

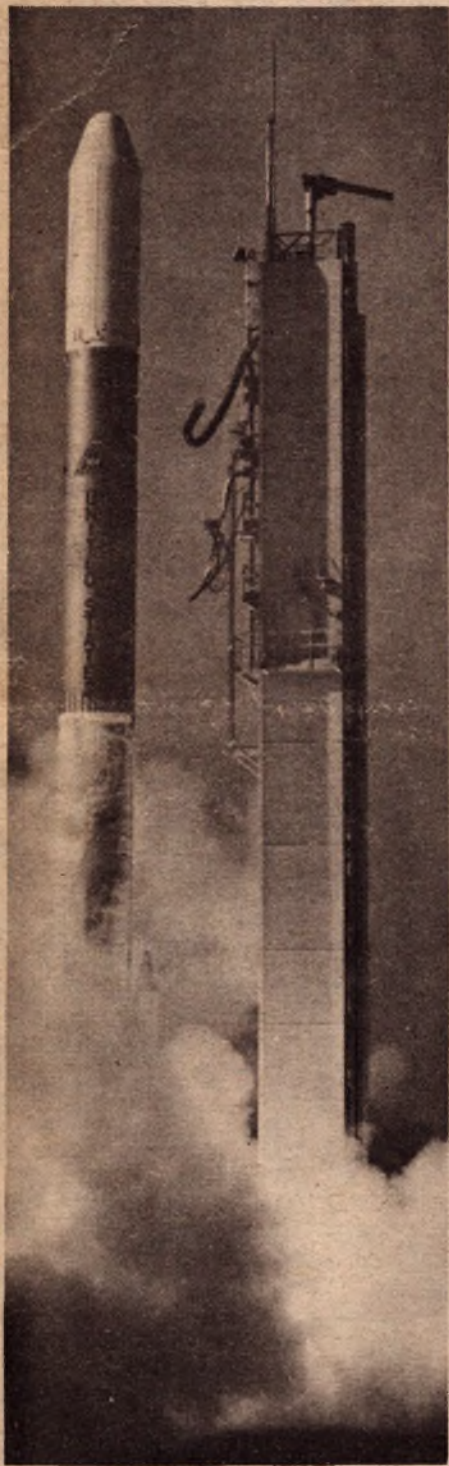
# The Worldradio News

Vol. IV, No. 6

December 1974

50¢

## OSCAR 7 IS IN ORBIT



The launch of OSCAR 7 on a Delta rocket from Vandenberg Air Force Base, Calif.

by Joe Kasser, G3CZ/W3

At 1711 GMT on 15 November 1974 another milestone in radio amateur achievement was launched into orbit. OSCAR 7 has translators operating on these frequencies:

Input—145.850 to 145.950 MHz  
Output—29.40 to 29.50 MHz

Input—432.125 to 432.175 MHz  
Output—145.975 to 145.925 MHz  
(output passband is inverted)

The 2 to ten meter translator is on Sunday, Tuesday and Friday. The 70 cm translator is on Monday, Thursday and Saturday. (GMT days)

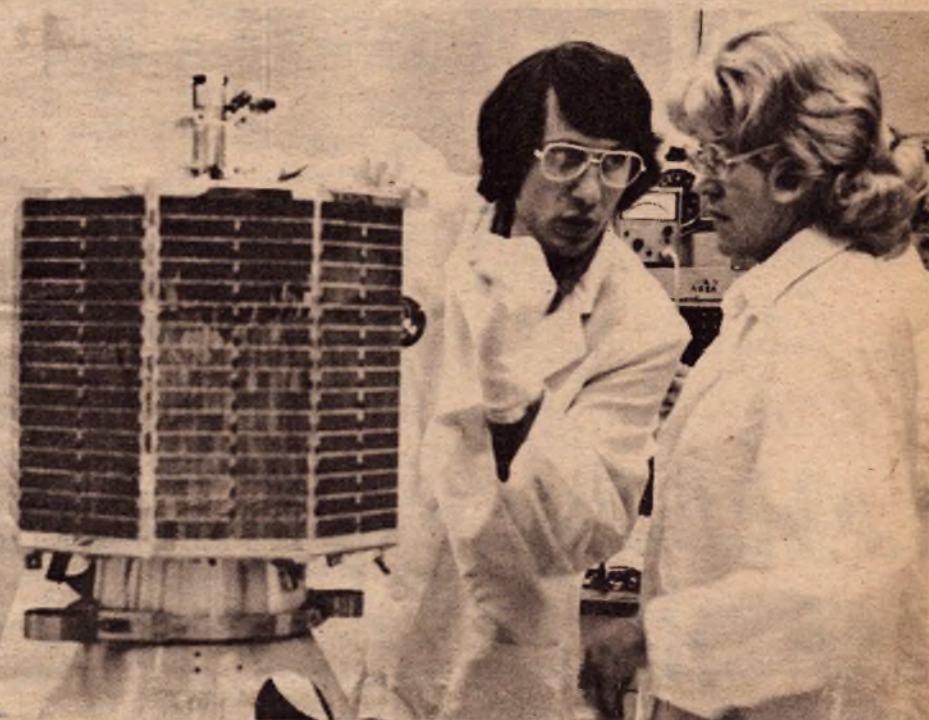
The OSCAR 7 beacon at 29.502 is quite strong and is often the first signal heard at the beginning of a pass.

AMSAT-OSCAR 7, a satellite built by radio amateurs in the USA, Canada, Australia and Germany, took four years to construct. It was launched by NASA from the Western Test Range in California. News of the launch was transmitted around the world by radio amateurs on the short wave bands.

To cover the launch, two telephone circuits and a number of short wave radio frequencies were employed. The Spacecraft command station conference circuit linked D. Hull, VK3ZDH, in Australia, L. Kayser, VE3QB, in Ottawa, Randall Smith VE2BYG, in Bagotville with Perry Klein K3JTE and Jan King W3GEY at the Goddard Spaceflight Center in Maryland. The Net conference circuit linked the Radio Amateur Satellite Corp. Station W3ZM (operated by William Tyhan W3KMY), as AMSAT net control station; the American Radio Relay League station, W1AW; the club station at the Goddard Spaceflight Center, WA3NAN; the club station at the Western Test Range W6AB; and at the Goddard Spaceflight Center, Richard Daniels, WA4DGU.

Between them, W6AB, W3ZM and WA3NAN transmitted the launch proceedings on the 15, 20, 40 and 75 meter bands, while on 20 meters, Richard Long, WA4JID, relayed W3ZM towards Europe.

In the Washington, DC area, where AMSAT has its headquarters, the proceedings were transmitted on the 2 meter repeater maintained by AMSAT. This link was used as an intercom circuit and a special receiver was set up by Arthur Feller, WA3JDY, so that some FCC officials



Jan King, W3GEY, seems to be saying to AMSAT technician, Marie Marr, "the oranges go in here."

could listen in to the launch proceedings. Unfortunately a tube failed in the W3ZM two meter transmitter and all the FCC officials heard was an apparently unmodulated repeater carrier. When this was discovered, WA3NAN took over the 2 meter relay and all the remaining activity was available in the DC area.

At 1711 GMT the voice of Dick Daniels, WA4DGU, echoed around the world "5, 4, 3, 2, 1, 0 . . . we have lift off!", and AMSAT-OSCAR 7 was off. Up, up and away flew the Delta rocket carrying AMSAT-OSCAR 7, the NOAA 4 weather satellite and the Spanish INTASAT.

The first spacecraft to be separated from the rocket was the NOAA 4 weather satellite, then came the turn of AMSAT-OSCAR 7. Separation was confirmed, and all frequencies became silent as everyone waited for confirmation of telemetry reception.

Within a minute of separation P. Gowen, G3IOR, who was in contact with W3ZM on 20 meters, reported that he was receiving telemetry from the 435.1 MHz beacon, GB2SM confirmed reception of signals from AMSAT-OSCAR 7. Conditions on 20 meters were still not very good and so Bernd Ritter, DJ30S, Eduard Krane, DL9GU, and Hermann Kabisch DJ81M telephoned in to the AMSAT phone operated by George Jacobs, W3ASK, with telemetry information.

Minutes later, Rolf NieFind DK2ZF, telephoned in a complete telemetry frame, reporting that he had first acquired signals from the spacecraft at 1828.46 GMT showed that all values were nominal and the spacecraft was performing as anticipated. The first report of

(Please turn to page 2)

### W8YEK first to hit 100 on SSTV

by Bill DeWitt, W2DD

An SSTV first! Gene Kundert, W8YEK, of Delphos, Ohio is the very first amateur to work 100 countries on two-way SSTV. Gene and his wife, Edith, are shown in the photo on page two.

Early in November, Gene exchanged pictures with EA6BQ in the Balearic Is. to rack up that long-sought country number 100. At this point, there are a few amateurs approaching Gene's total, but Gene is the first. Mr. Ron Ham — over there in England, compiling your record book of ham "Firsts," take note!

Gene retired at age 57. He is an avid DXer, but didn't really get serious about it until about five years ago. His country score on SSB is a commendable-environmental 298! Question: Will the ARRL issue a special DXCC certificate for SSTV? Maybe not, but Gene's accomplishment will be long remembered by his slow scan peers.

Although Gene's 100th country on slow scan is big news, we just can't resist the temptation to underline Gene's talents in the design and construction field. The nifty console and control center shown in the photographs was designed by Gene to give him finger-tip choice of frequencies, antennas, power levels, and transmission modes. Nothing has been overlooked. There's an indoor-outdoor thermometer, tower up-or-down indicator, dummy load warning light — well, you name it, Gene has it in this super-console.

A ninety year old desk of magnificent solid oak was used as the base for the (Please turn to page 2)

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Edith and Gene Kundert, W8YEK

## SSTV

console. Gene matched the wood grain of the desk with formica on the top and ends of the console. The front panel is leather-grained white formica.

Everything at the back of the console is cable connected. The gear is well spaced

for maintenance and cleaning. Thermostatically controlled blowers (please Gene, you're gilding the lily!) hold the equipment temperature at 85 degrees F. The frosting on the cake is a clear plexiglass enclosure across the entire assembly. A dream come true, but it took five and one-half months of planning and hard work!

Gene, congratulations on all of your accomplishments! Worldradio News and amateurs everywhere salute you!

The following AMSAT nets are now in operation:

### North American East Coast 75 Meter Net:

Monday 8:00 p.m. EDT (0000Z Tues)  
3855 kHz LSB  
Net Control W3ZM or W3TMZ

### North American West Coast 75 Meter Net:

Mondays 7:00 p.m. PDT (0200Z Tues)  
3850 kHz LSB  
Net Control W6DMN, W6EJJ or W6OAL

### International 20 Meter Net:

Sundays 1800Z  
14,280 kHz USB  
Net Control W3ZM, W3TMZ or others

### International 15 Meter Net:

Sundays 1900Z  
21,280 kHz USB  
Net Control W3ZM, W3TMZ others

## OSCAR 7

reception from North American came from David Robinson K7BBO who reported receiving signals at 1846.37 GMT.

A special radio-teleprinter link took place on the 20 meter band between The Free State ARC, K3IVO and PA0AA. The amateurs at PA0AA, the club station of the Netherland Amateur Radio Club (VERON) had built a special computer that would receive telemetry from the spacecraft which was being transmitted in morse code, automatically convert the morse code to radio teletype code and transmit the information on the 20 meter band. K3IVO monitored their transmissions and relayed the data on 2 meters into the Washington area.

The Spanish-built INTASAT was placed into orbit a few minutes after the separation of AMSAT-OSCAR 7.

AMSAT-OSCAR 7 is designed to relay transmissions by radio amateurs and carries two transponders operating in sequence on different days. It is an international spacecraft in the true meaning of the word for it was built by amateurs in the USA, Canada, Germany and Australia. The design was co-ordinated by AMSAT and final assembly took place in the basement of Jan King, W3GEY. It will also be used as an educational tool to demonstrate to students, all aspects of orbital techniques and space communications.

AMSAT, who will arrange for these demonstrations, and control the satellite is a non profit organization based in the Washington DC area, and has nearly 2000 members in 59 countries, including affiliate organizations in Germany, The Netherlands, Great Britain and Japan. For further information about AMSAT and OSCAR 7, write AMSAT, Box 27, Washington DC, 20044, USA.

## 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 radio frontier. For membership information, write the Membership Committee, AMSAT, P.O. Box 27, Washington, D.C. 20044



January 1975  
Maximum Usable Frequency  
from Burbank, CA

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

Computer data is HARLEYFP G 6 1097 FT 06F001.

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

Probability is estimated to be a minimum of 70 percent.

UT	AFRI	ASIA	EURO	SOAM	SPAC
01	10.2	19.3	9.2	15.4	24.2
02	7.7	15.7	9.0	13.2	20.5
03	6.2	13.0	8.6	12.5	17.2
04	8.0	11.6	8.0	12.4	14.8
05	7.5	10.9	6.9	12.3	13.1
06	7.7	10.2	6.3	12.4	12.2
07	8.1	9.7	7.4	12.9	12.1
08	9.1	10.1	10.6	12.2	12.1
09	9.1	9.9	11.1	12.6	11.7
10	8.9	10.2	11.5	13.7	11.7
11	8.4	11.0	11.1	11.5	12.6
12	7.9	11.2	10.0	10.0	12.8
13	8.6	10.0	9.7	11.2	11.5
14	10.1	8.8	12.0	14.9	10.3
15	13.1	9.9	14.8	19.0	12.3
16	15.5	11.4	15.6	21.4	15.8
17	17.4	10.7	13.5	22.6	14.3
18	19.4	10.7	11.5	23.5	13.9
19	19.8	11.2	9.9	24.5	16.6
20	18.3	13.1	9.4	25.3	19.9
21	16.8	16.3	9.0	25.5	22.1
22	15.1	18.8	8.5	24.8	22.6
23	13.4	21.5	8.7	22.6	22.9
24	11.1	22.3	9.1	19.0	24.1

# LATE FLASH

FCC has just released Docket 2082, the restructuring of licenses, & privileges. It follows closely Walker proposals Full details next issue.

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Theron Woods (Woody), W6ANX Ernie Zumbrunnen, WB6UOM

## Radio operators' quick action saves life

Wednesday evening, Nov. 6, Amateur Radio Operator Theron Woods (Woody), W6ANX, who lives in Los Gatos, was tuning across the band on his radio when he heard a CQ (general call) from another amateur operator in Korea.

He thought he would answer him because he was contacted Americans in Korea but never a Korean.

Almost immediately the amateur, Kim Namill (Mill) HM1HJ, a medical student in Seoul, said he had an emergency and asked if Woods could help him.

In the hospital where he works, a 13 year old boy, Lim Ho, the son of a professor, was dying because of lack of a certain drug the doctor needed to reduce the blood pressure in order to be able to operate on him for the removal of a tumor on the adrenal gland.

Today, following the operation reports are that Lim Ho is progressing nicely. Word was received via Associated Press teletype early this morning.

### Seeks Help

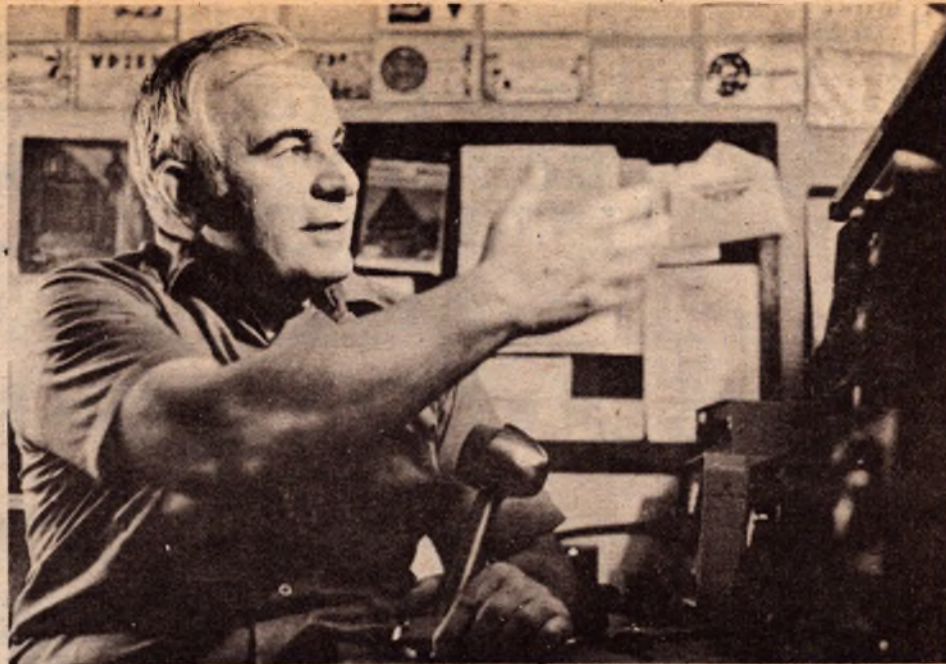
Woods had to think quickly because he knew it would involve a lot of time and complications and he would not be able to handle it alone. He thought of his good friend Ernie Zumbrunnen, WB6UOM, in Saratoga and he knew right away he was the one who could be a valuable helper.

He called Zumbrunnen on the telephone and he said yes, he would be more than glad to help—the response that is so familiar to radio amateurs all around the world when help is needed.

With their fingers crossed that the signal would hold up—it was already getting dark—they started the transaction. Zumbrunnen telephoned airlines and found that Japan Air Lines had a flight from San Francisco leaving at midnight.

### Prescription

Woody talked with his family physician Dr. Robert W. Johnson, who is familiar with his radio activities. Dr. Johnson



Ernie Zumbrunnen, WB6UOM

contacted Dewey Ventura, Los Gatos pharmacist, and they determined that the drug was available through a pharmaceutical distributor in Belmont, John Newberry.

Dr. Johnson, authorized the prescription, and it was arranged that the drug would be ready for pickup before midnight. Ventura had told them he would sell the drug at the pharmacy's cost and Woods and Zumbrunnen each agreed to pay half. It was imperative that the medicine be the intravenous type.

### Contact

Zumbrunnen and Woods talked with Mill at this time and fortunately the signals remained good through the entire transaction. Through the "Grizzly Peak Club" WR6ABM which operates on 2-meters, Zumbrunnen contacted a friend in San Francisco, Larry Douglas, WB6BWC, who agreed to pick up the drug in Belmont and deliver it to JAL at the airport.

So, while Zumbrunnen talked with Douglas on the radio and at the same time talked with a JAL official, they guided him to the exact place for delivery at the airport.

John Newberry, the pharmacist in Belmont, had graciously agreed to wrap and prepare the medicine for shipping. The medicine was delivered at the airport about four hours from the time the emergency call was received in Los Gatos.

### Delivery

What cooperation! Mill and his friends in Korea were overwhelmed. It was

Thursday evening there at the time and the plane was due in Seoul, via Tokyo, the next day. It was successfully delivered on Friday, two hours later because of fog. The Korean doctor had said they only had about two or three days to save the boy's life.

Woods had operated his radio at his home in Los Gatos but made the second contact the next day from the Radio Club Station at Redwood Jr. High School in Saratoga. He teaches math and science at Redwood and had organized the Saratoga Amateur Radio Association with the help of his students ranging in age from 11 to 16.

Zumbrunnen is a Certified Public Accountant.

The operation on Lim Ho was performed Monday, Nov. 11 local time.

The prompt delivery of the vital drug could not have been accomplished without the complete cooperation of all concerned. Many Korean people have asked Mill to relay their sincere thanks to the radio amateurs, the doctor, the pharmacists and the people of the airlines.

Radio, TV and newspaper coverage of this event was nationwide in Korea, where millions anxiously awaited the outcome of the operation.

(Los Gatos/Saratoga Times-Observer)

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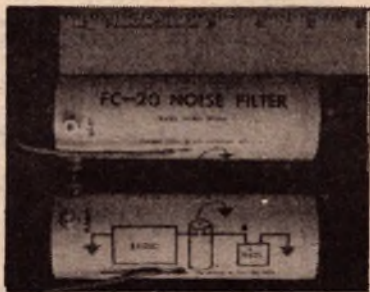
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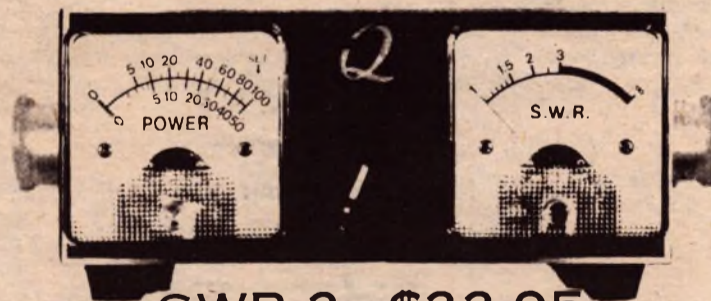
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# Operation Fifi Dramatizes MD Amateur Radio

by Linda Murray

Within hours after Hurricane Fifi struck Honduras, causing flooding that killed at least 9,600 and that left 350,000 homeless, hungry, and threatened with typhoid, cholera, and hepatitis, shortwave contacts had been set up and medical needs were being relayed to other countries through a unique international organization of some 400 M.D.s, the Medical Amateur Radio Council (MARCO).

As it has in many far-flung medical disasters and emergencies in the past, MARCO immediately began coordinating requests for supplies and information, which for a time came in at two per minute from missionary doctors and other medical personnel in Honduras.

"It will take at least three months to settle down to the point where we can go back to our regular individual service," Dr. Walter Shriner, W9CBG, the Springfield, Ill., gastroenterologist who is MARCO's president, told Medical Tribune.

MARCO is the brainchild of a California radiologist, Dr. William Sprague, WA6CRN, who as a radio amateur made a hobby of collecting other doctors' radio call letters. As his file grew thicker, he realized the potential for continuing education on an international scale and for emergency service. In late 1966, with the help of his physician-lawyer friend, Dr. Charles Gray, WA1FMY, medical director of Metropolitan Life Insurance Company, he set up MARCO as a non-profit corporation.

## Most specialties represented

Today, MARCO's members include general practitioners as well as representatives of virtually every specialty. In addition, 100 auxiliary members — mostly wives and retired people — put in many hours monitoring the airwaves and relaying messages to busy physicians, and then setting up consultation appointments, sometimes many thousands of miles away.

In the Honduras disaster, retired Air Force surgeon Dr. John Schindler, W4RFA, of Miami, MARCO's main contact and control authority for Honduras, coordinated urgent demands for typhoid vaccine, snake venom, antibiotics, sterile water, diarrhea curatives, etc., turning the list over to MARCO member Saul Katz, WB4EZZ.

Katz, a pharmacist, immediately set to work contacting wholesale drug firms to fill the orders. True to its reputation for speed in emergencies, MARCO had the drugs and supplies on their way the next day.

"That's one of the really big things that distinguishes MARCO from any other emergency system," explained founding member Dr. Gray.

"If supplies go through official channels — even official emergency channels — the shipments get bogged down in endless red tape. But we can arrange for the delivery of emergency medicine halfway around the world in a very short time."

To map out the fastest airline relay system, MARCO depends on Braniff Airlines' Houston computer, and then enlists the aid of the State Department and the recipient country's embassy to insure that the packet, carried personally by the pilot, is not held up at customs. In one critical case of aplastic anemia, in the back country of Peru, a drug was relayed from

Springfield to St. Louis to Dallas to Los Angeles to Lima, and finally dropped by parachute, in 11 hours.

