

## SIRA's role after quake

By YS1SIRA and WB4ESB  
(Sociedad Internacional de Radio Aficionados)

October 10, 1986, 11:48 a.m. Walking toward a small shop in the downtown area of the capital city of El Salvador, Jose Rodriguez hesitated and read a headline on a nearby newspaper tray. While he was reading he noticed that the earth was shaking and a roaring sound coming from beneath the ground.

He didn't panic but slowly crossed the street looking backwards, when suddenly a strong earthquake leveled the Ruben Dario Hotel and small shops.

Merchants and employees were crushed under tons of rubble, steel and giant pieces of concrete. Jose was lucky to be alive and tell this story to the YS1SIRA team. (SIRA stands for Sociedad Internacional de Radio Aficionados.)

The tremors, which reached 5.4 on the Richter scale, also destroyed several

buildings in San Salvador, nearby communities and on the outskirts of the capital. Within seconds people realized there was no water, electricity or telephones. Amateur Radio became the only major means of internal and external telecommunications. Tragedy became a reality in this tiny republic besieged by communist guerillas.

The merciless telluric shocks stopped some clocks with the time of the quake, 11:50 a.m. In Miami, 16 minutes after the earthquake, Luisa Alonso, 77 — a monitor for the SIRA — picked up the distress signal while listening to the Pan American Net on 14.130 MHz.

Mrs. Alonso, nine months widowed, likes to listen to the amateur and foreign broadcasts. She immediately called Rafael M. Estevez, WA4ZZG, SIRA's president, and in minutes the WB4ESB was on the air on 14.155 MHz. A few seconds later, Valeriano Builes, HK4BTV/W4, called Rafael through the SIRA repeater 147.90/30 MHz and confirmed the earthquake.

Eduardo Recinos, YS1RN, using his car battery with jumper cables, communicated with the WB4ESB NCS at 2:05 p.m. (EDT) until 11:04 p.m. — the time the propagation was lost.

During the first 15 days, the WB4ESB Net Control Station was staffed almost around the clock by 28 radio amateurs and two SWLs. Acting as NCS were Manolo Gomez Noguera, XE1FFW; Carlos Irragorry, HK3DBQ, and Carlos Ayarza, OA4RB/W5. The active stations in El Salvador with SIRA NCS were YS1RN, YS1AJ, YSMGV, YS1PA, YS1WM, YS1SS, YS4VO, YS2CS, YS1EM, YS1AG and others.

A SIRA emergency team flew to El Salvador on October 17, after extensive red tape delays, with 400 pounds of medicine, food and clothing to aid the stricken victims.

In 1972, when Nicaragua was struck by a series of jolts the YN1SIRA was activated from the Las Mercedes airport; in 1974 Honduras was devastated by Hurricane Fifi, and the HR0SIRA was on the air. Then, in 1976, when Guatemala was leveled by several earthquakes, it was TG9SIRA. Each time, the SIRA self-support team flew to the (please turn to page 3)



Rafael M. Estevez, WA4ZZG, operating one of the two YS1SIRA stations in San Salvador. (Photo by Sebastian Jaime, WB4LZR)

## School Amateur Radio clubs

Printed below is the keynote speech given by Wayne Green, W2NSD, at the HAM/WEST banquet, Saturday, November 8, in Las Vegas, Nevada's Hacienda Hotel. (The speech has been slightly edited due to space limitations.)

We had a little event that took place a few years ago where CBers had a disaster. Everything was going great, as you will recall, with CB music, CB talk, CB movies, CB television programs, and the CB industry got all excited about this. They said to themselves "Golly, if we can sell all of those 23-channel rigs, let's go to 50 channels and make everybody buy a new CB rig."

They petitioned the FCC for that, and the FCC finally authorized 40 channels. That instantly stopped the sale of 23-channel sets, and by the time the 40-channel sets were permitted to be sold, everybody had forgotten what CB was . . . and that was the end of the CB fad.

Now why did I bring that up? After



Wayne Green, W2NSD, keynote speaker at the HAM/WEST banquet, addressed the issue of getting young people into Amateur Radio.

World War II, Amateur Radio got going and for 17 years Amateur Radio grew 11% per year quite steadily. Surveys done by the American Radio Relay League showed that 75% of all new amateurs were teenagers, and that 80% of these went on to high-tech careers. Also, about 50% of these newcomers were either 14 or 15 years old. This is when it hits.

In 1962, the ARRL membership did (please turn to page 20)



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## Corrections

Those who saw our December 1986 issue will recall the front-page article — "El Salvador's quake heroes." Ed Mitchell, WA6AOD, of Palo Alto, California, was the author of that article (and photographer of the photos on page 3).

Licensed since 1973, Ed spends most of his operating time on public service, emergency communications and HF CW. He is an engineering project manager at Software Publishing Corporation, where he has created PFS: First Choice and PFS: Access software for the IBM PC. Besides Amateur Radio, he enjoys flying, long-distance bicycling and writing.

On page 28 of our December issue, in "International ARC in City of Lights," a name and call sign were deleted. The paragraph should have read:

"Amateurs in Paris have organized an

## Floridora YLs

On March 14, the Floridora YLs will be celebrating their 30th anniversary with a luncheon at the Orlando OMNI Hotel, headquarters for the Orlando Hamcanton.

There have been over 400 licensed YLs who have been members of the Floridora YLs over the years, with many of the original 30 charter members maintaining active membership. The

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## Bulletin board changes

There have been some important changes in the bulletin board run by the Timex Sinclair Amateur Radio Users Group (TSARUG) for hams who use Sinclair computers.

The main bulletin board, which features advanced copies of the articles for the group's newsletter, QZX, has been moved to (505) 522-7081. An East Coast bulletin board has been set up in North Carolina. It can be reached at (704) 547-4185. It is available during evening (after 5 p.m.) and early morning (before 9 a.m.) hours and all day

international Amateur Radio club here. Chuck Martin, AB4Y, Kalaya Martin, N4GPB, Mike Glover, K5MG, and others have started an organization with the following goals . . .

group has a net that meets every Tuesday at 9 a.m. Eastern Time on 3.933 MHz — a net that has been operating for over 30 years.

The luncheon will have limited seating with reservations being available after January 1, 1987. Two prominent YL hams have been selected as speakers.

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weekends. Both BB's are standard FIDO bulletin boards (the first is net 15 node 6 and the second net 18 node 9). The Sinclair area for the first is area 8 and for the second area 7.

For more information about the TSARUG, the bulletin boards or QZX (the group's newsletter), send a large SASE to Alex F. Burr, K5XY, 2025 O'Donnell, Las Cruces, NM 88001. □

•••••

If you received this publication and are not a subscriber of WORLD-RADIO, it was no accident. Please consider it an invitation to join. We can be very friendly.

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Left to right: Eduardo Solana, CX2RJ/W4; Jorge Lopez from the Mexican rescue team; Ricardo Perez, another rescuer; Douglas Jewett from the Dade County Fire Rescue Dept. and in charge of all operations; Roberto Ruiz, KB4EYX; and Eduardo Recinos, YS1RN. (Photo by Rafael Estevez, WA4ZZG)

## SIRA

(continued from page 1)

scene and established emergency communications. During the 1985 Mexican crisis, the SIRA labored more than five weeks exchanging more than 10,000 messages with SE1FFW and his crew. After the Armero floods, the SIRA NCS worked for almost two weeks relaying and delivering the lists of survivors' names to the media and Colombian consulates.

The SIRA team in El Salvador was divided into three groups. The first led by Rafael WA4ZZG, Roberto KB4EYX and Eduardo CX2RJ/W4. The second headed by Sebastian WB4LZR, Roberto WB4RDD; Carlos LU2DZ and Manolo SWL a diesel expert. The third by two shorthand experts, Maria Someillan, secretary to Congressman Claude Pepper (D) in Miami and Marta Franchi, representing the Dade County government and the Latin Chamber of Commerce (CAMACOL). The Salvadorean government allowed them to use the YS1SIRA call sign and right away they started to relay the giant list of names and numbers brought from Miami.

Marta and Maria were working from an office with several telephones and kept contact on 2 meters on 147.300 simplex, relaying the replies to one of the YS1SIRA stations.

Because of the estimated 30,000 operational lines, the telephone system in the capital was very sluggish and the central office with the prefixes 21 and 22 was completely damaged; it will be replaced in March 1987.

Thanks to Willy YS1WM; Mauricio YS1SS; Eduardo YS1RN; and Enzo YS1EG, the two YS1SIRA stations handled more than 3,500 messages during their five day stay in El Salvador.

A day before the SIRA emergency team returned to the United States, YS1SS, his wife Rosemary and YS1WM took four of them to the outskirts of the city and on top of the hills where

thousands of persons are homeless. These two families are providing 1,000 meals a day which are furnished out of their own finances.

After the tour, Sebastian WB4LZR promised to organize more relief to help the forgotten, homeless and hungry victims. With the help of neighbors, families, friends and other SIRA members, WB4LZR gathered 1,400 pounds of food, clothing, blankets and medicines.

Marcos Garcia, KB4IXT, managed to involve the Aero Puma Airlines and in a (please turn to next page)

## 'Floods' correction

"Floods hit Midwest," page 4 of the December issue, contained erroneous information about the emergency communications that occurred during flood conditions in the Des Plaines, Illinois area last fall.

Stan Walgreen, WA9ZDX, vice president of the ECHO Repeater Association, and Lee Bergstedt, K9BTB, trustee of the ECHO repeater, were responsible for the excellent coordination of emergency communications — NOT Hap Holly, KC9RP, as we had reported. Although Hap did put out a bulletin on the air, asking for volunteers, he had little to do with actual emergency operation. All messages were carried through the ECHO repeater. (The ECHO Repeater Association acts as the reserve communications arm of the Des Plaines Emergency Services Disaster Administration.)

Between Monday, September 29 and Sunday, October 5, 42 radio amateurs put in a total of over 900 hours in their efforts to assist the flood victims.

We apologize for not giving recognition, in the December article, to those who spent so many hours on the air during this emergency. —Editor

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# SIRA

(continued from previous page)

few days the first shipment from SIRA was at the Comalapa airport. Joaquin Bazain, KA4WAY helped to deliver all the goods to the Miami airport. Aero Puma is delivering all the cargo free for the SIRA. Eduardo Recinos, YS1RN, and his wife received and distributed the initial shipment.

On November 1, the SIRA was still working three hours in the morning and two in the evening. More than 80 families living in Montreal, Canada knew about their loved ones in El Salvador through the WB4ESB NCS and Pierre VE2KD. The radio station, Centerville in Montreal, played the

names of their family members via telephone from Miami.

Alfred Hanson, WB4RSE managed to bring the famous North West Medical team from Portland, Oregon. Hanson, active with SIRA since 1976, arranged free plane tickets to San Salvador. The team of five orthopedics, two neurosurgeons and two nurses were working at the Santa Tecla Hospital with the Puerto Rican doctors headed by Dr. Benito Colon, who did an outstanding job. By the way, these doctors kept a daily sked with Ramon KP4FL and were flown in and out by the National Guard.

While the SIRA team was in El Salvador, Francisco Montes, KA4CRQ,

was in charge of the operations in the United States.

Again SIRA's motto. TO ENHANCE BROTHERHOOD AND GOODWILL, was the answer to a merciless earthquake.

On October 14, 1986, the mayor and city council of the city of Hialeah, Florida, commended the "distinguished accomplishments of radio ham operators, Sociedad Internacional de Radio Aficionados (SIRA), and its director, Rafael M. Estevez, for their assistance in making it possible for the city of Hialeah and its citizens to express their solidarity with the people of El Salvador during their suffering which resulted from a terrible earthquake." □

## RFI Forum

### Norm Brooks, K6FO

The usual RFI (radio frequency interference) problem of a radio amateur involves three parties — two innocent and one guilty." So stated Chris Imlay, N3AKD, Legal Counsel for the American Radio Relay League (ARRL) at the RFI Forum at the HAM/WEST Convention, Las Vegas, Nevada, November 7, 1986.

### Who's innocent?

One of the innocent parties is the amateur's neighbor, who is the sufferer of the interference. He can justly say, "I shouldn't have to modify my TV, VCR or telephone because I live next door to a radio amateur." The other innocent party is the radio amateur who can say, "I am using modern equipment that is properly shielded, filtered and grounded. It is not my fault that my neighbor buys a TV, VCR or telephone that does

not have the ability to reject my radio signal."

### Who's guilty?

The guilty party in this case is the manufacturer of the TV, VCR or telephone. Through his Electronic Industries Association, he and other manufacturers have successfully kept the FCC from establishing proper RFI standards that their product should meet.

(please turn to page 22)



Chris Imlay, N3AKD, Legal Counsel for the ARRL, was speaker at the RFI Forum at HAM/WEST,

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# IARN-vital emergency link

Glenn Baxter, K1MAN, manager of International Amateur Radio Network, is a very busy man in times of emergency. For several days following the El Salvador earthquake in October, his network (which he organized after the Mexico City earthquake in September 1985) transmitted over 1,000 messages to and from San Salvador from all over the world. He was a key American radio link with El Salvador.

"In cases when no normal means of communications are available, I contact Glenn to see what he knows and what he's hearing," said Marc Singer, a radio and TV liaison with CBS in New York. "He's valuable because he's operating in times when normal means of communication just aren't there. It's important to get as many links as you can. He's one of them, and he's a valuable one."

A professional engineer by trade, Baxter's casual interest in Amateur Radio

became much more serious in 1985, after the Mexican earthquake.

"I was the first one to contact Mexico City, and that story went out on the AP (Associated Press) worldwide," Baxter said.

Although used after the November 1985 Colombian volcano eruption and during the uncertainty over the severity of the Chernobyl nuclear disaster in the Soviet Union, Baxter's IARN wasn't fully tested until the afternoon of Friday, October 11, when a 5.4 tremor leveled much of San Salvador, killing more than 1,000 people.

Monday, October 13, Baxter's assistant — Richard Horner, KZ1P — and Dr. David Halperin — a bi-lingual surgeon from Belgrade Lakes, Maine — agreed to fly to San Salvador and assist in any way possible.

(please turn to page 20)



Glenn Baxter, K1MAN, at his station

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## International Amateur Radio Network

The International Amateur Radio Network (IARN) is a private organization which has grown out of recent Amateur Radio emergency networks providing important international

emergency communications.

The goal of IARN is to take advantage of past experience and contacts in an effort to have ready an even better amateur response to any future crisis with international ramifications. There is a need to both remain independent of politically oriented radio organizations and to interface with these and other organizations where appropriate.

All groups and individuals interested in IARN are encouraged to join in and contribute their ideas and support. Check in to the regular nets on each odd Saturday of every month: SSB — 14.160 MHz at 1430Z (emergency/alternate 14.275 MHz); RTTY — 14.090 MHz at 1530Z.

Check-in, call or write whenever you can. Special skeds can and will be arranged to stay in touch with all interested parties. Routine frequencies monitored are 14.313 MHz or 14.332 MHz.

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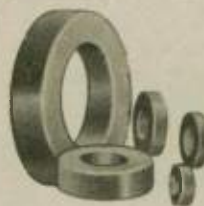
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Any Tech class or higher amateur can get on ATV. If you are now on SSTV, or have a home camera or VCR & TV set, your cost will just be the TC70 and antenna system. If you are working the AMSAT satellites you can use the same 70cm antennas on ATV.

DX with TC70-1s and KLM 440-27 antennas line of sight and snow free is about 22 miles, 7 miles with the 440-6 normally used for portable uses like parades, races, search & rescue, damage assessment, etc. Add one of the two ATV engineered linear amps below for greater DX or punching thru obstacles.

The TC70-1 has full bandwidth for color, sound, like broadcast. You can show the shack, home video tapes, computer programs, repeat SSTV, weather radar, or even Space Shuttle video if you have a home satellite receiver. See the *ARRL Handbook* for more info & *Repeater Directory* for local ATV rptrs.

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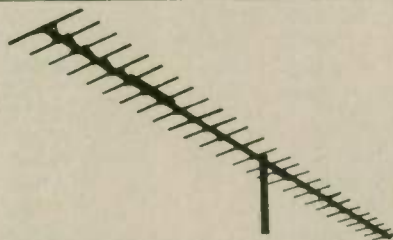
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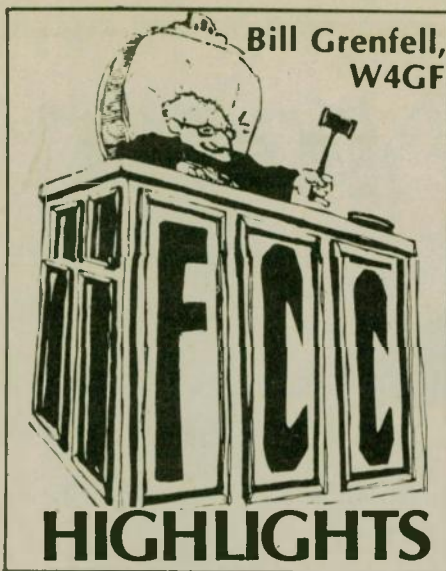


KLM 440-27 14DBD ANT...\$107  
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Bill Grenfell,  
W4GF

Effective 10/14/86, the FCC authorized automatic control for packet amateur stations when retransmitting third-party traffic (PR Docket 85-105). Rule section 97.80(b) was amended to provide such control only for stations "... retransmitting digital packet radio communications on frequencies 50 MHz and above." Use of the AX.25 packet protocol was required. "The retransmitted messages must originate at an amateur station which is under local or remote control." Section 97.114(b)(4) was amended to provide exception under the conditions specified in Section 97.80(b). The Commission deferred further consideration of expansion of such operation to digital communications below VHF.

Effective 12/01/86, the FCC will "... allow re-examination credit for written elements passed during an otherwise unsuccessful Amateur Radio operator examination." (PR Docket 86-63). A photocopy of a pending application which indicates the applicant has qualified for a Novice license may be used for examination credit. The effective date is contingent upon approval of appropriate revision of FCC form 610.

Sierra Leone is now one of the countries which have arranged to permit their amateur stations to exchange messages on behalf of third parties with amateur stations licensed by the United States. The FCC's Notice includes cautions about the message content (rule section 97.111), identification of the

foreign station at the end of the exchange (section 97.84), and the prohibition of business messages (section 97.114).

Denial of the ARRL's petition to require labeling of home electronic devices as to their susceptibility to radio frequency interference (RFI) was upheld by FCC action on 10/06/86. The implication to the public that such labeling would be an assurance of the proper functioning of such devices was one of the reasons given for denying the League's petition.

The FCC proposed authorizing operation by Novice and Technician licensees in Alaska, Hawaii and in the Region 2 Pacific and Caribbean insular areas in the 7050-7075 kHz subband. (10/06/86, PR Docket 86-397). A petition by Dean W. Manley pointed out that interference from international broadcasting made present Novice and Technician operating privileges in the 7100-7150 kHz band virtually useless in those locations. The original comment deadline is 12/22/86 and 01/21/87 is for reply comments.

The FCC has extended the comment period for the Notice of Proposed Rulemaking and Notice of Inquiry in the matter of an "automatic transmitter identification system" (ATIS) (Gen. Docket 86-337) to 01/19/87. The system was described in *HIGHLIGHTS* two months prior to this report. "Obviously, ATIS is not practical in the Amateur Radio Service where equipment frequently is bought and sold, making it difficult and expensive to keep track of

each transmitter." (ARRL Letter, 10/24/86)

The ARRL has directed its General Counsel to file comments opposing ATIS "as inappropriate in the Amateur Radio Service." (ARRL Letter, 09/02/86)

"No greater leakage" should be allowed devices intended to be attached to TV sets, whether they are governed as a part of cable rules or as incidental or restricted radiation devices, said ARRL in its comments filed in response to FCC's further Notice of Proposed Rulemaking, Gen. Docket 85-301. (ARRL 10/24/86)

As a part of FCC's special enforcement program, \$35,000 worth of illegal radio equipment (CB linears and transmitters) was confiscated in Fairfield, New Jersey (10/07/86) and \$10,000 worth (transmitters and amplifiers) was confiscated at Louisville, Kentucky in September. (ARRL 10/24/86)

Of two men indicted in February for importing quasi-CB equipment which operates on non-CB frequencies with unauthorized emission and excessive power, one was fined \$10,000 and given five years probation and the other was fined \$4,000 and given four years probation. (ARRL 10/24/86; *W5YI Report*, 11/01/86)

David Ackley, W4UWH, St. Thomas, Virgin Islands, has been assessed a fine of \$1,450 for causing willful and malicious interference to ongoing amateur communications in violation of (please turn to page 12)

## Amateur Radio call signs

Amateur Radio operators often ask the FCC what call signs have been assigned lately. This list shows the last call sign in each group to be assigned for each district, as of November 1, 1986.

For more information about call sign assignment in the Amateur Radio Service, see Section 97.51 of the FCC Rules, or write to the FCC, Consumer Assistance Branch, Gettysburg, PA 17325.

Radio District	Group A Am. Extra	Group B Advanced	Group C Tech./Gen.	Group D Novice
0	NV0S	KE0IW	N0HNJ	KA0YUV
1	N11A	KC1AM	N1ELK	KA1OZZ
2	NU2K	KD2WL	N2GTF	KB2BUP
3	ND3Y	KC3ZR	N3FFF	KA3QEX
4	AA4WZ	KK4BW	N4OZP	KB4VGI
5	WS5I	KF5SK	N5JXD	KB5BCB
6	WY6X	KI6MA	N6OLQ	KB6OOZ
7	NX7Y	KE7VA	N7ISA	KA7ZVC
8	NU8L	KE8IE	N8HWH	KB8AMG
9	NO9R	KE9AK	N9GDF	KA9WFQ
N. Mariana Is.	AH0E	AH0AC	KH0AI	WA0AAG
Guam	AH2Y	AH2BM	KH2CG	WH2AKJ
Johnston Is.	AH3A	AH3AC	KH3AB	WH3AAC
Midway Is.		AH4AA	KH4AD	WH4AAF
Palmyra, Jarvis Is.	AH5A			
Hawaii		AH6HK	NH6HN	WH6BMF
Kure Is.			KH7AA	
American Samoa	AH8C	AH8AC	KH8AD	WH8AAW
Wake Wilkes Peale		AH9AC	KH9AC	WH9AAE
Alaska		AL7IL	NL7JJ	WL7BLG
Virgin Is.	KP2Q	KP2BA	NP2BY	WP2AFF
Puerto Rico	WP4V	KP4LM	WP4AQ	WP4GHM



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# FCC Highlights

(continued from page 8)

Section 97.125 of the FCC rules. Included in the Notice was violation of Section 97.7(a) for transmitting on a frequency not available to Technician Class licensees and violation of Section 97.84 for failing to identify his transmissions by call sign. (ARRL Letter, 10/13/86; Westlink Report, 10/17/86; W5YI Report, 10/15/86)

More than one potential contractor might initially be considered in the selection process for a special call sign program," advised Ray Kowalski, Chief of FCC's Special Services Division, Private Radio Bureau, in correcting a misquote of his remarks at the San Diego National ARRL Convention. He "reaffirmed" his advice that only one group would eventually win the right to issue special call signs which could be used as alternatives to the calls issued by the FCC. (ARRL 10/24/86)

"We are getting more and more instances of people who are attempting to beat the volunteer examination system," according to Ray Kowalski, Chief of FCC's Special Services Division. "We're having to deal with more and more instances of either fraud, or improperly administered examinations and various different categories of improprieties."

The FCC was reported to have called up two Texas candidates for retesting by a different VE team, but they are reported to have declined to take the retest. Kowalski explained that failure to take a retest is not a direct violation of Part 97 rules or of any law. Apparently, only where fraud could be proven and used as evidence in a revocation proceeding could action be taken against a licensee involved in an improper upgrade test. I am sure there will be more to report on this subject later! (Westlink Report, 10/17/86 and 10/31/86)

The ARRL has filed a petition with FCC requesting that it reverse its decision in PR Docket 85-196 delegating the responsibility for maintaining written examination elements to volunteer examiner coordinators (VECs). "The ARRL comments state that it was the intent of Congress that the FCC supervise the examination process through the maintenance of question pools, and that the FCC's Maintenance of them is the only way to ensure standardization among the 25 VECs. A number of other petitions for reconsideration have also been filed."

