JACKSONVILLE, FLA. AMATEUR RADIO STATION LICENSE REVOKED IN INITIAL DECISION

Revocation of the license for Amateur radio station KØECG issued to Samuel C. McCluney, III., Jacksonville, Fla., has been proposed in an Initial Decision by Administrative Law Judge Byron E. Harrison. Suspension of McCluney's amateur radio operator license was also proposed (Docket 19562).

By separate orders, released June 29, 1972, the Chief, Safety and Special Radio Services Bureau, ordered McCluney to show cause why his license for station KØECG should not be revoked for violation of Part 97 of the rules by fraudulently obtaining an Amateur Extra Class operator license, and suspended his General Class Amateur Operator license for the balance of its term.

By order, released October 31, 1972, the Commission consolidated the proceedings on issues to determine whether McCluney had violated Part 97 of the rules; whether his actions were contrary to the public interest; whether he had misrepresented or concealed material facts or was lacking in candor; and whether the Commission would be warranted in refusing to grant his application for

an Amateur radio station license if the original application were now before it.

The hearing was held in Jacksonville, Fla., on August 13, 1973. The record was closed on the same day.

In his Initial Decision, Judge Harrison found that McCluney has held his general amateur license, renewable at five-year intervals, since 1960. The Judge said that McCluney's 1970 renewal application was attached to a copy of his license document with the designation "Amateur Extra" hand-printed rather than typed as the remainder of the form, the prior renewal of license application filed August, 1965, was for a General Operator privilege, and FCC files revealed no upgrading of such privileges since that date.

The Judge noted that McCluney's 1970 license renewal application was granted based on the representation that he was entitled to amateur extra class operator privileges.

Judge Harrison explained that the highest class of Amateur operator license is Extra, and this classification entitles the holder to use additional frequencies as well as giving him a prestige standing among other Amateur operators. In order for an Amateur General Class to upgrade his operator privileges to Extra Class, the Judge said, he must take an examination at a Commission field office. He said that there is a definite procedure to go through in applying to take the examination, and the Commission's internal record keeping system involves (turn to page 34, please)



ARRL

The International Amateur Radio Union announces the availability of five- and six-band versions of the popular Worked All Continents award. These new awards are intended to promote the more uniform use of the high-frequency amateur bands for international communication and to recognize outstanding achievement by amateur stations in establishing two-way communication with the six continental areas of the world on each of the amateur bands available for such communication. The basic award will be 5BWAC with an endorsement for 6BWAC. Con-

tacts must be made on or after January 1, 1974 to qualify. All other WAC rules apply. Further details will appear in the IARU News section of April QST.

Despite universal oppositions from licensees and the League, FCC this week adopted the higher filing fees for amateurs and most other services which it proposed in Docket 19658 back in 1972. For amateurs the basic fee rises from nine to ten dollars, effective May 1. The Commission proposals were summarized on page 10, February, 1973, and the opposition comments by the League on page 94, May, 1973 QST. Further information will appear in the forthcoming April QST.

The February 1974 Club Bulletin has been mailed to all active ARRL affiliated clubs. This issue

contains the annual club survey forms which must be completed and returned to ARRL as rapidly as possible. In cases where recent officer elections have been held, the bulletin may reach a former officer. Thus, if your club is affiliated but received no bulletin by March 15, the address of the current club secretary should be sent to Headquarters with a request for a duplicate club bulletin.

Jordan ham radio

The Royal Jordanian Radio Amateurs Society, was established in January 1971, under No. 127, in accordance with the law No. 23 of 1966 for human and benevolent societies.

The Society will license and control Radio Amateurs Operations in Jordan to achieve the following purposes.

1 - To build international friendship for Jordan through personal contact on a people-to-people basis with radio amateurs through the world.

2 - To encourage an interest in the techniques and operation of radio so as to provide a body of technicians, engineers, and experienced operators who will be an asset to Jordan.

3 - To help provide a body of people experienced in current techniques of radio communications who will be able to provide public service, particularly in time of any national emergency.



Amateur Radio - Public Service

MIDCARS

by William G. Blankenship, Jr.
K4DLA

The Midwest Amateur Radio Service (MIDCARS) was founded on January 23, 1968 by two amateurs, Marvin Cook, W9WWE, and Nick Geer, K9DDT (now W0ORW). The service operates as a non-profit corporation by virtue of a charter issued by the State of Illinois in 1969. The daytime operation of the service is on or near 7258 kHz and in the evening in or near 3903 kHz.

The primary aim of MIDCARS is public service. Through a skilled and disciplined organization, our purpose is to provide efficient, dependable emergency communications on an all day, every day, basis. By providing monitored frequencies, on which mobiles are given priority, accidents or other emergency situations may be quickly reported and receive prompt attention. The frequencies on which MIDCARS operates also places where stations may meet and move off or receive assistance or information.

No traffic of a non-emergency nature shall be handled on frequency except at the discretion of the Service Control Station, a brief message may be passed when it is impractical for the stations involved to move off frequency.

MIDCARS lays no claim to any particular frequency, however, as determined by the board of directors, the service control station will attempt to maintain service operation as close to 7258 kHz and/or 3903 kHz or other designated frequency, as is practical.

It is not required that a station be a member of MIDCARS to participate, although it is hoped that our goals will be shared to the extent that a voting membership is desired.

Stations responding to a call by service control should give only their call sign, once only.

Stations responding to a call by service control should give only their call sign, once only and wait to be acknowledged. The words "check-in", "break", and "recheck" should not be used.

If you wish to report an emergency the word "emergency", followed by your call sign, will receive instant priority. If mobile, so state on the initial call in. When service control has completed a list

of check-ins on a given standby, each station will be acknowledged individually, in turn, except that mobiles will be given acknowledgment first.

When acknowledged, the following procedure should be used: Give the call sign of the service control station, followed by your call, your name and location. If you are QRU, state that you have one-way or two-way facilities into your area.

If you are looking for a certain station, make a brief call for it on your first transmission. You may assume service control's permission to do so. If you get no reply, say "please list" or "do not list" as you wish. If you wish to contact a station you know to be on frequency, say "contact" and wait to be acknowledged. Use the word contact only for this purpose.

Important: If you list traffic, always check out when leaving the frequency. When moving off to another frequency to establish contact, help MIDCARS maintain its reputation for courtesy by always inquiring if the frequency is in use.

MEDICAL TRAFFIC:

HC1AD, a volunteer nurse at the University of Quito, Ecuador had a medical emergency on 40 meters. With the help of Dr. John Schindler, W4RFA, and the YL System we were able to send to Dr. Emilio Riposta, HC1DE at the Military Hospital in Quito three units of whole blood, type AB-Rh Negative, which was urgently needed. The patient had been given eight transfusions and no blood of this type was available in Quito at the time.

de Walter Thain WB4KKB

Guardian Angel

By Eunice G. Fernon, K8ONA

John Kiener (W8AVH) of Cleveland Heights, Ohio, maintains ham radio schedules into Managua, Nicaragua, every Monday, Wednesday and Friday at 9:30 a.m. on 14.345 kHz.

Kiener first learned about the Nicaraguans' needs in 1966, when members of the First Baptist Church, Cleveland Heights, asked him to make radio contact with their first medical missionaries. That movement has just concluded its eighth mission.

Kiener worked closely with church members Dr. Gustavo A. Parajon (YN1GPD), and his wife, Joan (YN1JMP) who were then medical students at Western Reserve University.

When the Parajons returned to their native Nicaragua four years ago, Kiener maintained contacts which enabled him to relay the (turn to page 34, please.)



DADE EMERGENCY NET — 2M-AREC participated in DC exercise Operation Central with CAP, REACT, Dade Metro Police and Fire depts. plus 7 local hospitals. DEN provided comms from disaster area to hospitals
(Photo by W4YP)

Operation Central

The Dade Co. AREC-two meter FM Date Emergency Net, in cooperation with the Dade American Red Cross, recently participated in the Civil Defense "Operation Central."

Also participating were seven Dade hospitals, Metro Fire and Police departments, CAP and REACT operators, plus the U.S. Air Force.

The exercise started at 9:20 a.m. when a big explosion blew up a building in the northwest section of Miami International Airport. Some 72 CAP members served as victims. A large number of Red Cross Disaster Action Team members moved in to assist the fire department and others with removing the victims from the building.

REACT mobiles, 15 in all, served as ambulances to the seven hospitals, while several choppers flew the most critical patients directly to the hospital pads. Excitement was high even though it was only an exercise.

The AREC-DEN assignment was to communicate to two walkie-talkies, WA4CKI and WA2CYU, within the disaster area, and to Joe Poerschke (WB4HIS) mobile just outside the area. Joe, in turn, relayed traffic back to Red Cross HQ station K4IWT, manned by WA4FGL, and to the seven hospitals. Most of the traffic consisted of the number of victims being transported from the site to the various hospitals and the approximate ETA. This info enabled the hospitals to expedite proper care for each victim upon arrival. Other traffic to Red Cross requested emergency supplies.

Hospital mobiles were Kim Campbell (WE4LZQ), WB4BTB, Jay Hecker (WB4HDZ), Alan Page (WA4ZEV), Raymond McAvoy

(W4GOG), Edward Alderman (WA4PEN and Robert Thomas WB4ZDC).

Others participating were Elmo Ferguson (W4FWA), George Nehley (WB4ONR), Robert Crumley (K4DXR), Theodore Holdahl (K4ANW), WA4ZDZ, Theodore Wayne (WB4CBP-M) and Andy Clark (W4IYT-M).

After the exercise, officials expressed their surprise at the efficiency of the Amateur Radio communications. Congratulations to all hands.

(from: "Florida Skip")

Queen City Emergency Net and the Northern Kentucky Amateur Radio Club provided communications and transportation support for the annual Muscular Dystrophy Association fund drive. Radio amateurs collected contributions turned in to community and neighborhood chairwomen and transported them to a local bank for deposit. Amateur communications were used to expedite the operation and for security.

There is no hobby richer in rewards, broader in scope, and more captivating in the love and enthusiasm that hams have for it, for one another, and its future, than Amateur Radio.

de Sister Charlotte, K6VFE

Identification

The Worldradio News is published monthly by Worldradio Associates, 2509 Donner Way, Sacramento, CA 95818. Subscriptions \$5 yearly. March issue. Controlled circulation postage paid at Sacramento, Calif.

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74H40	Dual 4-Input Pos. NAND Gate Buffer	.30
7450	Exp. Dual 2-Wide 2-Input &/or Invert Gate	.26
74H50	Exp. Dual 2-Wide 2-Input &/or Invert Gate	.30
7453	Exp. 4-Wide 2 Input &/or Invert Gate	.26
74H53	Exp. 4-Wide 2-Input &/or Invert Gate	.30
7460	Dual 4-Input Expander	.26
7474	Dual D-Type Edge Triggered Flip-Flop	.40
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ICL 8038CC		4.50

Texas Instruments TTL IC's

74S40	Dual 4-Input Pos. NAND Buffer	.75
7480	Gated Fuller Adder	.60
7493	4 Bit Binary Counter	.65
74155	Dual 2-Line 4-Line Decoder Demultiplexer	1.00

National Linear IC's

LM309H#	\$.75	LM741CN*	.50
LM309K	2.00	LM1458H*	.75
LM710CN***	.30		

Motorola Linear IC's

MC1435L	Dual Op. AMP	.75
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MLM309K	Voltage Regulator 1 Amp 5 Volts	3.00

Motorola Linear IC's

MC1438R**	Power Booster Amp.	\$5.00
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MC1514L***	Dual MC1710L Diff. Comp	1.00
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Type No.	Amps	Voltage
MC7805CP	1	5
MC7806CP	1	6
MC7812CP	1	12
MC7815CP	1	15
MC7818CP	1	18
MC7824CP	1	24

Motorola Voltage Regulators (Positive) \$3.00 each

MC7808CK	1	8
MC7812CK	1	12
MC7815CK	1	15
MC7818	1	18

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MLM309K	1	5
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Motorola TTL:

MFC6040	Electronic Attenuator	\$.75
MFC6050	Dual Toggle Flip-Flop	.75

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MC4008P/MC74408P***	8 Bit Parity Tree	2.00
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Motorola Triac's Case Type TO-3

All Devices Rated at 25 Amps

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MAC21-1	50V	\$.50
MAC21-2	100V	.75
MAC21-3	150V	1.00
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MOTOROLA BRIDGES
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Serving Others Satisfies

Glen J. R. Eschtruth, MD, has been working in the jungles of the Congo for more than 10 years. During much of that time, he has been the only medical doctor in an area the size of Michigan and Indiana. He runs a 250-bed hospital, a leprosarium and a tuberculosis sanitarium in Kapanga, and has established a network of 23 clinics to meet some of the medical needs in more remote parts of the territory. The dedicated surgeon performs as many as 500 operations a year and sees thousands of patients in his hospital and clinics.

Constantly threatened by tribal wars and political unrest, the physician and his wife frequently are cut off from the outside world. Yet Dr. Eschtruth is able to keep up with the latest medical developments and he has access to some of the best medical consultation in the world. In an emergency, he can order special medication or supplies and have them on the way to Africa in a matter of hours.

Dr. Eschtruth's lifeline is short-wave radio. Like many physicians and missionaries in far-flung areas of the world, Dr. Eschtruth relies on his radio for emergency aid, education, social companionship and relaxation.

A key link in this worldwide medical radio network is the Medical Amateur Radio Council, Ltd. (MARCO), founded in 1966 to provide an organized means for the exchange of scientific and medical-electronic information between licensed amateur radio operators who are members of the medical and dental professions.

The organization has more than 450 active members—approximately 325 of whom are MD's in 46 states and 35 countries on every continent. In addition to MDs, the membership includes about 70 dentists, 30 osteopaths, and 10 veterinarians. Affiliate members include nurses, pharmacists, x-ray technicians, physical therapists, a number of scientists and researchers, and a few medical and dental students.

MARCO members have played major rolls in earthquakes, rescues on the high seas, and communications emergencies, but their greatest service is providing diagnostic help and material aid to medical personnel like Dr. Eschtruth in remote parts of the globe.

Most MARCO hams enjoy the informal exchanges of information and the roundtable discussions. But perhaps their deepest satisfaction comes

from aiding a colleague in an isolated station thousands of miles away.

Typical is an orthopedic problem reported not long ago by Dr. Eschtruth. From his radio room in the hospital at Kapanga, Dr. Eschtruth called his regular U.S. contact, Earl E. Weston, MD, of Detroit, and asked for advice in the treatment of a boy's compound fractured leg-caused when he was attacked by a lion.

Dr. Weston, MARCO president, put in a call to a specialist in orthopedics, who in turn radioed Dr. Eschtruth the information he needed to treat the patient. Hardly a day goes by when a MARCO member is not called on to provide consultation for some physician thousands of miles away.

The system has become so sophisticated that Dr. Eschtruth is now able to send electrocardiograms via radio back to the U.S. for interpretation. The method is similar to that used to transmit EKGs over telephone lines in this country, with minor adaptations for radio use, according to Dr. Weston, who specializes in industrial medicine and is medical director for Vickers Division of Sperry Rand. By frequency-modulating a 1400-cycle tone and transmitting it over the radio, Dr. Eschtruth is able to send the EKG signals across 7,000 miles to an machine hooked up to an electrocardiograph machine in Dr. Weston's home in suburban Detroit. The EKG graphs, are then read by a cardiologist and a report transmitted back to Dr. Eschtruth in Africa.

Cardiologists are among the many specialists in MARCO who provide consultation services when needed. "We have just about every specialty represented in MARCO," reported radiologist William L. Sprague, MD, of Montebello, Calif., the group's secretary. "We can call on any of them almost at a moment's notice when someone needs help."

General practitioners make up the largest single specialty group in the organization (about 100), but at least 10 other specialties are represented by more than a dozen members each. Dr. Sprague, who has made a hobby of compiling a list of physicians who are radio hams, estimates that there are at least 7,000 physicians in the world who are amateur radio buffs. His current list of about 2,300 names and license numbers includes 1,600 MDs in the U.S. and 700 in foreign countries.

Perhaps the dedication of amateur radio operators is best shown by their performances during natural disasters and emergencies. Immediately following the Peruvian earthquake on May 31, 1970, MARCO members spent hours on their radios, coordinating the movement of medical personnel to the stricken area, and seeing that thousands of dollars of much-needed medical equipment and supplies were sent to Peru. Jose E. Hauser, a MARCO affiliate member in Peru who also is executive secretary of the Peruvian Radio Club, kept a day-and-night vigil on his ham radio station during the disaster, letting the outside world know of the needs of his countrymen.

"We sometimes learn about a disaster even before the general public because many times the only means of communications from an area is amateur radio," says J. Stanley Carp, MD, a Saugus, Mass., general practitioner and immediate past-president of MARCO. "We handle medical and emergency traffic as long as we're needed."

Sometimes ham radio operators get involved accidentally. One summer night last year, Dr. Carp was preparing to tune into one of MARCO's regularly scheduled "meetings" when he heard a call for help from four men on a raft in the South Pacific. The four seamen had set sail from Ecuador more than two months earlier intending to travel with the ocean currents to Australia. They were out of water and gasoline for their generator (which provided the power source for their short-wave radio), and then needed medical supplies.

Using another ham operator in Guadalajara, Mexico, as a relay, Dr. Carp contacted the Coast Guard in Hawaii and aid was sent to the endangered raft. Sometime later, the four men radioed Dr. Carp that they had reached Australia.

Some of MARCO's members have been adventurers themselves. Weston C. Cook, MD, a South Carolina orthopedist who now lives in Alaska, took time off four years ago to join the Plaisted Polar Expedition to the North Pole, serving as both a physician and a radio operator.

At age 53, Dr. Cook was the oldest and "southernmost" member of the group of 10 explorers that reached the North Pole by traveling over the ice of the Arctic Ocean for the first time since Admiral Perry in 1909. From his radio



MARCO MDS include (left to right) Dr. Carp, Dr. Sprague, Dr. Shriner; and (top) Dr. Weston receiving EKG from Dr. Eschtruth (opposite page) in the Congo.

the time when she diagnosed a lacerated liver for a Peace Corps physician in Georgetown, Guiana.

The call for help came from Otto A. Moellmer, MD, who was treating a 20-year-old man who had been injured in a vehicle accident and had seemingly been doing well until he developed chills and fever, and a spiking temperature. A peritoneal tap suggested by Dr. Haycock, who is assistant professor of surgery at New Jersey College of Medicine and Dentistry and director of emergency services at Martland Hospital, confirmed the diagnosis.

The patient was flown out of the jungle to a large city hospital and operated on the next day. "You get a lot of personal satisfaction when you can help a colleague so far away," Dr. Haycock observed.

On another occasion, George Beckerman, MD, while in contact with a station in Lina, Peru, learned that dilanton ampoules were needed for the treatment of a child suffering from post-infection encephalitis. Dr. Beckerman was able to obtain the drug and arrange for its delivery through the Federal Aviation Administration and Braniff International Airlines to the physician in charge of the case in Peru.

medical radio hams

station on top of the world, Dr. Cook spent many free moments contacting MARCO members and radio hams around the globe.

Sometimes MARCO members help relay messages between members of families—a practice permitted only in certain countries, according to Dr. Weston. "Third-party traffic," as it is called, is not allowed by most European and African nations. They require that all direct communication be between licensed radio operators, Dr. Weston said.

Earlier this year, however, Dr. Carp performed the grim mission of helping parents of exchange students killed in a plane crash in Peru reach authorities in the Latin American country. Most Latin American countries permit third-party communications.

Not all of the radio contacts are of such a serious nature, however. One medical missionary in a remote tropical area asked for something to keep his clothes from mildewing. Another wanted to know how to sterilize instruments 17,000 feet up in the Andes.

But the majority of requests for supplies and equipment stem from medical needs.

Spearheading the effort to provide aid to physicians in the mission field is Walter Shriner, MD, a Springfield, Ill., gastroenterologist, who heads MARCO's missionary affairs committee. Besides supplying medical missionaries with personal items, books, and other materials, Dr. Shriner's committee has helped coordinate the sending of surgical instruments and pharmaceuticals to developing countries in Asia, Africa, and South America. Most of the items are obtained from U.S. hospitals. In one instance, a physician leaving practice donated an x-ray machine for a mission station in Honduras.

"These people are fantastically dedicated," Dr. Shriner says of the missionaries who are also MARCO members. "We have a number of people who are totally isolated except for their radios. Many are in the jungles; some in the deserts. Our job is to try to help them personally. They know they can call on us when they need help."

Christine E. Haycock, MD, the first woman physician in MARCO and one of a half-dozen distaff members of the organization, recalled

Amateur radio is also a good form of relaxation. "It's a lot more interesting than golf," one physician ham remarked. It also provides the physician with a unique source of medical education.

"It's like a continuing education program all the time," said Dr. Haycock. "We discuss and exchange information on the latest developments in medicine. It gives us a chance to use our medical knowledge and exchange experiences in a nice, relaxing way. "MARCO also conducts a special scientific session during its annual meeting, held in conjunction with the American Medical Association's Annual Convention.

MARCO members "meet" on designated frequencies (called "nets") at regular times each week—usually in the evening or on weekends. There are a number of nets in the U.S. and several have been established to cover other regions of the world.

Felix De Pinies, MD, a New York City otolaryngologist, coordinates a Spanish net for physicians in Mexico, and South and Central America, and their Spanish-speaking colleagues in the U.S. A European net went into operation recently, making it possible for MARCO members in Europe and Far Eastern countries to keep in contact with one another.

Just as often, physicians contact each other directly via a communications network that rivals ordinary telephone service in this country.

"We have members all over the world," said Dr. Carp. "It's kind of exciting, exchanging information around the world, but the real value of MARCO is the service we can provide for anyone in the medical field who needs assistance. And it's all done on a volunteer basis. We are here to serve medical people, no matter where they are."

Amateur radio operators, whether they are physicians or construction workers, are quick to come to the aid of a fellow ham—regardless of the situation. That can sometimes lead to problems, especially when a ham tunes into a conversation between two physicians.

"Being such a dramatic means of help and being so well publicized, it is not surprising that... problems are bound to occur in medical emergencies," observed MARCO member W. Foster Montgomery, MD. "By their nature the emer-

gencies create a certain degree of hysteria. The physician is accustomed to dealing with this, but not the average layman."

Added Dr. Shriner: "Sometimes it's hard to convince them the doctors can handle it."

While the emergencies provide the drama, it's the friendships and companionship of hams around the world that perhaps provides the main attraction for amateur radio operators. And there's no question as to their enthusiasm for the hobby.

Recently, Dr. Weston underwent surgery for total replacement of his left hip at Massachusetts General Hospital and hardly missed a word during the three weeks he spent in the hospital.

Prior to the surgery, Dr. Weston, with the aid of Dr. Carp, rigged up two antennas on the hospital roof and ran a feeder line down six stories to Dr. Weston's room. A mobile transceiver provided the physician with a means of communication with MARCO members, including Dr. Eschtruth in Africa.

"I shall never forget my fifth post-operative day," Dr. Weston recalled. "I had bled a bit and was receiving my fourth unit of blood in the left arm. In my right hand was my microphone and I was able to talk to my MARCO friends."

But whether it's a friendly exchange of information, a disaster, or a medical emergency, MARCO members around the world stand ready to serve, continually attempting to live up to the purposes set by the group's organizers more than five years ago. MARCO, the organizers said, provides "a great opportunity for public service of benefit to medicine, amateur radio, and humanity."

(From "American Medical News")

Licensed amateurs in the medical or paramedical fields wishing to participate in MARCO activities should contact: Dr. Stanley Carp, K1EEG, 44 Main St., Saugus, MA 01906

TVI TVI TVI

by Dr. Theodore Cohen, W4UMF

We've got the ball rolling!

A recent article in the "Washington Star-News" indicated, in no uncertain terms, that responsibility for the reduction in RF interference to radios, television receivers, hi-fi's, etc., lies predominantly with the set manufacturers.

Most important, however, the EIA has asked the FCC to send representatives to a service committee meeting to recommend possible solutions to interference problems.

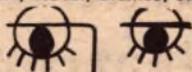
But our job is not yet finished. We still need your support, and the support of your friends and neighbors. Letters to your Congressman, will be of considerable help. Further, letters requesting action on the interference problem should be sent to: The Honorable Torbert H. MacDonald, Communications and Power Subcommittee, Room 2125, Rayburn Building, Washington, D. C. 20515 -and to- Chairman, Federal Communications Commission, 1919 "M" Street N. W., Washington, D. C. 20554.

It would be a good idea to send the ARRL copies of any letters that you write.

