

Worldradio

6, Issue 6

December 1986 • \$1

Salvador's quake heroes

Friday, October 10, 1986

At 11:40 a.m. (Salvadoran time), a 5.4 earthquake ripped beneath the city of San Salvador, El Salvador, killing more than 1,000 people, injuring many thousands more, and leaving 18,000 families without food or shelter.

Soon after the quake struck, Amateur Radio stations throughout the world sprang into action to assist in the disaster recovery efforts.

San Salvador, El Salvador

In the center of the disaster, several Salvadoran stations established communications links to the United States and elsewhere. These Salvadoran amateurs included Max, YS1MAX, and two parish priests — Father Bob, YS9DZ, and Father Frank, YS9FK.

The television station where Max works took messages from Salvadorans who needed to let their U.S. relatives know they were all right. Max forwarded these on to the United States via XE1GP, K5SIV and other amateur stations.

The two priests, Father Bob and Father Frank, handled most of the incoming inquiries, using the local telephone system to locate the missing party. Their replies were then relayed back to the United States using the emergency net at 14345 kHz.

Palo Alto, California

By Saturday morning, the telephone of Ted Harris, N6IIU, Director of Disaster Services for the Palo Alto Chapter of the American Red Cross, began ringing with inquiries from relatives and the media. Throughout the morning, Harris — operating the Red Cross Amateur Radio station, K6YA — ran nearly two dozen phone patches, providing the first reliable link to the Washington, D.C. headquarters of the American Red Cross and initiating Red Cross relief efforts.

Sunday night, KPIX-TV, San Francisco, publicized the operation at Palo Alto, and the health and welfare inquiries began to pour in. K6YA took the (please turn to page 3)



Nationwide, Amateur Radio operators devoted their efforts to helping people in El Salvador and the USA. Doug Horton, WB6HEV (AFA6KQ), and Stan Meeks, N6NQM (AFA6DP), manned a station at McClellan Air Force Base in Sacramento. They were working with Our Lady of Guadalupe Church in health and welfare messages. On the other end of the circuit was YS9CHE. Both operators were also active in traffic handling during the Mexico City earthquake. Also at the McClellan station on another shift were Orson Hildebrand, KA6FGT (AFB6MC), and Bill Pennington, WA6SLA (AFA6RU). — N6WR photo

IMRA comes through again

The earthquake that took place Friday, October 10, created a total of 35,000 homeless families — nearly one-fourth of the population of San Salvador.

The El Salvadoran Ambassador Roberto Meza contacted St. John's University's Rev. Michael Mullen, C.M., WA2KVX, IMRA President, and requested that he use Amateur Radio to find out from the government in San Salvador what kind of materials should be sent down.

Requests came back for heavy equipment, experts in excavation work, medical teams and tents. This list was also sent to United Nations headquarters in Geneva. Since most of the telephones in San Salvador were out of order, the ambassador was unable to find out how his own family was doing. The IMRA assisted him in locating them to discover that luckily, they were OK.

Catholic Relief Services also requested communications assistance and (please turn to page 16)



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Worldradio (USPS 947000) is an international conversation. You are invited to participate.

Our goal is to be a valuable resource of ideas and experiences beneficial to the Amateur Radio Community. We publicize and support the efforts of those who bring the flame of vitality to this avocation.

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Art contest for young radio amateurs

The ARRL is sponsoring a "Youth in Amateur Radio" national art contest. Prizes will be awarded and winning entries (and others deemed appropriate) will be forwarded to the worldwide competition sponsored by the ITU in Geneva.

Entrants must be sponsored by an ARRL member. Entry forms from: ARRL, Dept. "Y", 225 Main St., Newington, CT 06111.

ARRL members may also enter the competition. Entries from three age groups (*Group 1* — ages 8-12, *Group 2* — ages 13-15 and *Group 3* — ages 16-18) must be received at ARRL no later than February 1, 1987.

Photography, drawings, paintings and other illustrations no larger than 11" X 14" become the property of the League. □

Correction

The May 1986 article, "Max's Tips 'n Techniques," page 26, was authored by Breckinridge S. Smith, K4CHE. "Breck" lives in Dover, Delaware and has been licensed since 1955. He is retired from the U.S. Air Force and is active on the VHF/UHF bands. □

Traffic hazard ID

Have you ever come upon a traffic accident involving a truck full of who knows what? The *ARRL FIELD FORUM* (10/85) explains that vehicles carrying 1,000 pounds or more of hazardous material must display a placard showing a 4-digit identification number. This code can let you know how the substance is dangerous, how best to handle the situation, first aid info, and suggested evacuation procedures.

Since the only helpful amateur is a live amateur, ARRL recommends that you avoid approaching possibly dangerous wrecked vehicles. Use your radio or telephone for help, telling the ID number or name of the substance if possible.

You can get a copy of the publication that lists every ID number and its corresponding loathsome substance by writing to the Material Transportation Bureau, U.S. Department of Transportation, ATTN: DMT-11, Washington, D.C. 20590. Ask for the Emergency Guidebook, DOT P 5800.3. They don't send this book to mere mortals, so send your letter on ARRL, ARES or other official-looking stationery. — REMARCS, Villanova, PA □

Correction

Jeff E. Howell, WB9PFZ, wrote to say there was an error in his article — "Hazardous Materials" — which ran in our July 1986 issue, page 14. "Under the thousand-pound rule," Jeff says, "where I discuss the results of combining toilet cleaner and bleach, my article mistakenly stated cyanide gas, but the correct result would be chlorine gas."

CONTENTS

FEATURES

- ARRL Forum — 11
- Code matters — 20
- Delta Division Convention — 26
- El Salvador's quake heroes — 1
- FCC Forum — 12
- Floods hit Midwest — 4
- IMRA comes through again — 1
- Michigan appreciates its hams — 6
- North Pole Network — 17

COLUMNS

- Advertisers' Index — 56
- Aerials — 52
- Amateur "Hi" — 20
- Amateur Radio Call Signs — 8
- Awards — 29
- Bob's Corner — 48
- Computers and Hams — 37
- Contests — 54
- Digital Bus — 46
- DX World — 32
- FCC Highlights — 8
- Hamfests — 54
- Mobile — 40
- MARS — 39
- MART Classifieds — 57
- New Products — 55
- Off the Air — 22
- Propagation — 36
- QCWA — 42
- QRP — 45
- Special Events — 11
- Station Appearance — 28
- Subscription, Worldradio — 9
- 10-10 International News — 38
- Traffic — 50
- VE exam schedules — 14

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A typical health and welfare message handled on the 14345 kHz earthquake traffic net. Inquiries were generally limited to those within devastated areas or at locations that were known to have suffered damage.

El Salvador

(continued from page 1)

names and other pertinent information and radioed the inquiry to El Salvador or to one of the intermediate relay stations.

The Salvadoran station would call the local number and say "Your relatives in the United States would like to know if you are OK." The reply was then sent back by sending only the reference number and the status: "All is well" or "No line," meaning the telephone was out of service. This shorthand notation provided for efficient relay of hundreds of messages.

Austin, Texas

Bob Botik, K5SIV, was alerted to the situation by John Harrison, N5BHU.

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Flood ... Tornado ... Earthquake. What happened in your city? What did Amateur Radio do? What worked? What didn't? What went well and what went wrong? What preparations (in hindsight) would you have made if you could have?

Since every area of the country will have some emergency (natural or manmade), you should share your experiences with other amateurs in other communities so they can be better prepared.

There is a lot at stake. Amateurs doing a good job can relieve pain and suffering. Send your articles to Worldradio, 2120-28th St., Sacramento, CA 95818.

14345.0 -0.0

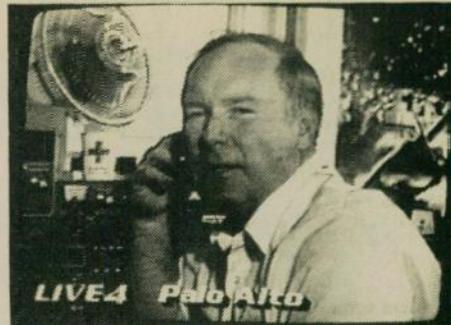
American Red Cross 10-13-86 1015 AM

COALES, JAMES
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Ruth Alegre (Sister)

PRX ABNT: 1
Jorge Sandoval (brother)
Ana Maria Sandoval (sister)
(Working at the maternity)
(one lives at Hospital Bloem)
with 2 children

10-13-86 1015 AM



Ted Harris, N6IIU, describes the situation in El Salvador during a live television broadcast on San Francisco's KRON TV-4.

calling a mother in the United States to let her know that her two children had survived the collapse of their school. "She went into hysterics, she was so happy. Finally she asked what this (getting the message) would cost. And I told her that this service was all free."

Besides the immediate benefit to the disaster victims, participants in the disaster relief often establish long-term bonds, furthering good will between countries and cultures. "Since the Mexican earthquake, XE1GP and I have become the best of friends," said Bob Botik. "Our families have made several visits to each other and I've developed (please turn to page 16)

Hearing that the San Salvador telephone switching system was destroyed, he swung into action.

Having spent three weeks handling Mexico City traffic just one year ago, Bob was both experienced and in a prime location for funneling traffic to and from the disaster area.

One of the high points, he says, was

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Floods hit Midwest

Amateur Radio operators, as always, were ready and willing to lend assistance earlier this fall, during the heavy flooding that hit the Midwest.

Hap Holly, KC9RP — with BEAR (Broadcast Employees Amateur Repeater) in Schaumburg, Illinois — was in charge of coordinating volunteers in the Des Plaines area, for communications during flood emergency. He said that 38 hams put in over 850 man-hours during the seven-day period of Monday, September 29 to Sunday, October 5. (Des Plaines is about 30 miles northwest of Chicago.)

Hap told Worldradio that damage had been estimated at \$40 million in northeastern Illinois, and that over 60,000 sandbags had been used.

Statistics received from John Wildenberg, Administrative Officer for Emergency Services Disaster Administration (ESDA) in Des Plaines included the following facts: Des Plaines River had risen 11 feet above its banks; 700 homes had been affected; sewers had backed up to almost a half-mile from the river.

"During the high point of the flood," said Hap, "30 miles of the Des Plaines River were uncrossable. In the Des Plaines area, where there are 10 bridges, all but three were closed. In the city itself, one bridge out of five was open."

A local hospital evacuated 128 patients Monday the 29th, although amateurs continued to operate on the hospital premises, from an ESDA van.

"The river 'crested' on Thursday (October 2)," Hap stated. Now was when the work would begin, he said, referring

to the major clean-up of homes and public buildings. Many basements had been flooded to ceiling-level.

According to John Wildenberg, this was the worst flood in the 150-year history of Des Plaines — and could possibly have been the worst in 500 years, judging from geological records. Ten inches of rain had fallen in one week. This, combined with the already saturated soil and heavy run-off, spelled DISASTER for a lot of Midwestern towns.

Other affected areas included northeastern Montana. A local ham — A.T. Klovstad, K7SMS — said he was the only radio amateur in the town of Malta, so would not have been able to set up a network of communications even if he had wanted to. Luckily, he said, phone lines never went out, so ham communications were not as vital as in other states.

Probably the hardest-hit areas during the floods were in Wisconsin, Oklahoma and Missouri. The National Weather Service reported three-day totals of up to 15 inches in parts of northeast Oklahoma — nearly half the usual an-

nual precipitation. Parts of Wisconsin got 17 inches of rain in September. Hundreds were evacuated from their homes in several communities. (Some 2,650 families in northeast Illinois had been left homeless, according to Gregg Durham, a spokesman for the Illinois ESDA.)

In Michigan, the White House added four counties to a list of 22 eligible for federal disaster aid, said state Emergency Management Division spokeswoman Juli Phillips. The 22 counties were declared disaster areas after flooding that started September 10 and caused more than \$323 million in damage.

—This article is based on wire service reports and on information received from Hap Holly, KC9RP — known as the "Midwest Link" by some, since he sometimes provides information for Westlink Report. □

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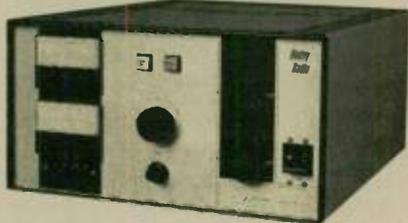
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Michigan appreciates its hams

Joseph Turner, K8CQF

This story is being told in many ways: by the stench in the air, a smell of raw sewage and rotting crops; by the air itself, hot and so full of water the sky everywhere is gray; by sandbags strewn ubiquitously about city streets; by dandelions folding their petals and forming flowery balls as protection against the constant rain; by flash flood warnings on TV and radio appearing day after day; by Willard Scott reportedly asking during one of his national weather shows, "Michigan! What did you guys do to deserve this?"