The League concludes that "There must be only one question pool per written element, approved by the Commission, so that candidates are uniformly

qualified and that examinations are fair to each candidate." (ARRL Letter, 10/13/86)

The Electronic Communications Privacy Act was passed by the Congress (HR 4952 version) and sent to the president for signature early in October. It prohibits eavesdropping on certain communications but does not appear to inhibit listening to Amateur Radio operation. See last month's HIGHLIGHTS for some of the other communications which are not protected. (ARRL Letter, 10/13/86)

A new radio navigation system is reported to be in operation from the west end of Lake Ontario on or about 432 MHz. Amateur use of the 430-450 MHz band is on a secondary basis. However, the system's signals threaten amateur weak-signal communications and amateur transmissions could inadvertently interfere with the system with possible danger to ships relying on it. "CRRL is pursuing the matter closely." (ARRL Letter, 10/13/86)

The new (sixth) edition of ARRL's FCC Rule Book is now available. Besides the updated text of the rules, it includes answers to many commonly asked questions about the meaning of the rules. (ARRL Letter, 10/13/86)

Operation of a pirate broadcast station last February resulted in imposition of a \$750 fine (09/03/86) on Jerry Gastil, K6DYD, of Point Loma, California. (Westlink Report, 10/17/86)

Engaging in broadcasting, transmitting unidentified radio signals and fail-

ing to identify his amateur station by its FCC call sign was cited in a violation notice issued to Robert Lentz, NN6E. (Westlink Report, 10/17/86)

Transmitting unidentified signals and operation outside the Novice band resulted in a \$150 fine assessed to Novice operator Clara Gemar. (Westlink Report, 10/17/86)

Failing to identify his repeater (444.450 MHz on Mt. San Miguel, California) by its FCC call was the cause for a \$50 fine assessed to Leonard W. Gemar, N5IEX. (Westlink Report, 10/17/86)

"Falls Church, Virginia amateur Michael Whatley, WA4D, has been the subject of extensive FCC monitoring for his alleged 'highly offensive' ham transmissions. After the FCC field investigation, PRB's Bob Foosaner ruled (on October 9) that '... this alone does not support imposition of enforcement sanctions, which must be based on violation of specific rules or statutes.7'

"The primary purpose of Section 97.78 of the FCC rules (covering good amateur practice) is to promote a high standard of conduct for amateur operators. However, it is not generally useful as an enforcement tool because of its lack of specificity." (Whatley has been under FCC scrutiny for more than two years.) (W5YI Report, 11/01/86)

A draft Interamerican Convention for the issuance of Amateur Radio station operating permits on a reciprocal basis is under consideration by a committee of the Inter-American Telecommunications Commission (CITEL). The paper was to be a Convention rather than an agreement. (Unfortunately, a "Convention" is usually much more difficult to modify after adoption than an "Agreement".) It will eventually be presented to CITEL in August 1987. (ARRL 10/09/86)

"... U.S. amateur stations operated in geographic areas under foreign jurisdiction must comply with the requirements of the foreign government." (This includes U.S. amateur stations in waters under foreign jurisdiction.) "For U.S. vessels in international waters (not subject to foreign jurisdiction) with U.S. licensed amateur stations aboard, the law is Section 301 of the Act." (The United States Communications Act of 1934, as amended.) (W5YI Report, 11/01/86)

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# VE exam schedules

As a service to our readers, Worldradio presents a feature listing those VE exams, times and locations which are sent to us. Please remember that our deadline for publication is two months in advance. For example, if your VE group is scheduling an exam for September, please have the information to us by mid July.

Our address is Worldradio, 2120 28th St., Sacramento, CA 95818. Please mark the envelope "VE Exams".

List the location, and information examinees should have (advance registration, etc.) and the name and telephone number of a person to contact for further information.

Date	City	Contact person	Notes
<b>California</b>			
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Jan 4	Chico		in advance
Jan 10	Los Altos Hills	(408) 255-9000	w/i only
Jan 10	Victorville	K6BET (619) 244-6080	
<b>Colorado</b>			
Jan 10	Denver	W0LJR (303) 366-9689	pre-reg pref w/i OK
<b>Florida</b>			
Jan 17	Melbourne	WB9IVR (305) 724-6183	w/i OK
<b>Illinois</b>			
Jan 22	Chicago	W9WBY (312) 929-6550	
<b>Kansas</b>			
Jan 10	Olathe	NK0B (913) 764-6347	pre-reg pref w/i OK

Date	City	Contact person	Notes
Jan 30	Topeka	NA0F (913) 828-3317	pre-reg pref w/i OK
<b>Massachusetts</b>			
Jan 2	Acton	W1QLT (617) 263-8742	pre-reg by 12/26 no w/i w/i OK
Jan 4	Brewster	KY1T (617) 255-2029	
<b>Michigan</b>			
Jan 10	Dearborn	(313) 676-6248	
<b>Missouri</b>			
Jan 10	Hermitage	NF0X (417) 745-6673	pre-reg pref w/i OK
Jan 31	Kansas City	W0CLR (816) 331-2763	pre-reg pref w/i OK
<b>New Hampshire</b>			
Jan 21	Salem	KY1N (603) 362-9940	pre-reg by 1/14 w/i OK
<b>Oregon</b>			
Jan 22	North Bend	WA7AHI (503) 756-6846	30-day pre-reg
Jan 3	Portland	KZ7T (503) 649-5066	30-day pre-reg some w/i
<b>Texas</b>			
Jan 3	Midland	KT5G (915) 694-9450	w/i OK
Jan 10	Harlington	WA2VJL (512) 399-0328; 399-2865	pre-reg pref w/i OK
Jan 31	Harlington	WA2VJL (512) 399-0328; 399-2865	pre-reg pref w/i OK
<b>Wisconsin</b>			
Jan 24	Wisconsin Rapids	K9UTQ (715) 423-6368	30-day pre-reg w/i OK

## Amateur "Hi"

Ever had a funny or strange experience with Amateur Radio, either on or off the air? If so, type it up (or print neatly) and send it to us for consideration in our monthly AMATEUR "HI" contest. You could win a free year's subscription to Worldradio!

Brian Kirk, KB4NLH, of Tabb, Virginia has won a free year's subscription to Worldradio for submitting this amusing story.

It happened during Field Day 1984. Chris Colangelo, KB4NLI — a friend and a graduate of the same radio class that had given me my Novice — was setting up his father's HW-101 in my backyard for our first-ever foray into the bewildering and exciting world of Amateur Radio contesting.

The afternoon was hot and buggy, and one fly in particular gave us no end of trouble as we got ready for the big event. My homemade 40-meter dipole was all strung and ready to go, the rig was plugged in and turned on. We sat listening to the lightning-fast (7-word-a-minute) code.

The fly's constant buzzing soon ruined our concentration, however, so we turned to the business of tuning up the rig. Chris undertook this monumental task as I strolled out to the antenna — just me and the fly. Chris held down my brass straight-key to peak the drive, and over the clear tones of the tuning I heard an odd sound: BZZZZZZ-ZAP!

I looked up and saw a tiny body falling to the ground. Our friend the fly had just been introduced to the wonders of RF, and we had just invented the world's biggest fly swatter. And they say Amateur Radio has no practical applications.

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WBVA5 WBON

# Special Events...

## Hall of Science ARC

The Hall of Science ARC will issue a commemorative certificate to anyone working a HOSARC station on January 18 in celebration of our 14th anniversary. HOSARC stations using the call WB2JSM will operate SSB in the General phone bands of 40 and 20

meters, and CW in the Novice bands of 40 and 15 meters, from 1500 to 2100 UTC.

QSL with a large SASE (44¢ or 1 IRC)

## Mission Trail Net's 50th anniversary

January 20, 1987 marks the 50th anniversary of the Mission Trail Net, a traffic net based primarily in California. Originally a 160-meter operation, MTN meets on 3928 kHz every night of the year at 7 p.m. Pacific Time.

MTN membership is about 150 from seven western states. The net, which is not affiliated with NTS, handled over 2,000 messages last year, and the

to: HOSARC QSL Manager Arnie Schiffman, WB2YXB, 81-22 250th St., Belrose, NY 11426. We hope to see you on the 18th!

historian, Jim Price, K6ZH, estimates that MTN has moved over 100,000 pieces of traffic in its 50 years of existence, even taking into account the inactivity during World War II.

### On-the-air reunion planned

President Harry Edwards, N6ESU, has invited all old-time Mission Trail Net members to visit MTN sometime



# ICOM

# KENWOOD

# YAESU



IC-735

HF Equipment	List	Juns
IC-735 Gen. Cvg Xcvr	\$999.00	Call \$
IC-745 Gen. Cvg Xcvr	1049.00	Call \$
IC-751A Gen. Cvg. Xcvr	1649.00	Call \$
<b>Receivers</b>		
IC-R7000 25-1300 + MHz Rcvr	1099.00	Call \$
IC-R71A 100 kHz-30 MHz Rcvr	949.00	Call \$
<b>VHF</b>		
IC-271A All Mode Base 25w	859.00	Call \$
IC-271H All Mode Base 100w	1099.00	Call \$
IC-27A FM Mobile 25w	429.00	Call \$
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IC-28A FM Mobile 25w	429.00	Call \$
IC-28H FM Mobile 45w	459.00	Call \$
IC-38A FM Mobile 25W	459.00	Call \$
IC-2AT FM HT	299.00	Call \$
IC-02AT FM HT	399.00	Call \$
IC-μ2AT Micro HT	329.00	Call \$
<b>UHF</b>		
IC-471A All Mode Base 25w	979.00	Call \$
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IC-04AT FM HT	449.00	Call \$
IC-3200A FM 2m/70cm 25w	599.00	Call \$
<b>220 MHZ</b>		
IC-37A FM Mobile 25w	499.00	Call \$
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<b>Repeaters</b>		
IC-RP3010 440 MHz	1229.00	Call \$
IC-RP1210 1.2 GHz	1479.00	Call \$



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HF Equipment	List	Juns
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TS-940S Gen. Cvg Xcvr	2049.95	Call \$
TS-930S/AT Gen. Cvg Xcvr	1849.95	Call \$
TS-830S Xcvr	1099.95	Call \$
TS-530SP Xcvr	899.95	Call \$
TS-430S Gen. Cvg Xcvr	819.95	Call \$
TS-440S/AT Gen. Cvg Xcvr	1199.95	Call \$
TS-440S Gen. Cvg Xcvr	1049.95	Call \$
<b>Receivers</b>		
R-5000 NEW!	899.95	Call \$
R-2000 150kHz-30 MHz	649.95	Call \$
TS-670 All Mode Quad 6 M	799.95	Call \$
<b>VHF</b>		
TS-711A All Mode Base 25w	899.95	Call \$
TR-751A All Mode Mobile 25w	599.95	Call \$
TM-201B FM Mobile 45w	369.95	Call \$
TM-211A FM Mobile 25w	399.95	Call \$
TM-2530A FM Mobile 25w	429.95	Call \$
TM-2550A FM Mobile 45w	469.95	Call \$
TM-2570A FM Mobile 70w	559.95	Call \$
TH21-BT FM, HT	259.95	Call \$
TH-205 AT, NEW 2m HT	TBA	Call \$
TR-2600A FM, HT	359.95	Call \$
<b>UHF</b>		
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TM-401B FM Mobile 25w	399.95	Call \$
TM-411A FM Mobile 25w	449.95	Call \$
TH-41BT FM, HT	269.95	Call \$
TR-3600 FM HT	369.95	Call \$
<b>220 MHZ</b>		
TM-3630A FM 220 MHz 25w	449.95	Call \$
TH-31BT FM, 220 MHz HT	269.95	Call \$
TL-922A HF Amp	1499.95	Call \$



FT 757GX

HF Equipment	List	Juns
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FT-757 GX Gen. Cvg Xcvr	995.00	Call \$
FT-767 4 Band New	1895.00	Call \$
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FRG-9600 60-905 MHz	679.95	Call \$
<b>VHF</b>		
FT-270RH FM Mobile 45w	439.95	Call \$
FT-290R All Mode Portable	579.95	Call \$
FT-23 R/TT Mini HT	299.95	Call \$
FT-209RH FM Handheld 5w	359.95	Call \$
<b>UHF</b>		
FT-770RH FM Mobile 25w	479.95	Call \$
FT-73 R/TT Mini HT	314.95	Call \$
FT-709RH FM HT 4w	359.95	Call \$
<b>VHF/UHF Full Duplex</b>		
FT-726R All Mode Xcvr	1095.95	Call \$
6m/726 6m Module	269.95	Call \$
FT-690R 6m, All Mode, Portable	569.95	Call \$
430/726 430-440 MHz	329.95	Call \$
440/726 440-450 MHz	329.95	Call \$
HF-726 10-15-20M	289.95	Call \$
SU-726 Sate Duplex	129.95	Call \$
<b>Dual Bander</b>		
FT-2700RH FM 2m/70 cm 25w	599.95	Call \$
FT-727R 2m/70 cm HT	479.95	Call \$
<b>220 MHZ</b>		
FT-109 RH New HT	TBA	Call \$
<b>Repeaters</b>		
FTR-2410 2m Repeaters	1249.95	Call \$
FTR-5410 70cm Repeaters	1289.95	Call \$

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during the month of January to say "hi" to friends and to help celebrate the net's Golden Anniversary. While January 20 is the official anniversary, all traffic buffs are cordially invited to check-in on 3928 kHz at 7 p.m. Pacific Time anytime during the month.

#### Net history book now available

Jim, K6ZH, the MTN historian, has completed the compilation of the net's history — the first such undertaking since 1955 when W6UII summarized the net's first 18 years of existence. The 100+-page book, complete with photos of many prominent MTN members, is now available free to all current MTN members and for only \$6 postpaid to all others from K6ZH, 4855-39th St., San Diego, CA 92116.

MTN members from all years — as well as anyone interested in the workings of a traffic handling net — will find this book interesting reading.

#### Gala 50th Year Roundup planned for June

MTN has held an annual convention called the Roundup since the very first year of the net's existence. This eyeball QSO session is held in a different city each year depending on who volunteers to host it.

The Roundup traditionally includes a Friday evening barbecue, local tours on Saturday, a grand banquet with award presentations and prize drawings on Saturday night, and the installation of officers along with a Board meeting on Sunday morning. Since this is MTN's BIG 50th anniversary, Roundup Chairman Lyle Storey, K6JQY, promises an extra good time for all.

Contact Lyle at 26062 Road 132, Visalia, CA 93277 for registration information. □

## Michigan's 50th

The Oakland County ARS will operate W8TNO on Sunday, January 26, from 1600Z to 0000Z, to celebrate the 150th anniversary of the state of Michigan.

Operations will be on 20 to 80 meters, SSB and CW. Suggested frequencies: SSB — 14.270, 7.270, 3.870 MHz; CW — 7.130, 3.730 MHz. For special cer-

tificate, send a 9" x 12" SASE to W8TNO, 4391 Clintonville Rd., Pontiac, MI 48055. □

.....  
Are you involved in  
public service?  
.....

# Alcatraz revisited

## Christine Wilson, KA6TAL

"Whiskey 6 Alpha Kilo . . . Whiskey 6 Alpha Kilo . . . This is W6AK, Alcatraz Island . . . QRZ? . . ."

These words traveled the airwaves from a unique location on Saturday, October 11, during a mini-DXpedition sponsored by the Sacramento (California) ARC. The unique spot was Alcatraz Island ("The Rock"), San Francisco Bay.

Thirteen of us (10 hams and three "accomplices"), dressed as convicts for the day, stood near our baggage at Pier 41 on Fisherman's Wharf at 8 a.m., trying to keep warm. Things warmed up a little when we got on board the ferry boat that was to take us to Alcatraz.

Upon arriving at the island, we loaded the radio equipment onto a dolly that Norm Brooks, K6FO, had brought. It was a godsend, we soon discovered, because we had to transport not only the radios, but also four 12V batteries to the opposite end of the island, up several steep switchbacks.

The area we operated from was the site of the old prison bakery, overlooking the recreation yard and the island's water tower.

First on the agenda was getting the

coaxial cables up, including a G5RV antenna that worked beautifully. Once that was done, the radios were set up for operation: ICOM 730 on 40 meters, Kenwood TS-130 on 20 meters, ICOM 751A on 75 and 15 meters, and a TRS-80 from Radio Shack for VHF packet. The TRS-80 was a lap-type computer that had been modified by Les Ballinger, WA6EQQ, to run off a 12V battery — including printer!

(please turn to page 18)



Art Hartwell, WA6YZD (left), looks on as Les Ballinger, WA6EQQ, works the TRS-80. Les had modified the packet computer to run off a 12V battery.

## Hamvention Lodging - available at this time

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Dayton Airport Inn  
Daytonian Hilton  
Econolodge  
Fairborn Motel

Hampton Inn (Englewood)  
Holiday Inn Wright State  
Holiday Inn Dayton Mall  
Holiday Inn Fairborn  
Holiday Inn North  
Holiday Inn South  
Holiday Inn Troy  
Knights Inn Franklin  
Knights Inn Dayton North  
Knights Inn Dayton South  
Knights Inn Vandalia  
L & K Motel (Brandt Pike)  
LaQuinta Inn South  
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Penny Pincher (L&K Troy)  
Ramada Inn Downtown  
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DAYTON

# HAMvention

April 24, 25, 26, 1987

## Early Reservation Information

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- License exams • Free bus service
- CW proficiency test • Door prizes

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### Flea Market Tickets

A maximum of 3 spaces per person (non-transferable). Tickets (for all 3 days) will be sold IN ADVANCE ONLY. No spaces sold at gate. Vendors MUST order registration ticket when ordering flea market spaces.

### Special Awards

Nominations are requested for 'Radio Amateur of the Year', 'Special Achievement' and 'Technical Achievement' awards. Contact; Awards chairman, Box 44, Dayton, OH 45401.

### License Exams

Novice thru Extra exams scheduled Saturday and Sunday by appointment only. Send current FCC form 610, copy of present license and check for \$4.25 (payable to ARRL/VEC) to: Mark Tessner, 2859 Homeway Dr., Beaver Creek, OH 45385

### Slide Show

35 mm slide/tape presentation about the HAMVENTION is available for loan. Contact Dick Miller, 2853 La Cresta, Beaver Creek, OH 45324

### 1987 Deadlines

- Award Nominations: April 4
- Lodging: April 4
- License Exams: April 4
- Advance Registration and banquet:
  - USA - April 11
  - Canada - April 4
- Flea Market Space:
  - Orders will not be accepted before January 1

### Information

- General Information: (513) 433-7720 or DARA, Box 44, Dayton, OH 45401
- Flea Market Information: (513) 223-0923
- Lodging Information: (513) 223-2612  
(No Reservations By Phone)

HAMVENTION is sponsored by the Dayton Amateur Radio Association Inc.

### Lodging Reservation Form

Dayton Hamvention - April 24, 25, 26 1987  
 Reservation Deadline - April 4, 1987  
 MAIL TO - Housing, Dayton Hamvention,  
 1980 Kettering Tower, Dayton, OH 45423-4880

Arrival Date \_\_\_\_\_  
 Before 6 pm  After 6 pm  
 Departure Date \_\_\_\_\_  
 Room:  Single  
 Double (1 bed, 2 persons)  
 Double Double (2 beds, 2 persons)

Lodging Preference -  
 See list of Lodging on adjacent page.

1 \_\_\_\_\_ 2 \_\_\_\_\_  
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Deposit required - Room deposit must be paid directly to the hotel or motel by date shown on the confirmation form sent to you. Use canceled check for confirmation.

### Advance Registration Form

	<u>How Many</u>		
Admission	_____	@ \$8.00*	\$ _____
(valid all 3 days)			
Grand Banquet	_____	@ \$15.00**	\$ _____
Women's Luncheon	_____		
(Saturday)	_____	@ \$7.25	\$ _____
(Sunday)	_____	@ \$7.25	\$ _____
Flea Market	_____	@ \$23.00	\$ _____
(Max. 3 spaces)			
Admission ticket must be ordered with flea market tickets			
			Total \$ _____

Make checks payable to - Dayton HAMVENTION.  
 Mail to - Dayton Hamvention, Box 2205, Dayton, OH 45401

\* \$10.00 at door      \*\* \$17.00 at door, if available

# Alcatraz

(continued from page 16)

Over 200 contacts were made with 36 states, including KH6 and KL7, VEs 7, 5, 4 and 3, plus an I1 and an EA5. ("This is the best DX we've gotten from Alcatraz," Jim White, WS6K, said.)

Others who helped with the special event station that day were: Howard Phelps, WA6TUG, and son Glenn; Bill Bonnell, WT6O; Les, WA6EQQ, and daughter Margaret; Art Hartwell, WA6YZD; Carl Crump, WA6VLS; Scott Jercich, KB6CCG; Bob Lyman, KI6FT; Chris Wilson, KA6TAL, and husband Tom.

The sun broke through the fog by early afternoon, making it easy to see the sailboats all over the bay. Several of us had a chance to take in a tour of the island and learn some interesting facts about its history.



Alcatraz was used as a U.S. military barracks during the Civil War, and in 1868, became a military prison for prisoners serving long sentences — including several Indian chiefs. In 1933, it was turned into a federal prison, but was closed 30 years later because of the high cost of maintaining the prison.



Ten "prisoners" behind bars at Alcatraz. Left to right: Art Hartwell, WA6YZD; Scott Jercich, KB6CCG; Les Ballinger, WA6EQQ; Bob Lyman, KI6FT; Carl Crump, WA6VLS; Bill Bonnell, WT6O; Norm Brooks, K6FO; Margaret Ballinger; Chris Wilson, KA6TAL; and Tom Wilson.



Three "mini-DXpeditioners" work hard at getting contacts for the Sacramento ARC's Alcatraz Island special event station, Saturday, October 11. Left to right: Art Hartwell, WA6YZD, Carl Crump, WA6VLS, and Jim White, WS6K.

In 1969, a group of militant American Indians took over the island and occupied it for 18 months, in an attempt to gain title to the property from the federal government. In October 1972, Alcatraz became part of the National Park Service's Golden Gate National (please turn to page 20)



Scott Jercich, KB6CCG (right), helps log as Chris Wilson, KA6TAL, waits for contacts on 75 meters.

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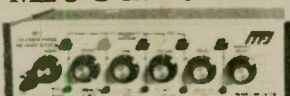
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# Alcatraz

(continued from page 18)

Recreational Area.

Our return trip to the ferry was much easier than the morning walk since it was all downhill. We got several stares and smiles from tourists who saw our outfits. Bill, WT6O, said he'd forgotten he had the outfit on until a woman asked him to pose with her son. "Try to look mean," she told him. Norm, K6FO, answered tourists who questioned our striped outfits with, "This is a reunion of the class of 1963."

The success of this venture was due, in large part, to the cooperation and assistance of three people: Colleen Collins, Operations Supervisor for the National Park Service; Carolyn Horgan, Dispatch Supervisor for Red & White Fleet; and Chief Amparo of the U.S. Coast Guard, who had helped Scott, KB6CCG, transport the batteries to Alcatraz the night before the trip.

This was the third time the Sacramento to ARC had held this special event station, although it was a first-time experience for some of us. Last year's event spanned two days and earned the club over 400 contacts. Who knows what next year will bring? Look for times and frequencies in next year's *QST* and *Worldradio*. □

# IARN

(continued from page 6)

Through IARN, arrangements were made for Chester Stemp, YS9CHE, to act as host to the visiting team. Dr. Halperin was assigned to San Raphael Hospital, where all the children in El Salvador had been transferred.

Dr. Halperin and Dr. Mehne, with the authority of the San Raphael Hospital's Director, Dr. Chavez, asked IARN to arrange to obtain about \$100,000 in surgical and medical supplies. Because of the fact that the U.S. State Department and the Red Cross could not help with these emergency supplies for San Raphael, IARN was on its own and did get the job done. The requested supplies were sent on October 28, 1986, personally accompanied by a third IARN team member — Gene Paradis, KA1LWR.

Right now, IARN is in the red and needs your financial support. Please send whatever you can to: International Amateur Radio Network, Account Number 15235, c/o Kennebec Federal Savings, Main Street, Waterville, ME 04901. All such donations are tax deductible.

In addition to handling official traffic for the British Foreign Office, the British Red Cross, the San Salvador Embassies in London and Bonn, Germany and the Salvation Army team of 52 people in San Salvador, we have handled over 1,000 health and welfare inquiries for concerned people all over the world.

— Information obtained from articles by Bob Keyes in the *Sentinel and Press Herald* (Portland, Maine), and from Glenn Baxter, K1MAN □

# School clubs

(continued from page 20)

not rise. They discussed this situation — what are we going to do to get interest in ARRL so we can improve our membership?

They discussed different possibilities and the one they decided on was to do something controversial. They decided to go back to the pre-WWII licensing arrangement of Class A and Class B licenses, where Class A had the phone frequencies and Class B had CW frequencies. They said, "This is the way we will go, and we will call it Incentive Licensing. We're taking everybody's phone frequencies away, and they have to get a new license to get back on phone again."

This was the incentive. They also wanted to provide more incentive for the Novice. They had to operate on CW for

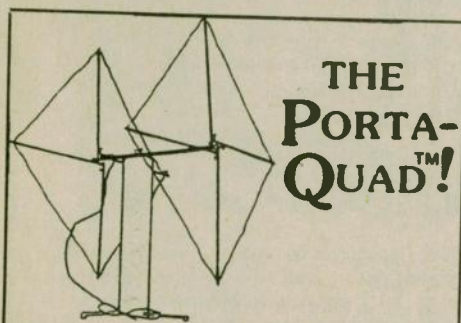


Roy Neal, K6DUE, emceed the Saturday evening banquet, at HAM/WEST, in Las Vegas.

two years before they could advance in their class of license.

Well, this didn't go over quite as well as you might think. During the next year, Amateur Radio stopped growing completely and had a net loss in hams. Within the next two or three years, every major manufacturer in the industry went out of business. In one year, sales dropped from 35 million to 7 million — an 85% drop in one year. Hallicrafters, Hammarlund, National, Johnson, Barker & Williamson, Multi-Elmac, Central Electronics, Lakeshore Industries, Gonset, Webster, Thordarson, United Transformer — on down the list — either went out of business or went into some other business. We lost the entire industry.

I started high school at Erasmus. I was interested in radio and went to the radio club. Within a few months they had me go down and flunk the license for the first time. I changed from Erasmus Hall to another high school which did not have a radio club, and I did not get my license until I went to Rensselaer. They had a radio club, W2SZ. Within a couple of weeks, I had my license — W2NSD.



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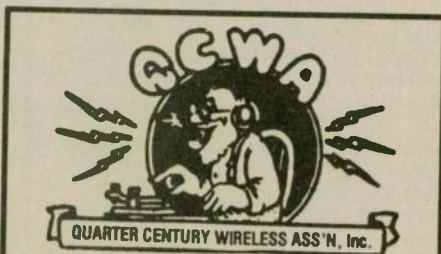
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Now if we go back to this study, where 80% of the youngsters that came into the hobby went into high-tech careers, you will see that as a result of this stopping of growth of Amateur Radio, the United States has lost over 1½ million engineers, technicians and scientists. Unfortunately, they have lost the very best — people who live and breathe electronics and communications. They make the best creative people in the country, and we've lost those. I believe this has a lot to do with our loss of consumer electronics industries to Japan.

