

Worldradio/NEWS

Owen Garriot, W5LFL, On Skylab Ham Radio Spurred Oklahoma Spaceman

SPACE CENTER, Houston (AP)—Thirty years ago Owen K. Garriott's father took him to a meeting of ham radio operators. That visit gave the boy an interest in science which is currently being climaxed with the longest space mission ever attempted.

Garriott is now the science pilot of Skylab 2, the 59-day mission aboard the nation's first orbiting science station.

"In a way, you can trace my interest in science to one suggestion from my father that we run off to a radio code class," says Garriott, a 42-year-old scientist-astronaut and former Stanford University professor. "From that I developed enough interest in electronics to go into electrical engineering."

Garriott, making his first space flight on Skylab 2, was born and raised in Enid, Okla., the son of an engineer and chemist.

He is a graduate of the University of Oklahoma and holds masters and doctorate degrees from Stanford. He is an expert in electronics, electromagnetic theory and ionospheric physics, but his interests do not stop with things scientific.

The astronaut served three years as a Navy line officer, sailing on destroyers. He also has taught graduate students at Stanford, written textbooks on his specialty, edited scientific journals and worked for a radio station.

He studied a year at Cambridge, England, served as a consultant on the use of unmanned satellites and is an expert ham radio operator.

Garriott already was a licensed pilot when he was selected in 1965 as a scientist-astronaut.

He came into the astronaut corps and the Skylab program because it seemed the only thing around big enough to enclose his range of interests.

"For a generalist, I think it's ideal," he says. "That's the sort of study (general science) that I would really prefer. The less narrow and the more general, the more fascinating I find it."

Garriott is married to the former Helen Mary Walker of Enid, his childhood sweetheart.

"We started going together in high school," says the astronaut. "It became a habit and we must have gone together for about five or six years before we were married."

The Garriots have four children: Randall, 18; Robert, 16; Richard, 12; and Linda, 6. The astronaut said they all show a lively interest in his mission and "come up with some remarkably good thoughts and questions about it."

Both Randall and Robert already are anxious to start flying lessons. For his last birthday, Robert received half the price of his pilot instructions.

"I think my oldest boys want to take up flying to some degree," said Garriott. "They want to get their private license now and keep at it for a little bit, so I'll help them along."

Garriott is thin almost to the point of being skinny. He stands 5-feet-8 and dresses in conservative business suits. His hair is brown, flecked with gray.

Despite his thinness, Garriott is a highly-disciplined athlete. Four times a week, he runs four or five miles.



Dr. Owen Garriot, W5LFL

His sons, he says, also run, but are a lot faster.

"That's something we do together," he says. Then he adds with a grin: "As long as they don't mind slowing down a little bit for the old man we can all run together."

Garriott is assured of setting at

least one space first on his record mission. The astronaut will be the first to wear a mustache into space.

"I started this mustache on a survival training trip to the jungles of Panama," he said, "and just kept it for the fun of it."

(From the Tulsa, Okla. "Tribune")

JEAN PERKINS

415 COUTANT ST
FLUSHING

900059

MI 48433



Newsfront

Around the World

Neweburg Sinks



Karl Reder, VQ9R

The fishing boat Neweburg which was picked up by the French navy on Wednesday after developing a leak off Astove Island, has now sunk but the crew of four are safe in Majunga.

First news of the boat being in distress was received from Mr. Karl Reder, VQ9R, an American radio "ham" living in La Louise who heard about it from another ham in Mauritius. The message he received said that the engine had broken down and the boat was leaking badly and drifting off Astove Island about 600 miles from Mahe. The message also said that the crew would have to abandon their craft and take to their life raft.

Immediately, the Harbour Master sent a message to Astove Island over Radio Seychelles asking the islanders to keep a sharp lookout. Mauritius was also contacted and all vessels in the vicinity were asked to be on the alert. An aircraft of Air-Mahe was sent to search for the vessel and the French Vice Consul, Mr. Andre Delhomme, got in touch with the French navy in Diego Suarez. They immediately sent out air force planes, one of which directed the warship Commandant Bourdais to the boat and crew on Wednesday. The crew was taken aboard and the sailors tried to tow the vessel but it sank and had to be abandoned.

The Neweburg was a 50-ton fishing vessel on its way here from South Africa. Three of the four men crew were Seychellois.

The Harbour Master has expressed his thanks to all who helped in the rescue of the boat and crew, particularly Mr. Reder and Mr. Delhomme.

(One of the rescued crew was William Lane, VQ9L).

Above article from the "Seychelles Bulletin" and sent to "Worldradio" by M. Carragher, VQ9MC.

Washington Report: FCC



July 12, 1973

SAFETY AND SPECIAL ACTION

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

ORDERED TO SHOW CAUSE WHY THE LICENSE SHOULD NOT BE REVOKED FOR REPEATED VIOLATION OF SECTION 1.89 OF THE RULES, BY REPEATEDLY FAILING TO REPLY TO COMMISSION COMMUNICATIONS, AND TO APPEAR AND GIVE EVIDENCE AT A HEARING:

July 2 - H. S. VAN KIRK, MCKEESPORT, PENNSYLVANIA, licensee of Amateur radio station W3SOX.

July 16, 1973

ACTION IN DOCKET CASE

KANSAS CITY, KANS., INITIAL DECISION EFFECTIVE IN CITIZENS AND AMATEUR RADIO PROCEEDING. The Initial Decision (FCC 73D-21) released May 4, 1973, proposing revocation of the licenses of Ronald G. Bozich, Kansas City, Kans., for Citizens radio station KBV-8379 and Amateur radio station WB0DCY, became effective June 25, 1973, under the provisions of Section 1.276 of the rules (Docket 19641). (Action by the Review Board July 13, 1973, by Order.)

July 17, 1973

ACTION IN DOCKET CASE

By Chief Administrative Law Judge Arthur A. Gladstone on the date shown:

EUGENE, OR (RAIMUND B. CARNE) ORDER TO SHOW CAUSE. Terminated the proceeding on the order to show cause why the license for Amateur radio station W7GKB should not be revoked and certified the proceeding to the Commission. (Action 7/11/73)

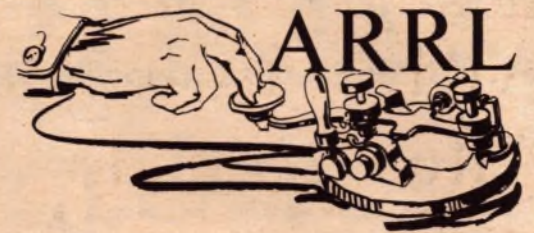
August 13, 1973

ACTIONS IN DOCKET CASES

By Chief Administrative Law Judge Arthur A. Gladstone on the dates shown:

Terminated hearing, and certified to the Commission, proceedings on orders to show cause why licenses for the following stations should not be revoked: LARRY J. ORMSBY, METAIRE, LA., Amateur radio station WA5KBZ; M. S. VAN KIRK, MCKEESPORT, PA., Amateur radio station W3SOZ; (Actions 8/9/73).

(Turn to page 47, please)



July 23, 1973

The ARRL Board of Directors during its second 1973 meeting in Hartford, Conn., July 19 and 20 established ARRL policy in both regulatory and operating fields which will greatly affect the future course of the League and Amateur Radio. Reflecting strong views of the membership, directors agreed that every effort should be made to convince FCC of the continuing need for the full 220-225 MHz amateur band, and laid plans for an energetic and comprehensive defense of the frequencies against attempted inroads by Citizens Radio Service. In another regulatory action, relief will be sought from FCC in relaxation of repeater rules, still felt after experience to be much too limiting, particularly in areas of licensing procedures, monitoring and control, antenna installations, remote bases and system configuration changes. With primary emphasis on continuance and expansion of the Amateur Space Satellite Program, the Board directed the establishment of an ARRL foundation to attract financial support for space and other innovative projects. The sum of \$38,000. was advanced to underwrite design and construction costs of OSCAR Seven, hopefully to be in orbit early next year. Additional staff personnel were authorized to implement preparation for an eventual ITU frequency conference. A grant was made for refurbishing the station installation at 4UITU of the International Amateur Radio Club in Geneva. After extensive informal discussion, the Board favored continuance of some form of RACES but deferred establishing the League's final position until a special ad hoc committee of experts has completed its study. Final approval was given the Emergency Communications Advisory Committee. Elimination of the separate phone certificate for DXCC was postponed one year for further study. Subjects assigned for committee study include expansion of space in QST for technical articles, the use of facsimile on all amateur bands, an expanded Public Relations Program nationally and also through section appointments, and a license expiration notice service. The second 1974 Meeting of the Board will be held in New York City coincident with the ARRL National Convention dates. Minutes of the Meeting will appear in September QST.

August 9, 1973

The 1973 ARRL Net Directory, listing almost 600 public service nets registered by June 1, is now available. This year the directory has been produced in booklet form, similar to the Repeater Directory. To receive your copy by first-class mail please send an addressed envelope six and a half by nine and a half inches or larger with 24 cents U.S. postage to ARRL, 225 Main Street, Newington, Connecticut. To receive both the Repeater and Net Directories, please affix 40 cents U.S. postage.

(Turn to page 42, please)



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

AREC Invaluable After Tornado

Tuesday evening was hot and humid. My wife and I and four of our children were at Riverfront Stadium and at 7:50 p. m. we had settled into our seats to watch the Reds defeat the Giants. The weatherman had a different idea, however, and minutes later we were crushed in a mass of humanity huddling under the stands to keep out of the rain.

As the rain, beaten by a driving wind, pelted the stadium we had no idea that only a couple of miles from our Forest Park home a tornado had touched ground, had demolished a barn near the Hamilton-Mason Road intersection with Bypass Ohio Route 4.

Members of Southwest Ohio Amateur Radio Emergency Corps, fortunately, were not oblivious to the strike and within minutes of it were converging in their radio-equipped mobiles on the area.

Notified of the tornado by Bob Reiff, WA8-ULW, of Mason, Ohio, Larry Ashcraft, K8RXM, activated local AREC members over Cincinnati two-meter repeaters WB8CRS, WB8NON and K8SCH. Jack Klosterman, WB8IPV, North College Hill, immediately opened an emergency session of the AREC area net on 146.46 MHz FM.

Arriving moments after emergency vehicles reached the Hamilton-Mason Road scene, several AREC mobiles recognized that most of those responding to the emergency were not needed at that location. They began a methodic survey of other roads in the area.

Tylersville Road east of Bypass 4 is hilly and narrow. And in the midst of the hills the hams found a potentially disastrous situation. A telephone pole, blown down by the tornadic winds, was blocking one lane of the road. The safety of the multitude of curious area residents, speeding down the road toward Hamilton-Mason Road was seriously threatened.

After unsuccessfully suggesting to a telephone company crew at a nearby intersection that the dangerous condition created by the fallen pole warranted more action than merely sitting and waiting for heavy equipment to arrive, the radio amateurs advised Captain Fisher of the Butler County Sheriff's Department of the situation.

Unlike the telephone crew that requested that the hams mind their own business, Captain Fisher dispatched one of his cars to one intersection and asked an AREC mobile to cover another intersection to prevent the curious from driving over the dangerous section until the telephone pole hazard could be removed.

As the tornado operation progressed, Butler County Civil Defense personnel directing traffic on Hamilton-Mason Road ran out of flares. The County CD stock of flares also was depleted. A radio call by an AREC member to AREC command stationed with Captain Fisher promptly brought more flares from the sheriff's department.

It was a small emergency. One barn... one telephone pole. But with heavy traffic speeding down Tylersville Road added to the fallen pole, a serious, multi-car accident could have occurred.

Small though their effort may have been, the AREC hams may have prevented much suffering and loss of life. And, with the tornado still "alive" somewhere in the Butler-Warren County area, they were on hand, ready to respond at a moment's notice to an even larger disaster.

Kudos to the following amateurs who were among those on the scene or who served as Net Control Stations for the emergency operation: Al Bollender, WA8JEN, and Earl Campbell, WB8GMZ, of Hamilton; Dick Davis, W8BWI, Butler County Assistant Emergency Coordinator of Fairfield; Ed Philpott, WB8KMD, of West Chester, Ohio; Gene Hite, WB8DLJ, Warren County Emergency Co-ordinator of Mason, Ohio; and Larry Ashcraft, K8RXM, Clermont-Brown Counties EC of Milford and Scott Henninger, K8HBN, of Loveland, Ohio.

(From the Cincinnati, Ohio "Enquirer")

Powder Puff

"I'm dead tired, but I wouldn't trade the experience for anything in the world." This is the way Mrs. Mabel Field sums up her following of the Powder Puff Derby by ham radio. Her coverage lasted throughout the flight, starting at 7 a. m. Friday morning and lasting through Monday when all of the planes had landed in Elmira, New York.

Mrs. Field, W6YZV, kept in touch with the planes through other ham operators stationed at airports across the country. Pilots submitted estimations of time of arrival for the next stop at each departure point but, due to thunderstorm activity and periods of hot weather across the country, many of the estimations were inaccurate. Mrs. Field says, "We really sweated it out waiting for the flyers to land when they were late."

She was instrumental in the dissemination of flight information to North County Derby officials and to local enthusiasts because regular airport radio towers were too busy to give more than sketchy details. Assisted by her son Gene, WB6MSE, and her husband, Harry, W6LKC, Mrs. Field kept in touch with the Derby's official starter and local Ninety-Niners.

Although this was Mrs. Field's first experience in tracking the Derby, she has been involved with ham radio for more than 25 years. As one of the first licensed pilots in San Diego, she received her license in February of 1947. She is a member of ARRL, the governing body for ham radio operators; and of YLRL for women ham operators; as well as of Los Angeles and North County organizations. She has recently been succeeded as president of the North County women's ham radio operators organization by Mrs. Genevieve Johnson of Rainbow. She held this post since the club's founding two years ago.

Mrs. Field holds a Worked All Continents certificate which recognizes her communication with other amateurs in each of the six recognized continental areas of the world. She says that following the Derby was fun but that "One of the most rewarding experiences of my life was relaying messages from service men in Okinawa to their families in the states." She continues, "Some of the men came in to Camp Pendleton on their way home from Okinawa, so we were able to meet many of them. We still keep in touch."

"So many people think of ham radio only in terms of television reception interference. They don't realize how useful the hobby is and how dedicated to public service the operators are. In times of natural disaster, floods, earthquakes, or storms, ham operators are on the job to help with communication for rescue work and for outside information," she adds.

Even though the Derby is over, Mrs. Field will return to her ham outfit to visit with friends she has made on every continent and perhaps to deal with messages that "Often keep me on the edge of my seat with excitement until they are relayed."

(From the Fallbrook, CA "Enterprise")

Hams Aid Police

Tuesday evening, Tom Talley, W8HQQ, of Finneytown and Tom Case, K8CLA, of Pleasant Ridge were riding in Talley's car in Brentwood when his wife telephoned into the WB8-NON repeater. The conversation was broadcast from the telephone lines onto the amateur radio two meter band. During it, Tom Talley Jr. took the phone to tell his father of a strange happening outside their home.

Two men had pushed an automobile off Winton Road onto North Hill Lane and appeared to be abandoning it. A quick look at it disclosed that it had no license plates.

On learning of the situation, the senior Talley telephoned Springfield Township police over the ham radio-to-telephone hook up to see if a car meeting the description of the abandoned car had been reported stolen. One had.

Maintaining radio-to-telephone contact with the police, he turned toward home.

Among the many hams monitoring the repeater during the two radio-telephone conversations was Bob Draise, WB8CF, of Pleasant and Run Farm. Bob was traveling south on Winton Road and saw the two men walk onto Winton Road off North Hill Lane. He offered them a ride.

On seeing his radio equipment they decided to stay afoot.

Co-ordinating their movements over ham radio, Bob and Tom alternated "tailing" the "suspects" until a patrol car called from the far end of the township arrived.

As expected, the plaintiff plea of the imperiled pair was, "But we ain't done nothing wrong, honest, officer." Stolen license plates in their hands, they continued to proclaim their innocence.

On being told they had been under surveillance from the two radio-equipped cars from the time they entered Winton Road until being apprehended, the innocent-as-babes attitude abruptly changed to a "well in that case" and they meekly climbed into the squad car.

(From the Cincinnati, Ohio "Enquirer")

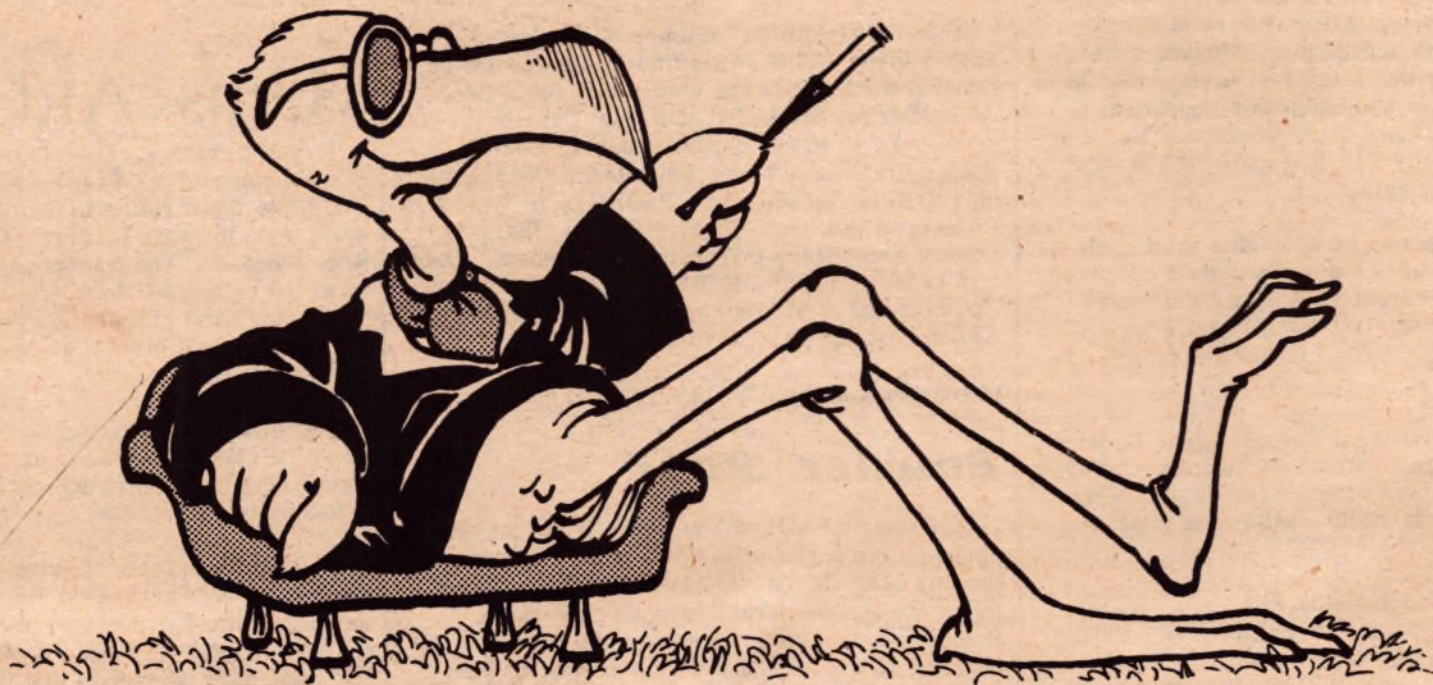
IDENTIFICATION

Our friends at the Post Office ask that all publications, within the first five pages of an issue, relate this info.

"Worldradio/NEWS is published monthly by Worldradio Associates. Offices are located at 2509 Donner Way, Sacramento, CA 95818.

Subscription rates are - \$5 per year, \$9 for two years and \$13 for three years. This is the September issue. Controlled circulation postage is paid at Sacramento, California.

What has feathers, a lot of class, and loves hams?



Why, the FLAMINGO of course.

SAROC *The Fun Convention*

hosted by SOUTHERN NEVADA AMATEUR RADIO CLUB, INC. at
FLAMINGO HOTEL CONVENTION CENTER, LAS VEGAS, NEV. 89109 — JANUARY 3-6, 1974
ADVANCE REGISTRATION — \$10.50 per person includes:

1. Special room rate of \$15.00 plus room tax per night single or double occupancy, effective January 3 through 10, 1974 while 500 rooms last at the Flamingo Hotel.
2. Advance Registration drawing ticket for Saturday.
3. Regular Registration drawing ticket for Saturday.
4. Complimentary cocktail at the Flamingo Hotel.
5. Complimentary KENO ticket at the Flamingo Hotel.
6. Admission to technical seminars, meetings and exhibit area, Friday and Saturday.
7. Ticket for admission to cocktail party hosted by SAROC and HAM RADIO MAGAZINE, Friday.
8. Ladies who register will receive admission ticket for their program on Saturday.
9. Ticket for admission to cocktail party hosted by SAROC and SWAN ELECTRONICS, Saturday.
10. Ticket for Flamingo Hotel Buffet Hunt Breakfast with Champagne, Sunday.
11. Tax and Gratuity on all items 1 through 10 except hotel accommodations.

ADVANCE REGISTRATION with midnight show — \$17.50 per person:

Includes all items 1 through 11, plus Flamingo Hotel Midnight Show and two drinks, Sandler and Young are scheduled in the Flamingo Hotel Main Show Room.

ADVANCE REGISTRATION with dinner show — \$21.50 per person:

Includes all items 1 through 11, plus Flamingo Hotel Dinner Show (Entree: Brisket of Beef) no cocktails, Sandler and Young are scheduled in the main show room.

Advance registration must be received in SAROC, P. O. Box 73, Boulder City, NV 89005 on or before December 15, 1973. Refunds will be made if request in writing received in P. O. Box 73 on or before January 3, 1974.

SEVENTH NATIONAL FM conference Friday and Saturday, FM Hospitality Room 16/76, 28/88 and 34/94 repeaters. WCARS-7255 and WPSS 3952 special events stations to assist mobile operators.

Mail accommodations request to Flamingo Hotel, Las Vegas, Nevada 89109 — Do it now!

Mail Advance Registration fee to, SAROC, P. O. Box 73, Boulder City, NV 89005 — Before December 15

How to stay on the air **WHEN AN EMERGENCY STRIKES...**

with a fully solid-state transceiver from SWAN.

That's right! Even if your area is struck with a massive electric power failure you can have full amateur band coverage, with up to 200 watts P.E.P. available, to relay emergency information or to call for help. A 12 volt battery, just like the one in your car, is all you need to operate a Swan solid-state transceiver.

Here's all you do to set up a home emergency station. Simply purchase a 12 volt automobile battery. Connect a Swan solid-state transceiver to the battery and your antenna. That's it! The station is ready to go on the air at any time — able to operate for several days — if necessary. Prepare now, to communicate in any emergency situation!

HINT:— Add a battery charger to a battery-powered solid-state home installation and you can regularly operate more efficiently. It'll cost less than most A.C. power supplies.

Swan's big SS-200 transceiver takes very little power drain from a battery — less than 500 ma on receive and averages about 6 amps when transmitting on single sideband (as low as 0.8 amps average, to transmit SSB on the SS-15).

Another thought — a solid-state mobile installation can mean a savings of up to \$140.00 when compared to the special D.C. power sup-

plies that must be purchased for mobile use of conventional tube-type transceivers.

Now is the time to join the new age of amateur radio electronics by selecting a new fully solid-state Swan transceiver. Every model of the "SS" series features: NO TRANSMITTER TUNING, INFINITE VSWR PROTECTION, CONTROLLED NOISE BLANKING, BUILT-IN VOX, and more. Just 10% down will put an all-solid-state rig in your ham shack, when you use your Swan Revolving Credit Service account. Why wait? Order yours now!!

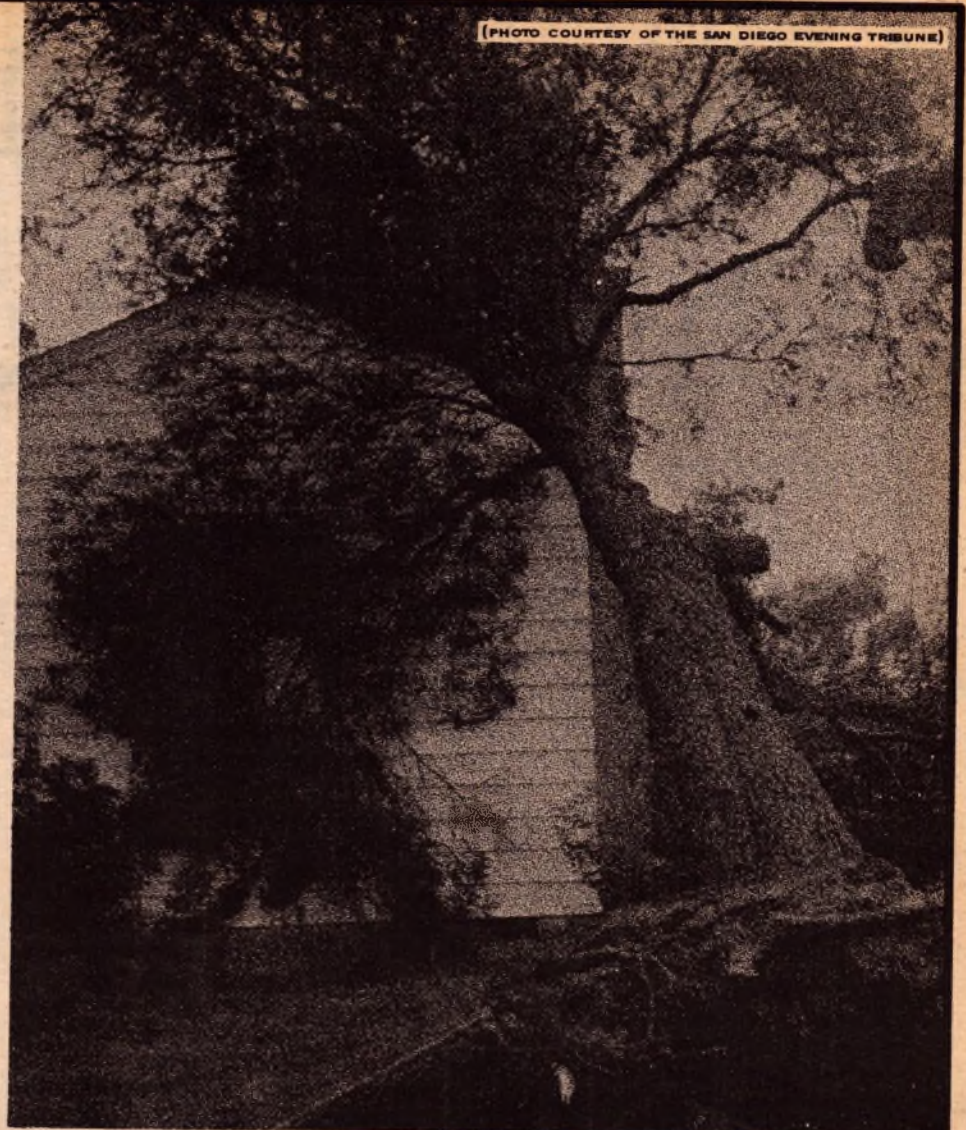


Join the New Age of Amateur Radio Electronics! Equip your ham installation with one of these fine New Fully Solid-State Transceivers . . . each model operates directly from any 12 volt DC supply:

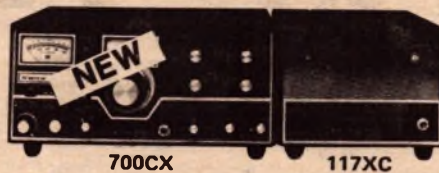
AVAILABLE ACCESSORIES INCLUDE:

- SWAN 610X (Crystal Controlled Oscillator) \$ 53.95
- SWAN SS-16B (Super Selective Filter) \$ 79.95
- SWAN SS-208 (External VFO) . . . \$159.00

- SWAN SS-200 (200 Watts P.E.P.) . . \$779.00
- SWAN SS-15 (15 Watts P.E.P.) . . . \$579.00
- If you must operate from a 115 volt AC source, order one of these power supply units:
- SWAN PS-20 (For SS-200/SS-15) . . \$139.00
- SWAN PS-10 (For SS-15) \$ 89.00



SWAN ELECTRONICS
A subsidiary of Cubic Corporation



700CX 117XC

- SWAN 700-CX — 700 Watts P.E.P., SSB/CW/AM Transceiver. Covers all amateur bands 80 thru 10 Meters \$569.95
- With SS-16B Super Selective Filter included \$629.95
- SWAN 117-XC — 117 volt AC Power Supply \$109.95

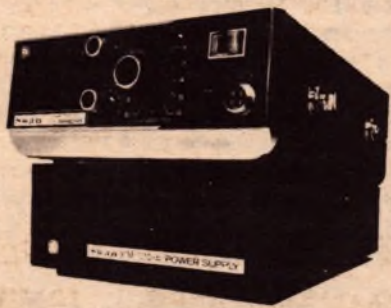


- SWAN 600T — 600 watts P.E.P. 10 to 80 Meter Transmitter \$589.95
- SWAN 600R — Companion Receiver for 600T. \$439.95
- Custom 600R \$545.95
- Custom with SS-16B \$599.95
- SWAN 230-XC — 117 to 230 volt AC Power Supply \$115.95

NEW, ECONOMICAL, FULLY SOLID-STATE MONOBANDERS!!

Featuring many of the circuitry designs of the multiband units described above, these 50 Watt P.E.P. input transceivers will give years of reliable service. Operate directly from 12 volts DC with no tune-up time required. SSB and CW modes, transmit ALC, smooth AGC, S-Meter, and no transmitter tuning to mess with. Includes infinite VSWR protection feature.

- SWAN MB-40 (7.0 to 7.3 MHz) \$279.95
- SWAN MB-80 (3.5 to 4.0 MHz) \$279.95



- SWAN FM1210-A — 144 channel combinations are provided through independent switching of 12 transmit and 12 receive frequencies with eight crystals installed. Dynamic microphone included. Covers 144 to 148 MHz. \$319.00

- SWAN FM1210-A — Pedestal type AC Power Supply \$49.95

- SWAN VHF-150 — 2 Meter Linear Amplifier. 180 Watt P.E.P. Built-in 117 or 230 volt AC power supply. \$299.95

- SWAN 14C — DC Converter, adapts to SWAN VHF-150 for mobile operation. Also converts 117XC and 230XC to operate with a 12 volt DC source. \$69.95

— Buy where Hams are always helping Hams, that's SWAN ELECTRONICS!!

Use the nearby coupon for specifications and complete details about the full line of amateur radio products available from SWAN ELECTRONICS. No one else manufactures such an extensive array of ham equipment. AND, only SWAN offers you their own Revolving Credit Service Plan. SWAN will personally handle the financing of your purchase from beginning to end in full confidence.

ANTENNAS

- SWAN MOBILE 55B — Deluxe 5 Band remote control antenna. Dash control automatically sets tapped coil to band selected \$12.00
- SWAN MOBILE 45 — Manually operated 5 Band antenna utilizing tapped coil eliminates the need to change coils \$79.00
- SWAN MOBILE 35 — Single-Band coil for the single-band operator. Custom select your own combination of parts:

 - 5-foot whip \$12.00
 - 15 Meter Coil \$22.00
 - 10 Meter Coil \$24.00
 - 40 Meter Coil \$26.00
 - 75 Meter Coil \$28.00
 - 18-inch Base . . . \$8.50; 36-inch Base . . . \$9.00; 48-inch Base . . . \$9.50.

- SWAN MOBILE MD-4 — Moulded 2-meter coil and whip . . \$16.95
- SWAN DELUXE BUMPER MOUNT \$24.00
- SWAN TMD — Trunk-Lid antenna mount \$ 6.75
- SWAN RMD — Roof antenna mount \$ 4.50
- SWAN KWIK-ON CONNECTOR \$ 6.00
- SWAN 1040-V — "GOLDEN SWAN" trap-vertical antenna, complete with High-Q coils for 10, 15, 20 and 40 meters \$69.95
- 75 Meter add-on kit for 1040-V \$36.95
- SWAN TB-4HA — Heavy duty 4-element multiband beam antenna for 10, 15 and 20 meters \$148.00
- SWAN TB-3HA — Heavy duty 3-element multiband beam antenna for 10, 15 and 20 meters \$125.00
- SWAN TB-3A — 3-element multiband beam antenna for 10, 15 and 20 meters \$108.00
- SWAN TB-2A — 2-element multiband beam antenna for 10, 15 and 20 meters \$89.95

Mail to: SWAN ELECTRONICS, 305 Airport Road, Oceanside, CA 92054 **W**

Gentlemen: I read your advertisement. Please send me:

Data on your New solid-state units. I am interested in your

SS-200, SS-15, MB-40, MB-80,

Credit Application, Other _____

Name: _____ CALL: _____

Address: _____

City: _____ State: _____ Zip: _____

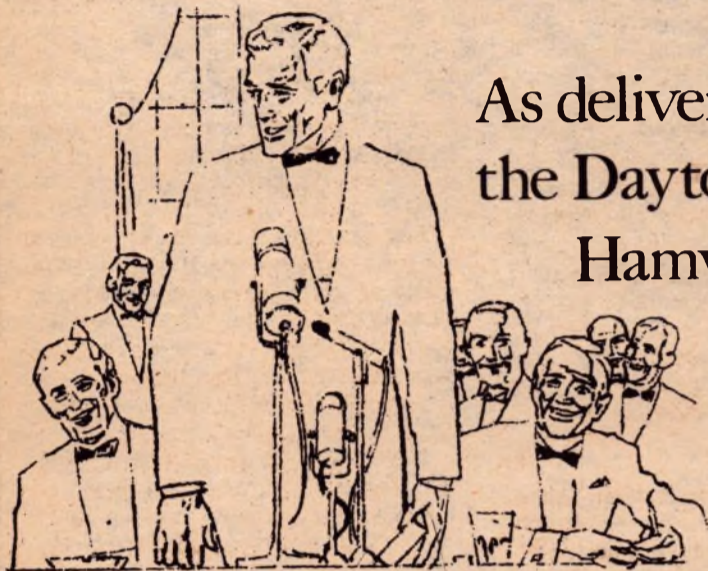
- SWAN VHF-150 — 2 Meter Linear Amplifier. 180 watts P.E.P. \$299.95
- SWAN MARK II — Linear Amplifier. 2,000 watts P.E.P. 10 to 80 Meters \$679.95
- SWAN MARK 6B — Linear Amplifier. 2,000 watts P.E.P. 50 to 54 mHz \$679.95

ACCESSORIES:

- SWAN WM-1500 In-line Wattmeter 5, 50, 500 & 1500 Watt scales . . . \$49.95
- SWAN 600S — Speaker \$21.95
- SWAN 600SP — Deluxe speaker with phone patch \$64.50
- SWAN 600R — CW Filter \$29.50
- SWAN 600R — AM Filter \$39.95
- SWAN 14-117 — DC Power Supply \$139.95
- SWAN 510X — VFO \$53.95
- SWAN 508 — VFO \$159.95
- SWAN 210 — VFO \$109.95
- SWAN 160 — VFO \$119.00
- SWAN VX-2 — VOX \$35.95
- SWAN FP-1 — Phone Patch \$48.95
- SWAN NS-1 — Noise Blanker \$39.95
- SWAN 444 — Desk Mike \$28.50
- SWAN 404 — Hand Mike \$21.95

International Friendship Through Amateur Radio

Arthur Meen VE3RX



As delivered at
the Dayton
Hamvention

Mr. Chairman, Fellow Amateurs,
Ladies and Gentlemen:

First, may I express my pleasure and delight in being offered the opportunity this year to be your keynote speaker. We in Canada think of you, not just as neighbors, but - with our common heritage of language customs, and the English common law - more as cousins or as brothers. We consider it our good fortune that we have you next door to us, across a 3,000 mile undefended border - may it ever be so.