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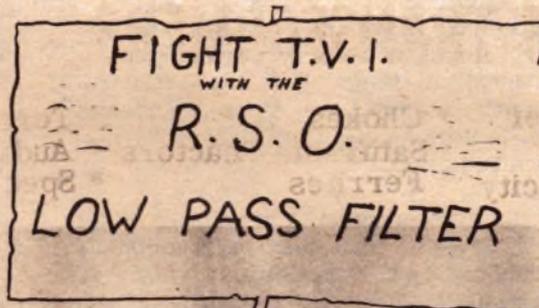
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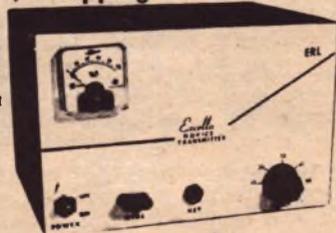
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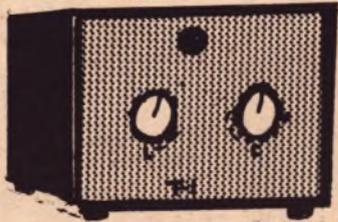
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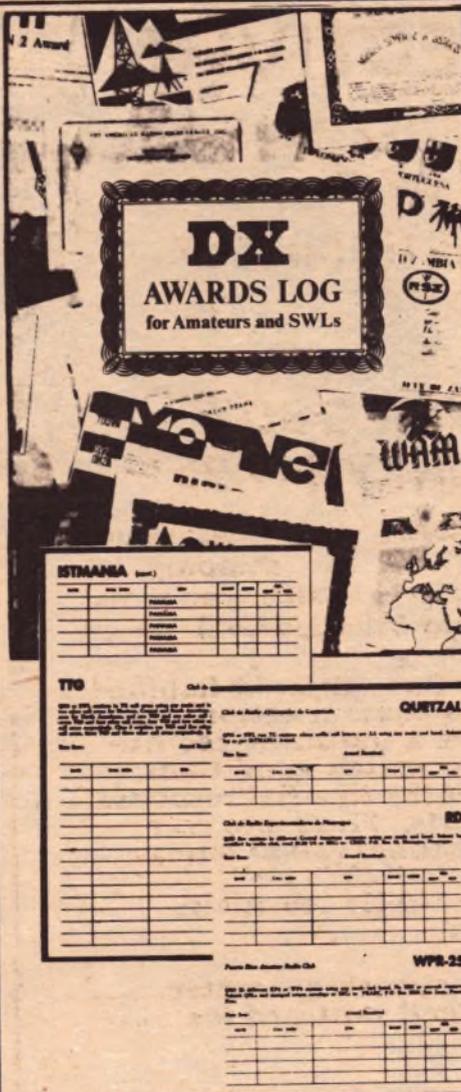
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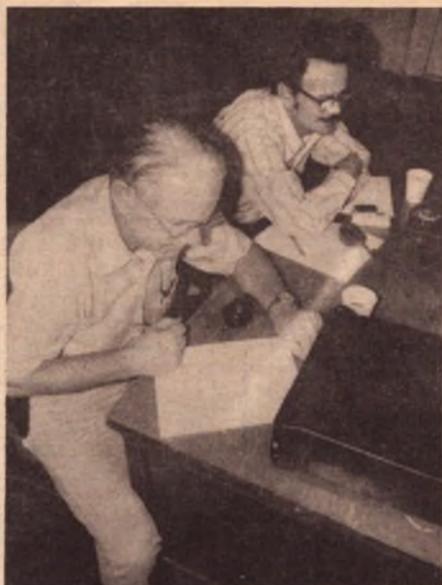
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SET

Simulated Emergency Test



EC Keith Crandall, K6QIF, on a foggy morning, outlines the situation for the participants



Kay Galbreath, WB6POQ, and Dennis Nunez, WA6QWW, on VHF at Red Cross Headquarters.



After the exercise is completed, a critique is held.



Lew Bernard, WA6ESA, (r.) shows the portable repeater that was used during the exercise.



SEC Ted Rast, W6SMU, explains the exercise to Norm Brooks, K6FO



Armond Noble, WB6AUH, checks in on 2 meters



Between calls, he takes it easy in the camper. Note the "license is posted".



Lou Potter, K6VT, on HF at Red Cross headquarters

Portable antenna system at W6TEE/M



(continued from page one)

istic setting for the simulated emergency.

After the exercise, most of the participants gathered at the fire house at Wilton, Calif., for a critique. The Red Cross furnished welcome hot coffee and doughnuts. Keith led the discussion, which pretty much covered the subject "how can we do it better next time?" Many good ideas came forth.

Among those who participated were Sacramento County RACES, led by Clint Savage, K6PWA, and Floyd Luney, WA6HGH; Yolo County RACES with Gary Matteson, WA-TQJ; The Sacramento Army Depot Radio Club (Army MARS) with Jim Rominger,

WA6NWE, acting as NCS on their 2-meter repeater; The Radio Amateur Mobile Society (RAMS) with Les Cobb, W6TEE, as NCS on their repeater WR6ABZ operated by W6GDD Associates; The Mount Vaca Radio Club with Dave Conkling, WA6IQK, as NCS on the WA6UGY repeater; The Berryessa Repeater Club and its repeater; The North Hills Radio Club, K6IS, with Lou Potter, K6VY, operating SSE; The Sacramento Radio Club with Art Hartwell, WA6YZD, on SSE; plus a portable 2-meter repeater set up on 34-94 by Lew Bernard, WA6ESA. Danny Nunn, WA6IAB, was communication chairman at Red Cross Headquarters.

Altogether about 100 amateurs participated in the County. They enlisted the aid of others at more distant locations to help deliver SET messages from the Sacramento Chapter of the Red Cross to other distant chapters.

Publicity for the exercise was covered by the local newspapers, and was highlighted by KCRA-TV, Channel 3, Sacramento. They filmed the activity, and gave us about five minutes during the evening news. We must even give them credit for making it clear to the public that we were radio amateurs, or "hams", and not that other group.

Why Not Team It Up?

by Jim Weaver, WA8COA-WA9FEW
Ohio Section Emergency Coordinator

"I don't want to play any of those silly emergency test games. They're for kids. When there is a disaster, though, I'll be on hand to take care of the serious work," a ham told me when I was Emergency Coordinator for Southwest Ohio Amateur Radio Emergency Corps. And . . . I do mean he "told me!"

His statement, and the basic attitude it represents bothers me. It bothers me because it is in total opposition to one of the prime 'laws' of human nature that controls our ability to get a job (or for that matter, any task) done. Done efficiently, effectively, and to its most favorable conclusion.

Now please don't get 'sick' over hearing once again such a simplistic 'truism,' but that law boils down to "practice makes perfect." (Oh boy!!! Ring-a-ding-ding!!!)

Without getting too hung up over the whole thing, let me merely remind you that athletic teams, orchestras, bands, fire departments and scores of other groups that rely on teamwork to get their jobs done, practice and repractice the anticipated or planned activities to develop their skills to a high degree. Dentists, pharmacists, surgeons, carpenters, plumbers . . . countless other professional and skilled individuals similarly develop their arts to near perfection through planning and practice . . . practice.

Why, each one of us had to practice over and over to learn how to talk . . . or to walk . . . or to hold a spoon. Except for such reflex events as breathing (which we have very limited control over) and our heartbeat (which we have virtually no direct control over) we had to develop our skills and abilities to do them by practice and more practice . . . to teach our muscles to work together as a team.

Are we radio amateurs so uniquely different from our fellow humans, then, that we do not need to practice our emergency communications "trade?" Can we afford the luxury of restricting our emergency planning to a promise to crawl and tell the world how lucky it is that we decided to drop in on it and my, what a fine disaster it is having?

Or, rather, are we just as human as the other fellow whose "hobby" is stamp collecting . . . or photography . . . or golf . . . or By chance, do we need to develop our skills, to become familiar with operating practices useful in emergencies and to become familiar with the way some other fellow on "our team" will react, just as much as a Wilt Chamberlain or Bill Berge or Leonard Fernstein need to know what to do and what to expect from their "teams".

"But, drills and emergency tests are so boring!" you may say.

Well, OM and YL, "tain't necessarily so" as George Gershwin's Porgy and Bess point out. Drills and emergency tests can be and most frequently should be, in my opinion, interesting. Fun, even.

But, to obtain meaningful practice of team operation, there are two prerequisites that must be met before the practice can be held.

One prerequisite is that there must be a team, and the other is that team members must actively participate in its activities.

There are many brands of teams in operation throughout the world. The only one which is open to all radio hams in the U. S. (and Canada) is the Amateur Radio Emergency Corps. Participation in AREC is possible, even solicited, whether an amateur belongs to one or more ham organizations (clubs, nets, etc.) or to no organization, and it is free - no dues!!



Jim Weaver WA8COA, Ohio SEC

Photo by Vern Wagner, WA8IJU

This "you do not need to belong to any organization to be a member of the AREC team" even extends to the American Radio Relay League. Even though ARRL sponsors AREC it is not necessary to belong to it to participate in AREC. (Let's face it, as an ARRL life member I hope that more and more amateurs join and support ARRL, but that is another story.)

Floods, tornados, ice storms, explosions, major fires. All of these have struck this area. When many of them have struck, police, fire and relief agencies needed additional 'channels' of communications . . . or needed communications period. Why not join the AREC team and help provide it for them?

(From "Ham Shack Gossip" Toledo, Ohio.)

Tropo DX

(continued from page 1)

432 tropo schedules. Due to the imminent move of W6-FZJ to the East Coast the schedules were started at a poor time of year for tropo, but they had a firm determination to succeed.

Since there was such a large difference in power between stations a strong peak was necessary. WA6HXW peaked over 15 db out of the noise in a 500 Hz RF BW at W6FZJ's while W6FZJ peaked 4-6 db at WA6HXW. No aircraft enhancement or doppler was evident during the QSO although there were peaks at other times by this mode. At the end of the last set of "R's" both stations switched to SSB. WA6HXW was easily heard and recorded but W6FZJ had faded into the noise. There was no flutter during the QSO which took place on a single tropo peak.

There were several important aspects to this 2304 MHz record contact:

1. The QSO was established between fixed QTH's rather than mountain tops.
2. Both stations used their own personal home-brew gear with no borrowed gear.
3. All gear was solid-state with the exception of the final output stage.
4. Extreme frequency stability was needed and maintained by the use of transistorized oscillators and 4 MHz calibrators with ± 100 Hz accur. @2304.
5. No liaison of any type was used during the QSO or schedules.
6. The QSO was completed on a single tropo peak.
7. Transmissions were kept to 15 seconds and meteor scatter type of operation was used except that actual RST's were exchanged.
8. Schedules were carefully planned to enhance possibilities of tropo.

Summary:

Tropo is indeed possible on 2304 MHz. Peaks are 10 minutes apart at sunrise and 20 minutes at sunset with short, weaker peaks at sunrise and stronger and longer ones at sunset.

Aircraft scatter seems to be far shorter in duration than at 432 but this is probably due to the decreased beamwidths of the antennae used. One transmission exhibited a 1.0 kHz doppler but duration seemed to be only 10 seconds.

A comparison with 432 would suggest that if the noise figure, transmitter power and antenna aperture (not to be confused with gain) were similar on 2304, an equal or possible better success could be obtained on 2304. Surely we have only scratched the surface but it is hoped that this report will generate more interest in the higher frequency amateur bands.

Joe Reisert, W6FZJ

Product Review by WB6AUH

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This piece of equipment presents a new feel to radio operating. It is a boom mike. There are also models with an attached earphone. While the manufacturer talks about the safety factor and efficiency in using the unit while mobile, it is indeed a welcome addition to the fixed station.

If you are a contest buff and are using a hand held push-to-talk mike, you can get a callous on the thumb. Also, the point on the elbow where it meets the table can get sore, as well as a stiff arm being your reward. Even a stand mike with VOX finds the operator hunched over the mike.

With the boom mike there is a feeling of freedom while operating. One can lean back in the chair, in comfort. The fatigue is far lessened. It is indeed a nice feeling not to be tied to the mike. For those that don't like VOX, the foot switch can be used.

Reports from contacts, while comparing mikes, said the audio was better from the Mobilier unit than the mike that came with the rig being used.

For more information, write to the manufacturer: Mobiliers, Box 715, Coshocton, OH 43812. The firm is headed by Forest Hothem, W8OVJ.

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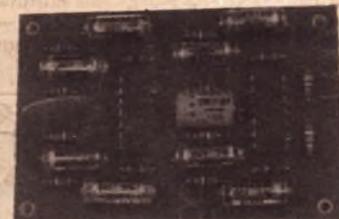
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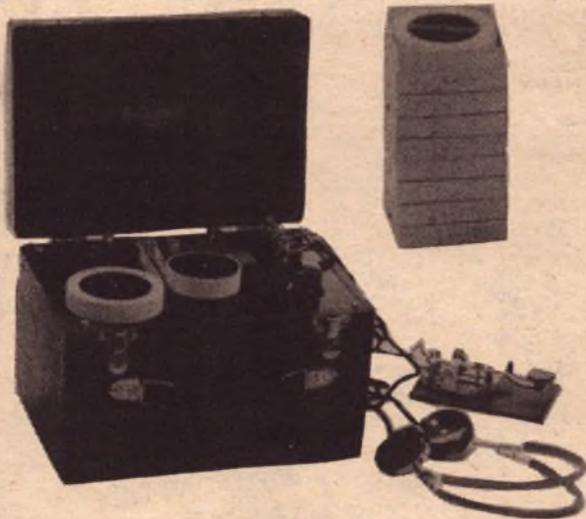
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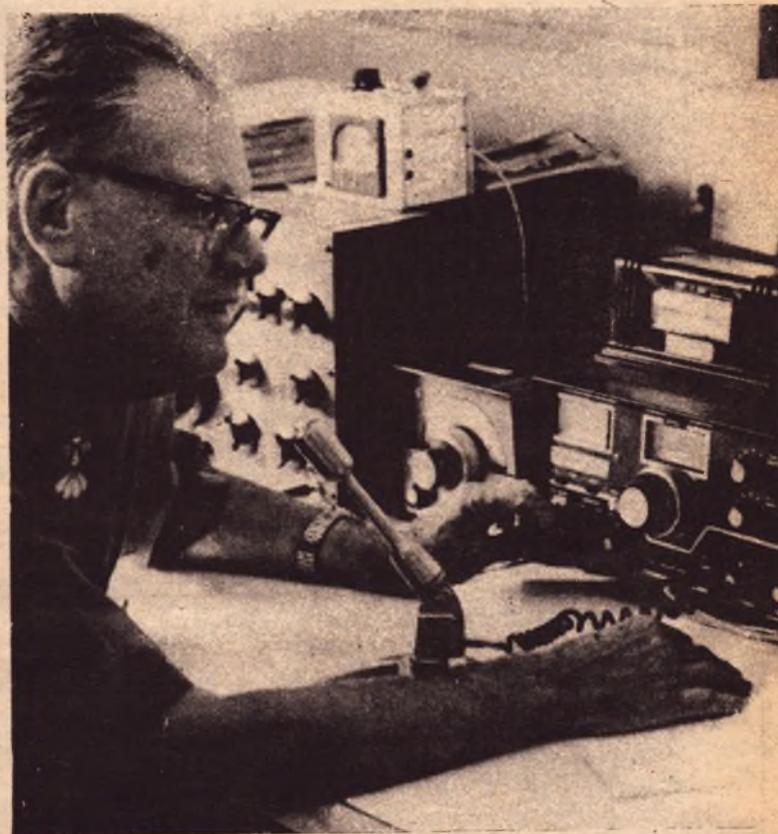
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Ham builds friendship on Pitcairn Island



Charles Bailey, Sun City 'ham' operator, tunes in to friend Tom Christian on far off Pitcairn Island.

by Susan Winkle

Needles on dials bob left to right, knobs are turned, the volume increases, and then the sound of a voice with an unusual accent, like an English-born southerner.

"There's Tom now," says Charles Bailey of 14453 Boswell Blvd., as he moves closer to the microphone.

Bailey is an avid amateur radio operator (or "ham" as he calls himself) who speaks regularly to Tom Christian, (VR6TC), descendant of Fletcher Christian, on Pitcairn Island.

Pitcairn islanders have an accent all their own. Seclusion of the island invites a special dialect influenced by a combination of the surrounding New Zealand, Panama, and Australia and the English of their ancestors who inhabited the island in 1790.

(Turn to page 14, Please)

Continued from page 13

...friendship on Pitcairn Island

The first known inhabitants were Britains who exiled themselves to Pitcairn after mutiny on the frigate *Bounty*; some of their descendants still live there.

Though islanders are proud of their family history, Bailey says, many are far from content with their secluded, almost primitive lives.

Pitcairn Island, in the South Pacific, has an area of only two square miles and 67 inhabitants—no office buildings, no hotels, no telephones or television—a tropical island with a bloody history.

In December 1787, HMS *Bounty*, commanded by Lt. William Bligh, set sail from Spithead to collect botanical specimens in the Pacific. On the return journey Fletcher Christian led his mates in mutiny against Bligh, accused of tyranny and harsh treatment, and against 18 loyal to the commanding officer.

Bligh and his followers were set adrift in an open boat, which surprisingly took them 3,600 miles to the safety of Timor.

The mutineers then sailed the *Bounty* to Tahiti, and in 1790 some sailed to Pitcairn Island. They were not heard of again until 18 years later when an American whaler stopped at Pitcairn and met English-speaking youths.

Bailey, a member of the Sun City Radio Club, explains the mutineers formed a colony with Tahitian women on the island, had children, and greatly increased the population. But they did not live peaceful lives in their new-found haven.

When discovered in 1808 by the American whaler, only one mutineer was living; all the others had died violent deaths.

No version of the story is complete, Bailey says, but the most logical explanation is that mutineers killed each other off.

"One Tahitian girl probably died, leaving a man without a wife, so he took someone else's. The men fought because of jealousy and distrust and became enemies."

"They eventually formed two towns on the island," he says, "and fought until they killed each other off."

Bailey adds that the only survivor was John Adams, who taught the children English.

The British moved the islanders to Tahiti in 1831, fearing that Pitcairn was overcrowded. Most of the islanders returned the next year, so in 1856 the British again moved all to Norfolk Island, where many descendants still live.

Two families, both named Young, again returned to Pitcairn and later were followed by others. With intermarriage, Bailey claims, there were only five surnames—Brown, Young, McCoy, Christian, and Adams—among the inhabitants.

"With sailors and whatnot, there are now about 20 names," he added.

Britain officially claimed the island in 1893, and now supplies inhabitants with a school, a school superintendant, a registered nurse, and a commercial radio station for weather purposes, Bailey says.

Their first radio operator was Floyd McCoy, descendant of mutineer McCoy.

While living in Los Angeles, Bailey a "ham" for 45 years, first contacted McCoy on Pitcairn Island in 1955.

"I was so excited, I ran to tell my wife, and she said she used to have a pen pal on Pitcairn through the Seventh Day Adventist Church; seems the islanders are all Seventh Day Adventists.

"So I asked McCoy if he could find a penpal for our daughter Nancy, who was 12 at the time, and he gave us the name of Betty Christian," Bailey says.

Nancy wrote to Petty, Bailey says though letters took three to six months for delivery. Ships travel from New Zealand to the Canal

Zone and visit Pitcairn only when necessary.

After several letters back and forth, Nancy heard nothing more from Betty until a year and a half later when Betty returned to Pitcairn Island and wrote that she had suffered acute appendicitis and was sent to be treated in New Zealand, because there were no doctors where she lived.

The Baileys met McCoy, chief of police and radio officer on the island, and his wife when they spent 14 months visiting 'hams' across the U.S. and Canada in 1961.

Tom Christian, now 38, was McCoy's assistant at the commercial radio station and took over the station when McCoy died of cancer in 1963. Christian also has his own radio setup.

Pailey says he then began radio contact with Christian and learned more about the new radio officer in 1967 when Betty was flown to this country by a movie producer who wanted a pretty Pitcairn Island girl for the movie he planned to make of the island.

Betty visited us and was always anxious to talk to Tom on my radio, Bailey says.

"The picture deal fell through, of course, so the producer had Betty flown back to the island immediately," Bailey explains, "and she married Tom two months later."

The Christians visited the Baileys

in California in 1969, and according to Bailey, "didn't want to go back at all."

"I don't see how the island can keep going," Pailey speculates, "because of its remoteness from the rest of the world".

The only income acquired by most islanders—excluding the few who have British government jobs—comes from selling curios, such as birds, fish and walking canes made from Mirowood and collections of rare Pitcairn Island stamps produced by Britain.

Bailey, who came to Sun City over a year ago from Los Angeles, where he worked for North American Aviation for 30 years, said the island's weather is very tropical; never below 65 and never above 85 degrees.

The houses are wood frame, he says, with metal corrugated roofs to catch rainwater for drinking.

With exposure to modern societies in New Zealand and surrounding areas, Bailey says, the few motorcycles introduced recently to the island are not enough to keep the inhabitants content with their somewhat primitive lifestyles.

The natives are restless (so to speak), and many young islanders will most likely move from Pitcairn.

As Bailey says, "You can't blame the people for thinking, 'why should we stay in this godforsaken place?'"

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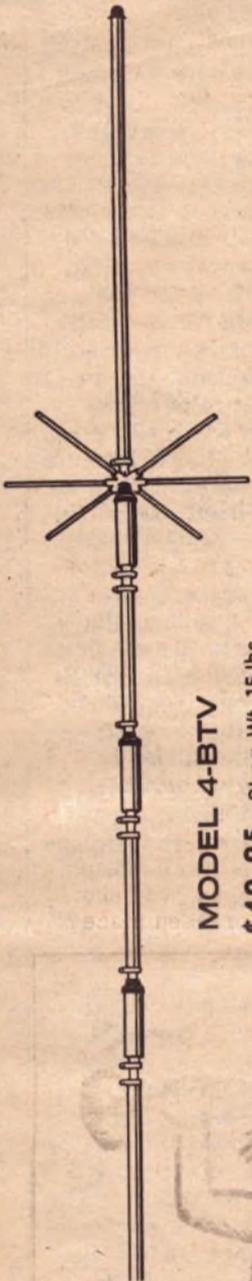
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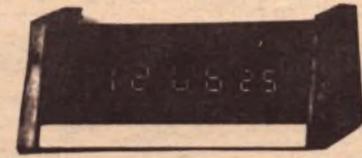
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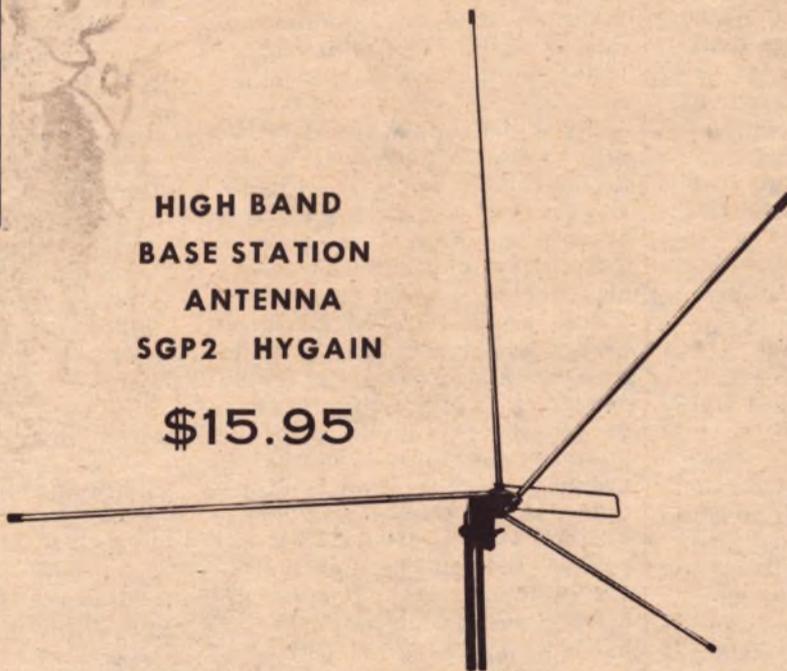
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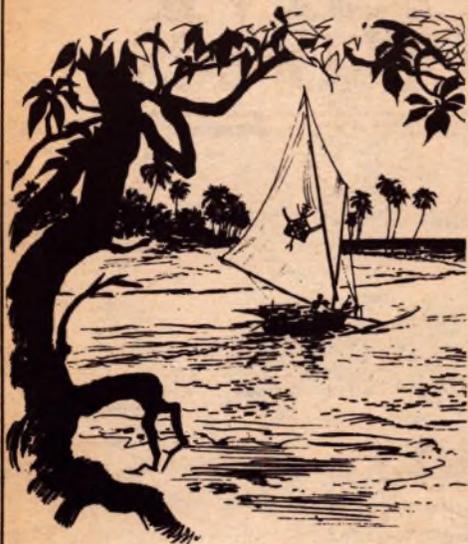
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DXpeditioning Made Easier

by Gill Baker, W5QPX



With the advent of recent reciprocal licensing agreements, it is becoming much easier for the casual DXer to "pop down" to ZZØ-land for a weekend of hamming.