## Some political limitations

International discussions and consultations held by MARCO are not only limited occasionally by atmospheric conditions but also by the politics of members' countries. One doctor in Romania is the only member behind the Iron Curtain. For a while, a doctor in Zaire, Africa, was regularly transmitting electrocardiograms to a member in Detroit who evaluated them and returned a report, until the Zaire Government placed restrictions on private communication.

Similarly, MARCO members were not allowed to contact the 40 Cuban doctors, nurses, and orderlies who set up a tent hospital and surgical ward in Honduras.

Although MARCO has been active in other emergency situations — such as the earthquake in Managua, Nicaragua last December — none presented problems as serious as the Honduran disaster.

"The Managua earthquake lasted just a few seconds and they could start cleaning up immediately," Dr. Shriner recalled. "There wasn't the flooding there or the threat of pestilence, so things could be restored to normal fairly quickly. There was an almost immediate need for eye, brain, and thoracic surgery. Our biggest problem was that the refugees drifted across the isthmus and about a month later showed up at the missions on the eastern

coast, sick and debilitated. Then we sent antibiotics and sulfa drugs."

Perhaps the most dramatic MARCO action was taken about two years ago during the outbreak of the deadly Lassa fever in Liberia.

"The trouble there was the diagnosis," MARCO president-elect Dr. John C. Jordan, Jr., K4TEP, recounted. MARCO put Liberian member Dr. Polycarp B. Gadegboku, EL2CI, in touch with a viral epidemiologist at the Center for Disease Control, Atlanta, Ga., who confirmed the African doctor's suspicions and helped outline a program of treatment, halting what could have been a monumental epidemic.

Not all of MARCO's work is directed at solving problems that are strictly medical.

"We also try to cope with individual health problems like bleeding gums, malnutrition and diseases of the eye that may cause severe headaches," said Dr. Jordan, who is an attending obstetrician-gynecologist at Forsythe Memorial Hospital in Winston-Salem, N.C. "That's why we have dentists, sanitary engineers, and other persons in health-related fields as members."

In his own specialty area, Dr. Jordan has often been called to consult on what he calls "tribal OB," in which midwives perform deliveries.

## Long-distance guidance

"Often there are problems like spontaneous amputation of the uterus, caused by intense pressure of the head that cuts off the blood supply to the womb," he related. "This calls for immediate and radical surgery. There have been several instances in which I have guided doctors through the technique of extraperitoneal cesarean section."

Many times the requesting physician is a G.P. who is suddenly confronted with esoteric specialty surgery. If it involves the brain, it is likely that a Long Island neurosurgeon, Dr. Jack London, K2JVA, will be called to reply. When a missionary doctor in Zaire wanted help diagnosing a hydrocephalic baby he had delivered, Dr. London was able to concur and then give him operating instructions and advise on postoperative treatment.

One of Dr. Shriner's major interests in MARCO is the tremendous amount of feedback he gets on his own studies plus a free atmosphere for kinds of research that he finds lacking in more conventional outlets. One project concerns leprosy.

"I hypothesized that leprosy is inhibitory to arthritis," he said. "Then I put out the call to all known leprosy areas. Within a week, I had confirming information that leprosy is, in fact, inhibitory to arthritis."

As the only international radio medical organization, MARCO's services are becoming increasingly better known.

"We're growing so rapidly," Dr. Shriner said, "that the demands for our consulting services are literally overwhelming us."

So too are economics, and this year MARCO will boost its nominal annual dues of \$10 to provide a more solid financial base for its cause.

(Medical Tribune)

## Society of wireless pioneers

by William Willmot, K4JPF

Over the years, many radio organizations have been founded. Some have caught on and grown while others have folded. One of the newcomers, the Society of Wireless Pioneers (SWP), is just now beginning to receive recognition.

SWP was organized in 1968 as an organization for professional radio-telegraphers. What makes this Society unique is that it is not competing with or in competition with any other amateur group. The Society's purpose is to perpetuate the memory, heritage and traditions of wireless telegraphy and to acquaint the public with the exploits of the many heroic wireless operators who have proven their valor and worth in time of danger and disaster.

The Society also helps members find co-workers and renew old friendships through reunions and the publication of directories, etc. Local chapters further bind the ties of friendship generated by former associations and commonality of interests.

Requirements for membership are simple but rigidly followed. Life membership requires the applicant to have been employed at some period of his life as a CW operator, handling two-way traffic over arc, spark or tube circuits. For those starting after 1950, there is a 2-year minimum service requirement. It should be noted that military service experience qualifies.

The Society is proud that the majority of its members either are or have been amateurs. Many of these members remain active through the Society's nets.

Unfortunately, there are thousands of amateurs who have worked as CW operators but who are not aware of the Society or their eligibility for membership.

The Society extends a cordial invitation to all qualified amateurs to become members. Additional information and membership applications can be obtained from: SOCIETY OF WIRELESS PIONEERS (SWP), P.O. Box 530, Santa Rosa, CA 95402.

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## Stop and think about what has to be done

The statement below is from remarks by FCC Commissioner Robert E. Lee at the 27th annual convention of the Quarter Century Wireless Association held at Orlando, Florida on 26 October 1974.

"It would be well to realize Amateur Radio is subject to scrutiny.

"You know the squeaking wheel gets the grease. The louder the squeak, the more grease. The loudness of squeak depends on how many wheels are squeaking!

"You may not be aware of it, but the amateur population in the United States is decreasing at the present time by about 350 licenses per month.

"This is happening while all other services are increasing. The Citizens Radio Service is approaching the one-million mark.

"This is a serious matter for Amateur Radio. It tells me something is wrong.

"I can't believe that the allure of 'ham radio' has disappeared, nor that our youth are so blasé in the space age they no longer get a thrill out of having their own private laboratory with which to field test their equipment on the air.

"So, while most other services are increasing their numbers several fold, the median age of the typical amateur is now over 40 years."

There you have a remark by a commissioner of the governing body of amateur radio.

Commissioner Lee is quite knowledgeable about the emergency capabilities of our avocation and in his speech said amateurs deserved "high marks" for their activities during the aftermath of the Nicaraguan earthquake and the Honduras flood. He also talked about the amateur's significant contribution to communications technology.

However, with all of that, he addressed the convention on the decrease in number of amateurs.

With the upcoming world administrative Radio Conference, and our own FCC saying "Amateur Radio is subject to scrutiny" we had best stop sitting on our laurels for deeds of years gone by and search for new avenues to inspire confidence.

We must lift up the image of Amateur Radio to others, and to ourselves.

### A call to action

Make no mistake about it. Amateur Radio, as you know it, is under attack. And, when a society is under attack it must defend itself. It defends itself by first mobilizing its forces. That means getting organized.

It has often been said that the best defense is a good offense. True. But,

before the thrust of an offense can succeed it must have a structure.

The objectives are there in front of us. They are not of our own choosing, but nevertheless, they are staring at us.

### The first step

Amateur Radio must get organized. At present it is not.

Let's look at other organizations. Compare the framework of Amateur Radio to, for example, Optimists, Masons, Elk, Moose, Sertoma, Jaycees, Grange, 20-30, Chamber of Commerce, Lions, etc.

Notice carefully that their strength comes from a national organization of which the local chapters are part.

Every group that wants to get something done, however, is organized. Look at the American Medical Association, the IEEE, labor unions, political parties, and so on.

It should be obvious they have that type of organization for common strength. This is the way you get "clout" or as Commissioner Lee phrases it "squeak."

Instead of the present loose "affiliation" with our national organization, every area should have an ARRL "chapter."

There would of course still be the clubs for special interest: DX, FM, RTTY, or whatever. But every city and town should have a central organization as part of our national organization.

This would make the presence of our organization more visible on the local

level. And it would draw more into feeling they are part of our league.

### One reason

This lack of organization and one reason we should get organized, was harshly brought to light during one of Amateur Radio's finer moments. You remember when the resources of our avocation were laid before people in Nicaragua and the rest of the world.

Shortly thereafter I was in a radio store that sold amateur equipment, hi-fi, parts, tools, etc. The clerk there told me the following:

A woman came in here and said, 'I hear you radio people can get a message to Managua, my sister is down there. Can you help me?'

He had to tell her that he didn't know anyone to refer her to.

I was amazed, I said, "Why didn't you call the SCM, he knows who all the guys around here are who do that kind of work?"

His answer was, "What's an SCM?" You hardly know what to say to that. I sputtered "They're on page six of QST, every month, year after year." He said, "I guess I never noticed it."

So there was an advanced class amateur, who had been a League member for 11 years (or should we say QST subscriber) who was totally unaware of what little structure we do have.

We can't go on like this.

### Suggestions

The ARRL should set up, in each area, local chapters. Each chapter should have an assistant SCM assigned to it. Each chapter should have an EC assigned to it. The SCM and SEC should visit each club on a rotating and regularly scheduled basis.

Every local telephone directory should have a listing, "Amateur Radio" with the SCM's telephone number. This is so new amateurs to the area could get information, so local public would have some contact with Amateur Radio.

### The shape and form

You may have noticed that many of the organizations we mentioned, when giving examples of structure, are what are termed "service organizations."

Well, isn't Amateur Radio a "service"? That's what the FCC calls it. So, if we are a "service," let's get organized like a service organization. Much is said about "the amateur radio fraternity." If it is, let's get organized like a fraternal organization.

(About now I'm sure all my good friends at League Headquarters, already overworked and underpaid, are groaning. "Where will the funds and the people to administer such a program come from?" I'll get to that shortly.)

Speaking of the "service" organizations, do you know that most of them meet every week? Most radio clubs meet once a month, a few now meet twice a month. With more meetings, there is more momentum.

### Greater visibility

Let's look at Grange. There are many chapters that have about 30 or 40 members and they own their own meeting hall. How many local radio clubs own their own buildings? Look at the number of buildings owned by the American Legion, V.F.W., etc. and their numbers are not much greater than the number of amateurs in the various communities. Are they more motivated towards a sense of permanence than the radio amateurs?

### Can we learn a lesson ?

I recently saw a copy of the magazine issued by the Sertoma International organization. Look at these figures

	Clubs	Members
Ten Years Ago	427	16,925
Five Years Ago	653	25,423
Sept. 1, 1974	850	31,104

Looks like good growth doesn't it? They put out a very attractive magazine, have an awards program and an annual convention.

### You get what you pay for

Each Sertoma club pays to Sertoma International sixteen dollars (\$16.00) per year for every member of the local club. Also, many members donate from 10 to 500 dollars to their organization and we see that the clubs donate from \$100 to \$500 to their foundation. Only 21 of the 850 clubs have over 100 members. And some clubs have raised thousands of dollars in one year to advance the goals of their organization.

(please turn to page 37)



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by Ed Peck, K6AN

## Towers, zoning and the law

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

The first problem that an amateur runs into, and usually his first brush with authority other than the FCC, comes from either his neighbors or from the city or county in which he lives.

This usually comes about because of either some zoning law or tract restriction. Let's talk about zoning first, because that's probably the major thing. Everybody is affected with zoning, because every area, city, county or whatever has some zoning laws. You may or may not have a tract restriction problem.

So what are we talking about? We're talking about the authority of a city or a county to regulate the zoning, the buildings in its borders for public safety, health or welfare.

Now, you say, "How in the world do we come within public safety, health or welfare?"

If you've ever attended a meeting where this comes up, immediately the adjoining property owners are saying by putting up that monstrosity you're going to reduce the value of their property and so this sort of becomes part of a conversation about welfare.

But, in any event, there's no way out of it. The fact you're licensed by the Federal Communications Commission doesn't mean a thing. You're still subject to control by local authorities. And there are cases on this, I can recall one particularly, it related to a commercial installation, they claimed they were not subject to the local zoning and the Federal courts held to the contrary. And I'm sure that we poor amateurs wouldn't fare any better.

A lot of times people complain about antennas because of the aesthetic considerations and this gets to be a situation in which the basic rule is "You can't zone for aesthetics alone." But where do you draw the line between zoning for aesthetics and zoning because it's going to reduce the value of the neighbors land because of this "monstrosity"?

The cases and the law on this is kind of wishy-washy with the main rule being you can't zone for aesthetic reasons only, but if you ever get up before a planning commission to try and argue this, (these people are laymen and they don't know

the strict interpretations, and usually a city attorney is trying to advise them the way they want to hear it anyway) you're not going to make any progress that way.

So, what do you look for? You want to put up an antenna, and you want to do the right thing. You want to get a building permit, and we should get building permits because this means the safety of the installation will be checked. That means if there are no other problems, you get your building permit and when the thing is ready for inspection the city building people come around and take one look at it. The odds are that it's going to be all right, particularly if it's a commercial type installation. you go ahead, they give you an OK and that's the end of it.

Now this is all good because we don't want people putting up things that are going to fall over and kill the neighbor's child. That's the sure way to get us all a bad reputation. So, I just can't stress too much that the best way to go is to get a building permit.

The problem is, in some cases you find restrictions are such the mere application for a building permit stirs up a big bee hive and you have a lot of problems. An amateur knows this and so he bootlegs a tower in and I really can't say he didn't do the right thing but he's asking for trouble. That's for sure.

What do you look for in a zoning regulation? Well, the usual way that you're limited by zoning is the height restrictions. That's the way they've got you. Usually there's a provision in there that's usually about 35 feet. That is really not acceptable to most of us. Fifty or sixty feet would be. But, normally when they talk about building and zoning they talk about 35 feet so what you're actually asking for is some exception to this. Because of the height that you want to put up and that brings up the aesthetics and you're on your way.

When you look at a zoning regulation you'll find it has restrictions on heights. But, one thing you'll want to look for, 'Are there any exceptions to this?' In the city of Oakland a long time ago, (and I understand it's been changed and I've not looked at it) we had problems. A fellow had antennas up or wanted to put them up

and there was a height restriction but looking through the zoning ordinances we found there was an exception in the case of chimneys, cupolas and towers.

We argued that a tower is a tower and an amateur radio tower is a tower and therefore we were exempt because it exempted from the height restrictions chimneys, cupolas and towers. Finally after going around with the city attorneys office to some length, they did make that ruling that we were exempt because of the tower exemption. You can look for something like that.

In Contra Costa county ten years ago, I wanted to put up some towers. I went to the county building department, they started talking to me about height restriction. I said, "Let's see if there are any exceptions in here." Sure enough, there was one directly on radio towers. They said "Oh, gee, we had forgotten about that. Okay, you have your building permit." So it's something you can look for. Sometimes the guy you go see hasn't had this problem come up before.

What else can we look for? Sometimes in these zoning codes the definition of the structure (I shouldn't use the word structure, I'll come back to that) but the definition of an object which they are regulating the height of is classified as a building. This is a thing you can look for because I've seen this in a case. The limitation height was all buildings would be limited to so many feet. And then usually in a county or city code, there's a "definition of terms" and if you look at the definition of a building you'll find that it no way relates to a tower because it's a structure that (they use the word structure now) has four sides and a roof and is designed for the occupancy of equipment or personal property or humans or animals or something like this and obviously you don't fall within that.

So, if the ordinance says that the buildings are restricted as to height, and you look at the definition of a building (which is defined in the ordinance) then you're probably going to be in good shape. If it's defined in the ordinance, that's fine. If it's not defined and the law has to define a building and you go in and look at various cases that have defined a building in California, you'll find that fences have been defined as buildings, all kinds of crazy things so you're not helped there. The best thing that you've got to find is the thing that's limiting the height is buildings. Number 2, that the definition of the code itself defines a building. And they are then bound by it because these things are strictly construed against the municipality or whatever it is. More often than not, you'll find that they talk about "structure" and if it says structure, you're in, no question about it.

When you go in and ask for a permit, they're going to want a plot plan. And one thing you're going to want to do when you go in is to reveal everything. Because if you go in there and you show just the tower without the antenna, and you put it up, they can come in and say, "Whoa, we gave you a permit for the tower, but you didn't tell us about that monstrosity at the top. It's got a turning radius and it's unsightly and your permit doesn't include this."

So, be sure you show the antenna you expect to put on top of the tower and in the plot plan locate the base of the antenna so that the turning radius doesn't invade the property setback lines or definitely not your neighbors property line.

In my case, ten years ago, my antenna was going to invade the setback line by a matter of a few feet. That caused the building people to check on it, but finally they determined that it was up 60 feet and it's only there occasionally so we'll let you go." But it could have been a problem.

So, try and avoid invading setback lines. They'll never give you a permit if you overhang your property line.

If you find that you are defined as a structure under their restrictions, you must then file for a variance. That means that they've got to go and post around your neighborhood, and somebody around your neighborhood circulates a petition, and you have a bunch of angry neighbors. It becomes a big political football. Well, that's the way it is.

Getting a variance isn't as easy as it used to be. In May of 1974, the State Supreme Court (Calif.) in the case of "Topanga Assoc. for a Scenic Community versus The County of Los Angeles," quoted from a section of the Government Code which read

"Variance from the terms of the zoning ordinance shall be granted only when, because of special circumstances, including size, shape, topography, location, surroundings, the strict application of the zoning ordinance deprives such property of privileges enjoyed by other properties in the vicinity and under identical zoning classification. Any variance granted shall be subject to such conditions as will assure that the adjustment thereby authorized shall not constitute a grant of special privileges inconsistent with the limitations upon other properties in the vicinity and zone in which the property is situated."

(Continued in next month's issue)

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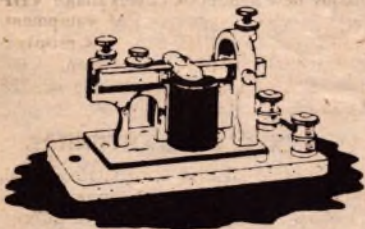
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### New Advisory Committees

ARRL President Harry Dannels, W2TUK, has announced the following lineup of advisory committee personnel, effective the first of the year:

**Contest.** Previous appointments continuing: Pete Chamalian, W1BGD; Stephen Branca, WA2BLV; Malcom Keown, W5RUB; Kenneth Keeler, W6PAA; C. La Mar Ray, W9LT; Albert Vitt, WA0CVS; VE7CC. Renewed: Eugene Zimmerman, W3BQV; John Laney, III, K4BAI; Albert Francisco, K7NHV (new chairman). New member: Robert Epstein, K8HLR. New director liaison: Stan Zak. Ellen White continues as Hq. liaison.

**DX.** Previous appointments continuing: John Thompson, W1BIH; Ted Marks, WA2FQG; Dr. J.R. Sheller, WA8ZDF (new chairman); Robert Baird, W9NN; John Ravenscroft, VE2NV. Renewed: Layfield Lamb, W3BWZ; William Christian, K4IKR. New members: Louis Muhleisen, K5FVA; Gary Stilwell, W6NJU; Allen Clark, W7YTN; Robert Wood, K0HUD. New director liaison: Larry Price. Bob White continues as Hq. liaison.

**Emergency Communications.** Previous appointments continuing: James Collingsworth, WB2EDT; Elwood Haldeman, W3PST; Andy Clark, W4IYT; Russel Dapew, WA4PBG (chairman); William Mixon, K5SVD; Arthur Smith, W6INI; Robert Klepper, W7IEU; Robert Dixon, W8ERD; Robert Hajek, W9QBH; Harry Legler, W0PB; H.H. Shepherd, VE3DV. Director Arnold and Bill Mann remain Board and Hq. liaison.

**VHF Repeater.** Previous appointments continuing: Bob Dreste, K7VOR; Donald Manson, K0TVO; Howard Cowling, VE3WT. Renewed: William Parris, K4GRH; Dick Flannagan, W6OLD (new chairman). New members: Lewis Collins, WIGXT; Fredrick Booth, WA2GCX; John Cox, K3GEG; John Mason, WSNSQ; Pat Shreve, Sr., W8GRG; Jack Forbing, K9LSB. Vice President Smith and Lew McCoy remain Board and Hq. liaison.

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If you have any news or information you are invited to share it.

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clip and mail to **Worldradio**

2509 Donner Way, Sacramento, CA 95818 USA

thank you



Dr. Sam Rosen, WA2RAU

**Some do's and don'ts in DX-ing  
by Dr. Sam Rosen, WA2RAU**

(1) Get all the information you can obtain about a DX-pedition in advance:  
 (a) Frequencies, modes of operation, dates, etc.  
 (b) Determine by chart the compass heading; decide whether the station will come in best short or long path at the times of operation  
 (c) Consult magazines and DX bulletins for information  
 (2) If the station is a "list operation," call the MC to get on the list and be on exact frequency when the MC or the DX station calls you.  
 (3) If the DX station is in QSO with his family, QSL manager or a close friend, don't try to break in with your call. He will not reply to you, and you will only antagonize him so that he may refuse to work you when you call in later. It is the DX station's prerogative whom he wants to work; he can always claim later he did not hear your station in the QRM.  
 (4) Do not call out of turn. If the DX station announces that he is working by districts, call only when he calls your district. If he is working that way, an out-of-turn call will only antagonize the DX station as well as your fellow W and K operators.  
 (5) If he is working the Sixth District and you hear 5-9 plus reports on both sides and you are only hearing him 5-4 or 4-4 on either long or short path, forget it. It's almost impossible to break through the "West Coast curtain" when propagation favors them, so wait until propagation favors the East Coast, or your area, and then call.  
 (6) Listen to see who he is working. A second receiver or a VFO tuned to his frequency helps; call him on that same frequency as soon as he signs with the station with whom he is in QSO (not before!).  
 (7) If the DX-pedition station is going to operate 3 or more days, wait until the "big guns" have worked him. Call him the second or third day of operation when the competition will have lessened and you will find working him is easier.  
 (8) Study and be guided by his mode of operation. If the DX station announces that he is operating on 14.110 and listening for USA stations from 14.210 to 14.230 don't call him on 14.210 (everyone is there calling). Call him around 14.227 or 14.228; if you miss him on that frequency, drop down two or four kHz and call.  
 (9) If he's playing roulette and announces that he's listening 14.200 to 14.250 it is foolish to bounce around. Pick one frequency where the QRM is least and stay there. He'll bounce around, but eventually he will hear you in the clear and come back to you.

(10) Don't try to shout the whole USA on one frequency; unless your call is as powerful as, for example, W2ONV or K2GL, he will not hear you. Go one or two kHz away from the frequency in either direction and call him out of the pile-up QRM.  
 (11) One other method I have used with fairly good success quite a few times: if the Dx-er operates from 14185, and announces he is listening for W's and K's on 14.220, I keep the receiver tuned to 14.185 and the transmitter on 14.220, and I do not wait until he says "QRZ" I start calling him just before he turns over to us, and just before the mob starts howling, so the DX station will hear the RAU part of my call when he switches, and he will usually come back and say "the station with RAU in his call please call again." The most important thing in working DX is to use common sense and plan your strategy accordingly.

(12) If possible, work the DX operator several times before he leaves for the expedition so that he will recognize your call in the pile-up. If you can, write him at home before he leaves for the site and ask him politely to look for you in the coming pile-up.  
 (13) It is good practice to work the DX-pedition station twice for "insurance" — at the start and toward the end of the time period, or on more than one band. Too often, though you are sure you got through, you can receive a card "Sorry, not in the log." If he remarks that he's surprised you called him more than once, explain you weren't sure of your previous contact because of the QRM conditions.  
 (14) In conclusion, the essentials for working DX are: Patience, Fortitude, Common Sense, Proper Equipment, Politeness — and a good and understanding wife or family.