We turned around the net loss in 1970 when FM and repeaters came into popularity, and we got some help from the CB fad. To give you an idea of where we are today, we had a net loss of 8.5% last year of newcomers into the hobby. The year before, 7.9%, so it's getting worse. Sales of amateur equipment in the last year dropped 12%. The average age of the amateur today is 56. When I was young it was about 27. We here are the survivors! We've stayed alive. I've been writing a little bit about this in 73. I sure hope you'll stop smoking and slim down so that you'll stay alive a little bit longer and we won't lose everybody! (applause)

At the same time we pulled this beaut, Japan put in a no-code license. They went from 18,000 licensed amateurs to something over 2 million licenses issued so far. As a result of this, and very largely this, there are Amateur Radio clubs in every single school in Japan — many of them with hundreds of members. They are turning out about 50 times as many electronic engineers as we are, and they have half our population.

In the consumer electronic industry, we have lost television, VCRs, radios, cassette recorders, hi-fi equipment, video cameras, calculators, microwave ovens, digital watches, digital audio, commercial television equipment, test equipment, copiers and telephones. Not only have we lost all these manufacturers, but we no longer even make the parts to manufacture electronic equipment. We lost the whole infrastructure for manufacturing electronics.

It was electronics, largely, that won WWII. I was right there and I know. I was on an American submarine, and it was our radar that made it possible to go on the surface in the middle of the night, right through convoys of Japanese ships, and they didn't even know we were there. If we have another war, we'd sure better have Japan on our side. Otherwise we're in deep trouble. We don't have the people to do the R&D, we don't have anybody to manufacture the equipment and nobody to make the parts.

In 1981 the FCC formed a long-range planning committee, LRPC, and I was on that committee. The purpose was to develop communications capability for

the United States in case of emergencies. It didn't take long before it was apparent there was no other way to turn for communications other than to radio amateurs. Radio amateurs are everywhere; they train themselves, they buy their own equipment. The trouble was, we had too few amateurs to really do the job that had to be done.

The FCC was very concerned about this. What are we going to do? It became obvious to them we had to have youngsters in the hobby. Whenever they asked any youngsters about it they said fine, we like Amateur Radio — we think it's great, but you can take the code and stuff it. It doesn't make any sense.

The FCC worked hard to get a no-code license through, to get started on a way to get youngsters into the hobby without this obstacle of the Morse code, and make this into an electronic hobby rather than a skill hobby. The ARRL stopped that dead!

*(To be continued next month)* □

## 900 MHz ATV antenna

Southern California's first coordinated 900 MHz amateur repeater station is on the air from the city of La Crescenta. The new NU6X ATV repeater went from beacon operation to full repeat mode on Friday, July 11.

NU6X operates crossband, with its input on 434 MHz and output on 923.25 MHz. Good quality picture relay has been reported as far away as San Diego, some 110 miles from the system site.

Gordon McKee, WB6ROP, in San Diego also saw 910.25 MHz simplex pictures generated by Sam Lutwieler, K6VLM, in La Mirada, California, over a path of 75 miles. K6VLM was running only 1.5 watts. An all-day temperature inversion is credited with the extended DX. Tnx Tom O'Hara, W6ORG. □

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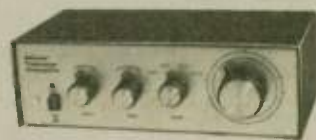
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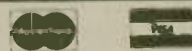


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## Michigan now 20 kHz

Bill Pasternak, WA6ITF

Michigan has resisted outside pressure from neighboring states and has reaffirmed its intention to utilize the Pacific Northwest 20 kHz 2-meter bandplan in the 146-148 MHz repeater sub-band. This decision came on September 14, at a meeting of the Michigan Area Repeater Council in Lansing.

By an overwhelming margin, members of the council voted to authorize immediate implementation of the plan statewide. The results of this vote followed that of a postcard survey of all Michigan 2-meter repeater trustees

made earlier this year. Those repeaters anticipating no problems in making moves to their new 20 kHz assignments were authorized to make the switch as soon as was technically feasible.

The small number of Michigan repeaters that may face problems with the move will have these difficulties resolved through the council, so as to meet the self-imposed deadline for conversion to the plan by December 7, 1986.

The MARC 2-meter Frequency Coordinator has been instructed by the council to issue a new "Letter of Coordination" to every repeater that is required to move frequency as the result of the shift to 20 kHz, and no repeater has

been put off of the air as the result of this bandplan change. In fact, MARC says that a number of long-standing interference problems will either be improved or eliminated as a result of this change.

Neighboring region coordination councils opposed (and still oppose) the decision by MARC to adopt 20 kHz. They fear interference problems will occur to existing upright 15 kHz coordinations in their states. While some are boisterous about their opposition, in reality they know they can do nothing to stop Michigan from making the shift to 20 kHz.

## RFI Forum

(continued from page 4)

In his presentation, Chris Imlay filled us in on the protected negotiations that have taken place.

### The private sector committee

We've had this problem for 45 to 50 years, now. Why hasn't the FCC done something about it? Only as recently as 1982, after 10 years of lobbying by the ARRL, legislation was passed — with Senator Goldwater's help — which gave the FCC the authority to regulate RFI to home electronic equipment. They

didn't have the authority to do that before. What have they done with it?

They got a bunch of people together in the private sector and asked them to come up with RFI standards. Under the American National Standards Institute, a group of industry people was formed, including an ARRL representative. In four years, they came up with a suggested standard of 1 volt per meter for TVs and VCRs. They didn't take it far enough. It would be fine for low-power CBs, but not adequate for full-power amateur operation.

Early this year, the League looked at the 1982 legislation and found the FCC

could implement it in the following ways:

- Require minimum rejection standards.

- Label the home electronic equipment, notifying the consumer that it might be susceptible to interference, and if so, contact the manufacturer.

The ARRL filed a petition for rule making to do the least implementation of the legislation that was suggested anywhere by anybody. Figuring that the private sector committee wasn't going to do anything more very soon, and with the problems getting worse with the proliferation of VCRs and other susceptible



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home electronic equipment, the petition suggested the requirement of one or two labels on the susceptible equipment:

1) "This equipment incorporates certain circuitry, shielding or filtering designed to reject unwanted signals from nearby radio transmitters. If, however, interference is received, contact the manufacturer."

2) "This equipment does not incorporate . . ." etc.

Either it is shielded or not. Either way, the consumer is steered back to the manufacturer.

It was hoped the manufacturers would be motivated to incorporate the necessary filtering, etc., so they could use the more favorable of the two labels.

Without giving the petition an RM number, which would have given the public the opportunity to comment on this, the FCC dismissed the petition less than a month after it was filed. They said it is never going to work; it presumes that certain standards exist; we prefer that the market place handles this problem; we've got a committee working on the problem; and if they don't do the job maybe we'll consider some more mandatory regulations.

The ARRL thought it was a complete abrogation of the FCC's responsibility to deal with the RFI problem. The number of RFI complaints are in the 57,000-per-year range and getting worse. It has not gotten better since 1982, yet the legislation specifically said, "We expect this legislation to significantly reduce the number of RFI complaints."

The League filed for reconsideration. This time the full FCC rejected the petition saying the private sector committee was doing the job.

Where do we go from here? It will be up to the Board of Directors of the League to decide. Perhaps through some additional lobbying efforts we may be able to turn this thing around. Perhaps we can get the manufacturers to put the notice in the instruction book, if they don't want to put a label on the equipment. Perhaps we can get them to throw in the FCC RFI book!

### What should the amateur do?

What should the amateur do? There's no doubt you are inhibited from enjoying Amateur Radio if you're wondering what your neighbor is thinking. If you've done everything you can to your station to make your signal clean, the fault does not rest with you.

The FCC has published an RFI book — the one with the rainbow on the cover. The part about the amateur tells you to install a low-pass filter. There is a bigger section telling your neighbor how to modify his equipment. It suggests he get in touch with his manufacturer.

Get a copy of this book from your

nearest FCC field office. Give it to your neighbor. Tell him to take a look at it to understand the problem he has. That will probably be the end of it. He may decide that if the FCC put this out, they must know what they're talking about.

Imlay suggests that if you're faced with an RFI problem, clean up your own home electronic devices first. Be able to show your neighbor or the FCC that you don't cause any RFI to your own TV, VCR or telephone. Then,

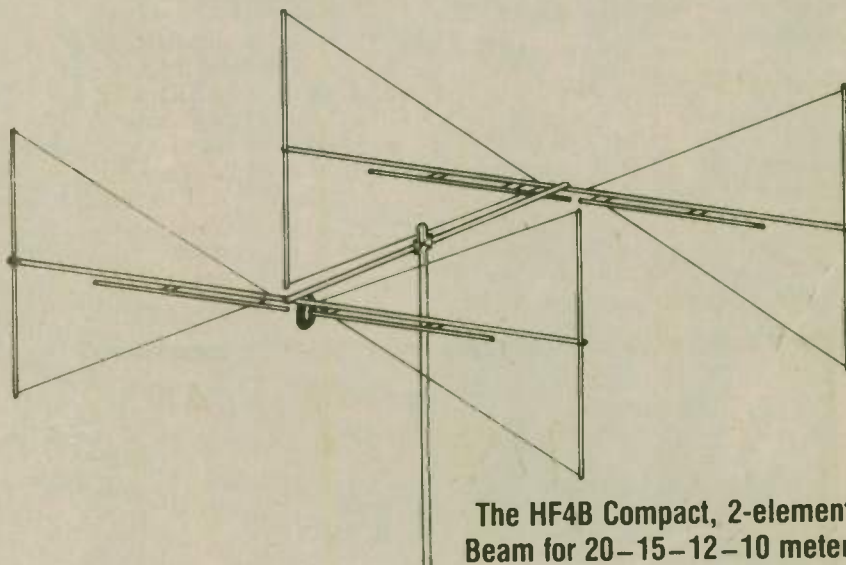
- don't stop operating,
- don't reduce power,
- document your efforts, and
- make helpful suggestions.

The ARRL has a directory of manufacturers that will work with you on RFI problems. AT&T and the regional telephone companies have RFI filters for the telephones they rent or sell.

In serious cases, if the FCC makes a field check, they will send out a truck and check your station. Usually, it finds the amateur station OK. Show them the lack of RFI in your own home electronic devices.

If your RFI is to cable reception, call the cable company technicians to clear the problem. If the cable system is

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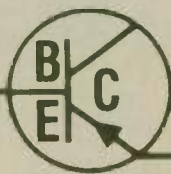


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### The Ravenscroft case

You all heard about the Canadian amateur named Ravenscroft who was sued by his neighbor, and the neighbor won. Ravenscroft was fined and enjoined from causing further interference. The case is being appealed, and he has received a lot of financial help for the appeal. It's not a particularly happy situation.

Could it happen here? No. In the United States we have a series of case decisions, plus federal legislative statements and FCC statements that have clearly established that the subject of RFI is not something that local jurisdictions have control over. You may be sued by your neighbor for causing RFI, but the suit won't last long; it will be dismissed. The courts are now very comfortable with the fact that only the FCC is going to regulate RFI. □

# AWARDS

## Young Ham of the Year

Bill Pasternak, WA6ITF

The *Westlink Report Newsletter* is pleased to announce that 16-year-old Shawn Alan Wakefield, WK5P, of Bartlesville, Oklahoma has been selected as the first winner of the *Westlink Report* Young Ham of the Year Award.

This award was created to honor the Amateur Radio-related achievements of Amateur Radio operators age 18 and under, in a manner similar to the Dayton Amateur Radio Association's "Radio Amateur of the Year." To that end, many of the judging criteria used by the Dayton Amateur Radio Association in selecting their annual winner have been adopted including that of an "Awards Committee" to make the final selection.

The 1986 *Westlink Report* Young Ham of the Year was selected by such a blue-ribbon panel made up of *Westlink Report* Publisher Sanford "Bert" Hicks, WB6MQV; *Ham Radio Magazine* Associate Editor and former *HR Report* Editor Joseph Schroeder, W9JUV; Richard Moseson, N2BFG, who is the Emmy-award winning associate producer of the CBS network children's program "In the News;" and recently retired NBC Network News West Coast Deputy Bureau Chief Roy Neal, K6DUE.

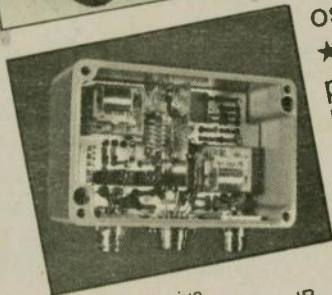
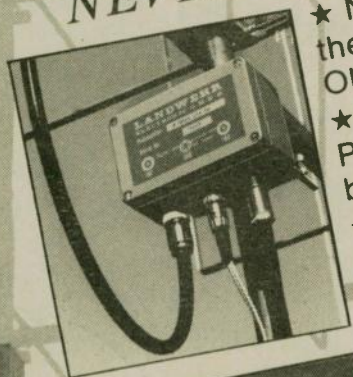
The winner, Shawn Alan Wakefield, was selected by this panel based on his work in bringing other youth into Amateur Radio. While licensed only two and a half years, Shawn — who is an Eagle Scout — has personally recruited several new young hams from his Scout Troop. Of these, one has already earned a General Class license, with the rest being holders of Novice certificates.

Not content with just making new hams, WK5P has taken the whole process a major step further by becoming the leading force in the creation of a local Radio Explorer Post in his hometown, as well as working with his high school grade advisor in the hope of forming an Amateur Radio club at his high school. Shawn is an honor student in school, having garnered an accumulated grade point average of 3.96.

In addition to his work with other youth, he has also found the time to organize the Ham Railroad Net for which he also serves as the net control operator. The net meets on 7.274 MHz at 0000 UTC the second and fourth Tuesdays of each month to discuss matters of interest to railroading enthusiasts like Shawn. □

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Not many manufacturers like to discuss quality and price at the same time. AEA thinks you want high quality and low price in any product you buy, so that's what you get with the Pakratts. Ask any friend who owns AEA gear about our quality. The people who buy our products are our best salespeople. As for price, the PK-64 costs \$219.95, or \$319.95 with the HF option. The PK-64A, an enhanced software unit with a longer flexible computer cable, costs \$269.95 or \$369.95 with the HF option. The PK-232 costs \$319.95 with the HF modem included. All prices are Amateur Net and available from your favorite amateur radio dealer. For more information contact your local dealer or AEA.

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# Code matters

## Part IV

Loraine McCarthy, N6CIO

This month, let's begin by reviewing some additional general topics about the code. I have found many students are concerned about the sound of the code (i.e., how one tape sounds in comparison to another, or how a tape differs from the sound of their computer, or how two operators differ in sound). This concern usually exists when a student is beginning to learn the code.

Try not to compare any two sources of code. No two operators will sound alike. Practice to feel comfortable with as many varieties of sound as possible.

Another question that students often ask is, "At what character speed should I learn the code?" While a character speed of 20 wpm might be ideal to avoid plateaus, the reality is that most ex-

aminations at the Novice and General levels are given at a character speed of 13 wpm. Exams at the Extra level are given at a character speed of 20 wpm. For this reason, I recommend that students prepare for the General exam at a character speed of 13 wpm.

I find that students who learn at 13 wpm have very little difficulty adapting to a character speed of 20 wpm as they begin the speed building from 13 to 20. Also, I find that students who continue on for the Extra find the speed-building for 13 to 20 wpm easier than from 5 to 13 wpm. The reason for this is that by the time they have reached 13 wpm in speed, they have usually developed some good study habits, practice skills, and are generally more relaxed about the examination process.

Let's take a look now at our final two "word techniques." The first I call "Final Dit-Dahs." By this I mean any two letters in code, which when they are

compared in code differ only in the final "dit" and the final "dah." The most common example is the letter "C" — (dah-dit-dah-dit) and the letter "Y" (dah-dit-dah-dah).

Note that the only two elements that differ are the final dit and dah. This often occurs in words that end with the letter "Y". For example, if you have written down the word "windc", the letter "c" appears to be incorrect. There is no letter that is opposite the "c". Since the reversal that we discussed last month doesn't work, try substituting the letter for the final dit-dah. When we do this we arrive at the word "windy." Note that this principle can be applied on any two letters, so if we write down the word "wainy," what letter appears to be incorrect? Let's try the "w". What would be the final dit-dah paired letter with the "w"? If you said the letter "r", dit-dah-dit, you are correct and we arrive at the word "rainy." Begin to look for examples of these in your copy and see if you can correct some words.

The final word technique is what I call "Close Associations." This simply means letters that are either all dits or all dahs. The two series are: E, I, S, H and 5, and T, M and O. These are fairly easy to work with if you make a mistake. If you've copied "TOO" for a name, it is probably the name "TOM." If you've copied "scom" for a rig, it is probably the word "ICOM."

The following is a handout that I give students in the classes to review the principle of Final Dit-Dahs and Close Associations.

**Final Dit-Dahs and Close Associations**

A "Final Dit-Dah" is used to help you remember which letter you are copying in code. It is the final dit and the final dah.

EXAMPLES: E I S H 5 T M O

WINDC → WINDY  
WAINC → WAINY  
WAINY → WAINY  
WAINY → WAINY

Close Associations: E, I, S, H, 5 and T, M, O.

Study this carefully, and begin to identify any of these that might appear in your copy.

Remember, if you think you're close to being ready to take an exam, go ahead and give it a try! If you do not obtain a passing score, you will have a better idea about the areas where you still need more work.

(please turn to page 28)

### COM-SHACK 64 SIMPLEX OR DUPLEX SHACK CONTROL

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\*C64 CONTROLS YOUR FT 757 • IC 735 • TS 440/940 WITH YOUR H T!  
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 \*VOICE CLOCK, SET TIME FROM YOUR H T!  
 \*USER FRIENDLY MENU FOR EASY START UP!

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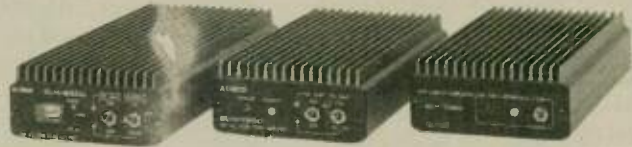


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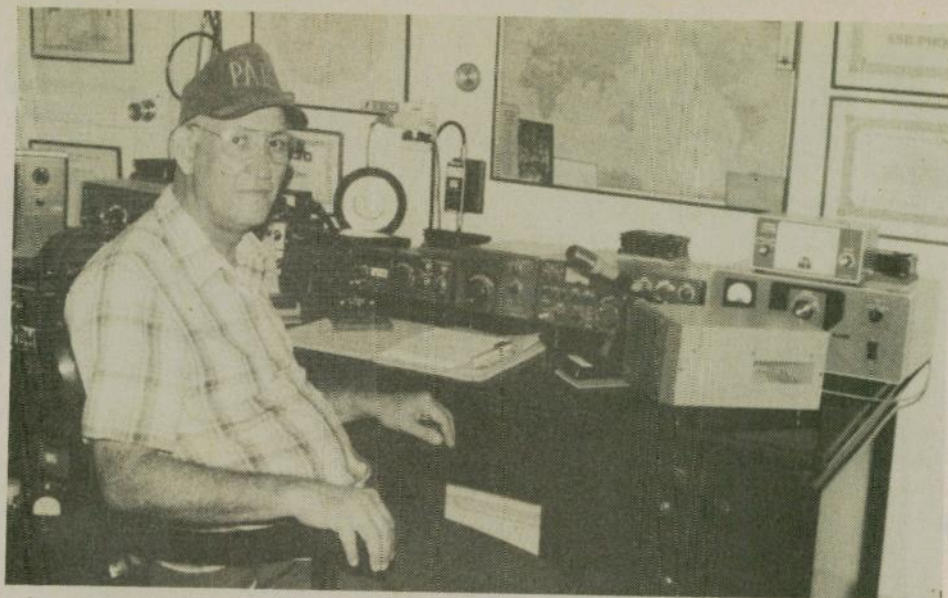
# DU1RFA STATION APPEARANCE

Rafael C. Azada, DU1RFA, from Manila in The Philippines, has won this month's STATION APPEARANCE — and a free year's subscription to Worldradio. Following are excerpts from an article written about Rafael in the November 1983 issue of The Amateur Radio World ("Patience is the key to good DXing").

Rafael . . . has most of what it takes to be a respected DX personality. He is a Filipino of Spanish descent. By occupation, he is a retired commercial airline pilot who, for many years, was the chief pilot of a leading newspaper in the country. While still active in this career, Rafael participated in several search and rescue missions.

DU1RFA maintains his shack at San Juan, Metro Manila. He's a member of the Philippine Amatur Radio Relay League, Inc. (composed mainly of DX-ers), the Philippine Amateur Radio Association, the ARRL, and an appointed member of the committee created by the National Telecommunications Commission, to revise rules and regulations governing Amateur Radio in the country.

Equipment: System 1 — Kenwood TS-530S and Kenwood VFO 240, Collins



30L-1 Linear Amplifier to a 4-element monoband antenna (Hy-Gain 204BA), and Kenwood MC-50 microphone.

System 2 — Kenwood TS-130S, Heathkit SB-200 Linear Amplifier to a Newtronics Hustler 5BTV vertical

groundplane antenna, and a 3-band dipole with a microphone Azden DX-358 pre-amplified.

Rafael's advice to beginning DXers is this: "... consider the QSL card as the final courtesy for a fine QSO." □

## Proud to be a ham

There has been some heated discussion about the subject of station indentification. Each amateur has his/her own way. Some I.D. too often, some not enough. For some time I have been using "This is Amateur Radio station WD8PFK." Now that the broadcasters are allowed to rebroadcast our transmissions, I feel everyone ought to know who we are. I'm proud I'm a ham. I hope you are, too.

—The Electron, Willoughby, OH □

## Code matters

(continued from page 26)

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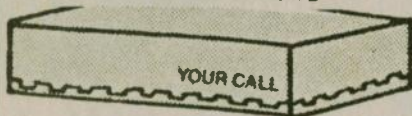
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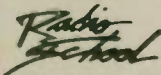


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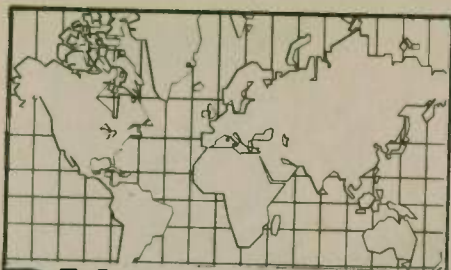


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# DX WORLD

John F.W. Minke III, N6JM

6230 Rio Bonito Drive Carmichael, CA 95608

## Activities Calendar

- 17-18 January MRASZ Hungarian DX Contest (CW)
- 24-25 January REF French Contest (CW)
- 23-25 January CW Worldwide 160-Meter Contest (CW)
- 07-08 February VERON PACC Dutch Contest
- 07-08 February SRJ Yugoslavian DX Contest (CW)
- 14-15 February ARRL International DX Contest (CW)
- 20-22 February CQ Worldwide 160-Meter Contest (SSB)
- 21-22 February REF French Contest (SSB)
- 07-08 March ARRL International DX Competition (SSB)
- 28-29 March CW Worldwide WPX Contest (SSB)

## W-100-N

Three applications for Worldradio's Worked 100 Nations Award were received for the period October 10 through November 11. Nice work to the following:

- 296. EL2AY Kamal T. Hamzi
- 297. WQ5Y W. David Paperman
- 298. KB9OC Sus Musashi

We continue to receive requests for applications for W-100-N. Actually, there are no application forms. We mention a letter of transmittal requesting application for W-100-N, but that is just a cover letter that goes with your application — just a formality, standard with most award applications.

## Mellish Reef (VK9M)

QRZ DX reports that the upcoming Mellish Reef and Willis Island DXpedition next year has been issued the call VK9MW. More on this one as the time approaches.

## Heard Island (VK0)

The Long Island DX Bulletin notes

that the government ship *Nella Dan*, enroute to Heard Island, was due to land November 3 or 4 if weather permits. Jim Smith, VK9NS, and his wife, Kirsti, VK9NL, had hoped to come along, but were unable to obtain permission to accompany this ANARE expedition.

There is, however, an amateur who is part of this expedition this year, but he will have other duties to that of Amateur Radio, such as his meteorology duties.

If they cannot land, another attempt will be made the end of November and they should be there through the end of January.

The last DXpedition was early 1983 and that one consisted of two independent groups. One of them was Jim's and Kirsti's effort, VK0JS/VK0YL, and the other was the ANARE expedition with the Amateur Radio portion sponsored by the Wireless Institute of Australia, and supported by the International DX Foundation and the Northern California DX Foundation. The operators for that one were Al Fischer, K8CW, and Dave Shaw, VK3DHF, using the calls VK0CW and VK0HI respectively.

No call for this year's operation has been indicated as of this writing. Keep your ears open for this one!

## Revilla Gigedo (XF4)

A DXpedition to Revilla Gigedo is being planned for early March 1987. The list of operators will include the calls AI6V, N7NG, W6OAT, W6RGG, W6SZN, XE1ZZA, XE1IX, XE1RM, and possibly others. Some of those calls you will recognize as the team that activated FO0XX on Clipperton Island. The call XF4ZU has been issued to them, which is a renewable license along

with a renewable landing permission, according to *The DX Bulletin*.

## Albania (ZA)

The pages of *The DX Bulletin* report that Albania and Spain have established diplomatic relations. Lyle Meek, WW6F, guest editor for that issue, commented that Juan Carlos, King of Spain, can mount a DXpedition to Albania. Juan Carlos, by the way, is EA0JC.

## Spraty Islands (IS)

There are a few rumors buzzing about that a DXpedition to the Spratly Islands is to take place in January. Pete Peterson, K6EDV, is reported to be on the way to the Philippines to check out the possibility of a DXpedition to the Spratlys. This is to be a Philippine DXpedition if it takes place.