Secondly, I am here, not in my more or less formal capacity as associate counsel (Canada) to the American Radio Relay League, but simply in my capacity as a fellow radio amateur.

The theme of this convention and, therefore, of my remarks to you this afternoon, is "International Friendship Through Amateur Radio", and so my thoughts this afternoon are directed to that theme and in particular, to the influence which some of our amateur radio activities have on international friendship and on our image on the world scene.

Before I get into some of the elements which comprise the amalgam of your and of our image on the world scene, perhaps I might dwell for a moment on the structure of the International Telecommunications Union (I. T. U.) and the International Amateur Radio Union (I. A. R. U.).

To begin with, the I. T. U., which is a branch of the United Nations, but much older, started out somewhat over 100 years ago known as the International Telegraphic Union. Membership in the I. T. U. is limited now to those countries that are members of the United Nations. There used to be about sixty such

members, but recently, along with membership increases in the United Nations itself, we now see I. T. U. membership standing at about 145 or so. Some of these new countries have absolutely no tradition or history of amateur radio at all and they therefore tend to look upon the amateur radio bands as a waste of good frequencies, frequencies which they covet for other purposes. It is the I. T. U., not your Federal Communications Commission nor our Department of Communications up in Canada, which controls the broad frequency assignments and so I am sure you must recognize the significance which the vote carried by these new countries may have at future frequency allocation conferences. The next I. T. U. conference at which frequency allocations will be considered is expected to be held in about 1978 to 1980. This is not really very far away and will be upon us all too soon. As to what we may be able to do in the meantime, I shall have more to say later.

Then there is the International Amateur Radio Union or, as we know it, the I. A. R. U. This is a world federation of all national amateur radio societies. It was founded in about the year 1925 by about nine countries including Canada as a separate country represented by the Canadian Division of A. R. R. L. and of course, also including the United States represented by A. R. R. L. itself. Today, the I. A. R. U. comprises about 85 national societies from all corners of the globe. I. A. R. U. has, on a rather unofficial basis, adopted the I. T. U. division of the globe into three regions as follows:

Firstly, Region 1 comprising Europe and Africa;

Region 2 comprising North, Central and South America;

And Region 3 comprising Pacific and Asia.

Region 1 has been operating since the foundation of I. A. R. U. in 1925 but Region 2 has been operative for only the last six or seven years, and Region 3 for only the last two or three years. But suffice it to say that all three regions, despite substantial problems of geography, particularly in the case of Region 3, are operational.

I think it bears emphasis that I. A. R. U. is not an arm of the I. T. U. It is a completely separate entity being the world voice of our national amateur radio societies. Its objectives are many and varied, but at the moment one of its major concerns is to get across a sort of message to its member national societies and through those societies to the amateur radio fraternity themselves. In short, the message may perhaps be expressed like this: "You don't win concessions or indeed, just hold your own, by attending a conference and making a pitch". In fact, I. A. R. U. and its member national societies do not have any direct voice whatever at I. T. U. conferences. They can only express their views indirectly through the delegates from their, and other, countries. Hence your, and our, national society, the A. R. R. L., is very eager indeed to develop and maintain good liaison with the United States, Canadian and other national delegates to I. T. U. conventions so that, when the crunch is on, so to speak, in 1978 or 1980, enough delegates will know and understand the very positive role which we amateurs believe we can play. In this regard, the A. R. R. L. is so concerned with these matters that the board of directors recently set up a special sub-committee of the board called the International Affairs Committee. But this committee, and R. M. Booth, W3PS, in Washington, and Noel Eaton, VE3-CJ, in Ottawa, and all the others who are active in representing our interests, cannot do it all alone. Our activities are quite unlike anything else: our voices are heard, literally, around the world. Your local camera club may have just as many members, and just as lively and provocative discussions, but they know who's listening. When we are "on the air", we never do.

Trips, like those of Gus Browning, taken to many foreign lands, basically have done much over the years to engender in those foreign lands a better understanding of the United States, and of Canada too. But it is all too easy for us to ruin everything by some careless, thoughtless words or actions, and turn good into bad.

We must remember, to begin with, that American and Canadian amateurs are as a group the wealthiest in the world. Furthermore, we are about equal in numbers to all the rest of the amateur radio world combined and, in addition, we must not forget that we enjoy remarkably secure and stable 120 volt, 60 Hertz electrical energy supply at reasonable cost. The impact of this is that, by and large, on the world scene, the signal from the 2 KW P. E. P. SSB rig into a 3 or 4 element wide spaced Yagi or cubical quad up 90', from stateside or from Canada, is what dominates. And the trouble is that there are so many of us too. I suppose that even if we were to stick to our 180 watt excitors, into dipoles up 30' - because of sheer numbers, we'd still dominate. But KW linears and high gain arrays are here to stay, I guess, and anyhow, I'm not preaching QRP today. The point I want to make is that our prosperity and our numbers, though just great in many ways, can adversely affect our image on the world scene. Let's face it, - people are human. So it behooves us to tread as lightly as possible with our heavy feet.

Before leaving this point, I think it only fair to say that on the two occasions when I have had the pleasure to play the role of the fox instead of one of the hounds (Jamaica as 6Y5RX and Grand Cayman as ZFIRX) I encountered nothing but extreme courtesy and almost universally excellent operating techniques from stateside. For all I know however, there may have been a few other foreign stations trying to catch me too who went away gnashing their teeth at all those wealthy W's and K's and VE's who got to work the only ZF1 they'd ever heard

I don't know any simple answer to this really. I suspect that ambient electrical noise is rising slowly year by year as more and more cars and appliances are put to use, and that this will be a world-wide phenomenon and not limited to North America. If this is so, then maybe the KW linear really is here to stay

Certainly, I am not suggesting that 90 percent of us give up the amateur radio service to go fishing or take up stamp collecting.

But therein lies the problem created by sheer numbers of W and VE stations running high powered sophisticated gear.

My first illustration concerns a certain gentleman, a well-known amateur who took his rig down to Jamaica, set it up on the north shore in one of the holiday resorts there, and proceeded to operate



portable 6Y5 without benefit of a Jamaican license. (This was before Jamaica worked out reciprocal licensing provisions). He operated there for a week and then went home, thinking no one knew anything about it.

Well, he was wrong. What he thought was a great joke had the Jamaican Amateur Radio Association people in a rage. This did not do the cause of reciprocal licensing any great good, to say the least, let alone improve the image of amateur radio.

Then there's the story of the expedition which went to Grand Cayman some years back sans benefit of official endorsement. That may have been a matter of misunderstanding since some of the party were Jamaican licensees and until shortly before the group landed, Jamaica had handled Cayman licensing. Nevertheless, at the time of landing, Cayman was independent and handled its own licensing. The police shut them down before they ever really got started, and furthermore, taking a dim view of the whole bit, I am told, very nearly threw them off the island. Here again, flagrant disregard of the sovereign rights of another country at worst, or careless oversight of a minor technicality at best, created in the minds of officialdom in a foreign country with a vote at the next I. T. U. conference, less than a feeling of great warmth for the amateur radio service.

Next, and, lest you get the impression that I think the villains come only from south of our unguarded border, let me relate in part a story told me the other day by Noel Eaton, VE3CJ, who was at the I. T. U. space conference in the summer of '71, at which amateur radio got a bit of a hard time in its quest for additional satellite privileges. This is all rather fully reported in John Huntoon's editorial in October '71 Q. S. T., but in brief, this particular story, as related by Mr. Eaton, goes something like this:

"In Geneva, at the space convention, I met one of the delegates from Ghana and because at that time there were a lot of Canadians out there helping set up Ghana's TV network, I asked him if he'd met any of our amateurs. The exchange went something like this:

The Delegate: 'Oh yes, a great many of them. In fact, I issue the amateur licenses.'

Eaton: 'Well, what do you think of the amateur service? I notice that your voting record so far has not been very complimentary.'

The Delegate: 'Well, you know, I can't really support the amateur radio service because of the behavior of some individuals. One of them was a Canadian who deliberately used his radio for third party traffic. That is illegal in our country. He even used a kilowatt linear when we're limited to 150 watts. He showed no respect at all for our regulations. Frankly, I wasn't very happy about his performance.'

Eaton: 'Why didn't you lift his license?'

The Delegate: 'Well, he was out here at your Government's expense and you know, with all this free technical assistance I didn't feel I should start something by taking his license away.'

So there you see what happened. This Ghanaian delegate, unable to enforce (for perfectly valid pragmatic reasons) his own country's regulations, took out his displeasure against all amateurs, in effect, by his negative votes at the next space conference. I am sure he didn't think of it that way, but he clearly had formed, through that experience and others not unlike it, a most jaded opinion of the amateur radio service.

Lastly, let's suppose that we were all suddenly to become paragons of virtue, low power, polite operators, and abide by all our regulations or those of the country from which we're operating. There's still one other thing that can kill our image on the foreign scene. As I said earlier, in this avocation of amateur radio, when we speak, the whole world may well be listening. At the I. T. U. conference of 1959 the question of the 7 MHz frequencies came up and was vigorously debated. One of the delegates, obviously opposed to our retention of these frequencies, reached down in his briefcase, it is related, and pulled out a small tape recorder. He then played a reel of excerpts of what he suggested were typical ham conversations. He had bits

from VHF as well as 75, 40, 20 and so on. You can guess what he had - bad language, bad manners, CB space cadet nonsense and so on.

Having played these gems, he looked up at his adversaries in the debate and asked "Is this what you're trying to protect?"

I suppose the answer was an emphatic "Of course not - those may be genuine, but they're the exceptions, not the rule". Nonetheless, the damage the exceptions can do, and do do, must never be underestimated. Next September I shall celebrate my 25th anniversary as a licensed and constantly active amateur, and yet I still never cease to be amazed at hearing comments, weeks, months, and years later, on something or other I may have said on the air. And it's not that I'm a controversial figure either. I am sure you all have had the same experience. But my point here is that we never really realize just who, and how many may be listening, and may be operating their little pocket tape recorders - to be used to our potential detriment later.

In short, let's discourage "space cadet" tomfoolery on our voice sub-band allocations. I have a notion that if this sort of thing were accomplished, (not a pious hope, I trust) we would do much to enhance our image, both at home and abroad, and at the I. T. U.

Even allowing for the sins of commission I've already mentioned - things for which nearly all of us have been responsible from time to time - most of us feel, I'm sure, that as North Americans we are often unfairly characterized by the rest of the world, somewhat in the stereotype of the ugly, wealthy, (well, comparatively wealthy), arrogant slob who has no regard for any nation or culture other than his own.

Since most of us are, in reality, rather nice fellows, we tend to feel victimized somewhat in the manner of the woman who had moved fairly recently into a certain small town and soon discovered to her dismay that she had become the subject of some very unfair and unwarranted gossip. By a roundabout means this woman learned that one long-time woman resident had been overheard telling a friend: "I've never met Mrs. So-and-so" - referring to the newcomer - "but from all the things I've said about her, I'm sure I wouldn't like her".

I would hate to think anybody ever reached that sort of conclusion about me, but I think it's entirely possible, on the basis of conversations they have overheard - either my own conversations, or those of others who happen to live in this part of the world and speak English with more or less the same accent as my own.

But it isn't enough, in my opinion, for us merely to mend our ways by abandoning bad or sloppy habits. If we want a good reputation in the world, we must be willing to earn it. If we want to win friends through our on-air contacts, we must set out to do so deliberately.

To paraphrase the old song, we have to accentuate the positive as well as eliminate the negative.

"Operation Friendship" - if I may dub it that - can and should involve a great deal more than just watching our on-air language, minding our manners and trying to say more than the bare minimum needed to exchange signal reports.

Aren't there occasions when we could offer more assistance than we now offer - perhaps technical assistance, or some other kinds, to those we talk to overseas?

When was the last time any of us took the trouble to send along last year's callbook to somebody in another country who would dearly love to have such a reference, even if it is slightly out of date?

And what about our techniques in the art of speech itself? Aren't we guilty of indulging ourselves too often in the use of English? Do we forget too easily how common Spanish, French, German and Italian are on the international airwaves?

There is nothing more flattering than having a friendly stranger identify you by name, and the second most flattering thing that can happen to you is to have a person who speaks some other language take the trouble to address you in your native tongue.

It seems to me there's an object lesson in this for many of us, and it's really quite a simple one: However haltingly you might speak the other fellow's language, it always pays to try. Even the most feeble attempt at his language is better than no attempt at all. He may find it amusing, but more likely he'll find it flattering and will respond accordingly.

Technically and numerically, we English-speaking North Americans represent the greatest and most influential force in amateur radio anywhere in the world. However, like any other kind of force, it is one that can be used either wisely or foolishly. The choice we make individual by individual and day by day as we operate on the air can make an important difference between international understanding and international distrust, between friendship and enmity, and, perhaps, even between peace and war.

Given such an opportunity to be a force for good - an opportunity that is uniquely ours, we cannot, and must not, pass it up.

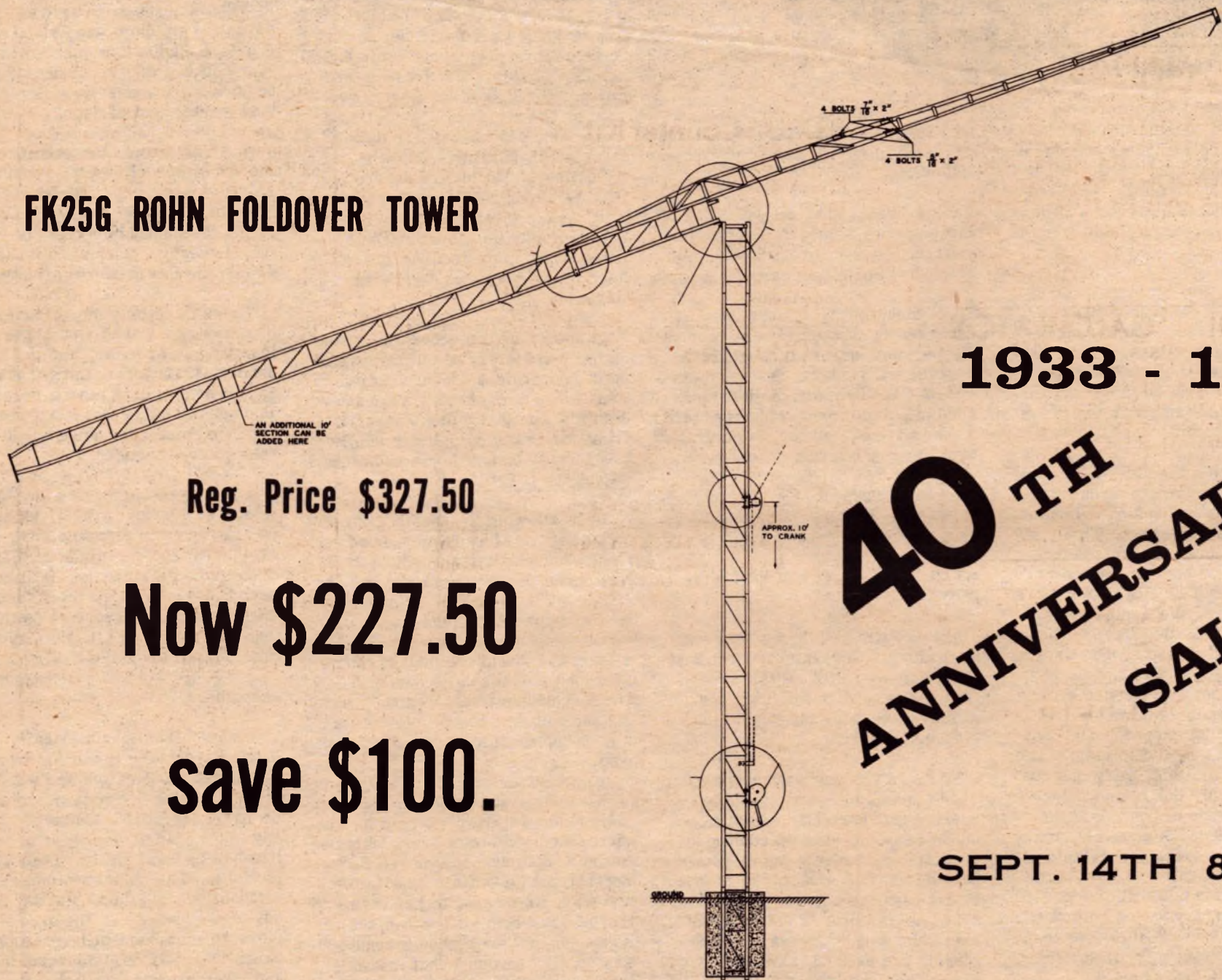


Help us celebrate our 40th anniversary!

YOU ARE WELCOME TO PARTICIPATE IN OUR OPEN HOUSE CELEBRATION.

DOOR PRIZES IN ALL DEPARTMENTS!
THE SWAN DISPLAY VAN WILL BE HERE!
PLUS MANY, MANY SALES LIKE THIS ROHN FOLDOVER.

FK25G ROHN FOLDOVER TOWER



Reg. Price \$327.50

Now \$227.50

save \$100.

1933 - 1973

40TH
ANNIVERSARY
SALE!!

SEPT. 14TH & 15TH

FACTORY REPS WILL BE ON HAND FROM MOST MAJOR BRANDS.



QUEMENT ELECTRONICS

1000 SO. BASCOM AVE.

SAN JOSE

HOURS: MON. thru SAT. 9 A.M. to 6 P.M.

Phone 998-5900



SPECIAL HOURS FOR THIS SALE
ARE 9:00AM TO 9:00PM

BOTH DAYS!

ALL MAIL ORDERS SHIPPED FOB SAN JOSE

CT5005 CALCULATOR

This calculator chip has a full four function memory, which is controlled by four keys, **+M** (adds entry into memory), **-M** (subtract entry from memory), **CM** (clear memory--without clearing rest of registers), **RM** (read memory or use as entry).



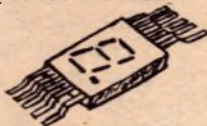
12 digit display and calc.
fixed decimal at 0,1,2,3,4, or 5
leading zero suppression
seven segment multiplexed output
true credit sign display
single 28 pin chip

Chip and data-----\$14.95
Data only (refundable)----- 1.00

MAN 3M

This low cost epoxy encapsulated LED is capable of displaying 10 digits, 9 distinct letters, and bears solid-state reliability, making it compatible with standard digital IC's. Its compact spacing (5 digits per inch), makes it ideal for pocket calculators

Each, only \$3.00
Ten or more 2.50



5001 CALCULATOR

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

Chip and data, only \$9.95
Data only (refundable) \$1.00

LED SPECIAL

FL100 .39 each
3.50 for ten
29.95 for 100

SOCKETS

Dual-In-Line 14 pin 40¢ each
16 pin 45¢ each



High quality, gold plated

DM8880 (Sperry DD700 202) 7 segment high voltage nixie driver, only \$1.75

MC1013 ECL 85mc ff \$1.00
MC1023 ECL driver 2.00
MC1039 ECL-TTL interface 2.00
8850,9601-one shot multivibrator 1.00

741 SPECIAL

fully compensated operational amplifier with data sheet and page of application notes covering the basic circuits for op-amps.



each \$.45
ten for 3.75

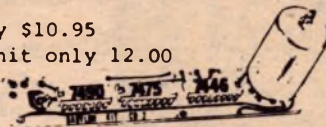
All IC's are new and fully tested leads are plated with gold or solder. Orders for \$5 or more will be shipped prepaid. Add 35¢ for handling and postage for smaller orders, residents in California add sales tax. IC orders are shipped within two workdays of receipt of order--kits are shipped within ten days of receipt of order. \$10.00 minimum on C.O.D.'s (phone in). (916) 9662111

Babylon Electronics
PO Box "J"
Carmichael, CA 95608

CD-2 Counter Kit

This kit provides a highly sophisticated display section module for clocks, counter or other numerical display needs. The unit is .8" wide and 4 3/8" long. A single 5 volt power source powers both the IC's and the display tube. It can attain typical count rates of up to 30 MHz and also has a lamp test, causing all seven segments to light. Kit includes a two sided (with plated through holes) fiberglass printed circuit board, a 7490, a 7475, a 7447, a DR2010 RCA Numitron display tube, complete instructions, and enough Molex pins for the IC's. NOTE, boards can be supplied in a single panel of up to ten digits (with all interconnects) therefore, when ordering please specify whether you want them in single panels or in one multiple digit board. Not specifying will result in shipping delay

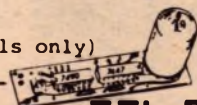
Complete kit, only \$10.95
Fully assembled unit only 12.00



CD-3 Counter Kit

Can be programmed to count to any modulus--2-9 for one kit, 2-99 for two kits, etc. Includes everything as in CD-2, two resistors, three diodes, but is without the 7475 quad-latch. Full instructions included---perfect for displaying seconds, minutes, hours, etc.

Complete kit, only \$9.95
(supplied in single panels only)



8000 series

Part Number	Description	Price
8200	4 bit comparator	\$1.60
8210	8 line to 1 line selector	1.40
8220	parity generator/checker	1.00
8223	256 bit programmable ROM	7.50
8230	8 input multiplexer	2.00
8233	2 input 4 bit multiplexer	1.75
8242	4 bit comparator	1.15
8251	BCD to decimal decoder	1.00
8261	fast carry extender	2.00
8266	2 input 4 bit multiplexer	1.50
8270	4 bit PI, SI, SO	2.00
8271	4 bit shift register	2.00
8274	10 bit PI, SO register	3.00
8280	45MC presetable decade counter	1.35
8281	45MC presetable binary counter	1.15
8290	presetable decade counter 75MC	3.50
8292	presetable decade counter 10MC	1.15
8520	25MC divide by "N" 2 to 15	2.00
8551	tri state quad latch	2.50
8570	8 bit SI, PO	3.00
8590	8 bit PI, SO	2.00
8275	quad bistable latch	.90

TTL DIP

LINEARS

NE531	op amp TO-5	\$2.00
NE560	phase lock loop DIP	3.25
NE561	phase lock loop DIP	3.25
NE565	phase lock loop TO-5	3.25
NE566	function generator TO-5	4.00
NE567	tone decoder TO-5	4.00
NE5556	op amp DIP	1.00
709	popular op amp DIP	.45
710	voltage comparator DIP	.50
711	dual comparator DIP	.40
723	precision voltage regulator DIP	1.00
747	dual 741 op amp DIP	1.00
748	op amp TO-5	1.00
LM100	positive DC regulator TO-5	1.00
LM302	op amp voltage follower TO-5	1.25
LM308	op amp TO-5	2.00
LM311	comparator TO-5	1.75
LM380	2W audio amp DIP	1.75
LM703	RF-IF amp epoxy TO-5	1.00
LM309H	5V-200ma power supply TO-5	1.00
LM309K	5V-1A power supply module TO-3	2.00

Silicon diodes (signal) only,
1 foot (60) diodes \$2.50

EPOXY TRANSISTORS

TO-5 and TO-18 mixed 1 ounce (40+)-----\$1.00

1 amp Silicon Rectifier
minimum 200 PIV many much higher, comes in unbranded epoxy case (fully tested)
15 for \$1.00

MOS by NATIONAL

Dynamic shift registers TO-5 only			
MM502	dual 50	BIT	\$1.25
MM506	dual 100	BIT	1.75
MM5006	dual 100	BIT	1.50
MM5013	1024	BIT	2.25
MM5016	512	BIT	1.50
Static shift registers			
MM504	dual 16	BIT	1.50
MM505	dual 32	BIT	1.75
MM550	dual differential analog switch		2.50

CMOS

CD4001	quad 2-input	\$.75
CD4002	quad 4-input	.75
CD4012	dual 4-input	.75
CD4023	triple 3-input	.75

DR2010 by RCA

A popular Numitron digital display tube. This incandescent five volt seven segment device provides .6" high numeral which can be seen at a distance of 30 feet. The tube has a standard nine pin base (solderable) and a left hand decimal point.

\$5.00 each
\$4.00 each for 5 or more



7400 series

Part Number	Price	Part Number	Price
7400	\$.35	74H53	.50
74H00	.50	7454	.35
7401	.35	74L54	.50
74H01	.50	74L55	.50
7403	.35	7460	.35
7404	.35	74L71	.30
74L04	.50	7472	.50
74H04	.50	74L72	.60
7405	.35	7473	.65
74H05	.50	74L73	.90
74H08	.50	7474	.65
7410	.35	74L74	.90
74L10	.50	74H74	.90
74H11	.60	7476	.70
7413	1.15	74L78	1.00
7420	.35	7480	.65
74L20	.50	7483	1.30
74H20	.50	7486	.80
74H22	.60	7489(8599)	3.50
7430	.35	7490	1.50
74L30	.50	7491	1.15
7440	.35	7492	1.15
74H40	.50	7493	1.15
7441	1.60	7495	1.25
7442	1.30	74L95	2.00
7446	1.75	74107	.70
7447	1.75	74121	1.60
7448	1.15	74123	2.00
7450	.35	74153	2.00
74H50	.50	74181	3.75
7451	.35	74192	2.50
74L51	.50	74193	1.50
74H51	.50	74195	1.10
7453	.35		

LED's

MV-50 red emitting 10-40ma @ 2V \$.39

MV5020 red LED .45



MV-10B Visible red 5-70ma @ 2V .45

3.5 amp 400V rectifier \$1.25

8 amp 400V SCR IR 122D 1.00

Precision resistors--high quality parts manufactured by Dale, Corning Pyro film, Etc. These are all brand new with full length leads.

82	5% Dale 6.5W WW	\$.15
18.2K	1%	.05
20.5K	1%	.05
22.5K	1%	.05
26.1K	1%	.05
36.1K	1%	.05
36.5K	1%	.05
40.2K	1%	.05
49.9K	.05%	.10

Don Wallace, W6AM

"Sixty Years of Enthusiasm"

by John Troster, W6ISQ

As Delivered at the Fresno International DX Convention



Don Wallace, W6AM, receiving award from John Troster, W6ISQ.

We have been considering an award of the type we will present tonight for some time. We're not quite sure what to call it, other than---very simply---The Joint Sometimes Annual Southern California DX Club and Northern California DX Club Award for Outstanding Amateur Activity Over So Many Years That Everybody Thinks He (or She) Should Get Some Sort of Award For Doing So Many Things For So Many Years Award.

The trouble was that the Northern and Southern California Clubs couldn't get together about the award---communications block---we wouldn't speak to each other.

However, during the first Mt. Athos thing, there were a couple of thousand very humble W6s sitting around feeling sorry for themselves...and since nobody could get the drop on anybody else...we decided to talk things over.

We in California feel that we are pretty well known throughout the DX World...and what we say and do does carry some weight in DX circles. We're modest fellas as

you all know. Anyway, we feel that in our position of prominence, we are surely entitled to stand up and cheer for someone we believe should be honored for doing something...and do so with a little weight. And just as certain as we feel senior enough and well-known enough to speak and be heard with authority, we also are just as certain that we have THE perfect candidate for the very first Sometimes Annual Award right here in our own membership.

Now the man we chose is a little shy and might feel a little reluctant to come forward...but with a little encouragement from you, maybe we can coax him to stand and be recognized and to hear why we honor him tonight.

Will the real Don C. Wallace, "W6 America Mexico" please stand.

Standing before you is a fella who has been a ham for over 60 years. Now everybody knows everything about W6AM in the 30 years since World War II...when he became the Baron of West Los Angeles and took over Palos Verdes Hills...how he went to the

top of DXCC... became a powerful contender in all contests...DX-peditions...DX, SS whatever... he was there...big single operator signal or multi-operator. But above all, Don did whatever he did with the ageless enthusiasm of a novice.

You already know about that 30 years...so let's talk about the FIRST 30 years...I say that glibly...how many of you here have had a ticket for 30 years?

Don was born in Minnesota of hardy stock. You know they had to be sturdy...Scotchmen in Scandahoovia??...but they moved to Long Beach when Don was very young.

He learned the code as many of you did at an early age by stringing wire around the neighborhood to the other kids' houses. He worked his way up to 5 wpm and in 1910, after signing a statement that he knew the code that fast, he went on the air legally as "WU". This was the "novice" program in those days.

After a little "on-the-air" experience, he got his code speed up to 12 wpm and in 1912 at age 14, he became "6OC".

During high school---besides being a four-letter man every year---Don got his code speed to 30-35 wpm...pencil copy. (Incidentally, I understand Don is an all-time member of the Long Beach High School Football Hall of Fame). After high school he went off to college in Minnesota and managed to complete his freshman year before he enlisted in the Navy at the outbreak of World War I.

Don had read that the Navy wanted radio operators who knew the code; so Don became a radioman and reported to what is now Treasure Island in San Francisco Bay. Within an hour after arrival, Don was put on a high speed spark circuit and manned that circuit for 8 months. What were you fellas doing an hour after you arrived at your first duty station?

On long night watches, Don and his buddy tried to out-send and receive one another for fun...and to keep awake. They would alternate sending and receiving as fast as they could go. As soon as one made a mistake, they would switch. In this manner, Don got his code speed to 49 wpm with a pencil, and into the mid-50s with a mill.

After Treasure Island, Don went to submarines. You wonder how come they put his 6-foot, 4-inch frame in a sub? (Sounds like the

service, doesn't it??) However, Don points out that all men in subs in those days had to be big and strong to turn the manually-operated wheels and controls which were not hydraulically controlled then. Don was the only man on the sub who had the ooomph to crank up the radio mast.

After 8 months in the sub, he was ashore one day, and met his old C. O. from Treasure Island. The C. O. told Don he was looking for some good radio operators to handle communications for the U. S. S. George Washington and wondered if Don would like to be the Chief-in-Charge. Turned out that ship was going to take President Wilson to the peace conference. Natch, Don would like the challenge.

So, still a teenager, Don took over the responsibility of the vital communications link between the President of the U. S. and Washington D. C. Don stayed on the ship during the entire time the President was at Versailles (the ship was in a French port, and a daily messenger brought the classified traffic to the ship for relay to Washington).

Don had the chance to pick his own operators too, and chose old Marconi men. He knew them to be very accurate both sending and receiving which they had to be to handle traffic then. They transmitted for an hour and then received for an hour, so there was no chance for the usual "fills". They had to be correct the first and only time. At that time, the George Washington had the most powerful spark transmitter afloat, which Don and his crew also maintained when they weren't on the air.

After the war, he returned to Minnesota to complete college. He obtained the call 9ZT-9XAX and in 1923---50 years ago---Don was awarded the Hoover Cup.

The May 1924 issue of QST headlines... "Wallace Wins 1923 Hoover Cup, 9ZT-9XAX. ARRL Board of Directors to honor the best all-around homemade amateur station for 1923 Department of Commerce Cup. (How many ham stations do you think would even be eligible for an award like that nowadays?) It is difficult to appreciate the amount of hard work and stick-to-it-iveness required to build and operate an amateur station." (Knowing Don, it is not that difficult to appreciate!)

Following was an article by Don describing his station. It began, "It is the near realization of a lifelong ambition (he was 25 years old at the time!)...namely to have a workable and useful amateur station." Don's rig was a 250 watt Radiotron in Hartley circuit... "mounted so air can blow through to circulate around the tube"... a 4000-volt plate transformer and electrolytic rectifiers--124 of them. He describes how to mix the rectifiers solution... "it was all mixed at one time in a tub and consists

of 10 gallons of Chippewa Battery water with 2 pounds of 20-Mule-Team Borax in it and a teaspoon of household water." Sounds like the "Personality Improvement Hour".

His receiver was 2 tubes, and his antenna was strung from an 85-foot wooded tower which he put up himself. Don was primarily a traffic man then (he was a relay station in good standing with ARRL), and during 1923 handled 2500 messages. However, he was chasing DX with that spark too and lists countries worked as KL7, ZL, VK, KH6, XE, HP, South America, KP4, Cuba, England, France... and also "WNP" which was a station aboard Commander (later Admiral) McMillan's ship, "Bowdin"... whose radio operator was a young fella named Don Mix, later to become WITS of the ARRL Technical Staff.