Though I do not qualify as a seasoned or vagabond DXpeditioner, I think the following information will reveal some personal knowledge of DXing in more or less broad terms.

Licensing

Consider 90 days from the date you expect to commence operating as the minimum time to acquire a license or permit. Make your request to the correct licensing agency of the particular country in which you wish to visit or operate. If at all possible, direct your request to the individual who heads that particular agency, along with his official title and/or office.

You say you would like to go on a DXpedition but you aren't sure when you can go? Or you break a leg after making the first application or inquiry?

No problem! Once the pot is boiling, you can make revisions as circumstances warrant.

At times, one must first identify the licensing agency or official through the National Radio Society, the IARU affiliate, the ARRL, a local radio club of the country, or a personal amateur acquaintance or QSO correspondence.

Use correct business format in your correspondence with the agency. Generally, English is acceptable, but on occasion the application must be in the official language of the particular country. Correspondence from the agency will be in the official national language. In the case of Spanish, it will be Castillian, and not the California or Texas border Spanish one hears in the States. There is quite a difference between the two! When having correspondence interpreted, be sure you get the correct translation. A high school Spanish teacher is usually satisfactory for doing this. Occasionally, something may be lost in translation if there is not a full understanding of

the language. This can cause considerable consternation, and delays in the issuance of a license or permit.

Include full particulars with your first letter or request, date of arrival, length of stay, bands you desire to operate, input power you plan to use, exact location of operations if known, and a copy of your present FCC license. Include copies of permits or licenses from other countries that you may have held in the past. Some authorities require photos be attached to the license or permit, so it is a good policy to include three passport-size photos.

Use the word "propose" or "plan" in lieu of "want" or "will"; i. e., "I propose to operate 80-10M SSB/CW," etc., rather than "I will operate" such and such. You aren't going to do anything unless you get permission. It is more acceptable to say "I would like to" instead of "I am going to;" you might as well make it easy on yourself and all concerned by approaching the matter in the right perspective.

It will be to your advantage if you can name a personal acquaintance in the country. If this person is a licensed amateur, so much the better! This is a built-in reference to get the ball rolling. If you are fortunate and can refer to a QSO friend of long standing, do so as a secondary reference. If you are going to be accompanied on your venture by a national of the country in question, list his name and call. Give names and addresses of licensed amateurs whose equipment you may operate while visiting. Any letters of invitation from these individuals should be included with your application or request to the licensing authorities. Such information rather "nails it down" for the licensing agency. It really helps to name names in DXpeditioning.

Customs and Immigrations

One can save a lot of "fuss and feathers" by getting a passport, thereby avoiding involvement with visas, tourist permits, etc. A passport once issued is good for life unless revoked. To illustrate: let's say you are giving it a go down in PJ land on a tourist card, and decide to pop over to HK, TG or FY for a spot of hamming on the way home. Here comes the rub--these countries require a passport, and you won't have time for all the red tape involved. If you already have a passport, though, you are in business. This magic document will also let you dispense with toting around extra identity papers.

Entry requirements to various countries change from time to time by necessity, but possession of a passport will, in most cases allow you to come and go at your leisure. Some countries are restricted by the State Dept. When in doubt as to a particular country's require-

ments, check with their consulate or embassy in most metropolitan areas or in Washington, D. C. One of the quicker sources of such requirements is the International Airmen Information Manual available at most base operations or flying services at your local airport. If your particular "rare spot" isn't listed in this publication, follow the requirements listed for the mother country.

A passport costs \$12 and an application can be obtained from the clerk of any U. S. court. When traveling alone, a photo of yourself is necessary. In the event you desire to travel with the XYL and/or family, you can get a family-type photo for attaching to the passport. The only difficulty involved would be that you must enter and leave the country as a group. An application takes 14 to 18 days to process and deposit in your mailbox. An extra fee of \$2.50 will speed up return to about eight to 10 days.

Obtain inoculations as required by Immigrations from your family doctor. Particular emphasis is placed on smallpox vaccinations. To be on the safe side and to satisfy all possible requirements, go ahead and get all the necessary shots outlined in the International Certificate of Vaccination, Form PHS-731. You must have this certificate in your possession when traveling overseas. International medical requirements vary periodically, so a rule-of-thumb would be to go for broke on the inoculation end of things. While you are taking your series of shots, get a statement of health from the doctor, as this is required in some instances.

If you plan to take any electronic equipment along, carry all the documents you can lay your hands on! You need not pay duty if you prove it is your personal gear. Take letters of permission from any DX club, association or friend loaning equipment, mentioning any particular purpose, length of time or location involved. A paragraph pertaining to the return of said equipment to the donor at the completion of operation(s) should be contained therein. If you don't have such a letter, get one! Customs officials don't appreciate one bringing in some "goodie" and leaving it behind upon departure for home. Consider the possibility of having to post a bond on entry, assuring that the equipment will accompany you on departure. If you have the permit/license in your possession prior to entry, keep it at hand and you will float right through customs.

Carry the original letter from the licensing official or agency, as it generally refers to your appearance in the country at an expected time of arrival. In many instances, it relates to your appearance at a certain location or address at a specific time for issuance of a per-

mit or license and for inspection of any equipment in your possession. This is the third most important document after the passport and the PHS-731 booklet.

An additional document occasionally required is a "character reference" statement. If you are in good standing in your home community, a "to whom it may concern" letter may be obtained from your local police department.

Medicines and Prescriptions

If one is subject to any particular ailment--migraine headache, nervous stomach, diabetes, etc.--it is wise to take along a good supply of your own medication. Doctors and drug stores are often few and far between in DX lands--and I don't mean just in Western Slobovia; this situation exists in places as near as Mexico. Added to this, the language barrier and erratic transportation may make one try to extend himself in order to get back to the States within a time limit for medication. Don't push your luck--take it with you!

Beware of "Montezuma's revenge," commonly known as diarrhea. The USPHS does not recommend purchase of such medications as sold in foreign countries. They have not been proved to be satisfactory remedies. Occasionally, there have been deaths attributed to unreliable foreign medications. Follow your physician's recommendations and remember to ask his advice before you leave.

Excess Baggage

All international flights charge \$L 40 per pound for all personal effects over 44 pounds per person. It would be to one's advantage, where bulk is a problem, to have the major items shipped via surface transportation. In utilizing this method of transportation, schedule the arrival time a minimum of three weeks prior to pick-up or operating date. This time limit allows for bypassing a port of call. This happens quite frequently in Central and South America and the Carribean areas. The smaller accessories like bugs, mikes, keyers, relays, etc., can then be carried as personal effects within the 44-pound limit.

Local Customs

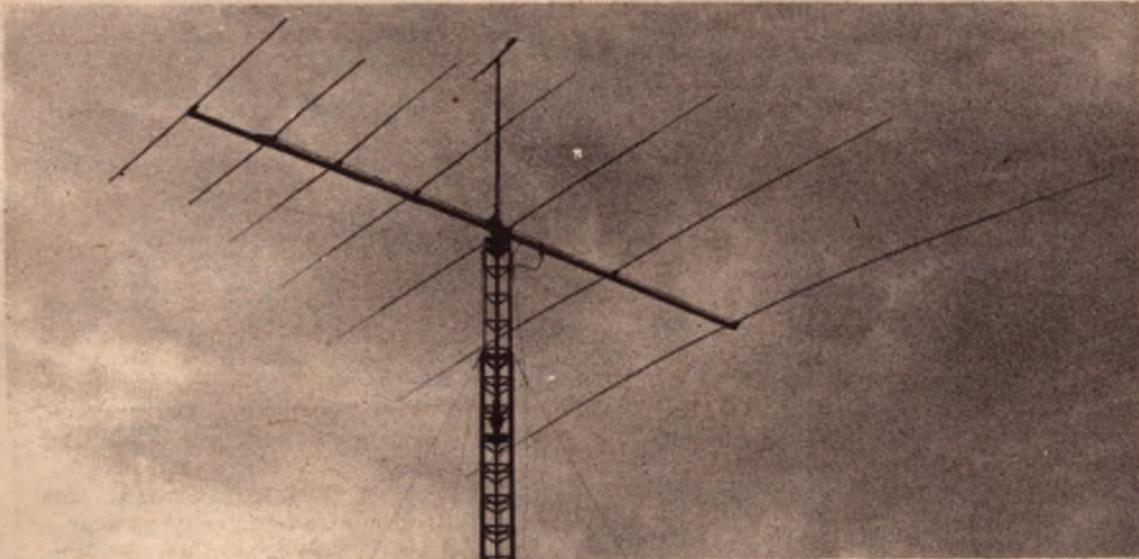
It would be wise to follow the "when in Rome" policy when observing the local procedures and customs. Some things are done internationally and others are strictly forbidden. Be courteous and respectful of localized procedures. When in doubt about a particular situation, make inquiries as to what is acceptable and correct. Above all, keep cool and avoid any show of temperament.

Dress

Conservative, casual attire presents a very good medium. This is especially true if one is destined for the tropics. Heavy, too-formal articles could prove to be excess baggage. Excess baggage you don't need! (Turn to page 26, please)

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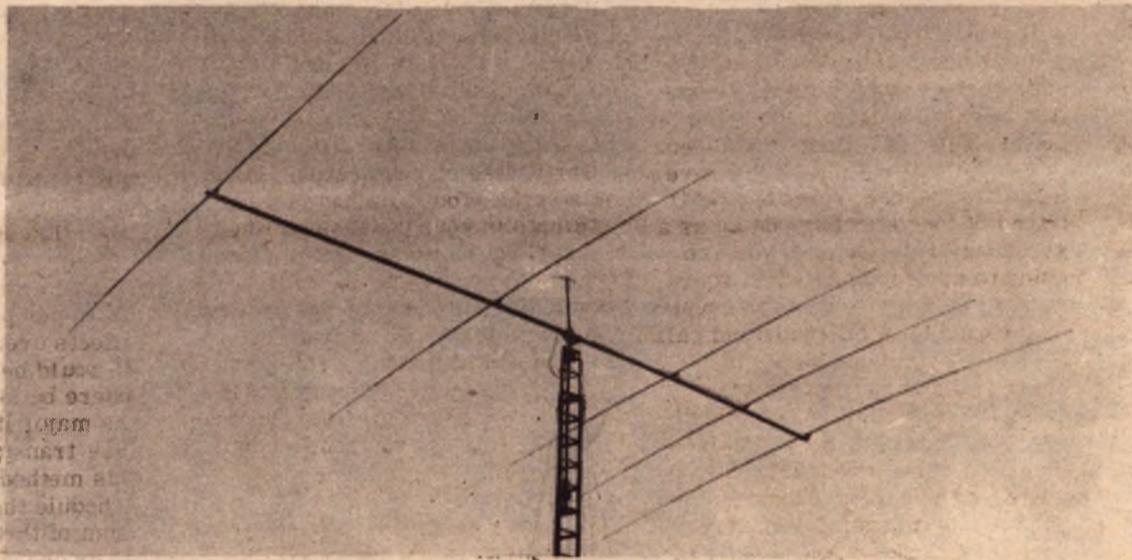
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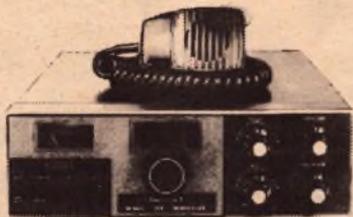
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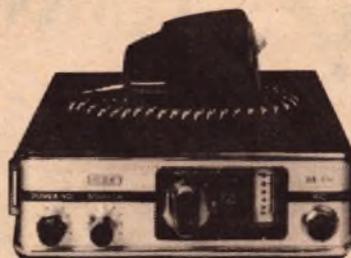
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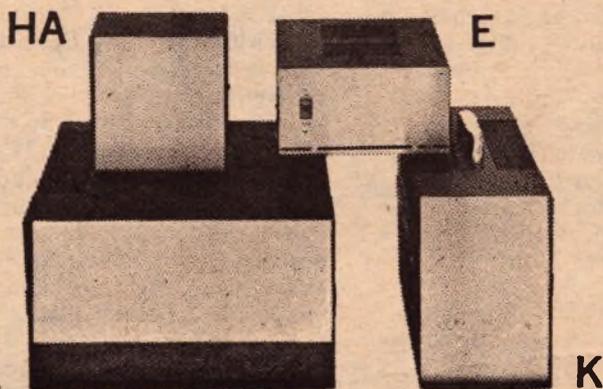


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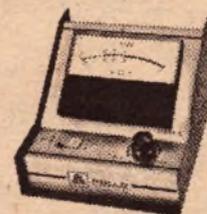
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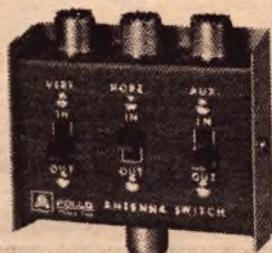
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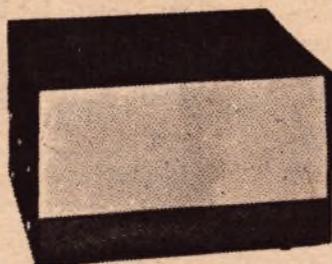
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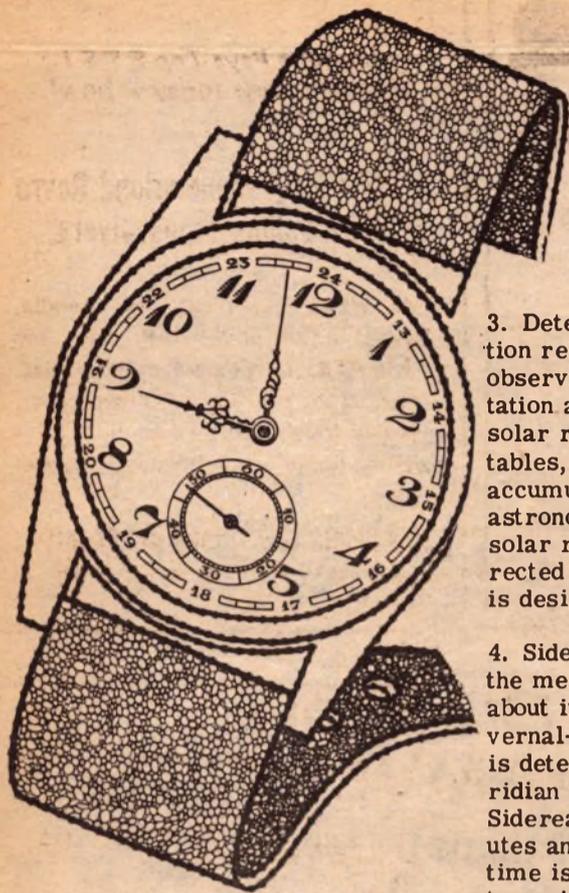
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Time and frequency standards

by Bill Welsh, W6DDB



A recent announcement by our National Bureau of Standards (NBS) stated that WWV/WWVB/WWVH/WWVL voice time announcements will be made in Coordinated Universal Time (UTC) starting Jan. 1, 1974, in lieu of the presently-used familiar Greenwich Mean Time. It turns out that just the name is being changed and that the reference point will still be the zero meridian line passing through Greenwich, England. This change is being made because the reference time scale broadcast by these stations is more precisely designated as UTC, not GMT.

This NBS announcement aroused my interest in the types of time and the operation of WWV. The following paragraphs detail the background information from my limited understanding of the facts. The first set of data is concerned with time and the second set highlights WWV operation and frequency information. This article is written by someone who definitely is not an expert on this subject, and it is merely intended to serve as an introduction to this subject for others who are equally "lost."

We are primarily accustomed to expressing time in regard to our local time zone (such as Pacific Standard Time) or in Greenwich Mean Time (GMT). There are other types of time used in broadcasts, though, and the following facts may clear away some of the mystery:

1. Universal Time (UT) is also known as Greenwich Mean Time (GMT), Greenwich Civil Time (GCT), and Zulu (Z) Time. UT is based on the earth's mean angle of rotation about its axis, in relation to the sun. All UT is referenced to the zero degree prime meridian which passes through Greenwich, England.

2. Actual solar days vary in length throughout the year, so a mean solar day of 24 hours is used to denote one revolution of the earth.

3. Determinations of earth's rotation relative to the sun are made by observing mean sidereal earth rotation and converting it to mean solar rotation by using Ephemeris tables, which are based on data accumulated by several worldwide astronomical laboratories. Mean solar rotation, derived from uncorrected astronomical observations is designated UTO.

4. Sidereal Time (ST) is based on the mean time of rotation of earth about its axis, in relation to the vernal-equinox point in the sky. ST is determined by observing the meridian transits of stars. The Mean Sidereal Day is 23 hours, 56 minutes and 4.09 seconds. Sidereal time is not perfectly uniform, due to variations in earth's rotation speed.

5. Ephemeris Time (ET) is astronomical time based on the motion of earth around the sun during the tropical year 1900.

6. A tropical year is the time interval between two consecutive returns of the sun to the vernal equinox. Ephemeris Time during reference year 1900 was 365 days, five hours, 48 minutes and 46 seconds. The tropical year has been decreasing 5.3 milliseconds per year.

7. Earth's rotation speed varies annually, probably due to seasonal wind pattern changes in the Northern and Southern Hemispheres. A semi-annual variation also occurs, due mainly to tidal action of the sun; this variation slightly distorts earth's shape. These variations cause earth's rotation to be about 30 milliseconds late around June 1 and about 30 milliseconds early around Oct. 1 of each year. When UTO is corrected for these variations, it is designated UT1.

8. Earth's rotation speed also varies irregularly, possibly due to turbulent motion in its core. Ocean tides cause friction which decreases earth's rotation speed by about one millisecond per century. Worldwide observations of these effects are reported to the Bureau International de L'Heure (BIH) in Paris, which issues corrections to UT1. Corrected UT1 is designated UT2.

9. Atomic time is based on molecular/atomic resonance effects which appear to be constant (or nearly equivalent) to Ephemeris Time. The International Atomic Time (TAI) standard was adopted during the 1964 12th General Conference of Weights and Measures.

10. Before Jan. 1, 1972, WWV/WWVH time signals were kept in close agreement with corrected astronomical time (UT2) by making a 100 millisecond adjustment whenever it was needed.

11. At the recommendation of the International Radio Consultative Committee (CCIR), Coordinated Universal Time (UTC) was permanently established at the same point as International Atomic Time (TAI). 107.6 milliseconds into Jan. 1, 1972, the NBS UTC scale was retarded 107.6 milliseconds to initially make it 10 seconds late in respect to the TAI scale maintained by BIH. As of Jan. 1, 1973, UTC was 12 seconds later than TAI.

12. Universal time is no longer adjusted periodically to agree with earth's rotation rate. Consequently, UTC departs rapidly from UT1 (earth's rotation time as corrected for annual and semiannual variations) and gains about one second per year.

13. UTC corrections are made in one second step adjustments called leap seconds, as directed by BIH. Leap second adjustments ensure that UTC will not differ from UT1 by more than about 0.7 second. BIH-issued corrections no longer apply to UT2.

14. BIH announces leap seconds about two months in advance and adjustments are normally made June 30 or Dec. 31. A positive leap second was added June 30, 1972, and another one was added Dec. 31, 1972.

15. In summary, these are the types of time we've covered:

ET--Ephemeris Time
GCT--Greenwich Civil Time
GMT--Greenwich Mean Time
ST--Sidereal Time
TAI--International Atomic Time
UTC--Coordinated Universal Time
UTO--Earth's Rotation Time, as derived from uncorrected astronomical observations
UT1--UTO corrected for semi-annual and annual variations
UT2--UT1 corrected for irregularities reported by worldwide astronomers

The preceding information should suffice to introduce you to the types of time mentioned in relation to time standard broadcasts. The following items are about time and frequency broadcast stations, plus frequency information:

1. The NBS first transmitted time and frequency data in 1923.

2. WWV was originally located in Washington, D. C. Between 1931 and 1966, WWV was operated from College Park, Beltsville and Greenbelt, Md. WWV went on the air from Fort Collins, Colo., Dec. 1, 1966, and continues in operation from there. The exact location of WWV is 40 degrees, 40 minutes and 49 seconds North by 105 degrees, two minutes and 27 seconds

West.

3. WWVH started transmitting from Maui in 1948 and moved to Kekaha, Hawaii, in 1971. The exact location of WWVH is 21 degrees, 59 minutes and 26 seconds North, by 159 degrees and 46 minutes West.

4. WWVB began broadcasting from Boulder, Colo., in 1956 and moved to Fort Collins, Colo., in July, 1963. The exact location of WWVB is 40 degrees, 40 minutes and 28.3 seconds North by 105 degrees, two minutes and 39.5 seconds West.

5. WWV/WWVH frequencies have been held as close as possible to the NBS atomic frequency standard since Dec. 1, 1957. Atomic frequency standards have been shown to be accurate within a few parts in ten quadrillion of the ideal Cesium resonant frequency. The present NBS frequency is accurate within about five parts in ten quadrillion.

6. WWVL began transmission from Sunset, Colo., in June, 1960, and moved to Fort Collins, Colo., in June, 1963. WWVL operations were curtailed July 1, 1972, and it now broadcasts experimental VLF (very low frequency) programs only on an intermittent basis. The exact location of WWVL is 40 degrees, 40 minutes and 51.3 seconds North by 105 degrees and three minutes West.

7. The 13th General Conference of Weights and Measures (October, 1967) defined the second and the NBS standard was brought into agreement Jan. 1, 1968, by increasing its assigned value 74.5 parts in ten trillion.

8. WWV/WWVH carrier and modulation frequencies are derived from Cesium-controlled oscillators which are held within two parts in 100 billion. In conformance with the present UTC scale, WWV/WWVH carrier and modulation frequencies are no longer significantly offset from nominal values.

9. WWV/WWVH frequencies were originally just held within a few parts in 1,000; they are now held within about one part in one trillion.

10. Except for holidays, WWV/WWVB/WWVL visiting hours are 1 to 4 p. m. Wednesdays. Special tours can be arranged with the Engineer-in-Charge. (turn to page 26, please)

The Mission Trails Net meets every evening at 7 p. m. on 3928 kHz for the purpose of handling traffic. This net has been in operation since 1937 and has a large membership in California, Oregon, Washington, and Arizona.

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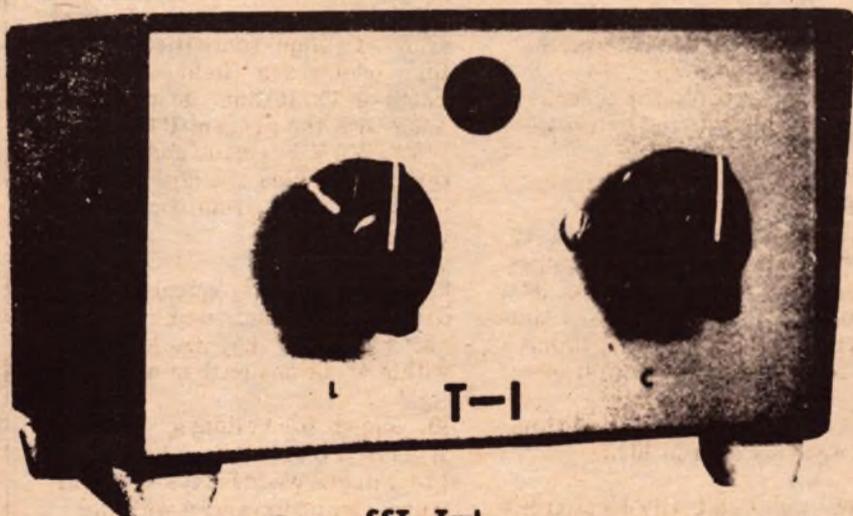
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Mindless diversion or-meaningful activity?

by Armond Noble, WB6AUH
Publisher, *Worldradio*

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

(Continued from last month's issue, final installment.)

One of the most magnificent organizations I know of is the Direct Relief Foundation in Santa Barbara, Calif. It donates medicine by the ton, X-Ray machines, dental equipment, hospital beds, and just about anything else of a medical-dental nature that may be needed in the more remote areas of the world.

For many years, the foundation was trying to find a ham in the Santa Barbara area who'd be willing to donate a little time to helping them communicate with various parts of the world. For many years the foundation folks had little success. It was the same old story, "I just don't have the time."

That must be the worst phrase in the English language. More, and worse, it is usually uttered by people who, on any given day, can tell you in detail the plots of the soon-to-be-forgotten television shows they watched the night before, and who know by heart the words and music of every underarm deodorant commercial on the boob tube.