**ARRL elections**

Official Bulletin NR 510 from ARRL Headquarters, Newington Ct, November 20, 1974 to all Radio Amateurs BT

The ARRL Committee of Tellers met today to count ballots in the elections just concluded for director and vice director. The number of votes credited to each candidate is as follows. The first listed candidate is declared elected for the next term of office.

- Central Division for director**  
Philip E. Haller, W9HPG, 2157  
D. C. Miller W9NTP, 2109
- Central for vice-director**  
Edmond A. Metzger, W9PRN, 2474  
Kenneth A. Ebner, K9GSC, 1771
- Hudson for director**  
Stan Zak, K2SJO, 2177  
David T. Ferrier, W2GKZ, 1195
- New England for director**  
John C. Sullivan W1HHR, 2087  
Fredric J. Hopengarten, W1NJJ, 1083
- New England for vice director**  
John F. Lindholm, W1DGL, 1996  
G. Peter Chamalian, W1BGD, 1171
- Northwestern for director**  
Robert B. Thurston, W7PGY, 1444  
Harry W. Lewis, W7JWJ, 1124
- Northwestern for vice director**  
Dale T. Justice, K7WWR, 1194  
William R. Watson, W7BQ, 1101  
Harry A. Sievers, W7BAR, 261
- Roanoke for vice director**  
Donald B. Morris, W8JM, 1290  
Phillip M. Sager, WB4FDT, 988  
Kiernan K. Holliday, WA6BJF/4  
114
- Rocky Mountain for vice director**  
Maurice O. Carpenter, KOHRZ, 662  
Bud Schieving, WA0YIH, 343
- Southwestern for vice director**  
Jay A. Holladay, W6EFF, 1640  
Arnold Dahlman, W6UEI, 908  
Clarence R. Mackay, K6OPS, 802
- West Gulf for director**  
Roy L. Albright, W5EYB, 1917  
D. William Smith, W5TVB, 628
- West Gulf for vice director**  
Jack D. Gant W5GM, 1667  
Thomas H. Morrison, WB5IZN, 871

The new directors and vice directors take office starting January 1, 1975. As of that date the following additionally take office likewise for two year terms in view of election procedure previously completed. Roanoke Division director L. Phil Wicker, W4ACY; Rocky Mountain Division director Charles M. Cotterell, W0SIN; Southeastern Division director John R. Griggs, W6KW; and Hudson vice director George A. Diehl, W2IHA. See details of these earlier actions page 89, November QST.

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• Chuck - W8UCG at the mike

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# Honduras

Honduras is deeply indebted to the world for its spontaneous and unselfish help not only in material goods, such as food, medicine, etc., but in many cases, at much sacrifice and suffering, physical and bodily help.

The world became aware of this dire calamity mainly through the local amateurs of Honduras but more assuredly through the DX operators in North, South and Central Americas. We here in Honduras were on the air almost constantly for we were fighting for our very existence ... But those of you who matched us hour-for-hour running traffic both in and out!!!! and the many others who did what you could being limited by your own daily duties!!!!

It is to you all that Honduras and in particular we, amateurs, in HR land, send our sincerest thanks and gratitude. Perhaps in the past, we took Thanksgiving Day for granted. But this year seeing what hit us and what is still with us, we humbly render our homage and thanksgiving to God and to you all.

(de Radio Club of Honduras in San Pedro Sula by John Gaffuey, HR2JAG.)

## Attn: new amateurs

Congratulations on your new license! Please allow us to welcome you to the wonderful world of Amateur Radio.

It was our pleasure to send you, as a gift, this copy of WORLD RADIO. We did that so you could see the action, adventure, international friendship, emergency communications and public service aspects of this great avocation.

The more you know about something, the more you will enjoy it. We think WORLD RADIO will help you enjoy Amateur Radio. We cordially invite your subscription.

Please see page nine.

## Thoughts for Club

by Ron Martin, W6ZF

If your radio club is having difficulty in securing good speakers, and, there is another radio club close by, why not combine your efforts into a joint meeting?

Go after good speakers who want an "audience" and not have to talk to eight or ten people. The combined club effort can reap beneficial rewards for both clubs and give a larger audience which most speakers enjoy and are impressed with. Financially, this effort can bolster both clubs treasuries by sharing the costs of such efforts.

Recently Vallejo and Napa, practically sister cities, held a joint Field Day. It was a huge success and ended with a giant pot luck dinner which everyone enjoyed. The two clubs are thinking of making the attendance at each club's meeting night a contest. Each club would tally the others attendance and then either quarterly, or at the end of the year the loser would put on the pot luck dinner for the other. This stimulates interest and the hams love it.

Who can turn down a good meeting, a good feed and good fellowship? Nobody can or wants to under those circumstances. Pass this along to your club's officers.

81/21  
84/24  
87/27  
90/30  
93/33  
96/36  
96/36  
99/39  
99/39

WR6ABA\*  
WR6ABN\*  
WR6ABQ\*  
WR6AEJ\*  
WR6ACK\*  
WR6AAD\*  
WR6AAE\*  
WA6FLL  
WR6ADW\*

LA (Mt. Washington)  
LA (Mt. Lee)  
LA (Mt. Disappointment)  
LA (Hollywood Hills)  
Santa Monica  
LA (Mt. Wilson)  
Palos Verdes  
Pomona (Johnstone Peak)  
Orange Co. (Mt. Palomar)

(Continued from page 26)

LA\*CO RACES

Private†  
Private†  
FAX  
Private†

### 146-148MHz

#### Simplex/Non-standard repeaters

LA (Mt. Wilson) Output  
Orange Co. Input-Private†; AREC  
Remote base station intercom use only  
Alternate 6.94 simplex-direct use only  
RTTY; also WR6ACA\* RTTY output  
Area wide heavy activity  
LA (Mt. Wilson) input—actually 7.435  
Orange Co. output—Private†

### 220-225MHz

LA  
Pomona (Johnstone Peak)  
Ventura (Sulphur Mtn.)  
Ventura (Hall Canyon)  
Thousand Oaks  
Long Beach  
San Fernando Valley  
San Diego  
Orange Co.

AREC

Orange Co.  
National RTTY channel (open)  
LA (Hollywood Hills)

RACES

WR6AER\*  
WR6AFG\*  
WR6AEP\*  
WR6ACH\*  
WR6AFC  
WR6ADC  
WB6CUG  
WR6AFB  
WR6ACB  
WR6ADL  
WB6VTM  
  
WR6ABJ\*  
K6ZJS  
WR6ACJ\*  
WB6MYH  
WR6ABC\*  
WR6ABO  
WR6AFW\*

Crestline  
LA  
LA  
LA

Private†  
Private†

National Simplex Channel

Private†

Operational/activity status on most 220 repeaters unknown at present.

#### NOTES

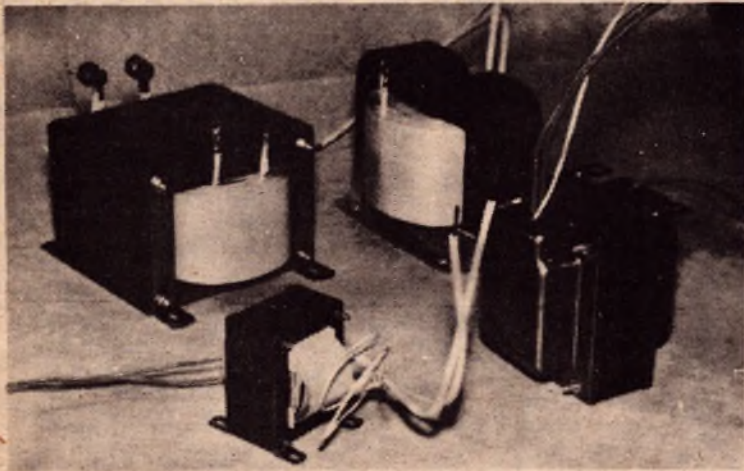
Check with group or sponsor before using a channel. Accuracy of above information known to be correct but not guaranteed. \*Repeater operational on a regular basis. †Private requires owner approval for use. Usually tone coded. T1800Hz-1800Hz tone burst access required, etc.

(From "Grid Leak": Tulare County ARC)

Other areas—Send in your repeater information for listing in this monthly column.

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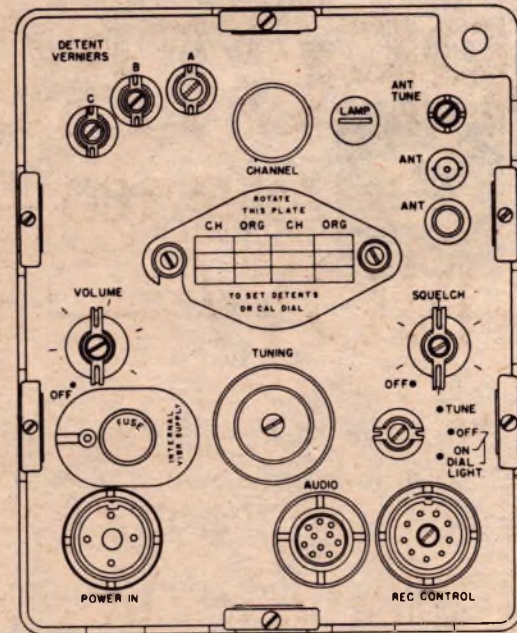
- HIPERSIL PLATE TRANSFORMERS: 3500 VAC @ 1.0A ICAS; 230 VAC Primary; 6-7/8" H, 8-5/8" W, 7-3/8" D; 50 lbs.; \$125.00.
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## GOVERNMENT SURPLUS

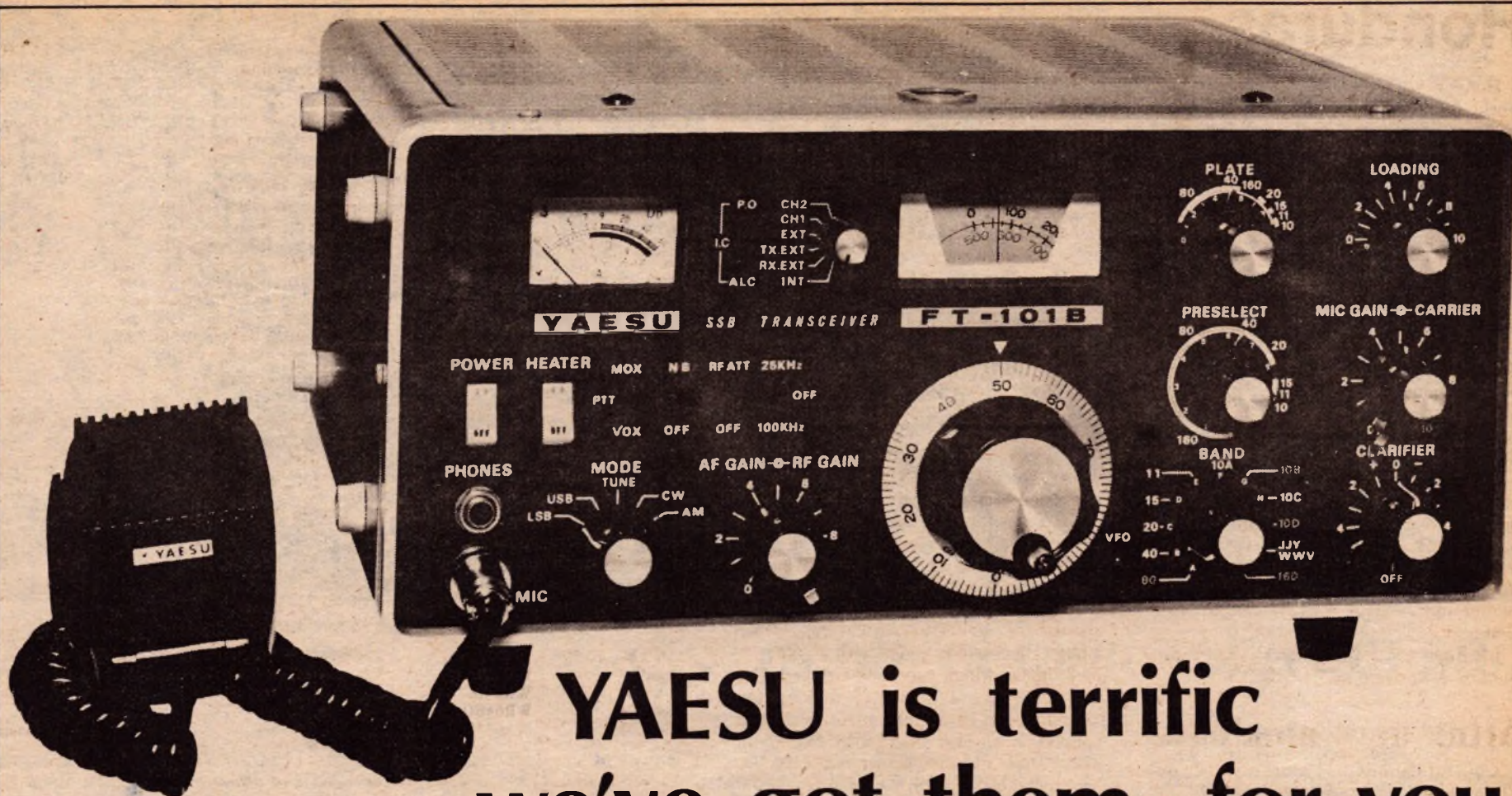
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Station of Roland "Slim," WA4AZZ, and Bertha, WA4BMC

## She provides help in storm

by Herb Greenberg

If a hurricane ever whirls its way through the south Florida area it will have to cope with Bertha Eggert.

Bertha Eggert, also known to her close friends as WA4BMC, is a Lake Worth amateur radio operator.

Unlike the other amateur radio operators in the South Florida area, though, she has a teletype machine that's hooked up with the National Weather Service in Miami.

She broadcasts any bulletin the weather service issues, be it on a squall line west of Boca Raton or a hurricane 250 miles out in the Atlantic.

A member of the Gold Coast FM association, she broadcasts the information from her home.

Her radio shack is set up inside her home. And she keeps a watch on weather statistics in an \$800 weather bureau she has had installed.

"She pays for all of her own expenses so she can provide a service for us," says Chuck Ritchie, a Boca Raton resident who is president of the 135 member Gold Coast association.

On Sept. 16 Ritchie presented her with an award for "invaluable services rendered."

The teletype machine was given to Bertha a year ago by the Civil Defense

Department. She cannot transmit on it. If mobile amateur radio operators, however, spot a funnel cloud off A1A, for instance, they contact her. She in turn, telephones the weather bureau in Palm Beach.

Her weather broadcasts can be heard on amateur shortwave and some public service radios from Vero Beach to Key West.

(Boca Raton News)

### QSL credits of WA4BMC

Has worked all 3079 counties—all 20 meters—all SSB and is #19 for the USA-CA county award after 1-21-70. This is good for the "K9EAB" memorial award (MARAC custodian).

Is working all the counties over again, with different calls . . . now has 2829 confirmed—all 20 meter SSB.

Mobile Amateur Radio Awards Club (MARAC) charter member #11 MARAC information center—SASE to WA4BMC—use legal size envelope with three (3) ten cent stamps . . .

Member of the mobile QSL bureau #286

The Independent County Hunters Net meets on 14.337 MHz daily 1400 GMT until the band closes and 3.943 starting at 0100 GMT. See any issue of "CQ" Magazine—USA-CA column by W2GT.

National Awards Hunters Club, charter member #25—200 seals—PA . . . MASS . . . FLA . . . CALIF . . . TEX . . . NY . . . NJ . . . chapters

Amateur Radio Achievement Club—charter member #3 ultimate achievement award. AMSAT

ISSB #31—(KNA + 15 seals)—North Star)

Member of ECARS . . . A1-OP club . . . RCC . . . BPL 75+ARRL-OBS-OVS Member Florida Sidebanders Assoc & Emergency Net. Member Florida RTTY Society . . . Knights of Kilocycles #317, Floridora . . . Sailfish Net . . . Southern Section Country Cousins, Grandmothers Club . . . Florida Cowbelle . . . OGS #166 . . . Moonwatcher #67 . . . Slave #97 . . . ROHO #704 Screwball #113 . . . SMART #119 . . . Junkhunter #68. Member Met A ARC Mich . . . Yogi Bear #66 . . . Confederate Rebel #616 AREA #204 . . . Weeki Wachee Fla VHF Award . . . Charter member #27-1 Fla. Member Fla VHF Medicare Net . . . Professional Loafers Club #282. South Jersey Radio Assoc . . . Gloucester County, New Jersey, ARC.

Member of four 2 meter FM repeater associations WR4AFM . . . Palm Beach . . .

. 28/88 SERA—Southeast Repeater Association WR4ACV . . . Boca Raton Fla . . . 22/82 WB4HAA . . . Miami, Fla 34-16/76.

### An On-The-Air "Futures Convention

Amateurs with a concern about our planet's future and an interest in using our radio stations for serious communicating will want to circle the weekend of 8 and 9 March.

On those days we will have the opportunity to hear the views of well known economists, futurists, ecologists and others involved in studying the demands of the future and the range of mankind's options in dealing with them. We'll be able to pose our own questions to many of these people in phone-patched question and answer sessions. We will also be able to talk with some of those extraordinary "ordinary people" who are working on homebrew approaches to a better world.

Most of the action will take place on 7175 kHz during the mornings, on 14.234 in the afternoons, and on 3.849 both evenings. These frequencies are just up-band from the usual SSTV gathering frequencies. Where a guest has provided illustrations to accompany his or her comments, they will be transmitted by SSTV. The net control stations also plan to monitor 7.275, 14.334, and 3.949 kHz to allow General Class hams to call in with questions and comments.

Ron Wilbur (K6ZEZ — the fellow who came up with the idea) and others are working hard to make it one of those times when the content of the communication makes us proud to have guests in the shack. Some of us are planning to declare "open house" that weekend to friends and local news media. We hope you'll join us, and help to make the weekend the stimulating one it promises to be.

Cop Macdonald, W0ORX

### Propagation Predictions

WWV has started propagation forecasts which are updated as often as hourly. Announcements are made at 14 minutes after the hour, and appear to be a minimum of 24 hours newer than the customary solar-flux and A-index indicators (which continue). This could have a major impact on the whole picture of propagation predictions and the amateur need for same.



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## DANA RADIO

2704 16th St., Sacramento, CA 95818

# Amateur Radio for International Friendship Sister City Program

(Continued from last month)

**Contact:**  
**Chuck Towns K6LFH**

## OKLAHOMA

Stroud—Stroud, Canada  
Stroud—Stroud, Australia  
Stroud—Stroud, England

## OREGON

Albany—Albany, Australia  
Ashland—Guanajuato, Mexico  
Astoria—Walldorf, Germany  
Baker—Latacunga, Ecuador  
Coos Bay—Larvik, Norway  
Corvallis—Antofagasta, Chile  
Eugene—Chinju, Korea  
Klamath Falls—Rotorua, New Zealand  
Lake Oswego—Pucon, Chile  
Medford—Alba, Italy  
Newport—Mombetsu, Japan  
Ontario—Sayama, Japan  
Oregon City—Tateshina, Japan  
Pendleton—Marikina, Philippines  
Portland—Sapporo, Japan  
Roseburg—Durango, Mexico  
Salem—Vaxjo, Sweden  
Seaside—Shakotan, Japan

## PENNSYLVANIA

Berwick—Berwick-on-Tweed, England  
Bethlehem—Tondabayashi, Japan  
Chambersburg—Gotemba, Japan  
Cheltenham—Cheltenham, England  
Coatesville—Greenock, Scotland  
Erie—Merida, Mexico  
Manheim—Manheim, Germany  
New Holland—Longvic, France  
Philadelphia—Florence, Italy  
Philadelphia—Tel Aviv, Israel  
Reading—Reading, England  
Swarthmore—Stade, Germany  
Telford—Telford, England  
Turtle Creek—Mocca, Dominican Rep.  
Valley Forge—Hechingen, Germany  
York—Arles, France

## RHODE ISLAND

Newport—Shimoda, Japan

## SOUTH CAROLINA

Spartanburg—Chon-Ju, Korea

## TENNESSEE

Brownsville—Regan, Germany  
Johnson City—Guaranda, Ecuador  
Kingsport—Sobradinho, Brazil  
Knoxville—Neuquen, Argentina

## TEXAS

Abilene—Rio Cuarto, Argentina  
Abilene—Arusha, Tanzania  
Austin—Belo Horizonte, Brazil  
Austin—Santillo, Mexico  
Corpus Christi—Tampico, Mexico  
Corpus Christi—Veracruz, Mexico  
Corpus Christi—Yokosuka, Japan  
El Paso—Cuidad Juarez, Mexico  
Galveston—Niigata, Japan

Houston—Taipei, Taiwan  
Houston—Chiba City, Japan  
Houston—Huelva, Spain  
Houston—Veracruz, Mexico  
Lubbock—Hanover, Germany  
New Braunfels—Braunfels, Germany  
McAllen—Irapuato, Mexico  
Pasadena—Hatano, Japan  
San Antonio—Monterrey, Mexico

## UTAH

Ogden—Hof, Germany  
Salt Lake City—Matsumoto, Japan  
Salt Lake City—Quezon, Philippines

## VIRGINIA

Alexandria—Helsingborg, Sweden  
Hampton—Southampton, England  
Luran—Luray, France  
Portsmouth—Dunedin, New Zealand  
Richmond—Richmond, England  
Roanoke—Wonju, Korea  
Winchester—Ambato, Ecuador  
Winchester—Winchester, England

## WASHINGTON

Auburn—Kasuga-Cho, Japan  
Bellevue—Yao, Japan  
Bellingham—Tateyama, Japan  
Bremerton—Kure, Japan  
Bremerton—Olongapo, Philippines  
Brewster—Takahagi, Japan  
Everett—Iwakuni, Japan  
Kent—Kaibara-Cho, Japan  
Port Angeles—Rosenheim, Germany  
Renton—Nishiwaki, Japan  
Seattle—Kobe, Japan  
Seattle—Bergen, Norway  
Seattle—Tashkent, U.S.S.R.  
Seattle—Dawson City, Canada  
Spokane—Nishinomiya, Japan  
Sumner—Ikawa-Cho, Japan  
Tacoma—Kita-kyushu, Japan  
Vancouver—Arequipa, Peru  
Walla Walla—Sasayama, Japan  
Wenatchee—Kuroishi, Japan  
Yakima—Aomori-ken, Japan

## WISCONSIN

Beloit—Pinerolo, Italy  
Eau Claire—Mytilene, Greece

Fort Atkinson—Porta Cabezas, Nicaragua  
Fond du Lac—Waspam, Nicaragua  
Green Bay—Delft, Netherlands  
Horicon—Senonches, France  
Kenosha—Wolfenbuettel, Germany  
Madison—Oslo, Norway  
Racine—Aalborg, Denmark  
Racine—Montelimar, France  
Racine—Bluefields, Nicaragua  
Sheboygan—Esslingen, Germany  
Sheboygan—Rama, Nicaragua  
Waupaca—Rodding, Denmark

## AMERICAN SAMOA

Pago—Oceanside, California  
Territory of Guam (1)  
Guam—Cebu, Philippines  
Guam—Island of Koje, Korea  
Guam—Taipei, Republic of China

## Profile from page 18

quickly and cheerfully that the recipient is not made to feel grateful or indebted.

Cy once told of a close brush with disaster while he was on active duty with the Navy during World War II. His duty station was the rear seat of a dive bomber. The enemy attacked a group of ships, one of them being the now famous carrier Lexington. All of the planes were sent aloft to try to stem the attack. When the battle subsided the pilot of Cy's plane headed back to the Lexington. While they were in the air the carrier had been sunk and they had no carrier deck to land on. So they checked their maps and tried for a large island believing they could make an island with a strip.