There are also the statistics: \$350 million in losses from 22 counties across the state, a \$63 million loss in Saginaw County alone; 10,000 of the 24,000 city residences and 8,000 dwellings in the out-county, including 50% of the homes in affluent Saginaw Township, were harmed; over 200 Red Cross employees and volunteers from dozens of states across the country rushed to aid victims; most of the State Police Emergency Management Team worked out of the Saginaw regional office; 20,000 square feet of office space is needed for several months to house staff from the Federal Emergency Management Agency; Amateur Radio operators contributed more than 200

man hours assisting officials in one four-day period; tributary rivers crested as much as 10 feet above flood stage, swelling the Saginaw River to a depth of 24 feet with a flow rate of 53,000 cubic feet per second (a remarkable statistic for a river which often flows so slowly that a good wind coming off the bay will cause its current to reverse direction and water actually flows up-river). Of course, the most striking figure is the six deaths resulting from the flood.

Amateur Radio operators hand-delivered leaflets with evacuation and aid information as flood waters approached. They had earlier telephoned those near the river with warnings. Reports came from across the county — steady and clear — using 2 and 1¼-meter FM signals to link the County EOC, the City

EOC and the Red Cross with field personnel and other disaster centers.

Finally, there were the statements of community leaders. Jerry Werle — Emergency Management Coordinator for the city of Saginaw, Michigan — stated, "The RACES organization performed an outstanding service during this disaster. Its members went beyond the task of providing communication channels between the EOC and field locations. They also performed some desperately needed face-to-face communication chores for us in flood-threatened areas. One of the functions for which our entire Emergency Management Team was praised was communications — keeping the public aware of what was going on. A substantial part of this was the help we received from the RACES organization whose membership is drawn from the Saginaw Valley Amateur Radio Association."

Robert Merdler, K8AQA, Coordinator



Bird's-eye view of Saginaw, Michigan, following September flooding. (Courtesy of The Saginaw News)

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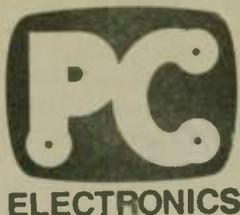
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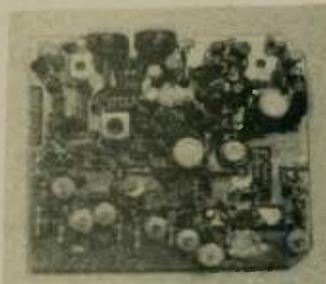
of Saginaw County's Emergency Services, reflected later upon the value of Amateur Radio saying, "We really need the hams. They were our link to organizations such as the Red Cross when phone lines were tied up."

One of the most dramatic pictures taken during the flooding shows some of the hundreds of volunteers in Carrollton, Michigan becoming one in spirit and emotion as they were physically linked passing sandbags to each other. Amidst the mud, heat and rain, they built a 5¼-mile-long dike to protect a neighborhood in trouble. In the same spirit and emotion, hams were joined to the community through their invisible radio links. □



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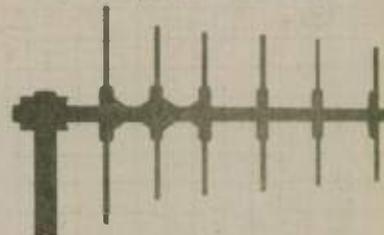
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The FCC dismissed a petition for the "creation of a new radio class and allocation of spectrum for the owners of personal radio computers" in the 52-54 MHz band, by an Order adopted 09/19/86. Filed on 10/31/85 by Donald L. Stoner (RM-5241), "The service would provide a radio alternative to the public switched telephone network for computer-to-computer communications."

The Commission based its dismissal on the lack of provision for such a service in the International Table of Frequency Allocations and that it would "... significantly and adversely affect existing amateur operators in the 6-meter band." However, FCC ended its Order with the statement: "Computer hobbyists should continue to assess various spectrum alternatives, such as portions of the 902-928 MHz frequency band, for this type of proposal."

At the San Diego ARRL National Convention, FCC Private Radio Bureau personnel discussed a possible new call sign program as follows:

1) "Routine first licensed" 2x3 letter call signs only would continue to be issued. Getting another call would never be required regardless of change of license class. 2) A licensee could buy a different call from the appropriate license class group from a private source at an estimated cost of \$20 to \$30. 3) A limit of how many calls a licensee would be allowed to have has not been decided

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by FCC. 4) A grace period at the start of the program would be provided where, for example, previously held call signs or call signs of deceased family members could be obtained by their previous owners or other licensed family members, respectively. 5) FCC would leave details of the program up to the private source, or sources which would issue the call signs. 6) The program must cost the FCC nothing. FCC's Ray Kowalski stated he was optimistic "... that we are in a position that we can go forward and ... give the amateurs the call sign program they desire." (ARRL Letter, 09/15/86; Westlink Report, 10/03/86.)

The Electronic Communications Privacy Act, S. 2575, which was approved by the Senate Judiciary Committee on 09/19/86, provides for a \$500 penalty for first intentional interception of the transmissions of public land mobile services (including cellular, older carphones and paging) and broadcast remote pick-up stations. It was expected to go to the full Senate two or three weeks thereafter. A related bill, H.R. 4952, had already passed the House of Representatives.

"... S. 2575 would make it legal to monitor the radio portion of a cordless telephone call or a tone-pager; any marine and aeronautical radio communications; any communication transmitted 'for the use of (the) general public;' any Amateur Radio, CB or General Mobile radio transmission; and any governmental, law enforcement, civil defense, private land mobile or public safety communications, including

police and fire, which are 'readily accessible to the general public.'" (ARRL Letter, 09/29/86; Westlink Report, 10/03/86)

The bill was finally approved by both the House and Senate on 10/03/86 and is essentially the Senate version but is identified by the House bill number, H.R. 4952. If any differences needed to be ironed out at the last minute, they will be reported in next month's HIGHLIGHTS.

"The Federal Communications Commission has the exclusive right ... to regulate, control and sanction Amateur Radio station operations and RFI." This was stated by the Superior Court for the county of San Francisco in its ruling when Mary Matheny, KB6CLL, "... was taken into state court by a neighbor who claimed that she was the source of irritating interference to consumer electronics." (Westlink Report, 09/19/86)

The FCC's Private Radio Bureau is interested in the challenge being launched by the city of Lakeside Park, Kentucky against PRB-1 as a result of the Thernes Case (WM4T). A spokesman for the Private Radio Bureau believes that it is in the Commission's best interest to have its preemption declarations (such as PRB-1) endorsed by a Court at the first opportunity. As I reported last month, Thernes is battling the city's ordinance against putting up a tower for his amateur station. (ARRL, 09/17/86)

ARRL's comment on FCC Docket PR (please turn to page 10)

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 October 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	Group B	Group C	Group D
	Am. Extra	Advanced	Tech./Gen.	Novice
0	NV0L	KE0IH	N0HMN	KA0YTK
1	NG1T	KC1AF	N1EKH	KA1OYC
2	NT2Y	KD2VW	N2CRX	KB2BQV
3	ND3O	KC3ZM	N3FEH	KA3QDF
4	AA4WQ	KK4AZ	N4OXC	KB4VAY
5	WR5N	KF5RM	N5JUX	KB5AYW
6	WY6F	KI6LD	N6OIK	KB6OJJ
7	NX7P	KE7UH	N7IQP	KA7ZTE
8	NU8C	KE8HQ	N8HVK	KB8AKH
9	NO9H	KE9AA	N9GCP	KA9WDZ
N. Mariana Is.	AH0E	AH0AC	KH0AI	WH0AAG
Guam	AH2Y	AH2BM	KH2CG	WH2AKE
Johnston Is.	AH3A	AH3AC	KH3AB	WH3AAC
Midway Is.		AH4AA	KH4AD	WH4AAF
Palmyra, Jarvis Is.	AH5A			
Hawaii		AH6HI	NH6HJ	WH6BLV
Kure Is.			KH7AA	
American Samoa	AH8C	AH8AC	KH8AD	WH8AAW
Ake Wilkes Peale		AH9AC	KH9AC	WH9AAE
Alaska		AL7IK	NL7JJ	WL7BLD
Virgin Is.	KP2O	KP2BA	NP2BX	WP2AFE
Puerto Rico	WP4V	KP4LD	NP4ZX	WP4GFC

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FCC Highlights

(continued from page 8)

No. 86-161 proposal to enhance Novice and Technician operator privileges said "... it would ... appear that the Commission's proposal is on the 'right track' and should be finalized essentially as is." However, the League requested the change of the proposed Novice subband at 1246-1260 MHz to 1270-1295 MHz to correspond with the existing voluntary band plan. The League also again re-

quested that two examiners be required for the Novice license tests.

The proposal includes provision for Novice and Technician J3E telephony (SSBSC) between 28.3 and 28.5 MHz. Novice use of J3E emission between 220 and 225 MHz is proposed. ARRL calculates that there's a reasonable possibility for Novice enhancement rules "... to be in Amateur Radio's Christmas stocking." (ARRL Letter, 09/15/86 and 09/29/86)

"The FCC is now issuing most amateur licenses in 17 calendar days. It was taking 30 days just last month. (You have to add two to three weeks for the application to filter through the VEC channels.)" (W5YI Report, 09/01/86)

"On September 17, Canada signed a reciprocal licensing/operation agreement with Japan ... effective 11/16/86. This is the third country with which the Japanese government has entered into such an agreement, the other two being the United States and the Federal Republic of Germany. (ARRL Letter, 09/29/86)

The new address for the FCC "Norfolk", Virginia office is: 5656 Shell Road, Virginia Beach, VA 23455-3725. (It was effective 09/08/86.) Phone numbers are: (804) 441-6472; recording (804) 363-0900. (ARRL Letter, 09/29/86)

Outside frustration over the lack of success in cleaning up a "garbage mouth net" was a situation by no means limited to volunteers in the Amateur Auxiliary, observed the Chief of FCC's Field Enforcement Division, in a recent interview. He thinks that a well-prepared case might work its way up through the system to a significant decision. To that end, he urged that the Amateur Auxiliary produce a chronology of events, observations, complaints, notices and so on for obscenity cases.

The matter should be summarized and sent to ARRL HQ where it will be checked for completeness and then forwarded to FCC's Enforcement Division Chief for action. (ARRL, 09/24/86)

Orange County, California amateurs have set up an interference committee under the ARRL Volunteer Monitoring Program as a way of solving chronic interference problems without resorting to the FCC for help.

"Members ... use only FCC-approved direction-finding methods to track down interference problems and then attempt to solve them. Included are accidental QRM such as spurious emissions, as well as deliberate malicious interference to communications. The FCC becomes involved only if the ... group is unable to independently resolve an issue, and in this way, the limited resources available to the FCC Field Operations Bureau are conserved." (Westlink Report, 09/05/86)

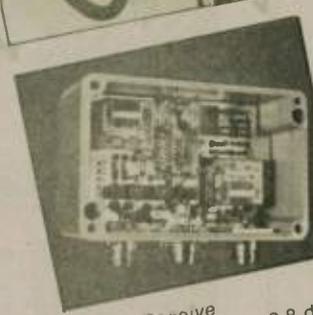
The ARRL reports that its petition for early amateur use of the 18 MHz band may result in limited access to the band on a non-interference sharing basis with the present government operations in the band. (ARRL, 09/24/86)

(to next page)

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Bethlehem, Indiana

Clark County ARC will operate W9WWI/9 from 1700Z to 0300Z, December 13, and 1300Z to 2000Z, December 14. Frequencies: 3.905, 7.240, 14.290, 21.365 and 146.25/.85. For certificate, send large SASE to CCARC, Box 532, Jeffersonville, IN 47131. □

FCC Highlights

(continued from previous page)

Debate via Amateur Radio stations by candidates for an ARRL elective office would be in violation of FCC Rule 97.110 "business communications prohibited."

Commenting on the meaning of 97.110, FCC's Special Radio Services Division Chief, advised "... what people often fail to understand is that business communications does not only deal with matters of dollars and cents; it has a broader connotation: namely, the regular affairs of any organization ... The regular business affairs ... whatever the business of that organization may be, whether it is charitable ... be not for profit ... that does not matter. If it is the regular business of that organization, then communications which furthers it are not permitted on Amateur Radio. Clearly, the ARRL is in the business of representing the interests of Amateur Radio operators." (Westlink Report, 10/03/86)

END OF MONTH LICENSE TOTALS

July	1986	August
40,282	Extra	40,455
98,240	Advanced	98,294
116,884	General	116,944
85,820	Technician	86,025
78,967	Novice	79,359
420,193	Totals	421,077

A fool can no more see his own folly than he can see his ears. — William M. Thackeray

ARRL Forum

Norm Brooks, K6FO

"I've been an Amateur Radio instructor for many years. Why do I have to pay \$25 to ARRL to register?" This was the first question asked in the ARRL Forum at the ARRL National Convention, September 6, 1986 at San Diego.

Larry Price, W4RA, ARRL President, patiently answered the question. He pointed out that the \$25 was not for registration, but for the training materials sold to the instructor at a discount. An instructor can register with the League at no charge. He or she does not have to purchase books from the League. Why register? For referrals of letters received by the ARRL from potential students.