Personally, I go along with the admonition, "Smash your TV and repair your mind." It's really a pity... the great literature going unread, the great music now unheard... all because it is so easy to turn on the hypnotizer and go off into a trance, mesmerized by a diversion admittedly programmed to cater to the lowest possible taste. And in this country, the average television set is on for seven hours a day, every day of the year...

Is that all we have to do, just kill time? Just a few of those hours spent each week in front of a television set might well be spent, say, at an orphanage or with a youth group, teaching the youngsters a little code and theory, if the volunteer is, as we are, Amateur Radio enthusiasts.

Time is too precious to "kill".

Think about the difference between these two people. They work at the same place, perform the same job, side by side, and they both go home at the same time each evening. The similarities end there. One goes home and he's "so tired". He plunks himself in front of the television set and that's it until he wakes up and goes to work the following morning. The other heads home, too, but he takes a quick shower, changes his clothes and starts living all over again. He's off to work in a Kiwanis youth program... coaching a Little League team... participating in a Big Brother program... or maybe he's a Shriner, active in his local temple's committee-raising funds for the Shriners hospitals for crippled children.

People like this are alive--they have a little thunder in their lives.

I admire such people; I also admire those who go to school, at whatever level, studying whatever subject, in the evenings. These people are searching, they are being kept fresh and

alive by exposure to new people and new ideas. They have a goal out there in front of them, and they keep after it.

Whatever it is, however we pursue it, we all need some sort of goal. The day we--any one of us humans--stop searching and learning is the day we are ready for the autopsy, even if mechanically we are still functioning.

There's a saying we can all keep in mind: "Whatever world you experience may be only your reflection in a crystal ball."

What else can we expect?

Many people attend hamfests, and all of us who go to them have a good time, but successful ham-fests are the work of just a few people, people who find the time. Who are these people? They are, invariably, the "busiest" people.

A fine example of one of these busiest people, is Berge Bulbulian (WB6OSH) of Fresno, California.

Berge is a hard-working businessman, a devoted family man, active in politics, was a busy participant in Fresno's Sister City program and goes to evening college. On top of all this, he recently got his Extra, teaches a Novice class, and lends his abilities to all the ham activities in the Fresno area.

To me, and to, I'm sure, many others, Berge is an inspiration--a fantastic man, a superstar--a man to be emulated. I wish we could find out what it is that winds him up and keeps him running at such a rate--then, whatever it is, bottle it so that everyone could have some.

But all of us can get "involved," and hams have a particular reason for getting involved--if we want to keep our wonderful hobby.

To another topic-- The Amateur Radio Community--all of us--had better speak up and make sure we are heard loud and clear in Washington, D.C. We have to let our officials know that we believe a government governs only with the consent of the governed--and that we expect them to believe this and govern accordingly.

The officials of our government are not in office to "rule". Their simple job is to carry out the housekeeping tasks connected with the way the people want things run.

The American principle is Self-Government.

Take a look at the new repeater rules; some of them reflect the most self-defeating ideas anyone could possibly have come up with.

Well, we can tolerate the jamming--and the jackasses--because it is of utmost importance that the repeater be on at all times. If in the next century a repeater saves one precious human life--and it might be any of yours, or mine--it is certainly worth the trade-off. Incidents and accidents won't wait until we have "someone in control". (see MM, page 34, this issue)

Where Amateur Radio is concerned, I, for one, feel the United States and the world, too, will be better off if the collective wisdom of the nation's and the world's concerned hams is trusted--rather than that of those filling space in the Potomac Puzzle Palace.

In "Worldradio" we have editorialized against those FCC ideas we believe are, for whatever reason, wrong--and we'll do so in the future if and when we think it necessary. I believe that you--the Amateur Radio Community--all of us--should determine the rules of Amateur Radio.

What's more, I know this is the belief of the vast, overwhelming majority of those of us in the Amateur Radio Community. I know it from conversations on the air and at hamfests, and from personal correspondence and letters to "Worldradio."

In conclusion, there's a lot we can do, both as individuals and collectively. Our many tasks will not always be easy, but when we begin to think something is difficult, hard to accomplish, let's turn for inspiration to the handicapped in Amateur Radio, the blind who have won their licenses, the deaf hams who "hear" code by placing their fingers on the speaker cone, perhaps most of all the paralyzed who pass the 13 words per minute test holding a stick in their teeth, using it to hit the keys of a typewriter.

Think of people like these--and the heights the human spirit can reach; think of people like these, who don't have in their vocabularies words like "hard" or "difficult".

Let me close these thoughts with a few questions, questions we all can, **SHOULD**, think about as we continue through life, as Radio Amateurs... and as humans...

Are we going to keep on doing the same old thing... in the same old way?

Is there something new approaching? Can we as hams, and as people, broaden our horizons?

As amateurs and human beings, shall we search for new avenues of challenge, or service of satisfaction?

Should we care about people? Should we respect the value of human life? Should we have more compassion?

And... why should we ask ourselves these questions?

Remember--some day each of us will, forever, leave this life...

Let us ask ourselves...

When I have left, how quickly will the sands of time wash away my footprints?



Miami (Fla.) Mayor Maurice Ferre proclaimed "SIRA Day" because of SIRA's (Sociedad Internacional de Radio Aficionados, Inc.) outstanding public service. This was achieved by SIRA's members who, besides providing emergency communication after the Managua earthquake, raised \$163,386 in cash and more than a million dollars worth of goods for the victims.

The picture shows SIRA's president and coordinator, Rafael Estevez, WA4ZZG, (l.) receiving the certificate from Ferre's delegate, Armando Garcia, (r.) owner and editor of the newspaper "Patria". Hialeah and Miami Springs mayors also declared "SIRA Day". Over one hundred persons, including amateurs from Central and South America, attended the dinner commemorating SIRA's second anniversary of its formation.

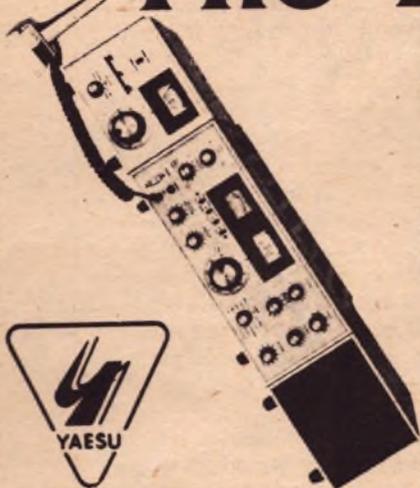
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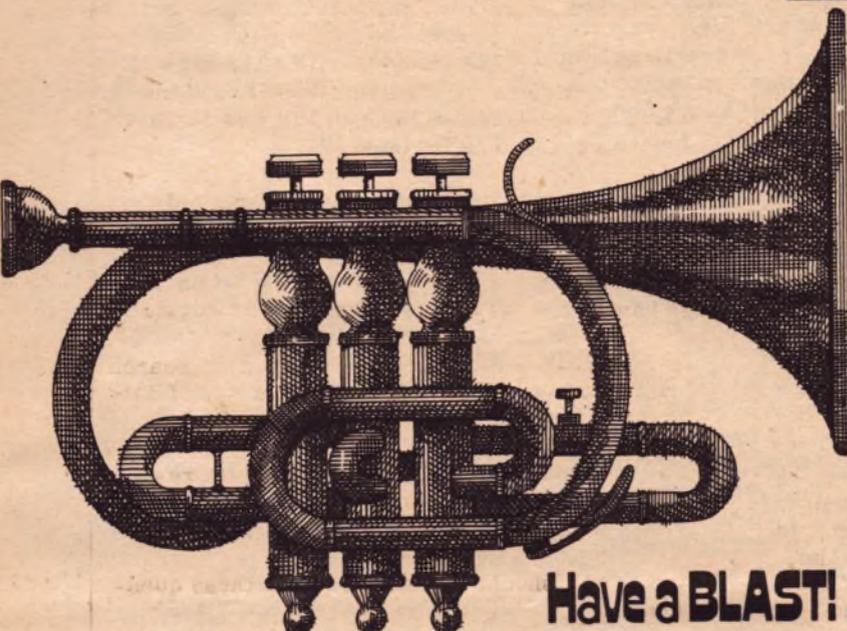
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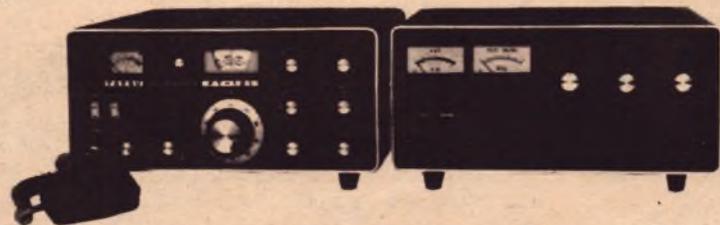
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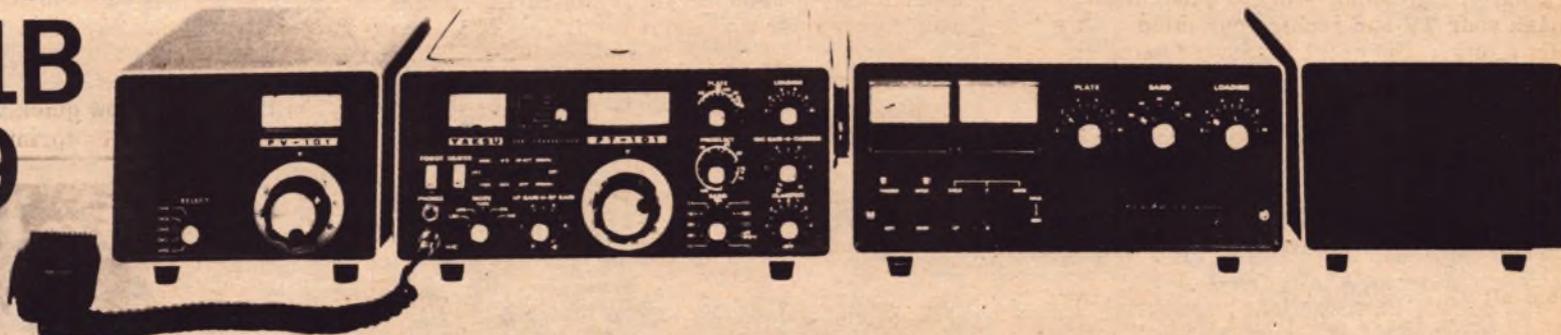
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A Man For Others

The Story Of Ned Carman, WØZSW

by Sister Claudine



much to love in one another, a love that led to their marriage in November. Little more than a year was left for Orvin, but how good to know it was a year of caring, sharing, loving.

1970's Amateur of the Year was Ned Carman.

May convocation and summer radio camps are annual MiSCCA-sponsored events now. WØCID, Bill, you're right -- Ned's dream had come true. Ned shared his joys, his hopes, his interests; we have mentioned only a few of the friends who helped him and fervently wish you could all be here... you're too many.

Dick Ehrick, WAØQWD, Rochester attorney, was a close personal friend of Ned. He enjoyed amateur radio and his lovely family share his enthusiasm. Dick has been a radio club officer, an instructor in theory, and an active ham. He was willing to have his hobby provide him with many a postman's holiday when the Handi-Hams needed his legal services for their incorporation, by-laws and other matters. It would be hard to count the valuable hours he gave the system; Ned tried, but couldn't. Dick wouldn't.

Founder's Day

Saturday, May 6, the second day of the 1972 May Convocation. The assembly met in the lodge and Ward Jensen was presiding. He was really hamming it up in accounts of conversations with various System members about Ned, who sat back being a good sport and rather enjoying being panned in man-fashion. After a bit, though, the speech took on different tones; Mr. Carman's eyes widened, his jaw dropped. He was being presented with an Accutron watch engraved with HANDI-HAM SYSTEM OF MINNESOTA; valuable as it was, its value was mainly in that it represented practically 100% participation of the members; Joe Shepardson, WBØ-CSU, presented a jacket also monogrammed; there was even a Founder's Day cake, baked by Judy Ver-vair, XYL of WAØWWP and tubefrosted with call letters of all present. Ned's reply was spontaneous, typical "I am only a part of this organization; its success is due entirely to..." and here he looked around and named those present, one by one.

Later Ward Jensen wrote: "Under Ned's direction the system has grown to approximately 250 handi-

capped and verticals. In the five years since first beginning the system, Ned has lived to welcome hundreds of his handicapped friends obtaining licenses via the system and took great pride in the proficient and courteous operation through which they contributed to the public image of ham radio."

Tranquillity

Another experience gladdened the Spring -- Ned and Erdene visited their son Joe and his wife and daughter living in Winnipeg. The understanding and respect that grows between father and son when the latter starts his life work and family had grown between Ned and Joe. He realized Joe believed in what he was doing, and that in the 70's some young men find themselves choosing very hard ways to live their convictions. The two couples went sight-seeing, reminisced, laughed, confided, admired the baby... and the vacation went too, too fast.

Those close to Ned noticed a new calm, thoughtfulness, and greater gentleness. He had read Pastor Robert Hudnut's *The Sleeping Giant* and had gone to Minneapolis for worship and communicate at his service. He had always appreciated the spirit of prayerful faith in his handicapped friends, and he was becoming a praying man.

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The June FLYER was printed, packed and ready for mailing. Ned drove home, glad for the good night's sleep promised by a completed job. Soon after he came in, Erdene heard him call from the living room... then she called the ambulance, applied resuscitation efforts, rode to the hospital beside Ned's stretcher, there to hear the doctor's pronouncement. Clinic associates, friends and relatives came. Anne and Joe were there. And the Handi-Hams were calling, one to another. Timely indeed had been their institution of Founder's Day, for their Founder was dead less than a month after they had honored him. They are a group of people schooled to such losses. Hardly an issue of the FLYER appears without an obituary of a Handi-Ham. They live with the realization that their time is limited, their hold on life fragile. Perhaps some of them thought, "Even in this way, Ned is one with us -- 54 years is well under the average American life expectancy."

The Sisters at Assisi Heights felt the loss of one who was in very truth a member of their community -- so much so they asked Erdene if Ned's funeral might be in their Chapel, being the first layman's funeral from Assisi Heights. It was right and fitting that the Founder of the Voice of Assisi be laid to rest from there.

All who came -- the relatives, the business associates, friends, fellow hams, and Handi-Hams were amazed to find themselves part of such a large crowd. "Who are they all? Where did Ned meet them?"

Messages came, expressions from the hearts of many: "He literally gave his heart for others," Ethel Gibbons. From Rabbi Norman Berlat, WBØCPI: "He gave his all to whatever he undertook, enriching the lives of many."

Helene Torbenson, WB9GPG, gave a Handi-Ham thank you to Mrs. Ned Carman. "Thank you for sharing Ned with us, especially at the times you would have preferred to have him home with you. If you could receive all the thank yous from the Handi-Hams too shy to say them, you would know how worth-while your giving has been. When I've been about to throw in the sponge, Ned could remotivate me to keep trying. He has been a real catalyst. No longer am I afraid the system will fall apart without Ned, for his friends are saying again and again, "We'll all just have to work to fill the gap. Praise be to God for this man."

Presiding at the worship service was Reverend George Metcalf, WØJH. The sermon by Reverend Thomas Ploof, KØSAZ, follows:

"It is with a sense of reverence and gratitude that I shall endeavor to deliver the homily at the funeral of one of my best friends. As a member of the fraternity of amateur radio operators, as a former chaplain of the Sisters of St. Francis whom Ned so loved, as one who stood on the sidelines amazed at the miracle of the Handi-Ham System, I feel that I can express to you, Erdene, Anne, and Joe, the sincere condolences of these groups who were front and center in the life of your husband and father.

"There are two dimensions in man's relationship to God. There is the vertical dimension whereby man relates himself directly to God; there is the horizontal dimension whereby man relates himself

Saturday was warmer, sunny, and full of choices -- demonstrations, exhibits, code practices, cloud-watching and exploring. Reverend Jim McChesney, WAØPFV, sent a carful of young people from his First Methodist Church in Fridley to be funsters for the evening's games and sing-a-long. Very fine, concurred the campers, but the rapping and the spoofing were even more fun, and it was their last evening -- getting them all to their cabins before midnight seemed almost cruel.

Who gave most, who had most fun? Witty, gregarious Alta Mitchell, a bridge builder par excellence who put the newcomers at ease? Father Frank, co-chaplain, orderly, code instructor? Man-of-all-work Ned? Mothers Johnson and Thorson, moms to everyone? Jan Bailey, WBØEEO, who enthralled us with playing so feelingly (Jan learned by ear) "The West Side Story" music? Sunday morning the vote would probably go to Pastor Lee, the Lutheran paraplegic minister who spoke from his wheelchair pulpit a sermon no vertical could have given our friends. The handicapped, he told them, are a special and very forgotten minority group with a vital role in today's society and in the kingdom of God.

The chicken and trimmings dinner followed -- favors of antenna-topped ham shacks designed by Don Johnson, WAØEPX, decorated the places. A feast of friends, old and new, with a wistful twist, as camp would soon be breaking up -- but then August with radio week was coming.

Camp Courage has seen its share of romances on its lovely lake shores and wood-paths; this week had that, too. Jean Heikkula, WØ-IRJ, and Orvin Fingerson found

to God through the care, concern, and love he shows to his fellow man. Jesus said repeatedly in a thousand ways each day, "I BELIEVE IN YOU. I LOVE YOU. I WANT TO HELP YOU." ... Jesus loved people, He lived for people, He wished to lead them to the good things of God's wonderful creation, and ultimately to life with His Heavenly Father. He never took people for granted, each person had a distinct value in His eyes.

"During the Second World War an outstanding German theologian was put to death because of his relationship to a group that was plotting to overthrow Hitler. He was Dietrich Boenhoffer. Boenhoffer gave us a definition of a Christian, which, while theologically not entirely acceptable, does present the thrust of the life of Jesus. "A Christian," he wrote, "is a man for others." Perhaps that definition inspired the composition of a song that is sung by young people today both as folk song and a religious hymn. WHATSOEVER YOU DO TO THE LEAST OF MY BROTHERS, THAT YOU DO UNTO ME. When I was hungry you gave me to eat; when I was thirsty you gave me to drink... homeless, naked, weary, anxious, little, lonely... you were there. The conclusion of each verse is especially significant this morning: NOW ENTER INTO THE HOME OF MY FATHER.

"It is not necessary for me to relate the theme of my homily to the life of Ned Carman. If there ever was a man for others, it was ZSW, as we lovingly called him in Ham Radio. If there ever was a man who did not take others for granted, but was genuinely interested in them as persons, wanted to become involved with them, help them, break the boredom of their lives, it was this man. This man was great in body, but even greater in heart and spirit.

"It is not necessary for me to tell you Handi-Hams, some of you who are blind, other paralyzed from polio, others twisted with arthritis, others who suffered years of monotony when you seemed forgotten by the mainstream of life, what one man who loved and cared meant to your lives. Life is better for you today because of the gentle persistent, soft-spoken encouragement of this good man ... who dared to care for others.

"The relationship to formal religion was not as important to Ned as it is to most of us. Yet, I feel that on this occasion I should be permitted to say that he was in the process of becoming a man of intense prayer, and a very real relationship with God as a result of his recent participation in a local prayer group.

"As a result of all this he composed a prayer which he carried about with him and said each day. With this prayer which is filled with the presence of Ned Carman, I wish to close my homily:

Oh Heavenly Father -- I believe
Oh Heavenly Father -- I believe
I believe You give every child Your
Divine Soul and You do love each
one of us as Your child.
Oh Holy Lord, I praise Your Sacred
Name, Your Kingdom is coming.
Teach us to live in the light of Your
Joy as it is lived in Heaven.

O God help me today, help me today to be grateful for useful work that earns my daily bread.
Help me to organize and plan for tomorrow.
Help me today to complete today's work and to incur no unnecessary debts to burden tomorrow.
Oh Heavenly Father, please forgive my offenses. Fill my heart with understanding and love for all men.
I want to see You in everyone I meet.
I want to be a loving, forgiving man.
Lead me from the devil's temptation. Deliver me from his evil paths. Yours is the Kingdom, Power and Joy forever.

May his good soul rest in the peace of Christ."

This the last installment of "A Man For Others, The story of Ned Carman, WØZSW"



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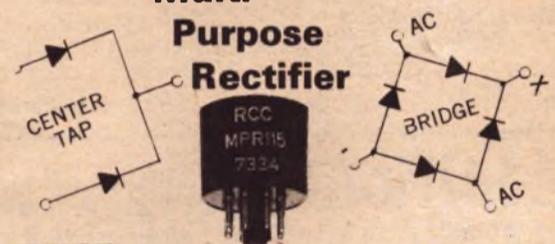


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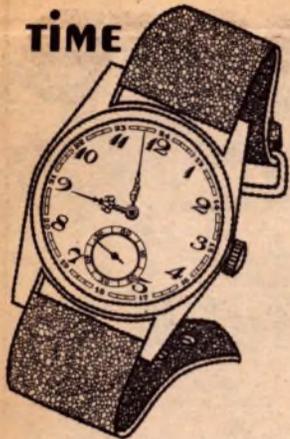
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TIME



Up-to-date complete details of WWV/WWVB/WWVH/WWVL operation is available in NBS Special Publication 236, dated May, 1973. Single copies can be purchased at \$0.45 each from the Government Printing Office, Washington, D. C. 20402; order by SD catalog number C13. 11:236.

Time and frequency broadcasts are made by the following stations on the indicated frequencies:

- ATA, New Delhi, India, 10 MHz
- CHU, Ottawa, Canada, 3330/7335/14670 kHz
- DCF 77, Mainflingen, West Germany, 77.5 kHz
- GBR, Rugby, England, 16 kHz
- HBN, Neuchatel, Switzerland, 5 MHz
- JJY, Tokyo, Japan, 2.5/5/10/15 MHz
- Loran-C, Carolina Beach, N. C. 100 kHz
- LOL, Buenos Aires, Argentina, 5/10/15 MHz
- MSF, Rugby, England, 60 kHz and 2.5/5/10 MHz
- NAA, Cutler, Me., 17.8 kHz
- NBA, Balboa, Canal Zone, 24 kHz
- NPG/NLK, Jim Creek, Wash. 18.6 kHz
- NPM, Lualualei, Hawaii, 26.1 kHz

- NSS, Annapolis, Md., 21.4 kHz
- OMA, Paderbrady, Czechoslovakia, 50 kHz
- OMA, Prague, Czechoslovakia, 2.5 MHz
- RWM/RES, Moscow, U. S. S. R., 100 kHz and 5/10/15 MHz
- VNG, Lyndhurst, Victoria, Australia, 5425/7515/12005 kHz
- WWV, Ft. Collins, Colo., 2.5/5/10/15/20/25 MHz
- WWVB, Ft. Collins, Colo., 60 kHz
- WWVH, Kekaha, Hawaii, 5/10/15 MHz
- WWVL, Ft. Collins, Colo., 19.9/20 kHz
- ZUO, Olifantsfontein, South Africa, 5 MHz
- ZUO, Johannesburg, South Africa, 10 MHz

It is assumed that closer stations will usually drown out more distant ones operating on the same frequency. As an example, WWV will normally be the predominant station heard in North America on 2.5, 5, 10 and 15 MHz even though one or more of these frequencies is used by nine other stations.

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To encourage activity and growth in all phases of amateur radio.

To assist DX-peditions to rare countries, counties, VHF locations or wherever 2-way communications may be out-of-the-ordinary or of unusual interest.

To act as a sponsor for those who can make significant contributions in their own specialized fields or areas of interest. Particular consideration will be given to projects which stress the public interest in, aid or advance the state of the art. Deserving amateurs worldwide whose qualifications meet these stipulations may be eligible for NCDXF support.

To provide financial assistance to worthy individuals in the pursuit of courses of learning that can benefit amateur radio.

MEMBERSHIP

Membership in NCDXF is open to all interested persons or groups who contribute funds or equipment or render other services to the foundation.

CONTRIBUTIONS:

Contributions to the Foundation may be in cash or securities. The latter may be donated at fair market value without capital gains consequence.

SCHOLARSHIPS:

The establishment of scholarships is another Foundation goal. Such scholarships may be funded by gifts and identified in a manner that will tend to perpetuate the name of the donor. Gifts of this type are not subject to Federal Estate Taxes.

TAX DEDUCTIBLE:

NCDXF is a non-profit California corporation and confirms to every requirement of the Internal Revenue Service. All gifts to NCDXF are tax deductible.