## Burma (XZ)

QRZ DX reports that several Texas stations worked XZ2A on 15 meters, both modes. Nothing more has been heard on this one. Maybe it's good, and maybe it is none other than Rangoon Slim.

## Botswana (A22)

Active on 40 meters is A22BW, who operates around 12 wpm. He has been reported to have a good signal into the western reaches of North America.

Also on from this country is A22TJ who has been reported near 14.210 MHz handing out SSB contacts around 1715 UTC.

## Pakistan (AP2)

Twenty meters appears to be a popular spot for this one. The most reported station from Pakistan was AP2SQ, who has been found between

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\* Requires wide-range tuner (80, 40, 20, 15M without tuner)

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World Radio History

Dept. 1B

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14.181 and 14.227 MHz between 1500 and 0300 UTC. The reports indicate that his signals have been heard from eastern Ontario to Alaska.

Also reported near 14.177 MHz from 0200 UTC is AP2MQ who has been worked from the western reaches of North America. The third station reported, AP2ZA, has been found as low as 14.153 MHz at 1345 UTC and has been active as high as 14.227 MHz and has been heard as late as 0230 UTC.

### Galapagos Islands (HC8)

The call HC8DX was very active during the recent Worldwide DX Contest in October, where they have been reported to have made approximately 7,000 contacts during the bash. During the period before and after the contest, several of the operators were active with their own HC8 calls. See QSL routes for these calls.

The call HD8G has been reported as a multiband effort with him being worked on 3.513 MHz at 0300 UTC and 21.027 MHz around 2330 UTC. He has also been on SSB near 21.275 MHz around 1930 UTC and on 7.076 MHz between 0630 and 0800 UTC working Europeans.

The call HD8GAC was used during the recent Middle of the World Contest.

### Thailand (HS)

Club station HS0A has been active recently on 20 meters on both SSB and CW where he has been found on 14.172 MHz at 1450 UTC and 14.012 MHz at 0200 UTC. Also, for SSB contacts try 14.180 to 14.200 MHz.

Other stations from Thailand include HS4AMS on 14.227 MHz from 2300 UTC, HS4ANH on 7.002 MHz at 1830 UTC and 7.085 MHz at 1900 UTC, and another club station, HS0C, on 14.017 MHz at 2400 UTC working DXers in western Canada.

### Seychelle Islands (S79)

A station signing S79DX has been busy on at least three bands. He had been reported in California on 14.015 MHz around 1600 UTC and in Europe on 7.001 MHz at 1630 UTC and 21.009 MHz around 1200 UTC. If you need a CW contact with the Seychelles, look for this one.

Also active from the Seychelles is S79WHW, who has been worked on CW near 21.042 MHz at 1700 UTC and on SSB on 14.180 MHz after 1830 UTC. Another station, S79CW, was found on 14.189 MHz at 1730 UTC with a good signal into Europe.

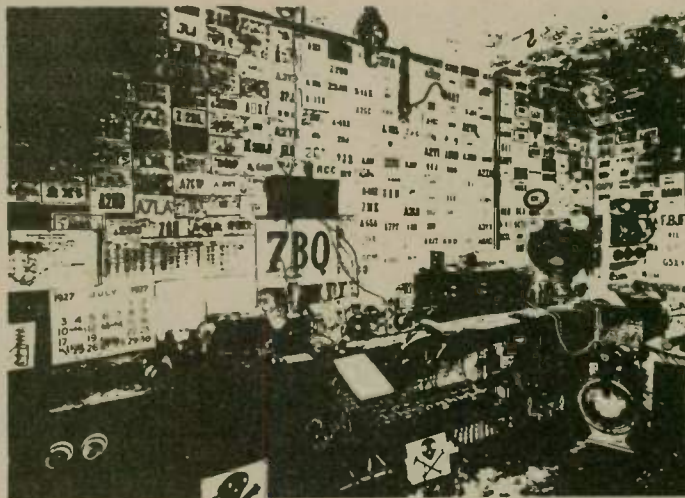
### Iceland (TF)

If you worked TF3RGR during the middle of October you worked the special event station for the U.S. and USSR Summit Conference at Reykjavik. He was busy on SSB near 14.276 MHz around 2100 UTC. No reports for

CW contacts were reported to the DX bulletins even though he was on CW as we worked him on 14.024 MHz around 1630 UTC on Columbus Day.

From Westmann Island, Thor,

for TF3BT who has been worked on 14.215 MHz at 2000 UTC, TF3KB on 14.208 MHz at 1400 UTC, TF3SV on 14.192 MHz at 0030 UTC, or TF6JZ on 7.012 MHz at 2330 UTC.



The typical ham shack of the old days had QSL cards plastered all over the walls. And this was not just typical for American stations. The photo here was taken in November 1927 of 7BQ — or OA7BQ. This — of course, going by the former unofficial call assignments — was Australia. This photo is courtesy of Mick McDaniel, W6FGE, which unfortunately is a photocopy of a print in an album belonging to one of Mike's local hams. Notice the skull and cross-bones!

TF1PS, has been busy near 14.166 MHz after 1945 UTC and also as high as 14.219 MHz. Seventy-five meter buffs were treated when he showed on frequency around 2345 UTC on 3.790 MHz. Unfortunately, it appeared that no one west of New England worked him. Too bad, as there is at least one California DXer who needs Zone 40 on 80/75 meters for his last zone for Five-Band WAZ. For you IOTA collectors, Westmann Island counts as EU-71.

If you missed the above two calls, look

### Egypt (SU)

Of all the DX newsletters we receive each month, only *DX Newsheet* listed any Egyptian stations; evidently, only Europeans were hearing them. On 75 meters around 2130 UTC, SU1HK was worked on 3.797 MHz.

Up on 20 meters SU1ER was worked on 14.242 MHz at 0730 UTC and on 7.045 MHz at 2030 UTC.

### Ascension Island (ZD8)

Stuart, according to *Long Skip*, will



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### TRANSELECTRO-AMERICA

ATT: Helen  
2301 Canehill Avenue  
Long Beach, CA 90815 U.S.A.

be active for at least two years from Ascension Island signing ZD8SW. He has been reported on 20 meters in at least three spots: 14.141 MHz at 2030 UTC, 14.209 MHz at 2130 UTC and 14.216 MHz at 1500 UTC.

Also on from this one is ZD8DP, who was worked on 14.141 MHz at 2030 UTC.

### Chagos (VQ9)

We received a note from Don Strock, W7LAN, who operates as VQ9EE when he is at Diego Garcia. He is assigned to the shuttle ship S/S *Santa Juana* (MSC), which runs between Subic Bay and Digar. This gives Don three or four days ashore each 26 to 30 days to operate from the club station as VQ9EE. Don works mostly CW on 15 and 20 meters from 0300 to 1200 UTC. Look for him on 14.007 or 21.007 MHz. At the club station they have a tri-band Yagi at 31 meters. All QSL cards for VQ9EE go to Don's home call, W7LAN, 1419-35th St., Anacortes, WA 98221.

Also active from this location is Dale, VQ9QM. Dale seems interested only in CW as we have all CW reports such as 3.511 MHz at 2200 UTC, 7.003 MHz after 1330 UTC and 14.028 MHz after 1930 UTC.

Also on CW, but with a few SSB contacts thrown in, is VQ9GB. Much activity was reported for this one during October with SSB contacts on 3.789 MHz

at 1400 UTC, 14.220 MHz at 1900 UTC and 21.275 MHz at 1630 UTC. If you prefer CW, look for VQ9GB on 7.002 MHz at various times (try 1130, 1330, 1500, 2200 and 0130 UTC). He has also been on 14.030 MHz around 1900 UTC and 21.025 MHz at 1630 UTC.

In our November 1986 column we included comments from Bill Jeffrey, KA4CRT, who questioned the validity of Chagos (BIOT), as a nation for Worldradio's W-100-N award. Bill, who

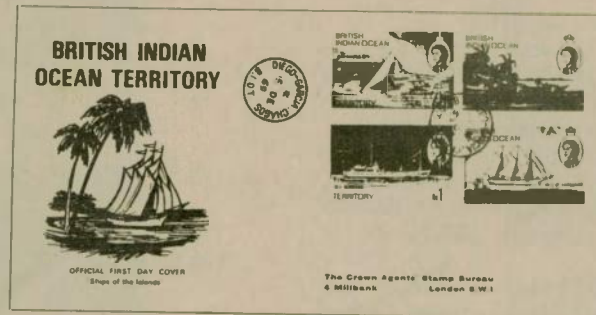
4 Nov 1986

To: John F.W. Minke III N6JM

I saw your article in Nov 86 WORLD-RADIO where KA4CRT questions validity of BIOT contacts because among other things they do not issue stamps. Enclosed find copy of my BIOT FIRST DAY COVERS. Thought this might interest you.

73

Dale J. Toth, WB3KMZ  
19998 Waco Road  
Apple Valley, CA 92308



also holds the call VQ9WJ, claims that this nation does not issue any stamps; therefore, it does not qualify as a nation according to the rules. Well, we can clear that one up real fast, thanks to reader Dale Toth, WB3KMZ. Dale sent us a copy of an official first-day cover, dated December 5, 1969, for BIOT (British Indian Ocean Territory), complete with BIOT stamps. Case closed!

### Prefixed

The *DX Bulletin* reports that the call TV6PAP was a special call sign for the Pope's visit to France.

During October the call 4D42L was reported to have been aired on five bands October 18 and 19 to commemorate General Douglas MacArthur's 1942 landing on Leyte Island in the Philippines.

Special prefixes are always appearing, especially during contests that are sponsored by *CQ Magazine*. During the recent October bash, unusual calls like K4YT/4D9, 3G3, 4C2C, etc., were active. If you are a prefix hunter, those contests are a good source. And don't forget those "two by one" FCC-issued Extra Class calls. There are only a maximum of 26 of each of those prefixes that are issued.

### Eat your heart out

A recent issue of *DX News Sheet* notes that Mel Cugini, LU7MAL, runs a 9-element beam on 20 meters — the boom being 89 feet long!

### DXCC fresh-start update

What is wrong with the DXCC? If what I hear is correct, the DXCC has changed from a gentleman's club to a club in which there is little or no trust. Gone are the days of Gus Browning's escapades and with them, an era of trust and good fellowship within the DX community. Enter Don Miller and we have had almost two decades of red tape, some questionable judgements in applying the DXCC rules and often, an unrealistic view of how the rest of the world should conduct its Amateur Radio (please turn to page 36)

If a foreign amateur visits your area, do a picture story for Worldradio

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Recommended highly by Hams who are using them ... *Roy K2LPO*

Cushcraft has an excellent tech staff and products are sturdy, reliable, and efficient. ... *Bob KA9VYI*

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# DX World

(continued from page 34)

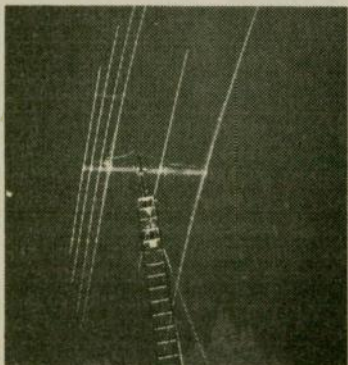
affairs. Somewhere between the present and the past, there must be a middle ground that will yield the sort of DXCC program which will be fair to all and yet remain a test of one's skills and fortitude in the DX world.

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The DXCC is not a basket case and I wish to allay fears that the DXAC is committed to scraping the present program, or that it has an objective slanted toward a "fresh start." That option is just one of many which must be considered and is perhaps the one least likely to be proposed.

The DXAC is committed to recommending changes to those parts of the rules which are the sources of most of the grievances with the DXCC program. Specifically, the country criteria is overdue for an update to reconcile the piecemeal changes which have accrued over the years and to present it in language which is understandable to all amateurs; accreditation has and will remain a sticky issue until some realistic ground rules are established which recognize that all countries do not conduct their Amateur Radio affairs in the image of the USA.

The DXAC has three subcommittees dedicated to studying these and other areas of the DXCC rules. Your inputs are essential. To date, some of you have recommended "gimmicks" which would diminish the difficulty of the awards program. If this is what the membership wants, let your voices be heard. In the meantime, the DXAC will proceed on the premise that the honor roll is not to be an "instant jackpot," but is reserved for those who have taken advantage of all DX opportunities to catch a new one. Whether it takes a year, five years or a lifetime to reach the top of the awards program, is really not a consideration at this time.

Paraphrasing an overseas DXer's comment on our study: "The DXCC is recognized around the world as a prestigious club and its awards program is the criteria for all countries." We intend to keep it that way.

The DXAC solicits your comments. Put them in writing — telephone calls to the headquarters staff do not necessarily get to the DXAC. Address: ARRL, ATTN: DXAC, 225 Main Street, Newington, CT 06111.

Thanks to John Parrott, W4FRU, Chairman of the DX Advisory Committee for the above information.

### Comments and letters

Al Olcott, K7ICW, sent us a note on his recent visit to the U.N. Headquarters in New York where he operated the Amateur Radio station there. Al used the special event call 4U41UN on October 24 to signify the 41st anniversary of the founding of the United Nations. Al operated the station by himself for eight hours entirely on 20 meters SSB, making over 300 contacts.

The station is limited to a vertical trap antenna and daytime operation is limited to the exciter only because of nearby TELEX and accompanying RFI.

Al's logs were left with the station, so do not contact Al for QSLs. All QSL requests should be sent to W2MZV (1986 Callbook address).

Michael, XQ3DPD, sent us a long overdue QSL card for a 75-meter contact made sometime back along with a note that he had upgrade, to Extra Class. His call was changed from CE3DPD to XQ3DPD due to the upgrade, although he is still allowed to use his old call. So, if you hear those XQ calls, they are none other than Extra Class CE calls.

We also received a DXpedition announcement to Formentera Island from Jose A. Contri Arlandis, EA5BUS. This operation, using the call EF6RCD, was to have taken place the first part of October. Unfortunately, this information was received too late for publication.

### Antique QSL Department

We can never run out of old QSL cards

## Propagation

Maximum Usable Frequency  
from Burbank, CA  
(courtesy of W6LS)

The numbers listed in each column are the Maximum Usable Frequency (in MHz) for contacting five major areas of the world (Nairobi, Tokyo, Melbourne, Frankfurt, Rio de Janeiro) for low fire angle antennas.

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FEBRUARY 1987

UTC	AFRI	ASIA	OCEA	EURO	SO
0100	14.4	20.4	23.9	8.7	17.4
0200	10.4	17.4	22.3	8.7	14.1
0300	7.6	14.6	18.4	8.6	12.1
0400	10.0	13.1	15.3	7.0	11.6
0500	9.7	12.9	13.3	6.2	12.0
0600	9.9	11.4	12.4	7.0	12.8
0700	10.1	11.3	12.5	9.5	13.7
0800	10.1	10.8	12.7	10.3	11.5
0900	9.9	10.7	12.5	10.6	11.2
1000	9.6	11.0	12.7	10.7	14.3
1100	9.2	11.6	13.4	10.3	12.2
1200	9.3	11.5	13.4	9.9	10.7
1300	10.7	10.5	11.8	10.6	12.0
1400	13.4	10.0	10.8	12.9	15.8
1500	16.3	11.7	13.1	16.4	19.5
1600	18.4	12.2	13.2	17.0	21.6
1700	19.8	11.3	11.6	15.1	22.4
1800	21.1	10.8	11.4	13.3	23.4
1900	22.2	11.3	13.6	11.8	24.9
2000	22.6	13.0	17.4	10.3	26.0
2100	22.4	16.0	20.2	9.1	26.4
2200	21.3	19.7	20.9	8.6	26.0
2300	19.0	22.1	21.1	8.6	24.5
2400	17.0	22.0	22.2	8.6	21.3

W3BBL Confirming QSO of 1/18/47n 14 MC

RST 459

# XU6GRL

Nanking, China

Transmitter-BC610 Receiver-HQ120  
Many thanks 73's

XU6GRL-CHAS. E STUART-(DOC)  
C/O International Department, Ministry of Information

from China. This one is from XU6GRL, who was located in Nanking. Cole Murphy, W3BBL, provided this month's QSL for a contact he made with Doc Stuart back in January 1947. The QSL indicated that Doc was using an old BC-610 surplus Army transmitter. Boy, those rigs were fun. Great for TVI. And very poor for quick QSYs.

### IRCs

Norm Koch, K6ZDL, reports that he has IRCs for sale in minimum lots of 50 for \$22.50 plus SASE with 37¢ postage. If you send many of your QSL cards direct and not via stateside managers, this is a good deal. When was the last time you purchased IRCs at the post office? Send your order to N.V. Koch, K6ZDL, P.O. Box 1351, Torrance, CA 90505. Remember, the minimum order is 50.

### QSL help

For Bill Thomas, KC9AL, who is looking for help in obtaining a card from Carl, S79R, Bip Bachman, W6BIP, reports that Carl now signs N6BUM from Santa Maria, California and works for Ford Aerospace and Communications at the Vandenberg Tracking Station. Bip says that N6BUM is OK in the Callbook.

### QSL routes

A22BW	-DK3KD	HC8EA	-W2KF
A35QU	-KB1QU	HC8HC	-HC1HC
AH2BE	-KA6V	HC8OT	-W2KF
	(See Note 3)	HD8G	-KT1N
A35RY	-OH1RY	HL9MM	-KA6V
AP2ZA	-W6NLG		(See Note 3)
AZ1ARU	-LU4BR	HS4AMS	-W7PHO
AZ1ARU/15	-LU5E1C	HZ1AB	-K8PYD
AZ1ARU/19	-LU1UM	I400NU	-I00JB
AZ1ARU/25	-LU1MA	J2NDS	-F6DZD
AZ1D	-LU2DT	J44GXS/JD1	-JA4GXS
BV2DA	-DL7FT	JW1CCA	-LA1CCA
C21NI	-JE3LWB	JW1PD	-LA5NM
	(See Note 1)	JW5E	-LA5NM
C30BBE	-OH6XY	JW7FD	-LA5NM
CE0DFL	-CE3DFL	JX1AC	-LA3AC
CR6BY	-C71BY		(See Note 4)
CR9EU	-G3PFS	JY8NV	-W6NV
CV1D	-CX2CS	JY8OC	-F6BOC
EF6RCD	-EA5QZ	JY8TJ	-N6TJ
FG5CBFS	-FG4CB	JY8XX	-N6ZZ
FM5CT	-N7RO	K4PI/PJ7	-K4PI
F05B1	-F6JHS1	K4YTDU1	-KE3A
F00XA	-F6GXB	K4YTD9	-KE3A
FR5EM	-F6HBR	K7CA/KC4	-K7CA
FRW6QL	-YASME	KB6DAW/KH2	-KA6V
	(See Note 2)	KB6DAW/KH9	-KA6V
FT8YA	-F6DZU		(See Note 3)
FY5YE	-W5JLU		(See Note 3)
GB6AR	-N2AU	KC4USV	-KF4UU
GJ3WNE	-VE3DPD	KC6HA	-KA6V
HB0DF5AR	-DF5AR		(See Note 3)
HB0DL1ECU	-DL1ECU	KH6JEB/KH7	-KH6JEB
HC8B1	-HC1BI	KN4B/PJ7	-KN4B
HC8DK	-HC1DK	KP4BZ	-KZ0C
HC8DX	-W2KF	N3JTHK0	-W2GHK

OD5IM	-F6CYU	XF5L	-WA3HUP
OH0AM	-OH2BH	XQ3D	-CE3DPD
P43A	-N1GL	XQ3DPD	-CE3DPD
P43GD	-N2MM	XU1SS	-JA1HQQ
PJ1B	-N2MM	XX9XX	-JA5DQH
PJ1CU	-K7CU	YC7JUL	-KD7YO
PJ0J	-K4PI	YE0X	-YC0SY
PY1DFF/PY0T	-PY1DFF	YN3EO	-Y32KE
PY2RRG/PY0T	-PY1DFF	ZD8SW	-G0DVF
RT0U	-UT4UWV	ZD9CK	-W4FRU
	(See Note 5)	ZF2FL	-N6RJ
S79DX	-G3PEK	ZF2IM	-WB8ZTY
T2ARY	-OH1RY	ZF2OJI	-W4KA
T30AC	-AA6BB	ZK1XK	-WB2CVL
	(See Note 3)	ZK1XZ	-AG9Q
T32BD	-KB61DK	ZL7BKM	-ZL2HE
TA2BK	-DJ0UJ	ZV8WAS	-PY4AG
TJ1AP	-IK8DYD	ZY5EG	-ZY5EG
	(See Note 6)	ZZ5ABW	-PP5ATO
TJ1GH	-DJ3QX	3C1MB	-EA7KF
TL8BA	-SM2NOO	3D2CM	-G4AAL
TL8HB	-WB8TGP	3D2RY	-OH1RY
TN8EE	-F6ECX	3G1B	-VE2AQS
TZ1GH	-DJ3QX	3G3E	-CE3EEO
UV100	-UA9LBR	3G3Z	-CE3AA
	(See Note 5)	4K0B	-UA1MU
UZ2FWA	-KA6V	4M4A	(See Note 5)
	(See Note 3)	4N3E	-K3UOC
V22A	-WB7RFA	4N3E	-YU3HAM
V31CV	-NA5S	4Z4AB	-K3VM
V31DX	-N5DD	4Z41K	-IK8DYD
V31GR	-KJ4JE	5B4MF	-IK8DYD
V85MS	-N200	5H3Z0	-K0LST
VK9XI	-ZL1AMO	8P6G1	-KA6V
VP2EC	-N5AU		(See Note 3)
VP2ML/LU	-VP2ML	8P6JQ	-KA6V
	(See Note 7)		(See Note 3)
VP2MLD	-WB2LCH	8P9AG	-K6ZM
VP2MW	-N3BHF	8P9AJ	-K4UVT
	(See Note 1)	8P9AK	-AK6T
VP2V/KQ2M	-KQ2M	8P9CW	-VE3CPU
VP8AQT	-G3FKR	8P9DX	-VE3ICR
VP8HZ	-G4RFV	8P9RF	-VE3DDL
VP8NX	-G4RFV	8Q7CH	-SM5DQC
VP8PTG	-G4RFV	8Q7CK	-SM5DQC
VP8VK	-G4RFV	8R1X	-W14K
VQ9EE	-W7LAN		(See Note 1)
VS6CT/KP2	-KA6V	8R1Z	-W14K
	(See Note 3)	9H3EM	-G3TC1
		9J2BO	-W6ORD

VS6UO	-W4GTS	8P9AG	-K6ZM
W4GTS/PJ7	-W7LN	8P9AJ	-K4UVT
W7LN/YS9	-W7LN	8P9AK	-AK6T
W8KKF/C6A	-W8KKF	8P9CW	-VE3CPU
WB7RFA/V2A	-WB7RFA	8P9DX	-VE3ICR
AZ1ARU/8	-P.O. Box 65, CP5000 Cordoba,	8P9RF	-VE3DDL
	ARGENTINA	8Q7CH	-SM5DQC
AZ1ARU/9	-P.O. Box 4, Campanas City, BA 2084,	8Q7CK	-SM5DQC
	ARGENTINA	8R1X	-W14K
BY5QA	-P.O. Box 507, Fuzhou, PEOPLE'S		(See Note 1)
	REPUBLIC OF CHINA	8R1Z	-W14K
BY9GA	-P.O. Box 12, Lanzhou, PEOPLE'S	9H3EM	-G3TC1
	REPUBLIC OF CHINA	9J2BO	-W6ORD
C53FB	-P.O. Box 553, Banjul, GAMBIA		
EP2DL	-P.O. Box 17845-151, Teheran, IRAN		
FK25AH	-P.O. Box 4490, Noumea, NEW		
	CALEDONIA		
FK025AT	-P.O. Box 2899, Noumea, NEW		
	CALEDONIA		
FK025AV	-P.O. Box 672, Noumea, NEW		
	CALEDONIA		
JW8FG	-Bjarne Skillingstad, P.O. Box 9176,		
	Bear Island, via NORWAY		
KC7UU/5B4	-Doris Peterson, 845 Ramona Drive,		
	Santa Rosa, CA 95404		
KK7K/DU2	-Lonnie Tennant, PSC #2, Box 13383,		
	APO San Francisco, CA 96311		
TA1E	-P.O. Box 794, TR-34335 Sirkeci,		
	TURKEY		
TF1PS	-P.O. Box 90, Hveragerdi 810,		
	ICELAND		
TZ6MG	-PA3656, Netherlands Radio 41 (via		
	PA0 Bureau)		
V85DU	-P.O. Box 989, Gadong, BRUNEI		
VP8BKK	-P.O. Box 260, Mount Pleasant Airport,		
	FALKLAND ISLANDS		
ZB2RAF	-P.O. Box 292, GIBRALTAR		
ZL8HV	-Peter Fisher, Raoul Island, via		
	Overseas Mail Branch, C.P.O.		
	Auckland, NEW ZEALAND (See Note		
	8)		
ZL9AA	-Same as for ZL8HV (See Note 8)		
3D6BU	-P.O. Box 64, Manzini, SWAZILAND		
3G3C	-P.O. Box 28, Santiago 13, CHILE		
3G9BSQ	-P.O. Box 13312, Santiago, CHILE		
5H3RB	-P.O. Box 9534, Dar-es-Salaam, TAN-		
	ZANIA		
6K86AG	-P.O. Box 162, Seoul, KOREA		
6W1AC	-P.O. Box 3013, Dakar, SENEGAL		
6W1AD	-P.O. Box 237, Dakar, SENEGAL		
7P8DP	-Scotty Deffendol, P.O. Box 333,		
	Massero 100, LESOTHO		
8R1AMO	-P.O. Box 10867, Georgetown,		
	GUYANA		

8R1OJS	-P.O. Box 10867, Georgetown,
	GUYANA
9G1MR	-Michele Ronchi, P.O. Box 01396, Osu,
	Accra, GHANA
9M6AE	-MARTS, P.O. Box 10777, Kuala Lum-
	pur, MALAYSIA
9M6MA	-Hassan, P.O. Box 30, Kota Kinabalu,
	Tanjungaru, MALAYSIA
9V1VP	-Bob Furzer, 3258 Grist Mill Drive,
	Akworth, GA 30101

### Notes

- These contacts apply to the October 1986 Worldwide DX Contest.
- This contact is one of the Colvins' DXpeditions. QSL via YASME, P.O. Box 2025, Castro Valley, CA 94546.
- The address for QSL managers KA6V and AA6BB is good only in the 1985 and 1986 Callbooks. Should you have an older edition, then try: 93787 Dorsey Lane, Junction City, OR 97448. Also, KA6V can only confirm contacts with UZ2FWA made during the W7PHO Family Hour; contacts with VS6CT/KP2 August 1986 only, and contacts with 8P6G1, June 1986 only.
- The call JX1AC possibly could be Slim at work again!
- All contacts made with Soviet stations must be sent via P.O. Box 88, Moscow, USSR, unless otherwise indicated.
- A direct address for TJ1AP is also available. Try: P.O. Box 50, Mbalmayo, CAMEROON.
- This is Chod Harris, editor of *The DX Bulletin*, 816 Fourth Street, Suite 101, Santa Rosa, CA 95404.
- Expect many months delay on this one, due to irregular mail service!