However, it wasn't long before they found themselves short of fuel. They decided to come down on the beach of even the smallest island. They spotted one and tried for its beach. The single engine coughed and went dead. They ditched and swam for the beach. The small island was a very small island indeed — a strip of sand and a bit of green. There was no food or water.

They were stranded for several hours. A dugout canoe came into view. It was filled with natives carrying spears. Cy did not know if he was going to be rescued or murdered. Cy says it was like in the movies. It sounded like: "ooga, ooga, ooga." He caught the words "white man" and "wireless."

With the help of sign language they were able to indicate to the natives they wanted to get into the canoe. By the time the sun was sinking into the Pacific they arrived at a much larger island. They found several Australians with radio communication.

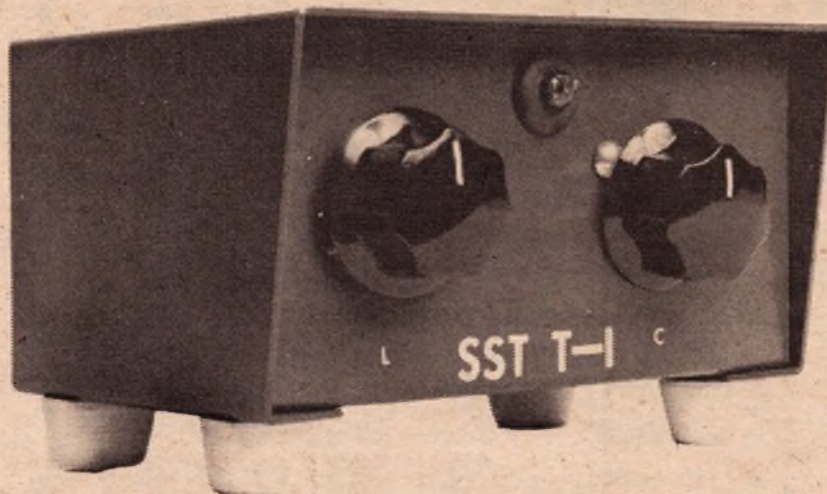
We in the San Diego area are very grateful that the natives came along when they did.

W6GBF and WA6HXB have a daughter Mailey and a son Rick. Mailey is named for a beautiful Hawaiian flower. They also have four dogs, a cat, five tortoises and three guinea pigs.

The Huvars are people that other people immediately take to. They have a capacity for hospitality. And an amateur radio function is not a complete success without Cy's infectious laugh and the general good will that his presence emits.

He is a nice guy.

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# international friendship



The audiometer shown in this picture was presented by "Rip" Frater, K6ZP, to the Ensenada Radio Club for use in checking out faulty hearing of needy Mexican children. From left

to right — Ensenada Radio Club members, Jose, XE2ID; Paco (Club President), XE2EBC and Oskar (Club Treasurer), XE2DDP.

## Hands across the border H. R. "Duke" Ellington, W6OZD

From 4-6 October 1974, "Colegas y Amigos" Amateur Radio Group (consisting of 85 U.S. amateurs and their families) journeyed to Ensenada, Mexico for their 12th annual motorcade.

The Mexican government issued 44 three-day temporary permits for the group to use while operating their rigs in Mexico. All activities were coordinated and planned by the Ensenada Radio Club under the leadership of their current Club President, Paco de La Maza, XE2EBC. The official welcome was extended by Lic. Octavio Perez, P., Mayor of Ensenada.

Following a police motorcycle escort through the city, we visited the school for deaf-mute children — "Chiquita Semilla." There we delivered a large quantity of food, clothing, school supplies, etc. In fact, when everything had been unloaded, one room was almost completely filled with cartons, bags, etc. After a brief tour of their facility, we proceeded to the Ensenada Radio Clubhouse for a buffet snack. From here we drove to a large ranch, the Santa Anita, about ten miles north of town for a Mexican steak cook-out complete with fellowship, prizes, etc.

Our friends in Ensenada displayed, as usual, their special brand of hospitality amid the attractive setting of a large eucalyptus grove surrounding the picnic facility. On Sunday morning, a Group breakfast in the Convention Center of the Royal Inn completed the motorcade activities.

One of our "Colegas y Amigos" members, Grover Frater, K6ZP, recently donated an audiometer for use in testing the degree of deafness so as to determine whether hearing aids would be feasible for the deaf children at the "Chequita Semilla." This instrument was used a week or so ago by a doctor and nurse of the Flying Samaritan Medical Group on a weekend clinic to Ensenada. They did determine that some cases could be aided by hearing aids. The audiometer will be used in other locations as well. We are making a plea for any possible assistance in securing hearing aids in order that some youngsters may overcome their world of silence. Anyone interested in this project may contact "Duke" — W6OZD, Group Chairman at 3649 Emerald Street, Apartment No. 108, Torrance, Calif. 90503.

## U.S. Amateurs Assist in Mexico

Esther and Lyle Gardner, WA6UBU, and K6IPJ, husband and wife team, were driving their motor-home south on the Mexico 1 tollway between Tijuana and Ensenada when they arrived on the scene of a very serious automobile accident.

Two California youths on their way home to the States from Ensenada had rolled their sports car down a steep embankment. Fortunately, several doc-



Some of the food supplies and clothing being delivered to the deaf-mute school by Ensenada Radio Club members. Left to right — Ricardo, XE2ROC; Oskar, XE2DDP;

Jose, XE2ID; and Paco, XE2EBC. These supplies were purchased from donations given by "Colegas y Amigos" members.

tors, including Dr. Erasmo Garza from San Jose, Calif., and Dr. Richard Gladden from Los Gatos were already on the scene and were administering first aid.

These doctors were part of a team on their way to donate their services to the deaf-mute children at Rancho Sordo Mudo in Guadalupe, Mexico.

One of the injured youths was able to give the name and telephone numbers of both parents back in Orange County so they could be notified. The "Colegas y Amigos" Group, of which WA6UBU and K6IPJ are members, had been issued

three-day XE permits for operation in Mexico, making it legal to contact amateurs back in the U.S. they notified both parents.

Esther, operating on 40 meters as XE2 broke WCARS on 7.255 MHZ asking for a phone patch in Anaheim. Jamming interference was so bad on 7.255 that Jim Dunn - WA6DXJ had difficulty hearing her. She moved to 7.265 for a clear channel and broke a QSO between WB6SQK and Ken Stroube WA6YOP/m. Both operators offered to make the call from Northern California. Finally Menzen Dunn WA6DXJ moved up to 7.265 and completed the relay of information on the condition of the youths giving the location of the Hospital Cruz Roja in Ensenada to which both injured persons were being transported by an Ensenada ambulance.

On Saturday morning, one of the boys was able to leave the hospital — (into jail—no Mexican insurance on either youth). The other patient was moved to Hospital General in Ensenada with multiple fractures and in very serious condition.

On Saturday morning at the welcoming ceremonies for the "Colegas y Amigos" Group by the Mayor of Ensenada, Lyle, K6IPJ, contacted Sr. Mario Montes, Chief of the Mexican Tourism Bureau of Baja who personally assured everyone that he would lend the assistance of his office in clearing the red tape surrounding the accident in order that the boys could leave Mexico.

The latest report is that both boys are back in the USA with their families. One is still in a hospital but is improving satisfactorily — the most fortunate one is alive and well. Once again Amateur Radio assisted in time of emergency—this time in Mexico by members of "Colegas y Amigos" with special operating permits courtesy of the Mexican Government.

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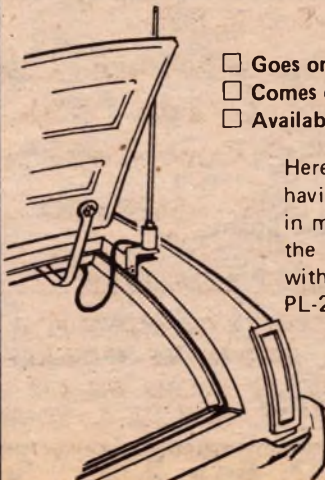
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# profile

## Mr. Niceguy — Cy Huvar, W6GBF

by Phil Leonard, K6MTN

Most of us get bitten by the radio bug when we visit the shack of a friend. And when the microphone is passed to us, and if we have the opportunity of talking to a DX station, we are hooked and we begin to study.

Cy Huvar also visited the shack of a friend and he too was able to talk to a DX station. The difference here was that Cy talked to the DX station on CW. His friend was a CW man and Cy was a radio-man on active duty in the Navy.

When Cy took the examination for his license (1949) he was living in National City, a suburb of San Diego. That was when he received the call, 'W6GBF.' He hadn't as yet had the chance of using his new call in six land. Immediately after taking the exam, the Navy transferred him to Washington. His call was then changed to W7ODR.

This transfer was the first of many. The next was to KH6 land operating under the call KH6ABD. Then to Okinawa where his call was KR6FN.



One afternoon while on 10 meters, Cy was startled by a very familiar voice coming from his receiver's speaker. The voice belonged to Doris, Cy's wife. While Cy was island-hopping, Doris was studying for her General class license. Her first call was KH6CIB.

Shortly after Cy was once again operating as KH6AFD, he and Doris began talking to an amateur who was a patient at the leper colony at Kalapapa. They enjoyed their 40-meter contacts with their new friend and accepted an invitation to visit him.

The administrator and members of the staff thoroughly briefed Cy and Doris and gave them a list of do's and don'ts that they would have to follow while they were visiting the community. Two of these were: do bring your own supply of food and don't visit the quarters of a patient without wearing a mask and gown. After they had their physicals they were permitted to enter.

The Huvars are the kind of people who don't see physical appearances of others, but rather they see the real person. Soon they were eating the food provided by their friend. Contrary to popular belief the disease (now known as Hansen's disease) is not very communicable. Cy and Doris spent five days touring the hospital and making friends with the patients.

Cy and Doris invited their new friend from Kalapapa to visit them at their home. Their friend, who is now deceased, suffered badly from the disease. He lost

some of his fingers, an eye and his face was disfigured. He visited Cy and Doris for two weeks. Patients were given permission to visit away from the colony when their illness was arrested. However, he had to undergo a treatment before leaving which he considered difficult. He had to remain for a short period of time in a room where he underwent fumigation. He said the chemical made the inside of his nose burn.

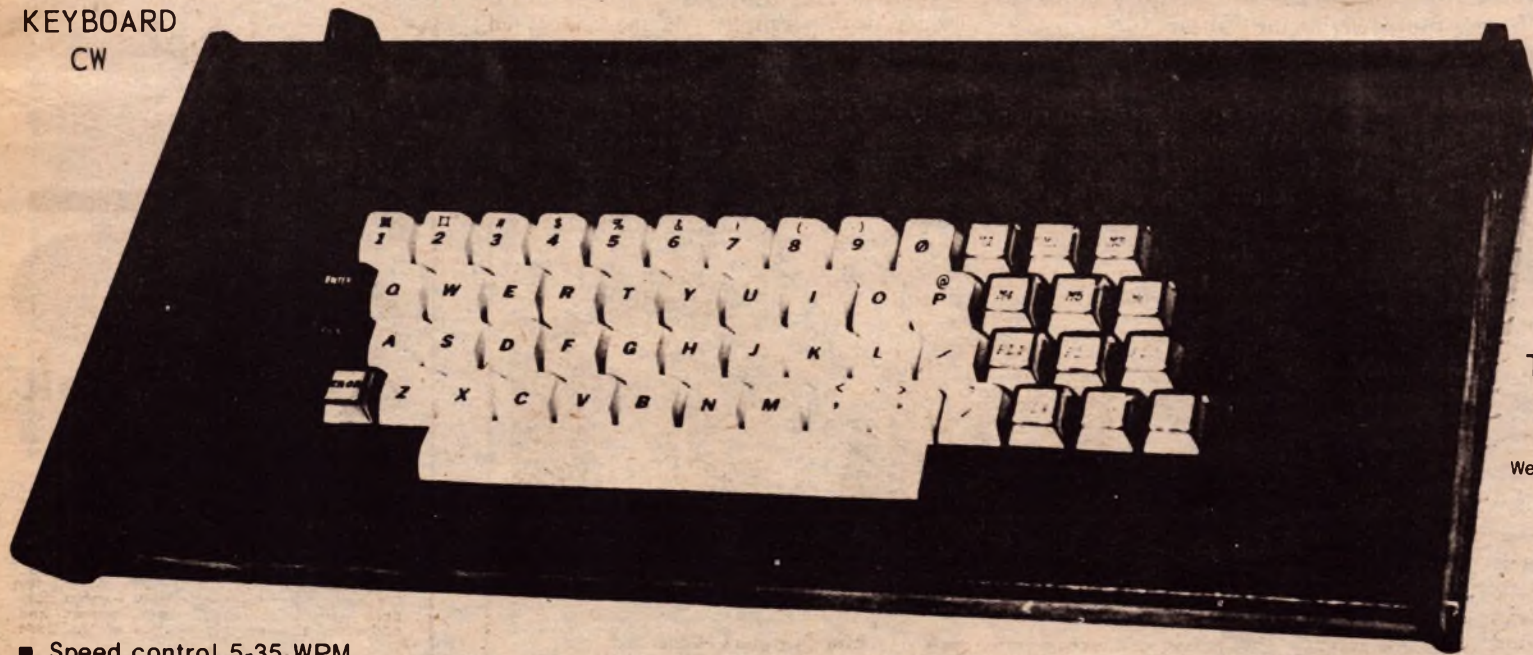
In 1959 Cy once more was transferred to National City. And the FCC again issued him the call W6GBF. Doris was issued the call WA6HXB. Cy retired from the Navy in 1960 and went to work in the naval instrumentation lab in San Diego as a civil service employee.

W6GBF became very active in amateur radio public service work. He became a participant in AREC. Then he became assistant EC, then EC followed by SEC.

Cy is a very friendly person. He has a vast knowledge of radio and many radio operators see his advice and help. Since he doesn't believe in blowing his own horn, most people in the San Diego area are not aware of the many hours he spends helping the physically handicapped amateurs.

He makes repairs, dispenses information and if not for W6GBF, a large number of the handicapped would have gone off the air for long periods. The radio fraternity knows the importance of radio to the physically impaired. Nevertheless, help is not easy to come by. Cy gives his help so (please turn to page 15)

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# interference

Dr. Theodore Cohen, W4UMF

## Are we making progress? Most assuredly!

About two years ago I purchased a small phonograph for my daughter. Manufactured by one of the foremost producers of home entertainment equipment in the United States, the unit intercepted my signals everytime it was on, and I was on the air.

I wrote the manufacturer about the problem, explaining that the signals from a nearby Amateur Radio station were being received by the phonograph, and requesting that they indicate what provisions, if any, had been made to have these phonographs modified such as to reduce their susceptibility to radio signals.

Below is the letter received in response to my inquiry:

"This will acknowledge and thank you for your letter of January 29, 1973, concerning your (*brand name deleted*)' phonograph.

"The phenomenon which you are experiencing of interference from the local ham operator station is due to audio rectification. To alleviate this problem it will be necessary to either shield all wiring leading to the amplifier section or to install a cut off switch in the front of a speaker. In either instance it will be necessary to contact an electronic technician to perform this service. We suggest you contact the wholesale distributor listed below; they will be pleased to recommend a dealer who will service your instrument."

The letter was signed by a representative in the manufacturer's Consumer Relations Department.

Now that you've had a good laugh (or cry, as the case may be), take a look at a more recent letter received from the same manufacturer in response to a letter similar to the one first written on January 29, 1973:

"Your letter of June 6 (1974) . . . has been forwarded to my attention.

"After receiving your letter, contact was made with the Technical Services Department. They have supplied a modified schematic pertaining to your model. They have advised that you . . . add the capacitors as shown on the schematic.

"If their suggestion does not work, please contact me again for assistance."

The letter was again signed by the consumer Relations Department. Enclosed with it was a schematic diagram on which was penciled the suggested locations and values for bypass capacitors to be used for the elimination of RFI. I installed the capacitors, and the problem was eliminated.

Even though I was the one who had to modify the phonograph, the difference in response shows that considerable progress has been made in the past two years as regards obtaining a manufacturer's assistance to correct RFI problems.

Manufacturers are beginning to realize that they must bear the responsibility for correcting design deficiencies which lead to the interception of signals from nearby radio stations.

Further, if we had RFI legislation similar to that proposed by the late Representative Teague (HR 3516), or even better, the legislation proposed by the ARRL RFI Task Group in its recently-published RFI Packet, we would finally be able to operate our stations in an atmosphere free from contention over alleged interference.

To learn what Congressman Teague proposed to the Congress on behalf of amateur operators, as well as to obtain a copy of the ARRL Task Group's RFI Packet, send a self-addressed Manila (9x12") with 40 cents postage affixed to:

Theodore J. Cohen  
Secretary, ARRL RFI Task Group  
8603 Conover Place  
Alexandria, VA 22308

Send for your copy today!

## The mighty loop

by Bob Richards, W6MHK

The "Mighty Loop" is a single-turn, flat loop antenna, designed for indoor operation. It has been operated in the 80, 40, 20, 15, and 10 M bands, with limited operation in the 160 M band!

The antenna has been operated — indoors, in a brick building, a new modern home, a modern bank, a garage, a condominium apartment, a wood frame house, as well as outside, and all at heights below nine feet above the earth — successfully!

The following has been accomplished at my QTH, which is situated in a small valley that is surrounded by high mountains a short distance away, to the East, West, and to the North. The antenna is located about eight feet above the earth, about 50 feet above sea level, and inside the living room of my home. There is no other antenna at my home. Power is 300 watt PEP/CW.

It should be noted that these accomplishments occurred over a period of many months, and during the low part of the sun spot cycle, not the high part.

A. Over 1,100 U.S. Mainland, and 700 DX two-way contacts

B. WAC—Worked All Continents several times/confirmed

C. WAC/SSB&Worked All Continents on radiotelephone/confirmed

D. WAC—Worked All Continents, with one continent on each band 160, 80, 40, 20, 15, and 10 meter bands/confirmed

E. Thirty-two out of forty world DX zones: thirty one/confirmed

F. Five bands into Asia, Oceania (including Australia and New Zealand), North America, South America/confirmed. These bands 80, 40, 20, 15, and 10 M

G. 113 countries worked, 105 confirmed

Interesting reports: FB8XX, 15M, S6; VK9XX, 20M, S3; JA3YFB, 15M, S9; VK3XB, 20M, S9; LU5HFI, 10M, S9; HA5DA, 20M, S9; KL7GCS, 80M, S9 + 30; W1HRJ, 40, S9; W6TYP, 160M, with low power (50 watts), 30 miles, S8; W6BBH, 80M, S9 + 25; CR6IK, 20M, S9.

### Awards

1. WAC—done with one continent on each band 16, 80, 40, 20, 15, and 10 meters

2. WAC/SSB

3. AJD—All Japan Districts

4. DXCC (Confirmed 100 countries), mine is 101 confirmed

For DXCC—Av. 60% SSB, R 4.8, S 5.4 — 40% CW; R 4.8, S 6.0. This is, as far as is known, the first DXCC granted that is known to be done on an indoor antenna.

The antenna is very broadband, due to the uniqueness of the feed system.

The antenna does not require a lot of space, being less than 147 sq. ft. Dimensions — 15½ ft by 9½ ft. It is a closed loop, with a capacitor in the center, fed

with one wire on one side of the capacitor. The "Mighty Loop" lends itself to true emergency, and portable service, as it is easy to erect, and is compact in portable form — appx. 5½ x 61.2 x 15½ inches.

Emergency networks can become useless in heavy storms, etc., when outside antennas are blown down, and one cannot get outside to fix one or erect one, even though your equipment and emergency power are operative. With the "Mighty Loop," the emergency network may be kept operative.

There are certain absorptions that one may encounter with an indoor antenna. Generally, however, satisfactory communication can be obtained, even though the loop is at a fairly low height above the earth. This is not true for a half wave dipole, as most of the radiated energy is in a vertical lobe (very high angle radiation).

## Mobile

Mobile operators:

You will find useful information in the new FCC release, SS Bulletin 1003B. The publication provides complete details on which FCC office to notify when operating away from the home area, region maps for maritime mobile, and other useful data. Call or write your nearest FCC field office for a copy.

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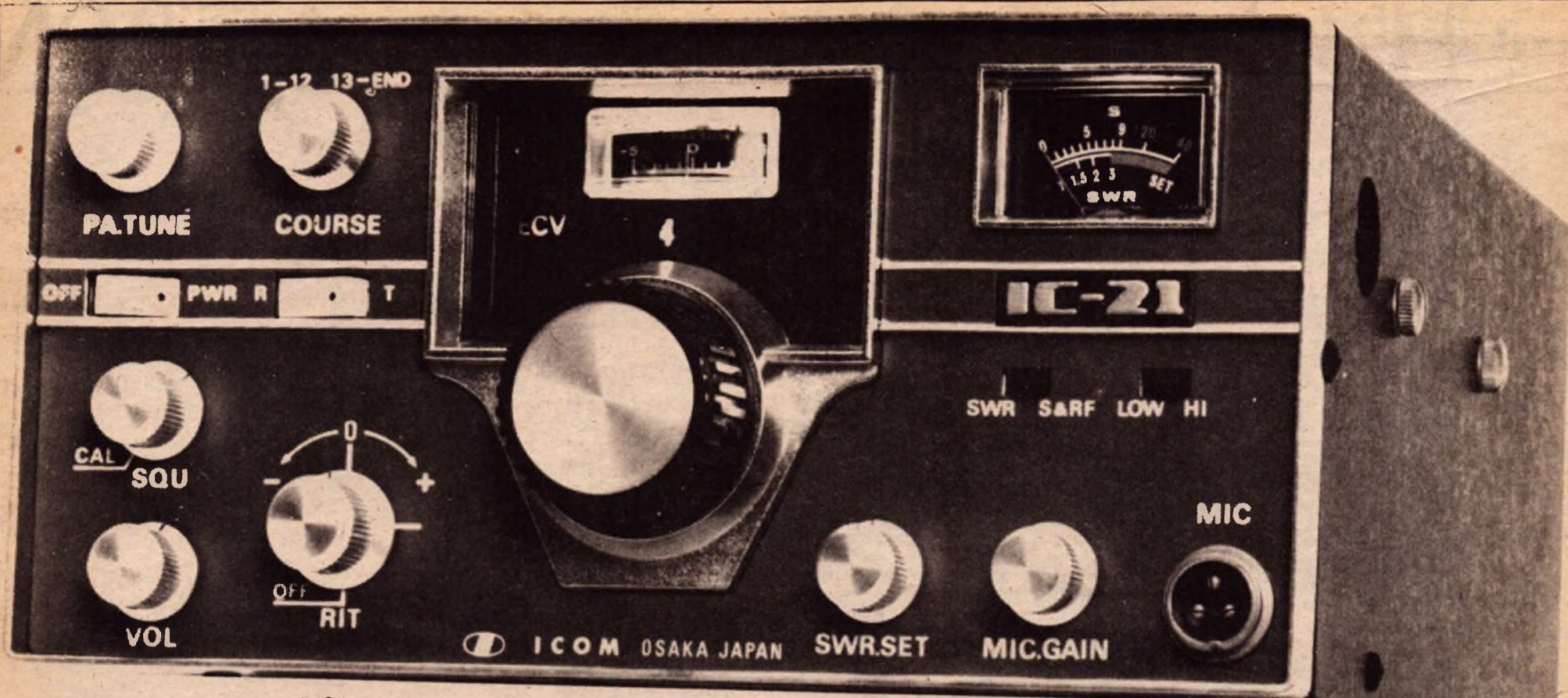
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Drake T4X	289	260
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Heath SB303	339	295
Swan 500C	339	295
Swan 500CX w/vox	399	359
Swan 117XC	85	69.95
Lafayette HA600A	119.95	109.95
w/ spkr		
Hammarlund HQ -180A/C	319	289
w/S200 spkr		
Galaxy G550	289	239
Galaxy SC 550	19	15
Swan 117AC	65	55
Linear Systems 500-12	95	75
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Art Mayoff, VE2AQV/W6 has recently joined our staff.