BOARD OF TRUSTEES:

- Lee Shaklee, W6BH, President
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- Hugh Cassidy, WA6AUD
- Merle Parten, K6DC
- James Maxwell, K6AQ

(Continued from page 20)

11. Correspondence can be addressed to our time and frequency stations as follows:

NBS Radio Stations
WWV/WWVB/WWVL
John Stanley, E. I. C.
2000 East County Road 58
Ft. Collins, Colo. 80521
(303) 484-2372

NBS Radio Station WWVH
Charles Trembath, E. I. C.
P. O. Box 417
Kekaha, Hawaii 96752
(808) 335-4217

DXpeditioning

(continued from page 16)

Sports slacks, shirts and loafers are quite acceptable in hotels and while traveling (ships and airlines). Unnecessary business suits tend to class one as "putting on the dog." The smart-alecky-gringo label has been with us for too long, and as a sort of ham radio Peace Corps, we can do much to alleviate such a misconception.

Use Bermuda shorts, etc., with discretion, according to local customs. In a number of DX locales, ladies do not wear shorts or slacks in the more populated cities or towns. There will be times and places when men may take more liberties with their type of attire than ladies may. On occasion, ladies' and men's sport clothing is permissible in remote or resort areas only. Do make inquiries.

Eating establishments in a number of countries do not have menus, so be prepared to "take what you get and like it." However, avoid any food which gives you a gastric problem. The more remote areas generally have plenty of food, but variety is lacking. A lack of trimmings and fancy dishes will be noted at many locations. Many merchants in tropical countries do not stock candy or candy bars--they do not store well in that climate. The best way to satisfy the sweet tooth is to visit the local bakery, if there is one. In many areas, ice and ice water are at a premium.

Some foods we take for granted are simply not available in a great many overseas locales. Canned goods purchased at outlying villages and island shops may cost from two to three times the state-side price, if it is strictly an import commodity. The same item

from the local U. S. or foreign subsidiary is considerably less, but still costly. If one must purchase from local shops and has a choice, buy the localized article. Surprisingly enough, even though a certain area may be considered "boondock-ish," one can still buy McGregor shirts, Del Monte catsup, Orange Crush soda and the like at native and Chinese shops.

One will note many things that will be considered below par and occasionally shocking, according to stateside standards. Being outwardly critical and a braggart has no place in DX circles, whether on 20 meters from your own comfortable shack or in a native lean-to in a YN, PY or 9Q5 jungle. It pays to be humble in more ways than one. If you are a nit-picker, DXpeditioning is not for you!

Do not be surprised if you are charged for each hotel room telephone call, even if it is a wrong number or if no one answers.

Much has been said about the use and worth of travelers checks. It isn't necessarily so! Nothing beats good old "greenbacks" or, better still, the national currency of the country at hand. With the exception of transportation costs handled by credit cards, it is recommended that one stay with U. S. dollars or the local exchange premium, bulky though it may be.

Beware of the money changer! He will take five to 10 per cent off the top when changing local currency back to U. S. dollars when you leave DX land.

Beyond major points of entry, the transportation situation gets a bit shaky at times. All forms of travel can be encountered (and used) on occasion. It might be wise to figure your total trip expense and add 10 per cent. This

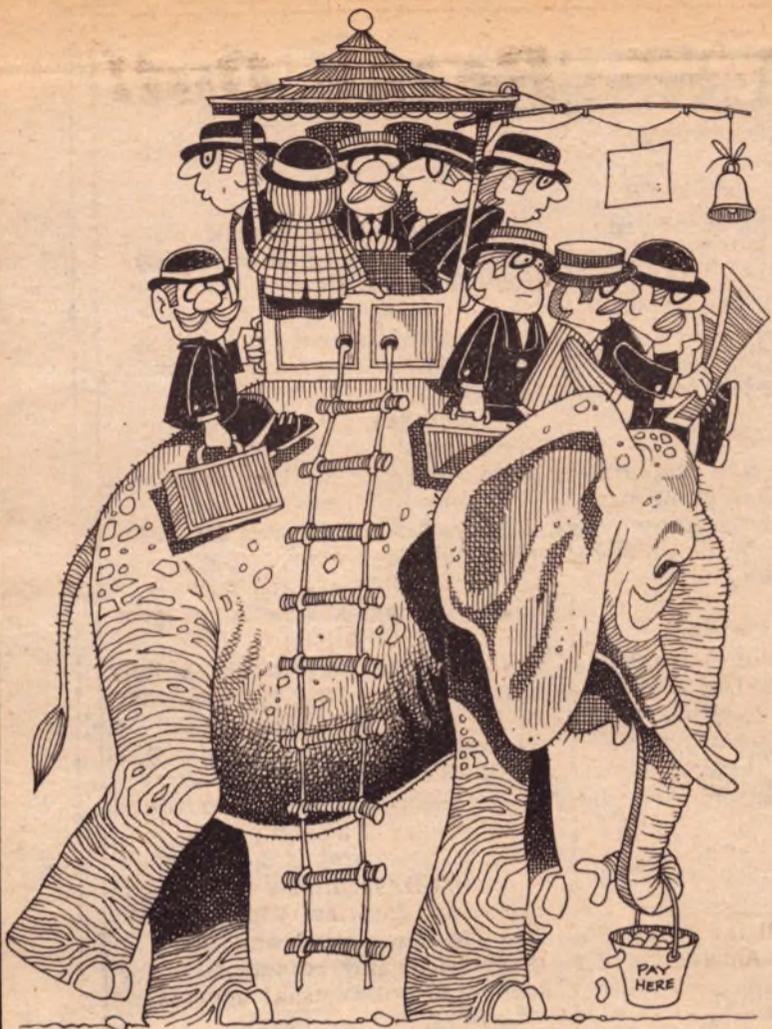
also applies to the time limit--only add two days. A happy medium may be reached by this practice.

If one plans to set up in commercial buildings, it is mandatory to ascertain if the management will allow "sky hooks" here and there, and if continuous operation around the clock is permitted. Be sure to reach a complete agreement before any money changes hands. Determine the hours that commercial power is available. A nominal extra fee will usually assure you of 110VAC at your leisure. Even though the local populace may well be aware of radio as a communication medium (perhaps even the only means for their region), they are rather definite in the hours they keep. This may relegate you to "top floor rear," if you want to give it a go at all hours of the night.

For better universal social and amateur relationships, it is prudent to follow up your visit with a "thank you" letter to the officials, agencies, and all associated individuals that granted or helped in obtaining your license and/or permit. Include favorable comments about the trip. It is only common courtesy to mention the calls of any of the amateurs you met or visited while in the country. Enclosing your QSL card with that particular DX call is a good gesture.

As you can see, there are a number of things to consider when preparing for a weekend of leisure or otherwise hamming down in VP2, CT3, PJ, HKØ, etc. It is no great effort if you take your time and begin preparations at an early date. As noted, there are a number of variables involved, so prepare for the worst and expect the best!

See you from KSØ, then...



climb aboard "the big one"
for more news and information

tell us something

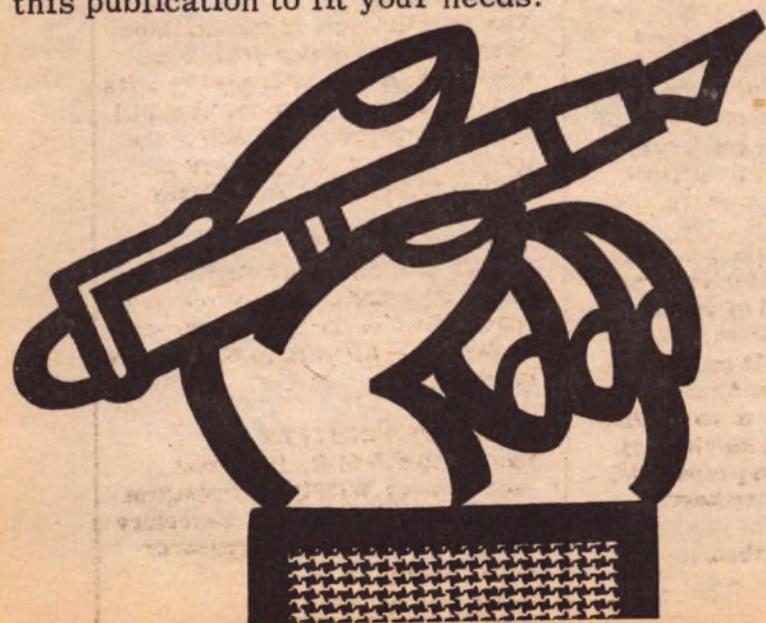
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Is Amateur Radio Necessary?

(A VK Squaretable)

(Editor's note: This purports to be a record of a conversation that took place a few months ago in Melbourne, Australia.)

A: Have another beer.

B: Don't mind if I do.

A: What are your thoughts on repeaters?

B: All in favor of them. You fellows are squeezing into less and less space.

A: Well, that's good, isn't it? We are using the bands more efficiently.

B: Yes, it certainly is good. There are a lot of other chaps who want that space, and it looks as though they ought to have it.

A: Oh?

B: You realize, say, that 80 meters is ideal for people doing work in the outback?

A: But why 80 meters? Why not 81 meters?

B: All right, but they want 80 meters, and the equipment is already commercially available.

A: But we have already got plenty of amateurs on 80--just listen to the QRM any weekend.

B: But how dead it is during the week? And what is to prevent you from doing all your operating with VHF repeaters? You could get nearly as much DX from a chain of repeaters as you get from 80 meters.

A: But that's not fair! A lot of blokes prefer to build HF equipment which is less critical of components and adjustment than is VHF gear.

B: Oh, yes, and how many people do build their own any more?

A: Plenty; the amateur magazines are full of constructional articles.

B: Do you build?

A: Well, no, but that's a special case. I've just got too much to do for the wife and my job.

B: It's not so special. When more people were constructing, they were just as busy. But let's return to the original point. You chaps have already lost a large slice of 80 to commercials who do in fact use it constructively. You can hardly assert that most of amateur operation is constructive nowadays. Furthermore, repeaters show that you can operate on much less space than you have been given. Why, for instance, should you have four MHz on two meters when in fact you produce the most activity there from FM contacts using only some 800 kHz? That leaves some three MHz largely unoccupied.

A: But the low end is certainly occupied very heavily by AM, etc.

B: Sure, some 200-300 kHz worth; that's heavy?

A: We have to plan for the future; more amateurs will need more frequencies.

B: The present channel spacing could be reduced and more amateurs could be put into each channel.

A: This would turn amateur operation into one great net.

B: Isn't that the direction it's going now?

A: How about the individualists who don't want to be crowded in with the others?

B: Let's keep our priorities in mind. The important thing is not what amateurs want, but what societies need.

A: I suppose that society "needs" space in 40 and 80 meters while there is ample space available to them outside of our bands?

B: There is such space, but you must admit that the propaganda stations find a handpicked audience already at hand in the amateur bands.

A: Amateurs are not interested in propaganda!

B: Then why don't more of them jam the broadcasts of the intruders? Only a tiny signal sitting on one of their frequencies can cause havoc.

A: Amateurs have more important things to do. The fact remains that the intruders have no business being there. Are you supporting their propaganda activity?

B: Certainly not. Arguments have in fact been advanced in favor of your having more space in 40 meters, but this was opposed by the government of Infrabovia--with whom we are presumably on friendly terms. What more can be done?

A: At least we shouldn't lose the frequencies to which we are entitled.

B: Are you entitled to them?

A: Yes, we were given these frequencies by international agreement.

B: Modern tendencies toward band-sharing show that this agreement is no longer as valid.

A: But that's not fair!

B: So? What have amateurs done in recent years to justify their use of the bands?

A: Training new technical talent?

B: But that's taken care of nicely by commercial and military training programs.

A: Civil defense?

B: This is already handled very competently by governmental agencies.

A: Message handling?

B: Not significantly outside of North America, and look at the mess it has become over there. They are even phone patching commercial transactions now!

A: At least Amateur Radio provides a healthy hobby for a large number of people.

B: Have you listened to the bands recently?

A: Of course.

B: Do you call "healthy" the kind of obscenity, discourtesy, bad operating, and incompetent operating heard there?

A: That's only a noisy minority.

B: You can't convince the public of that.

A (smugly): Most of our operation is on SSB and the public can't receive that, so they don't matter.

B: The commercials can, and they do matter. And they want your frequencies. You have shown that with the aid of repeaters you can do with far smaller bands. You have shown by scanty use that you need far fewer bands. And you have shown by incompetence and poor operating that you are jolly lucky to have any frequencies at all.

A: If you destroy radio, you'll be destroying a large commercial enterprise.

B: Who's destroying radio? Only Amateur Radio; there is much commercial and service opportunity in other directions. Already component manufacturers are recognizing this by largely ignoring amateur complaints about component scarcity. The big production goes where the big money is--in the entertainment and commercial communications markets.

A (gasping): I need another beer.

B: Me, too. May I make a suggestion I hope you'll pass on to your mates? You'll have a better chance of keeping the bands if the intelligent majority accepts some responsibility for pulling the clods back into line. This requires individual responsibility, and that means you and your friends. If you do nothing, you'll get nothing.

(From "The Australian EEB.")

Ham Friends

(continued from page two)
a holiday trip to Rio de Janeiro Jan. 15 through Jan. 25, and among the takers will be Mr. and Mrs. Joseph DiFilippi of Middletown. Mrs. DiFilippi is payroll supervisor at the college, and Mr. DiFilippi (call letters W2-RAP) is a ham radio hobbyist with a circle of calling acquaintances that stretches around the world.

One of those over-the-air friends is Claudio de Sousa Lima (PY2BFO) of Sao Paulo, Brazil. The two men have never seen one another, but they - and Mrs. DiFilippi - have

been talking to one another on the average of once every week for a decade.

They've exchanged gifts on holidays and special occasions, and the DiFilippis several times have entertained friends of Claudio at their home when they visited in this country from Brazil.

The Middletown couple will do a turnabout on Jan. 18, when they plan to leave the college tour in Rio and fly to Sao Paulo to spend two days with Claudio. The latter was married a short time ago, so the DiFilippis are taking with them

a wedding gift for him and his bride.

Jan. 18 happens also to be the birthday of the DeFilippis' daughter, Mrs. Philip Campo of Middletown, and Claudio already has made arrangements for her parents to offer their congratulations via ham radio.

"If it hadn't been for the Alumni Association trip", says Mrs. DiFilippi, "we probably wouldn't have thought of Brazil this year. Knowing we have a friend there waiting for us makes it particularly pleasant."

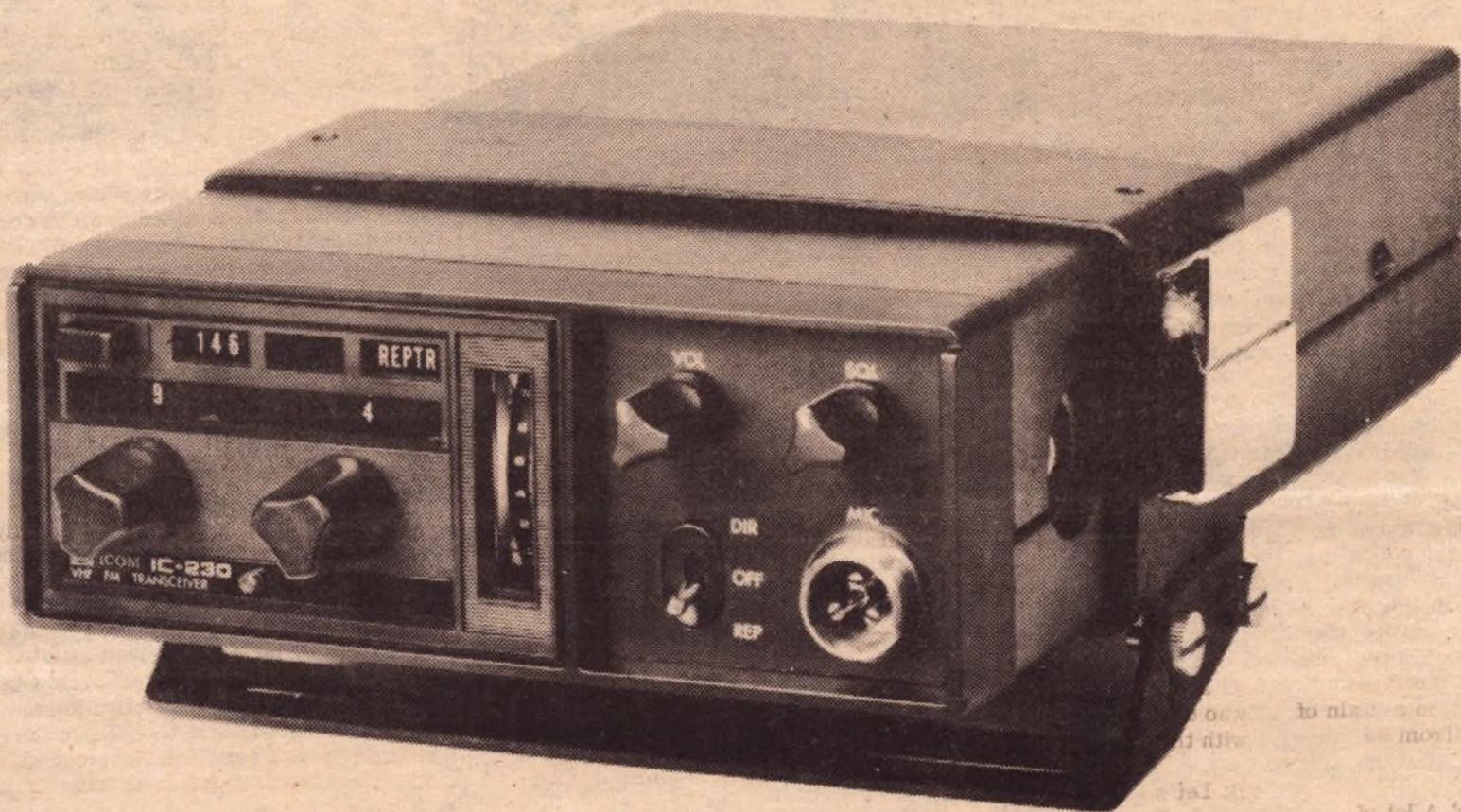
More than 80 others - college faculty, staff and alumni - find the prospect of Brazil pleasurable, too, and have signed for the South American jaunt.

The association's next scheduled trip is set for March 16-24. It's to be an eight-day junket to Russia, with stops at Leningrad and Moscow. Reservations for that one are still open. Ronald J. Rac, alumni coordinator at the college, is in charge of arrangements.

(From Redbank, NJ, "Register")

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by Nick Hauck, K6QPE

The Office of Telecommunications speaks of a "need for a disciplined radio service", and hobbyists want new frequencies for their services and type of operations. The Academy of Model Aeronautics, with radio controlled equipment, and with possible future amateur radio operators in its ranks, are finding out the hard way what chaotic activities of certain citizen band operators can do. Recently in a midwestern area, 15 crashes of radio control model aircraft were caused because of a "new sport" of the CB operators, causing channel interference and the crashes. Many modelers have moved to the 72 MHz band if licensed properly, but in cities where they have TV channels 4 and 5, it means interference problems. The modelers have requested 224-225 MHz to be used for their operations.

As I stated in the beginning, the Office of Telecommunications has asked that any service using this band, and that includes CB and Amateur Radio, be a disciplined radio service. Up until now, there has been a total absence of FCC violations from the modelers. (Too bad the amateur service can't say the same for its group.) In asking for a slice of this new pie, a request of 10 milliwatts was made. With repeaters, a 200 milliwatt transmitter would cover hundreds of miles, possibly under ideal conditions. This low-power requirement would make Dick Tracy wrist radios a reality. By the way, where is Dick Tracy?



During the gasoline shortage, we are spending more time at home enjoying our hobbies. The increase in overcrowding on our bands indicate this fact. Someone has suggested, with tongue in cheek I suspect, that we leave our linears off to save energy. Do you really know how much current your equipment is drawing? It might come as a surprise to you, as it did to me, to find that my SSTV monitor and camera only pulls a total of 80 watts. Since most of us sit in the darkness to view our pictures, again we are saving on energy. So do your part during this energy crisis-buy solid-state and go slow-scan.

FCC on the prowl. Reports this week indicate that the FCC is again listening in on net operations and writing "pink" slips when improper ID is given or not given, whichever the case may be. Remember SSTV contacts must always begin with call letters, not video. The FCC has also given one for soliciting funds on amateur radio.

Jo Cabral, CR6CA, (above), the most famous amateur in Luanda, Angola. The SSTV DX'ers know him as a very helpful fella and a faithful QSL'er. As you can see by the photo, his shack is very professional in its design and equipment. Not only is he active on SSTV and SSE, he is equally known for his RTTY work. The many awards and certificates belonging to Jo are some indication of how busy he is-using three complete stations during contests cuts down on band-changing time. I am sure Jo worked long and hard for this dream station! Our congratulations to him.

Contacts with Japan on SSTV are becoming more frequent. At the present time, I am using Japanese made solid-state gear and many of the Japanese are using the highly regarded American equipment. A personal friend of mine, Shinohara-san, JH3FFT, has a Drake and Robot. You know how much fun it is when good friends get together, but SSTV contacts are something else! It's a blast!



THREE LETTERS - SO MUCH TO HAMS!

By Jim Weaver
WA8COA-WA9FEW

QRP-three letters of the alphabet which are but one of many International Morse code "Q" signals. "Q" signals are abbreviations used to save time in sending more complicated, frequently-used thoughts by code.

QRP is defined as "decrease your power" when transmitted as a statement. As a question, it is "shall I decrease my power?"

Unofficially though, QRP refers to a ham radio operation using low power. Generally, it applies to operating at output power of less than 100 watts from the transmitter.

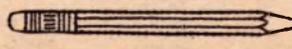
QRP, low power operating, has become quite a challenge for thousands of hams. Hams who often have become bored with operating at a transmitter output at or near the 1000-watt maximum level permitted by the Federal Communications Commission.

Imagine the thrill of making contact with the only radio amateur in an underdeveloped African country - or on an isolated, barren Arctic island - while running the legal maximum power. Imagine, then, how much greater the thrill if the contact is made while running only 100 watts - 10 times less power than the big boys! That is QRP at its best.

But, not content with QRP, the rage among many hams now is QRPP-operating with a power output of no more than five watts.

How great the operating challenge to try to contact the rare and distant DX (foreign) station while running only a watt or two. And how sweet the victory to make the contact when scores of the big boys with their kilowatt rigs have to wait until the QRP station has finished its contact!

Amateur Radio is a worldwide means of people-to-people contact and really does help to lessen world tensions... Charles Cotterell, W0SIN

 write to Wr

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

Nets

Surprising as it may seem, a majority of amateurs are not aware of these various traffic nets (phone-patch and message) that have been continuously active for many years.

(Monday to Saturday)

NET NAME	FREQUENCY	GMT
Int'l Traffic Net	14.313	1100-1500 2200-2330
Maritime Service Net	14.313	2000-2200
Halo Net	21.390	1800-1900
Int'l Mission Radio Assoc. (IMRA)	14.280	1800-1900
(Monday to Friday)		
Coast Guard Net	14.313	1600-1700
N. American		
Message Net	14.285	1400-1500
Marine Corp. Net	21.430	1900-2000

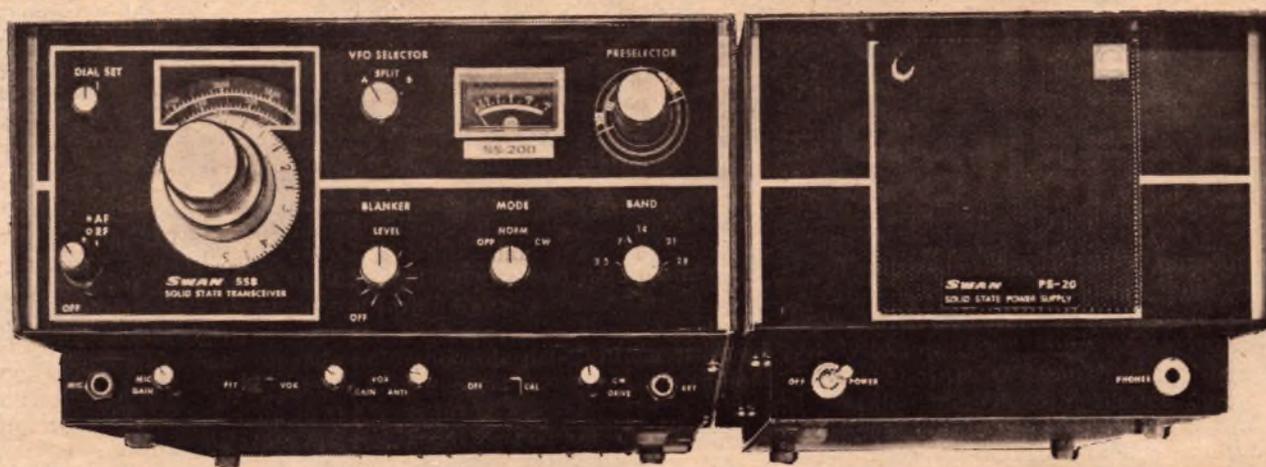
All of above Nets will provide phone-patch or message traffic to any station checking in if station in desired area is available.