Many thanks to this month's contributors: W3BBL, WB3KMZ, W4FRU, W6BIP, W6FGE, KA6V, K6ZDL, K7ICW, EA5BUS, VQ9EE, XQ3DPD, DX Incorporated (WA9BXXB), Western Washington DX Club (K7ZR), Kansas City DX Club (AB0X), Carolina DX Association (W4WMQ), Long Skip (VE3IPR), *DX News Sheet* (G4DYO), *The Long Island DX Bulletin* (W2IYX), *The DX Bulletin* (VP2ML) and *QRZ DX* (W5KNE). □

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# 10-10 INTERNATIONAL News

Chuck Imsande, W6YLJ  
10-10 19636

## About 10-10

Several letters have recently asked the question "Why don't you tell us more about the 10-10 organization in the column?"

The Ten-Ten International Net, Inc. was originally formed back in 1962 — yes, almost 25 years ago — as the Ten-Ten Net of Southern California. Its purpose was to promote activity and good operating practice on the 10-meter band. During the first few years the organization grew slowly, but by 1975 there were over 10,000 members, and the word 'International' had crept into the name. To date there have been approximately 42,000 10-10 numbers issued to members worldwide.

Once a number has been issued to a member, it is his for life, regardless of whether or not the member keeps his dues current. He can still use his number, and he can still collect 10-10 numbers for certificates and awards. Non-paying members just cannot participate in the 10-10 contests and awards issued by 10-10. Although 10-10 has no paid employees, 10-10 is like any other organization, it has expenses, and it is the dues-paying members that keep 10-10 alive and well.

Ten-Ten has local chapters all over the world. Each chapter has its own plan of organization and requirements for memberships. The basic requirement, of course, is that one must be a 10-10 member. Many local chapters issue certificates and other awards under rules which they themselves establish. As a result, a local chapter may have members all over the world.

The question asked so often is how can I become a 10-10 member? It is actually very simple. To become a 10-10 member, just contact 10 members on the 10-meter band, list their 10-10 numbers, call signs, first name, date worked, their city and state (or country). Send this information to the call sign manager for the *number* in your call sign and you will be issued your own unique 10-10 number.

To receive an application and list of Call Sign Managers, just send me a #10 business-size, stamped (22¢), self-addressed envelope at 18130 Bromley

Street, Tarzana, CA 91356-1701.

## A high-level committee

Now is your chance to voice your opinion of the direction 10-10 should take in the future. A high-level committee has been appointed to review the entire operation of 10-10 and make recommendations on almost anything that 10-10 should do to make 10-10 more responsive to the needs and wants of members, to streamline the organization, establish new awards, improve communications, or any other thing that would keep 10-10 one of the most desirable parts of Amateur Radio. What are your gripes, suggestions, recommendations or whatever?

Committee members consist of Norm Lefcourt, W6IRT, 10-10 Vice President, Gerry Gross, WA6POZ, 10-10 Treasurer, and Morrie Goldman, W6EHM, 10-10 Director. These gentlemen, all dedicated and long-time members of 10-10, are looking at all phases of the organization with an open mind toward members' suggestions for improving the future of the 10-10 organization. Send your suggestions and recommendations to Norm Lefcourt, W6IRT, 7713 Wilkinson Ave., North Hollywood, CA 91605. Norm will see that the other members of the committee receive a copy of your correspondence.

## Attention foreign members

Carol Hugentober, K8DHK, 10-10's DX Call Area Manager, reports that many of you foreign members are sending \$4 for membership dues and new members are sending \$5 for new memberships. A reminder that foreign dues is \$5 and new foreign memberships are \$6. This is, of course, due to the much higher postage rates for foreign countries. Canadian, Australian and New Zealand members are reminded that rates are quoted in U.S. dollars, and when they send dues to their Call Area Managers, a check with your bank will tell you how much local money is required to convert to U.S. dollars.

Carol says that many overseas

members manage to send cash, despite the hazards. Some members behind the Iron Curtain send mint stamps in payment. Carol and OM John, N8FU, are stamp collectors, so they buy them for their collection. Having the right funds will help make our DX Call Area Manager's job just a little easier.

## Feedback

Many of you have written me lately enclosing a check, asking that I renew your dues. First, I cannot renew your dues. You must send all dues to your Call Sign Manager. Each Call Sign Manager maintains all records for that call sign. The Call Sign Manager is determined by the *number* in your call.

Several have sent checks and stated that they lived in one call district when they either received their 10-10 number or last paid their dues, and now they have moved to another call district and changed their call to the new district number. In this case, you send your dues to your current Call Sign Manager for the number in your current call. Note your old call, new call and — of course — your 10-10 number. If you have moved from one call district to another, and *retained* your old call, continue to send your dues to your original Call Sign Manager.

When sending your dues, *please* send along a SASE for the return of your current membership card. If you need a list of Call Sign Managers, a #10 SASE to me at the address listed above will get you a copy.

Thanks for the note from Tom Larabee, KH6K, who is getting back on the air and wants to get into 10-10 from Honolulu.

Call Sign Managers issue 10-10 numbers after receiving your application showing you have contacted 10 members on 10 meters. When you write me for information about 10-10, I will send you an application in addition to other information about 10-10, but only Call Area Managers can issue you your number. If you request the 10-10 Information Package, *please* send along a #10 business-size envelope, self-addressed and stamped with 22¢ postage. Believe me, it's hard to get all the Information Package in a small regular #6 size envelope.

Warren Miller, KC3ST, of Montrose, Pennsylvania, writes to say that he has worked 10 meters for over 20 years and has never gotten a 10-10 number. Says that 10 meters is his favorite band and thinks it's about time to get a 10-10 number. Welcome aboard, Warren.

Pat Shinnors, N7VIT, of Seattle says he has more than enough numbers collected over the year to join, but needs information on how to become a 10-10 member. Hope by now you have your own 10-10 number, Pat.  
(*please turn to page 41*)

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Have you ever thought that it might be fun and challenging to work with a class of physically handicapped would-be amateurs? Suppose this is an interest you had. Where would you find such a group? There are lots of folks out there who would be interested in Amateur Radio if it became a viable hobby for them and if they knew more about it.

Below is the story of how one of our valued HANDI-HAM members — Leona LaLonde, WB7VFL — was able to start a ham class. By the way, the

“young man in the wheelchair” — Jim Blakely — now has his Novice license and many of the others in the class are nearly ready to take their exams.

“One day last April, I was asked if I would teach knitting to the senior citizens at the Jewish Geriatric Center in Tucson, Arizona, where I had stopped to fill out some forms. I never dreamed I was about to embark on the most interesting adventure I had ever had and all because of my hand-held ham radio.

“At the first knitting class, there were several ladies that showed up and as I was explaining about patterns, I noticed a nice-looking young man in a wheelchair sitting next to the door, listening very attentively, but the next time I looked he was gone. The next week he was there again, but was near to the table, so I asked him if he wanted to learn to knit. He had much difficulty in answering, but said he would rather learn to crochet.

“He noticed my hand-held radio sticking out of my purse and started asking all sorts of questions about radio, then confided that he had always wanted to be a ham. I explained to him that we had free radio schools in Tucson and that I would also be willing to help him on the days that I was at the center.

“Later I asked the coordinator from

the handicap department about Jim. He had been a school teacher, was married and had two children. His van had turned over on him, leaving him unable to walk, limited use of his hands, brain-damaged, with a few other problems.

“Jim showed up at class the next week with two more people in wheelchairs, who were interested in learning to become ham operators. As my knitting class dwindled for the summer, my handicap class grew from one to five people and I was really enjoying visiting and talking radio with them, but now I felt that I had a problem, as I had no training to teach brain-damaged people. I knew some of them would not be able to get a license, while others might stand a chance, but how could I keep them from getting discouraged or having their feelings hurt if they couldn't make it? By that time I was teaching twice a week and had a class of six on Mondays with a class of 10 or 12 on Thursdays.

“I finally decided to have a talk with them and put it on the line. I explained that since they all were brain-damaged in some way, they still could use the undamaged part to learn and to do anything they wanted to if they remembered that they didn't have much (please turn to page 41)

## 220 MHz is alive and well at Falcon

FALCON produces 8 different Base/Repeater and 9 different Mobile amplifiers. Six of these amplifiers are for the 220 MHz operator.

For example, consider the following two MOSFET Base/Repeater amplifiers. Remember, FALCON is the only manufacturer bringing you amplifiers with the advantages of RF power MOSFET's.

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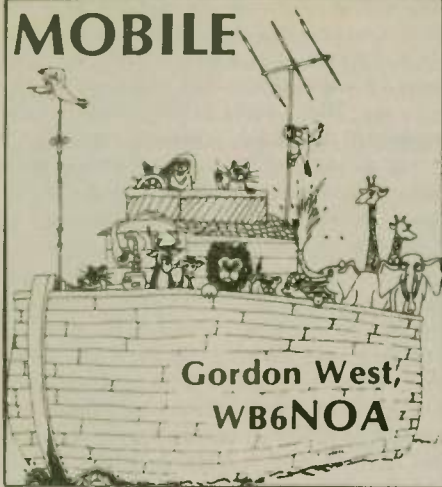
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As you've noticed, the name of this column has been changed from 'Maritime Mobile' to 'Mobile.' Gordon West, WB6NOA, will still cover maritime subjects, but will also include information about radios, antennas, adapters, etc. for vans and cars.

### Mobile Spiders tested

Happy New Year a little early. Notice the change in my column title? Whether it moves on water, on the road, or in the air, we'll talk about Amateur Radio and your mobile installation.

For mobile multi-band operation, without having to stop the car or go back aft to change resonators, you may wish to consider the popular Spider-type antennas. These antennas are characterized by a 5-foot-long shaft with three or four resonators coming out the top, one for each band of desired operation.

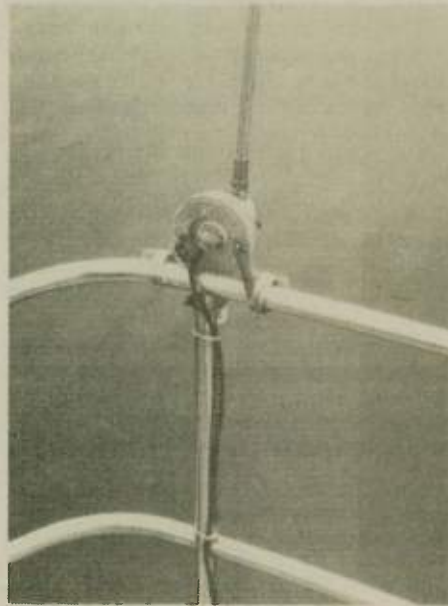
The actual name "Spider Antennas and Adapters" really belongs to Fred Shmitka, K6AQI, of Multi-Band Antennas, 7131 Owensmouth Avenue, Suite 163C, Canoga Park, CA 91303. His set-up is patented and the name "Spider" is a trademark for his antennas.

Fred's set-up consists of top-loaded, black-sealed resonators atop a stainless steel or aluminum (your choice) mast. The mast has the usual  $\frac{3}{8} \times 24$  threads to screw into a regular ball mount. You get the 10, 15 and 20-meter resonators and your choice of either 40 or 75 meters for the center resonator. The three resonators to the side stick up at about a 45° angle and all resonators are tuneable.

The 10, 15 and 20-meter resonators

are tuned by simply sliding up and down a ferrite sleeve for proper resonance and least SWR. Same thing with the 40- or 75-meter resonator — simply slide the sleeve for best operation.

Fred's set-up also allows you to choose resonators on marine frequencies as well. This might include the 4, 8 or 12 MHz ship-to-ship and ship-to-shore marine radio bands. The typical marine



Base section of multi-band mobiles

set-up might include 8 MHz, 12 MHz, 20 meters and 40 meters — all on the same mast.

On 10, 15 and 20 meters, spider-type antennas generally tune the entire voice portion of the band. You may need to do a little tweaking to get into the CW portion of the 20-meter band. On 40 or 75 meters, tuning is a lot more critical. The general bandwidth at these frequencies may be less than 50 kHz for optimum operation. The smaller the resonators, the tighter the Q and the less amount of band excursion you get.

Another type of mobile multi-band antenna is made by Valor, of Dayton, Ohio. Their "Pro-Am" series comes with all resonators, 10 through 75 meters, and I like to run this set-up on 15, 20, 40 and 75, all at once. There's not much activity on 10 these days; it works well.

Radio Mark also makes a multi-band antenna system featuring top-loaded coils, and like the Valor set-up, you can configure the coils just about any way you want. Neither the Valor nor Radio Mark 10-, 15- and 20-meter coils are easily adjusted — they're pretty much tuned in the middle of the band. You can go in there and chop off some wire, but this is hazardous — where they set it is where you get it.

You can also buy multi-band adapters to take your present Hustler coils and put them into a multi-band mobile configuration. Each Hustler can be adjusted by simply setting the moveable whip for proper length.

The performance of your multi-band mobile set-up depends on the ground-plane it is mounted above. Give it a good groundplane on your vehicle, motor-home or boat, and it will be a terrific performer. For portable operation, a roll of aluminum foil spread around the base is enough ground potential to get them to work quite well all the way down to 75 meters!

A very important consideration with this type of antenna that is quite top-heavy is mobile wind resistance. It truly must be guyed with some sort of monofilament fishing line in order to keep it vertical when underway. It's also quite susceptible to getting hung up on tree branches and getting ruined. One way around this is to simply operate with only one or two elements in place as you're driving along. When you get to your favorite campsite or anchorage, go ahead and screw on the rest of the resonators, and away you go.

During the day, I drive with the 15- and 20-meter elements in place. At night, I may go for 40 and 75 meters.

The performance between all of the brands I have mentioned was very close on tune-up, low SWR and good signal reports at the other end of the radio circuit. I found each one extremely sensitive to the type of groundplane it was mounted on. Where one unit would not

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Base mount for whip base

resonate properly on the back of a small compact car, the other one would. Then one unit worked great aboard a particular boat, but the other ones didn't — but on another boat that was almost the same, all three worked fine. You almost have to try out different types of multi-band mobile antennas and find the one that works best with your particular type of installation.

The nice thing about Fred's Spider antenna system was that each band could be refined for lowest SWR simply by moving the ferrite collar in and out.

I also compared the operation of these antennas to conventional center-loaded and top-loaded, single-band whips. To my surprise, there was almost no difference! Switching back and forth, receive and transmit signal strengths were about the same. However, the spider types were certainly more susceptible to an increase in SWR as soon as you began to QSY from one end of the band to the other. This would be expected because their coil sizes are shorter and smaller than conventional center-loaded or helical-wound, top-loaded whips.

Last but not least, the spider-type antennas are downright ugly (in the eyes of the beholder). Aboard boats, they can get by. On the top of your camper at the campsite, just tell everyone it's a newfangled TV antenna. But driving down the freeway with one on the back of your car, you're going to get some really strange looks. You'll also get plenty of questions when you arrive at the parking lot.

Ahhhhh, but who could beat the ability to go from 15 to 20, to 40, to 75 meters mobile without ever having to change coils or sacrifice power to a manual or automatic antenna tuner. The multi-band, spider-type mobiles do their job well. □

• People reaching People •  
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## 10-10 News

(please turn to page 38)

From Waterford, Connecticut, Ed Eby, KF1B, writes that every explanation of 10-10 he has heard has confused him. Hope that after receiving the Information Package, Ed understands all about 10-10!

### Finally

Still waiting for your inputs for the "Did-ya-know" part of the column. Any little tidbit about yourself or a ham friend will do. Take a minute right now and send it along.

A hearty thank-you goes to Jim

Michaels, W6PGM, 10-10 #10, for a job well done as editor of the *10-10 International News*. Jim took over as editor in early 1982 and his first edition was the Spring 1982 issue. The pressure of meeting deadlines, getting copy in on time, doing the layout and seeing each quarterly issue through to the printer has, I am sure, caused Jim many sleepless nights. Thanks, Jim, for a job well done.

Our new editor is Joe Williams, WA9TSG, P.O. Box 93181, Milwaukee, WI 53203. We wish Joe the best of luck in his new job as editor. Best 73 es cu next month. □

## HANDI-HAMS

(continued from page 39)

of a choice — either spend their time sitting in a corner sucking their thumb or stringing wooden beads, or they could concentrate on the brain they had left and make it work on the things they really wanted to do. 'Tell the brain you will not tolerate any part of your body being lazy, that you're willing to work twice as hard, but you are going to have fun.'

"I explained to them all the fun and friends they could have with Amateur Radio but that it wasn't going to be easy. It worked! Their program doesn't give me very much time with them but we make the most of it. The administration, clerical workers, and even the maintenance people have told me they have never seen these people so attentive in any classes and they are learning the code — even words.

"Several of the students who did not speak, smile or change facial expres-

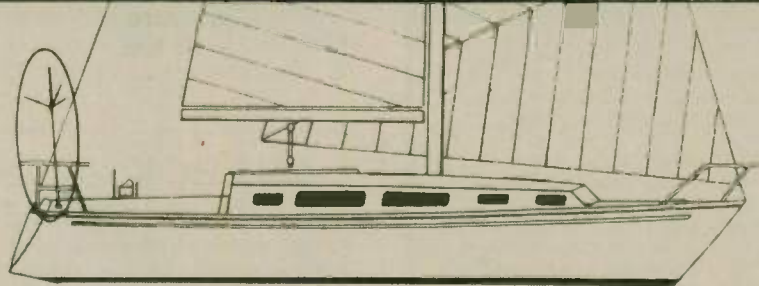
sions, now are talking, asking questions and looking forward to each class. I borrowed an oscillator and straight key so they could learn to send, for this is one of their big problems — controlling their muscles. I have stressed: 'Picture the letter you want to send, etch it on your forehead. Then think what the Morse code is for that letter and have your brain work the muscles to send.'

"This may sound like a lot to do, before using a key, but especially for the cerebral palsy cases, it helps them to relax first before touching the key. Because we only have the one key to use, we sometimes have them give one another a word and have them say the dits and dahs.

"On August 11, we had the entire handicap group to my home so the class could see the antennas and radios. We had 22 people, wheelchairs and all. We had lunch, played games and talked on the radios. What a thrilling adventure for me. Jim will be taking his test next week." □

## The Spider<sup>TM</sup> Maritimer<sup>TM</sup> Antenna

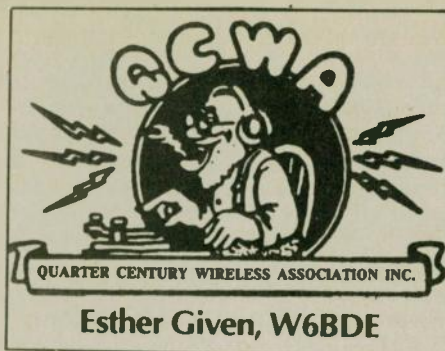
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**Esther Given, W6BDE**

The Quarter Century Wireless Association, like other Amateur Radio groups, is concerned with the drop in ham licensing in recent years. However, there is no reason to feel that Amateur Radio is becoming extinct.

We often hear the early ham's lament when comparing the gear-building experimenters of old with the "appliance operators" of today's sophisticated equipment. The folks whose ham span covers both of these eras take great pride in having been active participants in these electronic transformations.

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However, those who came into the hobby when winding an oatmeal box coil or wiring a breadboard were passe found no lack of opportunities to participate in the advancement and on-going development of Amateur Radio.

Thanks to hams, many facets of radio communication have developed since the days when Morse code was the only mode of wireless communication. Today every ham has a wide field of capabilities to pursue and there is still lots of opportunity for innovation and new discovery. In the '80s, young students — exposed at an early age to computer science in their school environment — have become enthralled with its capabilities and experts in its operation. Hopefully, a good percentage of these young people will recognize the compatibility of radio and computer operation and choose to combine the two technologies.

QCWA is dedicated to preserving the history and traditions of early Amateur Radio and honoring the accomplishment of its pioneers. By the year 2000, QCWA will have lost those elders who came into the hobby at its inception, but their contribution to the art will be permanently recorded in Amateur Radio history.

Also in the year 2000, QCWA will pick up hams first licensed in 1975 — about the time when the very early personal computers became available. These are the folks who in a short decade have made an indelible impression in amateur communication history.

There is every reason to believe that hams of the 21st century will find and solve challenges beyond the wildest dreams of today's greatest experts, and QCWA will be there to bear witness to their accomplishments.

QCWA President Leland Smith, W5KL, was honored on November 21, when he was recognized with a fellowship in the prestigious Radio Club of America. In addition to the award, Smith had the distinction of being selected to deliver the acceptance speech for all those being elevated to Fellow. The award banquet was held at the New York City Athletic Club.

QCWA proudly announces enrollment of member 20,000 — Dennis Bowman, WB7SNH, of Edmonds, Washington. Welcome, Dennis. You're the "blessed event" QCWA has been expecting and you made it before our 39th birthday coming up December 4.

QCWA member Lenore Jensen, W6NAZ, a well-known and highly regarded promoter of Amateur Radio and frequent contributor to Worldradio, is in the process of writing a book about interesting happenings to Amateur Radio enthusiasts. She needs true stories with names and calls of hams involved, approximate date(s) if possible, and pertinent or related information such as a specific occasion or happening. The book will be written to appeal to any reader and will make them conscious of Amateur Radio's contributions.

Anyone with a tale to tell concerning an amusing experience on the air, a rescue or emergency participation that worked a miracle, an on-the-air coincidence, or any anecdote that portrays the important contribution of hams in their chosen hobby is urged to send it to Lenore Jensen, W6NAZ, 14867 Round Valley Drive, Sherman Oaks, CA 91403.

Let's all help Lenore tell the ham story to the world. This will be a labor of love; proceeds will be earmarked for future Amateur Radio promotional activities. □

## Back in time . . .

An "old"-timer remembers when only the richest hams in the country bought . . . Hallicrafters Skyrider 23's for

\$127.50 with tubes, or Meissner Signal Shifters for \$44.95, or Hammarlund Super-Pro's for \$279!

— Golden Empire ARS, Chico, CA □

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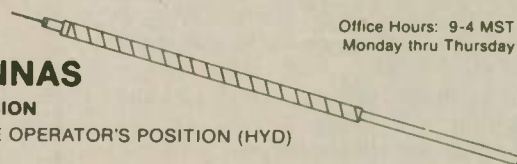
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# Visit Your Local RADIO CLUB.

## ALABAMA

**Birmingham Amateur Radio Club, Inc. (BARC)**  
Meets at the American Red Cross Building  
2225 3rd Ave. North in downtown Birmingham, Alabama  
1st and 3rd Thursdays/monthly at 7:30 p.m.  
For info call Chuck Conkell, N4MLN, (205) 833-9555

## ALASKA

**Arctic Amateur Radio Club**  
Geophysical Institute West Ridge U of A  
PO Box 81389  
College, AK 99708  
1st Friday/monthly - 7:30 p.m.

## ARIZONA

**Scottsdale Amateur Radio Club**  
Scottsdale Senior Center  
Corner of Wells Fargo/2nd Street  
1st Wednesday/monthly — 7:30 p.m.  
rpt. 147.18(+ ) or 444.000(+ ) • Cali (602) 951-8300

**Old Pueblo Radio Club**  
Meets: 2nd Wednesday/monthly — 7:30 p.m.  
Location: Franklin Building  
University of Arizona  
N.E. corner of 6th St. & Park.

## CALIFORNIA

**Amador County Amateur Radio Club**  
P.O. Box 1094, Pine Grove, CA 95665, Pioneer Elementary  
School, Pioneer, CA • 1st Thurs/monthly 7:30 p.m.  
WA6WY Rptr. — 146.835, 146.235.  
Net Tues. 7:30 p.m.