# M-TRON

2811 Telegraph Ave. - Oakland, CA 94609

Doug Murray, W6HVN (415) 763-6262



# reach out

## “SWLing behind the bamboo curtain”

by Alan Shawsmith, VK4SS

Australian journalist Francis James walked unsteadily to freedom across the Bamboo curtain from China to Hong Kong.

Three years previously he had been arrested by the Chinese on an alleged spy charge. He was then almost eleven stone in body weight. A few moments after release he fell to the ground unconscious. He had lost fifty pounds through malnutrition, stomach ulcers, recurring dysentery. His eyesight was impaired and he could speak only with difficulty.

After recuperating in the hospital he emerged to face a variety of questions about his treatment while in prison. He told reporters that at one stage he was kept in solitary confinement for three months in a dark, airless, damp below-ground cell. The daily diet was two bread rolls and two glasses of water. When asked how he managed to maintain his sanity, the answer he gave was very surprising.

He said one of his guards (there were two per shift) had confided to him that he was an ardent SWL DXer who also dreamt one day of becoming a radio amateur. This guard was rankless in the PLA. He smuggled into Mr. Francis' cell a twenty-three transistor SW DX receiver, proudly explaining it was all “homebrew.” Almost every night for nearly a month the imprisoned journalist lay huddled beneath a blanket, phones on head, listening to DX from all over.

After many months of isolation and interrogation the sound of his native tongue from such sessions as the BBC news, and not to mention dozens of amateurs, was a rejuvenating experience indeed.

The immediate question is — why did this guard risk his neck in this way? To have been caught, the penalty for doing such a thing would have been severe indeed. Was it simply an act of compassion for a man cut off from his family, friends and culture? In spite of years of political imprinting about the decadent Westerner, did this Chinese soldier clearly see that “all men are brothers under the skin?”

— Or was there some other motive — and just as human? The irresistible urge to share with another, and particularly a stranger, the product of his own handi-

work — his own creativity; to show how well his “homebrew” receiver performed? Whatever it was, it brought the two of them together to listen in friendship through the long nights.

Officially, short wave reception is “permitted” by law (tolerated rather than encouraged might be the truer description at this moment of time because anyone caught listening to programs from the USSR, Taiwan, etc., can find themselves in trouble with a capital T) but the Chinese people are nevertheless held captive to their government's propaganda because factory-built sets have no provision for short wave, and only operate to receive the local broadcast stations.

But as the Francis James story tells, it is not possible to mindbend all of the people all of the time. Simple things, sports and humble hobbies, draw different people together in a remarkable way.

Mr. James reports that there is now an ever-increasing number of SWL DX enthusiasts building their own gear and equipment; particularly among members of the PLA. Parts are cheap and plentiful.

Will these people, mostly young, be content to listen only to Chinese transmissions — No?

Winds of change eternally blow. The Peoples Republic of China is now emerging from its isolationist policy and has opened a new dialogue with the rest of the world. Many restrictions and barriers have now been relaxed. Is it reasonable to hope that these relaxations will eventually carry down the line as far as Amateur Radio? The answer is a possible YES — in time.

Communication, be it Amateur Radio or in person with any added country certainly promotes international friendship and understanding. It stimulates new thought and ideas. It removes doubt and suspicion. History demonstrates clearly how quickly ideologies come and go but the humanitarian concept that “all men are brothers under the skin” will remain a permanent truism.

## QRR ... SOS ... QRR Earthquakes ... Floods ... Hurricanes

International Stories  
of the Heroism of Radio Amateurs

Paul Jerome Stack, WA6IPF  
753 Pomelo Drive  
Vista, CA 92083

Dear OM,

I am writing this letter, as one “Ham” to another. I've been an amateur radio operator for nearly 40 years. I've had a lot of wonderful QSO's and met many of them personally.

But this is not the purpose of this letter. I am a writer and an author. The book I am writing now is very thrilling to me. It's a book about my “Brother Hams.”

I am compiling true stories of radio amateurs who have participated in rescues during disasters, such as floods, emergen-

cies, tornados, sea rescues, hurricanes, etc. . .

Many people think of a radio amateur as a person who likes to talk and usually considers a HAM as a threat to his television reception. I think the Amateur Radio image should be changed through informing the world or public of the heroic efforts of the Amateur Radio Operators during disasters.

I am requesting that individual hams, Nets or radio clubs forward stories of events that they have participated in during the above mentioned disasters.

If you have possession of news items, pictures, etc. describing events, complete with call letters, it would be greatly appreciated.

I will also need permission to use these articles.

I am requesting this information from all countries all over the world that have amateur radio operators.

This book will be titled, “International Stories of the Heroism of Radio Amateurs.

Best of QSO's and I will be anxiously waiting your response.

73's  
Paul

With Amateur communication we develop an interest in our fellow man. Awareness and knowledge can bring friendship and understanding of one another. If compassion and love follow, then surely we help the cause for peace.

*(Editor's Note: Paul Stack is a widely published author. There is a commitment from a major publisher to issue the book. I've personally met with Paul, he deserves our support. Unfortunately there have been few books published on Amateur Radio. Let's get behind Paul's efforts.)*

# Send a friend

I thought you would be interested in seeing a copy of "Worldradio". At the publisher's suggestion, I've asked him to send you one. I hope you enjoy it.  
name of guest

address

city, state, zip

my name


Clip and mail to "Worldradio", 2509 Donner Way, Sacramento, Calif. 95818. Thank You

## For our overseas friends

Senate Bill 2457, removing restrictions against the licensing of aliens in the Experimental and Safety & Special Radio Services, has been adopted by Congress and sent to the President for signature. The bill deletes the former requirement of “agency clearance” for both reciprocal operating permits and for the issuance of FCC licenses (after examination) to aliens. Thus, processing time should be greatly improved. The bill also deletes the requirement for aliens to have filed a “Declaration of Intention to Become a Citizen.” Hence, those immigrant youngsters who have been frustrated by ineligibility for “first papers” until they reach 18, and visitors from non-reciprocal countries, will be eligible to take FCC exams and receive FCC licenses when the amateur rules have been suitably amended.

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T-200	\$2.50	\$2.75	\$3.00	\$3.50			2.000
T-130	1.50	1.75	2.00	2.50			1.300
T-106	.95	1.00	1.00	1.50			1.060
T-94	.70	.75	.75	.95			.942
T-80	.55	.60	.60	.80	.90		.795
T-68	.45	.50	.50	.65	.75		.690
T-50	.40	.45	.45	.50	.60	.65	.500
T-37	.30	.40	.40	.45	.45	.55	.370
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**FERROMAGNETIC PRODUCTS**



## dx digest

by Gary Stilwell, W6NJU

(received at Worldradio on 7 Dec. 1974;

It's difficult to express the experience of being DX — the chased instead of chasing. My operation at YJ8GS has come to an end.

It was a fantastic experience and my thanks and appreciation to Bob Lusk, YJ8BL and his XYL Dianna.

I particularly enjoyed working my friends back in the States and giving a new country to several — especially on 75 meters. Over 2,500 contacts were made during our all too brief stop. During the CQ World Wide DX Test conditions were good with 10 meters open in YJ8 throughout the night.

It was also a pleasure to see many friends and radio amateurs during our stops in Hawaii, Fiji, New Hebrides and New Caledonia. I'm writing while in Tasmania, Australia, returning from a pleasurable trip to Hobart — their capital city.

The powerful twin engines of the Caravelle were whinnying as the thrust

lifted us up to 35,000 feet. Behind were the green rugged mountains of Fiji. It has been an exciting two days at Nadi staying at the Tanoa Hotel — operated by Fred Carter, 3D2CC. The tourists didn't seem to notice the quad high above the top of the hotel — which stood atop its own mountain-like perch. It had been fun operating 3D2CC on 75 meters and re-establishing contact with Bob, YJ8BL.

But now that was behind as we traveled over the blue tropical waters dotted with various reefs. Boy, how many countries if each reef counted for DXCC?

It was in 1969 that I first became QSL manager for Bob. He was on Ocean Island then — VR1L. We had established a good relationship. His logs were always in excellent shape. We also scheduled each other once a week over the past five years when conditions permitted. Now Bob and Dianna were in the New Hebrides.

I could remember telling friends of our trip to Australia and of visiting the New Hebrides. The response was, where is that? Why go to that out-of-the-way place? Well, it all had to be explained.

Now the captain asked for the extinguishment of smokes and there loomed Efate wherein the administrative center of

New Hebrides, Port Vila, was located. No mountains, very green, tall coconut trees, look at the clear water, coral reefs and beautiful lagoons. And now we were on the ground taxiing for the small airport building.

One could immediately realize the strange makeup of government of this island group. It is called a condominium as it is jointly administered by the British and the French. There was a French side and a British side.

After five years and thousands of QSL cards, we were meeting Bob and Dianna and looking forward to the few days we would have in Nouvelles Hebrides.

The visit, of course, strengthened my ideas on international goodwill and friendship and an unforgettable experience through amateur radio.

### Upcoming DXpedition

Late news from Sean Flannery, EI5HS1, of his world wide DX-pedition will be carried as we receive the details. Sean plans to operate from some exciting locations.

We would like to salute the Southern California DX Club on their 25th Anniversary. The club had an anniversary dinner at the Tail of the Cock Restaurant in Los Angeles on December 5th. Best wishes for another 25 years fellows.

### Bangladesh

The group of JA's who will operate from Bangladesh from 8-15 November, should have signed the calls S21A (JA2KLT), S21KP (JA3PJC) and S21KK (JA3KWJ). All QSLs go to Y. Maruyama JA2KLT.

### Chad

Chester, of XV5AC fame, was in Mauritania during November signing 5T5AC. Plans are for operation in Chad by mid-November as TT8AC. All QSLs for Chester should go to Robert Beaudet. W1YRC.

### Wallis Island

Ron Stockton, WB6LTJ; Gary Apgar, K6RIR, and Don Bostrom, K6YFZ, hoped to be on during the CQ WW CW Test on all bands. Calls prior to the Test were to be FW0DZ and FW0IC. FW0AA was to be used during the Test.

### Trinidad

Hal Harris, PY1ZAE, had made plans to be on Trinidad during the first week in December for a two day stay.

### South Georgia

Peter Fitzgerald, VP8MS, hopes to be on South Georgia for three weeks, November 21 thru December 7th.

### Juan DeNova

Guy de La Rhodiere should be active another month from Juan De Nova signing FR7ZL/J.

### QSL Info

K6WR/ON 4 to W6ZM  
KH6HDA to KH6GQW  
OE2EM/YK to OE5CA  
OE2HZL/YK to OE5CA  
OE2NWL/YK to OE5CA  
OE5WLL to K1ZFO  
P29GG to WA7IEQ  
PA9WRR to W6ZM  
PJ4CR to W3HNK  
PJ8IDX to WB4IDX

S21A to JA2KLT  
S21KK to JA2KLT  
S21KP to JA2KLT  
SM7JZ/SU to SK7GH  
WG4TWN to WB4SIJ  
WJ4EAA to K4VJB  
WL4GBC to WB4KZG  
WX4NEP to W4LRN  
WF6VEN to W6MHK  
WO6PDC to WA6AHH

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■ MAGNUM SIX is the first successful RF speech clipper available. Installed in the IF strip, it "mows" the peaks and discards the clipping harmonics without distorting the voice. This allows the level of the valleys (the average power) to be raised up to 6 db. Astounding signal strength improvements — 1 to 1.5 "S" units — have been reported! Some have even reported improved voice quality!!! The ARRL handbook confirms that RF speech clipping is clearly the best way to increase SSB talk power.

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## How to

Last month we covered some tips on how to find that rare DX station. We'll assume that you have worked the station and are now ready to send out your QSL card. An easy chore, or is it? The simple task of making out a QSL always isn't that simple. If you've ever handled cards for a DX station you will quickly realize the problems in the cards received.

If you are going to mail your QSL through any type of bureau, the call sign is a very important item. If you use an outgoing QSL bureau these cards are usually forwarded to country bureaus and the possibility of error magnifies. The call sign should be very plain and leave no room for error. If UA2UW looks like VA2VW you're in trouble. Not only will the card go to the wrong country, the person you worked will never get your QSL.

Careful attention should be paid to the date and time. All times should be shown in GMT. GMT is the universal time and logs sent to QSL managers are always kept in GMT. Using PST, EST or JA standard time can mean a search of many pages of logs. Using your own standard can also throw off the date by a day.

Imagine a QSL manager with a station active in a contest. There may be 1,000-2,000 contacts in a two day period. This may mean 100-200 pages of logs. An incorrect date will eliminate your chances of being found in a log. Your time being off even an hour makes a search very time consuming. Many keep their logs in GMT but are thinking local time when they enter the date. This happens

mostly around the 2300-0100 GMT. The time may be right but the date is off a day.

Some contests have a QSO number as part of the exchange. It would not be bad protection to give the QSO number received on your QSL. These type can make it easier to find in the log.

You can enhance the chance of getting a QSL back and make it easier for the DX station and even the various bureaus if you take special care in making out QSL so that there are no errors and no writing that cannot be read.

### Special Prefixes

Last May, the FCC issued nearly 100 special calls for ITU week. Was the spirit of ITU education fulfilled by this wholesale issuance of calls? What is the future for this type of activity?

Well, each participant was requested to submit a report of his activities to the FCC after ITU week. Nearly one-third of those participating failed to file a report. Of those responding the indications were that participation was viewed as a way to expand a QSL card collection, to hunt other prefixes and to seek QSO's. Ninety-five of the responses indicated an aura of contest operation.

Only one report contained any analysis of operation based on technical and/or propagational information.

There were even some complaints received by the FCC that advocated less participation (limit the number of calls issued) and the absence of any ITU education.

One could argue either way as to contests and if they are in the public interest. Evidently the FCC feels contests are not

in the public interest. Future events such as ITU week may be in jeopardy in the future.

A suggestion has been made that should we participate in another ITU week that the role of ITU in international radio regulations should be the central theme and each applicant for a special call should convey his intended participation in the event.

It would seem that those interested in such events should be working as a group to come up with a system that would be more acceptable so that events such as these could continue. If we won't take the time to help ourselves, we will lose future participation.

### Here and there

Those interested in 160 meters should send Stew Perry, W1BB, 36 Pleasant St., Winthrop, MA 02152, a SASE for his quarterly 160 bulletin.

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

## New DX award

### Contacting the People of 100 Nations

To qualify, one must contact an amateur radio operator in 100 different sovereign, self-governing nations. The criterion for "nation" status shall be the issuance of their own postage stamps.

Possessions of a nations count only toward credit for the parent country. (Example: KG6-Guam is not a country, it is part of the USA).

The contact must be with a national of

the country. (Example: KA does not count for Japan, it must be a JA).

Contest QSOs do not count.

Your own location does not matter. This is a people-to-people award and the idea is to communicate with the people of 100 nations. You could, for example, make the first 75 contacts from your home in Minnesota and the other 25 during a vacation in Sweden.

The location of the other station does not matter. If you work DL1CU maritime mobile off Australia, you have talked to a German. The idea is to talk to the people of 100 nations.

Contacts must be made after 0000Z, 1 January 1975. Endorsements will be issued for over 100 nations and endorsements will be issued for band or mode.

QSLs must be in your possession. Only a list showing call, name of operator, band, time, date, need be submitted. Selected QSLs may be called for. Certificates will be awarded at no charge.

Due to the difficulty, and significance of the award, a trophy will be awarded to the first qualified amateur on each continent.

Questions, suggestions and comments are invited. One thing we are still pondering is, should the "chase" be an annual affair, that is new totals counting each year?

So, get ready. Send in your claimed totals each month for the "box score."

Stuart Meyer, W2GHK, is general chairman of the 1975 ARRL National Convention being held 12-14 September 1975 at the Sheraton Inn and the International Conference Center in Reston, Virginia. Details are available from Stu at 2417 Newton Street, Vienna, VA 22180.

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Funds are urgently needed to support the construction of AMSAT-OSCAR 8, which is estimated will cost on the order of \$100,000.

We urge you to support the amateur satellite program with a financial contribution. Please return the form below with your donation to the ARRL Foundation right away, while matching funds are still available. Contributions to the ARRL Foundation are tax-deductible under Section 170 of the Internal Revenue Code.

Thank you for your support!

TO: The ARRL Foundation, Inc.  
225 Main Street  
Newington, Connecticut 06111

Gentlemen:

Enclosed is my contribution of \_\_\_\_\_ which I wish to designate for AMSAT's amateur satellite program, as part of the Eitel-Hoover matching fund offer.

Name: \_\_\_\_\_ Call: \_\_\_\_\_

Address: \_\_\_\_\_

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01/61  
01/61  
04/64  
07/67  
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10/70  
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### CALL

WR6ABB\*  
WR6AFM  
WR6ACF\*  
WR6ABJ\*  
WA6ZSR\*  
WR6ACA\*  
WA6ZSE\*  
WR6ACH\*  
WR6AEF\*  
W6NWC\*  
WA6ZZR  
WR6AFX\*  
WR6ACT\*  
K6ZCE  
WR6ACB\*  
WR6ABT\*  
WR6ACD\*  
WR6AEL\*  
WR6AFC\*  
WR6ACJ\*  
WR6AEP\*  
WR6ACQ\*  
WR6AFV\*  
WR6ADO\*  
WR6AED\*  
WR6ACE\*  
WB61YW  
WB6GUA\*  
WR6ABO  
WR6ADA\*  
WR6AEB  
WR6ADQ\*  
WR6ACG\*  
WR6AAC/6\*

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75/15  
78/18

WR6AFE\*  
WR6AFI\*  
WR6ABW\*  
WR6ABI\*  
W6CY  
WR6AEC\*  
WR6AEH\*  
WR6ABU\*  
W6RBW\*  
WR6AAA\*  
WR6ADH\*  
WR6ADD  
WR6ABR\*  
WR6ACO\*  
WR6ABV\*

### 146-147MHz

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Bakersfield (Kern Co.)  
LA (Saddle Peak)  
Juniper Hills/Lancaster  
Ventura (Hall Canyon)  
Pomona  
San Diego (Mt. Palomar)  
Antelope Valley  
Wrightwood (Table Mtn.)  
Barstow  
Riverside/Norco  
Anaheim (Orange Co.)  
West LA  
Pomona (Johnston Peak)  
San Louis Obispo  
Thousand Oaks  
Crestline  
Ventura (Sulphur Mtn.)  
Fullerton (Orange Co.)  
Riverside  
Orange Co.  
Running Springs  
McKittrick (Kern Co.)  
Santa Barbara  
Lancaster  
Palos Verdes  
Palm Springs  
Santa Maria  
Victorville  
Bishop  
Palos Verdes

### 147-148MHz

San Diego  
Santa Barbara (Broadcast Peak)  
LA (Hollywood Hills)  
LA  
LA (Hollywood hills)  
LA (Canoga Park)  
LA  
LA  
LA (Palos Verdes)  
Catalina Island  
Monterey Park  
El Segundo  
LA  
Pine Cove  
LA (Contractors Point)

### Notes to Pat Fenney, W6YEP

#### NOTES

P.A.R.C.

SANDRA

RTTY

T2100Hz  
T1800Hz

Private†  
AREC

T1800Hz

Private†  
RACES

Private†

Private†

Private†

Private†

Private†

Private†

Private†

Private†

Autopatch (open)

RACES

RACES:T1950Hz

Private†

Private†

## FM club honors

by Jim Weaver, WA8COA

Bob Conrad, W8SCK, of Mt. Healthy received the Cincinnati FM Club's Presidential Award. In presenting the award, the club's highest, President John Maier, W8AUV, emphasized that although two awards can be issued annually, Conrad was the only recipient this year to emphasize the degree to which it was merited.

"Bob was singularly recognized because of the depth of his devotion to the Club and the ideals held by its members," Maier stated. "In addition, he has not limited his efforts to the Club, but has worked tirelessly for the improvement of Amateur Radio as well," he added.

Membership Awards for perfect attendance at regularly-scheduled meetings were presented to Dave Groen, WB8FXL, and John Maier, W8AUV, of Finneytown; Herb Blasberg, WA8PBW, of Amberly Village; Maury Tepper, K8DAJ and Dick Haney, WB8KLP, of Mt. Washington; and John Dine, WA8DFD, of New Burlington.

After dinner entertainment included a concert by the Exiles barbershop quartet. Mick Coleman, W8QJI, of Milford, is a member of the Exiles as well as the FM Club.

The After Christmas Bash was organized by Lee Drake, W8QIL, of Colerain Township. It was held at the Quality Court Motor Inn, Norwood.

The Cincinnati FM Club operates amateur radio repeater WR8ABP with an input on 146.28 MHz and an output on 146.88 MHz. It is located at Conrad Radio Service, Inc., on West Galbraith Road.

### Prefixes

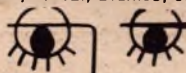
WD6 call signs are not being issued. The "C" in the prefixes is being skipped for now.

FCC officials have talked about a letter in the prefix signifying class of operator license. If such would come about, it appears that Conditionals would get "C" in the prefix. We hope the "C" is never used with the "W". Our reason is that throughout Europe the sign on the bathrooms is "WC", which stands for water closet.)

The "A" calls have been released by the Army for amateur use, at FCC request, and the Navy has agreed to permit similar use of "N" calls.