In 1926 the QST Station Activities says "old 9ZT is now 6AM and is on the air with a couple of "watt-burners"... Don's first traffic report was "6AM-1". And along about this time too, Don wrote and published one of the first Amateur Radio Handbooks.

Let's follow Don's activities in QST for a few years....

April 1927 - "6AM has a new water cooled watt-burner..."

May 1927 - "6AM gets only 4 European cards in one day."

June 1927 - "6AM succeeds in working 8 countries on each of two Saturday nights."

July 1927 - 6AM made SCM of Los Angeles... held the position until January 1930.

November 1927 - "6AM has received his WAS certificate; the only station having held that certificate in two different districts."

January 1928 - "6AM worked 10 countries in one week."

February 1929 - W6AM is on 29 mc on Sundays and holidays.

August 1929 - "6AM reports the tuned doublet receiving system works better than ordinary antennas."

December 1929 - "6AM reports a water-cooled tube and a 6-phase rectifier" (!).

April 1930 - W6AM made BPL.

June 1930 - W6AM reports receiving certificate for SS.

August 1930 - W6AM has 2 90-foot telephone poles. Also places third in International Relay Competition.

April 1931 - a photo in QST of W6AM's 1 KW water-cooled tube and his receiver which has 6 tuned RF stages!

February 1932 - "W6AM claims 3 countries answered one 7 mc CQ and Don worked all three at the same time." I'll bet some of you

here thought Don Miller started that.

April 1932 - QST reports on the '31 Transcon Relays... W6AM second place in relaying on 1750 kc. Originates message going to East Coast and receives reply in 2 hours 47 minutes via 10 relays across the country. Third place on 3.5 mc.

December 1934 - "6AM has new 167-foot tower."

November 1937 - A QST article by W6AM entitled "Making the Most of Directive Antennas... Practical Pointers on Operating a Number of Antennas in Limited Space"... then Don describes how he hung FIVE 14 mc Sterba curtains off one 90-foot pole! Sounds like "limited" space to Don is about 2 sections to anybody else.

During all this time before the Big One (World War II for the youth in the audience), Don was almost always in the contests... DX, Sweepstakes, 160... if it was there he was there... He won some and lost some, but he was always near the top, and the competition was just as tough then as now... the reason being that some of the best present competition was competing with Don back then... Rodney Johnson, W6MUR, Joseph Horvath, W6GPB; Cameron Pierce, W6HJT/K6RU; Victor Clark, W6KFC/W4KFC; W6YX (with Mike Villard, W6QYT at mike); Reginald Tibbetts, W6ITH; Raymond Rinaudo, W6KEV/W6ZO; and from Hawaii there was a young fella, Katashi Nose, K6-CGK, who just happens to be in the audience tonight... except you will know his present call a little better... KH6IJ.

What we have been saying Don, is that for the last 60-plus years you have done everything a ham can do... you've been a leader in everything you've done... and you've stuck with it... enthusiastically.

A quote from a note Don wrote to the Northern California DX Club paper, the DXer, which was just published, I think says it all about him and his joy of just being a ham and playing with a radio... "Anytime any of you are out of the USA and work a W6, please have the W6 phone W6AM collect. W6AM will be delighted to QSO you. This system has worked fine, as W6AM has worked his son, Don, Jr., from all over the world in this manner. If you miss, please try another day."

One thing that paragraph says is that Don is retired. It also says that Don is happiest now - as he has been for over 60 years - when he is at the rig in contact with somebody... right now, preferably on 20 meter CW over his 1 KW mobile rig as he is peeling down the L. A. freeways.

Don, we are honored to honor you for 60 years of leadership... and inspiration... and enthusiasm.

you are invited

If you're not yet a subscriber this was a sample copy. If you like it please see page 27.

MARCO



Dr. Earl Weston, W8BXO, (left), presents certificate to Dr. John A. Schindler, W4RFA.

Four certificates of merit were awarded to outstanding members of the Medical Amateur Radio Council at its Seventh Annual Meeting in the Hotel Plaza in New York City. Two of the recipients are from foreign countries and two from the United States. The awards recognize services given by the recipients through both medicine and amateur radio.

Polycarp K. Gabegbeku, M.D., EL2CI, of Monrovia, Liberia, received his award in recognition of the services he rendered to the people of his country. During an epidemic of Lassa fever in Zorzor, Monrovia, in March 1972, Dr. Gabegbeku was able to establish rapid radio communication between Zorzor and the Center for Contagious Disease Control in Atlanta, Georgia. As a result of their rapid assistance, diagnosis of the disease was made and immediate treatment instituted. Because of his action many lives were saved, and the spread of the fever prevented.

John A. Schindler, M.D., W4RFA, a retired Urologist living in Kendall, Florida, was honored for the services he has rendered to the Medical Amateur Radio Council by adhering to the highest ethical practices of the physician and amateur radio operator, and setting an "on the air" standard of courtesy, consideration and helpfulness. Dr. Schindler has made many contacts with persons in foreign countries for whom medical aid and assistance has been requested. He has gone out of his way to obtain drugs, equipment, and information for many overseas operators in medical emergencies.

Sigurd Meng, M.D., DL2HI, of Munchen, West Germany, was awarded a certificate in recognition of the services he rendered to Medical Amateur Radio Council by faithful and continuing CW (Morse Code) contact with MARCO members in the United States, and by communicating informative data on the medical and amateur activities of his country. Dr. Meng, who has been an active amateur radio operator for many years, has been instrumental in helping bring about the organization of some of the 600 German physicians who are also amateur radio operators. His group, like those in the United States, has been active in rendering medical assistance via the airways to the under-developed countries of Africa.

Walter H. Thain, M.T., W4KKB, a noted Cytotechnologist of Miami Court, Florida, will be cited in recognition of services rendered to MARCO as a Liaison Officer handling medical traffic with a high degree of proficiency. Mr. Thain, like Dr. Schindler, has been extremely active in relaying messages and requests for medical assistance particularly from the South American area.

Drs. Schindler and Gabegbeku, and Mr. Thain were present in person at the Medical Amateur Radio Council Meeting to receive their awards. Dr. Meng's award was accepted by Thomas R. Shroupe, M.D., W8TXG, President-elect of MARCO, and will be forwarded to him.

The citations on the awards were read and the awards presented by Dr. Earl E. Weston, M.D., W8BXO, of Birmingham, Michigan, who is the Chairman of the Awards Committee.



Worldradio
Amateur Radio's
JOURNALISM

WILSON ELECTRONICS

We Have It!
the **NEW FT 101 B**



YAESU

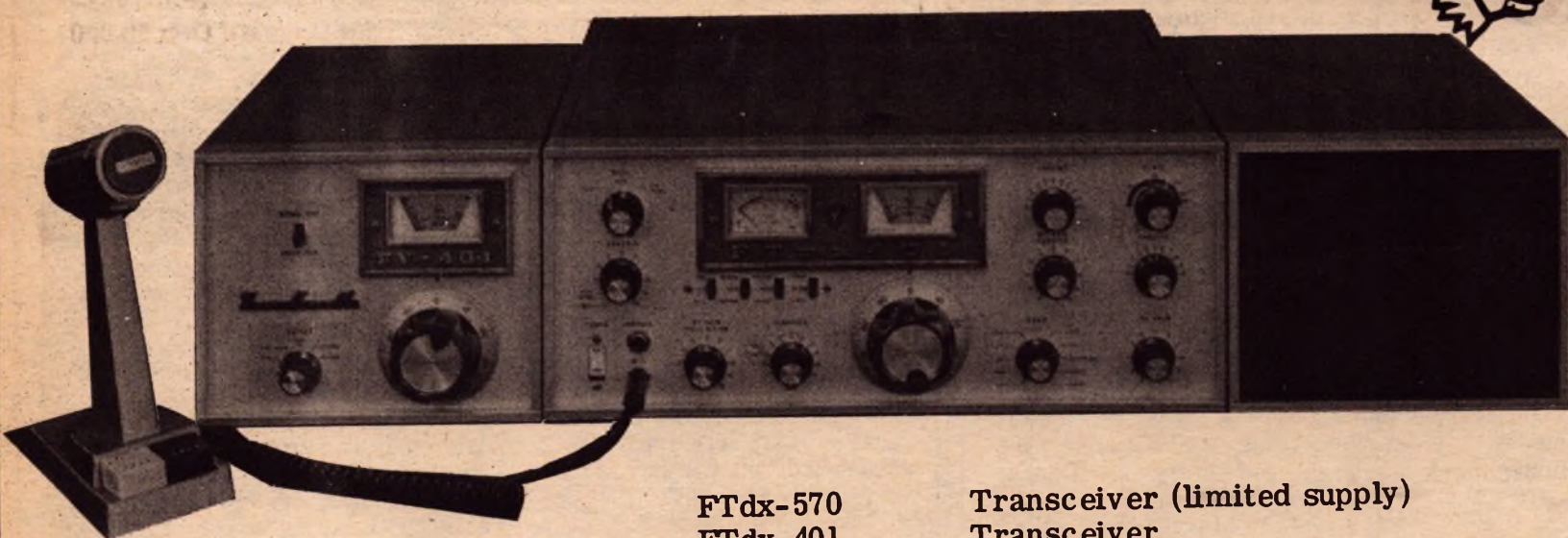
- Most items always in stock.
- Factory quality service.
- Yaesu trained Japanese service technician (from Nagoya).

WILSON

P.O. Box 116 - Pittman, NV 89044



NEW FT 101-B
\$699... includes
Fan, 160 xtal,
new clarifier
indicator light.



All Yaesu FT-101-B and FTDX-400 orders shipped prepaid UPS. One day UPS service to Calif... **NO SALES TAX** (except Nevada residents).

**TRADE - INS
accepted**

Master Charge

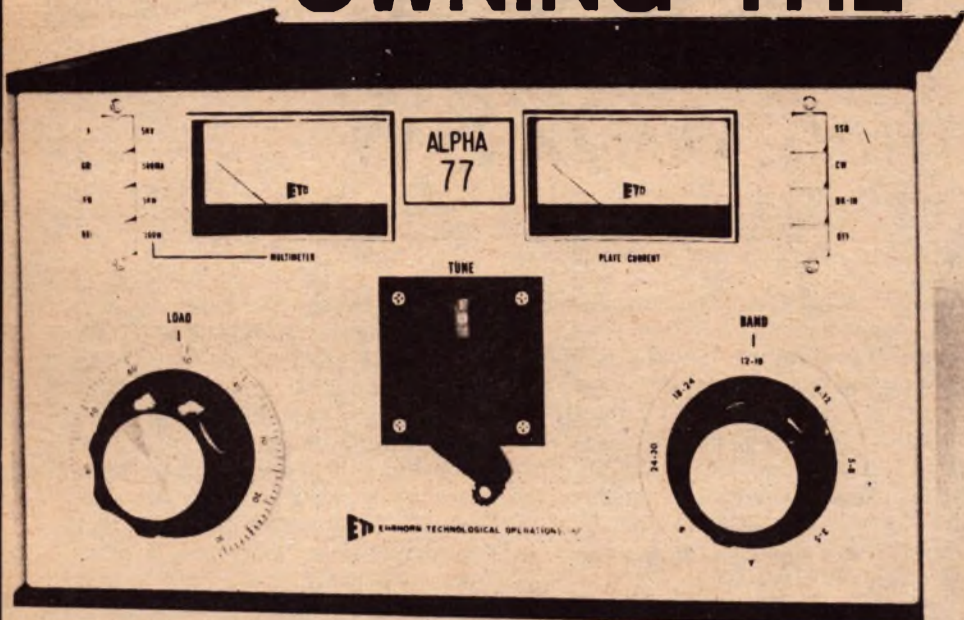
call
(702) 451-5791

FTdx-570
FTdx-401
FLdx-400
FRdx-400 SD
FRdx-400 D
FL-2000B
FL-2100
FT-2 Auto
FT-2FB
YC-355D
FTV-650
FV-101
SP-101P
SP-101
FV-401
SP-401P
SP-401
YD-844
XF-3C/30C
FA-9
MMB-1
MIR-1

Transceiver (limited supply) 549.00
Transceiver 599.00
Transmitter 339.00
Receiver 6 and 2 meter included 399.00
Receiver 299.00
Linear Amp with tubes 339.00
Linear Amp with tubes 339.00
Auto-Scan 2 meter transceiver 379.00
2 Meter mobile transceiver 239.00
Digital Counter 289.00
Transverter 149.00
External VFO 99.00
Speaker/patch 59.00
Speaker 19.00
External VFO 99.00
Speaker/patch 59.00
Speaker 19.00
Dynamic microphone 29.00
C. W. filter 40.00
Fan 19.00
Mobile bracket 9.00
Modification kit for FT101 40.00

WILSON

FOR THE MAN WHO ENJOYS OWNING THE VERY FINEST...



THE NO-COMPROMISE ALPHA 77 MAXIMUM LEGAL POWER LINEAR AMPLIFIER

- LOAFS AT CONTINUOUS MAXIMUM LEGAL POWER IN ANY MODE
- DRIVES EASILY WITH ANY POPULAR EXCITER OR TRANSCEIVER
- KEEPS YOUR SIGNAL CLEAN, CRISP, AND OUTSTANDING
- CHANGES BANDS FAST - WITHOUT 'CUT-AND-TRY' TUNE-UP
- STAYS COOL AND WHISPER-QUIET UNDER THE HARDEST USE
- CARRIES THE INDUSTRY'S MOST EXTENSIVE WARRANTY, BACKED BY ETO'S RENOWNED FAST FACTORY SERVICE

••• NOW FACTORY-DIRECT - JUST \$1495 COMPLETE! •••

Why not move up to THE ULTIMATE? Call or write for the thoroughly illustrated ALPHA 77 brochure, answers to your questions, or an outstanding trade on your old gear.



EHRHORN TECHNOLOGICAL OPERATIONS, INC.
BROOKSVILLE, FLORIDA 33512
(904) 596-3711

FOR THE MAN WHO ENJOYS OWNING THE VERY FINEST...

JUST OFF THE PRESS



NEW 1973 VINTAGE RADIO

Enthusiastic readers bought out our first edition. Now you can send for the fascinating new edition of this pictorial history of wireless and radio, 1887-1929. It's the collector's bible, with 263 pages and over 1,000 illustrations. Available in handbook or deluxe hard cover.

McMAHON'S 1921-1932 GUIDE

Be an instant expert. Lists 9,000 radio models by maker and year introduced, with original price, description and circuit type. A must for every radio buff or antique collector.



ORDER NOW! Send check to
McMahon's Vintage Radio, Box 2045,
Palos Verdes Peninsula, Calif., 90274
Vintage Radio, handbook \$4.95
Vintage Radio, hard cover 6.95
McMahon's 1921-32 Radio Guide 3.95
California residents add 6% State Sales Tax.

Name _____
Street _____
City _____ State _____ Zip _____

TEN DAY MONEY-BACK GUARANTEE

NOW AVAILABLE !

VINTAGE RADIO is the standard reference for the fast-growing legions of wireless and radio collectors, and for historians. Now three great books are available:

- A new edition of the 1887-1929 Vintage Radio handbook, with even more information than the previous printing. Good for carrying with you while hunting for that next new discovery.
- Deluxe hard-cover edition of the same book. Library quality for your bookshelf. Ideal as gifts to your collector, antique-hound and historian friends.
- Radio Collector's Guide, listing details on most of the radio receivers manufactured from 1921 through 1932. Ideal companion to the Vintage Radio books.

Vintage Radio is a pictorial history of wireless and radio. It has photos of over 1,000 transmitters, receivers and component parts, as well as interesting old ads, photos and the story of the growth of wireless and radio. The Radio Collector's Guide lists over 50,000 facts about manufacturer, year introduced, original price, cabinet, appearance and technical details.

You can order these books individually, or order all three at the special combined price of \$14.95. We pay the postage. Order COD if you prefer.

USE ONE COUPON --
GIVE THE OTHER TO A FRIEND

NOW AVAILABLE !

WANT TO MEET

SOME OLD-TIMERS ?

Send for Vintage Radio, the 1887-1929 pictorial history of wireless and radio. 263 pages, 1000 photos.

Collectors: McMahon's 1921-1932 Radio Guide is a must! Over 50,000 facts.



ORDER NOW! Send check to
McMahon's Vintage Radio, Box 2045,
Palos Verdes Peninsula, Calif., 90274

Vintage Radio, handbook \$4.95
Vintage Radio, hard cover 6.95
McMahon's 1921-32 Radio Guide 3.95

Postage Paid. California residents add 6% sales tax.

Name _____
Street _____
City _____ State _____ Zip _____

TEN DAY GUARANTEE !

A Man For Others

The Story Of Ned Carman, WØZSW

by Sister Alverna, WAØSGJ

Ever since Ned's death on June 1, 1972, we've been anxious to share his story with Worldradio readers. Founder of the Handi-Ham System of Minnesota and an amateur radio operator with over thirty years of active service, he was widely known and respected.

rage. Crystal radios... the old-fashioned kind with a 'cat whisker'; gleaming, homebuilt, space-wound copper coils, the mysterious ditdahs vibrating from an ear-phone set; what a fascinating marvel for the visiting 14-year-olds." Those visitors were Jack Miller, Ott's

circulating records, Ned contributed a good number. We do not know for certain whether the reading and music appreciation were helped in the CCC camp; it is quite possible. We can be quite sure, though, that it did, like many other experiences of the 30's, impress him with the fact that hard work is essential for survival, to say nothing of progress.

His stint in the CCC camp over, Ned spent several months working as a civilian in the communications center of Fort Snelling, where he transcribed and typed code messages. He was 21 when he returned to his home community. Then, as now, the clinic and hospital town of Rochester was a center for the youth of the surrounding area seeking employment; so, in 1939, the Kahler Hospital hired a strapping young orderly. Ned Carman probably saw acute illness and disability for the first time in his young life.

Mr. and Mrs.

The Kahler experience had a much more profound impact. Ned met Erdene Ebenoh, a student nurse, and soon found himself enjoying her company more each day; life suddenly became more wonderful than ever before; Rochester was a glorious city indeed. A new job was a must, so Ned soon took a milk route for the Marigold Dairy. He continued to give this service for twelve years, gaining a familiarity with Rochester's streets and their seasonal charms and perils. Erdene and Ned were married on August 16, 1940.

Erdene and Ned and Anne and Joe

Erdene Carman chuckles as she recalls that whenever Ned decided

to do something, "he really went at it with hammer and tongs." You can chuckle, Erdene, but you are, in a way, describing yourself. Erdene believed passionately in being a full-time mother, Anne and Joe had a home in every sense of the word. They were warp and woof of Erdene's days, and in Ned they had a conscientious, generous father. Pets were loved and cared for, gardens and grounds tended and enjoyed, books and music were daily fare.

Joe's friends were invited, on summer nights, to learn the feel of overnight camping - tent and all - on the edges of the Carman grounds. Ned made night and early morning check visits to the boys' tent to keep his peace of mind; this was somewhat amusing to Erdene who was considered the worrying parent. Hermann, the dachshund, once joined the campers. Joe soon discovered that sharing a sleeping bag with Hermann was impractical, so the boys fixed a warm nest close to them. An indignant Anne was awakened at 2 a. m. by Hermann, who had decided that, after all, home was home. Then at the crack of dawn, he had to be let out as usual, but instead of returning, he rejoined the campers, who refused to believe they had been deserted in the still of the night by man's best friend.

"Then there was the old boat Ned bought... really a dilapidated old thing," Erdene mused. "But we had so much fun, I don't think we ever had so much fun as with that horrible old boat. And the work! It was really a do-it-yourself cabin cruiser when we got it all fixed up... cooking and sleeping accommodations and all. In 1952 we were planning a river cruise vacation; about three days before the vacation was



How then, when we come to put together his life's story, does the information from each source prove scanty of personal details? It now seems that this apostle of communication, this bubbling, gracious outgoing friend had simply never talked much about himself. Ned was a doer, not a say-er, explains Helene Torbenson, WB9GPG. That is why this story will have to be the aggregate memories of each of our motley crew of Ned-lovers: relatives, friends, retirees, teenagers, clergy, nuns, doctors, lawyers, paraplegics, spastics, blind, lame, bed-ridden... all are going to tell this story. Please read, friends, for we tell of a man the like of whom we'll never meet again.

In the FLYER for February 1971, Ned was editorializing on this friend, Ott Miller, WØEQO: "Imagine a slim high-schooler, with crutches and leg braces, stumping his laborious way out to a room of the family ga-

younger brother, and Ned Carman. It was not long after that that Ned acquired his first license, W9ZSW.

Young Ned Carman

William Carman, a businessman, of Zumbrota, admired the self-made man. He constantly pointed out to his sons the self-reliance of these men and their practical contributions to the community. Perhaps that is why when Ned finished high school, he joined the Civilian Conservation Corps. In the 30's options were meager, but youth was youth, and that is always good. Good foundations must have been laid in that Zumbrota school, for Ned was an avid reader all his life, following first one interest, then another. His writing was free, fluent and vigorous. He loved music and over the years collected a large number of excellent recordings of classical and folk music. When the Rochester Public Library began



Ann Carman (daughter), Joe Carman (son), Erdene Carman (wife), Ned Carman, Grandpa.



Mary Amdahl, WAØYWA; Jerry Elfstrand, WBØ-FMI; XYL; and Jean Fingarson, WØIRJ.

to start, Rochester had one of its worse summer storms with a flood that ruined so many Rochester homes and damaged ours badly . . . our basement walls were partly demolished, and fixing them had to be our vacation project."

Ned was a grateful father when Anne followed her mother's footsteps and became a nurse. He was happy to have Joe go to college, for he had realized how his own lack of schooling had been a disadvantage, his father's philosophy notwithstanding. When, in 1970, Joe, as a senior, elected to move to Canada, Ned was puzzled and heartsick. That a serene, protected childhood, an education so gladly provided, could have led Joe and his friends to their convictions was painful indeed to parents schooled in the 30s and 40s. Some of us haven't seen Joe since that time, but we remember his quietly spoken admiration of his father's work with the Handi-Hams.

New Job, Will Travel

In 1952 Ned left his milk truck to become a member of the business office staff of the Mayo Clinic. Now instead of selling and delivering he was collecting accounts; his territory covered Minnesota and adjoining states. No doubt it was in these travels that Ned met and heard of handicapped people who had returned to their homes. The loving ingenuity of the families in making the homes pleasant and interesting thrilled him; he was anxious to help in any way he could to break the isolation, ease the frustration. Books and records helped. Of course he was thrilled to find some handicapped persons were amateur radio operators. Ned had been more or less active in ham radio throughout the years. Here was a key to a new world for his friends. Here's a gem in a letter from an old friend:

"Ned dropped in to see me back in 1956 and mentioned he was working with a couple of handicapped people so they could get their tickets. We discussed the problems of those unable to get examination questions answered in writing. That was the beginning of a dream which had no name but eventually became the Handi-Ham System. A one-man dream that grew into a wonderful organization that will live on and

on. 73, Bill Bazil, WØCID"

Hams to the Rescue

A friend, Jim, writes to recall the Charles City tornado: "The wreckers and truckers were handicapped because of the lack of opportunity to communicate and organize. Ned was there with a mobile rig to help with the messages, but his communication skills were needed more with the crew. Soon the clearing job was progressing well. That day, Ned was a man's man among men."

Jean Carlson, KØZRD, recalled that in 1965, when the broken levee the the Mississippi flood made Wabasha an island, Ned left his job to give three days of service with his rig to helping in the area.



Ned, Hermann (the dachshund) and friend at his home.

Part One of Four Parts (Continued Next Month)

a note from the editor

Good and bad news.

First the bad news. We apologize for missing the August issue. Such makes us unhappier than you. It inconveniences you (and we are truly sorry), and to us it is a knife stuck into our professional journalistic pride. There were several reasons for the lost issue. We had mentioned that for greater efficiency we were computerizing our mailing list. When we mentioned that to some at the Fresno International DX Convention they said "watch out". Lifetime subscriber Joe Buswell, WA5-TRS, wrote in to say "hope you can get control of the computer rather than it getting control of you". And you read in QST about the difficulties that the League had with their changeover. They had a picnic compared to us. We had a disaster.

Strangely enough, this seems to be rather common. Those who read the excellent "World" Magazine of Norman Cousins may have read of the anguish they went through. And the business magazines have told of companies that just went out of business due to the awry computers.

In "The Peter Prescription" by Dr. Laurence J. Peter, author of "The Peter Principle", he quotes M. Meacham as saying "Computers are fantastic: in a few minutes they can make a mistake so great that it would take many men many months to equal it."

We had many days and nights of proofreading the print-outs, making corrections, sending the corrections back, proofreading the corrections, sending those back, etc. On the print-outs you make the corrections with a red pen. Some pages looked like someone had bled all over them. The time spent on the print-outs and with the computer people blew a gaping hole in our production schedule.

A separate firm now does the actual applying of the labels to the papers and then takes them to the post office. When we started (two years ago) we could take them all to the post office in a station wagon. Then the trip was made with the station wagon and Al Maston, W6-JYQ, would go along with us with his camper full of papers. Then we were having to rent a truck. Now the mailing company uses their big van.

We were talking to the mailing firm about the computer situation and they told us that was quite common and showed us a list prepared by the biggest computer firm in the country. On that list Seattle was shown being in California, Boise was in Oregon and so on.

However, our situation finally seems to be under control and this should now save us quite a bit of time. It was fun to have a garage full of local hams sticking labels on, but it was taking several days. This issue was printed on September 6 and mailed shortly after. You will notice some of the date lines on the news stories being quite close to

the time you receive the paper. This is our goal - to get the news to you quickly.

To some of the good news. We have two new lifetime subscribers. Herb Lion, W6OWL, who produces good raisins in the Fresno, California area, and the well-known Jack Daugherty, who kept the bands hopping from Singapore as 9VIQJ; Jack recently returned to the States and is in Virginia.

Also, we have been flooded with subscriptions lately. There has been a deluge of ham stores wanting to sell the paper in their stores. Advertisers have been writing letters about the good results they have been having and several new advertisers have come into the paper. Others have written in to say they will be with us in a month or two.

The revenues mean we will be able to put out a better paper for you. Having a few extra bucks is enabling us to do some things we have wanted to do for some time. First, we are adding to the staff. Joining us is one of the best graphic designers in Northern California.

Coming aboard is Hal Hammond. Up to now I have been designing the layout. With Hal taking over as Art Director this will free me to concentrate more on the actual content of the publication. We have some terrific articles lined up for the next issue and now I'll have more time to consult with authors and get more articles. Also, the stacks of letters will get answered. We'll get off answers to Lou Huber, W7UU, Dave Middleton, W7ZC, and everybody else yet. It has just been murder around here, sorry.

I think you will be very pleased with the appearance of the paper Hal creates for you. He has been like many of us, at one time, wanting to get a ham license for years. We hope that we will be able to finally give him the push. Time has been his bugaboo. He is very much in demand as a free-lance designer and has been putting in more working time than anyone should.

We have also been discussing with other hams the possibility of joining the staff. There is one particular amateur in Ohio who we dearly hope will come out. For a retired person who wants to feel useful (and needed) we offer the satisfaction of being involved in something "that counts", plus a few dollars.

The nice letters from so many amateurs have been truly inspiring. We wish we had the time to individually answer each one, but time is the one thing in very short supply here. Please accept this blanket thanks aimed at W6OAW, W6YO, W4AFM, and so many, many others.

For us it is a very exciting, and rushed, time putting out your paper. We hope the next issue will be better than this one, the one after that even better (part of that depends on your sending in material) and that we come out on time more often.

Cordially,

Armond, WB6AUH

BB-0 LOGIC BREADBOARD DEMONSTRATOR KIT

- PERFORMS SAME FUNCTION AS UNITS SELLING FOR OVER \$70.00
- FULL SIZE IS 6" x 6" x 2"
- SEPARATE +5 VOLT POWER SUPPLY AVAILABLE
- BREADBOARD CAN BE ORDERED SEPARATELY FOR REPACKAGING OF PROJECTS
- NO SPECIAL TOOLS REQUIRED



BB-1 ILLUSTRATED WITH 6 VOLT BATTERY
(NOT-SUPPLIED)

BB-0 FEATURES

- MANUAL INCLUDED FREE
- EASY BREADBOARDING WITH AVAILABLE TOOLS. ONLY SOLDERING IRON AND WIRE STRIPPERS REQUIRED.
- SWITCHES, LAMPS AND LAMP DRIVER TTL 7416 ARE MOUNTED
- BOARD IS PREMOUNTED TO CONTROL PANEL
- ACCOMMODATES UP TO 16 24 PIN IC'S
- MAY BE USED WITH ANY +5V ± 10% POWER SUPPLY OR 6 VOLT LANTERN BATTERY
- EACH KIT INCLUDES:
BREADBOARD/PANEL
4 SWITCHES
4 LAMPS WITH DRIVER 7416
WIRE/SOLDER
ONE EACH - INTEGRATED CIRCUIT
7400-NAND GATE
7404-INVERTER
7402-NOR GATE
7408-AND GATE
7432-OR GATE

50 I.C. STARTER KIT

TYPE		QUANTITY
7400	QUAD 2-IN NAND GATE	10
7402	QUAD 2-IN NOR GATE	10
7403	QUAD 2-IN NAND O.C.	4
7404	HEX INVERTER	10
7405	HEX INVERTER O.C.	2
7410	TRIPLE, 3-IN NAND	3
7430	8 INPUT NAND GATE	3
7438	4-2 NAND DRIVER O.C.	2
7473	DUAL J-K MS FLIP-FLOP	4
7493	4 BIT BINARY COUNTER	2
		50

P1100	LOGIC SCHEMATIC 80000005	1
P1101-1	LOGIC REFERENCE CHART	1

A \$19.50 UTI LIST VALUE ONLY \$18.00
WHEN ORDERED WITH BB-0 or BB-1 KITS

SPECIAL OFFER:

BB-0 IS ONLY \$9.00
WHEN ORDERED WITH A
ONE YEAR SUBSCRIPTION TO
LOGIC NEWSLETTER **SAMPLE COPY \$1.00**

PRICES

BB-0 Complete with Manual	\$ 10.00
BB-1 Manual Only	\$ 1.00
BB-0 Breadboard Printed Circuit Only (6" x 6" PCB) Pt. No. 80000023	\$ 5.00
IC-1 Starter Kit	\$ 18.00

TL-1 TOOL KIT

- Soldering Handle Element and Micro Tip
- Solder
- No. 26 Gauge Wire (10 Colors)
- Wire Stripper

UTI SPECIAL VALUE \$ 9.50

BB-0 KIT W/MANUAL	001010-0	\$2.
BB-0 MANUAL ONLY	000001-0	\$2.
BB-0 PCB-ONLY	000101-0	\$2.
IC-1 STARTER KIT	010010-0	\$2.

1933 - 1973

40TH ANNIVERSARY SALE!!

DOOR PRIZES GALORE!!

DON'T MISS THIS
SPECIAL EVENT!!

SEPT. 14TH & 15TH



QUEMENT ELECTRONICS

1000 SO. BASCOM AVE.

SAN JOSE

HOURS: MON. thru SAT. 9 A.M. to 6 P.M.

Phone 998-5900



HAMS- WEAR YOUR COLORS



Package yourself in a T-shirt with a Bar S (Trademark; Cudahy Foods Co., Phoenix, Ariz.) label. A real eye-opener at club meetings, outings, or just hamming it up. Red, gold, and black label screen printed on medium weight white shirt. Specify S, M, L, or XL size.

Postpaid \$3.25

Terms: Check or MO with order. Ariz. residents add sales tax.

Alkan Products Box 3494 Papago Station • Scottsdale, Arizona 85257

HIGHEST CASH PRICES
PAID FOR YOUR SURPLUS
SEMICONDUCTORS AND
ELECTRON TUBES.

H and L Associates
Elizabethport Industrial Park
Elizabeth, New Jersey 07206
(201) 351-4200

KWM2 OWNERS - Your receiving can be vastly improved, simply, easily, in one hour. Send \$9.95 for everything or write for info. Drake TR-4 owners, the same applies but for \$6.95. Have couple of KWM2s, they will outperform a new set, but can be bought for \$600. Less/PS.

Electronic Research
Box 105
Kearney, Nebraska 68447
308/234-3370 Nites

"I Can Hear My Mother"



(Ft. Lauderdale News Staff Photo by Ursula Seemann)

Costa Rica Girl Gets Life Chance

John McNamara, WB4SFG, first heard about the young lady, Llanet (pronounced Janet) Murillo-Blanco, when he read about her in the August 15th edition of the Fort Lauderdale News. 16-year-old Llanet was born in Muelles de San Carlos, Costa Rica (a little village 100 miles from San Jose), and has a hole in her heart and a lung abnormality which must be corrected surgically if she is to live.

Her case was noticed by Dr. Gary Gieseke, a Fort Lauderdale neurosurgeon who was visiting a friend in Costa Rica. He put his ear to Llanet's chest after seeing her blue lips and fingertips and realized the seriousness of her condition. When he returned to Fort Lauderdale, he told his colleagues about Llanet and they and Holy Cross Hospital decided to pay her medical bill to correct the defects (probably more than \$15,000). An anonymous benefactor loaned a Lear Jet to transport the patient from Costa Rica to the U.S.

After reading the newspaper article, John McNamara, WB4SFG, called the hospital to see if he could help Llanet with her communication to Costa Rica via Amateur Radio. John got the name of Llanet's home town in Costa Rica and discovered that there is only one telephone in Muelles de San Carlos and it belongs to Eladio Gonzalez. He also found out that there were no amateur radio operators in the village.