**Anza Valley Radio Club**  
Outpost Restaurant  
56400 Hwy #371  
Anza, CA 92306  
Meets: 1200 noon, last Sunday/monthly

**Associated Radio Amateurs of Long Beach, Inc. W6RO**  
P.O. Box 7493, Long Beach, CA 90807  
Meets: 1st Friday/monthly — 7:30 p.m.  
Signal Hill Recreation Hall  
1708 E. Hill St., Signal Hill, CA

**Contra Costa Communications Club WD6EZR/C**  
P.O. Box 661, San Pablo, CA 94806  
Meets 2nd Sunday at 9:00 a.m.  
Hickory Post Restaurant/Lucky Lanas  
For info call Carl KA6OLK (415) 237-2621

**Fresno Amateur Radio Club, Inc.**  
P.O. Box 783, Fresno, CA 93712  
Meets: 2nd Friday/monthly — 8:00 p.m.  
Wahoha Middle School; 4524 N.  
Thorne; Fresno. W6TO/R 146.34/94

**Gabilan Amateur Radio Club**  
South Valley J.H.S.  
385 IOOF Ave. • Gilroy, CA 95020  
Meets: 2nd Thursday/monthly — 7:30 p.m.  
Talk-in 145.47.

**Golden Empire Amateur Radio Society (VEC)**  
P.O. Box 508, Chico, CA 95927.  
Al Biegler WA6WJZ (916) 343-6141/call 146.25/85  
Meets in conference room 1, Enloe N T Memorial  
Hospital, 3rd Fridays/monthly — 8:00 p.m.

**Hangtown Amateur Radio Club**  
P.O. Box 305, Placerville, CA 95667  
Meets: 3rd Wednesday/monthly — 7:00 p.m.  
Senior Citizens Center, Spring St., Placerville  
Info: (916) 622-9488

**Kern River Valley Amateur Radio Club**  
P.O. Box 1902, Lake Isabella, CA 93240  
4th Saturday/monthly — 4:00 p.m., (Pot Luck)  
Veteran's Hall, Lake Isabella  
WA6UYW Repeater 146.085/146.685

**Livermore Amateur Radio Klub (LARK)**  
Dublin Library • Livermore, CA  
3rd Sat./monthly—9:30 a.m. • Net-147.12 Mondays 7 p.m.  
Dwight Becker KA5EQO (415) 484-1456  
3731 Oak Brook Ct., Pleasanton, CA 94566

**Marin Amateur Radio Club (MARC) W6SG**  
Box 1231, San Rafael, CA 94901. Meets 1st Fri./8 p.m.;  
MARC Clubhouse Bldg. 549, HAFB, Novato, CA (415) 883-  
9789 (Summer exceptions; contact Pete N6LYU, 924-1578)  
Sunday AM Club at Red Cross, San Rafael

**Mt. Wilson Repeater Assoc. (M.W.R.A.)**  
P.O. Box 1384  
Monrovia, CA 91016  
Net. Mon. 7:00 p.m.  
WB6JPI Repeater 146.400/147.435

**Naval Postgraduate School Amateur Radio Club K6LY**  
Monterey Peninsula; 146.97, 444.7  
2m net Weds. 8 p.m.; Meets 2nd Thurs. 7:30 p.m.  
Contact: Keith Beard WE6R  
9 Cielo Vista Terrace • Monterey, CA 93940

**North Hills Radio Club**  
P.O. Box 41635, Sacramento, CA 95841  
3rd Tuesday/monthly — 7:30 p.m., Carmichael Elks Lodge  
5631 Cypress Ave. • Carmichael, CA  
Net 145.19 Thur. at 8:00 p.m.

**Radio Amateur Mobile Society**  
Meets: 2nd Tuesday/monthly — 7:30 p.m.  
Carmichael Elks Bldg.  
Cypress and Hackberry, Carmichael, CA  
Net Saturday a.m. 224.84 8:30/146.79 9:00

**River City A.R.C.S.**  
Meets: 1st Monday/monthly — 7 p.m.  
Glendale Federal Savings  
Maryal Dr. and Watt Ave. — Sacramento  
For info: (916) 483-3126

**Sacramento Amateur Radio Club, Inc.**  
Contact: Ron Wenstrom, KJ6R, (916) 962-2415  
after 6 p.m. Meets Sac. Blood Bank  
32nd St. & Stockton Blvd.  
2nd Wednesday/monthly—7:30 p.m.

**San Fernando Valley ARC Inc. (W6SD)**  
Meets 3rd Friday/monthly — 7:30 p.m. • Red Cross  
Bldg. 14717 Sherman Way, Van Nuys, CA 91407. Exams  
8 a.m. 1st Sat./monthly • Pre-registration via P.O. Box  
3151, Van Nuys, CA 91407

**San Gabriel Valley ARC**  
Bowling Green Clubhouse  
405 S. Santa Anita Avenue  
Arcadia, CA 91006  
1st Tuesday/monthly — 7:30 p.m.

**San Mateo Radio Club**  
Beresford Park Recreation Center  
28th Ave. and Alameda de las Pulgas  
San Mateo, CA 94403  
3rd Friday/monthly — 7:30 p.m.

**Santa Clara County Amateur Radio Assoc. W6UW**  
P.O. Box 6 • San Jose, CA 95103. W6UU 146.385+  
Meets: Santa Clara County Service Center  
1555 Berger Dr., Building 2 Auditorium  
2nd Monday/monthly — 7:30 p.m.

**Sierra Foothills Amateur Radio Club**  
P.O. Box 3262, Auburn, CA 95604.  
Office of Education Bldg., 360 Nevada St., Auburn, CA.  
Meets: 2nd Friday/monthly at 7:30 p.m. Net Thurs.  
7:30 p.m. Rptr. 145.43-Tues. 7:30 p.m. 28.543 MHz.

*For information on how to get your  
club listed in "Visit Your Radio Club,"  
plus receive many other benefits, write  
to Worldradio, 2120-28th Street,  
Sacramento, CA 95818.*

**Sonoma County Radio Amateurs, Inc.**  
P.O. Box 116 • Santa Rosa, CA 94502  
Emergency Operations Center (rear entrance)  
600 Administration Dr., Santa Rosa, CA  
Meets: 1st Wednesday/monthly 7:30 p.m.

**Southern Calif. Amateur Transmitting Society (SCATS)**  
Vine Elementary School  
1901 E. Vine St.  
West Covina, CA 91790  
1st Monday/monthly — 7:00 p.m. (coffee 6:30)

**Stanislaus Amateur Radio Assoc. (SARA)**  
P.O. Box 4601 Modesto, CA 95352  
Stanislaus Co. Administration Bldg.  
12th & H Streets • 3rd Tues./monthly — 7:30 p.m.  
145.39 MHz WD6EJF

**Stockton-Delta Amateur Radio Club, Inc.**  
U. of the Pacific, Rm 122  
Kensington & Mendocino  
2nd Wed. monthly, 7:30 P.M.  
Rptr. 147.165/765 Net Wed. 8:00 P.M.

**Tehama County ARC**  
13620 Trinity Ave.  
Red Bluff, CA 96080  
Meets: 1st Wednesday/monthly — 7:00 p.m.  
CDF Training Room

**Tri-County Amateur Radio Association**  
P.O. Box 142, Pomona, CA 91769  
Meets: 2nd Monday/monthly — 7:30 p.m.  
Pomona First Federal S&L — Basement  
399 N. Garey — Pomona

**Victor Valley Amateur Radio Club**  
P.O. Box 869, Victorville, CA 92392  
Meets: Victor School Board Room, 6th & "A"  
2nd Tuesday/monthly — 7:30 p.m.  
WA6EFW Repeater 146.34/146.94

**West Coast Amateur Radio Club**  
Fun Meetings—No Business  
Meets 3rd Thursday/monthly—7:15 p.m.  
Fountain Valley Elem. School • Fountain Valley, CA  
Net every Thursday 7 p.m. • Repeater 145.440-

**Yolo Amateur Radio Society**  
P.O. Box 659, Davis, CA 95617.  
Meets: City Council Conf. Room.  
23 Russell Blvd. First Tuesday 7:30 p.m.  
Simplex 146.475

## CONNECTICUT

**Tri-City ARC**  
Groton Public Library  
Route 117  
Groton, CT 06340  
2nd Tuesday/monthly — 7:30 p.m.

## DELAWARE

**Sussex Amateur Radio Assoc.**  
Delaware Technical Com. College, Georgetown  
211 S.E. Front St.  
Milford, DE 19963  
3rd Wednesday/monthly — 8:00 p.m.

## FLORIDA

**Sarasota Amateur Radio Ass'n, Inc.**  
Meets: 3rd Tues./monthly — 8 p.m. on the 6th floor (board  
room) of the County Admin. Bldg. corner of 301 & Ringling  
Blvd. Club Rptr. W4IE, freq. 146.91/31, open to all. Phone  
patch \*Up #Down. Welcome

**South Brevard Amateur Radio Club**  
P.O. Box 2205, Melbourne, FL 32902  
Meets 1st Tuesday, 7 p.m.  
Herbert Hoover J.H.S.  
Indialantic, FL

## HAWAII

**Big Island Amateur Radio Club**  
P.O. Box 1938 • Hilo, HI 96721-1938  
Meets: 2nd Tuesday/monthly - 7:30 p.m.  
Helco Auditorium, 1200 Kilauea, Hilo  
Call in: 146.88(-) or 146.76(-)

## ILLINOIS

**Bolingbrook Amateur Radio Society**  
P.O. Box 495  
Naperville, IL 60566-0495  
(312) 420-0342 • Call in 147.93/33  
3rd Monday/monthly — 7:30 p.m.

**Dupage Amateur Radio Club W9DUP**  
Mid-America Savings and Loan  
55th & Holmes (55th St. near RT 83)  
Clarendon Hills, IL • 4th Monday/monthly — 7:30 p.m.  
(312) 971-1156 for more information

**Fox River Radio League**  
Valley National Bank, Lower Level  
Northgate Shopping Ctr. & RT. 31, Aurora, IL  
(312) 898-2779 for more information  
2nd Tuesday/monthly — 7:30 p.m.

**Radio Amateur Megacycle Society (RAMS)**  
Meets: Irvingwood/Acacia Church  
2900 N. Plainfield, Chicago, IL (8200W)  
Mail to W9DY, (312) 625-2879  
3rd Friday/monthly — 7:30 p.m.

**Six Meter Club of Chicago - K9ONA**  
Rptrs. 146.37/146.97 448.300/443.300  
Info net - Tues. 9:00 p.m. 146.37/97  
Annual Hamfest 2nd Sunday in June  
Santa Fe Park, Willow Springs, IL.

## INDIANA

**Fort Wayne Radio Club**  
Ron Koczor, K9TUS  
P.O. Box 15127, Fort Wayne, IN 46885  
The Salem Church  
3rd Friday/monthly — 7:30 p.m.

**Northeastern Indiana Amateur Radio Club**  
P.O. Box 745, Auburn Indiana 46706  
Meets: 2nd Tuesday/monthly — 7:00 p.m. at members homes  
Daily traffic net at 2300Z  
on 147.96/36 MHz, the WB9VDK repeater

## KANSAS

**Sandhills Amateur Radio Club**  
Wheatland Electric Meeting Room  
West Fulton Street  
Garden City, Kansas 67846  
1st Thursday/monthly at 7:30 p.m., 146.31-91

## KENTUCKY

**Kentuckiana Radio Club**  
Bill Richmond, WD4CPQ, 637-8443  
Louisville Red Cross Bldg.  
Louisville, KY  
Meets: 4th Saturday/monthly — 7:30 p.m.

## MARYLAND

**The Peninsula Radio Operators Society (PROS)**  
Family oriented activities — training and exams held throughout the year.  
Info net — K3NOQ/Rptr. 146.925 Tues. 1930 Local  
P.R.O.S., P.O. Box 2315, Salisbury, MD 21801

## MICHIGAN

**South Eastern Michigan A.R.A.**  
Meets: 1st Fri./monthly 7:30 p.m. K8FC Rptr. 147.75/15  
Grosse Pointe North High School  
Building C, Cafeteria Commons  
For info contact N8CDY (313) 885-5557

## MISSISSIPPI

**Miss. Coast Amateur Radio Assn. (MCARA)**  
P.O. Box 1785 • Tel: (601) 388-9232  
Gulfport, MS 39502-1785  
Meets: 3rd Monday/monthly  
Harrison County Courthouse

## MISSOURI

**Heart of America Radio Club**  
American Red Cross  
3521 Broadway  
(816) 756-2365 x65  
3rd Tuesday — 7:30 p.m.

## NEW HAMPSHIRE

**Great Bay Radio Assn., WB1CAG**  
P.O. Box 911, Dover NH 03820  
(603) 742-0130/755-2600  
2nd Sunday/monthly — 7:00 p.m.  
Dover Dist. Court. Talk-in 147.57

## NEW JERSEY

**Gloucester County Amateur Radio Club (GCARC)**  
Woodbury V.F.W.  
1st Wednesday/monthly—8:00 p.m.  
Woodbury, NJ • Talk-in 147.18/78  
For info call K2JF (609) 589-2318

## NEW YORK

**Communications Club of New Rochelle, NY, Inc.**  
Harrison Street Firehouse  
Bill McCarren, K2LV  
(914) 738-0768  
Meets: 1st Monday/monthly — 8 p.m.

**Hall of Science Amateur Radio Club, Inc.**  
P.O. Box 131, Jamaica, NY 11415 — HOSARC — 2nd Tuesday/  
monthly — Hall of Science Building, 47-01 111 St., Flushing  
Meadow Park at 7:30 p.m. The tristates' only 3-band linked  
rptr. system 144.300 S/223.600 — /445.225 —

**Radio Club of Junior High School 22 N.Y.C., Inc.**  
111 Columbia St. • New York, NY 10002  
"At The Core of The Big Apple," QSLs invited.  
For info contact WB2JKJ and "The Crew" learning  
English thru Ham Radio at (516) 674-4072, 24 hrs.

**Rockaway Amateur Radio Club**  
100th Precinct Police Station  
Rockaway, New York  
Berne Ross KO2F • (718)634-2167  
Meets: 3rd Tuesday/monthly — 8 p.m.

**Staten Island Amateur Radio Assn. (SIARA)**  
P.O. Box 495, Staten Island, NY 10314-0020  
Meets 3rd Friday/monthly — 8:00 p.m.  
Rm. B-201, College of Staten Island, Sunnyside  
Club Repeater — W2CWW/R — 440.325/445.325

**Westchester Emergency Communications Assn. (WECA)**  
147.66/147.06, 222.80/224.40, 447.475/442.475  
Mtg: 2nd Monday/monthly - 7:30 p.m. Little Theater  
County Center, White Plains, N.Y. For further info write:  
P.O. Box 131 N. Tarrytown, N.Y. 10591. Call (914) 631-7424.

## NORTH CAROLINA

**Cabarrus Amateur Radio Society (CARS)**  
Western Steer Family Steak House  
1390 Hwy 29 North  
Concord, NC 28025  
3rd Monday/monthly — 7:00 p.m.

**Raleigh Amateur Radio Society, Inc. (RARS)**  
P.O. Box 17124 • Raleigh, NC 27619  
Meets: 1st Wed./monthly, 7:30 p.m. • First Presb. Church  
Club net daily, 8 p.m. on RARS 04/64, W4DW  
Annual Hamfest, 2nd Sunday in April

## OHIO

**Ashtabula County ARC**  
Ken Stenback, AIBS (964-7316)  
County Justice Center, Jefferson, OH  
3rd Tuesday/monthly — 7:30 p.m.  
County Repeater — 146.715

## C.A.R.S. (The Clyde Amateur Radio Society)

Ervin Remaley, KA8CAS, Secretary  
2nd Tuesday/monthly — 7:30 p.m.  
Community Rm., City Building, Clyde, OH  
Repeater 144.75/145.35

**Northern Ohio Amateur Radio Society (NOARS)**  
K8KRG/WB8JBM • P.O. Box 354, Lorain, OH 44052  
Meets 3rd Mondays/monthly—8 p.m. at Gargus Hall  
Info: George—W8ANM • (216) 933-2841  
Ohio's largest general interest club.

## OREGON

**Oregon Tualatin Valley ARC**  
Beaverton Elks Lodge  
3500 SW 104th Ave.  
Beaverton, Oregon  
2nd Wednesday/monthly — 7:00 p.m.

## PENNSYLVANIA

**Penn Wireless Assoc. Inc.**  
Falls Twp. Municipal Bldg.  
Trenton Road  
Fallsington, PA 19054  
4th Monday/monthly — 8:00 p.m.

## TENNESSEE

**Middle Tennessee Amateur Radio Society**  
University of Tennessee Space Institute  
Tullahoma, Tennessee 37388  
(615) 455-0289 Call in — 146.10/70  
Meets: 2nd Thursday/monthly — 7:30 p.m.

**Warminster Amateur Radio Club**  
P.O. Box 113, Warminster, PA 18974  
Meets: 1st Wednesday/monthly — 8:00 p.m.  
at St. Johns Lutheran Church, Hatboro, PA  
Net Wednesdays — 8:30, 147.09/69

## VIRGINIA

**Southern Peninsula Amateur Radio Club (SPARK)**  
Meets: 1st and 3rd Tuesdays  
Salvation Army Community Bldg. • Hampton, VA  
Operates 146/13 147/73 Repeater  
For info call 480-2346 or 851-5573

## WASHINGTON

**Mike & Key ARC K7LED**  
Good Neighbor Center  
305 So. 43rd Street  
Renton, WA 98055  
Meets monthly on 3rd Sat. - 10 a.m.

**North Seattle Amateur Radio Club (NSARC)**  
Meets: 3rd Tuesday (except Jul. & Aug.) at the First  
Interstate Bank, 30th Ave. NE and NE 125th St. (Lake City)  
in basement. Info: Mike Jr., W7WHT, (206) 282-1438 or P.O.  
Box 20279; Seattle 98102

## WEST VIRGINIA

**Jackson County Amateur Radio Club, Inc.**  
D. General Bailey, NK8P, Sec.-Treas.  
113 Winters Dr., Ripley, WV 25271  
First National Bank of Ripley  
Meets: 1st Thursday/monthly - 7:30 p.m.

## WISCONSIN

**Fox Cities Amateur Radio Club**  
Meets: 3rd Monday/monthly — 7 p.m.  
Roosevelt Jr. High School • 318 E. Brewster St.,  
Appleton, WI 54911. Talk-in 146.16/76  
Contact Jack Bigelow, KA9JOL, (414) 766-3861



The ARRL, as reported here a few months back, has released a second printing of the QRPer's bible, *Solid State Design for the Radio Amateur*, and it's an opportunity to review what should constitute a good library for the low-power enthusiast.

*Solid State Design*, or *SSD* as it is known, has been the QRP manual since it first appeared 10 years and 50,000 copies ago. I have worn out one copy and was on my way to doing the same for another when word came about the new printing.

Note, please, this is a second *printing* as opposed to a second *edition*, for the contents are the same, with the notable exception that errors and omissions from the first have been corrected and included in the second. That, in itself, is almost enough to justify the hiking of the price tag to \$12 from the earlier \$7, because it's a little frustrating to be planning a project only to discover a component's value is nowhere given.

Despite the 70% price increase, *SSD* remains the best source of information for QRPer's — especially those of us who enjoy building and experimenting. Its authors are Wes Hayward, W7ZOI, and Doug DeMaw, W1FB — two well-known and respected QRP buffs, and the information and direction in *SSD* is first class.

It's still my contention, however, that ARRL ought to come up with a second *edition* of *SSD* — one that offers circuits and projects a little newer than those around when the first edition was printed a decade ago. Until that happens, however, stick with this version.

Second on my list of "must" books for the well-stocked QRP library is DeMaw's *QRP Notebook* (ARRL, \$5). This "first cousin of *SSD*" has some direct-application QRP circuits and information not in *SSD*.

*Notebook* is a good, solid source of circuits and a thorough discussion of how and why they work couched in easy-to-understand terms.

Also high on the list of worthwhile

Contact Worldradio for hamfest prizes.

books is *Joy of QRP: Strategy for Success*, by Adrian Weiss, W0RSP (\$10.95, postpaid, from Milliwatt Books, 833 Duke St., #83, Vermillion, SD 57069). Weiss, who is the QRP editor at *CQ*, is well known for his now-defunct *Milliwatt*, a quarterly publication which opened the eyes of a lot of us about the prospects and pleasures of low-power operating.

*Joy* has a solid discussion of the philosophy of QRP, several QRP projects, hints about operating and planning low-power events, and how to modify equipment to the less-than-5-watts-out level.

Next on the roster is *The Hot Water Handbook*, a second and expanded edition of which should be available by now. (Information is available from Michael Bryce, WB8VGE, 2225 Mayflower NW, Massillon, OH 44646.)

This is a collection of modifications and improvements to the popular Heath HW8 QRP transceiver, plus a handful of pieces on mods to the HW7, Ten-Tec's Power Mite series, etc. The first edition is out of print, and this second edition is being sponsored by QRP ARCI.

Two QRP publications from England also are on the list of worthwhile books.

The *G-QRP Club Circuit Handbook* is a collection of circuits and articles which appeared over the past five years or so in that organization's quarterly newsletter, *SPRAT*, which is one of the most technically-oriented publications available to QRPer's.

The first printing of this book, which was done by the club, was quickly sold out, and it was so popular that the Radio Society of Great Britain picked it up and produced a slicker, more professional version that's well worth the money.

It costs £ 4.52, postpaid, from RSGB Publications (Sales), Alma House, Cranborne Road, Potters Bar, Herts. EN6 3JW, ENGLAND. The best way to pay for this and the next listing is through a Giro check, obtainable through most major banks and payable in pounds.

Finally, there is *Introducing QRP*, a collection of articles which appeared in the British Amateur Radio magazine *Practical Wireless*. Included in this are articles on building transceivers, receivers, transmitters, antenna tuners, SWR bridges and a watt meter.

This one includes some fine photo-

graphs and printed-circuit board patterns to help construction. The price is £1.50 from IPC Magazines Ltd., Westover House, West Quay Road, Poole, Dorset BH15 1JG, ENGLAND. Although no mention is made of postage charges, they should be covered by tacking on another pound to the price of the book.

This list of QRP-oriented books would be incomplete without mention of two other ARRL publications: the *ARRL Electronics Data Book* (\$4), which is a terrific source of data needed in home brewing equipment, and the *ARRL Antenna Compendium* (\$10), which is a collection of articles on antennas — some of which have great potential for low-power operations. Be careful not to confuse the latter book with the two other works on antennas the ARRL publishes. □

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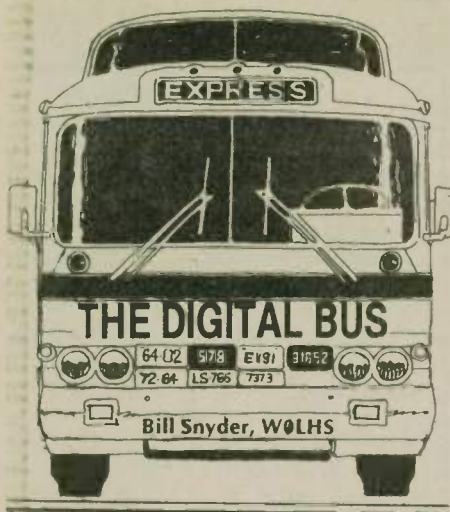
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The wonderful thing about our Amateur Radio hobby is the diversity of its scope. When I first became interested in radio back in the 1920's, things were pretty simple. My first radio receiver was a self-powered, homebrew, cat's-whisker galena crystal set hooked to my bed spring for an antenna. I could only hear WDAY, a local broadcast station I would work for later on in my life. When WDAY signed off at midnight, I would go DXing until I fell asleep with the earphones on. I would tune in stations in Chicago, Pittsburgh, St. Louis and other far off areas. The DX bug had bit me good.

Well, life has become a lot more complicated since those days of searching the broadcast in the darkness of my bedroom. And all the complications were brought to my attention when I spent a weekend in Grapevine, Texas at the 4th Annual Space Symposium held by AMSAT.

I have been a half-hearted member of AMSAT for a number of years because I am interested in satellite communica-

tions, but I lacked the stuff to participate in Amateur Radio via the birds. 1986 changed all that. Now I have added satellites to my active interests in our hobby, and it is as exciting as that old crystal set was in my junior high years.

The AMSAT Symposium and annual meeting was a very interesting and skillfully-managed affair. The papers were varied and interesting, the hotel facilities were superb and the prize-drawing, as usual, left me high and dry. After listening to the papers outlining what is coming down the road for Amateur Radio satellite communications, I am more than ever amazed at AMSAT and its brilliant leaders.

Highlight of the meeting, for me, was a paper and demonstration given by Dr. Tom Clark, W3IWI. Tom showed a 1200 baud PSK modem for use with the FO-12 satellite now in orbit. When he asked how many in the audience were on packet, nearly every hand in the room shot up. Later Paul Rinaldo, W4RI, publications director for the ARRL, showed a vue-graph slide projecting the packet growth in the very near future. With 20,000 packet units in the hands of amateurs today, digital communications is here to stay — and growing rapidly.

The PSK modem demonstrated by W3IWI will be packaged by the Tucson Amateur Packet Radio group, in kit form, for release in late winter. The basic modem is a practical implementation of the JARL/JAMSAT Costas loop design described in QEX for August 1986. To this basic design they have added modulators optimized for "Manchester FM" uplink to FO-12.

Clark also demonstrated a digital

AFC circuit for automatically tracking Doppler shifts using unmodified "all-mode" VHF/UHF radios. Because of the rapid Doppler shift encountered when using Fuji OSCAR-12, this will be a big feature. This should eliminate one of the seven paper-hanger arms needed to work low-altitude birds. With the gear demonstrated by Dr. Clark, you will be able to use the store-and-forward capabilities of the Japanese satellite when they are turned on for general use.

All the details of the TAPR kit have not been determined at this writing, but the circuit boards are in production. As soon as the kits and/or boards are available, they will be announced. TAPR asks that they not be "bugged" about availability yet; there will be plenty of notice when the kits are ready for distribution.

The Rinaldo paper on Satellite Digital Communications opened many eyes as to the future of our hobby. His projection is "at launch time, the Phase 4 digital transponder will find itself in a world of many more packeteers and a greater appetite for transmission of anything that can be digitized." And I will agree with Paul. Digital communications is going to change our hobby with more impact than single-sideband did back 35 years ago.