A member asked about getting information on PRB-1 and restrictive antenna ordinances. The ARRL can help in two ways. First, there is a kit with information. It gives examples of how certain strategies were successful in other locations. Secondly, if the amateur gets into litigation, the ARRL can provide information to his attorney. If the case is one which could become a landmark case, the ARRL may become more directly involved. Most antenna problems are real-



David Sumner, K1ZZ, ARRL Executive Vice President

ly human relations problems, rather than engineering or legal problems. Being a good citizen is probably the best remedy.

Tech Advisory Committee

The ARRL president makes appointments to this committee at the recommendation of the Technical Department. This committee provides technical advice to the headquarters staff.

The Board was commended for approving the policy of awarding honorariums to writers of articles for *QST*. (please turn to next page)

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FCC Forum

Norm Brooks, K6FO

Are you happy with your call sign? Do you wish you had a different call sign, perhaps your initials, or a call you held many years ago? Maybe you need a call sign to identify a special event, such as VE7EXPO. Don't despair, help is on the way. The FCC is actually negotiating to have this done in the private sector.

Michael T.N. Fitch, Deputy Chief, and Raymond A. Kowalski, Chief, Special Services Division, Private Radio Bureau of the FCC presented a plan for the issuance of special call signs at the ARRL National Convention, San Diego September 5, 1986.

There were many people who told us the volunteer examiner system wouldn't work," Ray said, "and it is working extremely well." Today it's the only game in town. If that worked, perhaps a special call sign program administered by the radio amateurs would work. What we have in mind is the issuance of additional call signs by an Amateur Radio organization in the private sector. Of course, it will cost you money — probably \$20 to \$30.

What is a special call sign? It's a call sign of your choice. It could be a previously held call sign that is now retired, so to speak — anything other than a routine call sign.

When an application comes into the Gettysburg facility, and part of the application involves the issuance of a call sign, the computer will issue the very next 2x3 call sign (two letters, a numeral and three letters). If you're happy with this routinely issued call sign, you need



Raymond A. Kowalski (left), Chief, and Michael T.N. Fitch, Deputy Chief, Special Services Division, Private Radio Bureau of the FCC. They presented a plan for the issuance of special call signs at the ARRL National Convention.

not apply for another call sign . . . ever.

We'll have to establish some ground rules. Perhaps a limit on the number of call signs you may hold. Maybe your pocketbook would set the limit there.

If you previously held a call sign, we'd want you to have a crack at getting it back before it was available to the general public. Some of the most popular requests are for the call signs of parents', or a call sign of a deceased club member's call to become a club call. We'd want the call sign to go to the right people first, before becoming generally available.

Q & A

In the question-and-answer period that followed, the questions covered just about every subject you'd want to ask the FCC.

Why doesn't the FCC help us with the jammers on repeaters? Manpower.

Many offices have been closed and the FCC is operating with reduced forces. Most of the work is being done on the most flagrant cases. The public is not often aware of the work the FCC is doing.

The role of the Volunteer Monitoring Station was discussed. One VM said he was not called on often enough. Kowalski said the FCC will accept volunteer help from the VM program. The VM program is set up to help keep enforcement problems from getting to the FCC. The amateurs are *not* to become policemen, however.

What happens when a repeater coordinating group arises in an area that already has such a group? Which is the legitimate group? "You tell us," Ray answered. "That is the one we would recognize." This follows the time-honored philosophy of "the consent of (please turn to page 15)

ESTABLISH A HAM TESTING CENTER IN YOUR AREA

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Let's get Amateur Radio growing again!

ARRL

(continued from previous page)

Dave Sumner, W1ZZ, ARRL Executive Vice President, proudly displayed a draft copy of the new Archie comic book being prepared by the League and the amateur electronics industry. "You're the first to see this in the flesh," he said. It is going to the

printer in mid-September, and there will be 100,000 copies printed. The comic books will be distributed to high school science teachers, who will be identified by local radio clubs.

Call signs

Is the ARRL going to be the organization that will issue special call signs for the FCC? The ARRL is interested and is talking to the FCC about it.

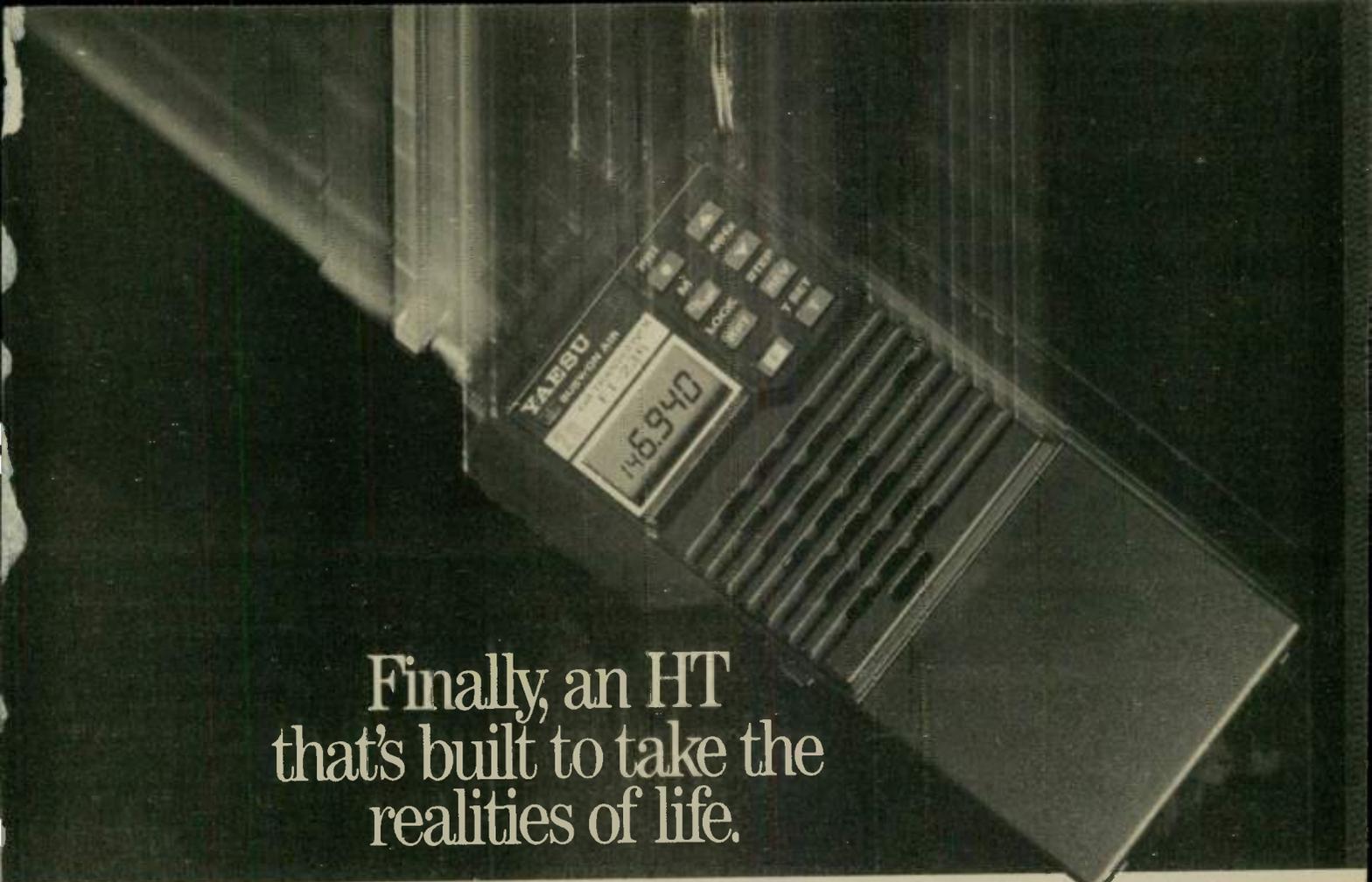
Awards

A member suggested that the ARRL has a lot of radio operating awards, but a new award should be added. There should be pins and/or certificates for people who bring new people into Amateur Radio. At present there is no incentive besides being a "good guy." This suggestion was applauded by the full house of about 400 people present. □

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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
Arizona			
Jan 17	Flagstaff	W7YS (602) 526-3370	pre-reg by 12/17
California			
Dec 6	Van Nuys	(818) 762-5095	
Dec 6	Visalia	WA6OFB (209) 733-3109	no fee
Dec 6	Riverside	(714) 780-2680	
Dec 6	San Diego	(619) 465-EXAM	pre-reg by 11/26
Dec 13	Novato	N6AQY (415) 897-8950	
Dec 13	Los Altos Hills	W6NLG (408) 255-9000	
Dec 13	San Marcos	(619) 465-EXAM	pre-reg by 12/3
Dec 16	Eureka	KB6FIW (707) 442-9245	w/i OK
Dec 20	Chula Vista	(619) 465-EXAM	pre-reg by 12/10
Dec 20	Merced	K6RAU (209) 722-7183	in advance
Dec 27	El Cajon/Escondido	(619) 465-EXAM	pre-reg by 12/17
Jan 10	Santa Barbara	W1UUQ (805) 964-7432	pre-reg by 12/15
Colorado			
Dec 12	Lakewood	W0IJR (303) 366-9689	pre-reg pref w/i OK
Dec 13	Denver	W0IJR (303) 366-9689	pre-reg pref w/i OK
Florida			
Dec 13	Miami	WN4L (305) 247-2944	w/i
Dec 20	Melbourne	WB9IVR (305) 724-6183	w/i OK
Illinois			
Dec 7	Danville	KC9V (317) 793-3573	
Indiana			
Dec 1	Plymouth	KB9V (219) 784-8540	pre-reg pref w/i OK

Date	City	Contact person	Notes
Dec 6	Muncie	W9JUU (317) 288-0481	
Dec 6	Indianapolis	KA9H (317) 241-1272	in advance
Dec 26	Mishawaka	(219) 255-3089	
Iowa			
Jan 18	Des Moines	NA0R (515) 967-3890	pre-reg by 12/15
Kansas			
Dec 5	Kansas City	NC0M (913) 262-0631	in advance
Massachusetts			
Dec 17	Cambridge	Ron Hoffmann (617) 646-1641	2-day pre-reg w/i
Dec 19	Holyoke	KO1R (203) 623-4850	
Dec 20	Wellesley	ND1Z (617) 533-6822	
Michigan			
Dec 6	Garden City	(313) 562-1243	
Minnesota			
Dec 13	St. Paul	K0QBE (612) 222-7253	30-day pre-reg some w/i
Mississippi			
Dec 6	Gulfport	W5PDG (601) 896-3884	w/i OK
Missouri			
Dec 11	Joplin	NE0F (417) 624-5231	w/i
New York			
Dec 15	Ithaca	(607) 272-3490	w/i
Ohio			
Dec 27	Ravenna	KJ3O/8 (216) 274-8240	w/i OK
Dec 27	Barberton	KA8MPH (216) 882-6387	w/i OK
Dec 28	Elyria	A18M (216) 324-4574	w/i OK
Oregon			
Jan 3	Portland	KZ7T (503) 649-5066	30-day pre-reg some w/i
Tennessee			
Dec 7	Chattanooga	AD4F (615) 266-7648	1-day pre-reg some w/i
Vermont			
Dec 6	Windsor	WB1GXM (603) 543-1389	30-day pre-reg some w/i
Wisconsin			
Dec 6	Whitewater	KE9C (414) 261-3411	30-day pre-reg w/i OK
Dec 20	Milwaukee	WD9JKZ (414) 672-7704	w/i

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BAYLARC reactivates

Esther Given, W6BDE

The Bay Area Young Ladies ARC, which went on standby status in 1982, has been reactivated and is again functioning as the YL organization of the greater San Francisco Bay Area, which covers the central and northern areas of California. Reorganized in May 1986, the group has a current membership of 60 YLs.

BAYLARC members participated as co-chairpersons at the YL Forum in San Jose during the Pacific Division ARRL Convention in early October. Many plans are underway to make BAYLARC a vibrant and thriving YL organization.

YLs wishing further information may write to BAYLARC, 628 Santa Barbara Ave., Millbrae, CA 94030. □

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the governed." Who is the governed? you ask. The repeater users or the owners? The persons eligible to establish a repeater are the governed.

Spectrum allocations came up for discussion. "Any band not heavily used is subject to being reallocated," explained Ray. "We just reallocated 10 MHz."

What is the FCC position on the sale of amateur equipment on the air? "This is a perpetual problem," answered Ray. "We have stated in letters and other

publications — stop before you discuss price. Amateur Radio is a non-pecuniary service, and when you discuss price, it becomes a business transaction. Some amateurs have said 'Show me where it says that in the rules.' It doesn't, but we draw the line on price. The big worry is that if Amateur Radio gets blurred with commercialization, you'll see more attacks, attempting to take away spectrum."

What is our government doing about the Russian Woodpecker? Very little. There are some efforts toward international monitoring, but this is a minimal activity.