## SUB-AUDIBLE TONE ENCODER and DECODER KITS

- Compatible with all sub-audible tone systems such as Private Line, Channel Guard, Quiet Channel, etc.
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- All are powered by 12 vdc
- Use on any tone frequency 67 Hz to 250 Hz



### \* ENCODER

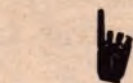
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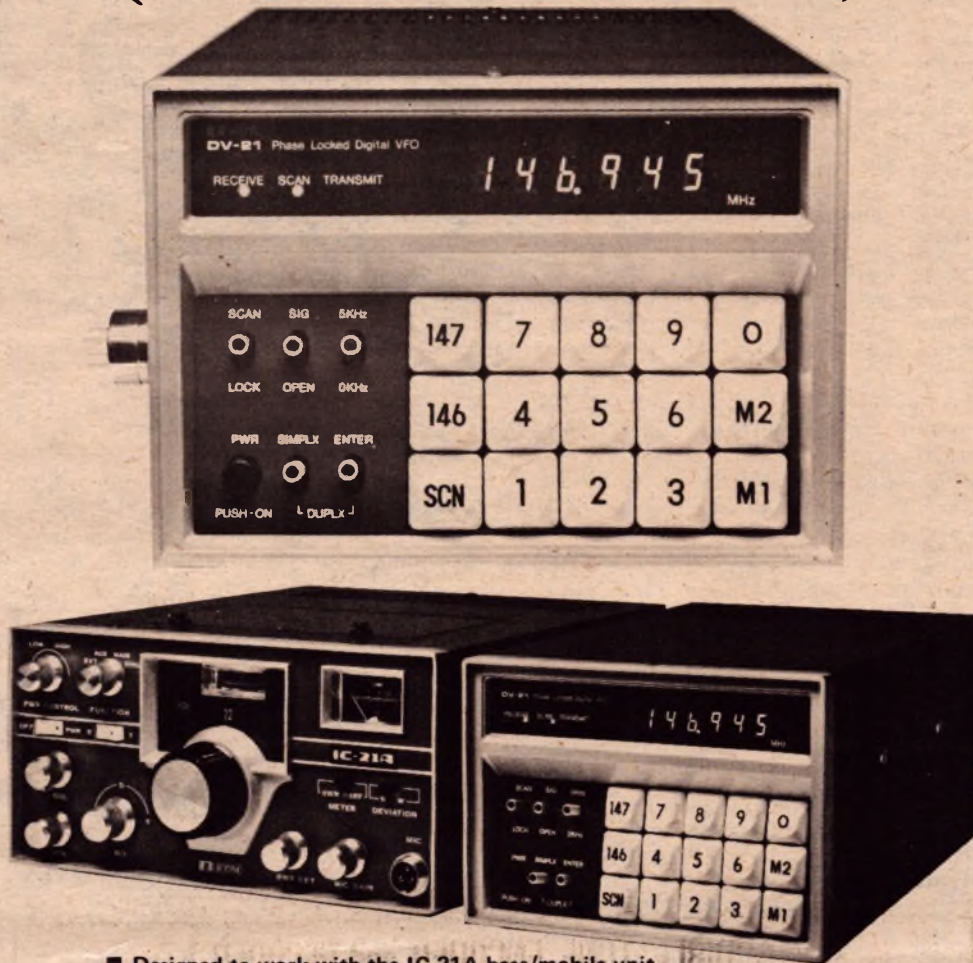
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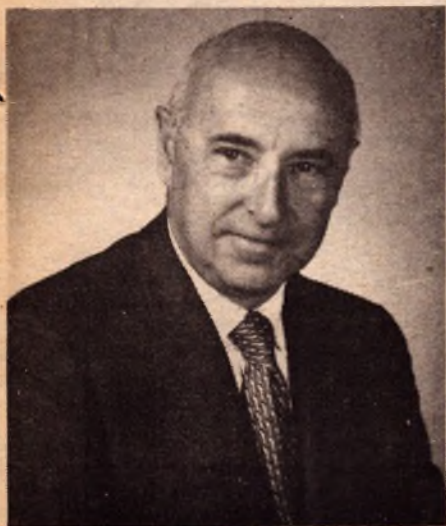
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by Bill DeWitt, W2DD



in the present system. Picture definition is limited. Can it be improved? A two or three order of magnitude improvement would be welcome, but this is not possible with the present standards. In recent correspondence, Cop MacDonald estimated that at best we might get a 50 per cent improvement in definition by optimizing all phases of the present system. OK, so then where do we go from here?

Scan conversion may very well be the answer, but much work needs to be done and it will take time. However, anyone who listens to the National SSTV Net knows that there is a lot going on in this area of development.

Scan conversion from fast-to-slow at the camera stage would immediately increase camera availability (via surplus etc.) by making virtually every conventional TV camera usable for slow scan. Broadening the availability base would undoubtedly increase the number of SSTV equipped stations.

Scan conversion from slow-to-fast at the monitor stage could have even greater impact. Most importantly, it would eliminate one of the greatest deficiencies of slow scan by producing a complete and steady image on a black and white screen. In addition, it would open the way for improved picture definition. How would this come about? — By making a trade-off between scanning time and the number of lines per frame. Since viewing would be done in terms of complete images, there could be less concern about phosphor decay time. Viewing would be easier because it would not require that the eye ignore a brilliant trace below a decaying image.

An increase from 8 seconds to 16 seconds (frame time) would create an increase of about sixty per cent in the number of points of picture information. This would be worth going after, but a complete (rather than transient) black and white picture must precede any improvement in picture definition!

The October 1973 issue of CQ Magazine carried an article by yours truly extolling the use of the Hughes Aircraft Company's Model MSC-1 Storage Tube Scan Converter. I said then, and I'll repeat it now, "This is the way to go!" I believe that scan conversion is bound to become an integral part of our slow scan system. Whether the storage and retrieval system required for this function will be a storage tube or some form of digital device will depend upon quality, price, and availability. Scan conversion is coming, it's just a matter of what hardware will be used.

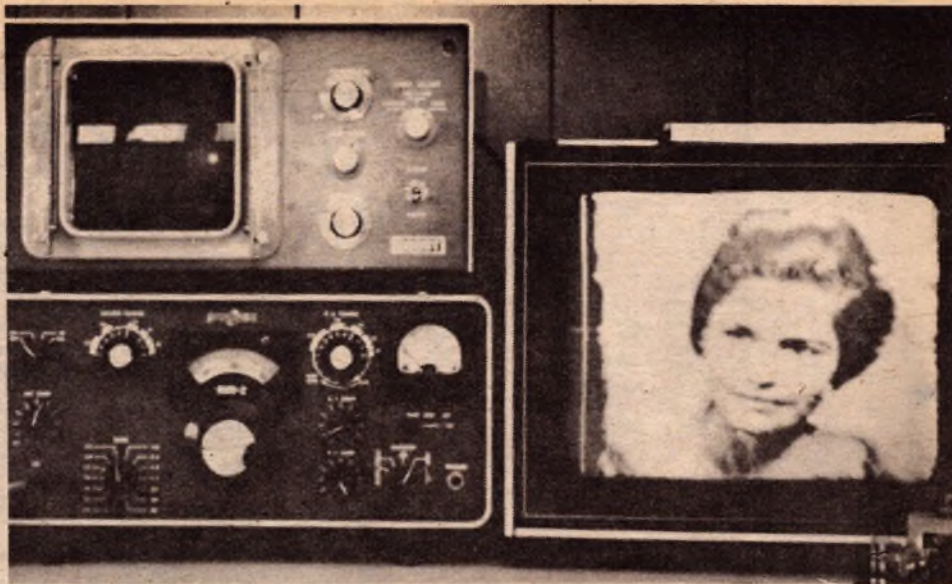
Having used the Hughes Scan Converter for over a year with excellent results, I'll admit having a strong bias toward the storage tube. However, the cost of storage tubes rules out this approach for amateur

SSTV is progressing through the usual phases of a technical system's life.

In nearly every technical field, invention and pioneering effort are followed by growth and development. Then comes widespread use. (Evolutionary improvement sometimes carries through from pioneering efforts into the widespread use stage.) Ultimately, another new system or method comes along and the cycle starts all over again.

SSTV is now well into the growth and development stage. Evolutionary changes are being made. It's estimated that there are now over 4000 monitors in use on a worldwide basis. About two-thirds of these are commercially-made units. The total number of cameras, flying spot scanners, and character generating keyboards is perhaps 2000. (Character generators are coming on fast.) The growth rate is important because as any system grows, it becomes more and more difficult to change its standards.

I'm NOT proposing any change in slow scan standards at this time, but I think that we should begin to question what further improvement is possible with-



SSTV at this time. We'll have more about the Hughes Scan Converter in a later column, but the accompanying photo of the wife of Willy Pettersen, YV1AQE, appearing on my fast scan monitor should help to explain my enthusiasm for scan conversion!

Slow scanners in the eastern half of the U.S. who have been exchanging news and

views on Sunday mornings are now getting together on Wednesday nights as well. Known as the East Coast SSTV Net, this group can be found on 3.845 MHz. at nine a.m. on Sundays, and nine p.m. on Wednesdays. Roy Connell, W2VDE, spark-plugged the mid-week schedule to enable more discussion time for those (please turn to page 37)

# ANNOUNCING

**THE NEW MODEL HCV-70FSVFK SLOW SCAN TO FAST SCAN VIEWFINDER MODIFICATION KIT FOR ROBOT\*70 & 70A**

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**Also available for HCV-2A monitors.**

**Covered by U.S. Patent # DD-033468.**

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Watch for the HCV-3KB Slow Scan TV Keyboard coming soon. Write for information on reserving yours now. Also — the new improved HCV-1B SSTV Camera and the HCV-2A SSTV Monitor will again be available in the near future. HCV-2B to have built-in fast scan viewfinder and HCV-1C to have auto manual ALC (automatic light control), grey scale generator and more. Write James Thomas, WB4HCV, for full information at:

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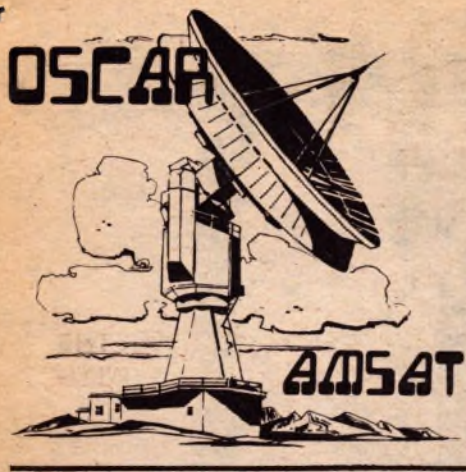
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## Getting started in satellite communications

(Continued from last month)

Now that you've set up your antennas, the next step is to figure out where to point them, and when to listen. This is really much easier than many people think and actually is one of the most interesting facets of satellite communications.

The orbit of OSCAR 6 is almost identical to that of OSCAR 5 and to the one planned for OSCAR 7 — close enough so that the same tracking system may be used for each. Accordingly, although this article was written with OSCAR 6 in mind, it should work just as well for OSCAR 7. Each satellite orbits the earth in an almost perfect circle: the satellite's altitude above the earth's surface is approximately 910 statute miles at all points. From this height, OSCAR can "see" 2450 miles in all directions along the earth's surface. Therefore, if your station is within 2450 miles of the point on the earth's surface at which OSCAR is directly overhead (called the sub-satellite point or SSP), you should be able to hear OSCAR's signals and to work through it yourself.

As OSCAR moves along in its orbit, the sub-satellite point naturally moves along with it, like a shadow. Some stations will come into range, others drop out. If you know the location of the sub-satellite point, you know which stations will be within range, and which will not. Because OSCAR's orbit is extremely regular, keeping track of the sub-satellite point is rather easy, once you've mastered a few basic facts about satellite orbits in general and OSCAR in particular.

A satellite's orbit is expressed in terms of its altitude and its inclination; if you know these two things, you can figure out just about everything else. OSCAR's altitude we already know, 910 miles at all points. The inclination refers to the angle at which the satellite's orbit intersects the earth's equator. Since OSCAR intersects the equator twice during each orbit — once going north, once going south — the northbound crossing, or ascending node, is used as the reference point.

Whenever OSCAR crosses the equator going north, it does so at the angle shown in Figure 1. OSCAR's inclination angle, then, is 101.77 degrees. Since its inclination is greater than 90 degrees, OSCAR's orbit is commonly spoken of as a retrograde orbit, i.e., one which moves in a westerly direction as the earth turns from west to east. This fact, namely that the earth is rotating from west to east as the satellite orbits, means that the sub-satellite point does not move in a straight line along the earth's surface; it is always curving to the west as the earth rotates under the orbiting spacecraft.

Because we know OSCAR's altitude, Newton's and Kepler's laws allow us to compute its orbital period, the time interval between successive northbound equa-

torial crossings. For OSCAR, this is 114.99455 minutes, the earth rotates eastward on its axis exactly 28.7487 degrees.

Let's stop and think what this means. If we know, for example, that on January 1, 1974, at 0024.5 GMT (0024 and 30 seconds), OSCAR 6 crossed the equator going north at 53.8 degrees west longitude, then the figures quoted above allow us to compute OSCAR's next equatorial crossing as well. How? Well, it will be 114.99455 minutes later and 28.7487 degrees further west, or 0219.5 GMT and 82.5 degrees west longitude. In fact, because of the regularity and stability of OSCAR's orbit, we may keep adding 114.99455 minutes and 28.7487 degrees to each equatorial crossing, and thus predict the next one, for months and even years in advance. Got your adding machine ready?

OSCAR equatorial crossings are published in the AMSAT newsletter, sent quarterly to all AMSAT members. (OSCAR is an open repeater, maintained by AMSAT control stations for the use of all radio amateurs throughout the world. Membership in AMSAT is also open to all, for information, write AMSAT, P.O. Box 27, Washington, D.C. 20044. Individual membership dues are \$5 per year, including a subscription to the AMSAT Newsletter. AMSAT is a nonprofit, scientific corporation; membership dues go for membership services and to support the construction of future amateur satellites.) They are also published frequently in QST, CQ, Worldradio, and many national amateur journals around the world. They are broadcast over WIAW and GB2RS; see recent issues of QST and Radio Communication for the current bulletin schedules.

AMSAT supplies the orbital information for all of these media, in a form which is compatible with the terms used in this article. All published and broadcast OSCAR material gives, for each orbit, the orbit number, a convenient reference which started with the satellite's first orbit, the date in GMT and the time in GMT of northbound crossing, and the longitude at which that equatorial crossing is to take place. For convenience, longitudes east of Greenwich are converted into west longitude; a crossing at 10 degrees east longitude would be given as 350 degrees west; the following crossing would be at 18.7 degrees west.

To save space, most publications give only one orbital crossing per day. This is no real problem for the user, since he can generate the missing orbits himself simply by adding 114.99455 minutes and 28.7487 degrees successively. For one day's orbits, these may be rounded off to 115 minutes and 28.75 degrees. If you miss a week's data, or a month's, again no problem — just keep adding! Remember to change the date as you go past 2400 GMT, and to subtract 360 degrees if you come up with, say, 378.6 degrees west longitude.

Now that we know the time and longitude of equatorial crossing, we can get on with the business of determining when and where to look for OSCAR. To reiterate, OSCAR is within communication range whenever its sub-satellite point is within 2450 miles of your station. So, the first order of business is to procure a good map showing longitudes and latitudes, mark the exact location of your station, and draw a circle around your station of 2450 miles radius. This last item may be tricky, since most maps contain a good deal of distortion caused by the difficulty of projecting a spherical earth onto a plane surface. If you are lucky enough to have a great-circle map with your own location at the center, you're all set. If not, you may wish to take a measuring tape or string and, using a good globe, mark off a series of points in all directions, each 2450 miles

from your location on a great-circle path, then transfer these points to your flat map. Don't be surprised if you don't get a circle; most people won't. For each such point which you transfer, remember the direction on the globe; this will become the beam heading which you will use when OSCAR crosses that point.

OK, now you have a map showing a series of points in all directions, each point being 2450 great-circle miles from your QTH. If you connect these points, the area inside the resulting curve is your OSCAR coverage area. The information which we need to connect the equatorial crossing data with your OSCAR coverage map is given in Table 2.

If you will recall, we said earlier that OSCAR crosses the equator with an inclination angle of 101.77 degrees, and that during each orbit, the earth rotates eastward on its axis 28.7487 degrees. Table 2 takes both of these facts into account and, for any equatorial crossing, will tell you the time, latitude and longitude of the sub-satellite point throughout the orbit. By plotting this information onto your map, or onto a transparent or translucent overlay, you can see easily whether that particular orbit is at all within range, and if so, when to listen and where to point your beam.

The equatorial crossing, again, is defined as the time and longitude at which OSCAR crosses the equator going from south to north (ascending node). This point is shown in the extreme upper left of Table 2: to find the time at which the sub-satellite point crosses zero degrees north latitude, going from south to north (SN 0), add zero minutes to the equatorial crossing time. So far, so good. At 3.23 minutes after equatorial crossing the SSP crosses 10 degrees north latitude (SN 10); at that point, its longitude is 2.89 degrees west of the equatorial crossing point. As may be seen, the sub-satellite point continues to move north and west until it reaches its northernmost point (approximately 79 degrees north latitude), some 28.69 minutes after and 96.98 degrees west of its equatorial crossing. At that point, the sub-satellite point continues to move westward — it is always moving westward — but its path begins to turn south and the orbital movement is now from north to south. It again crosses 10 degrees north latitude, but this time going from north to south (NS 10), at 54.17 minutes after equatorial crossing and 191.44 degrees

west of its equatorial crossing longitude — more than halfway around the world! During its orbit, the sub-satellite point

crosses the equator a second time, going from north to south (NS 0), 57.41 minutes after and 194.33 degrees west of its northbound equatorial crossing. This southbound crossing is called the descending node and is not the equatorial crossing referred to in OSCAR orbital predictions; the "official" crossing is always the one moving from south to north. From the descending node, the sub-satellite point continues south and west until it reaches its southernmost point, then moves north and west until another northbound equatorial crossing occurs, 114.99 minutes after and 28.74 degrees west of the first one.

Let's look at a practical example. W3LUL is located at 39 degrees north, 77 degrees west; Carl's OSCAR coverage map is shown in figure 2. Using the data in Table 2, Carl plotted the location of the sub-satellite point for an orbit having an equatorial crossing at 33 degrees west longitude; the figures along the dashed line refer to the time in minutes after equatorial crossing. Using this example, W3LUL would have acquisition of signal (AOS) approximately 8 minutes after equatorial crossing at a beam heading of approximately 110 degrees, and would have loss of signal (LOS) approximately 25 minutes after equatorial crossing at a beam heading of around 345 degrees.

Different amateurs, of course, have different systems, depending upon their needs and inclinations. The author, for instance, started out with W3LUL's system described above, then found that sufficient accuracy for his relatively small antennas could be had by plotting beam headings (using map and overlay as above) for various equatorial crossings at 10 degree intervals, then summarizing the resulting information in tabular form as shown in Table 3. K2QBW is located at 41 degrees north, 74 degrees west. Using this table, or one like it for your location, all that is necessary to work the satellite is the orbital crossing information; no further plots are needed once the basic work has been done.

Because OSCAR is at an altitude of 910 miles, its angle of elevation, as seen by your antennas, varies considerably depending on the location of the sub-satellite point. Figure 3 gives this information.

Now that we have computed when and where to look for OSCAR once we know the time and longitude of equatorial crossing, and have discussed where to obtain (or, if need be, to generate our own) equatorial crossing information, we should be all set, right?

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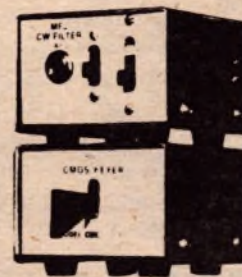
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- Skirt rejection: at least 60 db down one octave from center frequency for 80 Hz bandwidth
- Center frequency: 750 Hz
- 9 volt transistor battery not included.

- 400 Hz or 1000 Hz center frequency available add \$3.00.

IMPROVED CWF-2BX, assembled ..... \$22.95  
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Feature the CMOS-440RS for the most for your money: • State of the art design uses digital CMOS ICs and NE555 sidetone • Built-in key with adjustable contact travel • Sidetone and speaker • Adjustable tone and volume • Jack for external key • 4 position switch for TUNE, OFF, ON, SIDETONE OFF • Two output jacks: direct relay, grid block keying • Uses 4 penlight cells (not included) • Self completing dots and dashes • Jam proof spacing • Instant start with keyed time base • Perfect 3 to 1 dash to dot ratio • 6 to 60 WPM • Relay rated 250 VDC, 1 1/2 amp, 30 VA  
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HAVE A VERY MERRY CHRISTMAS AND A HAPPY NEW YEAR FROM CONLEY RADIO SUPPLY. 73 FROM RON CONLEY, OWNER; GARY, SERVICE MANAGER AND LINDA OUR SECRETARY.

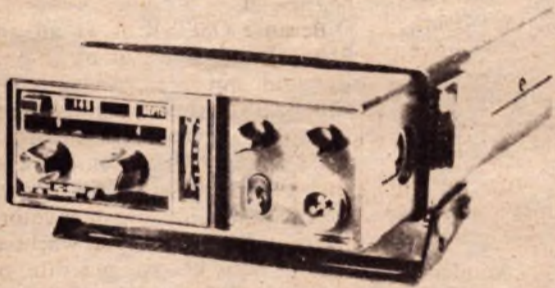
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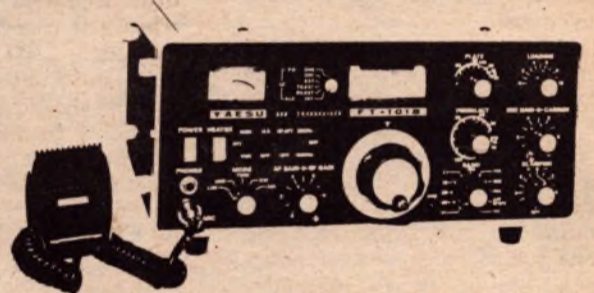
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## Deluxe Mobile/Base Station FT-101B



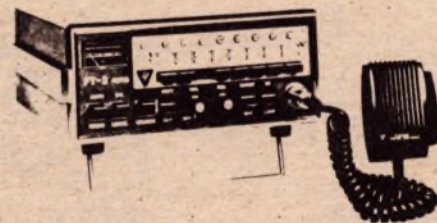
### • Solid State 160 thru 10 Meter Transceiver

This deluxe rig is the descendant of the world famous FT 101 transceiver. Except for the driver and final amplifier stages, the FT 101B features all solid state circuitry, built on reliable "computer type" plug-in modules. The FT 101B is contained in a compact, thirty pound (15 Kg.)

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YAESU FT-101B  
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A new concept in a 2 meter FM transceiver is the FT 2 Auto. The unique "Auto Scan" circuit, with priority channel search, places the FT 2 Auto in a class by itself. The versatile capabilities of this transceiver are achieved through the use of advanced digital logic circuits. The "Auto Scan" circuit maintains your favorite 8 channels at the rate of 20 channels per second with indicator lights for each channel. It automatically locks upon receipt of a signal on any channel.

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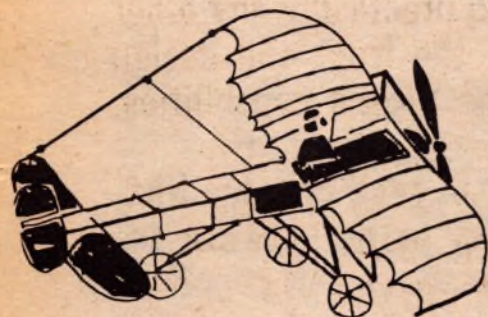
# maritime mobile

by Bill Yost, WA6PIU

## The First Maritime Mobile Club Convention

It was like Christmas in October — it was happiness, it was fun and it was joyous, heartwarming and fantastic. The QRM was heavy and the sea stories great," to quote Phyllis Riblet, W5CXM, secretary of the MMARC.

Forty-three members, wives, and friends were on hand in Houston, TX for the first maritime mobile convention since the inception of the club some 25 years ago. When considering that most of the



# aeronautical mobile

by Vern Weiss, WA9VLK

With the holiday season at 12 o'clock, it might be accurate to assume many pilots will become owners of new VHF or compact HF transceivers. Surely the urge to take the new rig aloft will tempt anyone who holds a current airman's certificate. With this new experience, undoubtedly comes confusion over the legalities of such operation.

For the most part this confusion is unnecessary due to the simplicity of the Federal Aviation Regulations. Pilots are fortunate to enjoy clearly written rules and regulations whereas (I think many will agree) FCC regulations are quite wordy and require considerably more scrutiny to comprehend just what is being said.

Federal Aviation Regulation 91.13 deals with dropping things from an aircraft. The regulation is not entitled "Ejection and/or Descension of Articles from Civil and/or Military Fixed or Rotor-wing Aircraft." No siree. Good 'ol ninety-one-thirteen is

membership were on sea duty, this is indeed a fantastic turnout.