The AMSAT meeting was truly an international affair. It was attended by amateurs from Japan, South Africa, Great Britain, Brazil, Mexico, Canada, the Caribbean and the USA. Many of the foreign members presented papers to the group.

If you haven't sampled the satellite Amateur Radio world, I suggest you join AMSAT, buy some books, and start to begin to enjoy the real frontier of our hobby. The engineers and technical experimenters who are the driving force behind AMSAT are dedicated to making it fun and exciting for everyone. I take off my hat to them all!

I also attended the American Astronautical Society symposium at Boulder, Colorado, which was held two weeks prior to the AMSAT meeting. AMSAT was a co-sponsor of that highly interesting event. It, too, was exciting because for the first time I really got to look at what is being proposed as a space station. It is hoped that Amateur Radio can be built into the space station as a recreational tool for the astronauts.

Dr. Tony England, W0ORE, our only active astronaut Amateur Radio operator, has been spearheading such a project with NASA. Tony, who attended the AMSAT meeting, informally addressed the Texas convention on the space station project. After looking at the slides and models shown at the Boulder meeting, I am convinced the space station is a worthy project and should be exciting for every ham with any adventure genes in his body. You

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ain't seen nothing yet!

Although this has nothing to do with Amateur Radio, at Boulder I attended five papers on Halley's comet and the space explorations into the tail of the heavenly object. Those five papers made the trip to Boulder well worthwhile. Man's knowledge of the universe is exploding rapidly!

### Eavesdroppings

I MISSED ALL OF THE FIRST PART AND MOST OF THE REST. . . LAST NIGHT WE HAD A GOOD AURORA BORIC ACID — IT ATE HOLES IN THE IONOSPHERE. . . I NEVER READ THE MANUALS UNTIL I AM REALLY STUCK. . . I'M FLYING UP TO THE SPACE SYMPOSIUM. . . MY BEAM IS STUCK ON NOWHERE. . . THE WEATHER BUDDY IS CRUDDY — TOO MUDDY. . . I BAKED BREAD THIS WEAK. . . SHE THOUGHT FRESH FISH HAD TO COME FROM FRESH WATER. . . FB ON MY GOING DOWN IN THE MUD ON THE LAST TRANSMISSION. . . MY QSL IS 10/100 SURE! . . . ON SUNDAY WE HAVE MANY BEGINNERS, HI. . .

Worst excuse for ending a QSO: "MUST QRT AND CLEAN THE WAX OUT OF MY EARS."

### DX notes

Gary Day, KE4FE/KH2, is now active from Guam. He works RTTY and AMTOR and will be stationed there until 1988.

I heard JA1ACB calling FY7AN in Cayenne who went back to W1ACB who also had called the French Guiana station.

P43SF says he is receiving many

## Lifeline to Baton Rouge

### Kevin Meeks, KA5TTA

In these days of high-speed commercial communications involving satellites and other high tech miracles, Amateur Radio operators were the ones who came to the rescue. This time it involved an earthquake in San Salvador, the capital of El Salvador in Central America, Friday, October 10. Here in Baton Rouge, Louisiana, Amateur Radio operator Ricardo Vaamonde, KA5ZZY/YV5AMV, and Russ Allor, N5ADF, were a lifeline for people with relatives and friends in that stricken city.

Vaamonde is a post grad student at Louisiana State University and speaks fluent Spanish; he is a native of Caracas, Venezuela, and English. Vaamonde began getting phone calls from those seeking information almost immediately after news of the quake reached local TV sets.

Local TV and radio broadcast stations picked up the Vaamonde story and aired phone numbers for interested people to

call. One was for Spanish-speaking residents, the other for those who speak English. Russ Allor, N5ADF, manned the phone line at his home for the English speakers and relayed that information to Vaamonde at his home.

Vaamonde got about 300 calls for help and information over the course of several days of nearly non-stop DXing. He received a number of responses — most of them positive — about the victims of the quake. Vaamonde's information requests were not just from the Baton Rouge area, either. He got calls from a number of cities and towns throughout the southeastern part of the United States, although a large number of Salvadoran students attend both LSU and Southern University here in Baton Rouge.

After all was said and done, Vaamonde said he was just glad he could help out. For many with loved ones south of the border, Vaamonde was indeed a lifeline. □

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### Something to think about

Jan King, W3GEY, in his AMSAT paper on Amateur Radio Satellite Phase 4, said: "There are a lot of other organizations looking for spectrum space — and there is no more available. We must use the frequencies allocated to ham radio." Jan was talking about those in the GHz region.

Thanks to W0LYM, W5HEZ, W7VFR, WA4WIP, KA7TCL, and all those unsuspecting people we monitored during the last few weeks. Good DX and good luck. Write me at 1514 So. 12th Street, Fargo, ND 58103. If you need North Dakota for WAS, I'm always available on RTTY and CW. 73 de Bill Snyder, W0LHS. DIT DIT. □

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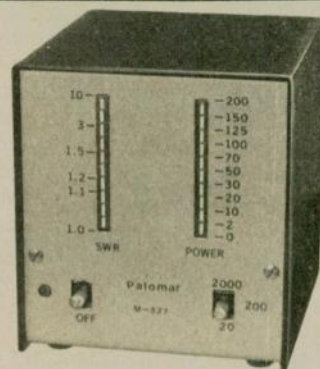


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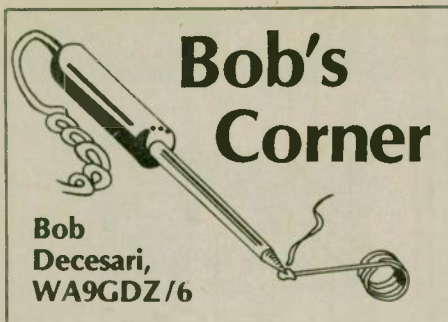


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## The junk-box special — yesterday's technology with today's components

Here is a receiver that should make Yaesu, Kenwood and ICOM shudder in their socks! Since there has been an "old-time radio" nostalgia kick in recent issues of the big-time Amateur Radio periodicals, I thought I would attempt my own resurrection of a popular and simple circuit.

When I was getting interested in Amateur Radio back in the late '50s and early '60s, there was always a variety of simple receiver circuits published in the now defunct magazine *Popular Electronics*. These were the types of projects one could build in a weekend and usually always worked first shot. Furthermore, they demonstrated basic principles of radio technology, and allowed the builder to tell his friends, "I made it myself." There seems to be a lack of these interesting worthwhile projects in today's complex technology, possibly contributing to the decline in Amateur Radio's popularity with young people. Therefore, I present the simple regenerative receiver illustrated in *Figure 1*.

It seems like all simple receivers made today are of the direct conversion design. Essentially, the incoming signal is heterodyned in a mixer stage with a local oscillator, resulting in an intermediate frequency in the audio band. The audio is then amplified and drives either earphones or speaker. These receivers work great for copying CW and SSB. However, they are not comfortable to use on the international short-wave bands where AM still governs, as the carrier generates an annoying heterodyne unless the signal is perfectly zero-beated.

The regenerative detector, on the other hand, allows copy of CW and SSB, and works great for demodulating AM as well. SSB, however, is more easily copied with the direct conversion approach. Controlled feedback is utilized in the regenerative circuit to bring the detector in and out of oscillation.

By controlling the feedback just to the point of oscillation, the overall Q of the circuit is increased and the circuit is working at its maximum sensitivity. In

this mode, the incoming RF signal is detected by rectification and any amplitude variations at audio frequencies, such as exist on an AM signal, appear at the output. When the detector is brought into oscillation, the circuit Q still remains high, but a heterodyne is produced with the incoming RF signal and an audible note is generated at the output of the circuit. Hence, it is possible to see how this circuit can demodulate both AM and CW type signals.

As with all simple circuits, there are limitations and drawbacks. As might be expected, the circuit has a limited dynamic range and must be readjusted for strong or weak signals. As a single tuned circuit is employed, selectivity is not the same as a superhet. Finally, as this is an oscillating-type detector, it is possible to radiate a signal, although weak in strength. However, as this type of receiver has been successfully used for 50 years or so, it certainly should not be forgotten in today's computer world and will still give a good account of itself on the short-wave bands.

Retracing my boyhood, I used a breadboard technique in the construction of this project. A small piece of 3/4-inch pine was used for the base of the receiver with an aluminum panel screwed into the edge. The circuit was assembled on a perforated board and hand-wired. The junk box revealed several old tuning capacitors with dual capacitor sections. One was found that had about a 150pF section. A good alternate tuning capacitor is the miniature dual gang unit available from Circuit Specialists, Inc., in Scottsdale, Arizona. The price of this unit is only \$2.25.

The *Figure 1* schematic also shows the use of band set and band spread tuning. This is not absolutely essential but it does make life easier when tuning the short-wave bands. I utilized one of the miniature Japanese vernier drives with the band spread capacitor, thus giving me tuning selectivity. If this approach is used, two of the Circuit Specialists tuning capacitors should be purchased. The 138pF section should be used for the band set capacitor on one unit and the 68pF section on the other unit used as the band spread capacitor.

As with all short-wave receivers, attempt to keep all connections as short as possible. My experience with the LM 386 audio amplifier is that it will tend to break into oscillation if it is not properly bypassed and the leads to the IC kept as short as possible. The volume control may be omitted for simplicity if desired.

Should you fire up the circuit and not hear any regeneration when you advance the regeneration control, chances are the leads to the tickler coil have to be reversed. This is necessary since the feedback has to be of the proper phase. If you still don't get feedback, try a few

more turns on the tickler coil and tailor it to your particular circuit.

This circuit will work well up to about 30 MHz or so. Don't be afraid to wind different coils for different short-wave bands. Let's hear from those of you who build this circuit and the DX you copy with it!

### Readers write

The GDZ Special multiband antenna described in the November column drew responses from several readers who have operated similar antennas for several years! The best letter was from Dr. John Dougherty, W7HWX, who promptly scolded me on my comment that one wouldn't work DXCC with this type of antenna. Obviously he did! Dougherty did point out that four conductor TV rotator flat wire works even better than the power cord I had used. Furthermore, he concurred with me that added elements for the new WARC bands was indeed a possibility.

### Question to the readers

Obviously, the project just described would lend itself well to the use of good ol' plug-in coils, just like how regen receivers used to be made! Does anyone in our knowledgeable readership know of any company making anything even close to a plug-in coil form or a plug and

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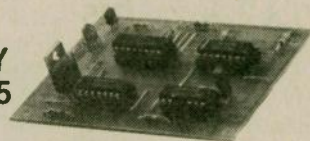
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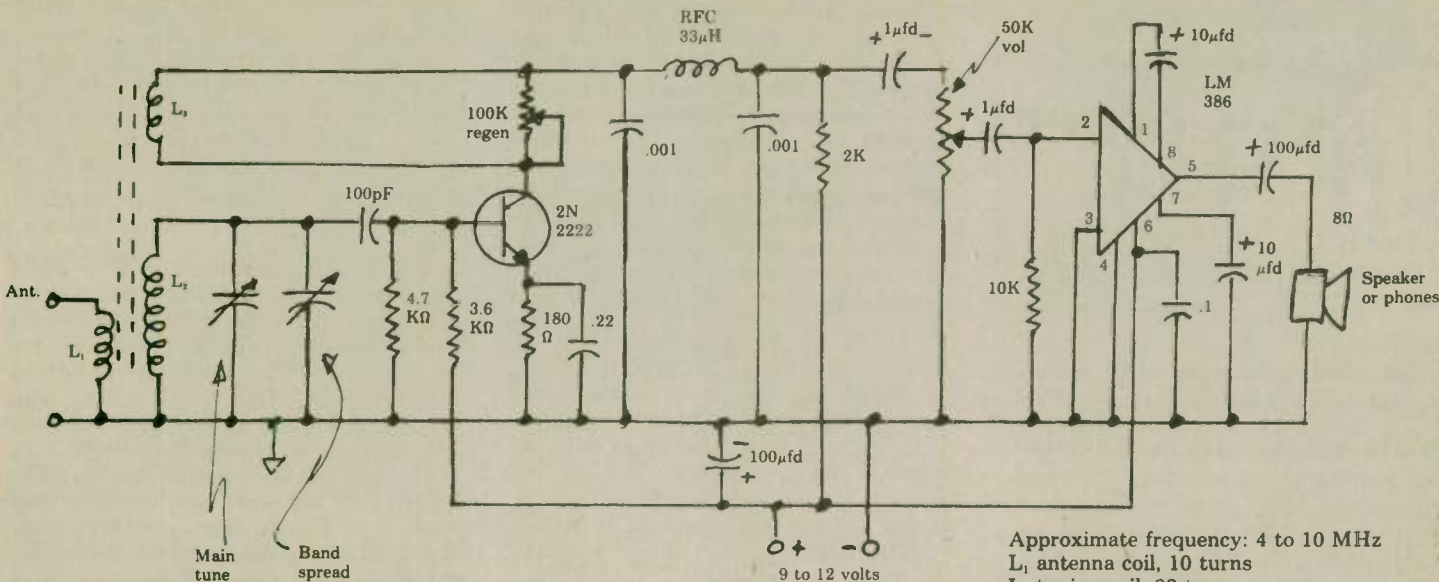


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 L<sub>3</sub> tickler coil, 7 turns — see text  
 1/2" dia. form — position tickler on form for best feedback

Figure 1 — Simple receiver schematic

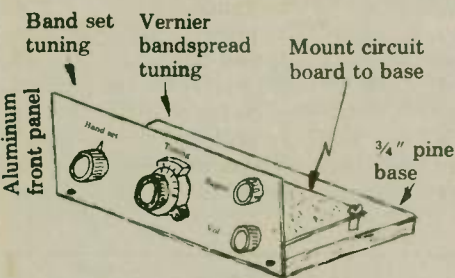


Figure 2 — Sketch of simple receiver layout

socket arrangement that could be used for a modular coil switching arrangement? The best I can come up with is dual in-line connectors used for mother/daughter board mating and PC board edge connectors sockets.

That's it for this month. Write to me with your comments or ideas care of Worldradio, 2120-28th St., Sacramento, CA 95818.

### Consider this ...

While the FCC does not require you to own a peak-reading device (in-line wattmeter, etc.), you are required to abide by the power limits as outlined in Rule 97.

If you wish to measure it to ascertain that you are in compliance, first determine that your SWR is 1 at the frequency you will measure. Insert an in-line peak-reading RF wattmeter that is properly matched to your feedline (a good quality commercial unit is almost a necessity), then calculate the power using the peak RF voltage as indicated by a scope or other peak-reading device. Multiply the peak RF voltage by 0.707, square the result and divide by the load resistance.

— Cape Fear ARS, Fayetteville, NC

### Beer can verticals

Vernon Phillips, W7KG

Beer can vertical antennas became popular when amateurs were able to return to the air at the end of World War II. Cans were made of steel in those days and could easily be soldered together for a reasonably effective antenna that did not require much space.


The first consideration was to determine the number of cans required to arrive at 1/4-wavelength for the desired frequency.

Resourceful amateurs wasted very little when undertaking such a project. Instead of consuming the beer in the nor-

mal fashion, several Montana amateurs distilled the alcohol from the beer and used it in their torches to solder the cans together. Not only did this reduce waste, but it left the amateurs with clear heads for operating.

— Yellowstone RC, Billings, MT

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## Ten years

It's already 10 years since your columnist began to grind out this *TRAFFIC* stuff on his mill, and so it is in order to say a word of thanks to readers. There must be some readers, or it would not have lasted this long. It has been repetitious at times — intentionally so — particularly because one of the purposes is to interest amateurs who are not currently involved in traffic handling to see if they like it, and to help newcomers to the traffic game get off to a good start. How much longer it will last depends on readers and editors. It has been enjoyable for the writer, and it's hard to believe that this is already column 120.

A special word of thanks is due to the readers who have written to express their agreement or disagreement with what has been said in these columns, or to suggest topics for subsequent columns. It should always be encouraging to a writer to hear from readers, even when they disagree... even when they disagree vehemently. It shows that at least someone is reading what one has written and thinks it is important enough to comment on. On the other hand, occasionally a vehement outburst can be an indication that one's column was right on target.

## Delays

As presently operated, Amateur Radio provides a fairly reliable traffic service, but not necessarily a rapid means of communication when messages are relayed through normal traffic routes. Where a commercial service would have operators on duty at

suitable times and have stations in suitable locations selected after a study of the traffic patterns, we have to depend on volunteers and take them when and where we can get them. As a result, we often can't pass traffic to its destination without considerable delay. Furthermore, we have to put up with propagation conditions — something that affects us more than it would a commercial carrier because band openings do not always coincide with our net schedules. But we try to do the best we can.

MARS messages have been a special problem of late, taking a week or more to come from some overseas locations, then maybe three or four more days in stateside nets, whether MARS or amateur. Some people were beginning to wonder what's the good of sending MARSgrams if a letter can get there faster.

It has concerned the MARS chiefs too. They recently directed overseas MARS stations not to put into the system traffic that is over 72 hours old without consulting the sender. Stations that receive such traffic ("with whiskers on it," as traffic handlers say) should pass it on as usual, but should inform the operators from whom they receive the traffic that there is a 72-hour rule.

From the early days of Amateur Radio, the rule has been not to hold traffic more than 48 hours, but one wonders how well this rule is observed. Certainly, when a message is of some importance, we should not hesitate to make a long-distance phone call or mail a message if it looks like it won't be delivered otherwise. It's a good investment in public relations for Amateur Radio.

## MARS traffic

Mention of MARS traffic makes one wonder if many amateurs don't know that, despite the third-party restrictions on international amateur communications, we can handle third-party traffic to many persons serving the U.S. government in foreign countries. Messages are sent in the usual way, but include an APO or FPO address, not a foreign one.

If the traffic goes via the National Traffic System, it will be transferred to the MARS system at an appropriate point for further relay. There are only certain ZIP codes to which this service is available. The list changes from time to time, and without it one can't be certain that a particular message can be handled. But it's worth a try. MARS operators have the list, and will send a service message back to the originator if there is no outlet.

There are several possible reasons why a particular overseas U.S. government installation cannot be reached through the MARS network. It may be that the host government objects to the U.S. radio installation's handling anything other than official traffic, and insists that any personal traffic be handled through the government-operated telecommunications network and paid for at the established rates. In other cases, the activities being performed at the particular installation itself may preclude MARS messages for one reason or another.

## Cycle 22?

As this is being written in early November, propagation conditions have shown a marked improvement during the past three weeks. A month ago it was often a struggle to move traffic. When half the stations on a net could not hear net control, traffic often had to be relayed, and often could not even be relayed because nobody could copy the station with traffic well enough to relay it, when communications were plagued by long skip, when poor conditions on the higher bands resulted in more congestion on the lower bands, and when net managers and net control operators wished enough traffic handlers had 160-meter capability to make it possible to move to the top band.

But now things are looking up. Stations heard only rarely during the past year — and usually very weakly at that — are now booming in, and traffic handling is much less of a chore.

If this is really the beginning of solar cycle 22, as it seems at this writing, it's time for us to increase our efforts to interest more amateurs in joining the ranks of traffic handlers; time also to solicit more "customers." Better conditions will mean less discouragement for newcomers, and better conditions will also mean traffic will be handled more rapidly and with less likelihood of errors, resulting in better overall efficiency of the system and enabling the Amateur Radio Service to give a better account of itself.

Even if the solar flux and sunspot numbers are rising, however, we will still have to expect recurring periods of poor propagation, which can come at any point in the solar cycle. In fact, the (please turn to page 52)

## GIVE YOUR EARS A BREAK!

(And the XYL's too!)

The **AUTO-KALL**, AK-10, is a DTMF selective calling unit. It connects to the external speaker jack on your VHF/UHF FM transceiver, scanner, etc. Your speaker remains silent until someone sends your personal 3-digit Touch-Tone® code. That means you (and the XYL!) don't have to listen to all the chatter all the time. But if someone wants to reach you they can. Great for families with two or more hams, activation of emergency nets, etc.

### FEATURES

- Completely assembled and ready to use.
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- Built-in speaker. External speaker jack also provided.
- Measures only 1 1/4 x 3 x 5 1/2 inches • Decodes all 16 digits.

\*Touch-Tone is trademark of AT&T



**AUTO-KALL AK-10**

**\$89<sup>95</sup>** Plus \$3.00 shipping & handling

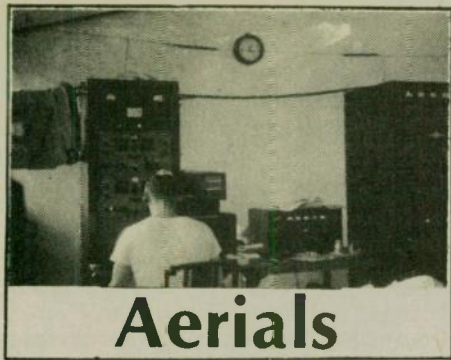
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## Aerials

# Propagation: an early history

Bruce A. Ray

Historically useful radio propagation has been around for 100 years. But radio waves have been propagating for billions and billions of years, as Carl Sagan would say. These have come from cosmic sources in our own and other solar systems.

The communications revolution, spawned by controlled radio waves, are products of the 20th century. We give credit to Guglielmo Marconi, who was inspired by Heinrich Hertz. Marconi set the pace with his bold experiment, perhaps based on Tesla's thinking of a high altitude reflecting layer in the atmosphere.

Marconi, in December 1901, thought that radio waves must be generated within the universe and sought to detect them without any success. We have been doing the same thing with big dish parabolic and other antennas for the past three decades — also without success for intelligent beings! The search for out-of-our-own-solar-system intelligence continues because Maxwell's equations make us think RF propagation will make it possible — if there are intelligent beings out there.

While at Bell Labs in 1932, Karl Jansky studied radio noise and said he detected a steady hiss from an extra-terrestrial source! He rightfully claimed it came from our own galaxy, the Milky Way, and he was right. It's cosmic noise.

Marconi, whose parents had the bucks, began experimenting at the turn of the century. In December 1901, Marconi set up a circuit between Wales and St. Johns in Newfoundland, sending Morse code S's which were successful. His experiments proved two important points in propagation: 1) radio waves do not necessarily travel in straight lines, and 2) a span of 1,800 miles may be spanned easily.

The hero of theoreticians and math majors is James C. Maxwell. A Scotsman, Maxwell took Michael Faraday's discoveries and put them into ex-

act mathematical form. Maxwell predicted in 1864 that electromagnetic waves could be produced. Then in 1887 in Germany, Heinrich Hertz discovered radio waves. Maxwell also proved mathematically that light waves are electromagnetic in nature and not purely mechanical, as was believed at that time. In 1873, Maxwell published his treatise on "Electricity and Magnetism," which was the foundation of electromagnetic theory. He left us at the age of 48, in 1879.

In 1887, Hertz used an electric spark to produce electromagnetic waves. At one time, RF waves were called Hertzian waves, in honor of this German physicist. He was able to detect RF with a small loop of wire. In this way Hertz proved the existence of the waves that Maxwell had predicted in 1864.

We owe Maxwell a vote of thanks for predicting the true nature of electromagnetic wave propagation. He wrote a 50-page article which represented, through a few equations, the beauty of vector notation of his theory of propagation. This is still studied in the few universities in the United States now which have courses in electromagnetic propagation.

It was also Maxwell who predicted transverse propagation of waves at finite speed equal to that of light. But Hertz demonstrated the existence of radio waves, which Maxwell only thought existed mathematically.

The true experimenter's hero was Hertz, who generated, propagated and received radio waves, recognizing the problem inherent in his broad-band spark source. Hertz proved that communications of information would be feasible.

Although not given credit for it, the real experimenter was Marconi. His family could afford experimentation, although government sponsorship of scientific ventures dates back at least to Queen Isabella and Christopher Columbus. The bold venture was the first DX-pedition in history. It took place in 1901 when Marconi transmitted those S's from Wales to Newfoundland!

Marconi's expensive experimentation was "indisputably explained" within a year by Heaviside of reflection layers fame. It followed the present-day pattern in which the theoreticians, in no time at all, explain observations that experimenters sweat over for years.

Isaac Newton formulated his famous law of universal gravitation 300 years ago. Because his law violated the accepted principle at the time — that action at a distance is impossible — Newton himself was reluctant to announce it. Edmund Halley, the guy who discovered the comet which bears his name, was a friend of Newton's and he persuaded Newton to present the law before the Royal Society of Great Bri-

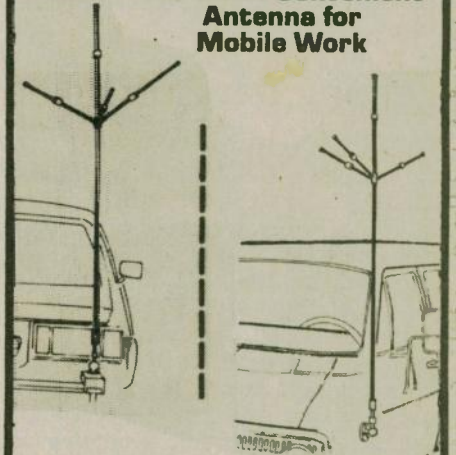
# Spider Antennas<sup>TM</sup> and Adapters<sup>TM</sup>

U. S. PAT. NO. 4349825

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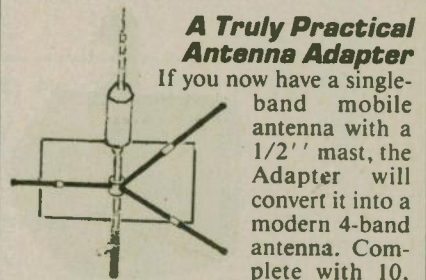
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Whether you are driving a full-size van or a compact car, you can't beat the Spider™ for convenience. Once it is tuned for 10, 15, 20 and 40 (or 75) meters, you just switch from band to band on the transceiver — the antenna follows by itself.