There is a lot of progress being made toward hemispheric reciprocity. Kowalski was in Mexico City recently, attending the Inter-American Amateur Radio convention. The Mexicans took the lead and did most of the administrative work at the conference. A document is being circulated to member organizations, and will be submitted for final comments next spring. This agreement provides a very simple mechanism for a radio amateur to get in touch with the administration of the country in which he or she wishes to operate. However, you cannot have any instant privileges you didn't have at home. □

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IC-R71A 100 kHz-30 MHz Rcvr	949.00	Call \$
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IC-271H All Mode Base 100w	1099.00	Call \$
IC-27A FM Mobile 25w	429.00	Call \$
IC-27H FM Mobile 45w	459.00	Call \$
IC-28A FM Mobile 25w	429.00	Call \$
IC-28H FM Mobile 45w	459.00	Call \$
IC-2AT FM HT	299.00	Call \$
IC-02AT FM HT	399.00	Call \$
UHF		
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IC-471H All Mode Base 75w	1339.00	Call \$
IC-47A FM Mobile 25w	549.00	Call \$
IC-4AT FM HT	339.00	Call \$
IC-04AT FM HT	449.00	Call \$
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IC-37A FM Mobile 25w	499.00	Call \$
IC-3AT FM HT	339.00	Call \$
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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 \$
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VHF		
TS-711A All Mode Base 25w	899.95	Call \$
TR-751A All Mode Mobile 25w	599.95	Call \$
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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 \$
TH-21AT FM, HT	249.95	Call \$
TR-2600A FM, HT	359.95	Call \$
UHF		
TS-811A All Mode Base 25w	1049.95	Call \$
TM-401B FM Mobile 25w	399.95	Call \$
TM-411A FM Mobile 25w	449.95	Call \$
TH-41AT FM HT	259.95	Call \$
TR-3600 FM HT	369.95	Call \$
220 MHz		
TM-3530A FM 220 MHz 25w	449.95	Call \$
TH-31AT FM 220 MHz HT	259.95	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 \$
Receivers		
FRG-8800 150kHz-30 MHz	599.95	Call \$
FRG-9600 60-905 MHz	679.95	Call \$
VHF		
FT-270RH FM Mobile 45w	439.95	Call \$
FT-203R/TT FM Handheld 3w	259.95	Call \$
FT-209RH FM Handheld 5w	359.95	Call \$
UHF		
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El Salvador (from page 3)

an appreciation for the Latin culture that I did not have before."

San Diego, California

Saturday morning, Judy Parmigiani, N6LSO, was reinstalling her antenna, damaged in a storm three weeks earlier. By afternoon, she was net control for the El Salvador earthquake net, using her bilingual ability to its maximum.

In the first five days, Judy handled over 800 messages, including health and welfare, church business, United Na-

tions logistics, requests for heavy equipment, tarps, blankets, coordination of medical teams, requests for specific medical supplies and messages for various ambassadors.

The amateur net also coordinated the arrival and scheduling of relief aircraft through the air traffic control tower at San Salvador, to insure that relief aircraft could safely enter the war zone.

Judy's first experience in emergency traffic was with the Mexico City earthquake, when she handled an unbelievable 3,020 messages on behalf of relatives and relief organizations.

The speed of radio

According to Ted Harris, N6IIU, "Amateur Radio provides a quicker turn-around than the conventional system (i.e., telephone). We were able, at times, to get replies in as little as five minutes."

Their alternatives were the failing long-distance phone system, the mail, or the Red Cross Disaster Welfare Inquiry system — processes that would take days at best.

The heroes

All the amateurs involved are heroes, but we must especially recognize the efforts of those in the center of the disaster, such as the priests who routinely interrupted their radio transmissions to conduct funerals and perform mass.

There are many, many operators whose stories are not told here: Bernard Sternberg, AA4EE; Bob Snyder, KB1QK; John Harrison, N5BHU; Patricia Crossman, N6INN; 4U1UN; Tony Paladino, WA5ORS; and countless others. With the entire world looking on, each of them showed us what Amateur Radio is all about. □

IMRA

(continued from page 1)

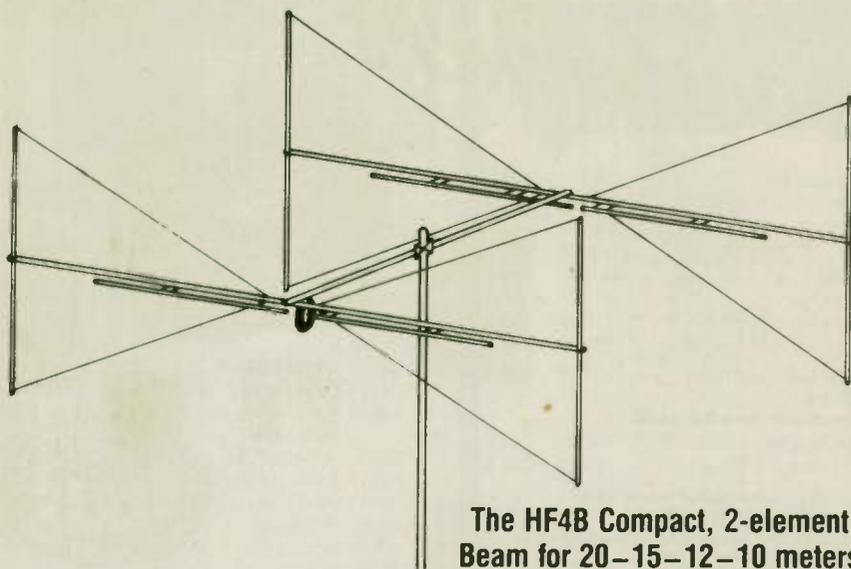
is now in the process of sending supplies. They had first requested assistance from Fr. Mullen a year ago during the Mexico City earthquake when they were unsuccessful in locating their representatives. The IMRA (International Mission Radio Association) had two members in Mexico City, and during that emergency, ran over 1,000 pieces of health and welfare traffic.

The IMRA has 900 hams in 40 countries; it is set up to help missionaries of all faiths communicate with their families. They run a two-hour traffic network in Central and South America from 1-3 p.m. Last April, Fr. Mullen received a Special Achievement Award at the Dayton Hamvention in Ohio, because of his efforts in helping missionaries around the world in communications.

The priest who is running the principal emergency traffic nets out of San Salvador is an IMRA member — Fr. Robert Reidy, YS9DZ, of Cleveland.

Anyone desiring to receive information about family or friends in San Salvador is requested to contact Fr. Michael Mullen at (718) 990-6744, Br. Bernard Frey, WA2IPM, at (914) 632-3743, or John Day, N2ACD, at (516) 437-1030. Those wishing to make donations can express their intentions by writing to: El Salvador Earthquake Fund, P.O. Box 2045, Church Street Station, New York, NY 10008. □

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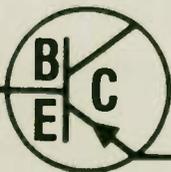


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North Pole Network

Joe Moell, K0OV
April Moell, WA6OPS

Once again this year, Amateur Radio operators around the country will take their gear to local hospitals so that the youngsters confined there will have the opportunity for a personal visit with Santa Claus direct from the North Pole. Some groups will go a step further and use video facilities to let the kids see Santa while they talk to him.

The St. Jude Hospital and Rehabilitation Center Amateur Radio Association (SJH-RC-ARA) of Fullerton, California (WD6BPT) has been involved in these activities at St. Jude and two affiliated hospitals since 1976. We have some suggestions for other groups who want to provide this well-received public service.

A new name

Old-timers at this activity say it's been going on in southern California for 30 years, and it's always been called "Operation Santa Claus." Tradition is nice, but the time has come for a new name. When we tell non-hams that we do "Operation Santa Claus" every December, they immediately think we go around collecting toys. The present name is just not descriptive of what we do.

Our TV production has been titled "Santa-Vision" all along, which is better, but still not ideal. So this year, SJH-RC-ARA will be using a new program name — the "North Pole Network." In news releases it will be called "North Pole Amateur Radio Network" for further clarity. We've even been working on some sort of logo — perhaps an NPN transistor symbol in a wreath with a mike and antenna attached. If you like the new name, we encourage your group to adopt it.

Personalize it

Everyone loves to be called by name. What could be a greater thrill to a youngster at Christmas time than to have Santa himself recognize you? That's just what happens with the WD6BPT group.

After the Santa-helper is introduced to a patient and the TV tuned in to the North Pole Network, the radio call is made: "Calling the North Pole Network! This is WD6BPT in Orange County, California. Santa, we're in room 217 by bed 2. Do you know the little girl here?"

After a few seconds, there's the sound of reindeer, sleigh bells, the cold north wind, and ... "Ho, Ho, Ho — Merry Christmas, Jennifer! How is your little dog, Rover?"

Jennifer is now an instant believer.

Santa has just established his credentials in a big way, thanks to earlier sleuthing by hospital elves. Over the past week, the nurses and therapists have quietly collected information about every patient to be visited. It doesn't take a lot — just enough to assure the youngster that Santa is for real. When Santa is on TV, all the information is in plain view in front of him in his big book.

The hospital staff loves elf work and looks forward to the hams' coming. It makes them an important part of the event. Sometimes they even sneak a little "behavior modification" into the activity. When Santa greeted one

youngster by name and asked if he was still sucking his thumb, the thumb shot out of his mouth and stayed out for the remainder of the visit.

Even some of the most skeptical kids are hooked by personalized chats with Santa. In one four-bed room, patient #1 feigned great disinterest as we came in, so we talked first to the others. He perked up noticeably as Santa greeted patient #2 by name. As Santa next gave a personal hello to patient #3, patient #1 bounced up and down in his bed and shouted to patient #4, "That's the Man! That's the REAL one!" He could hardly wait for his own turn now.

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Since many patients cannot leave their rooms in an oncology unit, it's important to be able to go into the rooms. Here Santa's helper, Winkie Sonnefield (not yet a ham), introduces St. Nick to a Children's Hospital patient.

Gifts for the kids

A little gift for each youngster is a nice touch. Some groups like to have candy canes to give out, but they risk protests from the nursing staff. Sweets may violate dietary restrictions and can be an infection hazard for patients in isolation.

For the past three years, we have given out 2 1/4" round buttons that say, "I talked to Santa on Amateur Radio." Everyone loves them, including parents and nurses, who frequently ask if they can have one, too. (Sure, if they talk to Santa!)

The best part is that the buttons are great publicity for our hobby. The patient and his entire family are reminded that Amateur Radio is the service that brought them St. Nick. In the past, we've heard ourselves referred to as "the CB group that talks to Santa

Claus." Since we started passing out the buttons, the confusion has stopped.

Include all ages

Christmas time is an emotional roller coaster for a patient with a physical disability. The joy of the season can be offset by the miseries of infirmity and loneliness. You might not think that a talk with Santa on radio or TV would mean a lot to a teenager, a middle-ager or a senior citizen. After all, the patient is old enough to realize that Santa isn't really 3,800 miles to the north. But for many in the St. Jude Rehabilitation Center, this annual visit is a real uplift.

The patient is cheered by the friendliness and heartwarmed by the fact that a group of strangers thought enough of him or her to put on a special program. Of course Santa knows some facts about these patients, too. This brings back all the wonderful memories of Christmas past. As one elderly lady exclaimed into the mike, "Santa, it's good to see you again. You and I go 'way back!"

We're not suggesting that the North Pole Network visit surgery or maternity wards. But do consider places where patients are confined for long periods of time, such as rehabilitation centers and rest homes. Try to arrange the radio link so that Santa's helpers can go to individual rooms, instead of having to herd all the patients into a day-room or lounge. Some patients cannot leave their rooms because of isolation requirements or other limitations.

To insure good coverage of each room, we put Santa right in the hospital. We use an obscure simplex frequency, rather than a local repeater. This has the added benefit of eliminating inadvertent or malicious interference.

We hope your club will be part of the North Pole Network this year. □

South says 'thanks'

The farmers from the Southern states are continuing to show gratitude to their counterparts in the North, as evidenced August 14 by Dale Cryderman, KA9EIZ.

He made contact with a ham from Dublin, Georgia — Jim Wells, W4BKK — who told Cryderman, "We were like men ready to fall over a cliff. When the trucks and trains began to arrive, we knew our herds were going to be saved. The hay saved our herds of cattle."

W4BKK wanted to thank all those who had contributed hay in the time of crisis.

(W4BKK brought this to the Great Lakes Emergency and Traffic Net, of which KA9EIZ is net manager. The information was passed on to all nets in Michigan, Indiana and Iowa — and possibly other states as well. Local papers picked it up, as the *Times Union* of Warsaw, Indiana did with this item. Tnx Dale, KA9EIZ) □

REACT needs hams

The Golden Gate Chapter of REACT (Radio Emergency Associated Communications Team) would like a radio amateur to help them as follows:

- 1) Join REACT.
- 2) Act as liaison with Amateur Radio.
- 3) Set up an Amateur Radio station at their radio watch station at San Bruno Mountain.
- 4) Run a class for Novices for REACT members.