For Central and South America, the Inter-continental and Halo Nets provide the major service connections, followed by (but not much) the IMRA Net.

The indicated GMT time periods are correct for any Nets having changed to Daylight Saving Time.

de Paul A. Girard, KP4CB

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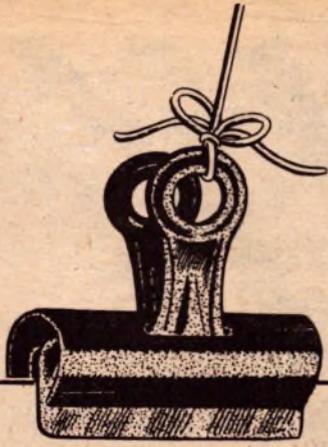
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THE BEST PRACTICAL DEVELOPMENTS IN AMATEUR RADIO



TRAFFIC

by
**Paul
Gagnon
WA6DEI**

Basis and purpose- "recognition of the value of the amateur service to the public as a voluntary non-commercial communications service, particularly with respect to providing emergency communications". From Part 97.1 FCC Rules and Regulations.

This is one of the reasons amateur radio exists... because it is a service. Wouldn't it be great if we could say all ama-

teurs provide a service! Unfortunately, we can't come anywhere close to saying that with a straight face. The majority of amateurs have spent hundreds of dollars on the fine new equipment they have in front of them and they do not perform one bit of "service" that justifies the existence of Amateur Radio. (It is ironic that many traffic handlers I know that are performing a service every day have some of the oldest and simplest gear on the air today. Perhaps their values are in the proper perspective.)

The number of amateurs who constitute something useful to the reasons for continued existence of the amateur service are very few. We may wake up one day and find there is no difference between the amateur service and some other un-mentionable services. Since Amateur Radio will no longer be unique for the service it performed for so many years, it will be combined with "that other service".

How about you? Are you using your station and license for a meaningful activity or for mindless fun? There are many aspects of amateur radio that are indeed performing a service. The monitoring services provide emergency road communications to motorists. Phone patching is a good service for servicemen overseas. There are many others. Traffic handling is one that is

easy to perform and truly does provide a service. Some would argue with this and say, "If it was important they could telephone", "The messages get so garbled they don't make sense". "The people don't care about them anyway", When you hear these complaints you know they haven't delivered much traffic. I have had people break down and cry from relief brought by a message. You never know the circumstances around the message.

However, traffic handling during normal times is not the most important part. This is only a time of training. The real test comes when there is an emergency. In order to be an effective public service we must perform when an emergency arises. We must be able to move large numbers of traffic accurately and quickly. Lives may depend on it! Every emergency operation from the local level up to the national level is simply a system of nets. In an emergency everyone wants to help. But the end result is mass confusion because they do not know how to help. This is why peace time nets are so important - very important! If lives are lost in an emergency situation because you had no training and could not effectively use the communications facility you had, you would not regret spending a little time in training.

Ask yourself the following ques-

tions: Do I know how to net-control a phone and CW net? Do I know the standard message format? Do I know proper procedures for checking into a net? Do I know how to obtain fills for a message? Do I know the QN signals? If you answer no to even one of these questions you should be checking into the nets in your area and learning how - both phone and CW. If you never have net controlled, now is the time to learn, when things are quiet and we are handling traffic for training and to keep the system well-lubricated for an emergency.

The Simulated Emergency Test sponsored by the ARRL was held Jan. 26-27. A part of this test includes originating traffic and handling it properly. Everyone is green and makes errors. This is the necessary step of learning. I hope you participated and learned something from it. Remember - a little time spent in preparing for/or performing a public service goes a long way toward justifying your license privilege.

Questions and Answers

Beginning next issue we will run a question and answer section of this column. Send any questions you have regarding traffic handling and we will try to give you a solution. Also, remember to send any net information you have to WA6DEI, 1791 Hedon Circle, Camarillo, Calif. 93010.

AREC

CALIFORNIA STATEWIDE AREC PLAN (PROPOSED)

ITEM 1 PURPOSE

The planned purpose is to provide the machinery whereby the Amateur Radio Emergency Corps may be efficiently and rapidly assembled and deployed for Federal, State, Military, and Red Cross operations by Authorized Agencies.

ITEM 2 PRE-DISASTER PLANNING

California Amateur Radio Organizations will be encouraged to form Disaster Communications Teams for airlift into disaster areas in the following classifications. A list of the teams and their capabilities will be supplied to Federal, State, Military and Red Cross officials.

1. Disaster Communications Team (HF). Capability: Instant Service Nets, WCARS, WPSS, MTN, NTS.
2. Disaster Communications Team (VHF or UHF). Capability: Portable Repeater and Handi-Talkies.
3. Disaster Communications Team (Teletype).
4. Joint Emergency/Disaster Communications Team. (AREC/RACES/MARS) Capability for War Emergency Operations, and Natural Disaster Operations.

ITEM 3 PRE-DISASTER OPERATIONS

1. Operation Handle is a monthly NTS/MARS Test message sent to Disaster Officials. Its purpose is to familiarize them with the AREC/RACES/MARS Programs and the lo-

cations of the nearest stations.

2. California Disaster Watch. California Instant Service Nets, and Repeater Organizations will be encouraged to get up disaster watch operations whenever there is a possibility that a disaster has developed or is developing. A Disaster Watch Operation is a Net of Radio Stations located in the Disaster Area providing disaster information to responding Relief Agencies.

ITEM 4 DISASTER OPERATIONS

1. Assigned AREC Organizations will proceed with their emergency operations.
2. Unassigned individual and organization AREC Members will monitor Disaster Watch Frequencies for assignment and transport information. Disaster Watch Frequencies are 7255-3952-3928 and 146.94 for local RACES information.

ITEM 5 POST-DISASTER OPERATIONS

AREC operations will be terminated under the direction of authorized Disaster Relief Officials.

ITEM 6 STATE AREC OFFICIALS

The California State AREC Coordinator North (Pacific Division). The California State AREC Coordinator South (Southwest Division). Will be appointed by the ARRL Communications Manager after consultation with the appropriate Division Director.

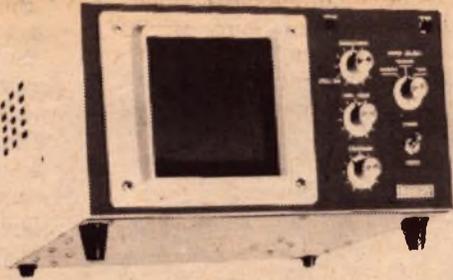
ITEM 7 FEDERAL, STATE, MILITARY, AND RED CROSS CONTACT

California State Amateur Radio Emergency Coordinators will have the joint responsibility of maintaining close active contact with Federal, State, Military, and Red Cross Officials in order that they may:

1. Provide the latest government, and Red Cross disaster operations information to ARRL Directors, SCMs, and SECs.
2. Assist statewide Amateur Radio Organizations in coordinating with Federal, State, Military, and Red Cross Emergency Communications Programs. (Pre-Disaster Planning).
3. Assist in providing coordination and information to Disaster Relief Agencies during emergency operations on Disaster Watch Frequencies.
4. Assist Amateur Radio Organizations in conducting realistic SETs.
5. Assist Hamfest, or Convention Committees in finding speakers with knowledge of Federal, State, Military, or Red Cross Emergency Communications Operations.

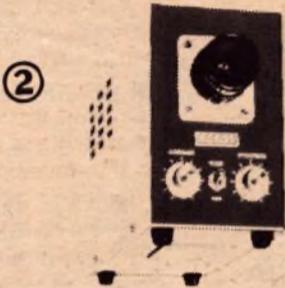


Mike Caruncho, WB4JSS, (right) Director of the VHF Committee and Tony Urbizu, WB4TED, (left) SIRA's Emergency Net Director (Red de Emergencia) showing at the annual dinner the repeater to be used by the International Society of Amateur Radio Members (SIRA). The repeater will be using 147.900 MHz. as input frequency and 147.300 MHz. as output frequency in the Miami Area. It will also be the first bi-lingual repeater in the US continental territory.

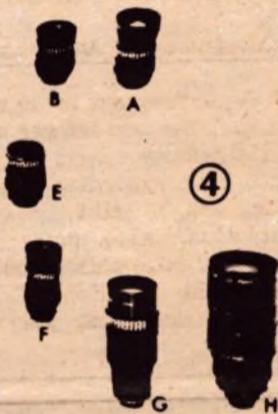


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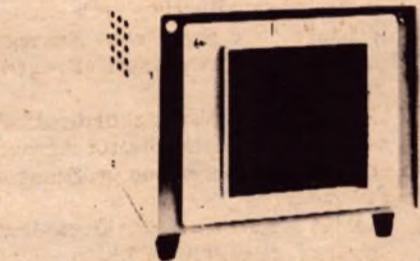
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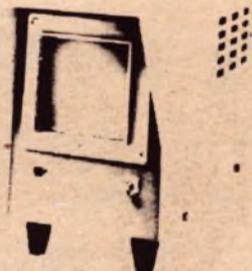
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③



⑤

① MODEL 70 A SSTV MONITOR

Displays amateur standard pictures from any SSTV audio source: station receiver, tape, camera. Six inch (diagonal) display.

Front panel controls for easy station operation. Connectors for receiver, transmitter, microphone, tape, waveform monitor, tuning indicator, and auxiliary demodulated SSTV output for external monitoring.

All solid state except cathode ray tube.

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② MODEL 80 A SSTV CAMERA

Generates amateur standard SSTV pictures and fast scan video for viewfinders. Controls for contrast, brightness, vidicon beam, SSTV signal level, black/white reversal, 1/4-1/2-full frame selection.

All solid state except vidicon. All station cabling included; requires suitable C-mount lens.

\$295

④ LENSES

Lens	Focal Length m m.	Min. f stops (All 22 max)	Min. focus (in inches)	Price
A	12.5	1.9	10	\$ 49
B	25	1.9	24	\$ 25
E	25	1.4	6	\$ 54
F	50	1.9	42	\$ 43
G	150	3.2	96	\$ 79
H	18-90	2.0	60	\$220

③ VIEWFINDERS

Choice of 4 inch diagonal (Model 60) or 6.5 inch diagonal (Model 61) display to fit your station.

Displays fast-scan video pictures to simplify setting camera focus and field of view. All solid state except cathode ray tube. Tripod mountable (Model 60 only).

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Model 61: **\$239**

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Maritime Mobile

by
Bill Yost, WA6PIU

"MAYDAY, MAYDAY!" came the call with an eerie fading.

It was Saturday night about 10:30 p.m. Judy, WA6RAN, and I were aboard the "Sea Goose" at the Emeryville Marina near Berkeley, Calif., on San Francisco Bay.

I had just switched to the 146.94 simplex channel after WR6ABM (22/82) had shut down. The frequency was fairly quiet except for a few remote stations exchanging signal reports. I was about ready to shut down and hit the sack when it happened. Very weakly but distinctly, it came through the night--

"Mayday, Mayday!" This is (fade) ... south of Princeton Harbor... We are drifting towards the rocks. (fade) small sailboat."

At first I thought I was catching some cross-modulation from the VHF marine band, since I had been having that trouble earlier in the day. I immediately inquired as to whether any other stations had copied the distress traffic--no reply.

"Mayday traffic, do you copy WA6PIU/M6?"

"Roger," came a terrified voice "We need Coast Guard assistance We are in danger of being swept toward the rocks."

The line-of-sight propagation path to the "Sea Goose" represented 30 miles through solid mountain. Apparently, no other station had heard the call.

"Can anyone relay Mayday traffic to the Coast Guard?" I asked. Almost instantly, Peter Ruggeri, (W6TSD), responded that he had the Coast Guard on the landline requesting information as to the number of passengers aboard, etc.

"Maritime mayday, do you copy? How many aboard?"

No reply. Then, suddenly, came the cry, "Too late! We're taking on water." There was a crunching sound... then silence.

Earlier in the day three men, Ed Galvan (K6CIB), Ron Carroll and Gordan Schreiber, had set out from Santa Cruz Harbor, bound

for Richmond in San Francisco Bay. WA6FXO was to keep an hourly 2-meter schedule with the boat while mobile along the coast. They planned to drop the hook in Half Moon Bay, completing the trip on Sunday.

During most of the day heavy seas and winds had hampered progress, leaving the boat at the mercy of the currents and the heavy swells, which were setting towards the beach. An attempt was made to start the outboard motor auxiliary, but the heavy swells swamped the engine. At this time the first mayday was sent.

After numerous unanswered calls, it was noted that the coax had broken at the rig. Luckily, Ed had a spare piece of coax which he quickly jury-rigged to a 5/8 wave whip, which was shoved between bunks in the cabin (practically below sea level.) He was using a Denshi rig with 10 watts out.

Outside the cabin there was a thundering crash which completely rolled the boat 360°, throwing Ron and Gordon into the violent sea. Ed, however, was slammed against the bulkhead, and was knocked semi-conscious. The boat was now full of water.

Ed revived to find himself trapped beneath the sails and debris. As he staggered toward the hatch he heard the shouts of Ron and Gordon in the water.

Another wave hit, throwing Ed into the surging froth.

Rescue crews by this time had been dispatched to the area with high-intensity lights. A Coast Guard helicopter was hovering over the area after being dispatched shortly after we lost communications with the boat.

The men, however, were being constantly swept back and forth in the raging surf which made aerial rescue impossible. They attempted to swim toward the light on the beach.

After what seemed like hours in the 54° F water, they were pulled to the beach by the rescue team, shaken, cut, bruised and weary, but alive - an amazing feat considering that of nine previous shipwrecks in that area, only one man had survived.

Back on the "Sea Goose" we got

FCC

(continued from page two)

three types of records - including individual transaction lists showing applications processed by a computer on a day-to-day basis.

Judge Harrison pointed out that the case presented a relatively simple factual question whether McCluney fulfilled the requirements for an Extra Class Amateur radio operators license or obtained the license by fraud or misrepresentation since there was no FCC record that he had taken the Extra Class operator exam in 1966 as he maintained, or any other time during the periods covered by FCC records.

The Judge concluded that McCluney did file his 1970 license renewal application fully intending that the renewal be issued with the Amateur Extra classification. Judge Harrison said that McCluney did not take the required examination and conducted a fraudulent scheme to renew his amateur radio station license and upgrade his operator's privileges without taking and passing the required Extra Class operator examination. The scheme was placed in motion when he filed the 1970 license renewal application with an altered document, Judge Harrison said.

The commission is entitled to complete, responsive, truthful and candid information from its licensees, the Judge said, and there are no facts in the record to indicate that McCluney's future conduct would be any different than his past performance. Since McCluney deliberately misled and deceived the Commission and continued the deception in later letters and throughout the hearing, the Judge concluded that McCluney had failed to show why his radio station license should not be revoked.

Unless an appeal is taken by one of the parties or the Commission reviews the Initial Decision on its own merits, the Initial Decision becomes effective 50 days after its release date.

word from Kerry Mauro (W6LXK) that the three had made it safely. Jerome Torczyner (WB6VIG), in order to get better contact, made a special trip to the Half Moon Bay area. Other stations who relayed and kept the frequency clear were Thomas Campbell (W6JGZ), Danny Hickman (WA6HPX), and WF6YAG.

In retrospect, it is interesting to note that Ed could not activate the local repeaters. In spite of the fantastic coverage and emergency handling potential, they are absolutely worthless when shut down. With the burden of FCC regulations and the trend toward secondary control stations, repeater reliability becomes a matter of chance in an emergency. Hopefully, it may be realized by Washington that we are not playing with toys, but providing life-saving potential with our repeater systems. Instead of trying to repress repeat-

Guardian Angel

(continued from page three)

mission's medical and sanitation needs to church members here.

Kiener served as daily net control station for two months after the Nicaraguan earthquake. He noted all ham stations that sent health and welfare inquiries to Mrs. Parajon (YN1GPD), and he relayed replies back to concerned Clevelanders.

"Only one inquiry remains unanswered," Kiener said. "A family of three persons is still unaccounted for."

Kiener also volunteers telephone patches for CEPAD, a post-earthquake organization, which handles Nicaraguan medical and food needs.

Although Kiener is not a member of the First Baptist Church, he is on its planning committee, which assigns volunteer personnel and selects mission locations.

Kiener, licensed since 1924, has received local and national public service awards.

He was founder of the Westlake Amateur Radio Association, director of the Central Division of the American Radio Relay League, chief radio aide, War Emergency Service, and executive director, Cuyahoga County Civil Defense.

Kiener was Cuyahoga County's first ham radio emergency coordinator. He holds the ARRL's WAS and WAC certificates.

Kiener operates sideband mode on the 10, 15 and 20 meter bands, with Collins' S-line equipment.

Kiener has a degree in business administration from Notre Dame University. He is a lay minister at St. Louis Church, Cleveland Heights.

Kiener's son is Erother Paul (WN9MRX), of St. Meinrad Seminary, Meinrad, Ind. His daughter, Mary Elaine, is a nurse at Lakeside Hospital.

Kiener stays informed about the welfare of ham friends, the Parajons. He recently entertained them in his ham shack, and "worked them" on the air when they returned to Nicaragua.

er operations. 24-hour repeater access should be provided.

Anyway, enough editorializing. I appreciate the comments and letters. Hopefully we will have the data together on the cat whisker maritime mobile antenna by our next issue. Until then,

73, Bill Yost WA6PIU/R2

Gung-Ho hams

If this copy of "Worldradio" came to you in the mail and you are not yet a paid subscriber, it was sent to you as a gift. If you would like to continue receiving this publication you are cordially invited to subscribe. Please see page 27 for details.

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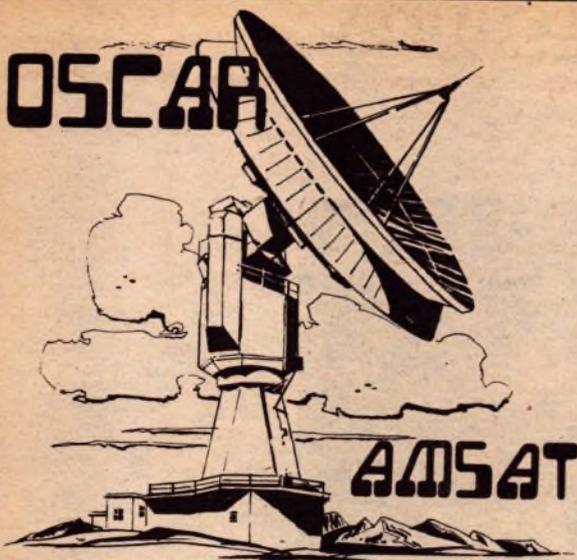
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73 Herb Johnson W6QKI



by Rich Osman, WBØHUQ

Pretty soon, if all proceeds on schedule, there will be a new game in town, OSCAR 7. Things seem to be moving fairly smoothly toward completion, as evidenced in the following report:

AMSAT-OSCAR-B STATUS REPORT

AMSAT-OSCAR-B (A-O-B) appears to be about two months behind schedule. The status system-by-system is as follows:

- A) Wiring harness-completed on schedule (Nov. 1).
- B) Two-to-ten meter repeater-completed, checked out, and now in burn-in.
- C) Canadian 435.1 MHz beacon-completed delivered, and undergoing tests for possible minor modifications.
- D) Sensor board, experiment control logic (ECL), and instrumentation switching regulator-all are completed, except the ECL, which is undergoing modifications to ensure against the transient switching encountered with OSCAR 6.
- E) 2304.1 MHz beacon-nearing completion by the San Bernardino Microwave Society. Delivery expected from California in the next few weeks. Quadrifilar antenna is being fabricated at JPL and RCA. It should be available in the next month after pattern measurements at RCA.
- F) 70cm-to-2m repeater-delivered by DJ4ZC in February, 1973 and still in storage.
- G) Battery charge regulators and 28-volt power regulators-shipment from AMSAT-Deutschland has been delayed to allow further testing and is now expected shortly.
- H) Teletype telemetry encoder-completed and delivered by WIA-Project Australia and now checked out.
- I) Morse code telemetry encoder-completed and checked out.
- J) Spacecraft structure-fabricated and now being assembled.
- K) Solar panels, brackets for array diodes-completed, but wiring(including RFI filters) remains to be done.
- L) Battery-completed, but a leak has developed in one cell and is being checked out.
- M) Antenna-ten-meter antenna deployment mechanism is still under development. Combined 2m/70cm antenna has been designed along with the diplexer/filter,

but remains to be fabricated and tested by AMSAT-Deutschland in Germany.

- N) Delta launch vehicle interface hardware-fabrication of conical interface fitting (by AMSAT) is still required, McDonnell-Douglas, launch vehicle contractor, is now beginning fabrication of the Delta attach hardware.
- O) Command decoders-one unit has been completed and checked out. The second redundant unit is completed but not yet fully working.

Joe Kasser, G3ZCZ/W3, and Jan King, W3GFY, have prepared a paper, which has appeared in the December '73 issue of the AMSAT newsletter. So here it is:

AMSAT-OSCAR & AND ITS CAPABILITIES (What it is, and how to use it.)

Introduction

This paper briefly describes the AMSAT-OSCAR 7 radio amateur satellite, its modes of operation, its orbit and tracking information, and also specifies the type of ground equipment needed to work through or receive signals from the spacecraft.

The Spacecraft

AMSAT-OSCAR 7 is the second in the AMSAT-OSCAR-B series of long-life amateur spacecraft. It is built in an octahedral (8-sided solid) configuration, allowing sufficient surface area for enough solar cells to provide a positive power budget system. This means that unlike OSCAR 6, this spacecraft should not have to be commanded into recharge modes periodically.

Physically, the experiments and individual modules are built in a "plug-in module" construction. This allows the same spacecraft configuration to contain a number of different experiments and modules. The main difference between this spacecraft and OSCAR 6 is that OSCAR 7 contains two repeaters and two auxiliary beacons, and both Morse code and teletype telemetry encoders.

The OSCAR 7 two-to-ten meter repeater has an output power of 2 watts PEP. This will make received signals somewhat stronger at the ground than those coming from OSCAR 6. The second repeater is the AMSAT Deutschland repeater which relays signals from 432 MHz to 145.9 MHz with an internal beacon on 145.98 MHz. The unit was designed and built by Dr. Karl Meinzer, DJ4ZC and Werner Haas, DJ5KQ. The two beacons consist of a Canadian-built 435.1 MHz beacon similar to the one flown on OSCAR 6, and a second auxiliary beacon at 2304.1 MHz developed by members of the San Bernardino Microwave Society.

Ground control of the spacecraft is achieved by means of command receivers in each repeater, redundant command decoders and an Experiment Control Logic subsystem.

Downlinked telemetry and stored message data are generated by the Morse code telemetry encoder, or the Codestore unit, these two systems being identical to those flown on OSCAR 6, and a new teletype telemetry encoder designed and built by Dr. Peter Hammer, VK3-ZPI and Edwin Schoell, VK3BDS.

The Codestors, Morse and telemetry and teletype telemetry signals can be routed to any of the four beacons in the spacecraft. The four beacons include the two in the repeaters and two auxiliary transmitters in a similar manner to Oscar 6. It is thus possible, for example, to receive Morse code telemetry on the 29.50 MHz beacon and teletype telemetry on the 435.1 MHz beacon at the same time (on two receivers).

The primary source of the spacecraft consists of eight solar cell arrays supplying 2.2 Amps at 6.4 volts when illuminated by the sun. A Battery Charge Regulator converts the raw solar cell array output to a plus-14-volt supply bus. This supply line charges the battery and supplies the spacecraft loads if the solar cell current is not sufficient to run the spacecraft (for example when the satellite is on the dark side of the earth). During these periods, the Nicad battery supplies the extra power. Two other redundant switching regulators supply the remaining voltages needed by the spacecraft modules.

Modes of Operation

OSCAR 7 has four automatic modes of operation defined as follows:

- Mode A: AMSAT two to ten meter repeater.
- Mode B: AMSAT Deutschland 432-to-146 MHz repeater in high-power mode.
- Mode C: AMSAT Deutschland 432-to-146 MHz repeater in low-power mode.
- Mode D: Recharge mode.

Each of these modes of operation may be overridden by ground command. In Mode D either the 435.1 MHz or the 2304.1 MHz beacon can be operational upon ground command, while none of the repeaters will be operating. It is also possible to have the 435.1 MHz auxiliary beacon operational by ground command while the spacecraft is operating in Mode A through D.