So... a job for IMRA. It seemed like an impossible dream, but IMRA members are old hands at making "impossibilities into realities". Members scattered in all directions looking for a Costa Rican station that might be willing to help and take an interest. It was going to take a lot of "leg-work" on the Costa Rican end - a) to get the phone number; b) to call the owner of the phone; c) to set up a time compatible with the patient's hospital tests and radio skip; and d) to get the parents to the telephone for the schedule. Would you believe... in just one day everything fell into place.

Tobel de Cosiol, TI2JCC, San Jose, Costa Rica, worked out all the problems in Costa Rica like magic. She made arrangements with Eladio Gonzales in Muelles de San Carlos to have Llanet's parents at his home at the prescribed time-1800 GMT Monday, August 20. This was no easy trick and took a lot of long-distance calls which were absorbed by Tobel.

Meanwhile, the doctors in Fort Lauderdale decided to move Llanet to Miami's Jackson Heights Memorial Hospital where they are equipped for open-heart surgery and arrangements had to be made with the new hospital for the pending phone-patch. Everyone co-operated magnificently... even Hurricane Brenda kept her distance.

While Llanet was at Holy Cross Hospital in Fort Lauderdale, she met Ted Champagne, WB4FLW, who is also an IMRA member. Ted is an orderly at Holy Cross and he helped put Llanet at ease because he too is young and speaks Spanish. And when Ted came up with a gift which he made for her... a life-size Teddy bear, he really made a hit with the little lady from Costa Rica.

Then on Monday, August 20, all concerned parties started congregating on 14, 280 kHz. Tobel, TI2JCC, placed the call from San Jose to San Carlos at the same time that John, WB4SFG, placed the call from Fort Lauderdale to Miami. It was a double long-haul phone-patch in a foreign language. Bi-lingual amateurs were standing by at each end to help if they were needed. They were!

At first there was some confusion. The language barrier had to be cleared and radio procedures had to be explained to Llanet and her parents who caught on very quickly even though they were unfamiliar with the telephone. Llanet said in Spanish: "I can't hear very well and everyone is talking in English." Then suddenly her face crinkled into an ear-to-ear grin and she said, "That's my mother's voice! I can hear my mother."



John McNamara, WB4SFG

The patch lasted about ten minutes and consisted of the usual family amenities. It was hard to tell who was most pleased... Llanet and her parents, or the Amateur Radio operators who made it all possible: John McNamara, WB4SFG and Tobel de Cosiol, TI2JCC. Other operators who helped out were: Francis Healy, WA4VWJ; Charles Roberts, K4LL; Dr. John Schindler, W4RFA; Titus Bean, W3DJD; Rochester Inst. Tch. AR Assn. (Carlos), K2-GXT; Richard Bartholomew, YV5DKC/W4; Jerry Thornhill, TI8GT; Grace D. G. Castro Ruiz, TI2MAG; Colonel Ernest Hinojosa, HRI-MM; and TI6LS.

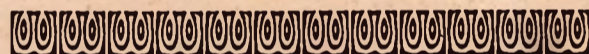
LATE BULLETINS:

28 August: Surgery scheduled tomorrow; prognosis was not good.

29 August: Llanet in surgery at this hour - 1755 GMT.

30 August: 0200Z - Llanet is in intensive care and doing OK as far as they can tell.

1830 Z - Llanet is doing as well as could be expected; there are no post-operative problems. She is talking and alert.



T4 Tankard, 1/2 pt., silver inside, \$6.15 + \$.75 pp

T5 Tankard, Special, 1 pt., silver inside \$12.24 + \$.75 pp

**Africana
Export =
de ZE7JV
P.O. Box 23
Cranborne, Rhodesia**

Erik Arnholtz, OX3EA

by Ed Steer, VE8ML



Two years ago I started putting together an 80m half-wave dipole that, due to weather, didn't get finished until last summer. I considered my effort as rather make-shift and the results didn't disappoint me.

However, I did manage to discover that there were a large number of hams in Thule, Greenland. I have been to Thule at least a dozen times and it never occurred to me that there would be any there at all, and of course I never thought to ask, either.

I worked several hams there and Erik, OX3EA, I seemed to work more than usual. During one of our QSO's I promised to drop down and see him during our next fuel resupply.

Late in April I caught a flight to Thule and gave him a call from Base Operations. He was still up considering it was nearly midnight. I grabbed a cab and went to his place and we had a chin wag for a couple of hours.

Erik is a native of Denmark - Copenhagen to be exact. He came to Thule seven years ago and spent five years working for the base motor pool as a driver and dispatcher. Due to his interest in amateur radio, he became fluid in the finer art of electronics and when a job came along in that field he took it, and is now employed by Stormo Radio. He is now responsible for all the mobile communication sets and it keeps him busy. Erik considers Thule his home now, but does have plans of returning to Denmark in the future.

As can be seen from the photograph, his equipment is well-laid out and its format would complement anyone's shack; Heathkit across the board. Up to my arrival he had been using a multi-band dipole with a pile of radials (I didn't count or ask how many). About a week before I got there he had been flying the Wilson 7 element 20m monobander, but took it down when the rotor he was using was torn to pieces during a storm. He has since graduated to a prop pitch and during a rare period of extremely short 20m skip, is now QRV with the beam, and puts out a big signal.

After several hours of talking and a few brews later we got a truck and he proceeded to give me the nickel tour of the whole place. Considering I had been to Thule so many times I still hadn't seen very much.

Thule, as most people know, was once a huge U. S. military base. Ten years ago this place was home for about 12,000 servicemen, but due

to a phase-out, the number has dropped to about 1,500. But the buildings still stand and testify to man's ability to carve a small city out of such inhospitable country. Most of the Americans are gone now, and the Danes have taken over much of the operation of the base.

Erik took me out to J-Site, which is a radar installation. The signs said "NO ADMITTANCE" and I didn't press my luck. We also went out to P-Mountain which contains most of Thule's contact with Stateside. P-Mountain and J-Site are completely self-contained and self-supporting settlements in themselves and some of the chaps I met at the bar at P-Mountain hadn't been to Thule for months. Compared to Alert, N. W. T., where I live, these guys were living in absolute luxury.

During this tour (which I only touched on lightly), I got four hours sleep somewhere before going back out sight-seeing. It really didn't make any difference when I slept since the sun was up 24 hours per day, so we could take off any time we wanted to. One thing that really stuck in my mind were all the abandoned towers, rhombics and log periodics I saw everywhere I went. It was enough to make you weep. One point about the buildings - the smaller ones were either set in concrete or held to the ground by cables going over the roofs, with 45-gallon drums filled with rocks tied to each end. This prevents them from being blown away during the fierce winter storms they have.

The weather in Thule, especially winds, would not be appreciated by anyone. During the winter when the storms set in, winds of 75 mph are the order of the day and winds over 100 mph are frequent. The record wind recorded is 205 mph, recorded last year. Some of the old timers I met at J-Site have seen well over that speed. These high winds combined with low temperatures don't exactly spell a Miami Beach type of climate.

After an FB supper at the Officer's Club, I said 73's to Erik and went back to Alert. Having extended an invitation to Erik to come up in a couple of days, I wasn't really surprised to see him. I was working so I couldn't show him around. There were plenty of volunteers as visitors are few and far between here, and in one half-hour he had seen everything there was to see. He had to admit that there wasn't too much at Alert and he could see why I enjoyed myself in Thule as much as I did. Considering that Thule has always been advertised as the "Top of the World", he had to fly south to go home.

Hams Watch Weather

by Jack T. Shepherd, W8OMY

In recent months most residents of Central Ohio have been paying more attention to the weather than they usually do.

Since tornadoes and violent thunderstorms have been visiting the area with alarming frequency, many residents have had to rush home to protect valuables from flooding, or simply to seek shelter from the storm's violence.

Many radio amateurs, however, take to their mobile or fixed radio stations when storms occur.

The reason is the establishment of the Franklin County Weather Watch, a system activated whenever threatening weather moves into nearby areas.

A call from the Weather Bureau to Fred Bennett, K8IIF, chief of communications for Columbus and Franklin County Civil Defense, notifying him of a weather alert brings the weather watch into action.

He initiates a "calling tree", a system whereby each person called calls two or three others.

In this manner radio amateurs in the Radio Amateur Civil Emergency Service (RACES) in the area are notified they should check into the weather watch net.

The net is activated by K8IIF, working through the W8WTB two meter repeater, or in his absence by George Whitney, W8JJE, the radio officer for RACES.

Operation then shifts to the Emergency Operating Center at 1717 Alum Creek Drive, where the club station, W8THV, is located.

Amateurs report into the net from their homes or cars, indicating the presence of any unusual weather in their areas. This information is then relayed back by phone from the control station to the Weather Bureau.

During recent weather watches stations from Delaware, Marion, Newark, Springfield and Chillicothe have called in to report that severe storms, high winds, or even funnel clouds have been sighted in their areas.

The purpose is not just to report on the weather, but to take an active part in rendering aid when and where it is needed.

During recent tornadoes and severe flooding in Franklin County, mobile units were dispatched to the scene of evacuation or damage to provide communications for Red Cross or Civil Defense personnel for requests for additional equipment or reports on the health of persons evacuated.

In many cases the communications link provided by these mobile stations was the only method of communication between the disaster area and Civil Defense and Red Cross headquarters.

Another result of the unusual weather has been a proposal to set up a weather school for amateur radio operators, to train them to provide more expert reports on the types of weather they are observing.

This would enable the Weather Bureau to obtain more precise data for use when up-to-the-minute reports to the public become a necessity.

So regular have the weather watches become (as a result of the regularity of storms) that one net recently was opened with, "This is the regular Tuesday evening Franklin County Civil Defense Weather Watch Net."

And if these storms continue, the weather watch network will continue to follow and report on each of them.

(From the Columbus, Ohio "Dispatch")

the exciting world
of
Amateur Radio
as reported in
Worldradio

APOLLO PRODUCTS by "Village Twig"

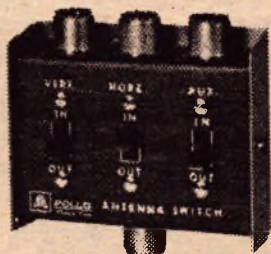


1500X-2

Rotary Antenna Switch

Single pole, 3 position Antenna Switch • Low SWR • Use up to 30 MHz. 500 Watt handling capacity. Sloping Front Console Cab.

\$12.95



450X-S Antenna Switch

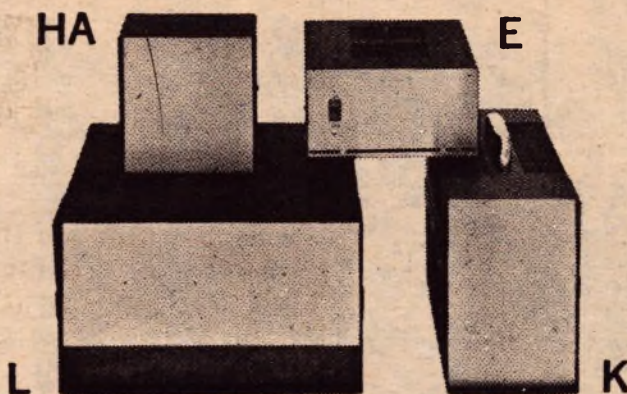
3-Position Slide Switch
Low Loss - Walnut-grain Finish Chassis - Gold Cover

\$5.95

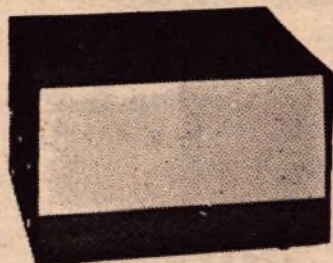
700X-2 KW Wattmeter

Dummy Load Wattmeter for 52 Ohm Input. Measures RF in 4 ranges to 1000 watts. Measures modulation percentage on calibrated scale. Portable.

\$124.50



Model	Dimensions	Resale Net
"E"	6 1/2 x 3 15/32 x 7 1/16	8.25
"HA"	5 1/8 x 5 1/2 x 4 (Blank Panel)	8.95
"K"	4 3/4 x 7 3/8 x 11 W/Handle	13.50
"L"	11 1/8 x 6 1/8 x 12 3/4	20.50



Meter 0-1 MA
to fit "L" box
ppd. 5.00



"L"

package enclosure
"Shadow Box" machined with: 2-SO239, 1 - Pilot Light, 3 - Rocker Switches, and 2 - Knobs
pkg. 29.95



2100X-2
SWR
Bridge
Large Meter -

Sloping Panel Cabinet - Rubber Feet - Keep in Antenna Line up to 1 Kilowatt

\$29.95



900X-2
Wattmeter

Measures RF in 2 ranges 25 and 250 watts. 52 Ohm input.

\$29.95

1700X-2 Vertical/Horizontal Antenna Switch

Allows operator to select any one of 3 antennas or dummy load. Two Antennas can be switched in simultaneously. New Sloping Front Console Cab.

12.95

"LITTLE GIANT"

Vacation or Occasional Miniature Antenna.

Measures 27" high, 22" wide, 4" thick! 7 MHz antenna 40 meters. Ideal for apartment motel, hotel, trailer camper, travel use. 1973 production, if demand warrants.

APOLLO PRODUCTS

BOX 245 - VAUGHNSVILLE, OHIO 45893 - Phone (419) 646-3495 - Evening Phone (419) 646-3495

CALL WEBSTER FOR

YAESU
YAESU
YAESU



(209) 224-5111

if you order - we pay for your call

Free Shipping

Webster radio

2602 E. Ashland
Fresno, CA 93726

Larry Webster, K6RPH

Call: (209) 224-5111



FIGHT T.V.I.
WITH THE
R.S.O.
LOW PASS FILTER



for brochure write:

TAYLOR COMMUNICATIONS MFG., CO. dealer inquiries invited

BOX 126 - AGINCOURT - ONTARIO - CANADA

PRINTED CIRCUIT SERVICE

State of the Art printed circuit service is now being offered to amateurs and novices who build their own equipment from scratch or from construction articles found in the various publications that call for a printed circuit board.

All boards are silver-plated and drilled, ready for soldering using the G-10 epoxy glass with 2 ounce copper clad. Send us your magazine art work, or we can supply the art work for you. With your art work we give 3 day service, or 1 week service if we supply the art work. All shipments FOB Pleasant Hill, California.

For more information and price quote write to: Joe R. Veliz, K6IH.

Veliz Enterprises

445 Boyd Road
Pleasant Hill, CA 94523
Phone: (415) 935 6834

30 HZ SELECTIVITY

- DRAMATIC IMPROVEMENT FOR TRANSCEIVERS ON CW
- BANDWIDTH CONTINUOUSLY VARIABLE



NEW Q-BOX ONLY \$17.95

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

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

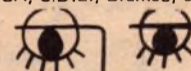
Sold with 10 day moneyback guarantee. One year warranty. Send postcard for free brochure.

AUTEK RESEARCH

BOX 1494A
CANOGA PARK,
CALIF. 91304

SUB-AUDIBLE TONE ENCODER and DECODER KITS

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



*** ENCODER**

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

\$8.95 - Kit

\$13.95 - Wired-Tested

*** WIRE-IN TYPE DECODER**

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

\$9.95 - Kit

\$14.95 - Wired-Tested

*** MINIATURE ENCODER**

- Miniature in size 2.5x .75x1.5" high
- Any miniature dual coil contactless reed may be used (Motorola TLN6824A, TLN6709B - Bramco RF-20)
- Complete with reed \$28.45. (Specify frequency)
- Output 3v RMS sinewave, low distortion

\$14.95 - Wired-Tested

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

Communications Specialists

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



contests

W. I. A. and N. Z. A. R. T., the National Amateur Radio Associations in Australia and New Zealand, invite world-wide participation in this year's VK-ZL-Oceania DX Contest.

Objects: For the world to contact, VK, ZL and Oceania stations and vice versa. Note: VK and ZL stations, irrespective of their locations, do not contact each other for contest purposes except on 80 and 160 metres.

Dates: Phone - 24 hours from 1000 GMT on Saturday, 6 October 1973 to 1000 GMT on Sunday, 7 October 1973.

CW - 24 hours from 1000 GMT on Saturday, 13 October 1973 to 1000 GMT on Sunday, 14 October 1973.

RULES

1. There shall be three main sections to the Contest:

- (a) Transmitting - Phone;
- (b) Transmitting - C. W.;
- (c) Receiving - Phone and c. w. combined.

2. The contest is open to all licensed amateur transmitting stations in any part of the world. No prior entry need be made. Mobile marine or other non-land based stations are not permitted to enter.

3. All amateur frequency bands may be used, but no cross-band operation is permitted.

NOTE: VK and ZL stations, irrespective of their location, do not contact each other for contest purposes except on 80 and 160 metres, on which bands contacts between VK and ZL stations are encouraged.

4. Phone will be used during the first weekend and c. w. during the second weekend. Stations entering both sections must submit separate logs for each mode.

5. Only one contact per band is permitted with any one station for scoring purposes.

6. Only one licensed amateur is permitted to operate any one station under the owner's call sign. Should two or more operate any particular station, each will be considered a competitor, and must submit a separate log under his own call sign. (This is not applicable to overseas competitors.)

7. Entrants must operate within the terms of their licenses.

8. Cyphers: Before points can be claimed for contact, serial numbers must be exchanged and acknowledged. The serial number of five or six figures will be made up of the RS (telephony) or RST (telegraphy) report plus three figures which may begin with any number between 001 and 100 for the first contact and which will increase in value by one for

each successive contact.

Example: If the number chosen for the first contact is 021, then the second must be 022 followed by 023, 024, etc. After reaching 999, start again from 001.

9. Scoring: (a) For Oceania Stations other than VK/ZL - 2 points for each contact on a specific band with VK/ZL stations; 1 point for each contact on a specific band with the rest of the world.

(b) For the rest of the world other than VK/ZL - 2 points for each contact on a specific band with VK/ZL stations; 1 point for each contact on a specific band with Oceania stations other than VK/ZL.

(c) For VK/ZL Stations - 5 points for each contact on a specific band and, in addition, for each new country worked on that band, bonus points on the following scale will be added: 1st contact, 50 points; 2nd, 40 points; 3rd, 30 points; 4th, 20 points; 5th, 10 points.

(d) 80 Metre Segment: For 80 metre contacts between VK and ZL stations, each VK and ZL call area will be considered a "scoring area", with contact points and bonus points to be counted as for DX contacts.

Note: Contacts between VK and ZL on 80 metres only.

(e) 160 Metre Segment: For 160 metres, contacts between VK and ZL, VK and VK, ZL and ZL, and VK/ZL to the rest of the world. Each VK/ZL call area will be considered a "scoring area" with contact points and bonus points to be counted as for DX contacts (Rule 9 (c)).

Note: A contestant in a call area may claim points for contacts in the same call area for this 160-metre segment.

For this purpose the A. R. R. L. Countries List will be used with the exception that each call area of W/K, JA and UA will count as "countries" for scoring purposes as indicated above.

10. Logs: (i) Overseas Stations - (a) Logs to show in this order: Date, time in GMT, call sign of station contacted, band, serial number sent, serial number received, points. Underline each new VK/ZL call area contacted. A separate log for each band must be submitted.

(b) Summary sheet to show the call sign, name and address (block letters), details of station, and, for each band, QSO points for that band, VK/ZL call areas worked on that band.

"All-band" score will be total QSO points multiplied by sum of VK/ZL call areas on all bands, while "single-band" scores will be that band QSO points multiplied by VK/ZL call areas worked on that band.

(ii) VK/ZL Stations - (a) Logs must show in this order: Date, time in GMT, call sign of station worked, band, serial number sent, serial number received, contact points, bonus points. Use a separate log for each band.

(b) Summary to show: Name and address in block letters, call sign, score for each band by adding contact and bonus points for that band, and "all-band" score by adding the band scores together; details of station and power, declaration that all rules and regulations have been observed.

11. The right is reserved to disqualify any entrant who, during the contest, has not strictly observed regulations or who has consistently departed from the accepted code of operating ethics.

12. The ruling of Federal Contest Manager of the W. I. A. will be final.

13. Awards. - VK/ZL Stations: W. I. A. will award certificates as follows:

(1) To the top scorer on each band irrespective of single-band or multi-band operation and irrespective of call area, i. e. a maximum of one award may be made for VK and ZL, for each band.

(2) To the top scorer in each VK and ZL call district, i. e. a maximum of 15 awards, 10 VK and 5 ZL awards may be made.

To be eligible for awards in either of the above mentioned categories an operator must obtain at least 1,000 points or there must be at least three competing entries in the category.

Overseas Stations: Certificates will be awarded to each country (call area in W/K, JA and UA) on the following basis:

(1) Top scorer using "all bands" provided that at least three entries are received from the "country" or the contestant has scored 500 points or more.

(2) Other certificates may be awarded, to be determined by conditions and activity.

N. B. - There are separate awards for c. w. and phone.

14. Entries: All entries should be posted to Federal Contest Committee, W. I. A., Box N1002, G. P. O., Perth, Western Australia, 6001, or to N. Penfold, 388 Huntriss Road, Woodlands, Western Australia, 6018. VK/ZL entries to be received by 31 December 1973. Overseas entries to be received by 22 January 1974.





amateur radio STATION appearance

Many amateurs are concerned about the "image" that the general public has regarding Amateur Radio. The concerned feel that many laymen have a rather unflattering, and untrue, view of our avocation. The questions are: Have we brought it upon ourselves? and What can we do to improve our "image".

If a neighbor comes to the average amateur's home and is invited in to see "the station", what does he see?

Is it a radio, or a "radio station"? Is it just some equipment thrown on a workbench in the garage or is it an attractive installation? If the observer feels that we don't think very much of our interest (as evidenced by a slovenly appearance) why should he take it very seriously?

Before worrying about the image others have of us, we best, and first, concern ourselves with what image we are presenting.

What do we want others to see... some black boxes adjacent to the junk box in an atmosphere that looks like a greasy garage in which all the wiring appears to have been done by "Jack the Spider" or a well appointed den?

Very few of us would want to live in a house in which the other rooms looked like the "radio room". What does the visitor see, after walking through a nice home, when he gets to "the shack"? How often is it a maze of wires, trash all over the operating table, and a few QSL cards or certificates either thumb-tacked or scotch-taped to the wall?

Here is a question to ask. If I were the only ham that this person ever knew, what would he think of Amateur Radio? What would he tell others regarding his visit to "the ham in the neighborhood"?

Before we can expect others to think highly of what we do, we must (on the average) think

more highly of it ourselves. First, we must objectively look at our own station. Try to see it as someone seeing it for the first time would. Would you want to work all day in an office that looked like that? Would anyone else want to?

It would be quite expensive to have the most powerful signal, but a rather modest investment could result in one of the "best looking" stations. Mentioning to the XYL that you would really like to improve the appearance of your radio room would most likely result in an interest on her part to make some drapes or curtains for the room. It would be a worthy goal to make the room so nice and comfortable looking that she would show it to her friends rather than leaving the door closed when she takes visitors around.

Where do we start? How 'bout the operating table? A door with a slight imperfection can be purchased very reasonably. A few coats of paint, or staining it will work wonders. A freshly polished piece of wood does wonders for the appearance of a room, as well as the spirits. Possibly a desk, purchased used from the office furniture outfits, would do nicely. A formica top or even "Contac" paper would make it pleasing to the eye. Good, comfortable (important during contests) chairs can be purchased quite reasonably from the same firms. A chair that was designed for a typist to be able to work for eight efficient hours a day would probably be quite an asset to any activity. Don't forget another chair for visitors. So now we are on our way to a "shack" we can be proud of rather than apologetic. It's not true that all shacks have to look "that way".

The walls... ARRL puts out a very nice map for two dollars, it can cover up a lot of cracks. Or let's say inexpensive cork is put on the walls. The map could go on the cork. Would it be impressive to visitors if a map pin were inserted in every country worked? Could the QSL cards be nice and orderly looking if hung in those plastic holders? Another approach some hams have taken is to have a pin in the map and a thread leading to the QSL card from that country, the cards being mounted around the map.

A bookshelf for those QSTs would tidy things up a bit. All those pens? A firm now is making a pen holder out of oiled solid walnut, on which is an etched purple-anodized aluminum replica of the Amateur Radio postage stamp. That should impress the visitors. Saying that the U. S. Government issued a stamp in honor of Amateur Radio in 1964, exactly one year after the amateurs assisted in the Alaska earthquake should have an effect and influence the visitor's opinion.

Another decorative, and useful, item is the 24-hour clock. When the visitor looks askance at "2100?", it can be explained that amateurs are on "Universal Time" and all over the world the time is the same. This may impress upon the visitor that amateurs are truly "plugged into" the world.

Put your certificates such as Worked All States, Worked All Continents, or DXCC into frames. Makes others feel that they are worthwhile accomplishments. Something in a frame will draw curiosity and thus the explanation of working one hundred countries, etc. Put your ARRL Membership Certificate in a frame, let others know that there is a national organization of amateurs.

Get a desk mike. These little hand mikes aren't going to tear anybody up. They've already seen them in taxi cabs and the like (and worse). Give a demonstration of VOX, and how much nicer it is to have both hands free while operating. And even the most confirmed phone man should have a key on the table (actually he should keep his speed up; don't forget that statement at renewal time); to many outsiders that key means "radio operator". It is the mystique of being able to do something that the untrained can not. The key is part of the heritage of radio.

Why go through all this trouble? Do you judge a company by the building it's in? Do you judge a store by the way it looks? Do others judge ham radio from its appearance? Each of us is an ambassador of Amateur Radio; how are we judged? What "image" are we presenting? Do we look like we care?

Even others aside, would we feel better in attractive surroundings? Would we have a greater sense of pride in what we are doing? Would such an attitude be obvious to others? Should we strive to be the very best representative of Amateur Radio that is possible?

Hopefully your neighbor's visit was a memorable one. One that he will recount to others in glowing terms. When he leaves give him a memento, your QSL card.

How does your QSL card look? Are you truly proud of it? Does it reflect your personality, your individuality? If not, maybe we'll discuss QSL cards at some future time.

We'd like to feature some pictures of good looking stations. Maybe they would give ideas and inspiration to others. Send in a picture of your station, or that of a friend. Naturally, they don't have to be the extreme of beautiful paneling and consoles, but those that show some thought. Those that help our "image".

Travelers, Beware

A health hazard confronting travelers who buy nonprescription drugs abroad for the treatment of diarrhea is described in the Journal of the American Medical Association. Many of the products sold for this purpose in other countries contain a drug that can cause serious neurological trouble, eye damage and even death, says an article by Dr. Godfrey F. Oakley, Jr. of the Center for Disease Control in Atlanta and the University of Washington Medical School in Seattle. The drug, known as iodochlorhydroxyquin, is sold, he writes, under more than 50 trade names throughout the world, often without prescription. The products containing it do not overcome diarrhea, says Dr. Oakley, who adds that in the United States the drug is used mainly to treat amebic dysentery. His article says, "... an American traveling out of the country may find it difficult to avoid being exposed to the drug if he buys any over-the-counter remedy for diarrhea."

(From the "New York Times")

LATE FLASH Repeaters: FCC

In the Matter of

Amendment of Part 97 of the Commission's Rules concerning the licensing and operation of repeater stations in the Amateur Radio Service.

ORDER

Adopted: August 29, 1973
Released: August 30, 1973

By Acting Chief, Safety and Special Radio Services Bureau:

1. The Commission has under consideration, on its own motion, the extension of the license term of all amateur stations licensed prior to October 17, 1972, and operating to automatic-

ally retransmit the radio signals of other amateur radio stations or as remotely controlled stations prior to that date. The purpose of our action herein is to preclude any unnecessary interruption of any on-going service due to delays in processing applications.

2. In Docket 18803 the Commission adopted rules pertaining to the licensing and operation of amateur repeater stations. Those rules became effective on October 17, 1972. All stations licensed after October 17 had to comply with those rules. However, to provide continuity of operation and to assure continued public service activities, existing repeater stations were granted a grace period to June 30, 1973, to bring their operations into full compliance with the rules and to obtain a new license. At the request of the American Radio Relay League this period was extended to August 30, 1973.

(Turn to page, 28, please)

S & R Enterprises

1344 E. Indian School Rd.-Phoenix, AZ 85014

(602) 277-2712

This Month's Specials

S&R makes economy exciting!



Motorola RF Transistors Unmarked

Type	Qty.	Price
2N3866	1352	3/1.50
2N5589	364	3/6.00
2N5590	112	3/9.50
2N5591	44	3/20.00
2N6080	222	3/6.00
2N6081	280	3/9.50
2N6082	173	3/16.00
2N6083	173	3/24.00
2N6084	260	3/30.00
2N6166	50	3/50.00
MRF304	17	3/30.00



Case 1
TO-3



Case 20(10)
TO-72



Case 144D-04
0.280" DIA.



Motorola HEP Semiconductors

RF Transistors

- HEP 75
- HEP 76
- S3001
- S3002
- S3003
- S3005
- S3006
- S3007
- S3008
- S3010

Price Each

- \$ 2.95
- 4.95
- 3.75
- 8.20
- 20.00
- 9.55
- 19.90
- 24.95
- 2.18
- 4.90

Our Price

- 2.00
- 4.00
- 3.00
- 6.50
- 15.00
- 7.00
- 15.00
- 19.00
- 1.60
- 3.00

★ You save

Hot Carrier Diodes

- HEPR0700

1.09

1.00

V.C.C.

- HEPR2500
- R2501
- R2502
- R2503
- R2504
- R2505

1.10
1.10
1.10
1.10
1.10
1.10

.88
.88
.88
.88
.88
.88

FETs

- HEP801
- 803
- F0021
- F1035
- F2004
- F2005
- F2007

1.59
3.39
1.89
1.29
2.50
2.90
2.90

1.20
3.00
1.50
1.00
2.00
2.00
2.00

Motorola RF Transistors Marked

2N1692	3	2.00
2N1693	3	3.00
2N2857	1	1.00
2N2887	2	3.00
2N2947	9	8.00
2N3925	394	2.00
2N3950	13	10.00
2N4072	1963	.75
2N4073	2	1.00
2N5109	1361	1.25
2N5177	1	6.00
2N5179	1744	.35
2N5583	1	3.00
2N5590	30	5.00
2N5591	4	9.00
2N5643	14	10.00
2N5849	4	15.00
2N5862	11	20.00
2N5942	14	20.00
2N6081	20	6.50
2N6082	24	10.00
2N6083	25	15.00
2N6084	384	2/30.00
2N6097	21	15.00
2N6135	1	5.00
2N6166	40	30.00
2N6266	2	40.00
MM1500	2	2.00
2N5842	950	2.00
MM1620	2	10.00
MM1661	1	5.00
2N5645	1	5.00
MM8006	1000	1.00
MRF207	1	3.00
MRF209	4	8.00



Case 211-01
0.380" DIA.



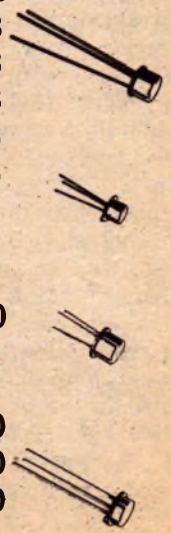
Case 145A-01
0.380" DIA.



Case 211-02
0.500" DIA.

THE SCOTCHMAN'S DREAM

Specials



(Also HEP Cross Reference Available with Any HEP Ordered)

Bargains

Microwave Ass. A Components, Type and Manufacture	Equipment Sale Qty	Price
FXR S155A	1	10.00
H. P. S370B	1	10.00
H. P. 360A	1	10.00
Airborne Inst. Inc. 7010	1	15.00
Narda 730S	4	5.00
Narda 730	1	5.00
Waveline 611	1	5.00
PRD 154	1	5.00
M. C. S. P-265-1	2	7.00
PRD 559A	1	15.00
Narda 211	1	25.00
Waveline 658	1	5.00
H. P. HX292B	1	4.00
Narda 614	1	6.00
Narda 615	2	10.00
Omni Spectra 201845/J	8	5.00
Demornay Bonardi L-450	2	7.00
Narda 350H	2	3.00
Waveline 641	1	3.00
Waveline 642	1	4.00
Demornay Bonardi HJ-018	1	6.00
Guide Ind. Inc. 1515-. 5	2	4.00
Aircom 106C00	1	7.00
Unilinern 125	1	5.00
Airborne Inst. Lab. 70B-49	1	15.00
Frequency Eng. WG-1217-5B	1	20.00
Frequency Eng. 5882-4N	1	20.00
Frequency Eng. 8397-1	1	10.00
H. P. X421A	1	10.00
H. P. G487A	1	15.00
H. P. X281A	1	5.00
H. P. 420B	2	10.00
H. P. 775D	1	50.00
PRD X1410	1	5.00
FXR X601A	1	6.00
PRD 195A	2	6.00
PRD 195B	2	10.00
Rantec MX-200	2	4.00
Waveline 554	4	4.00
Narda 301	1	10.00
FXR X1551	1	6.00
PRD 188A	2	10.00
FXR X410 B	1	10.00
Narda 1011	1	10.00
H. P. H750D	1	10.00
Varian VA1281B	1	7.00
Gombos G-450	6	5.00
Demornay Bonardi H480	13	5.00
Demornay Bonardi J480	1	5.00
Demornay Bonardi J102	2	5.00
Demornay Bonardi XL-102	1	5.00
PRD 585B	1	10.00
PRD 130A	1	7.00
Demornay Bonardi L-234	1	10.00
Demornay Bonardi DBL-650	1	10.00
Demornay Bonardi L-610	1	10.00
Demornay Bonardi DBL-440A	1	10.00
Waveline 260	1	15.00
Demornay Bonardi L-010	1	10.00
L. H. Terpening Co. 3232-550	1	10.00
Guide Ind. Inc. 1516-. 5	2	10.00
H. P. 430C	2	20.00
H. P. 430B	1	15.00
Narda 438	1	20.00

Liveitup



write
S & R
first

you'll save
time, postage
and MONEY

YOU NAME IT . . .