As a result of the business meeting that ensued, the club now has two categories for membership — marine and coastal. The new coastal category will include base stations who have been active in maritime communications — phone patches, etc.

Highlighted in the activities was a lawn party hosting 50 people. A good time was predominant with much talk of another convention in the near future.

On the other side of the MM coin, we confront the persistent problem of operating on board. Recent letters have discussed problems as passengers; the same may be true for crews. The letter below is from Ben Lane, W7FNE.

## Let's correct an injustice!

I've been following Worldradio since its inception, and you may count me as a life-long friend. I have a problem which affects us all, and I hope that perhaps some of your readers can come up with an answer. It will require action on several different levels: legal, public relations, and common sense.

Amateur Radio is much more than a time-killing hobby for me. I've been making with the dits and dahs for 40 years; radio is a big part of my life. Many of my friends are radio operators, and for awhile amateur radio literally kept me alive.

(I was recovering from an illness that has no cure and is always fatal, but may be arrested by a program which includes group therapy. I had to resume making a living, and for me, it meant going back to sea. How to do it and keep up the recovery program? Fortunately, several members of the group were also amateurs, and the

titled "Dropping Objects." Period. No goo. No gush. No trauma. A lot can be said for the FARs.

The FAR dealing with taking your amateur radio equipment aboard an aircraft states in a nutshell "go ahead and do it." But do it on non-commercial VFR flights only. If you are flying IFR, forget it. If you are not a pilot operating a private plane but have a friend who is going to take you up this Sunday, your pilot-friend can permit or prohibit you from taking the rig on board; much less operating it.

If you are flying to Aunt Ruth's aboard TWA Flight 454 (or on any commercial flight) don't even think of turning your rig on! Look out the window and observe how loose the wing looks. Even the \$35,000-a-year pilot cannot give you permission. Any authority to operate aboard a commercial flight (which usually is IFR to boot) is handed down by the air carrier, that is, his boss.

Reasons for the commercial and IFR flight restrictions are obvious; interference to navigation equipment. Even an emission from the receiver section of your handi-talkie could louse something up. If you don't believe me, read Ernie Gann's "Band of Brothers." When we are talking about spurious emissions we are talking about possible navigation error. When we are talking about nav-error we infringe upon flight safety. And isn't that what it's all about?

I received a nice note from Lee Aurick, K3AZ, in which he is curious about this column's title being "Aeronautical Mobile." FCC Regulations (see? what did I tell you?) state that aircraft operating within the limits of the United States should sign with "air mobile." Aircraft bound for overseas points or operating

problem was solved. For many years they have kept schedules with me, and to them I owe my life. For that alone I am eternally grateful to the fraternity.)

I've operated maritime mobile for years, without difficulty. Yet from time to time I run into a skipper who flatly refuses any amateur operation on his vessel. This permission or denial is often arbitrary; having no relation to the contemplated operation. In other words, the ruling from on high depends entirely upon the whim or prejudice of one man, often one who is quite uninformed and having little knowledge of the subject.

But before we get too worked up in self-righteous indignation, and to keep the record straight, let's be honest and admit that the privilege has often been abused. Amateurs have come aboard with their kilowatt linears, slapped up an unsightly antenna near the navigational devices, splattered across the bands from morning until night, ruining the reception for dozens of others, and have often peddled information best left on the ship. It is this type of amateur that springs to mind when someone requests permission in many cases. All of us, as usual, have to bear the penalty for the selfish few.

I'm quite sure that my 100 watts into a small whip, far removed from the entertainment network, and in use perhaps 15 minutes a day, would pass quite unnoticed and harm no one. It would be of inestimable value to me in my recovery program. And, as a newly married man it would be nice to keep in touch with home.

I don't have to cite the many times when Amateur Radio has been of help at sea — it is another channel of communication, and ideal for communications not important enough to send a cable, but important to the person involved ("Honey, would

outside the United States are "Aeronautical mobile." Good point, Lee.

To explain, "Worldradio" targets its flavor and coverage internationally. To call the column "Air Mobile" would imply "for you U.S. guys only." It's our hope that pilots who are amateurs in other countries will take an active part of this column as much as our stateside friends. Thus since Worldradio News is read all over the world . . . Aeronautical Mobile.

Word comes from John Elwood, W7-GAQ/6, who is an FAA Facility Coordinator, about the Wireless Pioneers. John is the vice-President and Membership Committee Chairman of the nearly 1600-member organization which is comprised of individuals who at one time or another made their living pounding brass. Many airlines as well as ship and land stations maintained telegraph nets and the Wireless Pioneers is the "official" league of professional telegraphers. It is interesting to note that the Executive Director of the Wireless Pioneers, Bill Bremman, was at one time the Deputy Chief-in-charge of all Civil Aeronautics INSACS (forerunner to FSS). Drop John a line for info: Post Office Box 530, Santa Rosa, California 95402. They're doing a lot of fun things and it definitely bears hearing out.

Heathkit produces a very fine aircraft-band receiver that Santa should know about. The GR-98 features ac/dc power option, external antenna provision as well as built-in whip, volume, squelch and tunable/crystal frequency operation. The unit is hot, sensitivity-wise and is second in stability and performance only to your cockpit nav-com. The only drawback is the one crystal position, which, given another socket and a toggle switch, can easily be remedied. My first choice was stocking

you send my spare glasses to Hongkong? Has the baby cut a new tooth yet? We are running a few days late so if you write today I will get it in Yokohama . . . etc, etc"). These are the things that make life a little brighter out here where there is so little to do.

The captain gets his authority as a hold over from the days of Noah. He is responsible for perhaps ten million dollars worth of ship and cargo and 70 lives and simply has to have the final authority at sea.

However, the unions have largely determined living conditions and working conditions, and modern communications have made unnecessary much of the exercise of unlimited power.

The unions have also gone to extremes. They demand absolute purity on the airwaves; Mary Ellen jam on their pancakes (yes, they actually delayed a trip because someone had put the wrong jam aboard), and color TV in port.

They have patrolmen aboard at the end of the voyage, and the companies are scared witless. This is what is behind the refusals to permit amateur operation in most cases — when ignorance gets power, progress takes a nosedive.

The bugaboo of "interference" is over-used and is often just a front for the real reasons for their hostility. I have had complaints of interference when the rig was 5,000 miles away, safely locked in a trunk! They also complain about the ships radio, used entirely on ships business. That makes about as much sense as if I would complain about the foghorn. They come to sea to make a living and expect all of the comforts of home which is rather silly, I think. They are often just jealous of the amateur. He has something they don't (please turn to page 37)

the crystal banks with the local unicom and O'Hare approach.

I then decided that it would be interesting to see if 121.5 was ever used. 121.5 is the aviation distress frequency. To my surprise I found that 121.5 is far from deserted and even though tragedies are not heard daily (thank goodness) it can make for some pretty exciting listening, day and night. I have been awoken more than once in the middle of the night with my little GR-98 demanding attention from some FSS for some very real and urgent need. GR-98's have a way of sneaking past the bedtime household inspection, when their squelches are in operation. If you install a crystal in the GR98, be sure to perform the crystal alignment as outlined in the manual or else things will sound very silent.

The movie "Airport 1975" has been released. In the picture a private light plane collides with a 747. I found it interesting that the light plane was registered as N050Y, but the pilot identified himself as two-seven-two zulu. H-m-m-m.

It is reported that toward the end of December there will be extensive IFR operations throughout the world emanating from two hundred miles north of Latitude 76 degrees 17, Longitude 119 degrees 28 West, so please exercise extreme caution during this period. These flights can be recognized by conventional red, green and white navigation lights, preceded by eight strobes. Merry Christmas.

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

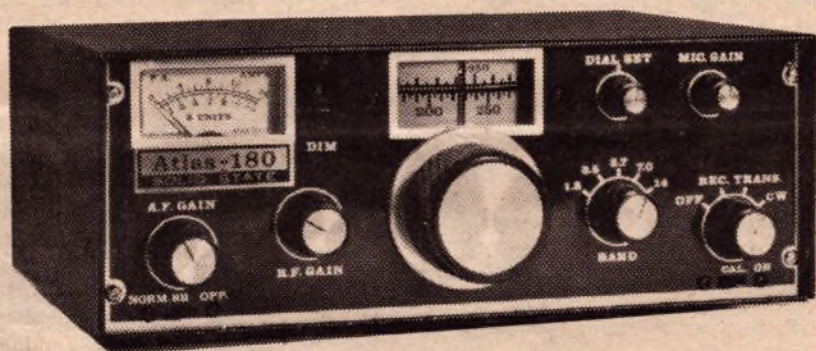


# Is this the Atlas-180?

Well, not exactly. It's the SouthCom AN/URC-87(V) Man-Pack Military Radio. The URC-87 is a completely solid state portable man-pack and vehicular HF-SSB radio set for military, police, survey, and point-to-point communications throughout the world. It is today's and tomorrow's outstanding portable radio set.

*So what does this have to do with the Atlas-180?*

**THE URC-87 and the Atlas-180 are what you might call 'first cousins.'** Atlas Radio is licensed by SouthCom International, and thus has access to the advanced state-of-the-art circuit designs by Les Earnshaw, President of SouthCom. Les is widely recognized as one of the foremost solid state radio engineers in the world, and the URC-87 is an outstanding example of his work.



The Atlas-180 uses the same basic circuitry as the URC-87. There are some differences of course, such as a tuneable VFO in place of the frequency synthesizer, and we can't guarantee underwater operation. But the outstanding receiver and transmitter performance is there, and accomplished with far fewer components than any comparable equipment. Together the URC-87 and the Atlas-180 enjoy a reputation for performance and reliability that make them truly superior transceivers, the envy of competitors.

**There are now over 1000 Atlas-180's on the air all over the world.** Their growing reputation for excellent quality, receiver sensitivity, selectivity, and

*See your Atlas dealer for complete details, or drop us a card and we'll be pleased to mail you a brochure and dealer list.*



transmitter punch, all ties back to the URC-87. Immunity to overload and cross modulation from strong adjacent channel stations is nothing short of fantastic. Selectivity is provided by a new 8 pole ladder designed super filter, with shape factor and ultimate rejection superior to practically any other receiver or transceiver! And the front end design permits full utilization of the filter's capabilities.

**The one area where we have an edge over the URC-87 is in transmit power,** and that's because the Atlas-180 doesn't have to operate on self contained batteries. The 100 watts of output speaks out with real authority!

Modular construction with plug in circuit boards permits easy servicing, when required. However, built to top commercial specs, this isn't very often. But when service is needed, Atlas Radio backs every set with a service policy second to none. Your satisfaction is guaranteed.

73

Herb Johnson, W6QKI



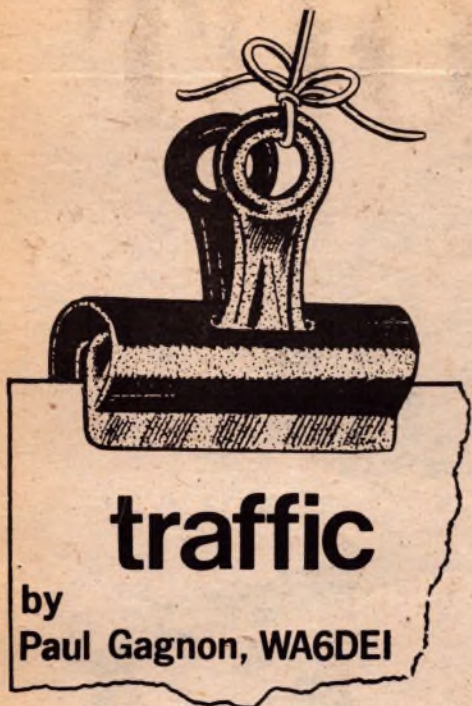
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RADIO INC.**

490 Via Del Norte

Phone (714) 433-1983

Oceanside, California 92054

**Season's Greetings from all the Gang at Atlas Radio.**



part of the originating station to comply with "MARS" requirements can only result in "non-delivery" of the message(s).

2. For the benefit of any amateur station who for one reason or another, does not have access to MARS information, the following is a verbatim quote from a recent broadcast from Chief, Navy Marine Corps MARS, Washington, D.C. The contents of the broadcast which is quoted here is not something new. It is a re-statement of what has always been the rule, but the lack of observance has been getting out of hand.

QUOTE: From NAVMARCORPS-MARS081600Z Dec 73 (UNCLAS)

**"COMPLETE ADDRESS PLEASE"**

In recent weeks, there have been a number of messages addressed to military personnel overseas accepted for transmission by MARS that do not contain adequate information needed to effect delivery. It is necessary that the address include the addressee's rank/rate/grade, Social Security number, unit assigned as well as complete address indicating the ZIP code. In this regard, the message address should include the same information as required for proper mail delivery.

Acceptance of messages addressed to Fleet/Marine Corps mobile forces ZIP codes (09501, 09502, 96601, and 96602):

FPO ZIP codes 09501, 09502, 96601 and 96602 are for Navy and Marine Corps mobile forces, including ships. Before accepting messages destined for these ZIP codes, it is necessary to first determine if the addressee is located ashore and MARS is able to effect delivery in accordance with the MARS Routing Guide. If MARS is operational in the location to which the message is destined, the mobile zip code must necessarily be changed to the ZIP code of the location." UNQUOTE.

3. For the benefit of conscientious and responsible operators (and clubs) who are non-holders of the all important MARS Routing Guide, W6RSY at his own expense and time has prepared and will furnish a copy upon request. Supply is limited and it is desired that only those who originate or relay MARS traffic should have this information. Clubs that have members who engage in amateur radio traffic should have copies available for their members.

If an APO or FPO number isn't on the Joint MARS Panel list it doesn't mean there isn't any such number — but — it does mean you cannot send via Navy MARS. Many operators think as long as the mailing address is correct, that MARS will accept and deliver the message. This is not true. There are nearly as many APO/FPO numbers which are legitimate for mailing as those that will only be accepted for delivery by MARS if there is in fact a MARS station at the point of delivery.

Just because the addressee gets his letters at a certain APO number, he isn't necessarily going to get a MARS message at the same number. For instance, if you send a message to Okinawa, ZIP 96602, to the correct mailing address, the message may not get delivered since MARS does not have a radio station at or an outlet for 96602. You must put the exact location of the MARS station at the addressee's location for the message to be delivered. A better method would be to put the exact name of the location such as Camp Hague, Camp Hansen, etc. and the message could be forwarded by MARS FPO Seattle 98773.

Beware of the FPO 96601 ZIP to ships at sea. These are non-deliveries. If you can change the ZIP to correspond to a port the ship will be in, and if there is a MARS

station there, then the message can be delivered.

An advance warning!!!! "SEND YOUR CHRISTMAS GREETINGS EARLY." Navy MARS generally secures operations for approximately ten days around Christmas time. MARS will probably not accept Christmas and Holiday traffic after 20 December 1974.

Ed will endeavor to answer any and all inquiries in regards to the above. Write him at 602 Wellsbury Ct., Palo Alto, Calif. 94306.

**MAIL THOSE MESSAGES**

Service messages have been handled recently saying that there is no telephone listed and asking what to do with the message. Gerald Newton, W7CHT, in the Idaho/Montana Net Bulletin reminds us that the station on the net closest to the destination should volunteer to mail it. How about it? How much money do you have tied up in your equipment? It won't break you to mail it and it will be a public service to someone.

**BOOK MESSAGES**

During the late summer months of the year many book messages are originated from fairs and expositions. This brings up an interesting idea by George Fisher, WB6MKV. He feels that it takes just as long to originate and send book messages as it does to originate regular messages. Therefore, George suggests the book messages count one origination per message number. Presently, there is some confusion in how to count the book messages. ARRL publications say to count one point for each three addressees. Several well-known traffic men count one point for the text and each two addressees. I suspect that some people presently count one point for each message number. How about when you receive the messages as a book but send them individually. It makes it kind of rough to keep tabs on the true count. How about it?? Shall we request a change in the counting of book messages?

**WB4AIW — SILENT KEY**

We regret to note the passing, due to a heart attack, of Elmer Birchfield, WB4-AIW, in late August. Birch was a radio man all his life both professionally and as an amateur and he was listed in the monthly BPL listing many times. Many of you have worked him on traffic schedules. His presence as a fine gentleman and operator will be missed by many.

(From Hit and Bounce Report)

**HBSN**

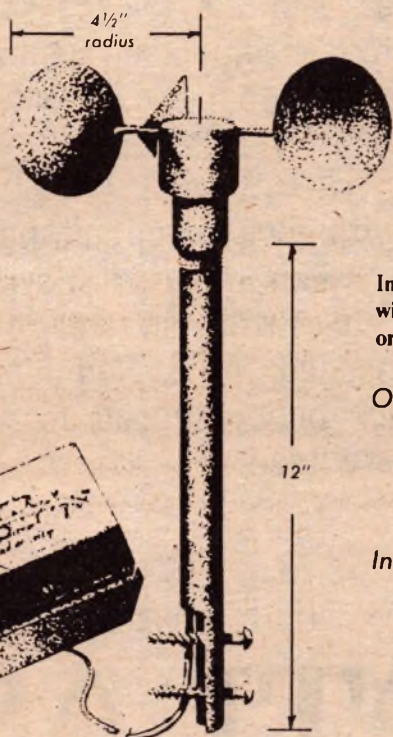
In August 1974, the HBSN-Hit and Bounce Slow Net set an all time monthly attendance record of 196. The previous record was 159. This net meets in the Novice band on 7.140 MHz at 8 a.m. Eastern time on Friday through Monday. It also meets on 3.714 MHz at 7:30 a.m. Eastern time from Nov through 28 Feb 1975 for the east coasters. Adjust the time to your time zone and standard or daylight time and check in. They have good coverage of the U.S.

**QNQ**

The nets have a special series of Q signals to enable the traffic to be cleared quite fast. Obtain a copy of OP-AID 9B from ARRL which lists these signals. These have been in existence for years but each week we hear some being misused.

QNQ: When the NCS tells you to QNQ he means "move your frequency to and wait for \_\_\_\_\_ to finish sending traffic. Then send him the traffic you have (please turn to page 36)

# Save Your Antenna!



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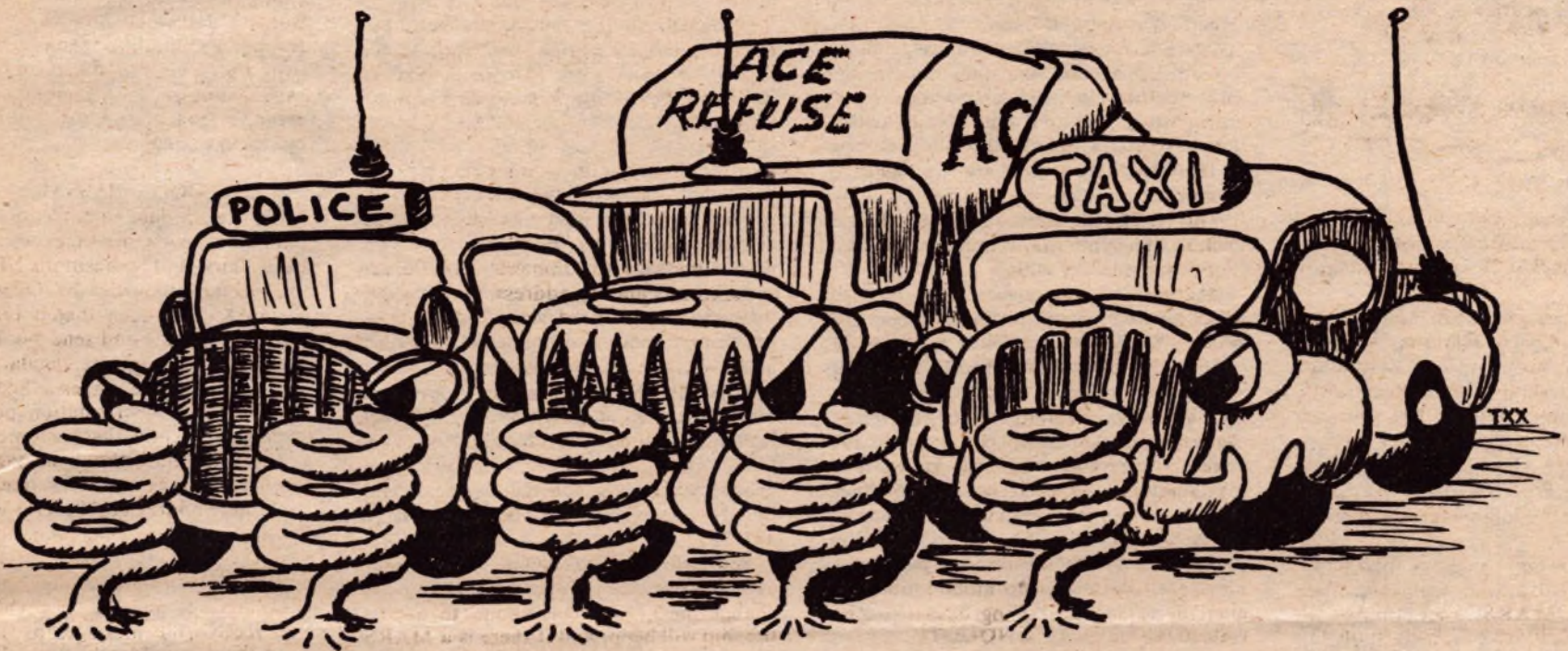
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• TEN crystals . . . (now that *alone* is going to save you about \$40.00) . . . easy to hold noise canceling dynamic mike . . . a quick disconnect mobile mount . . . battery saving HI (10 watts)/Lo (1 watt) power option • Your IC-22 will have a receiver that just *won't quit* with a super hot mosfet front end, 5 helical resonators (you can forget about inter-mod), and a large speaker that will punch out plenty of audio for the car. • You'll also be on frequency with trimmer

caps on both trans. and rcv. on all 22 channels . . . with a discriminator output jack in the back to let you get on and stay on freq. • PLUS the '22' is one good lookin' compact rig that you will be proud to put in your car — (the XYL won't mind it either) — with soft green back lighting on the front panel and a light to silently let you know you are getting out . . . and a second light to let you know there is an incoming signal (even though you may have the volume down).

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## clubs

### Muskegon, MI

Norm Brooks, K6FO

The female voice on the 146.22/.82 repeater said "WR8ADO — Muskegon — twenty-two fifty turns me on." This is the identifier that greets a visitor to Muskegon, Michigan. A visitor, of course, who remembered to bring along his 2 meter FM transceiver.

The repeater is operated by the Muskegon Area Amateur Radio Council. This is a very unusual radio club — that's why I'm writing this article.

In the box on this page, our publisher, Armond Noble, WB6AUH, with tongue in cheek, asks "how would you like to go on Field Day in a Winnegabo..."

The 100 or some members of the Muskegon AARC have this beat all hollow. They can say "how would you like to operate a club station with a 2KW PEP linear, all bands, from an honest-to-goodness log cabin radio shack located on six wooded acres overlooking Lake Michigan?" And the club owns it all — the radios, the antennas, the shack, the six acres and the woods, (but not Lake Michigan.) In addition, they operate the .22/.82 repeater located on top the six-story county building in downtown Muskegon.

When you visit Muskegon, which is in West-central Michigan on the east shore of Lake Michigan, the easiest way to meet this unusual group of amateurs is to get on the repeater. Most of the members are on there, exchanging the usual teasing and good humor.