The spacecraft will normally alternate between Modes A and B. An internal timer in the spacecraft generates a pulse every 24 hours which causes the satellite to switch between these two modes. The 24-hour timer will be set by ground command so that the mode change can be kept at approximately the same time each day. Thus, each repeater will be operational on alternate days.

The spacecraft contains automatic power supply monitoring circuitry, such that if the battery charge drops 60% below the full-charge value, the spacecraft will automatically switch to Mode C, and reset the timer so as to stay in that mode for 24 hours. In Mode C, the AMSAT Deutschland repeater output power is reduced to 2.5 watts PEP, and the battery drain should be reduced sufficiently to permit the battery to be recharged by the solar cell arrays.

The switch to Mode C takes place under low battery charge conditions when the spacecraft is operating in either Mode A or Mode B. If the battery charge recovers, the spacecraft will switch to Mode B at the next 24-hour pulse, and then continue normal operation.

(continued in next month's "Worldradio")

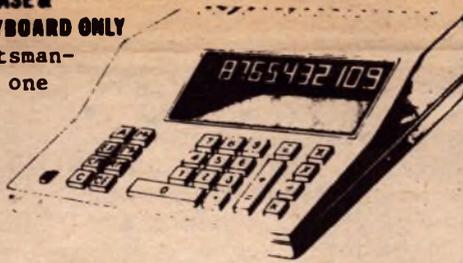
JOIN AMSAT

The Radio Amateur Satellite Corporation (AMSAT) is a non-profit, tax-exempt organization founded in the greater Washington, D. C. area five years ago. It is a membership organization open to all radio amateurs and interested non-amateurs. AMSAT's satellite programs are supported entirely from donations, membership dues, and grants.

Join AMSAT. Learn more about how you can participate with the exciting AMSAT-OSCAR 6 communications satellite, and with OSCAR 7, which promises to be even better. Receive the quarterly "AMSAT Newsletter" with the latest information on this new ham frontier. For membership information, write the Membership Committee, AMSAT, PO Box 27, Washington, DC 20044.

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7406 .70	74L72 .50
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74L10 .35	74H74 .80
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74L30 .40	7493 1.15
7440 .25	7494 1.15
74H40 .35	7495 1.15
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7448 1.00	74161 2.00
7450 .25	74163 2.00
74H50 .35	74193 1.50
7451 .25	74195 1.00

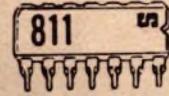
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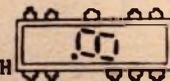
0-9 plus letters. MAN 3M

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



MAN4 Seven-segment, 0-9 plus letters. Right-hand decimal point. Snaps in 14-pin DIP socket or Molex. IC voltage requirements. Ideal for desk or pocket calculators!

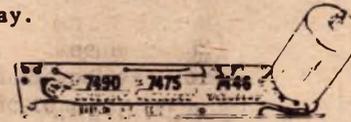
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COMPLETE KIT,
ONLY \$11.95
FULLY-ASSEMBLED
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Boards can be supplied separately @ \$2.00 per digit.

LINEARS

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NE555	precision timer.....	1.50
NE560	phase lock loop DIP.....	3.25
NE561	phase lock loop DIP.....	3.25
NE565	phase lock loop TO-5.....	3.25
NE566	function generator TO-5.....	4.00
NE567	tone decoder.....	4.00
NE5558	dual 741 op amp MINI DIP.....	1.00
709	popular op amp DIP.....	.45
710	voltage comparator DIP.....	.75
711	dual comparator DIP.....	.40
723	precision voltage regulator DIP.....	1.00
741	op amp TO-5/MINI DIP.....	.55
747	dual 741 op amp DIP.....	1.00
748	op amp TO-5.....	1.00
CA3018	2 isolated transistors and a Darlington-connected transistor pair	1.00
CA3045	5 NPN transistor array.....	1.00
CA3026	dual differential amp.....	1.00
LM100	positive DC regulator TO-5.....	1.00
LM105	voltage regulator.....	1.25
LM302	op amp voltage follower TO-5....	1.25
LM307	op amp.....	.50
LM308	op amp TO-5.....	2.00
LM311	comparator TO-5.....	1.75
LM370	AGC amplifier.....	2.00
LM703	RF-IF amp epoxy TO-5.....	.45
LM309K	5V-1A power supply module TO-3..	2.00
LM3900	quad op amp.....	2.00
LM1595	4-quadrant multiplier.....	2.00
8038	sine square triangle function generator.....	4.95



The Ham Club

NXXDXD VXRY MUCH!

vxrn though my typxwritxr is an old modxl. it works quitx wxll xxxcpt for onx kxy. Thxrx arx 46 kxys that function wxll knough, but just onx kxy not working makxs thx diffxrxncx.

somxtimxs it sxmxs to mx that our group is somxwhat likx my typxwritxr. not all the kxy arx working propxrlly. You may say, "Wxll, I am only onx pxrson. It won't makx much diffxrxncx." But you sxx, thx group to bx xffxctivx nxxds thx activx participation of vxvry pxrson.

so thx nxxt timx you think you arx only onx pxrson and that your xffort is not nxxdx, rx-mxmbxr my typxwritxr and say to yoursxlf, I am a kxy pxrson and nxxdx vxry much!"

WHAT IS A "RADIO CLUB"?

Like any club, it is a group of people with the same or similar interests. Amateur Radio is as wide as your Aunt Minnie before she joined Weight Watchers. It goes all the way from CW operators to TVL. In between we find contests, NETS, RTTY, OSCAR, rag-chewing, and more. Do YOU need an Amateur Radio club? I don't know. Only YOU can answer that one. In union there is strength. Birds of a feather like to flock together. Here is fellowship... fun... and work... Do you need a radio club? One thing is certain... A radio club needs YOU!!! You only get out of something what you put into it... plus a little interest. Think it over... Who needs whom?

(From "W3BMD News Letter")

CLUB COOPERATION

In rural areas, if an amateur radio club exists at all, it is usually the club. But in high-population-density areas, while we may have to fight auto traffic, air pollution and ham band pollution, we do realize a few advantages from having several different local clubs within a relatively small area.

In a typical such area there may exist a large catch-all club (these are having tough sledding, these days, in most places), a Red Cross (or AREC) associated club, a DX or contest-oriented club, clubs connected with large manufacturing concerns and maybe a half dozen others devoted to one specialty or another, or to neighborhoods or suburban communities. Since there may be some competition in recruiting members, the newcomer is especially at a disadvantage in choosing which club(s) to join. And while the rural club may have difficulty keeping membership up, metropolitan area clubs may have just the opposite problem. All active "joiners" in a rural area may belong to the club, but in high-population areas there may be some of them running around loose.

But one problem which often arises as a result of specialized clubs in a comparatively small area is that they don't talk to each other. The DX club, for example, has no traffic handler, no EC, no VHF operator, no technical type, no general interest rag-chewer in its ranks. VHF clubs, repeater clubs, RTTY groups may similarly associate only with themselves, completely lacking any contact with the "outside world." So all this expertise goes to waste.

One solution to this problem is to have each club send at least one representative to each other club in the area. These are sometimes jokingly called "spies" (sometimes not so jokingly!), and admittedly there are times when a club may have something to discuss that it wants restricted to its membership, so such visits should be cleared beforehand unless it is known that meetings are open to all. These representatives can then report to their own club at its regular meeting. If no one is interested, at least you'll know you aren't missing anything. But sometimes your representative comes back with some interesting dope.

The natural corollary to this procedure is to invite an expert from another club to give a talk before your group. For example, if your club is primarily DX-oriented, an expert on linear amplifiers or on propagation could command a wide field of interest. Development of common interests among specializing clubs

might even lead to joint meetings -- or at least joint social functions.

Then there are some metropolitan areas with beaucoup clubs who organize clubs federations -- that is, a "club of clubs." This makes possible a liberal and systematic exchange of info, trading of each other's troubles, and perhaps most important, joint sponsorship and organization of hamfests and conventions. We can't avoid specialization groups in amateur radio, and maybe we don't even want to, but we should work toward knowing and understanding each other's problems and working together as amateurs. Sticking together is an important function for amateurs which the local club can promote, and having a disjointed local group seriously hampers our ability to present a united front.

The many-sidedness of Amateur Radio is one of its strongest points, not the reverse. As someone was recently quoted as saying, when you get down to the nitty gritty, we all filled out the same form and received the same type of license -- an amateur license. You may not love that other group across town, devoted to some specialty you think is "for the birds," but you can learn to live with them in this hobby of ours, so you can share each other's wealth of knowledge and strength of numbers.

(From ARRL "Affiliated Club Bulletin")

SPECIAL NOTICE DUE TO GAS RATIONING AND OTHER PROBLEMS

IT LOOKS AS IF THERE WILL BE NO GAS PROBLEM IN MAY IN FRESNO! IF YOU PLAN TO ARRIVE ON AMTRAK, LET US KNOW EARLY SO A CAR CAN MEET YOU AT TRAIN TIME.

THE USUAL FREQUENCIES WILL BE MONITORED SATURDAY FOR LATE ARRIVALS. (3494 WR6ACU WPSS WSCARS)

FRESNO AMATEUR RADIO CLUBS
32nd ANNUAL

FRESNO HAMFEST



SHERATON INN
2550 W. CLINTON AT HIWAY 99
FRESNO, CALIFORNIA

Special Hamfest rates. Please make reservation direct with motel.
\$ 18-20 doubles + \$ 15-17 singles.
\$ 35 exhibitors suites.

HAMFEST PROGRAM TO INCLUDE

FRIDAY MAY 10 Registration 4:00 to 8:00pm
Champagne party (for registered Hamfest guests) 6:00 pm

SATURDAY MAY 11

Swap tables
Code Proficiency Tests
Home Brew Contest
WPSS Meeting & Discussion
Ladies Luncheon and Fashion Show
Prizes given away on the hour.

MARS
ARRL Open forum
Technical Talk (Al Gaetano)
Transmitter Hunt 2M (146.52 hz.)
FMers Hospitality Room
7:30 Banquet and Prizes
Slow Scan Lecture and Demonstration

SUNDAY MAY 12

Non-club sponsored events - Breakfasts - Various groups - MARS
Wescars, WPSS, Trowel, Separate registration at H. F.

HAMFEST REGISTRATION

(PRE-REGISTRATION PRIZE) LATEST PRE-REG. POSTMARK MAY 3 MIDNITE

MAKE CHECKS PAYABLE TO:
FRESNO AMATEUR RADIO CLUB
P.O. BOX 783
FRESNO, CAL. 93712

Hamfest Registration \$ 12.00
(Registration at the Inn is each person's responsibility.)

Please reserve _____ tickets for me at \$ 12.00 per person = _____

NAME _____ CALL _____

NAME (XYL) _____ CALL _____

NAME GUEST _____ CALL _____

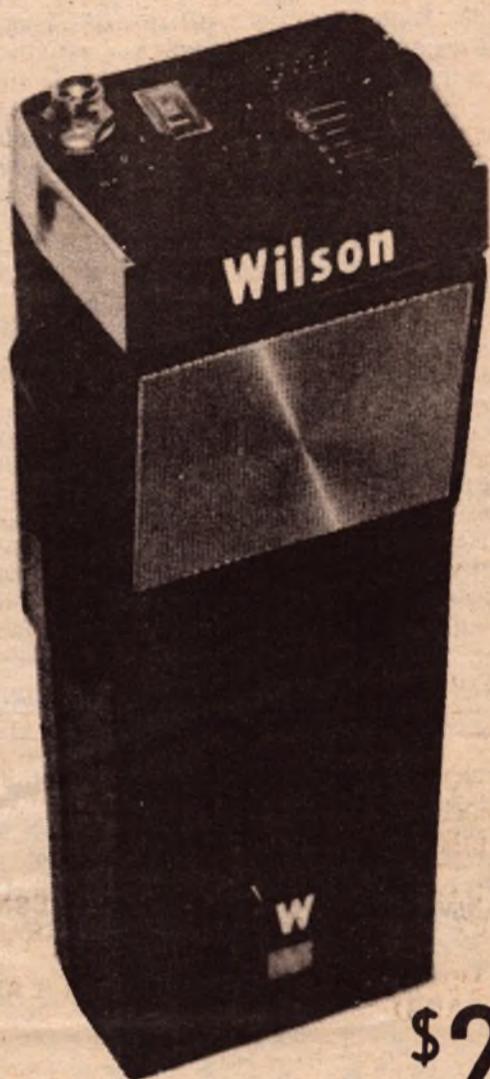
ADDRESS _____ CITY _____

ZIP _____

DO YOU PLAN TO ENTER HOME BREW CONTEST? _____ SWAP TABLE? _____

Wilson Electronics Presents The Finest 2 Meter Handie Talkie
With the Hottest Rx Front End on The Market.

2 METER FM TRANSCEIVER MODEL 1402SM



FREQUENCY140 - 150 MHZ
(2 MHZ SPREAD)

NUMBER OF CHANNELS6
Supplied with 146.94 Simplex
146.34/94 - 146.16/76

R.F. Output 2 Watts minimum

Sensitivitybetter than 0.3
MV/20 DB Q.S.

Audio Output500 mv

MeterMonitors battery voltage
on Tx, S meter on Rx

Weight1 lb. 4 ounces
without
batteries

Current drain 15 MA Rx
410 MA Tx

Size 8 7/8" x 1 7/8" x 2 7/8"

Includes Adjustable Whip Ant

\$239⁰⁰ Amateur
Net Price

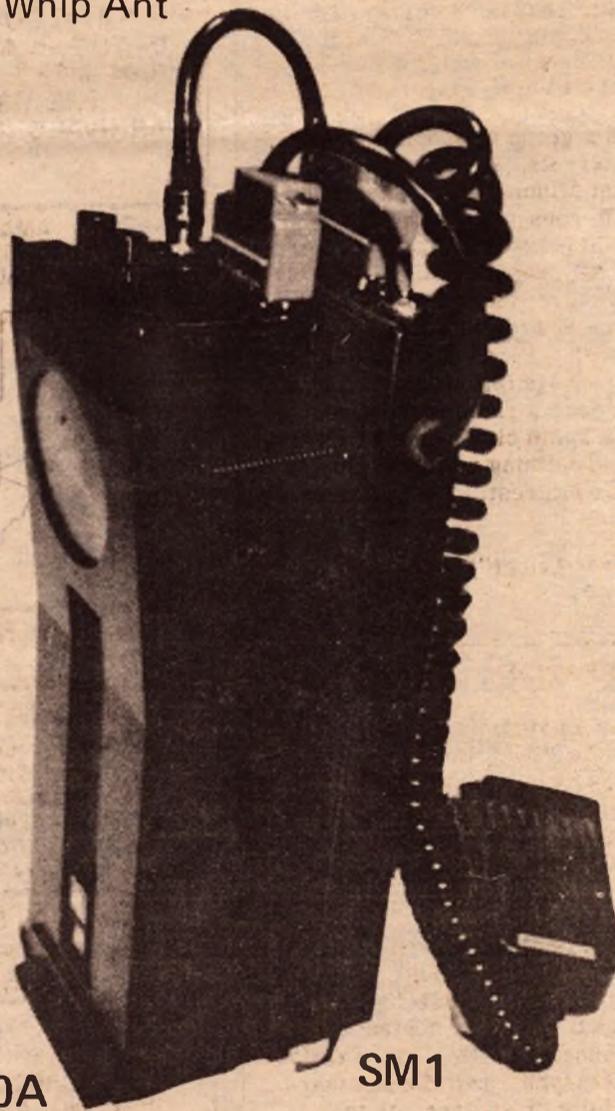
MODEL # ACCESSORIES

1410A 12 Watt Power Amplifier
Also Includes Steel Case
For 1402SM - Charges 1402 SM
When Plugged into Cigarette
Lighter **99.00**

LCL LEATHER CASE12.00
14BC BATTERY CHARGER ...29.95
SM1 SPEAKER MIKE24.00

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THE FINEST AMATEUR HANDIE
TALKIE ON THE MARKET

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COMMERCIAL VERSION AVAILABLE **1410A**



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DX



Fresno International - 1974

General Chairman Frank Cuevas, W6AOA, states that planning is well along for the 1974 Fresno International DX Convention. This year's big event is scheduled for April 27 and 28 at the Fresno Hilton. Overseas DXers invited, and seriously considering attending, include OH2BH, VK3JW, JY9VO, PY2PE, XV5AC, VS6DR, and HS3DR/K7CBZ. Final details of the program will be announced when transportation arrangements, etc. have been worked out.

Please help spread the word on the Convention as you talk to fellow DXers on the bands. Anyone interested in DX is invited to attend, and this year's gathering promises to be one of the best ever.

This year the registration fee will be \$16.50, which includes the technical talks, DX Forum, cocktail party, dinner, and the big DX breakfast. Please make checks payable to the Southern Calif. DX Club and send to Treasurer John Cashen, W6KNC, 5724 West Ironwood Street, Palos Verdes Penn., Calif., 90274.

A block of 250 rooms has been reserved at the Fresno Hilton at the special rates of \$16.00 single and \$21.00 double or twin. Use the reply card you will receive or call the Hilton at 209-485-9000 for reservations. In either case, be sure to say it is for the DX Convention, and give the date. Reservations must be made at least 48 hours prior to the convention.

DX QSL's

by Dr. Sam Rosen, WA2RAU

1. USA is not DX to foreign stations - it is his QSL card you desire-most DX stations are not overanxious to get yours.

2. It is imperative that you have the exact GMT and date on your card. There is nothing more exasperating than to have a DX station search

his logs for your contact. Remember, after 2400 GMT to advance the date one day.

3. You must denote the mode of operation and band on your card. The DXCC do not require report of your contact on his reply. You must show mode of operation, as SSB, AM, CW, 2xSSE, etc.

4. If you want your QSL card fairly rapidly, QSL DIRECT. The most rapid method to obtain cards is to send your card with an SASE. On the SASE the stamp of the country you contacted will help. These stamps can be obtained at a very reasonable price from George Robertson, W2AZX. Write to him for complete list, denoting all ARRL countries and price list. I have had over 90% success using this method, obtaining my desired card within 7 to 10 days. For example, if you want a QSL card from ZS land, postage is 50 cents from ZS to USA. IRCs now cost 22 cents each, for which the South African station redeems it for 3 cents each---that means that the DX station must use at least 12 IRCs that you sent him, at a cost to you of \$2.46---whereas a stamp from W2AZX would have cost you 50 cents. Many foreign countries do not accept IRCs and the DX station is unable to cash them. Address of W2AZX - is - DX Stamp Service, 83 Roder Parkway, Ontario, New York, 14519.

5. If you do not have a foreign stamp, enclose a green stamp (\$1 bill) inside return envelope. Last choice for direct contact is to enclose 3 to 5 IRCs.

6. DO NOT send money, stamps or IRCs to USSR or any Soviet-dominated country. They will be confiscated and your letter destroyed. You must send it via Box 88, Moscow. There are several USA stations claiming to have direct replies from USSR, and ask \$1 for postage. Promising to send the USSR station you are working an old call book or ham periodical may elicit a faster reply.

7. There is a Russian Call Book published in Sweden. You may then write directly to the USSR station, but do not put your amateur call or his on the envelope. Anly, UA2AO, has also been very helpful in obtaining USSR cards.

8. In all countries except USSR and its satellites, if you do not receive your QSL card in reasonable time, send another QSL card, with usual SASE or equivalent, and at bottom of your QSL card write "CONFIRMED" and just below "SIGNATURE". All the DX station has to do now is to sign your card and mail it. It will be accepted by Bob White.

9. For INDIRECT QSLing, one of the most consistent methods is to use the W3KT service-you send him a pile of your contacts as QSL cards and he will send it to the right DX station or his QSL manager--the cost is approximately 5 cents per card. It is a good service to use... and he is very reliable.

10. Most DX stations utilize a QSL manager. Give him the same courtesy you would use in direct QSLing, proper enclosures.

11. You can always sent your QSL card via QSL Bureaus---it may take 6 or more months to obtain your card in this fashion.

12. When QSLing direct, it is always very helpful if you thank him for the contact "for a new country" and enclose something about yourself in the letter-a picture of you, your wife, your dog, or your antenna system. He then feels personally honor-bound to send rapid direct reply.

13. Sometimes during your contact on the air with the DX station, express your appreciation for coming back to your call, and ask him to please airmail to you his QSL card right after your contact--in return promise him a ham magazine, or call book or spare part or crystal for his ham set--and ask for his home address.

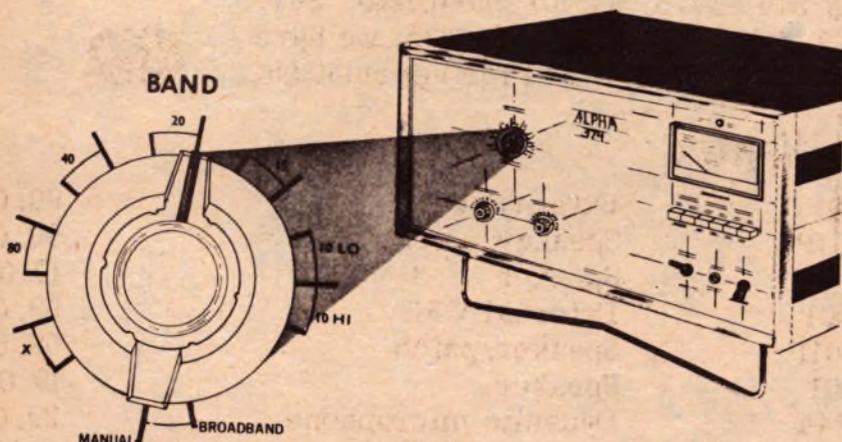
NOW AVAILABLE !! A really effective yet inexpensive speech processor. The SPK-1 will give you 4-5 db improvement in average power as well as better intelligibility for DX and phone patch contacts. Speech Products offers this device in kit form for only \$19.95. It includes all electronics and a pre-drilled glass board. Just add an enclosure, 9v battery and connectors and you have a high-quality audio compressor. Just send \$19.95pp for the SPK-1 kit or we will be glad to send further information on request.

SPEECH PRODUCTS COMPANY
P. O. Box 65
Alma, Arkansas 72921
(Arkansas residents add 3%)

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

Joe Mikuckis, 6913 Furman Pkwy.,
Riverdale, Maryland 20840

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- YOU CHANGE BANDS INSTANTLY and without tune-up
- YOU RUN MAXIMUM LEGAL POWER, even continuous SSTV or RTTY, with a substantial margin of safety
- YOU NEVER TOUCH A TUNING OR LOADING CONTROL if your load SWR is reasonably low
- YOU OPERATE AT PEAK EFFICIENCY because substantial antenna mismatch can be fully compensated
- YOU GET TRADITIONAL ALPHA QUALITY you'd expect from the leader in fine linears, PLUS sleek new designer-styled desk-top cabinet, advanced new ALC and protective circuitry, direct metering of PEP input, and much more.

YOU CAN OWN THE ALPHA 374 for little more than the cost of an old-fashioned linear with none of the 374's big new features . . . Just \$995 during the initial introductory period. Call or write ETO now to insure earliest delivery.

THE "HANDS OFF" ALPHA 374
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to Cal. NO SALES
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Most items always
in stock. Factory
quality service.
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FTDX 560, \$425; FTDX 570, \$475; FT 101 (Modified), \$450;
SBE 34, \$279; EICO 723, \$200; 75A4 (Late), \$375; we have
other equipment, also. Call (702) 451-5791 for information.



Trade-Ins Wanted

FTdx-570	Transceiver (limited supply)	549.00	FV-101	External VFO	99.00
FTdx-401	Transceiver	599.00	SP-101P	Speaker/patch	59.00
FLdx-400	Transmitter	339.00	SP-101	Speaker	19.00
FRdx-400 SD	Receiver 6 and 2 meter included	399.00	FV-401	External VFO	99.00
FRdx-400 D	Receiver	299.00	SP-401P	Speaker/patch	59.00
FL-2000B	Linear Amp with tubes	339.00	SP-401	Speaker	19.00
FL-2100	Linear Amp with tubes	339.00	YD-844	Dynamic microphone	29.00
FT-2 Auto	Auto-Scan 2 meter transceiver	379.00	XF-3C/30C	C. W. filter	40.00
FT-2FB	2 Meter mobile transceiver	239.00	FA-9	Fan	19.00
YC-355D	Digital Counter	289.00	MMB-1	Mobile bracket	9.00
FTV-650	Transverter	149.00	MIR-1	Modification kit for FT101	40.00



IMRA 14.280 MHz

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

WØFHO, Father Vern Peters, was listening to single-sideband one night in the late '50's (almost everything was still AM in those days) and he heard someone calling "CQ Chicago, with phone-patch traffic". He picked out the call sign OA7Q and decided to answer the call. It turned out to be Bishop Nevin Hayes who was stationed all alone in Cusco, Peru. Father Vern ran the patch for the Bishop and after that, he became extremely interested in running traffic for missionaries in far-off isolated regions. He became associated with the group of priests who founded the Catholic Mission Radio Association (CMRA)... later re-named the International Mission Radio Association (IMRA) and served on the original Board of Directors for 12 years.