Tubes WE'VE GOT IT!

NEW	Price Each
6146A	\$ 4.00
8683	15.00
8106	2.00
8102	1.30
7984	3.95
6907	15.00
6360	5.00
8298	3.50
6146B/8298	4.50
5894A	17.00
2E26	2.00

Used and All Tested by JFF and Warranted by S and R Enterprises

6146	2.50
5894	8.00
2E26	1.25
6939	3.00
6883	2.00
6360	2.50
8032	2.00
8106	1.00
8458	5.00
6907	7.50
7377	7.50
8683	7.50
5762/7C24	100.00

Microwave Semiconductors Corp.

	Price
MSC2001	35.00
MSC3001	60.00
MSC4001	87.00
MSC4003	125.00

Communications Corp.

D1-28	3.75
D10-28	19.00
E1-28	30.00

Dickson Fast Recovery Diodes

IN3891	2.00
IN3890	2.00
IN3880	2.00





Reach Out!

Morokulien

by Phil Pector, W9LDX

Morokulien does exist.

Have you ever heard the call LG5LG - thinking "that's Norway"? Well, it isn't.

It isn't an island either - it's a small country, postage stamp size. You could blink your eyes and miss it. But what it accomplishes is not in keeping with its size.

It's the country known as "The Free State of Morokulien", a radio empire, and it has citizens.

Fortunately, not all of its over 5,000 citizens live in the tiny nation for it is about the size of two American football fields, or three soccer fields. None of its citizens are natural born. You have to want to become a citizen of Morokulien.

Every year, in June, a friendly, family-oriented hamfest takes place at Morokulien. Hams come from all over the world for the feasting and contests. Those who have been there call it an enjoyable time. I had a tremendous time there.



B. H. Jensen and XYL at Morokulien

Morokulien is the result of Norwegians and Swedes working together. They have spent a great deal of time and money to make it a reality. And it has served a great purpose.

While most of its citizens have never even stepped foot in the tiny nation, they have contributed funds which go to help the handicapped amateurs of Norway and Sweden. Because of Amateur Radio many of the blind and invalid have found new life; it is real therapy. To hear them on the nets you would never know that they are handicapped, which shows that Amateur Radio helps in rehabilitation. It is no overstatement to say that the handicapped are among the most capable and keen radio amateurs of all.

The station at Morokulien is an example of ham international friendship at its highest. LG5LG may be operated by licensed amateurs of all countries (be sure you bring your valid operator's license). To operate the station a small donation is made, which goes to the handicapped. All the administration of the effort is volunteer and profits go in their entirety to the handicapped amateurs.

The Morokulien site itself is administered by the Norwegian and Swedish peace associations, who erected a peace monument in 1914 in memory of the 100-year-old peace between the countries. The monument is 54 feet high and is made of granite. Morokulien has gradually become a popular tourist attraction. It has camping grounds, tourist information, a cafe and a post office. To obtain the key to the ham shack (which has been there since June 30, 1968) you inquire at the post office.



Station at Morokulien

To get to Morokulien you leave Oslo and go northeast to Kongsvinger. From Kongsvinger to Magnor, then to Eda (in Sweden). On the Morokulien "Citizenship Certificate" is the phrase... "Radio amateurs are technically interested people who, through transmitting and receiving instruments, obtain connections with similarly-minded people throughout the entire world. Their hobby is a means for contact between fellow beings -- the whole world comes into their homes.

Morokulien offers you a chance to be the sought-after one in a pile-up and help your fellow ham at the same time.



Ham shack at Morokulien. Photos by Thor Asp, SM4EIM.

Many hams have helped in this effort; the most instrumental are: Odd K. Thvedt, LA1TE; Hans E. Kinck, LA4YF; Oivind Flaen, LA5PM; Nicolai K. Holter, LA5CH; Einar Storsveen, LA6UD; Einar Jansson, SM4IM; and Torbjorn Asp, SM4EIM. The presidency rotates annually between Swedish and Norwegian hams.

Earthquake in Mexico

by Charlie Weber, WB6RPK

Early on the morning of 29 August Charlie Weber, WB6RPK, was checking on WR6ABM Repeater with Roy Everhart, WB6GWQ, Grizzley Peak ARC's Disaster Co-ordinator, to find out if Roy knew of any way the Alameda County Red Cross could pass some Health and Welfare Traffic that the Chapter's night operator had picked up for the Mexican Earthquake Zone. Jack Brooks, WA6DBT, broke in with the information that he was the engineer at 50,000 watt shortwave station KGEI at Belmont, California, and that the station was accepting that type of traffic for spot announcements into the quake zone.

A net was quickly established utilizing WR6-ABM and WB6NDJ repeaters manned (or "womaned" as the case may be) by Roy Everhart, WB6GWQ; Art Jeffery, K6BLS and Lakay Weber, WA6AVO. Messages were first translated into Spanish by the Red Cross interpreters, who then spoke via repeater into tape recorders at the transmitter site of KGEI for later transmission into the quake zone.

The equipment at the site was manned by Jack Brooks, WA6DBT; Al Montoya, WB6IMX, and Pete Chastain, WA6YQL. The message operation was covered by San Francisco TV Channels 2, 4, 5, 7 and 32, and Channel 3 in Sacramento, plus radio and newspaper coverage. Amateurs were clearly identified as Amateur Radio operators (and for a change no reporters asked for the skip calls). A point of information - 50% of the spot announcements beamed into the quake area received answers.

Friendship Radio Station KGEI, the Grizzley Peak Amateur Radio Club, the VHF Repeaters, Inc., and the Oakland-South Alameda County Chapter of the American National Red Cross, should be commended for pioneering a unique method of passing health and welfare traffic that bypasses overtaxed disaster communication channels. KGEI Friendship Radio Station would like an arrangement with the ARRL NTS and MARS Networks to accept up to 500 plus messages per day whenever disaster strikes within the range of their transmitters. They also offered to put out spot announcements on what times and frequencies United States amateurs would be standing by for replies.

around the world with Worldradio



Write your own ticket...

for more news and information

get a **Worldradio** subscription

be even more informed

YES! While I am thinking about it,
enter my WORLDRADIO subscription.

published every month

---CLIP AND MAIL TO---

Worldradio

2509 Donner Way

Sacramento, CA 95818

thank you USA

Name

Call

Address

9

Check:

New-

Renewal-



City, State, ZIP

One Year \$5 - Two Years \$9 - Three Years \$13 - Lifetime \$50



An Invitation to Participate

—tell us something—

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

Multiple horizontal lines for writing comments and suggestions.



AMSAT OSCAR

...
a monthly column

Oscar 7 Test Flight

The JPL Amateur Radio Club will sponsor a West Coast aircraft test flight on the OSCAR 7 432 MHz to 145 MHz translator. The flight plan will be similar to the successful AA-2 test flight of OSCAR 6 in September 1971, and the same pilot and aircraft will participate.

Schedule for the AA-3 test flight calls for a shakedown flight in the Southern California area on September 22, 1973. The full scale flight will take place on October 6, 1973, and this flight will cover the state from San Diego to San Francisco.

We will fly the OSCAR 7 prototype translator built by Karl Meinzer, DJ4ZC, and Werner Haas, DJ5KQ.

Operating frequencies are: Uplink, 432.150 MHz; Downlink, 145.950 MHz.

Bandwidth is ± 25 kHz from these center frequencies, and the translator will invert the input passband. (i. e., 432.125 MHz uplink results in 145.975 MHz downlink, and USB input will result in LSB output.) Recommended modes of operation are CW and SSB. A beacon will output on 145.980 MHz.

Jay Holladay, W6EJJ, is Project Manager for the test flight, and Waldo Brown, W6QJO, is Secretary. Contact either of them or Norman Chalfin, K6PGX, for further information.

Check into the West Coast AMSAT Net to obtain the latest test flight information. The net meets on 3850 kHz at 8 p. m. PDT on Monday nights. In August we will start a separate net for state-wide planning and co-ordination of the test flight.

Please pass the word on the test flight to your local club, bulletin, etc. We hope you will be participating in this activity with us.

73,

Jay Holladay, W6EJJ
Project Manager, West Coast Test Flight

Oscar 6 Reunites Boyhood Friends

Back in '17, "Mid" Middleton, the now W7-ZC, started fooling around with ham radio with the usual one-slide tuner, flat-top aerial and one-piece earphone. An acquaintance of Mid, Guy Haymond, living about a block away, had not yet succumbed to the bite of the radio bug, since the small West Virginia town of Grafton contained small interest in wireless at that time.

Mid recently received an OSCAR 6 HEARD card from W8MIS, in Grafton, who heard W7-ZC on a 10-meter receiver and a bed-spring antenna, down in this deep valley in far off West Virginia. W8MIS reported W7-ZC 589 in QSO with Mary Carlson, WA0CSL, on Orbit 2641 on May 14.

Recognizing the name, Mid wrote to W8MIS and inquired if he was the older boy he had recalled from those long gone years. Guy, W8MIS, reported that he was indeed the old-time friend

and sent Mid picture postcards and other data of Mid's former home in far-off West Virginia.

This exchange was the first communication between the now W8MIS and W7ZC since 1919! Unfortunately W8MIS has no OSCAR 6 uplink gear so was unable to reply to Mid via O-6.

Since Mid started hamming only a block or so from W8MIS's present QTH, this brings W7ZC full circle from the early days of wireless to the latest in Amateur Radio communication -- satellite usage!

And reunited are two old friends who have much mutual interest in the early days of the old home town.

This is just another example of the wonderful world that is Amateur Radio and its amazing ability to perform almost unbelievable feats in communication -- even via bed springs and a J-slot in Zion Canyon!

Mid, an active OSCAR 6 participant (213 QSOs in 34 states), is a member of AMSAT and a frequent contributor to "Worldradio".

It's an Easy Task to Work OSCAR

by Katashi Nose, KH6IJ

Listening for OSCAR-6, the amateur radio satellite, is not a difficult task if you have ten-meter receiving capability, even with a dipole antenna. The downlink frequency band is 29,450-29,550 kHz. The trick is to listen at the right times on the right days.

The satellite is on only on Thursdays, Saturdays, and Mondays, GMT time, and is turned off the rest of the time for battery recharging. The overhead passes occur at about the same time each evening and morning on a staggered schedule, either around 7:30 p. m. and 8:30 a. m. or 8:30 p. m. and 9:30 a. m. on alternate days.

June 1973 QST Magazine (page 70) gives the earliest crossing time and longitude for each orbit, such as 0042 GMT at 58.4 degrees west longitude.

Each orbit takes 114.9944 minutes which is approximately one hour and 55 minutes, and retrogresses 28.7486 degrees.

The morning passes are from north to south, whereas the evening passes are from south to north.

Most hams think that elaborate equipment is needed to transmit to the satellite, but this is not so. I am using a 2-meter FM set which is normally used to talk through the repeater, a 10-watt Drake Marker Luxury ML-2. Since FM is not recommended I use the microphone switch as a key.

You will find that you have approximately 20 minutes of acquisition time on a good pass. A circularly polarized antenna with El-Az mount is convenient but even a hand-held 9-element Yagi will suffice. I have been on OSCAR since last October when it first went up and now find that I am working the same stations over and over again since certain ones consistently come through while others that don't are probably using non-circular antennas which means that they lose access through Faraday rotation.

(From the Honolulu, Hawaii "Star-Bulletin")

 write to Wr

Write to "Worldradio". Tell us your opinions, experiences and observations. Share information with your fellow amateur. Send news.

Emergency Communications

On August 6 I was listening to the Coast Guard Net (1600-1700 GMT on 14.315 Megahertz) here at my office where I operate K3LJP/3. I heard a station from Mexico check in with emergency traffic. My ears became attentive when I heard the name Swanson being mentioned. I had attended college with a Swanson who was a clergyman in Massachusetts.

The first phone effort was made and there was no answer. I checked my records and discovered that this Swanson was my friend. I asked net control station W4ZVX, Ralph Haburton, if I might speak to the Mexican Station XE3D, Gerald Von Engen. The way was cleared. In visiting with XE3D I discovered that Swanson's son, Wayne, an apprentice missionary for the Seventh-day Adventist Church, had crashed in his private plane and was killed.

Since I knew Swanson, I told XE3D and the net that I would take over and try to locate him. I set up two subsequent schedules that day with XE3D. With the backing of W4ZVX and the telephone, we located Swanson on vacation and helped to clear the way for the body to be moved to Boston.

Telephone contacts were difficult into Mexico so amateur radio came through again in time of emergency. A special pat on the back to XE3D and W4ZVX for assisting with the efforts.

Ed Peterson, K3LJP

Repeaters: FCC

(Continued from page 23)

3. We find that more than adequate time has been given to those previously existing stations to allow their operations to be brought into compliance with the rules. However, because of the initially heavy administrative work load imposed upon the Commission, the fact that initially filed applications were generally inadequate, and because of the lack of processing personnel during the summer months, we find that there has been inadequate time for all existing licensees to actually receive their license documents evidencing their full compliance with the rules. Therefore, we will allow all amateur stations licensed prior to October 17, 1972, which were operating to automatically retransmit radio signals of other amateur stations or as a remotely controlled station, and for which a timely and sufficient application for renewal or modification was filed to continue operation until final action is taken on the application. An application will be considered as being timely filed if it was received by the Commission on or before August 30, 1973. The application will be considered as one for renewal or modification if it proposes to license transmitting apparatus which was previously operated as a repeater or remotely controlled station.

4. Accordingly, the Commission by the Chief, Safety and Special Radio Services Bureau, pursuant to the delegated authority in Section 0.331(b)(1) of the Commission's Rules, ORDERS that all amateur stations licensed prior to October 17, 1972, which were automatically retransmitting radio signals from other amateur stations or licensed as remotely controlled stations and for which a timely and sufficient application has been filed, may continue to operate until such time as the Commission takes final action on the application.

By: Charles A. Higginbotham
Acting Chief, Safety and Special Radio
Services Bureau, FCC

Amateur Radio's Newservice
Worldradio

(see page 27)

400% MORE AVERAGE
SSB POWER OUTPUT

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



Collins-Heath \$139.95
Drake T4X/T4XB \$154.95
Drake TR4 \$159.95
Yaesu FT101 \$139.95
Kenwood T599, TS-511. \$139.95
Add 5% Tax in Washington

- Your voice works your transmitter at less than 20% of its key down CW capability. By adding the MAGNUM SIX to your existing rig you can increase your average SSB voice power output by 400% (6db).
- Recent editions of the ARRL handbook describe RF speech clipping as clearly the most effective and efficient method to increase SSB talk power. The MAGNUM SIX achieves quality RF clipping in the IF strip of your transmitter for highest effectiveness and least distortion.
- Voice quality and splatter free narrow-band signal output are assured by use of the high quality American made bandpass filter in the MAGNUM SIX for sideband selection prior to clipping and use of your existing transmitter bandpass filter for elimination of distortion products after clipping.
- PUT YOUR TRANSMITTER TO WORK FOR THE FIRST TIME IN ITS LIFE. POWER UP WITH A MAGNUM SIX FOR THE MOST ADDED POWER PER \$ THAN ANY OTHER METHOD.

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



A Division of Bitcil Systems Inc.

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

SOUTH AFRICA...C.S. Electronics - P.O. Box 1118, Cape Town
OVERSEAS DEALER INQUIRIES INVITED

The Nobility Net

The Nobility Net of North America is a non-profit gathering of Shriners and members of the Masonic Order who have dedicated their services in behalf of the world's most rewarding philanthropy...the cost-free care and rehabilitation of crippled and seriously burned children in our 22 Shriner's Hospitals, throughout Canada, Hawaii, Mexico and the U. S. A.

Among our many aims - to make available to parents of crippled children, who are unable to afford the high cost of medical aid, knowledge of how to secure these surgical services free of charge; aid in providing transportation for patients; setting up of blood banks and creating good relationships between Shrinedom and the public who are not aware of this great philanthropy.

There is no initiation fee nor are there any dues. All that a Noble or Mason need do is check into the Nobility Net which meets each Saturday at 1700 GMT, on 14. 310.

(de International Coordinator, W3FQT)



ZACKIT: At Your Service

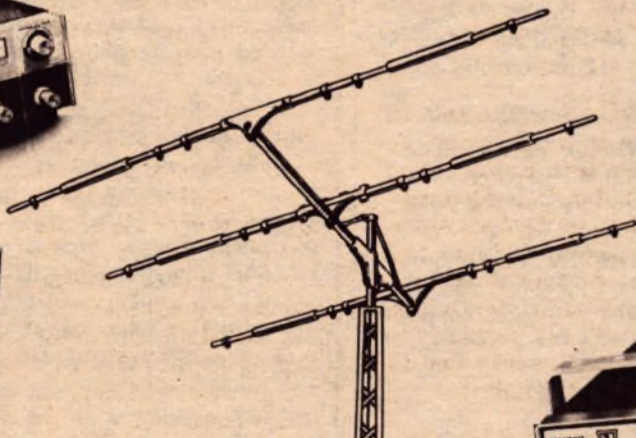
Serving Northern California for over 10 years
(orders shipped anywhere)

ZACKIT: Sacramento

1831 "J" St.-Sacramento, CA 95814

(916) 446-3131

Open-Monday thru Saturday 9 am to 6 pm & Friday till 9 pm



LOOK!

Heathkit

ROHN

SWAN

MOSLEY

HUSTLER

TURNER

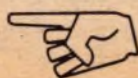
SBE

Regency

AMECO CDR EICO

hy-gain

* parts - supplies - test equipment
new and used gear - we take trades
friendly personalized service



Trip to Israel

Art Greenberg, W2LH



L to R: Art, W2LH; Hideaki, JA2HET and Renato Brasso.

Madeline, W2EEO, the XYI, and I attended a ham convention in Tel Aviv, Israel - the International Symposium of Radio Amateurs in the Satellite Era - held on June 25th and 26th. There were over 200 hams attending. They were from ZS, VE, OH, DJ, W and, of course, 4X4 stations. Walter Skudlarek, DJ6QT, had won the 25th anniversary contest of the Israeli Amateur Radio Club and was treated to a trip and a 10-day stay in Israel. The program was opened with a welcoming address by the Hon. Shimon Peres, Israeli Minister of Communications, and was followed by Jack Davis, 4X4CZ, President of the Israeli Amateur Radio Club. In greeting those present, Mr. Peres spoke of the achievements of the amateur fraternity, and wished the convention success. A talk was presented on the technical aspects of the global satellite system, by H. Davidi, Manager of the Israeli Satellite Ground Station. There was an interesting talk and discussion on amateur communications through the Oscar 6, by A. Vilen-sky, 4X4MH. There was an excellent presentation by George Jacobs, W3ASK, on "A Look at the Next Three Years". The talk on sunspots and DX propagation did not leave us with much optimism for DX ham communications for the next three years. The first day of the convention finished off with a lovely cocktail party and buffet supper attended by many hams and their wives.

The following day, the hams of the convention were taken to the Israeli Satellite Station at Emak Haela, near Jerusalem. The group was guided by Abe Nagel, 4X4IX, who certainly brought out some interesting aspects of a satellite station. Coming back to convention hall,



4X4 Hams listening to Shimon Peres, Minister of Communications.

the group was shown a film on amateur radio, prepared by the Canadian division of the ARRL.

There was a serious discussion of Israeli amateur radio problems. The Israeli Government is proposing the extension of phone patch privileges for the hams, but they are considering the imposition of a \$200 fee for connecting the phone patch to the phone lines. Needless to say, this is tantamount to denying the amateurs phone patch privileges.

Yours truly, Arthur Greenberg, W2LH/W2-CYK, assisted by Madeline, W2EEO, presented a demonstration and lecture on antennas. A vivid presentation of the actual effects, advantages and comparison between the vertical ground plane, dipole, yagi and the quad. The enthusiasm of the audience was outstanding and gratifying.

The convention was closed by Jack Davis, 4X4CZ, President of the Israeli Amateur Radio Club.

We can hardly speak of our trip to the Israeli convention without telling of the travels through Switzerland and Italy before our arrival in Israel. The thrill of speaking to hams around the world can only be matched by meeting them in person. A visit to 4U1TU in Geneva was very thrilling. We had an interesting discussion with Renato Brasso, Secretary of the International Telecommunications Union. It was pointed out by him that the station and the union were supported by membership in the ITU and by contributions from amateurs around the world. While we were there, we met Hideaki Amano, JA2-HET, who was a visitor like us.

We were hosted by Maurice Chandler, HB9-AHO, and his charming wife and daughter in Zurich. We traveled through this remarkable and sparkling country of Switzerland. The views of the Matterhorn and other parts of the Alps were breathtaking. A delightful train trip through the Alps to Italy was very exciting. We stopped briefly at Arona, on Lake Maggiore, and then to Milan. We found the Italians apologizing that Milan was an 'industrial' city, but we found much to admire in Milan. On getting to Florence, we contacted Sandor Saccardi, I5ZJU, (President) and John Biscioni, I5BKO, (Treasurer) of the Florence Amateur Radio Club. We were invited to a meeting of this club and we were pleasantly surprised to see the activity and enthusiasm of the membership. They had classes going for new hams, activity setting up and getting repeater stations ready for 2m. FM, and distribution of QSL cards (since they are the QSL Bureau). It was a most interesting evening and the hospitality of the Italian amateurs will be long remembered.

There has just been a change in the Italian Amateur Radio regulations designating districts. Locations of these districts can be noted on a separate page in this issue.

In Rome we were hosted by the President of the Rome Amateur Radio Club - Spartaco Zuanelli, I0HY. It is interesting to note that even where there is a severe language barrier, communication is capably handled. Even though our time in Rome was extremely short, we did manage a tour to the Vatican and were most fortunate to be in the Square when the Pope blessed those present.

Even though Israel just celebrated its 25th Anniversary, there is still a pioneering spirit evident. Many visitors do not realize that Israel is 62% desert. To see what has been accomplished not only in the desert and in the cities, but also in the rocky terrain of its hills is admirable. The preservation of the holy areas of the three major religions is strictly



L to R: John, I5BKO, Treasurer; Sandor, I5ZJU, President and Mauro, I5MEC, Sergeant of Arms, of the Florence Amateur Radio Club.

enforced. Most surprising to us was the rapport between Israelis and Arabs (resident and/or working aliens). There were no discordant 'incidents' anywhere in Israel while we were there.

So much for our latest trip - but how can we finish unless we say we had an fb QSO with our son, Martin, K2ACM, and our daughter, Sylvia, W2GPK, via Sol Goldberg, WB2ZZA/4X4, in Haifa.

FCC

August 30, 1973

ALL AMATEUR REPEATER STATIONS MUST OBSERVE RULES ADOPTED IN DOCKET 18803

There apparently has been some confusion among amateur licensees as to the actual effective date of the rules adopted in Docket 18803. The Commission reiterates what should be clear to all amateur licensees that the rules became effective October 17, 1972. Licensees have been informed in the Report and Order, the Memorandum Opinion and Order, and by several Public Notices and Orders, that full compliance was expected as soon as possible but not later than June 30, subsequently extended to August 30. The Commission adheres to the view that all licensees have had adequate time in which to modify their operations and fully comply with our rules, although there may not have been sufficient time to obtain the licensing authorizations for repeater station, control station, and/or auxiliary link station. Licensees operating such stations under a previous authorization are cautioned their operations must otherwise fully comply with the rules. Licensees and control operators of stations not operated in compliance are subject to appropriate enforcement action.

An excessive number of problems are being encountered with defective amateur repeater station applications, contributing to wasted effort and lengthy processing delays. The principal problems are lack of standardization, failure to supply the required information, and/or failure to present the information in a manner permitting expeditious processing. Using the experience in processing thousands of these applications, suggested application forms designed to eliminate the most frequently encountered errors, are being developed. Whether these forms will be adopted as official FCC forms is undetermined. However, properly prepared applications based upon these suggested forms will be acceptable for processing. Amateurs are encouraged to develop more universally accepted terms and symbols for use in their applications.



MODERNIZE NOW!

WITH PLASTIC QSL CARD HOLDERS

frame - display - protect

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

"I find them a most convenient and neat display system."
 Schnectady, New York.

"Thank you for the service you have given. We are writing QST and
 thanking them for having advertisers like you." Lewis, Delaware.

"Your QSL card holders are GREAT!" Gardena, California

"They certainly do a good job." Neptune Beach, Florida

"The holders are an ingenious and necessary addition to my Ham
 Shack." Woodstock, New York

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

two holders \$1 - seven holders \$3

prepaid and unconditionally guaranteed

at your favorite dealer or order direct from:

TEPABCO

Box 198W, Gallatin, TN 37066



Identify yourself with our
 custom engraved call pins

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

Special Offer to Clubs, write
 for prices and samples

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

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

On Frequency

CRYSTALS de - W6DOR



FT-243 FOR ALL BANDS.

NOVICE: (40-15-10 meters)

OSCAR: (8106-8111 kHz)

QRP: (40-20-15 meters)

VHF/UHF: (Above 50 MHz)

PRICE: \$2.50 - 3 for \$7

(Dealers Wanted)

GOLDEN WEST CRYSTALS

2921 Loyola Drive

Davis, California 95616

Phone: 1-(916) 756-7372

Blowers for Cooling,

Power Amplifier



A...\$9.95 each
 \$8.40 ea. in 8 lots
 Shp.wt. 4 lbs each.



B...\$12.95 ea.
 \$11.25 ea. in
 4 lots.. Shp.wt.
 5 lbs each.

INCLUDE SUFFICIENT

POSTAGE

Illinois Customer.

Add 5% Sales Tax

	Free Volts 80 Hz.	Free Air RPM	Full Load Watts	Full Load Amps.
A	115	2870	61	0.74
B	115	3180	74	0.98

Other sizes available on special request.

KM Electronics 60634
 7622 W. BELMONT Chicago, IL

INTENTIONAL INTERFERENCE

by Art Smith, W6INI

This is a challenge to the leadership of the "Public Service Nets" to take effective action in the matter of willful and malicious interference to net operations on 40 meters. No other operating organizations have the potential that they have to do this.

For more than three years ECARS, MID-CARS, WCARS and other amateurs have been plagued with many forms of illegal harassment. Its abatement has been negligible. What can be done about it? Apparently the present steps being taken are inadequate.

The FCC's inaction can possibly be attributed to either or both of two things: lack of a desire; lack of sufficient personnel. Take your pick! In any event, the nuisance continues.

A four-point action program is herewith suggested and can be implemented with effective "Net" leadership. The program can consist of the following:

1. Write letters to congressmen and senators.
2. Organize committees to meet with congressmen and senators during an upcoming congressional recess.
3. Intensify a program to notify the FCC field offices and monitoring stations when willful and/or malicious interference occurs.
4. Investigate the feasibility of and lay the groundwork for legal action.

Point 1 - Write Letters. If each member, as well as interested non-members, would undertake to write a brief letter to his congressman and senators, within a specified 30-day period, the avalanche of letters would attract immediate attention to the situation. These letters should be clear and concise, outlining the nature and magnitude of the problem. A short, hard-hitting letter is better than a long, dragged-out technical one. When, for example, 43 California congressmen and two senators are deluged with mail, they will immediately ask the FCC how come! Plus, it will create an awareness of the problem which might result in proposing suitable legislation or granting additional funds to expand the FCC field organization.

Additional interest can be stirred up by writing letters to the chairmen of the Senate and House "watch dog" committees having cognizance over the FCC. These letters might go into greater detail and could be accompanied with short tape recordings showing the types and severity of QRM. Also special attention can be given to California congressmen who are on the "watch dog" committees. One is Congressman Van Deerlin of San Diego. There may be others.

To implement the letter-writing program, periodic, daily announcements should be made on the "Public Service Nets" to the effect that this is "write your Congressman month", etc. This action will probably stir up some of the dissidents and provide a good opportunity to make recordings for future use.

Point 2 - Organize Committees. Here the object is to organize a committee for calling on each congressman and senator in the state of California, and perhaps, Arizona, Nevada and Oregon. California has 43 congressmen, Arizona and Oregon have 4 each and Nevada, one. Add to this two senators for each state and we will have a grand total of 60 going to bat for us. (If this could be co-ordinated with ECARS and MCARS, a highly effective program could result!) Establishing this organization will prove a real test of leadership. Here are a few suggestions:

1. Set a target date for the visit to the congressmen. This should be during an up-coming recess when they are all home. There is one scheduled for August, but that might not give enough lead time. In any event, for maximum impact all committees should make their visit during the same period.

2. Make a list of all congressmen and senators and assign a committee chairman to each.

3. Committee chairman might be obtained from the present officers and directors as well as past officials. They can be augmented by qualified members and non-members for the rest of committee chairmanships.

4. Each chairman should organize his own committee from the highest caliber, knowledgeable amateurs in his district. It should be a prerequisite that they are able to express themselves succinctly. They should also be constituents.

5. Well ahead of the proposed meeting date, prepare and circulate petitions among all the amateurs in the area, through clubs, ham stores, and personal contact (suggested wording below). It would probably be best if WCARS designed, printed and distributed a suitable petition form. To optimize, three copies should be signed by each petitioner so that the second and third copies can be accumulated for the committees to visit senators.

6. Committees should hold several planning meetings to fully organize for their visit. They might even rehearse what each of them will say in the meeting.

7. Make an appointment for the visit with the congressman's local office (listed in phone book). Several weeks ahead or even a month or two is not too soon. Confirm the appointment a few days before it is to take place. Plan on 15 to 20 minutes.

8. Committees might provide themselves with tape recordings illustrating the types and severity of interference. Make notes of the important points to discuss with the congressman. Provide your own tape recorder and limit the tape presentation to two or three minutes.

9. It would be well to have a written summary of the important points and what you want the congressman to do for you so that you can leave it with him for follow-up action. State facts, not fancy, how long the problem has existed, when it usually occurs and its disruptive effect. Brief him on the purpose of the "Public Service Nets" and the effect of willful and malicious QRM on emergency communications.

Point 3 - Report to FCC. Encourage, with frequent announcements, all WCARS participants to notify the nearest FCC monitoring station and field office (and note in their logs) each and every time willful or malicious interference occurs. Keep in mind that for interference to be willful, the perpetrator must know that he is causing interference. Therefore someone must inform him so that if he continues, you can state unequivocally that he knew about it. (This should be logged also). This is vital to a legal case! The importance of notifying the FCC cannot be overemphasized so that their records will reflect the frequency of legitimate complaints and give them a continuous opportunity to enforce their regulations.

Point 4 - Legal Action. In the event that the above steps fail to bring reasonable results, legal action might be feasible in the form of a class action lawsuit to bring about better en-

forcement and/or individual filing of charges with the U.S. Attorney against violators. Here again WCARS leadership should contact hams who are attorneys and obtain their advice in the matter. Now is the time to lay the groundwork for legal action!

Below is a sample of how a petition might be worded for presentation to congressmen and senators. Signatures should include call signs and addresses of petitioners:

P-E-T-I-T-I-O-N

To Congressman (or Senator) _____

We hereby petition you to take appropriate action to require the Federal Communications Commission to enforce its Rules and Regulations as well as International Laws pertaining to the Amateur Radio Service, particularly with respect to willful and malicious interference (Article 97.125, FCC Rules). Over the past three years, and with increasing frequency and intensity, the Amateur Radio Service has been plagued with violations for which the FCC is unable and/or unwilling to provide reasonable enforcement.

The above suggestions can be effective if properly organized. The "Public Service Nets" have the mechanism for its accomplishment. Additional expenses, if necessary, can be met by voluntary contributions. I feel that many will be glad for this opportunity.

Worldradio/News
Worldradio Associates
2509 Donner Way
Sacramento, California 95818

Dear Sir:

Thank you for sending me the copy of your newspaper which contained the article about the young hemophiliac in Guatemala City who received aid from the United States. I enjoyed reading this article and I greatly appreciate the mention of my name and the small role I played in this drama.

It is always so rewarding to know that you have been able to help someone in need and, as in this case, to be able to save a life.

I also wish to express my thanks to the President of the United States for allowing the medication to arrive swiftly. I greatly appreciate the manner in which the radio operators, Mr. Harold Walker, WA6TSK, Canoga Park; Peter Grillo, W9LVT/6, Arcadia; and John Alexander, K6SVL, Palos Verdes Estates, promptly responded to my plea for help, and remained in an all-night vigil with me. My thanks also go to Dr. Don Michaelson, who made the arrival of the needed medication possible.

Because of these men, the young boy is now enjoying life and all it holds for someone his age.

Thank you again for your thoughtfulness in sending me a copy of this article.

Sincerely,

Ana de Maldonado

32

Amateur Radio
electronic human communication

POW!

regular \$19.95 - SALE \$6.95



MOBILE NOISE

suppression kit

These mobile noise suppression kits are commercial grade and made specifically for radio communications use. Built by RCA these are QUALITY!

We are down to the last 300 and want to move them. Complete with instructions.

Regular \$19.95 - Selectronics special only \$6.95.

If you were to go to a two-way radio shop installing business radios, you would see these noise suppression kits being installed. (\$1.00 postage, CA add tax)

WASH!

special

Surplus
military
radio
and
test
equipment
bought,
sold
and
traded

SPEAKERS

Military vehicle speakers - Weatherproof, rugged, good audio quality. Perfect for mobile use. Ideal for your camper or recreational vehicle.

These heavy-duty speakers cost the government \$35 and you have seen them sold elsewhere for \$8.95. The special SELECTRONICS price is only \$2.49. Please include \$1.00 for the postage and California hams are requested to include whatever the sales tax may be at the time of your order.

This is a four-inch speaker in a rugged metal case five by five by three inches.