The second easiest way is to visit the store of Electronics Distributors at 1960 (that was a good year) Peck Street. There, Chuck Schecter, W8UCG, and Tom Reed, WA8URR, made me feel welcome, and a little bit like a visiting dignitary. Chuck has a fantastic radio store, with more new and used communications equipment than I've seen in a long time.

First and third Fridays are club meeting nights, and I was invited to visit. I even moved my return plane reservations back a day so I could do so. (This turned out to make my trip back exciting, because an early snowstorm closed the Muskegon airport on Saturday, October 19.)

Back to the club meeting. It turned out that Tom Jensen, W8TIC, lives about 1000 feet from my sister's house, but there is a lagoon between. Tom, however, drove around and picked me up and took me to the meeting.

The approach to the club house was just like a movie set — a turn off the lake front road, a drive down a narrow road in the woods and there it is — a cabin in the oaks and maples, with a huge fire burning in the fireplace.

About 30 members attended the meeting. Several apologized "for the poor turnout," explaining there was a conflict with a football game. Regardless, I was impressed with their friendliness, and their 20 x 30

foot cabin, which had a meeting room, a kitchen and serving bar, and a radio operating room.

The meeting room was complete with tables and stackable chairs, some personalized with names and call signs of members. The room was finished in new wood paneling, which was a recent project. On the fireplace wall were plaques and trophies won by the club over the years. The fireplace mantel also displayed an autographed photograph of Jean Parajon, YN1JMP, of Managua, Nicaragua. This is a story in itself. The club had donated a tri-bander beam to Jean after she lost hers in the Nicaragua earthquake (see "Worldradio," January 1973). Later, Jean lost her complete station and the club replaced it with a Hy-Gain Galaxy set up. On the night I visited, a message was read from Jean telling that the beam had since been blown down by a windstorm, but had been straightened and put back by a local amateur and it worked better than ever.

Back to the fantastic club house. The kitchen was completely equipped with sink, stove, refrigerator, etc. plus a large coffee urn that put forth with marvelous tasting coffee. And there were delicious (and fattening) donuts, too.

The operating room was a beauty to behold. The center six foot enclosed rack sports a 2KW PEP linear, from the estate of Harold P. Kenyon, W8DAW. A console, built both ways from the linear sported a complete Drake station, plus a Swan transceiver, a Motorola FM unit tuned to the repeater and .94/.94, an RTTY terminal unit and a model 15 page printer.

On the opposite wall is a map of the world, surrounded by QSL's from some pretty rare places, along with map tacks and strings to dramatize the DX aspects of amateur radio. This map was set up by Nils Jansson, WA8OJI, who is the club's DXer. Nils has 310 countries confirmed. He said he missed out on the Kingman Reef DXpedition because he was out of town receiving treatment for multiple sclerosis, which has confined him to a wheelchair for the last 12 years.

Club president Frank Hannum, W8QAO, presided at the meeting, reporting out on a recent board meeting. The club had hosted the Great Lakes ARRL Division Convention for the past two years, but this time the "official" convention was given to Ohio. Regardless, the club is hosting the 1975 Great Lakes Area Convention and Michigan State Convention in Muskegon on 22 March, 1975.

The convention will be held at Muskegon Community College, which has superb facilities for such a get-together. There is adequate parking, a theater for large group meetings, classrooms for smaller sessions, a lounge for relaxation and a cafeteria which will be operated all day. The convention will have all the usual features, technical talks, swap and shop, and (hopefully) Senator Barry Goldwater, K7UGA, as the keynote speaker.

Here is a club that just won't stop. They're always doing something. Their "ticket" to the use of the county building for the repeater is their affiliation with Civil Defense. They participate in CD weather watch during tornado season. They work as additional eyes and ears for

the police by putting on a Halloween night patrol. They started this five years ago when six young trick-or-treaters were killed in a traffic mishap. Now the club watches the problem traffic areas on Halloween night and advises the police. They do not, repeat not, play policeman. They act as eyes and ears only. Club members drive the floats in the Mid-Michigan Pageant. They provide communications for the annual canoe races, etc, etc.

The featured speaker for the meeting I attended cancelled out at the last minute, putting Activities Manager Joe Weatherby WB8ARC, on the spot. Joe used a suitcase of props to emphasize that featured speakers should do what they do best. Joe is an ordained minister, and he brought a Bible out of the case, and gave us a Bible lesson. This took the members by surprise, but I must say he did a magnificent job. Joe's discussion was not too long, was interesting and informative, and could not have offended anyone of any (or no) religious faith. And we all went home feeling better for having heard Joe.

The program also consisted of a short sound movie on how to personalize the interior of a new van.

Henry J. Moeller, W8LBW, also gave a "show and tell" on the remote control of GE diesel-electric locomotives. Needless to say, your writer told the group about the first three years of publishing "Worldradio."

Other members of the club executive board not mentioned above are Carroll Skeels, W8TBP, Secretary; Bob Pulsifer, WB8IXV, Treasurer; Jerome Novotny, K8CCJ, and Glenn Hinkle, WA8MTJ, Directors.

Since I have two households of relatives in Muskegon, I'm looking forward to another visit to "Muskegon Country." Maybe I'll hear that voice again, saying "twenty-two fifty turns me on."

#### attn: clubs

How would you like to go on Field Day in a Winnegabo instead of that drafty old tent. Or possibly operate from Fiji or the French Riviera. All it takes is money. And we've got it for you. All you have to do to fatten the ol' club treasury is accept our generous commissions for selling **Worldradio** subscriptions through your club.

We wanted to know if our proposal was a good one so we asked a few people who knew something about money what they thought of it. From Arriflex Onnasty came this comment, "If I had such a deal I would have never gone into chips." We turned to Jay Saul Getter who mused, "Looks better than a soil well." Nellie Stonefeller opined, "If my grandfather had received an opportunity like that he could have given away quarters instead of dimes." Through his spokesman, Clifford Earring, E. Howie Hues said, "It sounds so good I'm considering leaving my penthouse so I can get in on it too."

So, who are we to argue with such financial genies. To get full details just write to **Worldradio**, 2509 Donner Way, Sacramento, CA 95818.

#### Traffic (continued from page 34)

for This comes out "WA6DEI QNQ up 5 W6JTA Morro Bay." If you understand it the first time it saves the NCS repeating and consequently the net some time.

#### REMEMBER:

If you have any information regarding traffic you wish to disseminate, mail it to D. Paul Gagnon, WA6DEI, 1791 Hedon Circle, Camarillo, CA 93010.

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## SSTV

building monitors, keyboard character generators, and other gear. If you're looking for 75 meter band SSTV contacts, check in on this net for a warm welcome.

Another "first" is in the works. To the best of our knowledge, an SSTV repeater being planned by Phil Andrews, W2SZF, will be the first of its kind. It will operate in the 2 meter band with frequency modulation. Phil is reported to be dickering for antenna space 800 feet up on a TV tower near Riverhead, Long Island. If all goes according to plan, SSTV should get a big boost in the Long Island area. With no multi-path, no fading, no QRM, SSTV on 2 meter FM is really great!

The licensing and operation of WR4-AAG, the first FSTV repeater in the world, has been reported in "A5 Magazine" and "Worldradio." This is a 440 MHz. band repeater established by the Amateur TV Club of Washington, D.C. It seems to me that the considerable technical requirements and license pioneering involved warrant more recognition than has been given to the club members who made this project a success. Maybe amateur radio should have a new "Q" signal denoting "Bravo" or "Well done"! QBBOMs!

Here's hoping that by the time you read this column, W2DD will be operational on FSTV (439.25 MHz.). After resisting the urge for several years, I'm collecting all the necessary goodies. RF in the 440 MHz. range is something new to me, so I'm approaching this project with great humility! However, it will be fun to learn by doing. My hilltop location at an elevation 600 feet above Lake Ontario should be a real asset.

Operators attending the Radio Society of Ontario (Canada) Convention at Hamilton were treated to some fine talks and demonstrations of amateur TV. George Davis, VE2BBW, and Tom Atkins, VE3-CDM, did a "show and tell" on FSTV. SSTV was covered by John VandenBerg, VE3DVV, who is Technical Director of the Hamilton Amateur Radio Club. As in many other metro areas, FSTV is alive and well around Toronto. I think that we should encourage two-way fast scan contacts across Lake Ontario by offering a trophy. W2DD hereby agrees to award a bottle of V.O. Canadian Whiskey to both operators making the first fast scan QSO between the Province of Ontario and the Rochester, N.Y. area. No, that does NOT include Buffalo!

We're looking for more news and pictures of what amateurs everywhere are doing with both FSTV and SSTV. Why not drop us a line and send along a photo or two with a description of your own or your club's accomplishments? Please address your letters to my home address, 2112 Turk Hill Rd., Fairport, NY 14450.

Best wishes to all for the holidays and 1975 from W2DD.

### Late, Late, Addition To Bill DeWitt's Television Column

Although simultaneous transmission of both voice and SSTV modulation has been discussed in magazine articles and demonstrated on the air by a knowledgeable few amateurs during the past few years, it may soon be within the reach of all slow scanners.

In a recent telephone conversation with Joe Hawkins of Robot Research, he told me that the Swan Company showed a

prototype independent sideband transmission device for use with certain Swan transceivers at the ARRL Southwestern Division Convention at San Diego (1-3 Nov.).

The ISB device makes it possible to simultaneously transmit both sidebands, with voice modulation on one, SSTV on the other. Bandwidth of the system would necessarily meet F.C.C. requirements for phone transmission. I have no information on availability but assume it would be in the reasonably near future.

Incidentally, my telephone call to Robot was for the purpose of ordering a new camera, monitor, and fast scan monitor. A local gung-ho slow scanner twisted my arm, bought my original Robot gear, and rushed home with it so fast that he forgot "the original cartons"! So now here I am reduced to audio-only (sniff!) awaiting air shipment of my second round of Robot. I hope they use a good parachute for the "drop"!

## Maritime mobile

have, and like a bunch of children, they set out to wreck it.

A modern transceiver of low power doesn't create interference, but their cheap transistor radios have no rejection and of course will pick up any nearby transmitter. The fault, as we all know isn't in the transmitter. But even so, it is possible to set up a station and keep everyone happy. Time-sharing, antenna location, and power limitations are the means.

I have always been of the opinion that a well-run (and the operative word here is "well-run") amateur station aboard a ship is a tremendous asset to the vessel. If I were the skipper I would be delighted to have this extra mode of communication.

Amateur Radio is about the only way nowadays that one can get the necessary telegraphic experience for a sea-going radio job. It's the only way a person can keep up with the fast-moving electronics field. The amateurs among the radio officers invariably are the best operators. They understand such things as propagation conditions much better than the guy who is just on here for the money; they also take better care of their equipment, having a love for radio itself.

The company is taking a very short-sighted view of things when it discourages Amateur Radio. Life aboard a ship, being a microcosm of life ashore, shows how everything gets reduced to the lowest possible denominator. It is really a small monarchy, an anachronism in the last half of the 20th Century!

I feel that I have a huge investment in both time and money in Amateur Radio, and that my rights are being violated when I am arbitrarily refused permission to do what I do best.

Perhaps some Worldradio readers with a legal background could come up with a solution. Does anyone know of a court case on the matter? I don't have the resources or inclination to take the matter to court, but perhaps the readership or one of the MM clubs could? Or perhaps someone can get the ball rolling with the FCC to have them issue a permit. This permit would be in addition to our regular amateur license. It would only be issued when someone passed a test showing specialized knowledge of MM operation and the special problems involved. This then would be a permit to operate on

American vessels which the skipper could not deny. Provision, of course, would have to be made for genuine cases of interference to ships communications or navigational equipment, but interference to entertainment equipment would be handled as they are in houses and apartments across the land, on an individual basis.

With the cooperation most amateurs show, I believe the problem can be solved and this injustice corrected. I would appreciate comments.

73

Ben Lane, W7FNE/MM  
3764 So Hemlock  
Tolovana Park, OR 97145

I guess as an amateur aboard a research vessel, I was spared the hassel of an ignorant captain. Naive to the illogical, I took amateur operation as more of a right than a privilege. I mean without such amateur efforts by Marconi and his colleagues, they'd still be sending ship to shore pigeons.

Anyway, I merely told the captain that I was setting up shop, letting him know that amateur radio was at his service. I'm not saying I hadn't any problems. I did manage to get into the TV and intercom system; but, with a few phone patches later, a little diplomacy, and a QTH out of TV range, amateur radio had found a new home at sea.

While I hate to keep generating unpleasant harmonics within the tank circuit of this column, it becomes obvious that the shipping industry needs a heavy dose of PR. I like to think that Ben's case is unique. How about some good news about captains who are glad to have amateurs aboard? I'm sure that we could develop a file of harmonious ships which could be used in cases of reluctant captains.

If we want our service to survive it must be protected on the land, in the sea, and in the sky. Address any comments in care of this column.

## Editorial

Compare that to the cry we hear when the membership fee in the League goes up. Now it will be \$9.50 a year. (We probably owe the League at least \$10 a year for all the battles they fought in the past to ensure there would be Amateur Radio today.)

### What's the difference?

It looks like Sertoma and other such organizations believe in what they are doing and are highly motivated. On the other hand, in Amateur Radio:

Two amateurs said they would match up to \$25,000 donations from individual amateurs to the OSCAR program. At last report they have been underwhelmed by the lack of response. Don't we care?

Could it possibly be that radio amateurs are a different breed than the kind of people in other organizations who, for example: fund hospitals for the crippled children (Shrine), build orphanages (Optimists), help the blind (Lions)?

Do we just take, take, take and not think about giving back?

Why is it that only one group (Handi-Hams of Minnesota and Iowa) have a program for helping those confined to beds or wheelchairs get amateur licenses? Have you ever heard of any group that goes into an orphanage to give license courses?

### Change, grow or perish?

There are new challenges facing us. We must become more organized and visible. We must embark on, as club activities, presenting classes leading to amateur licenses.

We need numbers. A recent issue of a publication devoted to the CB audience trumpeted the fact that they are growing and the numbers in Amateur Radio are declining.

If we should fail to grow, there is only one other course open to insure the survival of our avocation.

We must make Amateur Radio so great that the quality will far overshadow the lack of numbers.

Example: at the 54th annual convention of the Sertoma International, among the remarks of their president, C. Anthony Ricca were these phrases . . .

"lead, inspire and motivate wherever and whenever the opportunity presents itself . . . build and maintain a position of importance so that the people in our communities can look up at us, as Sertomans, with respect, admiration and gratitude . . . put back into our communities a little of what we have taken out . . . extend the scope of our involvement by building new Sertoma clubs in our communities — new clubs that will help share the responsibility of service and involvement."

Nice statements. Could we, or should we, replace "Sertoma" with "Amateur Radio" in those thoughts?

### The decision

So, the decision is yours. Do we bring Amateur Radio up the stature of the other organizations. Do we spread our message? Do we make it so important and meaningful that people would not drop out in search of something more interesting — more satisfying? Do we attract new people — those who are alive, aware and active?

We are actually competing with all the other activities that exist. I think we have the greatest activity, but it must be presented in a different way. It must look as strong and useful as other organizations.

We invite your comments and ideas. There will be more on this approach in next month's issue.

### Hmmm?

November 15th 1974 was a special day for Perry Klein K3JTE, the president of AMSAT, the Radio Amateur Satellite Corporation, for not only was it the day on which the AMSAT-OSCAR 7 spacecraft was launched, it was also his birthday.

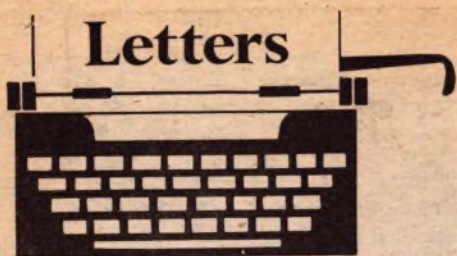
### AMSAT Phone Service Interrupted

Following the successful launch, Perry K3JTE, and family took a well earned vacation in Florida, first having switched the AMSAT phone through to the home of Joe Kasser, G3ZCZ/W3, the new AMSAT Director of Information and Publicity.

Fay, the wife of G3ZCZ, who up till then had barely learned to cope with such technical terms as receiver, transmitter and single sideband, suddenly came face to face with such new terms as period, inclination, orbital increment and telemetry. As if that weren't enough, Fay was in her ninth month of pregnancy.

In the first few days of answering the phone, Fay learned to cope and answer technical questions; however, on the 24th of November, just as Joe, G3ZCZ was about to attempt the first mobile-to-mobile contact through AMSAT-OSCAR 7 with Arthur Feller WA3JDY/4, Junior decided to arrive.

With Fay in the hospital and Joe at work or in the car, nobody was home to mind the store. Fay and Joe would like to apologize to those of you who tried to call in and received no answer, and to tell you that their little girl was NOT named OSCAR.



# The Worldradio News



an international newspaper  
Fourth Year

The Worldradio News  
is published monthly by  
Worldradio Associates.

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

After reading WRN for two hours, I must say: Very, very good! I am an old journalist learned as compositor, my son is a master-printer -- it's very good and actual and interesting paper for the amateur. ... Felix Korner, DL1CU

This magazine is really super - covers all facets of Amateur Radio. I would like to see more written about QRP operations (under 5 w input). Assuring you of my continued support of a really fine publication. ... "Bill" Crook, WA6FNV

You're continuing to do a superb job. ... Dave Bradley, W6CUB/9

Congratulations to you and your staff for Worldradio News. It is a "breath of fresh air", of what's right with Amateur Radio. ... Doug Murray, W6HVN

I do sincerely enjoy the paper as it definitely gets more news than anything or anyone else. ... Ronn Mann, W8NXD

I think it is the greatest. ... I have enjoyed every issue and have influenced a number of my amateur friends to subscribe. ... Walt Smith, W6NZY

Thanks a lot for the prizes - subscriptions to "Worldradio News" - for our upcoming local hamfest. Ethel joins me in our personal thanks to you and your staff - we enjoy your paper - its really a fine job. ... Tex DeBardeleben, W4TE

What a great job you are doing! ... Ed Hopper, W2GT

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

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

Article contributions and advertising inquiries are invited.

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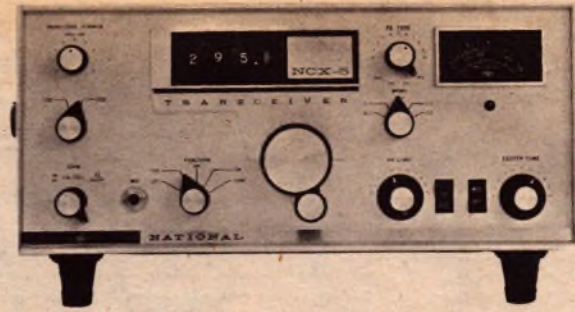
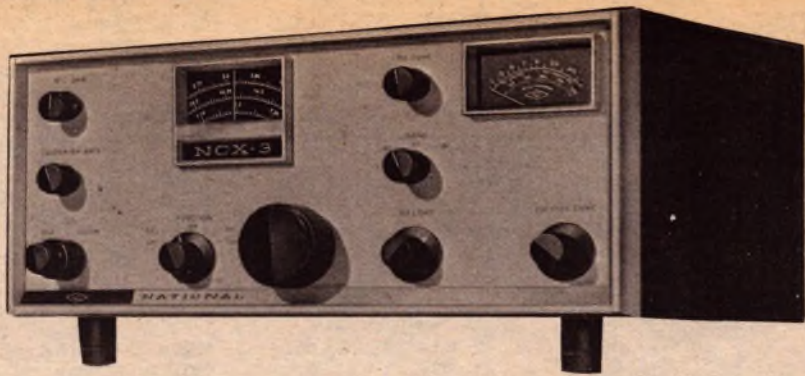


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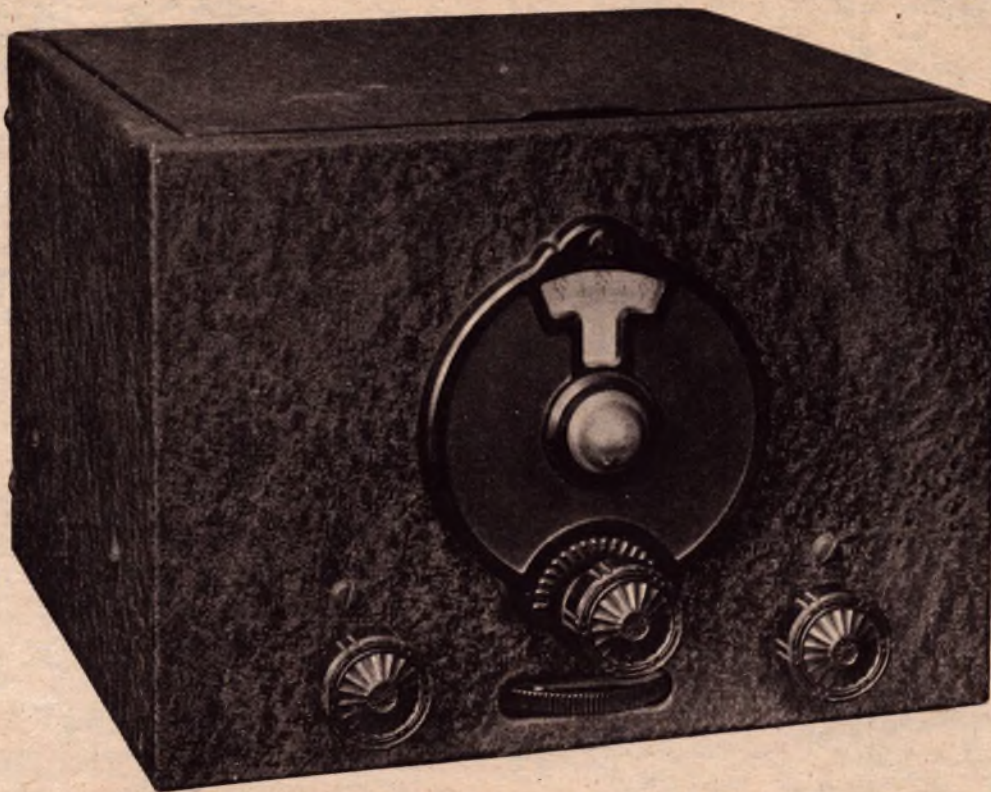
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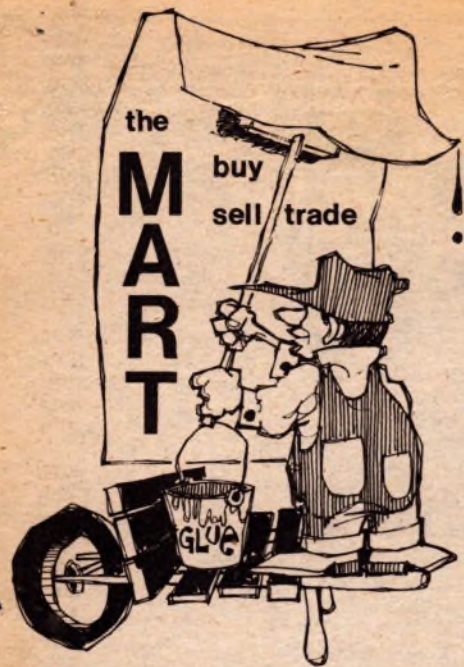
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Editing a Club Paper? Need some help? Amateur Radio News Service would like to hear from you. For info., write: Rosemary Willis, Sec'y, 9276 Borden Ave., Sun Valley, CA 91352

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