Father Vern has a Collins KWM-2 exciter (one of the originals) and a Henry 2-K amplifier in his home station, but he operates mobile a lot. His TA-33 beam is mounted on a home-brew TV tower (a 36-foot mast mounted between two telephone poles which he cantilevers with a boat-winch).

Father Vern Peters first got interested in radio in 1918. He never had any courses in electronics except what was covered in physics, but he liked to build radio sets when he was in high school. He wound his coils on oatmeal boxes and literally dug up his own crystals and made cat-whiskers, etc. He got his first amateur radio call in 1931. It was W9BHO... later, it was changed to WØBHO. In the late '30's, Vern worked with Civil Defense during the Ohio Flood. He and another priest-ham kept 24 hour communications going 'til the emergency was over.

Father Vern also has a 2nd call-sign for his station at his river cottage KØGKG. He was quite interested in the development of single-sideband operation, and as a personal friend of Art Collins, Father Vern saw the first Collins Sideband rig when it was still on the drawing board. As a memento of their friendship, Art Collins gave Father Vern the power-transformer from the transmitter which was carried to the South Pole by the Byrd Expedition.

Vern John Peters was born in Monona, Iowa, on September 2, 1903. Vern (not Vernon) is the only child of John Peters (German) and Bridget Kelly Peters (Irish). He graduated from Monona Public High School in 1922 and is an alumnus of Loras College in Dubuque, Iowa, from which he graduated in 1926. From there, this blue-eyed boy with black curly hair went into the seminary in St. Paul, Minnesota and was ordained to the priesthood in 1930.

Father Vern's first assignment was to the Physics department at Loras College in Dubuque, where he remained for the next 14 years as Professor of Physics. In 1943, he was sent to St. Peters Church in Clermont, Iowa. Two years later he was transferred to St. Mary's Church in McGregor, Iowa, and was there until 1949 when he was called to Cresco, Iowa, to build Notre Dame High School... an inter-parochial high school serving two parishes. In 1955, Father Vern received the title of "Monsignor" and in 1956 he was assigned to St. Francis de Sales Church in Ossian, Iowa, (his present QTH) where he started building again... de Sales Central High School. In 1970,



Father Vern Peters - WØBHO - Ossian, Iowa.

the Archbishop of Dubuque saw what the 6-foot three-inch Monsignor could do as a building contractor and called upon him to supervise the remodeling of a building to accommodate 17 apartments for retired priests and 47 offices for the Chancery. This was finished in 1972.

Monsignor Vern's hobby is helping people - All people. He is especially interested in the missions abroad and his home mission is helping the elderly.

News Notes...

WAØSGJ, Sister Alverna, is now stationed in Minneapolis, Minn., where she is attending night school at the university, taking a class in Chemical Dependence. Sister is very much involved in a clinical pastoral education program and will be doing her internship in counseling the alcoholic and drug-dependent person.

WØACU/HR5, Dr. John Schmidt, was married on December 12, 1973. He and his lovely bride will make their home in Honduras, where he is continuing his work with the natives.

WØ8NAD, Father Nick Maestrini, had eye surgery on January 3 and from all reports everything turned out successfully. The IMRA Net has been receiving daily reports on Father Nick's condition from Father Joe Panizzo, WØ8NGW.

WØ4SFG, John McNamara, had a visit on December 20, from 11-year-old Mike Amechi, grandson of Don Amechi.

WØ4KKB, Walt Thain, fell and broke his arm while he was visiting in Torreon, Mexico. It was his left arm and the break was just above the wrist... not serious enough to do any more than delay Walt a couple of days in the journey to California.

WA2YNO, Father Jude Bradley, is still in Ft. Lauderdale at the QTH of WA4VWJ (Pat Healy), recuperating from his September heart attack. Father Jude was well enough to take a trip to Orlando over the Christmas holidays.

W1JEX, TI7, Dr. Don Menzel, of the Harvard School of Astronomy, has been making use of the IMRA Net to contact his home in Cambridge, Mass. Dr. Menzel is in Costa Rica on an ob-

serving expedition for National Geographic Magazine and the Smithsonian Institute.

WØ6TZR, John Bertram, died suddenly at his home in Concord, Ca. on December 28. He had been on the Net just prior to going out in the yard to do some work and that is where he was found a few minutes later. He died before they could get him to the hospital. John was Principal Engineer at Kaiser Engineers in San Francisco, Ca.

WAØRIE, Father Paul Hart, was in Florida in January. He stopped by and visited at the QTH of Sam Ashdown, W4HLY.

W9LII, Tom Barbour, IMRA Net Manager reports that for the month of December, IMRA had 1187 check-ins, 694 pieces of traffic passed in 28 sessions covering 44 hours and 17 minutes.

OA4SS, Father Ed Schmidt, Lima, Peru, listed priority civil defense traffic in IMRA on January 10. He needed an immediate analysis of the earthquake which occurred on the ocean floor off the coast of the New Hebrides Islands. The Seismic Observatory at Boulder, Colorado, was phone-patched into the Peruvian Geophysical Institute and all the necessary information was passed in spite of a broken down TELEX system. Chalk up one more for Amateur Radio!

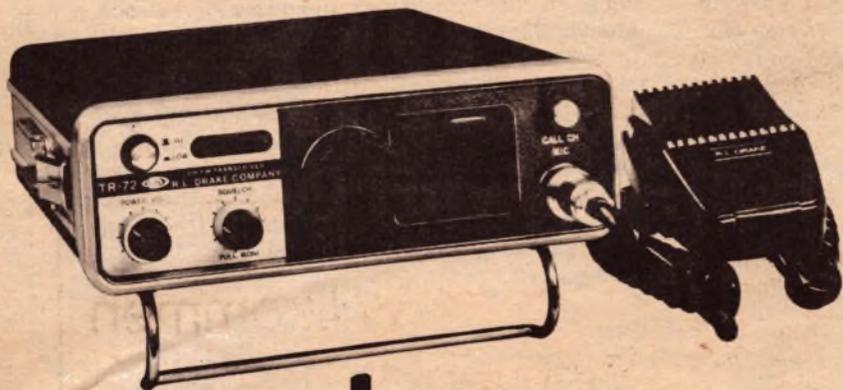
Benvenuti Willkommen Bienvenida Welkom Welcome!

The following overseas amateur licensees were recently granted permits to operate their stations in the United States pursuant to the provision of Section 97.301 of the Commission's Rules and Regulations.

HK 3BZK	Hernan Botero Londono
HK3CVV	Elvia Macmedan
HK6AGH	Luis Dario Madrid
DC5BT	Heinz Dieter Mahlfeldt
LU9FBU	Leon Makaroff
DJ2IA	Hans Gunter Noller
VK3ZAI	John Lewis Occolowitz
CP5GES	Jose Gualberto Orellana
HK3CDS	Mario E. Pachajoa Burbano
HK6AMH	Darwin Restrepo
HK6CKX	Hipocrates Restrepo
HI8ART	Agustin Rodrigues Taveras
YN2SG	German Sandino
PY2ABQ	Antonio Arini Sobrinho
CE3ACH	Carlos Streeter Prieto
YN1PAT	Attila Rehorowsky Torok
HK3EA	Esther Rodriguez Wells
VK5ZAD	Graham Clifford Wiseman
HK3WU	Isaac M. Worthalter
YN1RGP	Raul Gavarrete
G3SKR	Anthony R. Gold
PY2ENG	Jose Carlos P. Lisboa
HF 9RS	Maximilien C. de Henseler
HC5JD	Aracely G. DE Jaramillo
TI2IT	Geoge Blau
9K2AM	Mohammad Saleh Behbehani
G3ROX	Herman Baker
TI8RBL	Rodeigo E. Beeche Lizano
DL1RK	Klaus J. Doring
SM5DW	Rolf Karl Andersson
GW3NJY	Malcolm M. Bibby
HF9AOX	Alfred Walter Amstutz
CE3TM	Jose L. Bucksbaum
HK3CLY	Jorge Behaine M. D.
CE3AXO	Carlos G. Baudrand
YN1CAR	Concepcion B. Aragon
HK3CHF	Enrique Escallon Espinosa
HK4YM	Fanny Stella Augdelo DE Ospina

NEW DRAKE TR-72

2-Meter FM Transceiver



- 23 Channels
- Superior Selectivity
- Completely Solid State

\$320⁰⁰

Including dynamic microphone, DC power cord, mobile mount and desk mount brackets, microphone hanger, auxiliary connector, and external speaker plug

GENERAL: • Frequency coverage: 144-148 MHz • 23 channels, 2 supplied (.52/.52 and .34/.94) • Completely solid state • Current drain: Rcv 0.4 A, Xmit 2.7 A (Hi power) or 1.2 A (Lo power) • Voltage required: 13.8 VDC • Antenna impedance: 50 ohms • Frequency adjusting trimmers on every crystal • Size: 7¹/₄"W x 2³/₈"H x 9¹/₈"D (18 x 6 x 24 cm) • Weight: 5¹/₂ lbs. (2.5 kg).

TRANSMITTER: • RF output power: 10 W min. (Hi power) or 1 W (Lo power) at 13.8 VDC • Frequency deviation: adjustable to ±15 kHz max., factory set to ±6.5 kHz • Automatic VSWR protection

RECEIVER: • Crystal-controlled, double conversion superhet • Sensitivity: Less than .35µV for 20 dB quieting • Selectivity: 20 kHz at -6 dB (±30 kHz and adjacent channel rejection at least 80 dB down) • Audio output: 1 W • Audio output impedance: 8 ohms • Modulation acceptance: ±7 kHz • Image rejection: -65 dB • Intermodulation and other spurious responses: at least 70 dB down.

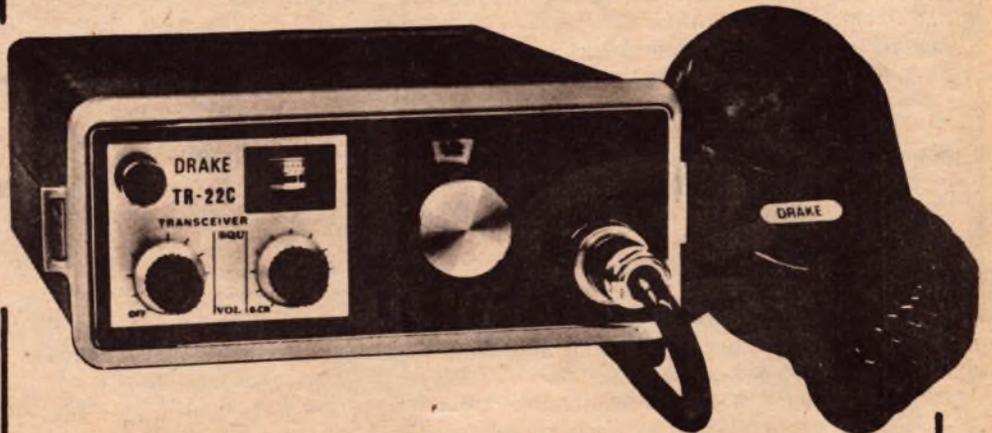
AC-10 POWER SUPPLY
for 115 VAC operation
\$39.95

2 Meter FM Transceiver

NEW DRAKE TR-22C

New Features

- 12 Channels
- Monolithic crystal filter in IF for superior adjacent-channel selectivity
- Improved microphone



SPECIFICATIONS

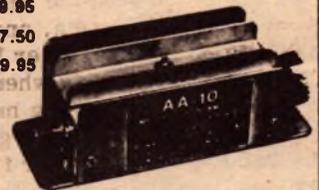
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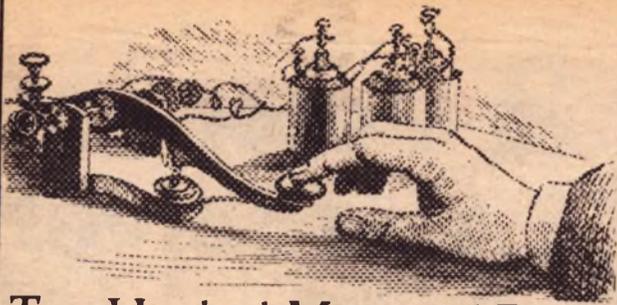
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Two Hundred Meters and Down

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

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

Part I - Pioneers
Chapter Seven...
Growth and expansion

Meanwhile the Radio Club of America had also been growing and prospering. It had outgrown its quarters at Frank King's home on 107th Street, and used a lecture hall at Columbia University as its meeting-place. With its expansion, the character of the organization changed. From a small body of amateur operators it gradually blended into a scientific society, before which the recognized leaders of the radio world were pleased to present papers on their latest developments. Yet it was not until after the war that the amateur attributes of the club were actually lost. In 1915 the club installed an amateur station in the Hotel Ansonia, where Admiral Fletcher made his headquarters, and handled all the Admiral's traffic with the fleet in the Hudson River. Several hundred messages were handled, and President Wilson sent a message from the "Mayflower" commending the good work. The Navy League also honored the club on this occasion.

Two new amateur organizations were inaugurated late in the year 1915. The National Amateur Wireless Association was sponsored by The Wireless Age. This magazine, which in 1913 had outgrown its beginnings as a Marconi house-organ with the name The Marconigram, under the editorship of J. Andrew White was the first magazine to be devoted solely to wireless. On its National Advisory Board of Vice-Presidents it numbered such figures as Professor A. E. Kennelly, Professor Alfred N. Goldsmith, Professor Samuel Sheldon, Major General George O. Squier, U.S.A., Professor Charles R. Cross, Captain D. W. Todd, U. S. N., Rear Admiral W. H. G. Bullard, U. S. N., Colonel Samuel Reber, U.S.A., Major William H. Elliott, E. E. Bucher, and William H. Kirwan. By 1915 it had lost much of its early commercial complexion and was making a definite bid for amateur favor. The N. A. W. A. was the culmination of this campaign.

In December, 1915, Hugo Gernsback's new magazine The Electrical Experimenter, which had been started in May, 1913, announced the organization of the Radio League of America. Captain W. H. G. Bullard, U. S. N., Professor Reginald A. Fessenden, Nikola Tesla, and Dr. Lee deForest were its first honorary members.

These organizations, like Gernsback's earlier Wireless Association of America, were largely paper organizations. In spirit, the N. A. W. A. was of a somewhat higher calibre; but the practical construction and operation was similar. Memberships were essentially free of fees or duties; having no definite period, their totals were cumulative. An imposing structure was

by Clinton B. DeSoto

courtesy of ARRL

thus quickly erected. It is undoubtedly true that these organizations added to the pre-war prestige of amateur radio simply because of the wide publicity and wild ballyhoo they afforded. It was a fortunate circumstance that behind the "false fronts" of those days the serious amateur was quietly going his way, actually learning and accomplishing a great deal in the development of the art, paving the way for heroic war service and, later, for the technical advancement which justified his place in the radio world.

Meanwhile the ballyhoo, fictitious though much of it was, continued; its perpetrators were fortunate in that the art kept pace with their exaggerated claims. Their wildest promises were realized through herculean achievement and development, both on the part of the technically inclined and of those with sufficient vision to organize the relay networks which formed the framework for a coherent, cohesive amateur structure - a structure which provided the essential organization when it was most needed and which saved the art from extinction following the World War.

By January 10, 1916, the A. R. R. L.'s membership had jumped to 961, in contrast to 635 on December 1st. H. P. Maxim had come to two conclusions: first, that the time was ripe for the organization of six trunk lines, to cover the entire United States, three horizontally and three vertically across the map; second, that regular tests in the form of drills should be performed by the stations on these trunk lines to keep them in training. He outlined his plan in the February, 1916, issue of QST. The practicality of these ideas was evidenced by the success of the first country-wide relay, on Washington's birthday anniversary in 1916.

On December 31, 1915, Wm. H. Kirwan, 9XE, had originated an emergency QST (general) message with the idea of covering the United States with it in the shortest possible time. The success of this experiment led to the planning and announcement of a gigantic test to be held on Washington's birthday, February 22nd. Under the plan, a message was to be originated by Colonel W. P. Nicholson of the Rock Island, Ill., Arsenal, addressed to the governors of every state in the union and President Wilson. Selected transmitting stations were appointed all over the country. The cooperation of the A. R. R. L., the N. A. W. A., and the R. L. of A. was secured. When the results were tabulated, it was found that the message - "A democracy requires that a people who govern and educate themselves should be so armed and disciplined that they can protect themselves... Colonel Nicholson" - had been delivered in 34 states and the District of Columbia. The Pacific Coast got the message fifty-five minutes after it started at 9XE; the Atlantic Coast sixty minutes after, New Orleans and Canada each had it in twenty minutes. The success of this test, although not 100 per cent, created wild enthusiasm and led to the prediction in QST that a transcontinental message would eventually be sent with but two intermediate relays.

One beneficial outcome of the Washington's birthday relay was the change it brought about in the viewpoint of the Bureau of Navigation with respect to the granting of special licenses for operation on 475 meters. Recognizing that it was impossible at that time to handle traffic satisfactorily over long distances on 200 meters, the successful stations in the relay used wavelengths in the neighborhood of 500 meters, most of them without authorization. Recognizing the need for wider availability of the longer wavelength, and probably feeling that if amateurs were going to use it anyway they might as well be with the law, the Bureau of Navigation thereafter granted many applications for special licenses.

That the Bureau was sufficiently concerned about unauthorized operation to make this concession is evidential of the fact that, by the beginning of 1916, it had reached the point where it wanted to tighten up on its enforcement of the Radio Act of 1912. Indeed, so pronounced was this attitude that in January and February, 1916, the federal government had the temerity to bring into court several unlicensed operators who had shown themselves to be persistent offenders, one in Connecticut and more on the Pacific Coast. It is hard to evaluate the actual effect these punitive measures had, but undoubtedly amateurs in general observed the regulations more carefully thereafter.

In March, 1916, A. R. R. L. Trunk Line Managers for four of the six routes contemplated under the original Maxim plan were appointed. The eastern manager was Arthur A. Hebert, 2ZH, of Nutley, N. J.; R. H. G. Mathews, 9IK, of Chicago, accepted the management of the central part of the country. Test messages were to be sent each Monday night; the objective of each trunkline was to see how far these messages could be relayed on each successive drill.

In June, 1916, the Seefred Brothers, Howard and Lyndon, operators of 6EA, were appointed Pacific Coast Trunk Line Managers. By the end of the year more than one hundred and fifty cities were linked by these main trunk lines, with branch lines completing national coverage.

Almost the entire interest of amateur radio at this period seems to have been in the development and improvement of operating practices and technique. Technical interest had fallen largely by the wayside, insofar as the typical amateur was concerned. There were routine arguments about the proper circuits and operating voltages to be used with audions, but the pervading spirit was one of complete complacency with regard to the technical status of the art.

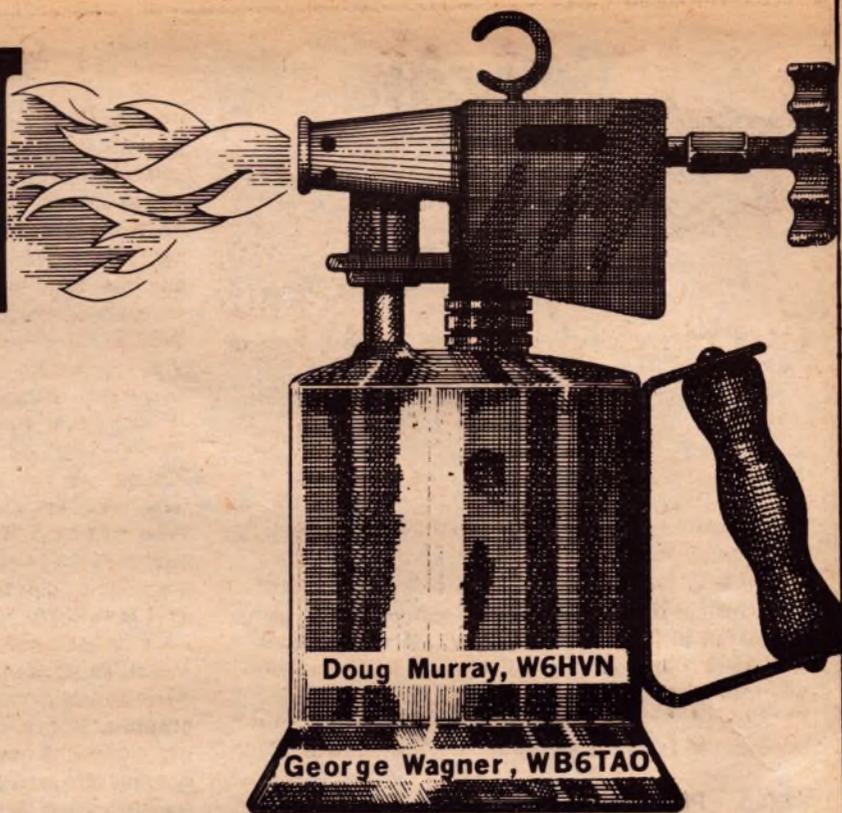
Everything had a fixed relationship to everything else. The small 1/2-inch spark coil would work five miles. The 1/4-kilowatt spark set would work three or four hundred. The advanced amateur would put in a 1-kilowatt transformer, a rotary gap, the highest antenna with the largest number of wires his facilities would permit, a galena or silicon crystal detector (or an audion, or one of E. T. Cunningham's new Audiotrons, regenerative, perhaps, if he were extremely fortunate and wealthy) with a loose coupler, and he did not doubt that he had achieved the ultimate. There was nothing more for him to try for, except to improve his operating proficiency, the number of his contacts, and the number of messages he handled.

The change in the character of amateur radio from the group of eager electrical experimenters of ten years before could not have been more complete. It was not until the war had crumbled all the solid earth from under everyone's feet that this condition ceased to prevail.

(continued in next month's issue of "Worldradio")



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Feedback

Looking back over my 37 years as a Ham Radio Operator, I feel very proud. I can recall certain experiences of huge impact. And lesser happenings, too of course. The sum of them all, when I really think about them, is a warm glow of satisfaction.

It's almost like being in love. And then I realize that I am... with Ham Radio.

At the risk of being maudlin, I'd like to remark that you show the same symptoms in your editorials. You, too, love Ham Radio. Your words show it.

Some time ago I agreed with your goals and efforts enough to send in my money for a life subscription to WORLDRADIO News. I was pleased to be listed among that group in the '74 February issue. Eut it was distressing to note that there were not more of them. You deserve greater support.

I feel compelled to act upon an urge! Help

Armond in what he is trying to do with his publication. So, enclosed is my check for \$500.

It would take ten more lifetimes, at normal rates, to give me the enjoyment I have already gained from Ham Radio.

My best to you and your gang.

Vy 73 Lee Shaklee, W6BH

Your plain down to earth publication appears to render a "Service" to that great fraternity known as "Ham Radio". Harold I Van Doren, W2LDE

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I think you are doing a terrific job. . . . Lyman M. Rundlett, K4ZA

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

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

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

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

Armond, WB6AUH, Editor, Worldradio



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Worldradio

an international newspaper
third year of publication

The Worldradio News is published monthly by Worldradio Associates.

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

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

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Article contributions and advertising inquiries are invited.

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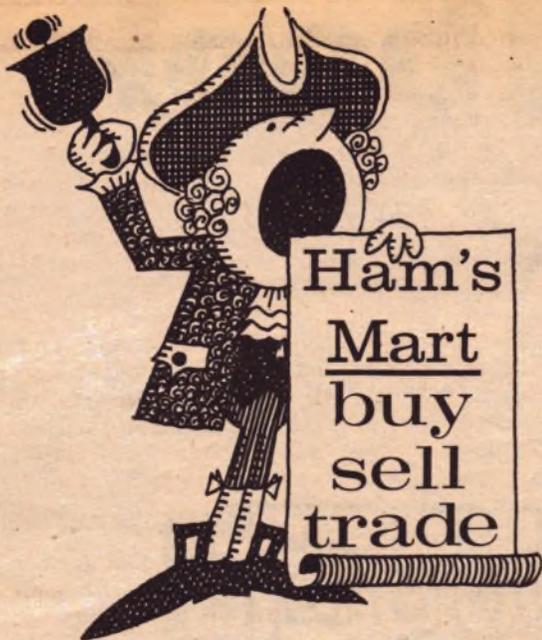
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