INOUE-IC-21



With all these features:
24-Channel Capability
AC DC
SWR Indicator
Discriminator Meter

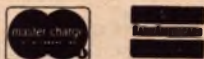
S-Meter
Receiver Offset Tuning
Harmonic Suppression, 60 dB or more
Now with 7 kHz Narrow-Band Filter

Norm Lehman, WB6SBR

trade-ins
WANTED

SELECTRONICS

featuring



WRITE FOR SPECIAL
\$\$ PRICES \$\$

INOUE IC-230

SAVE \$

**NEW!
SB-450**



SB-450

New, all-solid-state transceiver of highly advanced design, precision built to exacting standards.

- 12 channels • Covers 420-450MHz
- FM, 5W output • 12VDC operation
- Supplied with 2 sets of crystals, 445.5/449.5MHz and 446/446MHz.

NO ONE ANYWHERE BEATS OUR DEAL!

1709 Markston Road
Sacramento, CA 95825
(916) 922-2212



The Collins Radio That I Knew

by Jiggs Ozburn, WØARW

I first met Arthur Collins at a ham club meeting at his house (factory in the basement). I hadn't finished high school and he hadn't finished college (he never did). This was in 1929 and the popular transmitting tubes were 210, 203A, 852 and 204A (10, 50, 75 and 250 watts respectively).

Art was about 27 at the time and had been making ham transmitters for about a year. He was tall and slender and very quiet. He knew what you were going to say before you said it, so not many people engaged him in idle conversation. He came from a well-to-do family whose fortune was taking a beating in those depression years, so Art was pretty much on his own. He had been a teenage ham and had accomplished much in building and operating. He handled a lot of traffic for the Byrd north pole expedition by direct contact with the ships.

By some, he might have been considered anti-social, but there were too many mysteries to solve and goals to conquer in radio to be sitting around at cocktail parties and slapping people on the back. Conversely, Art was kind and fair to the vast army of employees that he eventually came to command.

The type 10A and 10B transmitters using 210 tubes and the type 20B, a monstrous 1 KW transmitter using 204A tubes were built in the basement factory. At this time, to my knowledge, there was only one other successful builder of ham transmitters in the country. Many hams

said that production building of transmitters would be impossible. Collins proved that it was possible and along about 1932 was forced to seek larger quarters. At this time Art had decided to devote his entire time to engineering. He hired two part time engineers and one assembler. He and his staff designed and had built the first line of Class B modulation transformers available to the radio industry. This was the first of many technical "firsts" to come out of the Collins labs.

I went to work for Collins in the summer of 1933 to become the second full-time assembly worker. A production superintendent had been hired and the part time engineers were full-time. Orders started arriving from foreign countries for our equipment to be used in commercial application. Then came the big break-- Commander Byrd needed some first-rate communications equipment for his south pole expedition and Collins was chosen to build it (with generous donation of component parts from manufacturers). It was a great thrill to build this gear and, later on, to hear it from the south pole.

The publicity from the Byrd job gave us a big boost and we soon outgrew our present quarters. These quarters were retained for the Enginemen, as we underlings called them, and a building in downtown Cedar Rapids was leased for production. In rapid order we got our first big U. S. government contract, a chief engineer was designated for

our rapidly growing engineering staff, and the company was incorporated. Art was kicking around the idea of an automatically tuned transmitter in his head, so a master machinist was hired and our first metal turning lathe was purchased. The automatically tuned transmitter was a success and many thousands in different models were produced. The one you are most likely to have seen or used was the ART-13. Besides the autotune, other accomplishments were inductive neutralization, audio amplifiers with all stages transformer coupled, negative resistance oscillators, the pi-network adapted to high frequencies (called the Collins antenna tuner for many years) and bandswitching in transmitters. Some of these were designed to get around patents held by the big boys (we were, at last, being recognized).

It was apparent that this country would be drawn into the war with Germany, so engineering contracts started rolling in from the government by the dozens. Another large manufacturing plant was acquired and plans drawn up for a brand new facility. Before the war was over this was expanded three times, and virtually all of the empty buildings in Cedar Rapids were leased to Collins. The main production was TCS and ART-13. The most important design to come out of this period of interest to hams was the linear VFO (ours was permeability tuned). Ask Ted Hunter in Iowa City about this if you ever work him on the Eyebank Net.

Collins remained in war materiel until the very end and was caught with no commercial product lines and nothing to build with (not so with some of the other companies).

There was a day and night mad scramble to get something going and by buying some government components we were able to get back in business. Collins had not built a ham receiver up to this time. The first one ever built after the war was the 75A-1. This teamed up with the 32V-1 transmitter. Both had that wonderful linear tuning VFO. What a day for ham radio!

The exploitation of single sideband by Collins is a little story in itself, but it is modern history known by many. The company grew to three large plants in this country and one in Canada, employing over 17,000 people at one time. Collins built all of the communication equipment used in the flight to the moon, as well as much of the telemetry.

All stories can't end happily, and this is one. After the space program was cut back and the supersonic transport was dumped, Collins went into a financial tailspin and eventually was taken over by another larger company. Mr. Collins remains only as a technical consultant.

To quote Mr. Wilson, present company president, "It should be a source of pride for all of us that Arthur Collins is ranked in the same class as Marconi by many of his peers throughout the world."

As for me, I spent the last 17 years of my career with them as a tech writer (yeck), then retired to cold and colorless Colorado (white is colorless, isn't it?) after 25 years with them. Blame me for the instruction books on the 75A-4 and the KWS-1.

(From "Zero Beat")

160 METERS
by
Stew Perry, W1BB

Cayman Island DXpedition ZF1 "Cooking"! Marv Carter, W4ZMQ, with Tom Warren, WB2JYM, and Tom's brother, Jim, WB2VPZ, hope to operate the CQ WW AB DX Test, all bands November 24/25 '73, with Tom covering 160 especially with his T4XB and R4B. This is 'tentative', but looks much better than 50/50 for a "GO". Tom might activate 160 as early as Nov. 20 or 21. We're hoping, boys!



Longest 160-Meter QSO in History-18,000km/11,200 miles - made by Tokuro Matsumoto, JA7AO, with John Wright, VP8KF, Falkland Island, July 9, '73, 1141Z, 1803 kHz from this excellent station. Also a "first/ever"-JA/SA-LU5HFI QSO, and other records - WOW! (Can anyone 'top' this??) Congrats OM "TOK"!

Art Berry, VK3CZ-459, Makes Another "First". QSOing John Wright, VP8KF-349-1115Z, July 7 thus giving him also "WAC/160"! Then followed July 11 by still another "first" with Fred, LU5HFI-339 at 1115-30Z July 8. Great!

Exceptionally Hard Path "First/Ever". - W7/Eu, Dec. 28, '72 when Bob Olsen, W7DZO, 359 and Fred Gray, G3YUV-449, QSO'd 0655Z, a feat heretofore believed "impossible". Stupendous! Boys - Congrats!

WIRELESS/RADIOS Antiquers Directory. Over 650 names/addresses, call letters, phone numbers of buyers, sellers, clubs, museums, associations, societies, collections, old radio reprints, jokes, collecting hints for both the beginner or advanced collector. Services offered such as repairing, restoring, appraising, Only one Known. Experts in this field keep Directory at their fingertips. Radios/Wireless Collectors Catalog No. 2 Free. Order \$5. PP, MIDCO WR9, Box 15370 Long Beach CA 90815.

The High Adventure of Amateur Radio as reported in Worldradio

WILSON ELECTRONICS

W7GVA designed MONO & DUO BAND BEAMS



QUALITY MONO & DUO BAND BEAMS AT LOW PRICES

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

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

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

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

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

WILSON MONO BAND BEAMS

Model No.		Price
M340	3 ELE. 40 METER BEAM (full size) Boom length 38.5 ft. 3" OD .200 wall to .065. (w/re-enforcing kit)	\$420.00 \$498.75
M240	2 ELE. 40 METER BEAM (full size) Boom length 16 ft. 3" OD .065 wall. (w/re-enforcing kit)	\$225.75 \$278.25
M720	7 ELE. 20 METER BEAM Boom length 58.5 ft. 3" OD .200 wall to .065 wall. (w/re-enforcing kit)	\$409.45 \$431.55
M620	6 ELE. 20 METER BEAM Boom length 50 ft. 3" OD .200 wall to .065 wall. (w/re-enforcing kit)	\$314.95 \$333.90
M520	5 ELE. 20 METER BEAM Boom length 40 ft. 3" OD .065 wall. (w/re-enforcing kit)	\$178.45 \$194.25
M420	4 ELE. 20 METER BEAM Boom length 30 ft. 3" OD .065 wall. (w/re-enforcing kit)	\$146.95 \$159.60
M320	3 ELE. 20 METER BEAM Boom length 20 ft. 3" OD .050 wall. (w/re-enforcing kit)	\$ 99.95 \$108.95
M715	7 ELE. 15 METER BEAM — — Boom length 40 ft. 3" OD .065 wall	\$224.95
M615	6 ELE. 15 METER BEAM — — Boom length 32 ft. 3" OD .065 wall	\$146.95
M415	4 ELE. 15 METER BEAM — — Boom length 20 ft. 3" OD .065 wall	\$ 94.45
M810	8 ELE. 10 METER BEAM — — Boom length 40 ft. 3" OD .065 wall	\$178.45
M510	5 ELE. 10 METER BEAM — — Boom length 20 ft. 3" OD .065 wall	\$ 94.45

WILSON DUO BAND BEAMS

DB62	6 ELE. 20 & 2 ELE. 40 INTERLACED BEAM Boom length 50 ft. 3" OD .200 wall to .065 wall. (w/re-enforcing kit)	\$498.75 \$570.15
DB52	5 ELE. 20 & 2 ELE. 40 INTERLACED BEAM Boom length 40 ft. 3" OD .200 wall to .065 wall. w/re-enforcing kit	\$393.75 \$460.95
DB54	5 ELE. 20 & 4 ELE. 15 INTERLACED BEAM Boom length 40 ft. 3" OD .065 wall. (w/re-enforcing kit)	\$241.45 \$257.25
DB43	4 ELE. 20 & 3 ELE. 15 INTERLACED BEAM Boom length 30 ft. 3" OD .065 wall. (w/re-enforcing kit)	\$188.95 \$201.60
DB32	3 ELE. 20 & 2 ELE. 15 INTERLACED BEAM Boom length 20 ft. 3" OD .050 wall. (w/re-enforcing kit)	\$115.45 \$124.95
DB76	7 ELE. 15 & 6 ELE. 10 INTERLACED BEAM Boom length 40 ft. 3" OD .065 wall.	\$251.95
DB65	6 ELE. 15 & 5 ELE. 10 INTERLACED BEAM Boom length 32 ft. 3" OD .065 wall.	\$230.95
DB44	4 ELE. 15 & 3 ELE. 10 INTERLACED BEAM Boom length 20 ft. 3" OD .065 wall	\$115.45

NEW NOW AVAILABLE

DB67	7 ELE. 20 6 ELE. 15 \$551.25; (w/re-enforcing kit)	\$572.25
M52046	5 ELE. 20 on an extra heavy duty 46' boom. (includes re-enforced element)	\$288.75

If not available from your dealer write direct to factory for catalog or information and fast service. All prices F.O.B. factory. Wilson beams are available at the following dealers:

HENRY RADIO STORES	LOS ANGELES, CALIFORNIA
AMATEUR ELECTRONIC SUPPLY	MILWAUKEE, WISCONSIN
HAM RADIO OUTLET	BURLINGAME, CALIFORNIA
HARRISON RADIO	LONG ISLAND, NEW YORK

WILSON ELECTRONICS

P. O. BOX 116

(702) 451-5791

PITTMAN, NEVADA 89044



This marks the first entry, in this newspaper, of a new column, "The Ham Club".

By its very nature it will depend on input from the clubs on what they are doing. The purpose being so that other clubs may hear of interesting activities and modify them for their own use. We would like to hear from individuals, and also to be placed on the mailing lists of the Amateur Radio club bulletins and publications.

A good, strong ham club with vitality, is truly a joy. Some clubs are great. Some are dreadful. Through this column we hope that the alive ones will share their ideas and inspire other clubs.

A club can be of great benefit to a newcomer. There he can get advice from the "old timers". Ideas can be exchanged. For someone who has just moved to a town, those in the ham club may be his first friends.

Through an organized group contributions to the local community can be made. Clubs are today becoming more and more involved in civic affairs. And in the case of an emergency, those who have worked together before on Field Day or the Simulated Emergency Test will be a more effective unit.

Membership in a ham club can be a most enjoyable activity. We would like the clubs to send us their meeting places, dates and times so that we may list them in this column hopefully directing people in your community who haven't been to one of your meetings to show up and partake in the hospitality that you offer.

What are some of the "with it" clubs doing? The club in Walla Walla, WA, with but 44 members has built a most attractive clubhouse and every year puts on a hamfest that attracts some 400 people. The club in Fresno, CA, has put on an annual hamfest that brings people from three states and they've been at it for some 35 years or so. The club in Hastings, NE, puts on an annual camp-out and steak fry.

The last one drew several hundred hams and their families. A club at Schenectady, NY, recently provided communications for a Jaycee project co-ordinating a volunteer project to clean up a creek bed. The club in Las Cruces, NM, each year stages a Bean Feed which has gained fame among hams throughout the Southwest. The club serving Montgomery and Bucks County, PA, has an annual radio equipment auction with the proceeds going to the club's philanthropic programs. The club in Lancaster, CA, puts on an annual banquet bringing in well-known speakers.

The above list could go on. And at the same time other clubs are saying, "There's nothing to do!" We'd like to get detailed reports from the "with it" clubs on how they executed their projects. Another good club project is running licensing classes for Novice and General licenses. Some clubs even have classes for Advanced and Extra. Let's share how they operate their classes.

Get those club bulletins in here - address them to Clubs, Worldradio, 2509 Donner Way, Sacramento, CA 95818. By sending yours in we can serve as an information exchange source. For example, the following is from "Ham Hum":

FIVE WAYS TO GET THOSE "WALLFLOWERS" INVOLVED

Some people hold back in their associations - and are held back, too - because they don't consider themselves "good mixers". Shy about their good points, oversensitive about those they consider poor, they forego the satisfaction and advantages which flow from becoming involved. Sad to say, they aren't the only losers. Their knowledge and experience could help the group as a whole, and so (if they would ask), would be their discerning questions.

How can we get these silent spectators into the act? Here are some things everyone can do:

1. Devote part of your time at meetings to getting acquainted.

Don't spend it all with good friends and old cronies.

2. Look for a "new face" when you enter the room or search for a seat. Don't hesitate. Walk right up, put your hand out and say "I'm so-and-so, I'm glad to meet you." Chances are that he'll be glad, too.

3. Follow through. Don't go away before introducing him to another member. If none "float" by, think up some reason for taking your new acquaintance where the action is. "I've got to speak to the treasurer," for example. "Do you know him? Come along."

4. Chat for awhile. Tell him some of your problems, so he'll open up and tell you his. Make a mental note of his solutions and constructive ideas. Then, when a chance arises, inject his name into a discussion - so the chairman can invite him to comment. Any embarrassment he may feel will be only temporary, like the first cold plunge in a pool. After that, the rest comes easy.

5. Be friendly. This doesn't have to be a hail-fellow-well-met performance. Most people equate friendliness with sincerity. When you ask even the obvious questions about business, home and family, how you ask and how you listen will be observed.

Somebody worked hard to recruit these individuals as members. A bit of effort on your part may help to keep them.

MEETINGS -

Austin, TX - Second Tuesday of the month - 7:30 p. m. at the Red Cross building, 1225 Red River.

Monessen, PA - First and third Wednesday of each month in the Monessen City Building.

Sioux City, IA - First Tuesday of the month, 7:30 p. m. at the Civil Air Patrol headquarters at the Sioux City Municipal Airport.

Portland, OR - First and third Fridays of the month at the Oregon Museum of Science and Industry, 8:00 p. m.

Van Nuys, CA - Fourth Tuesday of the month in the Scouthouse at the Woodland Hills Methodist Church, 5650 Shoup Ave., Woodland Hills, 7:30 p. m.

St. Paul, MN - First Friday of the month, Ramsey County Civil Defense Operating Center, 3383 North Rice St., St. Paul (Village of Shoreview) at 8:00 p. m.

San Gabriel, CA - First Tuesday of the month - Bowling Green Clubhouse, 405 So. Santa Anita, Arcadia - 7:30 p. m.

San Fernando, CA - First and third Friday of the month - Panorama City Recreation Center, 8600 Hazeltine Ave., Panorama City.

HEMINGWAY

started as a newspaper reporter. Here's your chance. Write for this newspaper.

Overseas Study

The Institute of International Education has announced the 1974-75 competition for grants for graduate study or research abroad, and for professional training in the creative and performing arts. About 550 awards to 46 countries are expected to be available. The grants, whose purpose is to increase mutual understanding between the people of the U. S. A. and other countries through an exchange of persons, knowledge and skills, are provided under the terms of the Mutual Educational and Cultural Exchange Act of 1961 - what we usually call the Fulbright Act - and by foreign governments, universities and private donors.

Applicants must be U. S. citizens at the time of application, holding a B. A. degree or its equivalent before the beginning date of the grant. In most cases, they must be fluent in the language of the host country. Creative and performing artists are not required to have a bachelor's degree, but must have four years of professional study or equivalent experience. Selection is based on academic or professional record, the validity or feasibility of the proposed study plan, language preparation and personal qualifications. Preference is given to those between 20 and 35 years of age who have not had prior opportunity for extended study or residence abroad.

Apply to Information and Reference Division, Institute of International Education, 809 United Nations Plaza, New York, NY 10017, or to any of I. I. E. 's regional offices. Requests for application materials will not be honored after October 15, and completed applications must reach the New York office no later than November 1, 1973.

What Hams Can Do To Increase Understanding

About a year and a half ago, at a meeting of the Chippewa (Ohio) Odd Fellows four brothers discovered they were all hams. It was decided that perhaps there were other hams in Ohio lodges. An article was placed in the Ohio Odd Fellow paper and in a few days, 8 names were received. Somehow, the article was reprinted in the Odd Fellows papers of Norway, Sweden and Finland. Letters and tapes have been exchanged with hams over there and the ham brothers of those three scandinavian countries got together on the air. The Ohio ham, Kirk Sanderson, W8WNA, has gotten letters and tapes from hams in Pennsylvania, which in turn led him to 33 hams in California. He has heard from Switzerland and Denmark. The summer of 1972, Kirk and his XYL had a house guest. Richard Storm and wife of Sweden. Brother Storm's call: SM5BVU. For more info if you are an Odd Fellow or even just interested: get in touch with Kirk Sanderson, 1129 E. Wallings Rd., Brecksville, Ohio 44141. (Passed along by Fred Shetler, K3VMS).

(From "Laurel Mt. VHF Society News")

CW FILTER



New Model CWF-2BX—\$19.95.
Ready to use. Please include \$1.00 postage.



Model CWF-2—\$12.95, Kit.
\$14.95 Wired, tested, guaranteed. Please include 55c postage.

- Get Razor Sharp selectivity from any receiver or transceiver.
- Extremely high skirt rejection.
- Drastically reduces all background noise.
- No audible ringing.
- No impedance matching.
- Ultra modern active filter design uses IC's for super high performance.

We have what we think is the finest CW filter available anywhere. The 80 Hz selectivity with its steep sided skirts will allow you to pick out one signal and eliminate all other QRM and QRN. Simply plug it into the phone jack or connect it to the speaker terminals of any receiver or transceiver and use headphones, small speaker, or speaker amplifier. Better yet, connect it between any audio stages to take advantage of the built in receiver audio amplifier.

Build the 2"x3" CWF-2 PC card into your receiver or get the self contained and ready to use CWF-2BX and plug in!

SPECIFICATIONS

BANDWIDTH: 80 Hz, 110 Hz, 180 Hz (Switch selectable)
SKIRT REJECTION: At least 60 db down 1 octave from center frequency for 80 Hz bandwidth
CENTER FREQUENCY: 750 Hz
INSERTION LOSS: None. Typical gain 1.2 at 180 Hz BW, 1.5 at 110 Hz BW, 2.4 at 80 Hz BW
INDIVIDUAL STAGE Q: 4 (minimizes ringing)
IMPEDANCE LEVELS: No impedance matching required
POWER REQUIRED: CWF-2 . . . 6 volts (2 ma.) to 30 volts (8 ma.); CWF-2BX . . . standard 9 volt transistor radio battery
DIMENSIONS: CWF-2 . . . 2"x3" PC board; CWF-2BX . . . 4"x3 1/4"x2 3/16" (black winkle steel top, white aluminum bottom, rubber feet)

TRY this fantastic CW filter. If you don't think it is the best you have ever used, ask for your money back. We will cheerfully refund it. These filters carry a full one year warranty.

Write for FREE brochures and magazine test reports. Other IC active filters available: CW mini filter (1 1/2"x2"), low pass, high pass, and wide bandpass filters. Audio amplifiers: 1/2, 1, 2 watts. Crystal calibrator.

MFJ ENTERPRISES

P. O. Box 494, Mississippi State, MS 39762

LEEDS RADIO

57 W. Warren St. N.Y.C. NY 10007

(212) 267-3440

Dialers

Telmergency Automatic Electronic Dialing Device, Model DC-8C. Solid-state electronics; operates on 6-volt D. C. battery; uses tape cartridge. \$35.00 each. Case lots of 8 pieces, \$240.00. Less cartridge, Less battery.

Proximity Switch

Magnetic Reed Switch, Normally Open Contacts. Magnet operates switch within 3/4 inch (3 in. x 5/16 in. x 5/16 in.) Ideally suited, alarm systems, doors, windows, etc. Priced at only 7 pair for \$10.95.

Burroughs

- 8509-1 Memory Driver with B-7971 Jumbo Alphanumeric Nixie Tube. \$15.00 each
- 8910-1 4 line 8-4-2-1 BCD IC Driver for B5750 Nixie, Less Tube. \$ 5.50 each
- 8054-B 110 kHz BI Directional Counter for B-5991 Nixie, Less Tube. \$ 5.50 each
- 8006 Polarity Detector Module for 8054 Counter, Drives B5992 (+, -) Nixie, Less Tube. \$ 5.50 each

All Above Prepaid Continental U. S. A.

FM TRANSCEIVER under \$100.00

YOU SUPPLY CASE - MIKE - SPEAKER - CONTROLS.

144-220 TRANSMITTER KIT

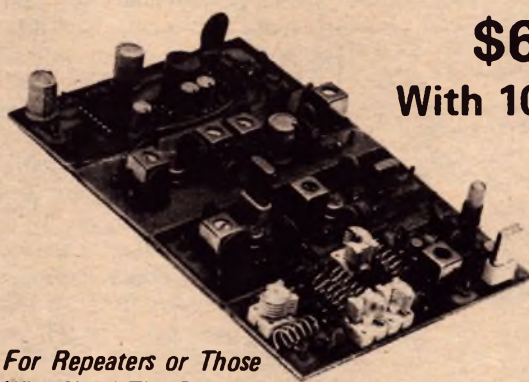


\$29.95
COMPLETE WITH DRILLED BOARD

- TYPICALLY 1 1/2 WATTS OUTPUT AT 12.6 VOLTS (1 WATT ON 220)
- ADJUSTABLE DEVIATIONS TO 10 kHz
- AUDIO CLIPPING AND ACTIVE FILTER
- CRYSTAL NETTING TRIMMER
- DOUBLE TUNED RF STAGES FOR A CLEAN SIGNAL
- STANDARD 12 MHz CRYSTALS (14 MHz FOR 220)
- ZENER REGULATED OSCILLATOR
- PROVISIONS FOR METERING EACH RF STAGE
- PREDRILLED AND TINNED GLASS CIRCUIT BOARDS
- MEASURES ONLY 2" x 6"

A one watt exciter using four RF transistors, two diodes, and one integrated circuit. The RF transistors are operating well below their ratings allowing long keying periods without damage. The exciter may be used alone as a transmitter or with our PA-144 or 220 amplifier for a 15 watt station.

NEW RX-144C KIT



\$69.95
With 10.7 Crystal Filter

- DRAWS ONLY 60 MA FROM 12-14 VOLT SOURCE
- LOW CROSS MODULATION FRONT END
- 10.7 Mhz CRYSTAL FILTER
- COR OUTPUT FOR CONTROL
- 2 WATTS AUDIO OUTPUT
- LESS THAN .2uV SENSITIVITY
- MEASURES 4 x 6 x 1 inches

For Repeaters or Those Who Need The Best

OTHER KITS AVAILABLE:

*PA-144/220	15 watt amp	\$29.95
*PA-450	10 watt amp. 1 watt in.	\$39.95
*RX-50	30-60 Mhz receiver w/crystal filter	\$59.95
*SC-1	10 channel scanner less crystal deck	\$14.95
*CD-1	10 channel crystal deck w/diode switch	\$ 6.95
*COR-1	COR w/3 minute & 3 second timer	\$19.95
*PS-12	12-15 volt regulated 12 amp supply	\$59.95
*PS-20	20 amp. same as above less case	\$69.95

All above kits include drilled circuit board and all components on the board less case connectors, and hardware except PA-1501H and PS-12.

Include \$1.00 postage and handling for each kit ordered. (\$3.00 for PS). New York State residents add Sales Tax.

NEW.....

- 1-2 WATTS IN 15 WATTS PLUS OUT
- SOLID STATE SWITCHING
- 12-14 VOLTS NEGATIVE GROUND
- LESS THAN 1 DB LOSS ON RECEIVE



PA-1501 H
wired & tested
\$49.95

\$39.95
complete kit



VHF ENGINEERING

320 Water Street POB 1921
BINGHAMTON, NEW YORK 13902

Novice Nook



a monthly column

One often hears Novices say "As soon as I get my General I'm going to throw away my key" or statements similar. This is indeed an unfortunate attitude. There are many advantages to being a competent CW operator.

Some of the advantages are apparent and some are not so obvious. We shall touch on both.

We have no argument with phone, it has its advantages also. But let us look at the two modes with this attitude - it is sometimes nice to have both a truck and a sports car. Each has its place and when you need one or the other, the other one would not be very useful.

Let's first look at the more obvious reasons for skill at CW and then at the more abstract ones. If DX is your "bag", CW will always give you more bang for the buck. CW can be copied when one cannot read the phone signals at all. The pileups on CW are not as deep as they are on phone. You will hear countries on CW that are not being heard in the phone portion. If you have a more moderate station, say 150 watts into a dipole, you will work a whale of a lot more DX on CW than on phone.

And there are other reasons. The heritage of Amateur Radio, yea radio itself, is the key and Morse code. When one reads the stories of the first shipboard operators and how they saved thousands of lives through the use of the "SOS" (which of course was using Morse code), one feels that he is turning his back on the heritage if he doesn't follow in their footsteps.

On those ships "Sparks", as the radio operator was known, was a highly respected member of the crew. He was respected because of his skill. And the radio operator was an "officer". He was respected because he had applied himself and spent the many, many hours necessary to master his skill. Most of the operators were "hams" and the ability with the key took them to the many exotic parts of the world that others would never see. Today, many of those former "Sparks" are the leading executives in the electronics industry.

We call ourselves "radio operators". Well, conjure up in your mind an image of a "radio operator". What do you see? A person at equipment, wearing earphones, and his hand on a key. Isn't that almost what radio "operating" is all about?

Anybody can talk! And now, with the new rule that allows anyone to operate an amateur station as long as a licensed operator is nearby, what can set the amateur apart? The answer is the ability to do something that someone else cannot do, such as copy Morse code.

There have been many instances when actual distress signals are sent out over the ham bands. What a disgrace it would be to just pass over one because one had not spent the time necessary to be able to copy well.

Speaking of distress calls, what if it is you who are the one calling for help? If you should have a component in the speech circuits fail you can always send CW. And remember that if your power supply (possibly a battery) is running low, your chance of being heard will be better on CW than on phone. You will want to be able to copy what questions the answering

station asks - on the first transmission, without having to ask for repeats.

You may say that you never expect to get into such a situation. Well, wait a few years. We know of one person whose hobby was sailing. He and some friends were sailing to Hawaii. They got caught in a very bad weather situation and the mast snapped off. An "SOS" was sent with a "Gibson Girl" (a military surplus transmitter, using a crank-generated electricity and an automatic "SOS" sender.)

Later a member of the Coast Guard told the crew, "If you are going to keep sailing you should get a ham license because the 500 kHz signals used in maritime emergencies may skip right over a monitoring station and not be heard. But with a "ham" license, someone, somewhere, will hear you and call the Coast Guard. The young man he was talking to now has a ham license (as does his wife) and they are planning, quite soon, to sail around the world.

If that microphone should break (dropped, full of water, etc.) one would be out of luck without that key.

OK, so you say, "Well, I'm not planning on sailing around the world". How about other situations? Do you go camping or backpacking? What if someone in your party falls off a cliff or has a heart attack? Could you call for help?

Recently, "Worldradio" staff member, Craig Rutledge, WB6NUM, went camping near Lake Oroville. His little Ten-Tec CW transmitter was able (with an antenna but a few feet off the ground) to work into Sacramento, the San Francisco Bay Area and Reno, Nevada. The rig weighed a few pounds and the power supply was a 12-volt lantern battery. That's a pretty nifty way to go. A ham station, and communication (wherever you are) with the whole thing the size of a shoebox.

Some of the CW swiftys have received their DXCC running no more than five watts. Pretty good, huh?

But there are even more reasons for sticking with CW. Not much has been written about the sociological and psychological makeup of the sharp CW operator. However, patterns are showing up more and more. Our observations have led to certain conclusions.

Look at the amateurs who have reciprocal licenses to operate in other countries. Look at the operators who go on the DXpeditions. The vast majority are above average in their CW skills. Look at the amateurs who take a real part in Amateur Radio - the ARRL Directors, SCMs, etc. Look how many of the above mentioned have Extra Class licenses.

The Extra Class licensee makes up about five percent of Amateur Radio, about one out of every twenty hams is an Extra. But look up the license class of the top hams who have also excelled in their other activities. It is startling. Look up the doctors, lawyers, professors, executives, businessmen, etc.; you will find that the ratio is far, far greater than five percent.

Why is it? Let's look at the attitude surrounding CW for most. You will hear things like "It's so hard", etc. Is it hard? Well, it's not easy. But that is what makes the difference. There are those who tackle what is hard!! There is nothing in life worth having that does not take some extra effort. And what is really worth having usually takes a great deal of effort. The easy path is a path to nowhere.

These people have accepted a challenge. They have spent the long solitary hours necessary to master something. It would have been easy to give up when it got difficult. But instead, they pressed on. The name of the game is self-discipline. And finding that they could meet and best that challenge gave them the self-confidence to attack other challenges.

We know one very successful businessman who recently got his Extra. We asked him why and he replied "I am a totally non-electronic type but it was there". Like the mountain he climbed it because "it was there". He recently returned from his second pleasure trip in one year to other continents.

In this world there are those who strive to accomplish all they can in everything they come in contact with. There are those who do the bare minimum they can to "get by". There are those who spend their lives watching television. There are those instead who are the "heroes" of their own life stories. Rather than watch others, some prefer to be a "star" in whatever endeavor they are in.

We know of amateurs who have taken the test for Extra four and five times before passing. We can only wonder what such dogged determination does for them in other fields.

Let's look at one particular amateur. Today he is a college professor; he started as a high school teacher. His high school was in the most poverty-stricken area of his state. Going to college from that particular area was non-existent. But soon, students from that high school were going to college. They were all from his classes. His students went on to be leaders. He was a "turned-on" teacher and he "turned-on" his students. He had applied himself (he is one of the very top CW operators in the world) and he inspired others to apply themselves.

Another "ham" story. He came from one of the most depressed areas of the United States. He says "the Navy gave me my first pair of shoes". He went on to college, to a Masters degree, a good job and now is president of his own company.

Another amateur rose to the presidency of a major corporation. Well-situated, he then embarked on a project to assist the technical education in an educationally deprived area.

What these three men have in common (among other things) is the big "E" after their names. During World War II the Government gave manufacturing plants that did an exceptional job a big flag with an "E" on it. The "E" stood for excellence. You have to make an "extra" effort to achieve excellence.

More amateurs are striving for "excellence". Since 1967, while the number of Technician licensees has declined twelve percent and the number of General/Conditional licensees has declined twenty percent, the number of Advanced licensees has increased fifty-nine percent and the number of Extra licensees has increased one-hundred-and-forty-eight percent.

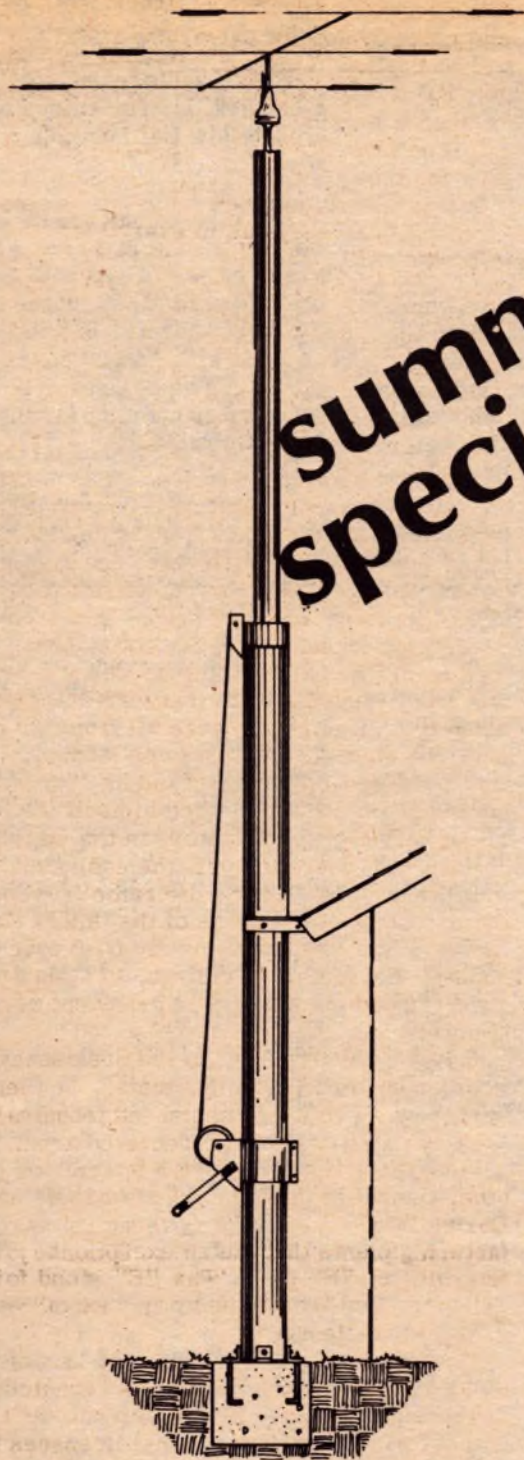
That extra effort is "where it's at". Richard Bach, the author of "Jonathan Livingston Seagull", had sent that book to eighteen publishers; they all turned it down. Dejected, he wrote to a former teacher of his for advice. The reply came back, "Imagine yourself on your own deathbed, still a failure, having to confess - "I never really tried".