Any radio amateur who would like to assist REACT in this manner is asked to contact Charlie Harband, 560 Darrell Road, Hillsborough, CA 94010; (415) 344-0443. — Willis Carrier, WA6HVX □

Forum speaker a big YLRL fan

Elizabeth James, KA6NZK

The growing role of women in Amateur Radio was highlighted at the ARRL Convention of the Southeastern Division in Atlanta, July 18 and 19, by activities sponsored by the Metropolitan Atlanta Ladies Amateur Radio Club (MALARC).

The club scheduled a forum on the Young Ladies Radio League (YLRL) and invited League President Jacquelyn van de Kamp, W6JGU to be the principal speaker. Van de Kamp noted the benefits of membership in YLRL and urged increasing sponsorship of foreign women amateurs in the organization by members in this country. For her, this involvement with DX-YLs has meant warm friendships and even visits to homes of women she sponsored for membership in YLRL. □

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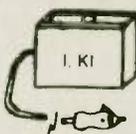
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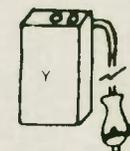


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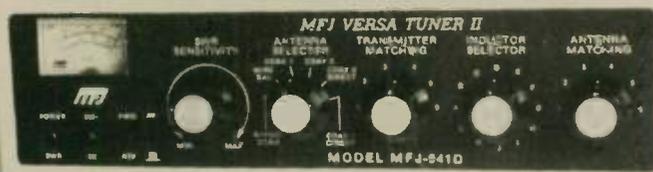
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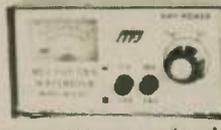
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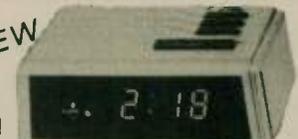


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Code matters

Part III

Loraine McCarthy, N6CIO

Last month we discussed letters and numbers that students tend to mix up in their code copy. This month, let's look at what I call "Basic Reversals." By this I mean letters and numbers that are "code opposites." This is the most common type of error that students make when copying the code. The simplest example is the letter "E" a single dit, and the letter "T" a single dah sound.

Suppose you have written down the copy "waees." This should be the word "watts." The student has reversed the letter "T" and "E". Any two letters that are opposite in code can be easily reversed. Look at the letter "A" — dit-dah, and the letter "N" — dah-dit. If you copied the word "Qund" for an antenna, would that very likely be correct? Can you pronounce this word? The Rule I use is: If you find a word that does not make sense or is unpronounceable, identify the letter that makes the least sense and change it for its code opposite. This will give you a correct word most of the time.

The following is a handout that I give students in the classes to review the principle of "basic reversals."

WORD TECHNIQUES
BASIC REVERSALS

These are letters and numbers that are "code opposites". This is the most common type of error that occurs when copying code. Some of the most common ones are:

E •	T -	D -••	U ••-
A ••	N -•	G -••	W ••-
R -••	X -••-	P -•••	K -•••-

RULE # 1: When you find a word that does not make sense or is unpronounceable-identify the letter that makes the least sense and change it for its code opposite.

Examples:

Waees	Watts	Rgn	Run
Qnd	Qnd	Gindy	Yindy
Nege	Nege	Eptra	Eptra

Words have more than one letter that can be reversed, however, usually only one will give you a sensible word that will fit the sentence context. Note that if you reversed the "g" or "e" in the example "nge" you would have "nwe" or "ngt" and neither of these produces a word.

Let's take a closer look now at what I mean by checking or scoring your work. We all have taken tests in classes. The way we improve our understanding of a subject is to score the test and see what errors have been made. Once we know what has been missed, extra concentrated study can be given to those areas. The same applies to the code.

At the end of a session of code practice, if you have properly checked your work, you will have an overview of areas that need work. When you make a mistake, write the correction above the error or omission.

For example: $\overset{x}{e}ptra \overset{l}{c}lass \overset{i}{i}cense$

Do this in colored pen or pencil. The student with this copy can see immediately that he/she reverses the "x" and "p" and the "l" and "f". Each of you will then be able to identify your problem areas rather rapidly with this process. What do you think this says? I run H80 gatts. What two items are incorrect? The sentence should read: I run 580 watts. The "H" should have been a "5" and the "g" is a "w".



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If you haven't already done so, start a code notebook and begin keeping a goals record as we discussed in Part I; and check your work. Spend a few minutes each day reviewing your progress. If you are thorough and systematic in your work, you will improve. If you are close to 5, 13 or 20 wpm and are wondering if you are ready to test, go ahead and give it a try!

Here at Radio School we have sample exam tapes available at 5, 13 and 20 wpm, as well as a variety of speed builders. Each of these 90-minute cassettes is \$9.95 plus 75¢ for postage and handling.

To order a tape you may write to me direct: Loraine McCarthy, N6CIO, 315½ Ruby, Balboa Island, CA 92662.

Next month I will discuss the final two-word techniques which I call "Final dit-dahs" and "Close Associations." Keep practicing! □

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!

Kenneth L. Frank, WB5AKI, of Copperas Cove, Texas wins this month's AMATEUR "HI" award. He'll be receiving a free year's extension of his subscription.

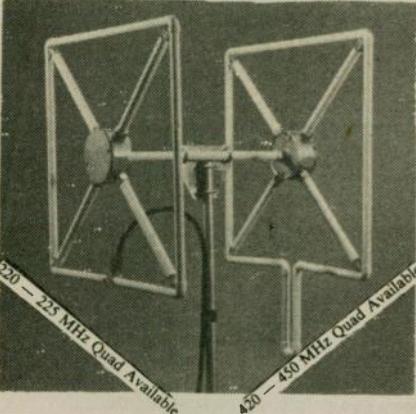
I returned to the ham bands in late 1969, after many years off the air, and due to a lack of antenna money, I had to improvise wherever possible.

I built a 2x4 wood, oil-derrick-like contraption on the roof of the house, with a 2-element quad, and it really worked fine. The structure looked quite nice after a coat of paint, but then many have said that beauty is only in the eyes of the beholder. This thing was certainly an "attention-getter" to the uninitiated.

I live on a corner, at a dead-end street, and observed many a guy and gal with their head out of the car window looking at my fine antenna, while making their turn. The inevitable came one day the wife and I were out in the yard. A YL was so intent on having a better view of my quad that she made a much-too-wide left turn up into the neighbor's driveway, over his rural-type mailbox, and stopped just short of a chain link fence.

Her only comment to us was, "What is it?" At that my XYL agreed, it was time to invest in a tower. □

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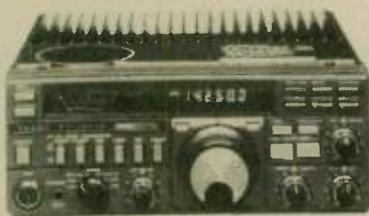
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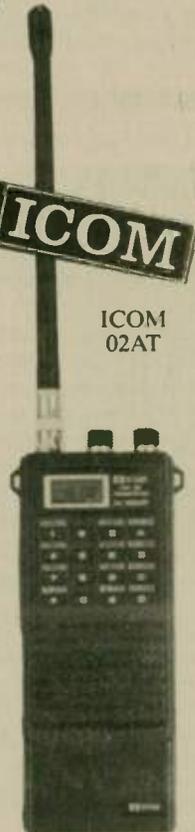
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Sri Lanka trying to reach youth

There are approximately 120 licensed amateurs in Sri Lanka, of whom only about 25 are actively engaged on the HF bands whilst about 40 are actively involved in 2M FM using a repeater station given to us by a German amateur.

The Radio Society of Sri Lanka has approximately 150 members consisting of about 50 licenced amateurs and over 100 SWLs.

The RSSL has been slow in growth over the past many years, being a country in a developing region, where the per capita income is below \$350 U.S. Many of our members either cannot afford to obtain amateur equipment or find it extremely difficult to procure parts and components for assembly. Most of the active licenced amateurs have thus been dependent on the good will of foreign amateurs for equipment and/or components and spare parts to make their own transmitters or receivers.

Over the past two years, through the kind courtesy of M. Hisamatsu, JA3MNP, of Kyoto, Japan, we have been able to obtain gifts of used or discarded amateur equipment and thus help many of our needy licenced amateurs.

We are now presently embarking on a very ambitious scheme of linking up with the National Youth Services Council in Sri Lanka, where we hope there may be some governmental support to encourage and spread Amateur Radio amongst youth in Sri Lanka. One of our biggest drawbacks is the paucity of

funds to embark on such a programme, and therefore we expect to obtain some support through the Japanese government and the Japanese Amateur Radio League who may volunteer Japanese hams to teach our young SWLs.

We have also written to many affluent radio societies in the West and the East, requesting support in terms of used or discarded equipment, transceiver kits and receiver kits, so that our efforts in introducing Amateur Radio in Sri

Lanka will be successful.

If it is possible to assist our society and our objectives through publication in Worldradio, we shall consider it a great favour, for we need the assistance of hams from affluent nations to help our cause.

E.F. EDRISINGHE, 4S7EF
Honorary Secretary
Radio Society of Sri Lanka
P.O. Box 907
Colombo, SRI LANKA

King Hussein answers students

As always, I enjoy sharing exciting Amateur Radio news with you at Worldradio.

As the culmination of a unit on Amateur Radio communications in the Middle East, my 7th grade Amateur Radio classes wrote letters to King Hussein, describing our activities.

We all went wild when the king answered with a warm response and a beautiful, personally autographed picture. The kids are more highly motivated than ever to get their licenses. What other hobby could offer such super opportunities? Imagine — speaking with a king!

CAROLE PERRY, WB2MGP
Staten Island, New York

WANTED: young hams to form net

Another 11-year-old and I are trying to form a net for younger hams. Would appreciate it if those who are interested could send their names, ages, call signs, addresses, etc. to:

JON MILLINGTON, KB6IQW
1537 Centinela, #7
Santa Monica, CA 90404

Differing opinions

Some comments on articles in your November issue:

1) *OFF THE AIR* — A.J. Meyer, KD6DB. I think that operators of any equipment in any service are considered just that — operators, be it radio or computers. Maintenance and operations people — both civilian and military (with some exceptions) have always been separate fields. So why would you expect a hobby like Amateur Radio to be any different? Some people make good operators and some don't; the same with technicians.

If he thinks the numbers are dwindling, he should listen to 20 CW or SSB; or better yet, compare a 1950 Callbook with a current one! I think the objective has been for quantity, not quality, as evidenced by the "who was buried in Grant's Tomb" type of examination questions in use.

I think the profit motive in our society is the foremost consideration. Everything else seems to be considered of secondary importance.

2) *AERIALS* — G. Beeman and B. Ray. Theoretically, the information is correct, as are Mr. Ray's comments. I think the fly in the ointment is that some assume that all these balloons you see advertised on the market are of satisfactory design and construction.

I think in the case of the doublet and

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the 1:1 balun, a bad balun is worse than none at all. In fact, below 30 MHz the value is questionable. But of course, this idea wouldn't help sell baluns.

Most amateurs, I think, would get better results just using a simple choke made out of their own feedline. One of

the biggest problems amateurs seem to have is their own refusal to read and understand antenna and transmission line information. They would rather listen to some self-appointed expert on their local net frequency, who may or may not be correct. Many amateurs do

not realize that many of the concepts they are dealing with have been well known and documented for many years.

W.H. WILEY, W6OWD
Montara, California

Discourtesy on the air

I would like to respond to your mini-editorial in the September issue regarding the declining Amateur Radio population (page 3).

Perhaps it could also be because of the big turn-off caused by the spreading cancer of the use of profanity on the air and the frequency "ownership". I find these both very annoying and have no desire to chat with others who practice such. Profanity on the air is very discourteous to whoever is listening on the other end, or anyone else who might overhear. It is illegal and I believe that those who use it really having nothing worthwhile to say anyhow.

I find that those who do it the most are Extra Class license holders or those who have had their tickets for some time and think they are untouchable. I really don't believe the use of "ass, damn and hell" have any place on the air.

The other annoyance is the feeling some have that just because they have had a schedule on a certain frequency for some time, no one else had better be on

Air Force ROTC and Amateur Radio

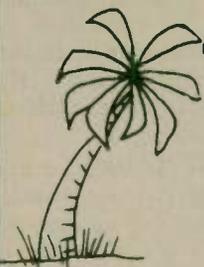
How do you promote both a hobby and a profession at the same time? That was the question I tried to answer recently. I teach the Air Force ROTC (AFROTC) junior class courses at The University of Akron, (Akron, Ohio). The first class for the juniors details communications processes and fundamentals. While this is only a part of the overall program to teach leadership and management skills, it seemed to be the best place to promote Amateur Radio as a hobby.

A quick call to the university library confirmed that, yes, they did have a short film on Amateur Radio, so on September 4, the junior year cadets in the AFROTC program here at Akron watched a 15-minute summary of Amateur Radio to illustrate the communications fundamentals and processes we were studying. While the film was a little old (1970's vintage), it was an effective presentation of the benefits

of Amateur Radio. The movie was well received, and several cadets expressed a real interest in Amateur Radio. I directed them to the University Radio Club, where they can pursue this interest further.