## A Truly Practical Antenna Adapter



If you now have a single-band mobile antenna with a 1/2" mast, the Adapter will convert it into a modern 4-band antenna. Complete with 10,

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In response to requests for 75 meter operation from many Spider™ users, we now have a 75 meter resonator available for immediate shipment.

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tain. This Newton did in 1685; his law was ridiculed and he was discredited. Centuries later, Hertz and Maxwell proved that Newton was right. It is possible to cause action at a distance in physics.

When the American Institute of Electrical Engineers was organized 100 years ago, radio was unknown, there were no antennas, X-rays had not been discovered, relativity had not been proposed and there was no quantum theory, but blood-letting with leeches was a standard medical cure-all. Edison's incandescent light was making painfully slow headway against the entrenched gas illumination industry.

In 1884, the Berlin Academy of

Science offered a prize for research on the relation between electromagnetic forces and dielectric polarization. Hertz considered capacitors with Leyden jars and inductance with open induction coils. He did not pursue the prize, but his interest in oscillations had been kindled.

In 1886, Hertz invented the complete radio system. He had an end-loaded 1/2-wave dipole as a transmitting antenna, and a resonant square loop antenna as the receiver. When sparks were produced at a gap at the center of the dipole, sparking also occurred at a gap in the nearby loop. For the next two years, Hertz refined his experiment on 5 meters until the distance of detection

was over 100 meters (328 feet).

Marconi quickly followed up Hertz's experiments. He went on to add tuning, big antennas and ground systems for longer wavelengths and was able to signal the Scotland-to-Newfoundland circuit in 1901.

In 1903, Marconi began regular transatlantic message service between England and Cape Cod in the United States. Thus began propagation of radio waves, with its rudimentary knowledge of both its generation, propagation and reception. However without it, we would not have radio and TV as we know it today — nor Amateur Radio! □

## Helping hams thanked

### Willis Carrier, WA6HVX

Thank you to Bill Whitlow, WB6LRQ, Ed, KA6LRG, and Ron Smith, WA6POB, who volunteered to set up a communication watch at Red Cross overnight, October 10-11, in connection with the earthquake in El Salvador.

As it developed, the overnight watch was not carried out. However, next day — Saturday afternoon — hams did show up at Red Cross, as the local press was anxious to photograph *something* in connection with the disaster in El Salvador. Frank Johnson, W6JWF, Milt Jelsk, WA6UVH, and Will Carrier, WA6HVX, plus two Spanish-speaking interpreters — Elsa Ballarades and Raul Erazo — listened and took notes on the phone patches and reports on Saturday, from 1 to 4 p.m.

The group was able to show two TV film crews that most of the phone-patching was being done by Spanish-speaking radio amateurs, and an attempt to link San Salvador Red Cross officials with Washington via Palo Alto was available as a demonstration of radio amateur capabilities in an emergency. □

## GMT gone?

Yes, Greenwich Mean Time is gone! The reasons? The high cost of maintaining the atomic clocks at the Greenwich Observatory in England. Effective last December, it was replaced by Universal Coordinated Time, kept by some 150 atomic clocks around the world. — *Central Arkansas Radio Emergency Net, Little Rock, AR* □

## Traffic

(continued from page 50)

very solar activity that is responsible for ionizing the ionosphere also contributes to geomagnetic activity that brings us poor propagation. But when ionospheric disturbances are absent, from now on conditions should be good and continue to get better for the next few years.

### Thirty meters

Mention of 160 meters as a way to keep circuits open at the low point in the solar cycle recalls to mind another band that can provide communication when there are propagation problems — the 10.1 to 10.15 MHz band allocated to the Amateur Service at WARC 79.

As propagation improves and 20 meters becomes useful for traffic handling most of the time, there will be occasions when stations are too far apart for effective communication on 40 meters, too close for 20 meters. If the stations have 30-meter capability, they can move there and clear their traffic. Of course, they will have to operate CW or digital modes there — an advantage for those who use these modes anyway, but maybe not so good for those who only talk into microphones.

### Answering services

Jim Hatherley, WA1TBY, tells in *The Networks* bulletin for New England traffic handlers, how some amateurs who use an answering service to handle telephone calls also arrange for the answering service to receive radiograms from the public to be transmitted by Amateur Radio. When they make a message delivery by telephone, they leave their name and telephone number and tell the addressee that they can accept messages at any time because of the answering service. Sounds like a good idea, and it would seem that the answering service's people wouldn't mind — especially if you tell your "customers" which answering service you are using and maybe add a word or two about how good it is. □

## Crystal Filters, 8 & 10 Pole for Kenwood, ICOM, and YAESU

NEW 8-POLE CRYSTAL FILTERS FOR KENWOOD TS-440S

NEW TS-440S SSB 2.1 kHz matched filter set: consists of one each 455kHz and one 8.8MHz 8 pole crystal filters - \$150.00.

TS-440S/430 2 Crystal Filter Package consists of 2.1 or 1.8 kHz SSB, 400 Hz or 250 Hz CW

TS-940/930 CW 400 Hz or 250 Hz 8-Pole matched set, mounted on printed circuit boards - \$150.00.

TS-940/930 SSB - 21 kHz 8-pole matched set. - \$150.00.

930/940 SSB - Electronic Switch Kit - Transmit through original filters - \$30.00

TS-430 - SSB 2.1 kHz Cascade Kit - \$75.00.

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IR455H1.2X SSB 2.4 kHz EXACT replacement for FL-44A IC-730/740/745/R70 etc. - \$99.00

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IR455H400X CW 400 Hz EXACT replacement for FL-52A IC-751(A)/745/740 etc. - \$85.

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8-Pole SSB 2.1 kHz crystal filter wire in - \$75.00. 10-Pole SSB 2.1 kHz crystal filter

wire in - \$110. 8-Pole CW 400 Hz crystal filter wire in - \$115.00. ICOM SSB 2.1 kHz

wire-in Replaces FL-30 - \$60.00. ICOM CW 400 Hz Wire-in Replaces FL-32 -

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Master/Visa orders accepted. When ordering please specify radio and crystal filter ordered. Please add \$5.00 shipping and handling USA, \$10.00 Air Mail, COD add \$1.90, \$13.00 overseas. FL resident add 5% sales tax.

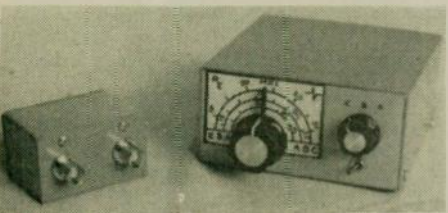
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Information in "New Products" is supplied by the manufacturers to acquaint *Worldradio* readers with new products on the market.



At left is the Type HFX-1, on the right is the type HFX-2 — both oscilloscope frequency extenders.

## New from Radio Engineers

Radio Engineers has recently introduced several new products of interest to the radio enthusiast. For the home builder with an oscilloscope that can only "see" up to 5 MHz, two models of frequency extenders are available. Designated the Type HFX-1 and HFX-2 Oscilloscope Frequency Extenders, these units allow 5 MHz or 10 MHz bandwidth oscilloscopes to see RF signals as high as 55 MHz.

The Type HFX-1 model contains an RF signal source and a broadband mixing circuit which converts the high frequency signal to an intermediate frequency within the oscilloscope's range. The Type HFX-2 is designed to be used with an external signal generator but still gives the same frequency coverage. Both units have 50 ohm input impedances and utilize BNC connectors to interface to the circuit under test and the oscilloscope.

Also available is the Type DBX-30, a fixed 30dB attenuator, which allows the extenders to sample higher power levels. A high impedance transformer is planned for the near future to be used at the input of the oscilloscope extenders.

The company has also introduced two accessories for its PortaQuad portable 2-meter cubical quad antenna. Designated the Type PM-1 PortaMast and the Type SB-1 Base, the two accessories combine with the PortaQuad hardware to provide a fully portable mast assembly which holds the cubical quad 8 feet above the ground.

The mast assembly provides a special cap which fits to the PortaQuad base/container and three 2-foot sections of plastic pipe. Four guylines, attached to stakes, are used to hold the mast upright. On terrain which permits,

the stakes may be driven into the ground. For hard surfaces or pavement, the Type SB-1 Base is used; the guylines are simply attached to eyelets on the base assembly. The base assembly breaks down into two 33"-long members for transportation or stowage.

The PortaMast, PortaQuad, and SB-1 Base may be purchased separately, depending on the user's requirements, or as a complete portable antenna system designated the Type PTS-1 PortaTenna System.

Data sheets are available on these products and other products which the company manufactures. Contact Radio Engineers, 3941 Mt. Brundage Ave., San Diego, CA 92111; (619) 268-7988. □

## 1987 Montana Callbook

The Yellowstone Radio Club is offering its 1987 Montana Callbook to anyone interested. It is available for \$4 per copy, with an additional 50¢ per copy mailed to individuals. Clubs wishing to sell the Montana Callbook to their members or anyone in the area may do so by buying them in quantities of 20 or more for \$3.50 each. This will include shipping costs.

Anyone wishing to take advantage of this offer may do so by sending their checks made out to Yellowstone Radio Club to: Montana Callbook, 11 Gatewood Dr., Billings, MT 59102. □

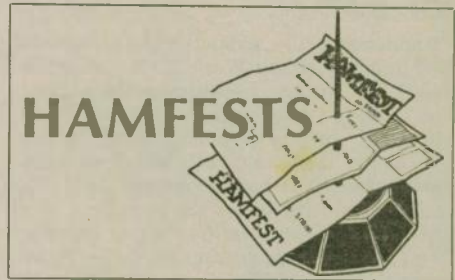
## Kenwood computer interface units

Trio-Kenwood Communications announces RS-232-compatible computer interface units for the TS-440S, TS-940S, TS-711A and TS-811A transceivers. Two units are required to

control the transceivers — the IF-232C level translator and a plug-in computer interface module. The TS-440S requires the IC-10 chip set, the IF-10B is for the TS-940S, and the IF-10A is needed for the TS-711A or TS-811A.

All digital functions on the transceivers are controllable, which includes VFO tuning, RIT/XIT, memory input and recall, and voice synthesizer activation. Programming is simple and interchangeable commands are used, which means that one program should work with several rigs. This minimizes program changes.

Although software will not be available (turn to next page)



## Pennsylvania

The CHAVERIM OF DELAWARE VALLEY, INC., an organization formed to promote a closer association between Jewish Amateur Radio operators and their friends throughout the world, will be holding their 7th Annual Brunch at the Parktowne Place Apartment Complex, 2200 Benjamin Franklin Parkway, Philadelphia, Pennsylvania on Sunday, January 18, at 10 a.m.

Please contact Bill Soble, W3QXT, at (215) 676-6769 or write to 9357 Hoff St., Philadelphia, PA 19115 for full information. Reservations absolutely necessary. □

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Butler, MO 64730

### OHIO

**Universal Amateur Radio, Inc.**  
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## World Championships for SSB

Announcing the January Classic — the 1987 running of the World SSB Championships! The first and only contests of their kind, these six single-band events are world-renowned — among the most challenging contests on the band today. Winners of each contest determine the world champion for 10, 15, 20, 40, 75 and 160-meter sideband.

Six separate contests: 1st Annual 10-Meter World SSB Championship Contest — 0000Z January 3 to 2400Z January 4, 1987; 3rd Annual 15-Meter World SSB Championship Contest — 0000-2400Z January 10, 1987; 3rd Annual 20-Meter World SSB Championship Contest — 0000-2400Z January 11, 1987; 6th Annual 40-Meter World SSB Championship Contest — 0000-2400Z January 24, 1987; 6th Annual 75-Meter World SSB Championship Contest — 0000-2400Z January 25, 1987; 8th Annual 160-Meter World SSB Championship Contest — 0000Z January 17 to 2400Z January 18, 1987.

Miscellaneous rules: Stations may be worked only *once per event*. All contacts must be two-way SSB transmissions. All stations, regardless of their operating class, may operate the entire contest period without a rest period.

Operator class: a) Single operator, single transmitter, SSB only; b) Multi-operator, single transmitter, SSB only.

Exchange: Stations within the continental 48 U.S. states and 13 Canadian provinces or territories transmit RS report and state, province or territory. All others, including Alaska and Hawaii, transmit RS report and DX country.

QSO points: 5 QSO points for contact *WITHIN* your own continent; 10 QSO points for contact *OUTSIDE* your own continent.

Multipplier: 1 multiplier point is earned for each continental U.S. state (48 max.), Canadian province or territory (13 max.), or ARRL DXCC country (excluding the United States or Canada).

DX Window: For the purpose of this event, DX window frequencies are reserved for *split-frequency operation only*. W/V/E stations are not to transmit in the DX window. DX stations may transmit in the DX window but *must receive outside window frequencies*. DX Windows — 7.080-7.090, 3.790-3.805, 1.825-1.830, 1.850-1.855 and 1.907-1.913 MHz.

Final score: Total QSO points × multiplier points = claimed score.

Contest entries: Entries must include a contest log, a dupesheet for 100 or more contacts, a list of multipliers, and a summary sheet as outlined below. Be sure to include your soapbox comments, and a black and white photo for possible publication.

Summary sheet: Summary sheets must

contain contest call sign, your QTH, station owner's name and address, a list of station equipment and antennas, operator class, total QSO points, total U.S. states worked, Canadian provinces and territories worked, the total of ARRL DXCC countries worked, total multiplier points, claimed score, and (if a multi-operator station) a list of participants by call sign.

Entry deadline: Mail contest entries separately to the contest chairman listed below. Entries must be *postmarked no later than February 18, 1987*. Late entries will be registered as check logs.

Disqualifications: Contestants may be disqualified should they run illegal power, cause deliberate interference, fail to comply with the DX window rules, attempt to achieve a scoring advantage, or — if duplicate contacts are not cancelled — exceed more than 3% of the total contacts made. Contest committee decisions are final.

Penalties: A penalty of 100 QSO points will be assessed for *each* duplicate contact counted in a contestant's claimed score.

Awards: A minimum of 100 QSOs must be worked in an event to be eligible for certificates. Plaques will be issued to World Championship stations who work a minimum of 500 contacts. Awards will be issued in each operator class, in each continental U.S. state, Canadian province and territory, and ARRL DXCC country represented.

Rules and forms: Contestants are encouraged to send an SASE for official forms: Bill Gosney, KE7C, World Championship Contest, 2665 North Busby Rd., Oak Harbor, WA 98277 USA.

Mail individual entries to: 10-Meter Contest Chairman Linda Ingram, KG6MO, 44720 N. 11th St. East, Lancaster, CA 93535; 15-Meter Contest Chairman Gary Vest, NW5E, Star Route, Box 34, Holliday, TX 76366; 20-Meter Contest Chairman Chuck Ingram, WA6R (see address of KG6MO); 40-Meter Contest Chairman Dennis Younker, NE6I, 43261 6th St. East, Lancaster, CA 93535; 75-Meter Contest Chairman Ron Johnson, KC7PA, 68 South 300 West, Brigham City, UT 84302; 160-Meter Contest Chairman Bill Gosney, KE7C (see address under "Rules and Forms"). □

## Crazy 8's Contest

The Cuyahoga Falls (Ohio) ARC, W8VPV, announces its Crazy 8's HF, VHF and UHF Contest, to be held from 1400Z, January 17 to 2300Z, January 18.

There are two categories of competitors: hams in the 8th U.S. call district and those elsewhere. Those in the 8th District work everyone; those outside work only those in the 8th District.

Exchange: State and grid locator (Maidenhead). VEs give province and grid.

Scoring: Each QSO equals 1 pt. You may use all bands HF, VHF and UHF, 1.8 MHz through 1296 MHz (except 10 MHz) and all modes (including repeaters, satellites, etc.) as allowed by license class.

Multipliers: There are two groups of multipliers. Add total of both groups and then multiply by number of QSOs for final score.

Group 1 multipliers — Number of bands operated (min. 3 contacts per band); number of grid squares worked; and number of states worked.

Group 2 multipliers — Each multiplier (mode) = × 8. Minimum of 3 contacts per mode to get a multiplier. Modes: SSB, CW, FM, RTTY/AMTOR, SSTV/ATV, packet, satellite, AM, QRP (5 watts, no repeaters), 12M, 6M, 220 MHz, Novice, ragchew (at least 10 minutes each), repeater and mobile.

Score sheets available for SASE. Use ARRL or equivalent. Type log sheet and not type of contact for multiplier credit (QRP mobile, ragchew, etc.) in comments column.

Awards: All entrants receive a certificate if SASE enclosed. Highest score in 8th District and in those outside receive plaque. Everyone else who submits a large SASE with 37¢ postage will receive a certificate describing their accomplishments (highest score in Maine, most multipliers in Texas, most UH contacts, etc.).

Send logs and score sheets (and question to: Anthony Luscre, KA8NRC, 5441 Pa Vista, Stow, OH 44224.

We told you there was something for ever amateur and everyone is a winner, so join in the fun. Work a new mode, a new grid, a new friend. This time there is no excuse! □

## New Products

(continued from previous page)

from Trio-Kenwood, a simplified sample program will be available from authorized Kenwood dealers. Suggested retail prices: IF-232C, \$49.95; IF-10A/IF-10B, \$41.95; IC-10, \$22.95.

More information is available from authorized Kenwood dealers or Trio-Kenwood Communications, 1111 West Walnut St., Compton, CA 90220. □

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220 — 225 MHz Quad Available  
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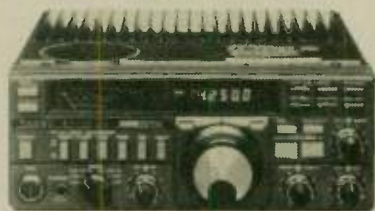
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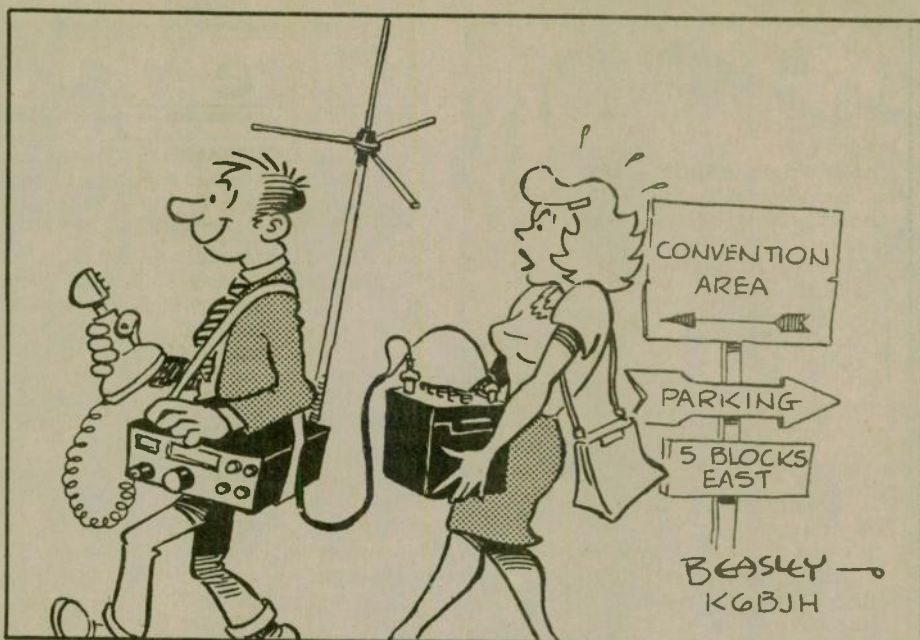
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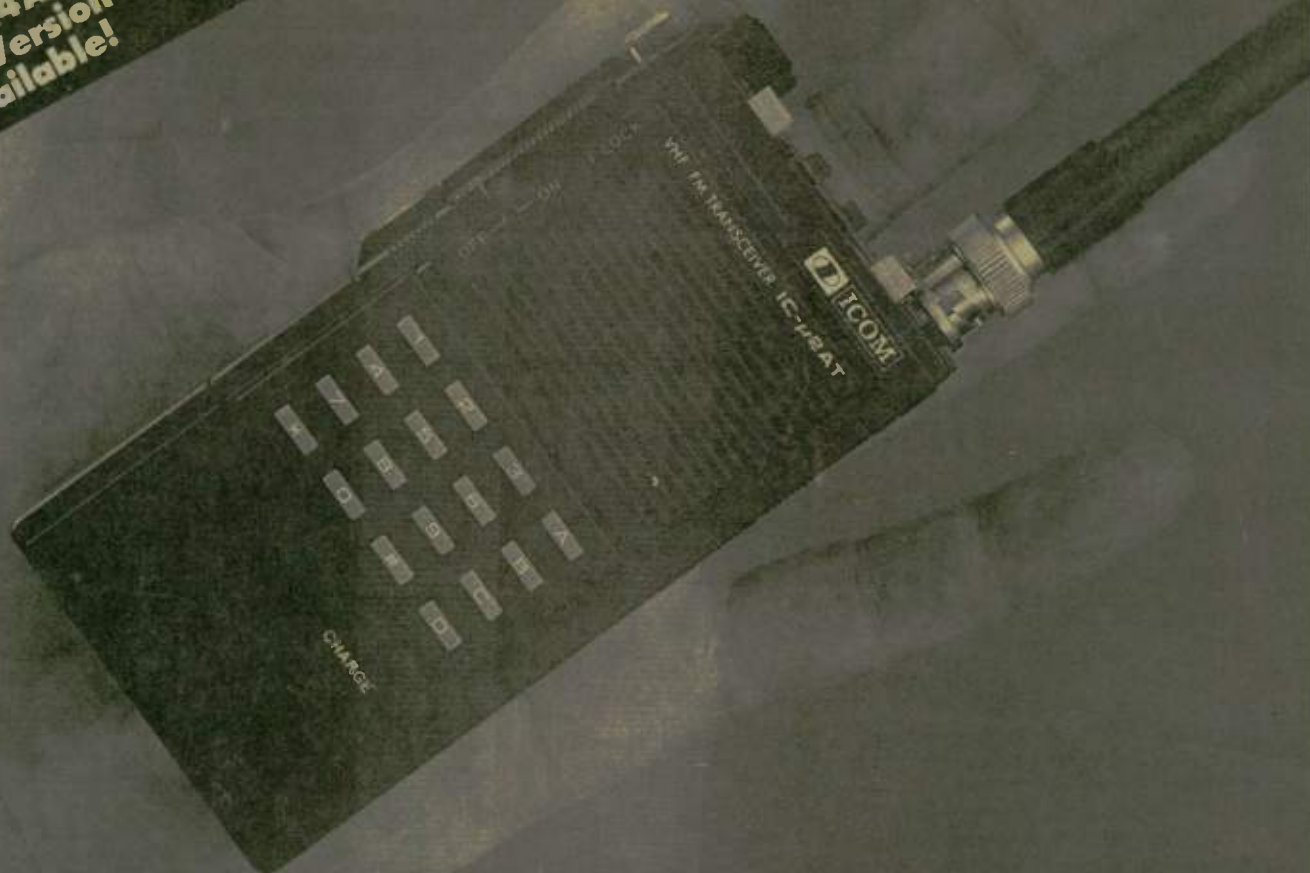
If more than one person is responsible for a miscalculation, no one will be at fault.

## Wanted: TUBES

I pay cash or trade for all types of transmitting or special purpose Tubes.

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**New IC- $\mu$ 2AT  
440MHz Version  
Now Available!**



# ICOM MICRO

## ONLY ICOM COULD BUILD IT!

**A new micro-sized 2-meter handheld with all the performance and reliability you've come to expect from an ICOM!**

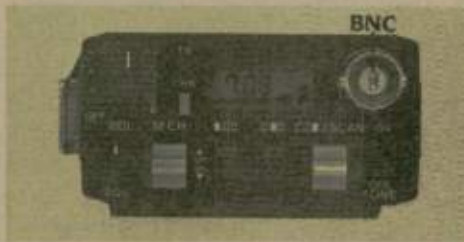
**The IC- $\mu$ 2AT.** A breakthrough that ends every amateur radio operator's quest for that one true, go-anywhere 2-meter handheld.

**Miniaturation.** The Micro gives you all the advantages and performance of a larger handheld, in a package so small, so refined, so well built that only ICOM could build it.

Measuring only 4.6" high by 2.3" wide, by 1.1" deep, the Micro fits in your pocket or purse as easily as a cassette tape. This miniaturization doesn't compromise ICOM quality. It's exactly what you'd expect from ICOM: high performance in a micro package.

**Full Featured.** And ICOM hasn't compromised features for size. The IC- $\mu$ 2AT DTMF version includes ten

programmable memories, odd offset capability, an LCD readout on the top



panel for easy readability, up to three watts of output (optional), 32 built-in subaudible tones AND wideband receive coverage from 138 to 162.995MHz in 5kHz steps for MARS/CAP operation and weather broadcasts. There's also a simple to use digital **TouchStep Tuning System** for fast shirt-pocket frequency adjustments. An IC- $\mu$ 2A version is also available without DTMF and PL tones.

**Accessories.** The Micro utilizes most existing ICOM handheld accessories plus it hosts a new line of battery packs, long life to alkaline battery cases.



ICOM America, Inc., 2380-116th Ave NE, Bellevue, WA 98004 Customer Service Hotline: (206) 454-7619  
3150 Premier Drive, Suite 126, Irving, TX 75063

ICOM CANADA, A Division of ICOM America, Inc., 3071-45 Road, Unit 9, Richmond, B.C. V6X 2T4, Canada

All stated specifications are approximate and subject to change without notice or obligation. All ICOM radios significantly exceed FCC regulations limiting spurious emissions.  $\mu$ 2AT11875

World Radio History