While most would have given up after eighteen rejection slips, Bach sent it out one more time. The rest is history. Some seven million copies have now been sold. Mr. Bach is living far better than he ever has, or would be if he had given up. And he has the satisfaction of knowing that many people have received a great deal from his book, which incidentally is about "not giving up".

So stick with the CW no matter how difficult it may seem. Work at it. Sweat if you must. But don't give up. Overcome the obstacle it may present. You will be better prepared to overcome other obstacles. Getting your Extra may be one of the best things that ever happened to you.

You will hear a few grumbles about the subject of the Extra. Some will say the Extra program is a failure because only five percent of the hams have one. Look at it another way. One cannot call the Doctorate program a failure because so few of the people who start high school go on to get one. Who are those extras? They are the "prime-movers" in Amateur Radio as well as other fields.

Wouldn't it be nice to be in that group?



summer
special

We will prepay to your door (anywhere in the West).

Tristao tower Model MM-40 complete as shown less rotor and beam, \$174.95.

Or MM-40 tower and Hy-Gain TH-3 mark 3 Tri-band Beam (regular net \$144.95) both for \$295.

Or MM-40 tower, TH-3 mark 3 and Cornell-Dubilier rotor Model TR-44 (reg. net price \$69.95) all three delivered for \$350.

Send for descriptive sheets for any of the above.

We also stock the following two-meter FM equipment, and will take any saleable Amateur Radio equipment in trade on them: DRAKE, STANDARD, REGENCY, RME AND CLEGG.

409 W. First Ave.
Albany, OR 97321

SUPER SPEECH PROCESSOR - VI

Introduced at the FRESNO "DX" Convention
to Top West Coast DX'ers



- 5-6dB Average Power Gain
- Works With All RIGS... NO MODIFICATION
- PC Board Construction... Plug-in Integrated Circuits
- Self Contained Power Supply
- Low Distortion - Quality Sound
- Economical - only \$79.95*
*Calif. residents add 6% sales tax.

Extensive Engineering Design and Testing has Produced a Unique 7 Pole Filter that Brings AF Speech Processing to a Reality at a Price Everyone can Afford. Send for your SSP-VI Today. You Won't be Sorry.

JRF ENGINEERING
6326 Mt. Ackerman Dr.
San Diego, Ca. 92111

WANTED FOR CASH\$\$\$ - airborne radio equipt. headsets, microphones, Xmitters, transceivers, antennas, receivers, ADF, TACAN, Commercial or military made by Collins, Bendix, RCA, -Wilcox etc. Call ROBERT SANETT, 616 So. Holmby, Los Angeles, CA 90024. (213) 279-1275

GLOBAL RESEARCH and Supplies. Amateur equipment and service. Dycomm, Galaxy, Tempo, Kenwood, Inoue, B and W, SBE, Hy-Gain, Cush-Craft, Larson. (312) 279-4658. P. O. Box 271, Lombard, IL 60148.

Pacific Division Convention

The Santa Cruz County Amateur Radio Club is hosting the 1973 Pacific Division Annual Convention. The Dream Inn at the Santa Cruz Wharf will be the Convention headquarters. The dates for the Convention are the 13th and 14th of October. The pre-registration fee is \$12.00 per person before 1 October and \$14.00 per person after that. There will be technical sessions, programs for the XYLs and things for the kids to do on the famous Santa Cruz Board Walk. Robert Denniston, WØDX, Past President ARRL, now President of IARU, will discuss the Amateur Radio international situation. For further information, contact Jim Marshall, WA6HCL, 1027 Pinehurst Drive, Aptos, California 95003. (Phone: 408-688-4571).

Tim Hastrup Travels World With Aid Of His Ham Radio



Bi-lingual ham radio operator Tim Hastrup makes ready to call friends in Denmark to make plans for visiting them this summer. Because Tim and his family spend each summer in his parents' native Denmark, he has radio licenses for both countries.

by Guy Keeler

In the United States Tim Hastrup is known as whiskey baker six, papa zooloo whiskey. But in Denmark he answers to Oscar zooloo two, tango yankee.

The language may sound a bit confusing to the untrained ear,

but to more than a quarter million ham radio operators in the world the words represent a pair of monikers as distinct as John Hancock's signature.

Hastrup, son of Mr. and Mrs. Jens Hastrup of 1024 E. Buckingham Way, is one of a relatively small number of ham radio opera-

tors to be licensed in more than one country. At 16, he is also the youngest member of the International Reciprocal Radio Operators Club, a select group which claims Arizona Senator Barry Goldwater as its number one member.

For the majority of ham operators one license is all that is needed. But for Hastrup, two licenses are a virtual necessity.

His parents are Danish citizens and the family spends each summer in Denmark. In order to take his hobby overseas with him he had no other choice but to obtain a ham operator's license in Denmark.

Since he speaks Danish fluently, Hastrup had no trouble getting his second license.

Being licensed in two countries has opened several doors for the Fresno High School junior. Last year his radio introduced him to a Danish man who lives just a block and a half from where Hastrup's father was born.

"I've got a pretty good list of persons I've talked with in Denmark and Sweden," he said. "This

summer I hope to visit some of them."

By the same token, while in Denmark Hastrup enjoys talking with fellow California ham operators.

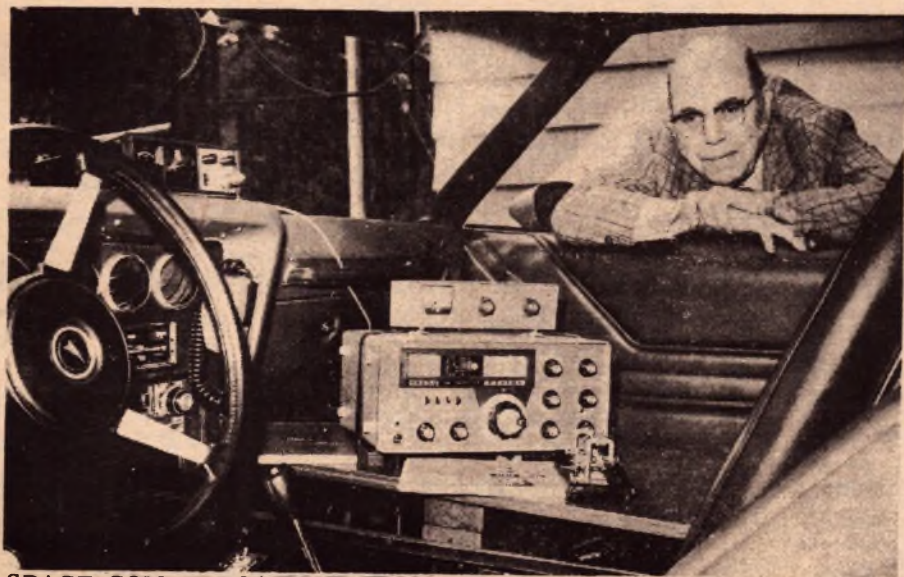
Although he has been a ham operator for a little more than one year, he has talked with fellow operators in all 50 states and all seven continents. His radio room is lined with "QSL" cards, special postcards ham operators send each other after meeting for the first time via radio.

"You can always find someone to talk to," he said, "no matter what time it is. The greatest satisfaction I get out of it is meeting new people."

Hastrup developed an interest in ham radio after spending numerous evenings listening to his father's short wave radio receiver. With the help of the Fresno Amateur Radio Club he obtained a novice rating last March and quickly advanced to a general rating. By the end of next month he hopes to hold an advanced operator's certificate.

Hastrup estimates he spends about 10 hours a week on his hobby, depending on how much homework he has to do. He says talking with a lonely lighthouse keeper on Market Reef in the Baltic Sea or a sheep rancher in the Australian outback is much more stimulating than watching television.

(From the Fresno, CA "BEE")



SPACE COMMUNICATIONS FROM HIS CAR - Fred J. Merry, East Greenbush amateur radio operator, with the radio equipment he uses to talk to "OSCAR", a satellite 900 miles in space that relays his messages to other hams across the country. (From the Albany, N. Y. "Times-Union")

His name will never appear in a schoolchild's textbook, but Frank J. Merry, an enterprising amateur radio operator from East Greenbush, earned himself a special niche in ham operator history when he talked through a satellite to other hams across the country while sitting in his car.

Merry's pioneering feat was made possible by OSCAR - an Orbiting Satellite Carrying Amateur Radio. OSCAR is a unique sun-powered radio receiver and transmitter launched last October

from Vandenberg Air Force Base in California as a sort of "hitch hiker" aboard a NASA weather satellite rocket.

Merry, who had already "talked" to OSCAR from his well equipped home station, W2GN, used mobile radio gear in his new car to talk to the satellite that passes over this area six times a day at an altitude of 900 miles.

Merry, a licensed ham since 1928 and a member of the Albany Amateur Radio Association, in-

stalled a telegraph key in addition to his other equipment to take advantage of OSCAR.

Merry made the first contact March 22 with station W3TMZ (Jack Colson) in Maryland. Soon after he was told by Radio Amateur Satellite Corporation, the outfit that made OSCAR, that he achieved the first amateur mobile-to-satellite-to-base station contact on record.

Since then, Merry has made two-way contacts from his car in many different areas, from here to California.

Merry emphasizes that, apart from its hobby aspects, amateur radio operation is important to the public safety. Ham operators have often aided rescue efforts in areas where normal communications have been disrupted by natural disasters, such as hurricanes or floods.

OSCAR, the sixth satellite sent aloft by amateur experimenters, can be used by hams world-wide. It has a disadvantage in that it passes over a particular area only a few times a day, but Merry hopes that one day, a permanent satellite in a stationary orbit will be launched.

At present, only commercial satellites that link the continents for the telephone and television occupy stationary orbits.

know this sign



To most people this is a symbol from Greek mythology. But to hundreds of thousands of active amateurs, Pegasus is the symbol of the Radio Amateur CALLBOOK the single most useful operating reference for active amateur stations. The U.S. Edition lists over 285,000 Calls, Names and Addresses in the 50 States and U.S. possessions while nearly 200,000 amateur stations in the rest of the World are listed in the DX edition.

Both editions contain much other invaluable data such as World Maps, Great Circle Maps, QSL Managers around the World, ARRL Countries list and Amateur Prefixes around the World, Time information, Postal Information and much, much more. You can't contest efficiently, you can't DX efficiently, you can't even operate efficiently without an up to date CALLBOOK.

To make the CALLBOOK even more valuable, three supplements are issued each year which bring your copy completely up to date every three months. These are available at a modest extra cost. Full details in every CALLBOOK.

Get your copies of the big new 1973 CALLBOOKS today.

US CALLBOOK (less service editions) Just \$8.95

DX CALLBOOK (less service editions) Just \$6.95

US CALLBOOK (with service editions) \$14.95

DX CALLBOOK (with service editions) \$11.45

Mail orders add 50¢ per CALLBOOK postage and handling. See your favorite dealer or send today to:

WRITE FOR RADIO AMATEUR
FREE BROCHURE **callbook** INC.
Dept. W 925 Sherwood Drive
Lake Bluff, Ill. 60044

from: K-ENTERPRISES

1401 North Tucker - Shawnee, OK 74801

Makers of

- Counters
- Control Units
- Amplifier
- Peaking Generators
- Calibrated Markers
- Frequency Standards
- Prescalers
- Divider Clock Driver
- Oscillators

Mail to: K-Enterprises, 1401 N. Tucker, Shawnee Ok. 74801

Please send new catalog

Enclosed is \$ plus shipping charge

Please ship Model (s)

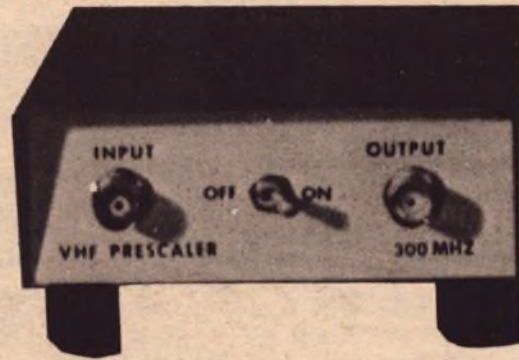
Name

Address

City State Zip

Prescaler

Model PD-301 and Model PD-32



K-Enterprises offers you a choice of two prescalers

Model PD 301 is a 300 Mhz. prescaler designed to extend the range of your counter ten times. This prescaler has a built-in preamp with a sensitivity of 50 150 Mhz, 100 mV at 260 Mhz, 175 mV at 300 Mhz. The 95H90 scaler is rated at 320 Mhz. To insure enough drive for all counters, a post amp. was built-in. The pr has a self contained power supply regulated at 5.2V + .08%. The PD 301 can be shipped without power supply if desired. (Input 50 Ohms) (Output Hi Z).

Model PD 32 is a 32 Mhz. prescaler designed to extend the range of your counter. It extends a 1 Mhz. counter to 10 Mhz., and a 10 Mhz. to 32 Mhz. built-in preamp with a front end sensitivity of 50 mV. to 30 Mhz. also contains in power supply. Output, square waves 2.5 V PP.

All prescalers are shipped in a 4" by 4" by 1½" cabinet, light gray with dark gray top. All are wired and calibrated.

- Model PD 301 300 Mhz. with power supply \$ 45.50
- Model PD 301 300 Mhz. without power supply \$ 40.50
- Model PD 32 with power supply \$ 35.00

R. E. NEBEL LABORATORY
 31 Whitehall Blvd., Garden City, N. Y. - 11530

Telephone: (516) 741-6603

QUARTZ CRYSTALS
 GAM ANTENNAS

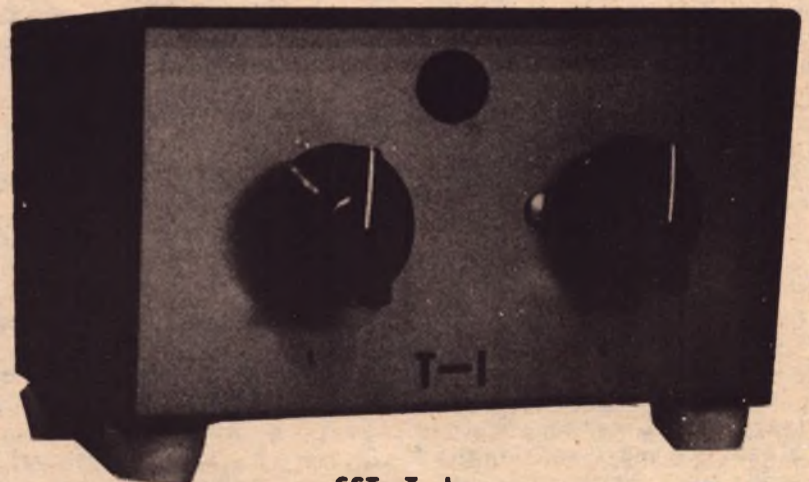
Clegg **FM-27B** MODEL 011 **FM-21**
 POWER SUPPLY

ICOM IC-21 IC-20

DYCOMM COMCRAFT DRAKE
 CTR-144 WATTMETERS

I am franchised dealer for these fine products and can offer substantial discounts. Call me.
 73 - Dick Nebel - W2DBQ

SST T-1 RANDOM WIRE ANTENNA TUNER



SST T-1

All band operation (80-10 meters) with most any random length wire. 200 watt power capability. Ideal for portable or home operation. A must for field day. Built-in neon tune up indicator.

Compact - easy to use. ...only **18.95** postpaid

SST ELECTRONICS PO Box 1, Lawndale, Calif. 90260

IF YOU ARE A DXER
 AND DON'T SUBSCRIBE TO THIS MAGAZINE
 YOU ARE MISSING A LOT OF GOOD DX NEWS

THE DXERS MAGAZINE

ALL THE DX NEWS- WEEKLY

Free sample copy - The DXers Magazine
 Drawer "DX", Cordova, S.C. 29039



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

People Helping People

by Sister Mary, WA5VBM



Sid Hall, WB6BNZ

Sidney Arthur Hall, WB6BNZ, is one of our Voices of IMRA in Sacramento, California. Sid was born in Oakland, Calif., in 1905 and moved to Fair Oaks, Calif., where he lived until he was 16-years-old. In 1923 Sid joined the Marines and when he was only 19-years-old, he got his Radio Operator rating in the Marines, but did not go into Amateur Radio then.

After getting out of the Marines, Sid worked for a couple of years in a box factory in Sacramento, Calif. He entered Civil Service in Sacramento after passing the Government exams, and held a Post Office Letter Carrier rating for 37 years.

Sid and his XYL, Mary, have been married 43 years and they have six children... four boys and two girls. The oldest son, Sid Jr., is a Catholic Priest in the Diocese of Sacramento and has served in the Mission field. Sid and Mary have nine grandchildren, the oldest of which is 13-years-old.

Sid Hall is 6 feet tall and weighs 160 lbs. His eyes are hazel and his hair is almost white (it was black). Besides being a fourth-generation descendant of an Indian Princess, Sid is also part English, German and Scottish.

It was Sid's second son, John Hall, W6PHD, who re-interested him in radio. John got his ticket when he was in high school in the '50s, but it wasn't until John moved away from home in the '60s that he suggested to the OM that he get his ticket, too, so they could rag-chew. With his background of radio in the Marines, Sid easily passed the exams in 1963 and holds an Advanced Class license and the Call Sign, WB6BNZ.

Sid uses a Drake TR-3 with a TA-33 Beam and he has a home-brew phone patch. His beam is mounted on a 50-foot Rohn tower. He has antennas for 10, 15, 20, 40 and 80 meters.

When asked what first interested him in IMRA, Sid replied: "I heard Marie (WA8LEI/



OA4CYC) talking and she had such a nice friendly voice that I just had to check into the Net and find out about IMRA." He has been a regular daily check-in, assisting Net Controls on both sessions of the Traffic Nets for the past five years. He is also a member of Navy Mars.

IMRA News Notes

Sam Ashdown, W4HLY, had a lightning strike at his QTH on July 26. He lost the 20-meter section of his Quad antenna and possibly his antenna switch. His rig was disconnected at the time so there was no damage to it. Sam quickly put up a dipole and was back in operation and then lowered the Quad to the rooftop for repairs.

Father John Lomasney, XE3LK, spent the month of August in New England on his vacation.

Father Al Gietzen, K3TUC, was in Michigan during July for several weeks because of his mother's ill-health.

Syl Connolly, WIMD, is now a Director in the Partners of Americas Program. Massachusetts and Antioquia, Colombia (HK4) are Partner states. Syl and Father Dan Linehan, WIHWK, represented IMRA at the New England Division ARRL Convention.

Colonel Ernest Hinojosa, HRIMM, is being transferred to KH6-land. August 18 was Ernie's last day on the Net until he gets settled in Hawaii. Aloha!

Bro. Bernard, WA2IPM, left for Los Angeles and other far-off places in California on July 29 and returned to Garrison, NY on August 19.

Andy Anderson, WA2FLI, was also among the travelers in July and August. Andy was in VE3-land.

Bro. Joe Tortorici, WB2WNZ, really sounds great on his new Kenwood TS-511.

Pat Healy, WA4VWJ, has been hosting Missionaries as they travel to and fro on their furloughs. His latest visitor was Father Rod Brennan, HR5FPB.

Tex Barbarite, W3FUS, has two IMRA members assisting at her daughter's wedding on August 11. Fr. Barnabas Eib and Father James Coffey were at Tex's QTH in Columbia, Maryland, for the gala occasion.

Joe Lanno, WB4JOB, has been making short appearances on the Net now and then. He has an extension for his oxygen tank so that he can spend a little more time in his radio shack.

Brother Bernard, WA2IPM, gave one of the speeches at the Marco Convention in New York in June and never told us a word. I hope we get a copy... we have had echoes.

John McNamara, WB4SFG, and several other Ft. Lauderdale amateurs have been working out the communications for a heart patient (a little Costa Rican girl). Tobel Cohen, TI2JCC, has been handling the Costa Rican portion of this traffic and we hope to have details and a complete story next month.

ARRL

August 16, 1973

FCC has proposed in Docket 19759 that the frequencies 224-225 MHz be withdrawn from the amateur service to create an additional citizens' radio service to be called Class E; the present Class D service at 27 MHz would continue in operation as well. The full text of the proposal appears in August QST beginning on page 88. Comment from individual amateurs and radio clubs may be filed with the Secretary, FCC, Washington, DC 20554 on or before September 20. Formal participation requires an original and 14 copies; in many communities photo copy machines are available in public libraries. As has been earlier reported by bulletin from this station, the ARRL Board of Directors has taken a stand strongly opposing the removal of the 224-225 MHz frequencies from the amateur allocation and has urged the filing of comments by individual amateurs as well.

August 23, 1973

At the July ARRL Board Meeting, plans were finalized for the establishment of an Emergency Communications Advisory Committee. Membership is composed of Charles A. Starks, Sr., W2URP; Ellwood W. Halde- man, W3PST; Andy C. Clark, W4IYT; William E. Mixon, K5SVD; Arthur R. Smith, W6INI; Robert L. Klepper, W7IEU; Robert S. Dixon, W8ERD; Robert J. Hajek, W9QBH; Harry E. Legler, W0PB; H. H. Shepherd, VE3DV with Montie F. Cone, WA4PBG, as chairman. Correspondence relating to emergency communications may be directed to the committee or to ARRL Headquarters for forwarding. As with the other ARRL advisory committees in the fields of contests, DX and repeaters, the new ECAC provides an additional opportunity for membership input.

August 24, 1973

All Official Observers:

In connection with our previous request to monitor CRS bands, please also, as possible, monitor areas adjacent to CRS bands for illegal CB activity therein, and include any such in your reports. The following frequency segments are assigned as indicated, and CB activity therein is illegal: 25.02-25.32 MHz (Petroleum); 27.235-27.275 (Industrial); 27.29-27.37 (Special Industrial); 27.39-27.53 (Business).

ARRL has requested extension of time which, if granted, will give us more leeway.

George Hart, WINJM
Comms. Mgr., ARRL

in every corner of
this world are

Worldradio
reporters

you are invited to

JOIN

that good group

SEND NEWS



look to PLS*

Petit Logic Systems

*MT-5 Morse-to-RTTY converter: accepts c.w. 10-80 wpm without adjustment and translates message into RTTY Baudot or 6-level ASCII including necessary CR, LF, LTRS, FIGS codes suitable for page printer. See page 57, August 1973 QST for a review. \$560 wired and tested; Circuit board, Tech manual, and 4 custom-programmed ROM's, \$185.

*TMC-1 RTTY to Morse converter: translates RTTY loop signal into perfect Morse at any selected speed; includes 64-letter buffer memory. \$310 wired and tested with Tech manual.

*BAC-8 RTTY loop to ASCII-8 converter: \$120 wired and tested with manual.

*PRB-4 Oscilloscope video adapter: 1024-letter computer memory matched with video display circuits to display, read, and write messages in ASCII: \$400 wired and tested with manual.

*HPS-8 High-performance h.f. frequency synthesizer: Delivers 1 volt r.m.s. into 50 ohms at any frequency from 1 to 30 MHz continuous coverage with calibration and resolution to ONE HERTZ. Spurious outputs down 60 dB. Write for details.

WRITE FOR LITERATURE

***for no-compromise ENGINEERING that makes the difference** **PO Box 51 Oak Harbor WA 98277**

M A R N

MOSAIC AMATEUR RADIO NET

The Mosaic Amateur Radio Net is an international, non-profit, non-commercial association dedicated to serving mankind and fostering international good will.

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

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



Deo et Fidei

MARN

11049 Avenue "E"

Chicago, IL 60617

Quad Owners

The perfect marriage — your favorite tri-band quad and an H & H RING TRANSFORMER. Designed specifically for quads, this balun offers the optimum match using a single 50 ohm co-ax line.

Now available in three new light-weight weatherproof models.



2 element boomless
3 or 4 element

Order direct from:

\$24.95 pp

H & H Engineering

P. O. Box 68

La Mirada, CA 90637

also available
thru Skylane Products
and Cubex Company

Calif. residents add 6% tax

ECM-5 FM Modulation Meter

- Operates 30-500 Mhz
- Crystal controlled for fast and easy operation
- Peak reading
- Battery powered with AA pen-cells
- All solid state
- Built-in antenna
- Quality constructed with G-10 p.c. boards

ONLY \$75.00 less batteries and crystal



Phone or write "Skip" W9HAK for complete information.

Dial: 812-476-2121

Available by direct mail only. ORDER INFO: Send check or money order for \$75.00 plus \$1.00 for handling. Indiana residents add 4% sales tax. Crystals for 146.94 Mhz: \$3.95 ea. All other freqs: \$7.10

ECM ECM Corporation
412 N. Weinbach Avenue
Write 412D for coding
Evansville, Indiana 47711

NO ETCH CIRCUIT BOARDS FROM FULL SCALE TEMPLATES

Hardened chrome alloy steel, with #60 drill

ISOLATED - PAD - DRILL - MILL

Simple - Fast - Accurate - Safe

Sizes: 0.25", 0.15" Dia. \$6.95 ea.

A F STAHLER Co PO BOX 354

CUPERTINO, CALIF 95014

Calif. Residents add 6%



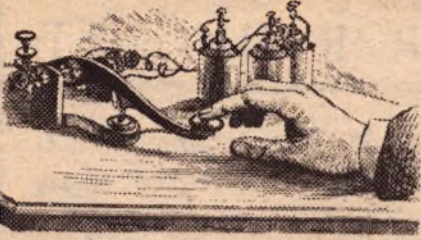
You have 24 hours to live.

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

Break the hate habit: love your neighbor.



Two Hundred Meters and Down



by Clinton B. DeSoto

Courtesy of ARRL

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

Continued from last issue.

Part I - Pioneers

Chapter Four. . . The Coming of the Law

. . . Then it went to the House, but there the Wireless Association of Pennsylvania got busy and did yeoman service in having some of the proposed restrictions eliminated - such as the requirement for licensing receiving stations, and the right to arrest and prosecute an amateur without first warning him and giving him an opportunity to desist from violation of the law. The 200-meter wavelength remained, however. The House passed the bill on August 9th, and it was signed by President Taft on the 17th.

Radio had a law. The amateurs had two hundred meters.

Pardon a philosophical aside. The Radio Act of 1912, fortuitous through accident though it later proved to be, was in the final analysis an instrument containing a cunningly-devised attempt to deal with a body which can be characterized as possessed of strength without leadership. It had been proved through three years of fruitless attempt that four thousand amateurs, more or less, were too strong an influence to submit meekly to being legislated out of existence. They had collective unorganized strength enough to survive. Without leadership, however, they were incapable of combating the clever schemes of the thoroughly organized opposition offered by the commercial companies allied with the government - for the 1912 law, if enforced, in the eyes of the framers of that measure meant the doom of the amateur as surely as if it had actually been decreed in congressional verbiage that from a certain moment henceforth there was to be no more amateur radio.

Look: Limited to one or two wavelengths, in a region provenly incapable of giving reliable communication except at great inefficiency and over short distances compared with the longer waves, how could amateur radio, whose thousands had previously roamed at will, a band of wild and irresponsible freebooters, over the entire territory below a thousand meters - how could it survive? Slowly its adherents would lose interest and break away. Soon it would be reduced in numbers to just a few hundreds - and then . . .

Fortunately, the hand of Destiny is greater than the futile machinations of puny man. These things did not come to pass. Through the combination of several fortuitous circumstances, amateur radio was able to work out its own salvation. But let us get on with the burden of the tale.

Just what was this new radio law, now that it was passed?

It provided that no one within the jurisdiction

of the United States might operate radio apparatus in interstate commerce (including transmission effective beyond state borders or having the effect of interfering with reception from beyond them) except under and in accordance with a license, revocable for cause, granted by the Secretary of Commerce and Labor (the Act of March 4, 1913, created the new Department of Labor, so the provision thereafter read Secretary of Commerce) upon application therefor. Operation otherwise was criminally punishable. Licenses were to be in form as prescribed by the Secretary; they were to be issued only to citizens or corporations of the United States, were to state the frequencies and hours authorized for use and were to be subject to the Regulations of the Act and "such regulations as may be established from time to time by authority of this Act or subsequent Acts or treaties of the United States". Licensed operators were required. The Secretary was authorized to grant special licenses for experimental stations. Wilful and malicious interference and false signals were made punishable. As part of Section 4 of the Act there were established 19 Regulations to govern stations (any of which might be waived by the Secretary if no interference resulted). These regulations required every station to designate a normal wavelength below 600 meters or above 1600 meters. Additional provisions were made for ship and coastal stations, not affecting amateurs. Other frequencies in the permitted ranges might be used. Stations were to use a "pure wave" and a "sharp wave". A distress signal was established and right-of-way provided for it. Provisions were made with regard to enforcement of the treaty and for the protection of government services.

Regulation Fifteenth dealt with amateur stations and provided:

"No private or commercial station not engaged in the transaction of bona fide commercial business by radio communication or experimentation in connection with the development and manufacture of radio apparatus for commercial purposes shall use a transmitting wavelength exceeding two hundred meters, or a transformer input exceeding one kilowatt; except by special authority of the Secretary of Commerce contained in the license of the station. . ."

This regulation and a few related provisions constituted the charter of existence for amateur radio for a period of fifteen years. The amateur had been officially given the right to live; he had now only to find his way back from oblivion.

Chapter Five. . . Adjustment and Development

In the four months following passage of the Radio Act of 1912, 1,185 amateur station licenses were issued by the Secretary of Labor and Commerce. By the end of 1913 this figure had reached about 2000.

That there were no more licenses issued can be laid to the fact that the amateur had not yet lost his careless heritage of the early freebooting days, when any frequency and any call and any mode of operation was permissible. A goodly number of amateurs simply neglected to get licenses during those first two years of the radio law, not through any desire to break the law but just because it did not occur to them that they were committing a seriously illegal act.

Even those who did secure their licenses did not permit themselves to be too greatly worried by the provisions on the printed slips of paper. The initial alarm at the new order of things

quickly passed; it was found by experiment that if the requirements of obtaining licenses and showing a decent amount of courtesy toward government and commercial stations were complied with, observance of the other requirements was not particularly necessary. "Two hundred meters" could cover anything from 250 to 375, and frequently did. "One kilowatt" could be stretched to two or three without too much danger of government admonishment. Such details as "pure waves" and "sharp waves" were completely forgotten, except when individual amateur pride was involved.

There was understandable reason for all this. Appropriations for administration of the new radio law were none too liberal. The problems of administrative control of so complex an art were many and involved; naturally, the more important government and commercial services received attention before the amateur did. The basic difficulty, however, was that the Secretary was not armed with what were, from his standpoint, enforceable provisions in the new law.

In the first place, no discretion was allowed him in the matter of issuance of licenses. He was required to issue a license to any and every applicant. His hands were equally tied in the matter of disciplinary measures. The most stringent penalty available was the imposition of a quiet period of fifteen minutes at the beginning of each hour, and this only under special circumstances. No wonder the regulation of amateurs was inadequate. It continued so for many years; in self defense, amateurs were eventually forced to adopt self-policing tactics when their internal organization achieved sufficient strength.

Even under the handicap of inadequate appropriations, nearly one thousand amateur stations were inspected before June 30, 1914, the end of the first complete fiscal year under the new law. On that date the number of licensed stations exceeded 5,000. Conservative observers of the period declared their belief that there existed more than 10,000 amateur stations with transmitting equipment capable of covering at least five miles.

Perhaps the principal factor contributing to this growth was the "radio club era", then in its heyday. Many of the larger cities had clubs with several hundred youthful members, most of whom would accumulate the relatively simple and inexpensive equipment necessary for a 1/2-inch spark coil transmitter and crystal receiver, and work among themselves. Even a city of the moderate size of Toronto had a club with 150 members in 1913. As a sidelight on the importance of clubs in this period in amateur history, the knowing E. E. Bucher, writing a textbook on radio theory and practice in 1913, did not title it with orthodox accuracy but called it "How to Conduct a Radio Club."

But what were these thousands of stations accomplishing, with their numbers and their nightly activity? How was the 1912 plot to secure their oblivion by exiling them in barren territory working out?

The answer to the latter question is, of course, that it wasn't, simply because the amateurs were not following the dictums of the lawmakers with respect to their operating frequencies. It is almost a certainty that, had enforcement during the first years of the radio law been adequate, amateur radio would have been nearly extinct by the time of America's entry into the World War; and that after the war amateur stations would never have been allowed to reopen.

(Continued in next issue of WORLDRADIO)

Now this sign



Most people this is a symbol from Greek mythology. But to hundreds of thousands of active amateurs, Pegasus is the symbol of the Radio Amateur CALLBOOK the single most useful operating reference for active amateur stations. U.S. Edition lists over 285,000 Calls, Names and Addresses in the 50 States and U.S. possessions while nearly 200,000 amateur stations in the rest of the World listed in the DX edition.