My original question was how to promote both my profession and my hobby. My answer was (to the first part) to teach AFROTC at a civilian institution. My answer to the second part was to keep things as interesting as possible by working my hobby in as an illustration of the subject we were studying. Like the Air Force, Amateur Radio has to recruit new members if it is to remain a viable, effective force; and like Amateur Radio, the Air Force can be fun if you will let it be. Hopefully, I have helped each of them out by combining the two areas where I could.

Capt. DONALD LOGSTON, WD8JIC
Akron, Ohio



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that frequency when it comes time for their particular schedule. What newcomer is likely to keep his interest in Amateur Radio when he runs into this kind of treatment on the air?

In our particular area, we have been

able to defeat ordinances that were being considered to limit antennas and towers by stressing the public service, especially emergency communications, that are provided by Amateur Radio. If some of the zoning commissioners heard

this type of operating on the air, I wonder if they would believe us next time.

KEITH JOHNS, KC7FS
Twin Falls, Idaho

Mystery signals invade Florida

For several months, mysterious signals have been intercepted in the small Florida city of Punta Gorda. Although a newsworthy story is not usually written in the "first person," it is believed that furnishing the information about to follow would unduly scare a reporter who might not be technically inclined.

During WWII, the writer was engaged in the discovery of numerous clandestine radio stations operated by German spies. Due to this background, I have always enjoyed "cruising" the radio spectrum just to see what could be heard. Of course, the thought has always been eminent that an enemy spy might be discovered through this activity.

The effort has payed off! A couple of months ago I intercepted a strange signal on 3750 kHz. I observed it for several days. It had a rough tone quality approximating 60 Hz but rather unstable and sidebands extending to about

20 ± kHz. No one could possibly use the frequency for communication since the signal was S-9 plus.

Unfortunately, I had no equipment capable of receiving the 80-meter band in my car, so with the assistance of a ham friend, who had HF equipment in his van, we cruised our local streets and ultimately located the illegal signal. The very day we found the source, the AC modulation was taken off and the operator quickly departed with his equipment. However, before he left, the signal became T-9 quality.

From that day on, I have cruised the spectrum on my home receiver many hours per day. So many of these signals have been heard that I finally decided something had to be done, so I purchased a battery portable covering from 150 kHz to 30 MHz.

On quiet nights I have heard these signals up to 21 MHz. Only two other ham friends have heard these signals and that was strictly because they knew what to listen for. If one is within a block of the source, these signals can be S-9 or more, and they cover distances up to about a mile.

What are they? Who can hear them? What can be done about them?

The answers to those three questions are quite clear. They are generated by certain battery chargers which use "switching" power supplies operating in the AC range of 100 to 150 kHz. The fundamental frequencies and harmonics into the HF spectrum appear to be radiated from nearby power lines. The signals can be heard by neighbors and cause serious interference to the 80-meter band and possibly 160 and 40 meters.

Only you can get something done

about this. Complain to the FCC. This problem can be really serious unless appropriate filters are incorporated in the chargers and they are being sold like hotcakes to boaters and van owners.

WILLIAM NORTH, W4BX
Punta Gorda, Florida



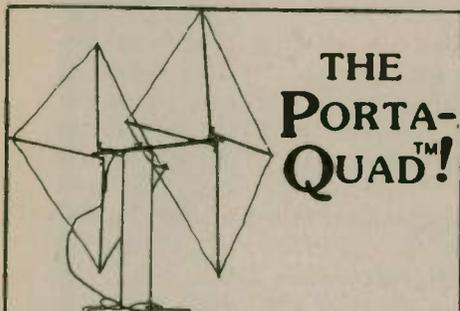
Kuni Fujii, JH1QDB/N6FZL (right), with two JAL stewardesses — Tomoyo Nakao (left) and Yukiko Watsaka (center).

Three new JA's?

Kuni Fujii, JH1QDB/N6FZL, now a flight engineer for JAL, paid a visit to the Carlsons (Sel, KA6ERF and Helen, KA6RMU) on July 15th. Kuni met Sel some five years ago while he was in training at the Japanese training facility at the Napa County (California) Airport. He saw the ham radio beam and antennas and inquired.

Contacts by radio have continued over the ensuing years, mostly by AMTOR radio through a mailbox in Australia, as well as direct AMTOR radio contacts and some by Packet Radio. Kuni visits with the Carlsons on stopovers while in San Francisco. Kuni utilizes the Carlsons' radio station when visiting, operating SSB and AMTOR modes.

On this occasion, he surprised the Carlsons by bringing along three lovely JAL stewardesses who were quite impressed by Amateur Radio. While visiting, RTTY and AMTOR radio contacts were made with Paul Wood, W8EXG in Holiday, Florida, much to the amazement and delight of the young ladies, who hopefully will take up Amateur Radio.



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Second, Computer Compatible

It doesn't matter what kind of computer you have, we have a Pakratt for you. The PK-64 works with the popular Commodore 64 or 128, and the PK-232 works with any other computer or terminal that has an RS-232 serial port. The PK-64 doesn't require any additional programs. Simply connect to the computer and transceiver and you're on the air. The PK-232 needs a terminal or modem program for your computer. The one you're using with your telephone modem will work just fine.

Fourth, AEA Quality and Price

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.

Prices and specifications subject to change without notice or obligation.

PAKRATT™ Model PK-64



PAKRATT™ Model PK-232

Third, Performance and Features

The real measure of any data controller is what kind of on-air performance it gives. While the PK-64 and PK-232 use different types of modems, both give excellent performance on VHF. The optional HF modem of the PK-64 uses independent four-pole Chebyshev filters for both Mark and Space tones, and A.M. detection. The HF option can be factory or field installed.

The PK-232 uses an eight-pole bandpass filter followed by a limiter discriminator with automatic threshold correction. The internal modem automatically selects the filter parameters. CW Fc = 800 Hz, BW = 200 Hz; HF Fc = 2210 Hz, BW = 450 Hz; VHF Fc = 1700 Hz, BW = 2600 Hz.

The PK-64 uses on screen indicators to show status, mode, and DCD (Data Carrier Detect) while the PK-232 uses front panel indicators. Both units use discriminator style tuning for HF operation. And that's just the tip of the iceberg. Features like multiple connects on packet, hardware HDLC, CW speed tracking, and other standard AEA software features are included in both the PK-64 and PK-232.

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Delta Division Convention

John Minke, N6JM

The ARRL Delta Division Convention was held at the Convention Center in Shreveport this year, the weekend of August 9 and 10 — and Worldradio was there.

The convention, hosted by the Shreveport Amateur Radio Association, was set up with exhibits by local Amateur Radio stores and other organizations such as QCWA, ARRL and 10-10, in the main convention hall, and the forums conducted in the convention annex building. The price was right for the convention — a pre-registration fee of \$1 per family.

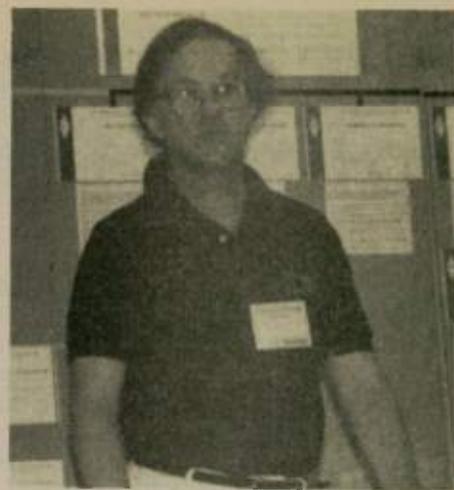
In addition to the exhibits and forums, there was an inexpensive banquet with a choice of roast beef or fried catfish, which was held at the Holiday Inn across the river at Bossier City.

About 200 amateurs attended the banquet.

10-10 International Forum

This forum was one of the six that were scheduled during the day on Saturday. Although propagation on 10 meters is poor at this time of the cycle, 10-10 International is alive and well (which should be obvious as Worldradio devotes a special column to it each month). Jim Beswiek, W4YHF, came all the way from Eljay, Georgia, to attend this one. Presider of the forum was Mel Sojka, KD5KE, of the Red River Valley Chapter.

There are approximately 205 chapters of 10-10 International, worldwide, with almost all of them sponsoring an awards program. Anyone who has tuned across 10 meters most likely will have heard



Leonard Nathanson, W8RC, ARRL Vice President, speaks at the Delta Division Convention's ARRL Forum.

the activity when the propagation has been favorable. The comment was made with which most all agreed: "If you work them all you will be a fool!"

Presently, there are about 41,000 amateurs who have applied for 10-10 numbers. (This, of course, does not mean there are that many that have remained active with the program.)

Other forums included Packet Radio and Digipeaters, presented by David Sumner, K1ZZ, from ARRL headquarters; Skywarn, presented by Ernest S. Ethridge of the National Weather Service; Repeater Linking, presented by Shelton McAnelly, KD5SL; LCARC Meeting, presented by Al Oubre, K5DPG; and AMSAT/Satellites, presented by Roger Ley, WA9PZL.

ARRL Forum

The ARRL Forum was one of the three forums that were held on Sunday. Two of them were repeats of those that were held on Saturday. Speakers at the ARRL forum included Clyde Hulbert, W5CH, Director of the Delta Division; Leonard Nathanson, W8RC, Vice President of the ARRL; David Sumner, K1ZZ, Executive Vice President and General Manager of the ARRL; Wondy Wondergem, K5KR, Section Manager of the Louisiana Section, and Al Oubre, K5DPG, Vice Director of the Delta Division.

Dave, K1ZZ, discussed the future ARRL museum that will be built about 1989 on some recently purchased land at Newington. More on this will be in *QST*, as the board of directors will be looking at its feasibility.

Dave said that they are looking at Novice enhancement to make it more attractive for the Novice to give him an incentive to go on for a higher class of license.

Delta Division Director Clyde, W5CH, reported that 32% of the total amateur population are members of the ARRL.

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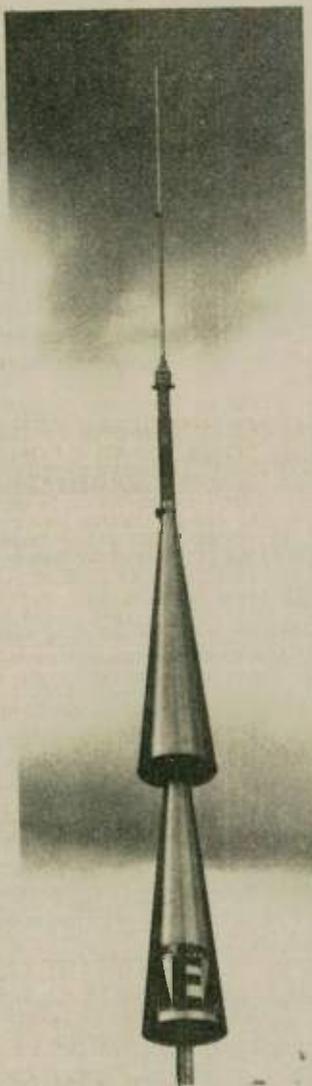
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The Hot Rod antenna can be expected to make the same improvement to hand-held communications that the IsoPole antennas have made to base station operation. **Achieve 1 or 2 db gain** over ANY 5/8 wave two meter telescopic antenna. The factory tuned HR-1 is 20% shorter, lighter and places far less stress on your hand-held connector and case. It will easily handle over 25 watts of power, making it an excellent emergency base or mobile antenna. In the collapsed position, the Hot Rod antenna will perform like a helical quarter wave. Three Hot Rods are available; HR-1 1/2 wave 2M Ant., HR-2 for 220 Mhz, and HR-4 for 440 Mhz. Amateur Net Price on all Hot Rods is \$19.95.

For either base station or hand-held operation AEA has the perfect VHF/UHF antenna. Put more punch in your Packet station with an AEA IsoPole or Hot Rod antenna. To order your new antenna contact your favorite Amateur Radio Distributor. For more information contact Advanced Electronic Applications, P.O. Box C-2160, Lynnwood, WA 98036, or call 206-775-7373.

IsoPole Specifications

Model	144	220	440
Freq. Coverage (Mhz)	135-160	210-230	415-465
2.1 VSWR bandwidth	>12Mhz @ 146Mhz	>15Mhz @ 220Mhz	>22Mhz @ 435Mhz
Power Rating	1 kw	1 kw	1 kw
Gain**	3 dbd	3 dbd	3 dbd
Radiating Element Length	125.5" (3.2m)	79.25" (2m)	46" (1.2m)
Amateur Net Price	\$49.95	\$49.95	\$69.95

**dbd — db gain over a dipole in free space

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KM50 STATION APPEARANCE

Duane C. Stradley, KM50, of Baton Rouge, Louisiana, wins our December Station Appearance award. He'll be receiving a free year's subscription.

In his letter he points out an interesting feature of his station: the cabinet is in three modules, which sit on a 5-foot desk, making it easy to disassemble.