These editions contain much other invaluable data such as World Maps, Great Circle Maps, QSL Managers around the World, ARRL Countries list and Amateur Licenses around the World, Time information, Postal Information and much, much more. You can't contest efficiently, you can't DX efficiently, you can't even operate efficiently without an up to date CALLBOOK.

To make the CALLBOOK even more valuable, three supplements are issued each year which bring your copy completely up to date every three months. These are available at a modest extra cost. Full details in every CALLBOOK.

Get your copies of the big new 1973 CALLBOOKS today.

U.S. CALLBOOK (less service editions) **Just \$8.95**

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

U.S. CALLBOOK (with service editions) **\$14.95**

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

All orders add 50¢ per CALLBOOK postage and handling.

See your favorite dealer or send today to:

WRITE FOR FREE BROCHURE **callbook INC.** Dept. W 925 Sherwood Drive Lake Bluff, Ill. 60044

MIDWEST'S HAM HEADQUARTERS

Electronic Distributors, Inc.

1960 Peck St. Muskegon, Michigan 49441 (616) 726-3196

FOR OVER 34 YEARS

Collins, Drake, Galaxy, Ten-Tec, Hallicrafter, SBE, Kenwood, Swan Tempo, Henry, Clegg, Regency, Standard, Sonar, Dy-Comm, Gladding, B & W, Millen, RCA, Hammarlund, Johnson, National, Ameco, Eico, and ALL others.

ANTENNAS by: Hy-Gain, Mosley, Kirk, Telrex, Cushcraft, A/S, Newtronics, Wilson

TOWERS by: Universal, Heights, Spaulding, Rohn, Tri-Ex, Tristao, E-Z Way

BANK CARDS
GECC REVOLVING CREDIT
HOURS: 8:30-5:30—SAT. 9:00-4:00

"Midwest's Largest Communications Dealer"

W
8
W
O
G



• Chuck - W8UCG at the mike



New! BALUN

- 1:1 for dipole or inverted Vee.
- 1.7 to 30 MHz. Full KW power.
- Sealed — weatherproof.
- \$12.95 PPD USA. 5% tax in Calif.
- Order direct. Free brochure.

PALOMAR ENGINEERS
BOX 455 ESCONDIDO CA 92075

C F P ENTERPRISES

866 RIDGE ROAD
LUDLOWVILLE, NEW YORK 14862

Central Upstate New York's
Mail-Order Headquarters

Specializing in Two-Meter FM
and Quality Used Gear

Office & Salesroom Hours by Appointment Only
24-Hour Phone: 607-533-4297

Send SASE for Bi-Monthly Listing of
Used Equipment and Bargain Goodies

Trade-ins accepted on both new and used
equipment. Cash deals get prepaid shipping in
the Continental U.S.A. plus a 20% discount on
the items on our regular listing!!!!

DIGITAL:THEORY,DESIGN,
CONSTRUCTION

LOGIC NEWSLETTER

SAMPLE COPY \$ 1.00
LOGIC NEWSLETTER
POB 252 W
WALDWICK,N.J. 07463

ZANG!

**VHF
DX OPS**



MODEL 60 SPEECH PROCESSOR — QRO the average-to-peak ratio of the speech waveform as much as 8 db. using a logarithmic principle. Operates with FM, SSB and AM transmitters and transceivers. Low/High impedance Mic input. Two 9Vdc batteries provide a self-contained unit.

Model 60W (Processor Assembled) **\$26.50**
Model 60K (Processor Kit) **\$21.90**
200-15 (Processor Board Kit) **\$12.95**



BOX 185A • FRANKLIN, PA. 16323
PHONE: (814) 432-3647

**QRO
?**



MODEL 20 DIGITAL DIAL — Available for Collins and Drake gear. Optional four digit readout and crystal time base. QSY your fixed or mobile transmitter, receiver or transceiver with 100 Hz accuracy and no last digit jitter. Simple one wire connects dial to rig and you're ready to go. **Specify your type of rig.**

Model 20 (5-5.5 Mhz VFO range)... **\$169.95**
Model 20C (Collins)..... **\$169.95**
Model 20D (Drake)..... **\$169.95**
Options: (4 Digit Readout)..... **\$ 29.95**
(Crystal Time Base).... **\$ 29.95**

DEALERS:

VE AMATEUR RADIO SALES, Downsview, Ontario, Canada •
SST ELECTRONICS, Lawndale, CA 90260 • AMATEUR
WHOLESALE ELECTRONICS, Miami, FL. 33156 • AN-TEK
INDUSTRIES, Elkhart, IN. 46517 • SIGNAL SYSTEMS, Bedford,
OH. 44146 • KASS ELECTRONICS DISTRIBUTORS, Drexel Hill,
PA. 19026 • M. WEINSCHENKER K3DPJ, Irwin, PA. 15642 •
HAMTRONICS, Trevoise, PA. 19047

**CW
OPS**



MODEL 11A PADDLE — Designed with reliability in mind. No mechanical switches or bearings to fail. Paddle contact spacing adjusts easily.

Model 11A (Assembled)..... **\$9.95**

MODEL 10A ELECTRONIC KEYS — Has NEW features at no extra cost: Linear Speed Control and Operate/Tune Switch. Plus internal penlight cells and reed relay output provide a compact, portable, versatile unit.

Model 10AWA
(Keyer & Sidetone Assembled)..... **\$33.95**
Model 10AW (Keyer Assembled).... **\$26.50**
Model 10AK (Keyer Kit)..... **\$21.95**
200-2K (Keyer Board Kit)..... **\$12.95**
200-3K (Sidetone Board Kit).... **\$ 4.95**

Worldradio/NEWS

Owen Garriot, W5LFL, On Skylab Ham Radio Spurred Oklahoma Spaceman

SPACE CENTER, Houston (AP)—Owen Garriot, W5LFL, of Oklahoma, will be the first ham radio operator to fly in space. He will be aboard Skylab 2, the 28-day mission, aboard the nation's first orbiting workshop.

Garriot will be the mission pilot of Skylab 2, the 28-day mission, aboard the nation's first orbiting workshop.

"I'm sure you can't have any doubts about the ham radio operator's ability to fly in space," says Garriot, a 42-year-old electrical engineer and former Stanford University professor. "From this I believe enough interest in space center to be a ham radio operator."

Garriot, who has been a ham radio operator for 15 years, was born and raised in Oklahoma. He was an engineer and chemist.

He is a graduate of the University of Oklahoma and holds a master's degree in electrical engineering from Stanford. He is currently in Oklahoma, where he works as an electrical engineer and computer programmer. He has been married and has two children.

The national service center for ham radio is located in the Department of Defense, where he works as a consultant on the use of amateur radio operators in an emergency.

Garriot already was a licensed ham radio operator in 1965, as a result of his work.



His name, he says, also was the first to be listed.

"This is something we do together," he says. "I'm sure you can't have any doubts about the ham radio operator's ability to fly in space," says Garriot, a 42-year-old electrical engineer and former Stanford University professor. "From this I believe enough interest in space center to be a ham radio operator."

Garriot is married to Betty, the former Betty Baker of Oklahoma. They have three children.

"We started going together in high school," says the woman. "I became a ham and we went here together for about five or six years before we were married."

The Garriots have two children: Randall, 18, and Betty, 15. They live in Oklahoma City.

"I think we should not forget about the ham radio operator's ability to fly in space," says Garriot. "They want to get their private license now and have it for a little bit, so I'll help them."

Garriot is the editor of the "Oklahoma Ham Radio" newsletter. He is also a member of the Oklahoma Ham Radio Club.

From the Tulsa Okla. "Tribune"

An International Newspaper
Third Year of Publication

Worldradio

"the people paper"

* GLARE-FREE

information

WORLD RADIO is published monthly by Worldradio Associates. Offices are at 2509 Donner Way, Sacramento, California 95818, USA. Telephone: (916) 456-6725

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

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

WORLD RADIO is two-way communication. Send in Amateur Radio news and information. Share your knowledge and experience with your fellow amateur and "Worldradio" reader. Photographs will be cared for properly and returned. We are most interested in your comments and suggestions. We would appreciate being placed on the mailing lists of amateur club bulletins.

Article contributions, advertising inquiries, comments and suggestions are invited.

- STAFF**
- Armond Noble, WB6AUH
 - Norm Brooks, K6FO
 - Craig Rutledge, WB6NUM
 - Hugh Hall, WB6TZC
 - Sid Hall, WB6BNZ
 - Annabelle Johnson

Controlled Circulation postage paid at Sacramento, California.

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

Participants Communicate



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

- (Continued from last month's issue)
- Robert York Chapman, W1QV, Groton, CT
 - Stan Zak, K2SJO, Port Chester, NY
 - Lew McCoy, W1ICP, Simsbury, CT
 - John Attaway, K4HF, Winter Haven, FL
 - Walker Coffey, W5NCB, Oxford, MS
 - Barry Ogden, VE5BO, Prince Albert, Canada
 - Jose Medina Hernandez, KP4CO, Mayaguez, PR
 - George Van Dyke, Jr., W3HK, Philadelphia, PA
 - Gary Hamman, W7CAF, Phoenix, AZ
 - Ronn Mann, W8NXD, Muskegon, MI
 - Elizabeth Zandonini, W3CDQ, Washington, DC
 - Mae Hipp, K7QGO, Sparks, NV
 - Franklin Cassen, W4WBK, Memphis, TN
 - Scott Gantt, WB4VBY, Cross City, FL
 - Jerry Skinner, WB6OOP, San Jose, CA
 - Wilbur Bachman, W6BIP, San Francisco, CA
 - A. Kenneth Johnson, W6FU, Pasadena, CA
 - Dr. Gail King, K6AJA, Sacramento, CA
 - Reuben Meeks, K6GUC, Sacramento, CA
 - Claude James, K6LAQ, Sunnyvale, CA
 - Dr. August Gabriele, K3BZK, York, PA
 - Michael Flaherty, WA6UBW, Mtn. View, CA
 - Republic Crystal Labs, San Juan, Philippines
 - Corby B. Pratt, W2IS, Ellenton, FL
 - Thomas Basso, K1CEC, San Juan, Puerto Rico
 - R. H. Snider, W9MNG, La Crosse, Wisconsin
 - Harold W. Servatius, Lewiston, Idaho
 - O. Garlock, K8BYR, Akron, OH
 - Joseph Reymann, W6PAJ, San Dimas, CA
 - Jerry Shapiro, WA6JLA, San Mateo, CA
 - John and Martha Hendrixson, WA7PUC, WN7-PUB, Tacoma, WA
 - Eli Nannis, W1HKG/4, Largo, FL
 - Eugene Hastings, W1VRK, Swampscott, MA
 - Morgan E. McMahon, Rolling Hills Estates, CA
 - Roy Neal Hinkel, K6DUE, Woodland Hills, CA
 - W. R. Shade Sr., K7LYG, Rockaway, OR
 - Earl Hutchison, WB6HUZ, Alhambra, CA
 - F. C. Goodell, Manassas, VA
 - James Duffell, WA1KVM, Lincoln, RI
 - Vern A. Weiss II, WA9VLK, Kankakee, IL
 - Ken and Peg Tate, WAØRKV and WNØJNX, Austin, MN
 - Lester P. Simon, Berea, Ohio
 - J. B. Roberts, W3CBN, Bangor, PA
 - Rex Johnson, K4JBJ, Griffin, GA
 - Courage Center, WAØQWE, Golden Valley, MN
 - Paul Vest, WA3KEH/W8GIO, Linthicum Hgts, MD
 - Gary Vest, WA3KCY, Laurel MD
 - Jack C. Petree, Roanoke, VA
 - Youth Revival Centers, Inc., Dexter, OR
 - Robert Farricy, WB2YEE, Syracuse, NY
 - Gerald Thomas, W6PCI, Long Beach, CA
 - A. Earl Patterson, W2BWU, Watchung, NJ
 - Arles A. Crum, W2BWK, Rochester, NY
 - Blair E. Bates, WA3BSV, Hazelton, PA
 - J. Wayne Clark, W6CAN, Napa, CA
 - Heinz Milark, W2HAQ, New Hyde Park, NY
 - Al Slater, G3FXB, Southwick, Sussex, England
 - Gene Beckwith, W8KXR, Massillon, OH
 - Raymond Hensley, KL7CZ, Anchorage, AL
 - Francis Barnes, WB6NIN, San Jose, CA
 - Dr. Robt. Smithwick, W6JZU, Los Altos Hills, CA
 - Les Tucker, Cerritos, CA
 - Don Bussear, K6UJS, Vallejo, CA
 - Stan Kuhl, W6JKJ, Sunnyvale, CA
 - Bill Stevens, W6ZM, San Jose, CA
 - Wayne Spring, W6IRD, Buena Park, CA
 - Patrick Bacon, WA7NIN, Carson City, NV
 - A. R. McRitchie, VK5CE, Whyalla, Australia
 - George C. Schmidt, W7PPD, Portland, OR
 - Tom Lund, W6SVO, Bell, CA
 - Mike Frye, WB8LBP, Dayton, OH
 - Glen Kitterman, WB6IVZ, Fresno, CA
 - Robert Dunbar, W7HNY, Troutdale, OR
 - Harry Billings, WN6UOR, Fresno, CA
 - Al Lange, WB6YLG, Vallejo, CA
 - C. Y. Thomson, Jr., W6YHT, Lockeford, CA
 - William Jelinek, WA7HFI, Portland, OR
 - Harold J. Estok, W6JIP, San Diego, CA
 - Roy Davis Ferguson, WA1PRF, Bethel, VT
- (Continued in next month's issue)

Letters

I envy people like you who are doing so much for ham radio and humanity. If you get as much pleasure putting "Worldradio" together as I do in reading it you must be surrounded by a feeling of deep accomplishment... E. A. Samson, WØRZS

There's no other publication in ham radio that gives me the good feeling and warmth that "Worldradio" does, and I mean that sincerely... Dave Flinn, W2CFP

I think our public service activities are the most important part of Amateur Radio, and "Worldradio" is the leader in recognizing these activities.. Frank Butler, Jr., W4RKH

It appears to be the high-caliber news medium we need to promote our hobby... Richard Iams, W3MIX

Your last issue was the greatest... Andy Clark, W4IYT

What intrigues me about "Worldradio" is its emphasis on the human side, which is very important for hams who love the hobby... Karl Sieber, WA3GSB

Congratulations on your independent newsy ham radio newspaper and responsible reporting. Amateur Radio and "Worldradio" are serving as a public service... Leon Stanley, W7DKB

I am glad to see the emphasis in "Worldradio" on "people". Having lived in nine foreign service posts with the Department of State, I have many ham friends in many countries... William Jochimsen, W3UV

I sincerely think that you are publishing a very interesting periodical and doing something out of the ordinary.. Luis Salido Quiros, XE2IL

Let me extend my best wishes for your filling the missing link in Amateur Radio. I was first introduced to your paper in a small, remote fishing village deep in Mexico by my good friend, Enrique Garcia, XE2RH. In my 18 years as an amateur, never before from any other single or combined source, did I ever get a feeling that I had a "cross-section" reference of news and activities of Amateur Radio - both domestic and worldwide. Thank you for giving ham radio something we all need: "communication"... Fred Turk, W7-VQQ

Arthur (W2LH) and I congratulate "Worldradio" on your 2nd anniversary... Madeline Greenberg, W2EEO

Keep it "human" and you'll be filling a real void. I especially enjoyed Cop Macdonald's (WØORX) piece and your general approach to the thinking ham... Irv Deibert, WN4ESE

I enjoy the friendliness of Amateur Radio... great paper, congratulations... Paul Mercado, W3FBF

"Worldradio" shows so many reasons why people should enter this public service hobby. Larry Cotariu, WA9MZS

You are doing a fine job filling a need that has long existed for the serious ham. Thanks... W. Clark Robinson, WA6PCI

I believe "Worldradio/News" is an excellent newspaper and does a great credit to amateur radio... Kurt Meyers, W8IBX

Having been a ham for 25 years I can see the potential your paper can and, I am sure, will have... John Chenoweth, W8CAE



CASH: For your solid state devices, SCR's, transistors, rect. and diodes, IC's, and electronic or related components. John Loundenback, 5535 Fremont, Lincoln, NB 68504.

HAMFEST! Cape Cod's fabulous Hyannis, Massachusetts home of New England ARRL Convention sponsored by FEMARA September 29 and 30. Giant flea market, seminars, FM, SSTV, NEDXCC, YL trips, banquet, show, dancing, 2 pools, golf, beaches, sailing. Early bird registration: \$3. WIZQQ, 17 Barnes Avenue, East Boston, MA 02128.

ARE THE DEAD REALLY DEAD? Stamp appreciated. METHODS, Box 1263W, Mountain View, CA 94042.

BE PREPARED for Emergencies with the SST T-1 Random Wire Antenna Tuner. Also great for field day, camping trips, and home operation. Tunes a random wire for all-band operation. \$18.95 PP. 1-yr. guarantee. See large ad this issue. SST Electronics, Box 1, Lawndale, CA 90260.

CW OPS. RAZOR SHARP 30HZ RECEIVER SELECTIVITY puts QRM out of the picture. Works with any receiver or transceiver, including yours! You paid hundreds of dollars for your transceiver; why not give it the "ultimate" in selectivity? See large ad elsewhere this issue. AUTEK RESEARCH.

Sacrifice. Tri-Ex HS588 100 ft. tower with kit complete, \$450. FOB. P and H Linear ideal for intermediate driver amp. \$125. Yesu FTDX 2000 linear, \$175. Nick Winter, WB6DXU, 10107 Lev, Arleta, CA 91331.

HEATHKIT AMATEUR EQUIPMENT - 5-band receiver, HR-10-B; crystal calibrator, HRA-10-1; superex headphones, GR-396; mobile speaker, HS-24; code practice oscillator, HD-16 - prime, recently assembled. Cost about \$125, asking \$75. Many extras. Kirsner, 1 Rose Lane, Yonkers, NY 10705.

GE POCKETMATE cases made of durable plastic with belt loop, brown, \$5./PP. WA4FTL, Rt. 11, Box 160, Greensboro, NC 27410.

CRYSTAL SET-Working replica circa 1916 as advertised Hugo Gernsback's "Electrical Experimenter". Beautifully reproduced. Conversation piece for shack or collection, \$20. Wireless Shop, 9130 Yankee St., Miamisburg, Ohio 45342.

GREAT CIRCLE BEARING CHARTS: Computer generated for your exact QTH. Bearings, distances, return bearings, for 660 worldwide locations. Price \$1. PP worldwide. See also Ham Radio Magazine April 1973, Radio Communication November 1972. (SASE for copies of these articles). Bill Johnston, 1808 Pomona Drive, Las Cruces, New Mexico 88001.

PANEL METER BARGAINS: Cartoned Weston 4 1/2" 100-0-100 Microampere, latest "Cormag" movement, \$4. ea., cartoned Westinghouse 0-300 volts AC 2-1/2" sq. \$3. ea., Triplett 2 1/2" rd. 0-4 R. F. amperes (built-in thermocouple) \$3. ea., Weston 4" 0-1 Ma. DC, (Illuminated Lab. Type, multiple scales) \$4. ea., add shipping chgs. S. A. S. E. gets you my bargain listings of 100's meters, other "goodies". Samkofsky, 4803 Brenda Dr., Orlando FL 32806.

TOUCH-TONE Pads... 12 button, full leads... lighted \$16. unlighted \$12. guaranteed. prepaid/insured. WA5GNT, Swank Roberts, 1130 Fuller Dr., #223, Dallas, TX 75218. (214) 328-9307.

Antique flameproof keys for sale-Type J-7-A, built for U.S. Govt. in 1921-original carton-\$12.95 ppd. Walt Jackson, W5ZYA, P. O. Box 19406, Dallas, Texas 75219.

WANTED - SINGER power supply PS8b for Panalyzer Model SB-8b Type T-1000. K6FO, 4836 Schuyler Dr., Carmichael, CA 95608.

WESTERN UNION Desk-Fax Telefax Transceivers: Several extra machines (checked out), \$14. each, shipping collect. Western Union Desk-Fax Shop Manual, \$3.80 PP. Bill Johnston, 1808 Pomona Dr., Las Cruces, New Mexico 88001.

Wanted: Old radio receivers, wireless gear, msc. parts, etc., Circa 1920, regardless of condition. Joe Horvath, W6GPB, 522 Third St., San Rafael, CA 94901.

CERAMIC trimmers, by ERIR or equal. Std. size, 1/2" dia., 3/16" thk: 5 to 25 pf. NPO; or 8 to 50 pf. N750; mix or match 100/\$15., 25/\$4., 6/\$1. Miniature 3/8" dia., 1/4" thk., 2 to 8 pf. NPO; or sub-miniature 1/4" dia., 3/16" thick, 3-1/2 to 13 pf. mix or match 100/\$22.50, 25/\$4.75, 5/\$1.00.

Moving plate type trimmers, for IF cans. 2 to 5 pf.; 3 plate, 1 moving; 1/2" dia.; with ceramic front plate 5/8" x 3/4"; screwdriver adjust. with locking nut; 100/\$12.50, 25/\$3.35, 7/\$1.00. JOHNSON's series 160 or equal, miniature, moving plate, variable capacitors. All have 3/16" shaft, threaded bushing, for single hole mount, with nuts. 1-1/2 to 5 pf. #102, 6/\$2.75; 2.3 to 14, #107, or 2.7 to 19.6 #110, mix or match 4/\$2.50; 3 to 32 pf. #130, or 2.7 to 10.8 pf. BUTTERFLY, #211, mix or match 4/\$3.25. All prices are NET, FOB store, Chicago. PLEASE include sufficient to cover postage, any excess returned with order. NEW 1973 flyer ready, included FREE, in every shipment. All others-SELF ADDRESSED STAMPED ENVELOPE REQUIRED. STORE 5696 N. Ridge Ave., Chicago, IL. Hours: Wed. 11:00 a.m. to 2:30 p.m., Sat. 10:00 a.m. to 2:30 p.m. Other times by appointment. Mailing address % Ben Cohn, 1249 W. Rosedale Ave., Chicago, IL 60660. Phones: (312) 334-4463 or 784-4426.

WANTED - Old Radio Transcription Discs, any size or speed. Send details to Larry Kiner, W7FIZ, 7554 132nd Ave. N. E., Kirkland, Washington 98033.

TELETYPE, Kleinschmidt, Mite gears, ribbons, supplies, parts, manuals, tuning forks, motors, tape. SASE list. Typetronics, Box 8873, Ft. Lauderdale, FL 33310, W4NYF. WANTED: Northern Radio 107, Kleinschmidt series motors, teleprinter parts.

TELETYPE RIBBONS, 12 to box, heavy red or green ink, ONLY \$5. PP USA. A. Clark, W4IYT, 41 Lenape Dr., Miami Springs FL 33166 (305) 888-3874.

ELECTRONIC CALCULATOR HEADQUARTERS - Special purchase makes Commodore MM3 shirt-pocket calculators with constant available for a limited time at only \$49.95 plus \$1.00 shipping. Hurry! Electronic Distributors, Inc., 1960 Peck St., Muskegon, MI 49441.

\$\$\$CASH for Electronic tubes-receiving, power etc, what have you that is interesting? A R S ELECTRONICS, 616 S. Holmby Ave., Los Angeles, CA 90024. (213) 279-1275

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

AUTO-CALL keeps up with the latest ham info from Washington, D.C. Subscriptions \$3.00 a year, sample copies 25 cents. Address: AUTO-CALL, 2012 Rockingham, McLean, Virginia 22101.

MEDICAL: Any licensed amateur radio operator in the medical or paramedical field should join MARCO (Medical Amateur Radio Council). Contact: Stan Carp, M.D., KIEEG, 44 Main St., Saugus, MA 01906. (617) 233-1234.

The **SOCIETY OF WIRELESS PIONEERS** invites all professional operators, active or retired to join the world's largest organization of its kind. Active nets. Write Box 530, Santa Rosa, CA. 95402 for details.

HEATHKIT GR-78 Portable Solid State General Coverage Receiver AM or SSB/CW reception. Rechargeable battery operation. 6 Band 190 kHz to 30 MHz coverage. New - \$100. Jack Hardman, 50 Mountain Rd., Verona NJ 07044.

FREE-Free-Free--Homebrew power supply for my HW12 if you buy the rig. Have HW12 in fair-to-good operating shape (may need a little re-alignment) with mobile mike included. Asking \$68. K8IQB, Howard St., Bellevue, OH 44811.

BALUN COILS - 2 KW-PEP 3 to 52 mc. Save by installing in your own weather protector. 1:1 or 4:1 ratio, \$2.95 plus postage. Engineered Products Co., 9130 Yankee St., Miamisburg, Ohio 45342.

WONDER WHEEL.. A Copyrighted Mathematical Tool for OHM's Law. Send \$1. cash and stamp to K4AQT, J. T. Beck, 3810 Leila Av., Tampa, FL 33616 USA

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.

For Sale or trade: Duplicates of QST from 1916. CQ from '45. Handbooks from 1930. Books of Radio and Wireless. Want old radio receivers, wireless, etc. List for stamp. Erv Rasmussen, 164 Lowell, Redwood City, CA 94062.

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

HAMS-EXPERIMENTERS: Send SASE for list of the lowest prices on electronic goodies of all kinds. Get on our mailing list now! New catalog going to print soon! Aksarben Electronics, 5535 Fremont, Lincoln, NB 68504.

Advertising rates

CLASSIFIED:-The Mart

From private individuals - 3 cents a word.
Business firms remit - 6 cents a word.
Non-profit organizations - 2 cents a word.

DISPLAY:

Full page - \$62.00 Half page - \$37.20
Quarter page - \$22.32 Eighth page - \$13.39
Sixteenth page - \$8.03

Guaranteed distribution: 6,200 active hams
Subscribers in all 50 states and 60 countries. Quotes are for camera ready advertisements. If we make up your ad there is, naturally, a charge for time and materials.



Worldnews ROUNDUP

Ham Sends Aid

A Ham radio operator in Skokie, and his father, an Uptown pharmacist, may have helped save a man's life in Lima, Peru.

Larry Cotariu, WA9MZS, 8041 N. Hamlin, Skokie, was talking on his ham set Thursday, July 26, when a friend from Birmingham, Ala., called him. The friend had just received a call from an operator in Peru who said that a doctor urgently needed the heart stimulant Regitene.

The Birmingham caller (Dale Hanra, WB4-ATX) said that his uncle, a pharmacist, thought too much red tape would delay transporting the stimulant from Alabama.

So Cotariu alerted his father, Philip, a pharmacist at Montrose Pharmacy, 4400 N. Broadway, of the situation. The elder Cotariu made several calls and found out the drug could be picked up at Cook County Hospital.

He drove to the hospital, picked up the drug, and brought it to O'Hare where it was put on the next flight to Miami for a flight connection with an airplane to Peru.

"I have no idea if it got there," Cotariu said. "But it should have been there in five hours from Miami to Lima."

Cotariu said he would try to find out whether the drug reached the patient in time.

(From the Lerner Newspapers, Chicago, IL)

Calif. to Hawaii on Two Meters

by Katashi Nose, KH6IJ

Last Saturday morning (July 28), George Do, KH6CLV, went to the Diamond Head repeater to turn on the 2-meter link (which connects it with the Haleakala link and the Mauna Loa link into Hilo) for the weekend. He listened incredulously as he heard calls coming through from what he thought was California, faintly at first but definitely not of Hawaiian origin. What followed will make history and stump the experts.

The normal line-of-sight propagation of 2-meter signals (144 MHz) limits communication to points which can be seen and does not follow the wild excursions which characterize the low-frequency amateur bands.

Sam Kumukahi, KH6AFS, of Hilo, quickly realized what was happening and made the first contact at 10:59 a. m. with Jerry Gastil, K6-DYD, of San Diego, who just happened to be pointing his 80-element beam with a kilowatt linear across the Pacific in the direction of Hawaii.

Since then, propagation has gone berserk, and Californians, with 10 watts input, and mo-

biles have been working into the Mauna Loa repeater for almost 12-hour stretches. Early this week these conditions were still in effect, much to the delight of 2-meter enthusiasts in Hawaii.

Direct station-to-station contacts, not repeater assisted, have been difficult but have been accomplished by Russel Sakai, KH6FOO; Al Pacheco, KH6IAA, and Robert Schnieder, KH6FNB, all of Hilo, from the 7500-foot level of Mauna Loa.

Oahu to California contacts have been accomplished by Bert Ingalls, KH6GRU, on 145 MHz code; one-way contacts have been established by others.

On Oahu, Lee Wical, KH6BZF, made a record shattering first Hawaii-California contact on 432 MHz with Joseph Reiser, Jr., W6FZJ, on Saturday morning; schedules are continuing on 220 MHz where only one-way contacts have been established. Two-way contact is expected momentarily. Many 50 MHz contacts have been reported by Katashi Nose, KH6IJ, and Bert Ingalls, KH6GUR.

Channel 12 TV of Hilo has been heard in Santa Maria, Calif., and the Honolulu Fire Department reported an unidentified fire call at about 1 p. m. Saturday, probably of Mainland origin.

There has been much speculation that the nuclear blast may have been the cause of these unusual propagation conditions, but there is not enough data to establish a correlation.

Normally such propagation is of short duration -- never for such long periods as has been observed last weekend.

One curious fact: Hilo amateurs report no signals up to the 5000-foot level, a peak up at the 7500-foot level, and no signals again at 10,000 feet. This suggests ducting in which signals are reflected as along parallel mirrors.

The Haleakala repeater, at 10,000 feet, has not been as successful as the Mauna Loa repeater in intercepting Mainland signals.

Another curious fact is that initial contacts started with the San Diego region and progressed up the coast to Santa Maria, in much the same way as the 1957 cycle; during the cycle, the first stations to come through to Hawaii on 50 MHz were from Phoenix, Ariz., then San Diego, through San Francisco and finally Vancouver, Canada, which suggested ducting.

Sporadic "E" openings on 50 MHz in 1957 were characterized by stations coming in from all parts of the U. S. at once, including New England.

(From the Honolulu, Hawaii "Star-Bulletin")

Southeast Asia Net

The third annual convention of the Southeast Asia Net will take place in Singapore on November 8, 9 and 10, 1973 with the Singapore Amateur Radio Transmitting Society as hosts. The previous two gatherings in Penang, Malaysia; and Bangkok, Thailand, attracted Net regulars from throughout the region as well as interested participants from other parts of the world. SEA Net is a highly informal but extremely effective Net that meets at 1200 GMT daily on or about 14.320 MHz generally with Paddy Gunasekera, 4S7PB, as Net Control. The Net has been in operation since 1964 and has attracted a growing group of amateurs as the spot to meet. Amateurs from Korea to Christmas Island and from New Zealand to the Seychelles make it a habit. Further information may be obtained from SARTS by post or on SEA Net from the Convention Chairman, Edward A. Gribi, Jr., 9VIQF, WB6IZF, YB8AAP.

Worldradio: Newsource

FCC

(Continued from page 2)

August 15, 1973

SAFETY AND SPECIAL ACTION

The Commission, by its Safety and Special Radio Services Bureau, ordered the following licensee to show cause why his license should not be revoked for repeated violation of Section 1.89 of the rules by failing to reply to official communications: JOHN W. BAY, JACKSONVILLE, FL., licensee of Amateur radio station K4FTF. (8/10)

August 17, 1973

ACTION IN DOCKET CASE

SAN FRANCISCO, CALIFORNIA (WILLIAM D. HELM) ORDER TO SHOW CAUSE FOR REVOCATION AND SUSPENSION OF AMATEUR RADIO OPERATOR LICENSE WB6DMF/1. Upon motion by William D. Helm, extended to August 27, 1973, time in which to reply to the proposed findings of fact and conclusions submitted by the Chief, Safety and Special Radio Services Bureau. (Action 8/14/73).

August 17, 1973

ACTION IN DOCKET CASE

CINCINNATI, OHIO, AMATEUR RADIO PROCEEDING, ORAL ARGUMENT SCHEDULED BY REVIEW BOARD. Due to omissions in the transcript of oral argument held before the Review Board on June 28, 1973, the Review Board has scheduled an oral argument for October 2, 1973, at 10 a. m., on exceptions and briefs to the Initial Decision (FCC 72D-61) released September 14, 1972, which proposed denial of the application of Herbert L. Rippe, Cincinnati, Ohio, for Amateur radio station and Extra Class Operator licenses (Docket 19270). Rippe and the Chief, Safety and Special Radio Services Bureau, have each been allowed 20 minutes for argument. Rippe may reserve part of his time for rebuttal. (Action by the Review Board August 15, 1973, by Order.)

August 21, 1973

REVISED AMATEUR RADIO OPERATOR EXAMINATIONS TO BE INTRODUCED.

Element 3 examination for the General Class Amateur Radio Operator license has been revised based upon Study Question Guide 1035c dated March, 1973. The revised examinations will replace those currently being used at all examination points as soon as they become available. It is anticipated the distribution of revised Element 3 examination forms will be completed by mid-September. Revised Element 3 examinations in Braille will also be available.

Revised Element 3 examinations for the Conditional Class and Technician Class operator license have been in use in the mail examination program for several months, as well as revised Element 2 examinations for the Novice Class license based upon Study Question Guide 1035 dated March, 1973.

Although release dates have not yet been established, examination Elements 4(A) and 4(B) for the Advanced Class and Amateur Extra Class respectively are now being revised. Interested parties are invited to submit suggested material for possible incorporation in these examinations, to the Amateur and Citizens Division, FCC, Washington, D. C. 20554. The major areas are: Rules and Regulations, Radio Phenomena, Operating Procedures, Emission Characteristics, Electrical Principles, Practical Circuits, Circuit Components, Antennas and Transmission lines and Radiocommunication practices.