From left to right on top are: FR-101 receiver, 12-volt power supply, two speakers, SB-634 timer/wattmeter, and a 30-amp power supply. In the cabinet (left to right): FT-101 transmitter and Heath 20036-A 2-meter FM unit; FT-902 DM with rotator control on top; above MFJ keyboard is Kenwood

TS-180S transceiver and MFJ audio filter above it. The B&W switches control three antennas and the three exciters. The Heath HA-14 amplifier is mounted above the DGM RTTY/CW demodulator, and an Ameco PT-2 preamp/switch with the Collins S-1 sitting on the floor, controlled by a foot switch. □

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International ARC in City of Lights

Chuck Martin, F/AB4Y

Amateurs in Paris have organized an international Amateur Radio club here. Chuck Martin, N4GPB, Mike Glover, K5MG, and others have started an organization with the following goals:

- 1) To support, promote and encourage Amateur Radio in Paris, with particular emphasis on the needs and special requirements of the foreign residents here;
- 2) To aid and assist in obtaining reciprocal operating permits required by the French telecommunications authorities;

3) To liaise with the local Amateur Radio community in matters of mutual interest.

Aliens operating in France, or in any foreign country, have special problems and difficulties to overcome; i.e., the language barrier, operating rules of the host country, zoning restrictions, etc. But there are many rewards to be had, as well. There are many American amateurs residing in Paris, and many hams from other countries make the City of Lights their home as well.

Paris has one operating repeater, FT1THF (THF = Tres Haute Frequence = Very High Frequency). The repeater is on 145.10/145.60, and it requires a single tone burst to 1750 Hz to activate. Packet stations are active in France, but there is no digipeater in Paris.

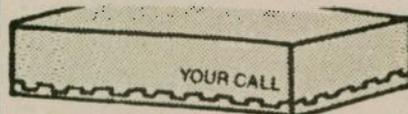
I would like to extend an invitation to any amateurs who will be visiting in Paris during the next two years. You are invited to drop by my place and visit. I have real American coffee on the boil. The address: Chuck Martin, 24 Quai Du 4 Sept. Boulougne. Telephone 46 05 69 33. □

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Willits Extra

Carmen Brand, who upgraded to Extra in late January 1986, has found a good acronym for her new call: Willits Radio 6 Carmen — WR6C. (Worldradio ran a short article about Carmen in the April issue, page 2.) □

NBC learns ABC's - and more

Well-known NBC TV newsman, Lloyd Kramer, certainly knows news when he sees it — or in this case, hears about it. Back in May of 1986, sources close to Kramer told him of a "positive" story about an inner city school. A school with a class where students actually schemed to get in rather than out. What big city reporter could turn down such a unique story?

As Lloyd Kramer learned on June 7 of this year, "unique" is nowhere near descriptive enough to let the world know about the innovative approach to teaching junior high school English that is practiced by the students at J.H.S. 22 on Manhattan's Lower East Side in New York City.

Along with the help of teacher Joe Fairclough, WB2JKJ, the Crew — as they are known to their ham friends worldwide — learn 7th- and 8th- grade English using the theme of Amateur Radio. Why? Not simply to make hams but to make a better person, a youngster with the realization that there is "life west of the Hudson." A world filled with people who care and want to know of their daily experiences, all the time communicating, learning, but using the theme of Amateur Radio to do it. Truly *Education thru Communication*, as Fairclough's class is entitled.

Kramer, along with NBC TV, took the message of Amateur Radio and its useful application in the classroom to millions of residents in the New York metropolitan area via the 6:00 news. The same folks that hear nothing but horror stories of failing schools inundated with drugs and violence. What a wonderful story for and application of Amateur Radio.



What a life some folks lead! Mike Arnold, W3YDF, of Cheswick, Pennsylvania sent this picture of his "Alleycatus lazyus", posed near an Alinco 206T 2-meter rig and an MFJ keyer.

HAPPY HOLIDAYS!

(Copies of this TV show are available for loan on VHS free from WB2JKJ and the Crew at J.H.S. 22.)



Lloyd Kramer (right) and Joe Fairclough, WB2JKJ, after the taping of an NBC-TV news show proving the value of Amateur Radio in the classroom.

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D-66	10/15/20/40/80/160	5	163	139.95

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Model	Bands	Traps	Length	Price
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VS-53	10/15/20/40/80	3	42	68.95
VS-64	10/15/20/40/80/160	4	73	89.95

*Can be used without radials
**Feed line can be buried if desired

*Permanent or Portable Use

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D-80	80 / 75	130	25.95
D-160	160	260	34.95

Includes assembly instructions, Deluxe center connector, 14 ga Stranded CopperWeld Antenna wire and End insulators.

COAX CABLE: (includes PL-259 connector on each end)

Type	Length	With antenna purchase	Separately
RG-58	50'	\$8.00	\$11.95
RG-58	50'	12.00	16.95

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AWARDS

Hiram Percy Maxim Award winner

Members of the Saginaw Valley Amateur Radio Association are proud to announce the selection of Mark Schreiner, NK8Q, SVARA's vice president, as recipient of the 1986 Hiram Percy Maxim Award.

The award is sponsored by the ARRL and involves nominations from across the nation. As recipient, Schreiner will receive an engraved plaque, \$1,000 in cash, and travel and accommodation expenses to an ARRL convention for the presentation. His nomination included citations for his service in Saginaw's Friendship Games as Communications Coordinator, his leadership within SVARA, his position as net control for state and nationally affiliated message traffic handling networks, his service as a licensing examination administrator for Amateur Radio exams and his academic achievement.

Schreiner is a 20-year-old sophomore student at Delta Community College. His major area of study is within a transfer curriculum preparing him for a degree in electrical engineering.

RCA grants award

A lower Manhattan (New York) teacher — Joe Fairclough, WB2JKJ — who decided to use Amateur Radio as an incentive for students to learn English, has been awarded a \$500 Grants-in-Aid award by the Radio Club of America. The junior high teacher had realized much success with the concept. Students scored higher in reading than other students and the problem of absenteeism dropped to near zero. (See story on this page.)

— W5YI Report

Morse code whiz

While some kindergarten students struggle to learn their ABC's, a 5-year-old Bremen, Indiana girl is communicating in Morse code and studying electronic theory. In March, Jill K. Dietrich took the FCC testing needed to get a Novice license and received a perfect score on her ability to interpret Morse code transmissions of 5 wpm. She also answered every question on theory correctly. (Thanks Howard Pletcher, N9ADS.)

— Fort Wayne Journal Gazette, IN

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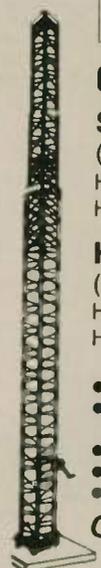
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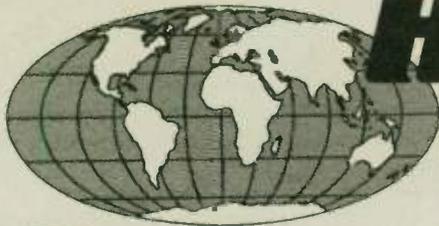
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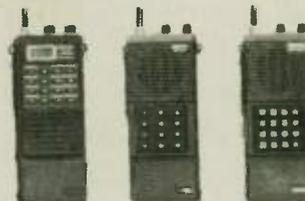
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DX WORLD

John F.W. Minke III, N6JM

6230 Rio Bonito Drive Carmichael, CA 95608

Activities Calendar

- 19 - 20 November OEVS All Austria Contest (CW)
- 22 - 23 November CQ Worldwide DX Contest (CW)
- 06 - 07 December ARRL 160-Meter Contest (CW)
- 13 - 14 December ARRL 10-Meter Contest
- 17 - 18 January MRASZ Hungarian DX Contest (CW)
- 24 - 25 January REF French Contest (CW)
- 24 - 25 January CQ Worldwide 160-Meter Contest (CW)

W-100-N

Since the rules and nation criteria for Worldradio's Worked 100 Nations Award was included in our September column, the response has been rather heavy compared to other months. Since that issue, 14 applications have been received as of October 1. Therefore, perhaps we should print this information annually during the summer.

Congratulations to the following DXers for their successful completion of the W-100-N requirements:

- 291. N5GAP Carol G. McClure (All 20M SSB)
- 292. KB1HC Robert A. Voss
- 293. W9ZGP Jerry Frieders
- 294. WA4FWH Robert L. Plunkett
- 295. W5ORM John C. Goggin (All CW)

Although this award does not carry endorsements, I do endorse the awards under certain conditions — such as all CW or all 20-meter SSB. The SSB endorsement is not available unless it is on a single band.

South Cook Islands (ZK1)

Jim Smith, VK9NS, DX Editor for *Amateur Radio Action*, reports that

Bing, ZK1XV, has returned home to Australia. During his tour at Rarotonga he had made some 3,200 contacts. He was a regular on Jim's 14.220 MHz net.

Also active from this one is ZK1XM who has been reported on both modes on 20 meters. He has been busy working Canadians on 14.030 and 14.206 MHz around 0400 UTC. And up at the high end of the band on 14.309 MHz, ZK1RE has been worked from both coasts from 0300 UTC.

Falkland Islands (VP8)

In *QRZ DX* it is reported that Bob, VP8BKK, has been reported on 21.290 MHz between 1830 and 2130 UTC. Also, a new club station with the call VP8FIR has appeared on frequency at 1730 UTC.

The new club station has also been found on other bands, such as 75 meters working Europeans on 3.799 MHz around 0600 UTC and on 14.254 MHz at 1900 UTC.

Also working the Europeans was a station signing VP8BKT, who was found on 14.227 MHz around 1915 UTC.

East Coast DXers reported working VP8LP on 75 meters between 3.784 and 3.791 MHz from 0245 UTC and up on 20 meters near 14.165 MHz around 1145 UTC.

Minami Torishima (7J1)

Also reported in *QRZ DX* is much activity from a station signing 7J1ACH. Top-band enthusiasts might want to take a listen near 1.911 MHz during the grayline periods. In September, his Sunrise was 1930 UTC and his Sunset was 0730 (now is the time to get out your DX Edge). Note that 1.911 MHz is his transmitting frequency; he listens between 1.830 and 1.835 MHz.

Well, don't go away mad if you can't get on 160. He works other bands, too. On 80 meters look for him near the band edge from 1200 UTC and also the same time and location on 40 meters.

And for the benefit of the SSB only types he also works on 20 meters. He has been reported on 14.227 MHz from 2330 to 0300 UTC and lower in the band

near 14.207 MHz working eastern Canadians around 1200 UTC.

Another station signing from Minami Toroshima is Charlie Carpenter, KA2CC. He has been reported on 14.205 MHz around 0430 UTC. These "KA" two-letter calls are U.S. military bases in Japanese territory, and are not recognized by the JARL as amateur stations. With the reciprocal licensing agreements now, most likely we will see less and less of these old "KA" calls.

Brunei (V85)

Long Skip reports much activity from this one such as V85BA on 14.190 MHz at 1330 UTC with V85HG keeping him company. A bit higher in frequency on 14.193 MHz around 1245 UTC the calls V85HT, V85IR and V85RM have made the scene.

Sixteen-year-old Sophia, V85SB, has also kept the Ontario boys happy as she has been found on 14.165 MHz after 1245 UTC.

For the European types, V85DU has been reported on 14.208 MHz around 1630 UTC.

Belize (V31)

This one is a little closer to home and if you were active in the Worldwide DX Contest recently, you may have worked V31CV. This one was operated from Ambergris Cay by Mike Rosenfeld, KE5CV.

Three other calls from Belize have been reported during September that include V31BC on 14.145 MHz at 2230 UTC working Europeans, V31NR on 14.250 MHz at 1530 UTC working into the Midwest, and V31PC on 14.133 MHz working Europeans at 2230 UTC.

North Korea (P5)

There has been some reported activity by an operator named Jeong, signing P5AGP at the lower end of 40 meters around 1330 UTC. He gave his location as Heungnam. The beam heading seems to indicate North Korea, but many of the Japanese DXers feel that this station is a pirate (Jeong is Korean for

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Slim??). So if you have a chance to work this one, do it! Worry about it later.

St. Pierre et Miquelon (FP)

This little country is made up of a couple of small islands off the coast of Newfoundland reachable by ferry. Long Skip reports that Pierre, FP4CJ, has been active on 14.003 MHz at 1245 UTC. QSL cards for this one go to Antoine Baldeck, F6FNU, 7 Res du Val, Ollainville, F-91290 Arpajon, FRANCE.

St. Kitts (V44)

This one always pops up during the Worldwide DX Contests, and most likely there was activity from St. Kitts during the recent bash. In addition to the contests at least five stations were reported active from there during the month of September.

On 20 meters SSB, V44KAR was worked near 14.283 MHz around 2250 UTC from the East Coast along with V44KT. Also on this band V44KG was worked on 14.217 MHz from the northwest at 2345 UTC, V44KQ on 14.226 MHz at 2230 UTC working Europeans and V44KI on 14.211 MHz around 2230 UTC.

Cyprus (5B4)

During the month of September, several Cyprus stations were active on the bands. These included the following:

5B4FN	14.021 MHz	2030 UTC
5B4NC	14.228 MHz	1700 UTC
5B4OA	7.052 MHz	0315 UTC
5B4OS	14.212 MHz	1845 UTC
5B4SC	14.165 MHz	1930 UTC
5B4TI	14.215 MHz	0415 UTC
5B4UN	14.173 MHz	1900 UTC
5B4LP	14.205 MHz	1830 UTC

During the recent Worldwide DX Contest there was to be a P36P, or a similar call, from Cyprus — an effort by operators 5B4LP and 4X6TT. As of this writing, that is all the information we have on that one.

Tristan da Cunha & Gough Island (ZD9)

Not much to report on this one except for Jill Repetto, ZD9CA, who was found on 14.183 MHz around 1930 UTC. This station was reported working Europeans earlier on 14.195 MHz.

Andy Repetto, ZD9BV, according to *DX News Sheet*, is expected to be active from Gough Island for an unspecified period of time. Andy was to be there by October 6, so may be active now. For IOTA types, this one will count as AF-30.

St. Lucia (J6L)

The Southwest Ohio DX Association is planning a multi-operator effort from St. Lucia from November 25 to December 2, which will include a concentrated effort during the CW Worldwide DX Contest. The operators will include

KQ3S, N9AG, NC8Q, W4CID, W8ILC, W8OK, W8PR, W9SWM, WB8ENR, and WD8IXE. The call they will be using is unknown at this time.

The SWODXA reports that this will be their sixth DXpedition for the Worldwide DX Contest. The first two were to Zone 2 (VE2) in 1982 and 1983. In 1984 they operated V2ARS from Antigua and last year they operated from HC8X and V2A (the SSB and CW portions of the contest, respectively).

Other than the upcoming DXpedition, KS3Z/J6 and KU1T/J6 have been reported from St. Lucia. Both were found on 14.223 MHz between 2230 and 2300 UTC.

French Polynesia (FO)

During September, the FO8 prefix was phased out and replaced with FO4 and FO5. It was interesting to check the reports and see these stations signing one day with an FO8 call and the next with a new FO5 prefix. Also, there seemed to be no definite date on which they all changed over.

Many of these calls were reported during the month of September and almost too many to list. For the benefit of you DXers who still need this one, we have:

FO4NG	14.011 MHz	0400 UTC
FO4TG	7.009 MHz	0600 UTC
FO5BI	14.015 MHz	0100 UTC
FO5DP	14.191 MHz	0130 UTC

FO5FO	14.005 MHz	0200 UTC
FO5GW	14.181 MHz	1645 UTC
FO5JB	14.309 MHz	0330 UTC
FO5JL	14.016 MHz	0400 UTC
FO8HO	7.009 MHz	1100 UTC
FO8KW	14.245 MHz	0300 UTC
FO8MM	14.212 MHz	0300 UTC
FO8ET	14.015 MHz	0300 UTC
FO0HH	14.194 MHz	0100 UTC
FO0ZA	7.005 MHz	1130 UTC

Most likely those FO8 calls will have been changed by now. We do not know what the FO0 calls will become or whether they will change at all. We know some DXer at Worldradio who would just love to work that FO5FO!

Colvins

Lloyd and Iris are off and running again with another YASME DXpedition. This year they left on October 1 and have dedicated it to the memory of Don Wallace, W6AM, the famous DXer who became a Silent Key a year and a half ago. Don was president of the YASME Foundation for 10 years and traveled to about 100 countries in his lifetime.

Lloyd, W6KG, and Iris, W6QL, expect to spend most of the DXpedition in the Indian Ocean area and will spend about three weeks at each stop.

Last year the Colvins made 50,000 contacts during a period of six months from countries in southern Africa. The

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first expected stop this year was to be Mauritius, which was to include the recent Worldwide DX Contest.

All QSL cards for contacts are to be sent via P.O. Box 2025, Castro Valley, CA 94546.

To make YASME contacts even more interesting and to encourage QSLing, a new YASME Supreme Award is announced. It is a beautiful YASME boat trophy and requires that QSLs for 60 different YASME calls, operated by

YASME officials, be submitted to W0MLY. There is no charge for this award.

Mount Athos (SV/A)

Most of you, I'm sure, have heard some of the rumblings going on regarding the attempted DXpedition to Mount Athos by a group of Italian DXers. The Greeks got word of it and put a damper on the whole thing as they applied for permission under the guise of a scientific study.

A lot has been printed on both sides of the issue, and perhaps we can side with the Greeks with their feelings about outsiders operating from their territory. To sum it up, I agree with the comment made by Chod Harris, VP2ML, who is the new editor of *The DX Bulletin*. Chod makes it simple, "If they're going to object so strongly to other hams operating from Athos, the Greeks certainly *better* activate it soon!"

IOTA

AS-05 Dickson Island	UZ0BWL	14.175 MHz 1815 UTC
AS-17 Okinawa	JS6BOB	21.175 MHz 1130 UTC
	JS6BLS	14.189 MHz 1230 UTC
AS-25 Kuril Islands	UA0FAA	14.181 MHz 0700 UTC
EU-16 Susac Island	4N9S	DXpedition
EU-28 Giglio Island	IA5/DL9OP	14.009 MHz 1300 UTC
EU-39 Chausey Island	FF6KQG	14.100 MHz 1100 UTC
EU-42 North Frisian Islands	DL5AE/p	7.098 MHz 1030 UTC
EU-60 Euboea Island	DL3ZI/SV	14.260 MHz 1415 UTC
EU-68 L'ile de Sein	F6DYK	November DXpedition

EU-89 Corvo Island
EU-93 Tabarca Island
EU-98 Poel Island
EU109 Farne Islands

NA-66 Santa Barbara Island
NA-80 Abaco Island
SA-09 Tobago Island
SA-23 Itaparica Island

CU9AA	New Station
ED5T1	14.004 MHz 0900 UTC
Y61Z/p	October DXpedition
G3ZAY/p	3.771 MHz 1630 UTC
G3XTT/p	7.095 MHz 0915 UTC
G6UW/p	14.258 MHz 1230 UTC
YN6W	September DXpedition
G3YCM/C6A	14.210 MHz 2030 UTC
9Y4MJK	14.226 MHz 2130 UTC
9Y4COR	14.233 MHz 2145 UTC
PT7BR/PY6	DXpedition

Out in the Solomon Islands, Bressin Hepworth, H44BD, is a new operator

operating from Pigeon Island, which is part of the Reef Islands group. No

IOTA reference number has been assigned, but probably will be shortly.

Awards

The following three awards are sponsored by the Liberia Radio Amateur Association and are available to all licensed radio amateurs for a fee of U.S. \$5 (or 10 IRCs).

Worked All Liberia Award

To qualify for this one you must work at least nine Liberian counties on at least three bands. All contacts must have been made since April 1, 1964.

Six Counties Award

This award is similar to the above except that only six counties are required and the contacts need be made only on two bands.

Work ECOWAS Countries Award

This award requires confirmed contacts with at least 12 member countries of the Economic Community of West African States, including Liberia, on at least three different bands. All contacts must have been made since May 28, 1975. The countries are (by prefix): C5, D4, EL, J5, TU, TY, TZ, XT, 3X, 5N, 5T, 5U, 5V, 6W, 9G and 9L.

To apply for any of the above awards, prepare a certified list of confirmed contacts, signed by an officer of your national society or two General Class or higher licensees, and send to: Awards Manager, P.O. Box 987, Monrovia, Liberia, WEST AFRICA. There is a separate fee for each award. Thanks to

DX News Sheet for the information on these awards.

INDEXA

Those of you involved with INDEXA should be aware of their new address: P.O. Box 363, Richardson, TX 75083. INDEXA, the International DX Association, has been responsible — along with others — for helping activate many rare ones that you may have worked. Thanks to The Carolina DX Association for the above information.

Antique QSL Department

Here we have a couple more cards from Dick Gray, WD6BCL, that he collected several years ago while he was with the American forces in Germany following World War II.



The above contact with Taiyuan in North China was made back in 1948 prior to the prefix change in Germany. Dick was using the former prefix with the call D4ADD (he would later be DL4DD). The contact was on 20 meters phone, which — of course — was the old-fashioned AM. The operator at C7TY was C.J. Chang.

The call MI3XX was assigned to A.M. (please turn to page 36)

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Checking SWR before installation is easy. Find an open area and stand your antenna with the boom vertical, reflector end down. Support the antenna with the reflector a few feet off the ground. The antenna can be held in place with light rope. **STAY AWAY FROM POWER LINES.**

This process reduces the ground effects. You can make tentative SWR checks here. The SWR may be slightly different when the antenna is moved to its permanent position. It is likely that the variation will not be significant. When you have completed the SWR check, make sure that all fasteners and connections have been properly tightened.



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DX World

(continued from page 34)

Smith in Eritrea. This, too, was an old AM contact, but this time it was on 10 meters. The date given for the contact was August 11, but no year. As we ran a card for M13US dated 1953 back in our March 1979 issue, we suspect the date



would also be in the early 1950's.

2. Another route was also given for HF0POL: P.O. Box 298, Warsaw, POLAND.
3. Cards for HS4ANH may also be sent via OE2REL.
4. Cards for JX8KY go to LA8KY via the Norwegian QSL Bureau.
5. As for all Soviet stations, cards must be routed via P.O. Box 88, Moscow, USSR.
6. Cards for this one may be routed to Y25ZO via the bureau or Y39XO direct.
7. A stateside manager is also given for this one: W4FRU.

These QSL routes are correct to the best of our knowledge, and none of them are guaranteed. Please inform us if there are any errors and we will pass the corrections on.

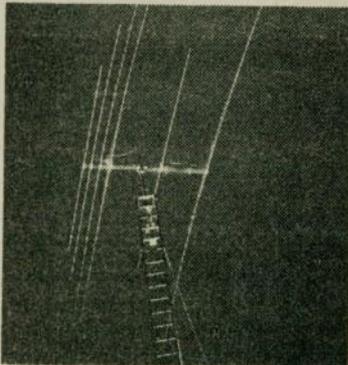
Our contributions this month include WD6BCL, N9AG, the Carolina DX Association (W4WMQ), Kansas City DX Club (AB0X), Northern Arizona DX Association, Southern California DX Club (NK6A), Northern California DX Club (W6CF), *Amateur Radio Action* (VK9NS), *Long Skip* (VE3IPR), *The Long Island DX Bulletin* (W2IYX), *DX News Sheet* (G4DYO), *QRZ DX* (W5KNE) and *The DX Bulletin* (VP2ML).

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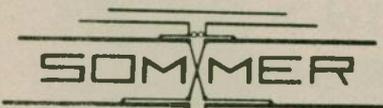


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A35JF	-G4AAL	KH9AC	-WK6T
A35KL	-ZL4QS	LA9FH	-WA3YJA
C30AAN	-DL8OH	PA6SVK	-PA3JTD
C53FG	-G4WOF	PJ0J	-K4PI
CP8XA	-DL3NAZ	TZ6WC	-DL4BC
CY0SAB	-VE1CBK	UP9A	-UP1BZZ
DK7PE/KH6	-DK7PE	V31CV	(See Note 5)
DP0GTVN	(See Note 1)	V31DX	-NA5S
ED6TI	-EA5BYP	VP5DG	-N5DD
FO5FO	-F2BS	VP6PTG	-KA5RGE
FO0ASJ	-N5DD	VQ9AM	-G4RFV
FO0MIR	-N5RM	VR6HJLL	-N4GNR
FO0XA	-F6GXB	VR6NP	-G4AAL
FP4CJ	-F6FNU	Y61Z/p	(See Note 6)
FT8YA	-F6DZU	YW1A	-YV1TO
GB2TV	-G4XEW	ZD8SB	-G4KIV
GB9DB	-G4AYM	ZD8SW	-G0DFW
GM3YOR/4S7	-GM3YOR	ZD9BV	-W4FRU
HD8G	-KT1N	ZD9CA	-KA1DE
HF0POL	-SP5PWK	ZF1GC	-VE4XN
	(See Note 2)	ZK1XM	-KB1CM
HG1W	-Bureau	ZK1XV	-VK2BCH
HG5A	-Bureau	ZL6A	-Bureau
HG6N	-Bureau	ZX7SM	-PR7AA
HG7B	-Bureau	3D2CW	-DK7PE
HG9R	-Bureau	4N9S	-YU2CBM
HL9YG	-N4GNR	5R8JD	-TU2NP
HS4ANH	-OE2DYL	5T5HL	-DL8DF
	(See Note 3)	5T5SL	-DL4VC
IK8GGQ/ID8	-I8NSK	5W1DZ	(See Note 7)
J28EM	-W4FRU	6K86AG	-WB2LVB
J73A	-N6CW	7J1ACH	-HL Bureau
JG1FVZ/5N1	-JF1EEK	8O2FTJ	-NG7X
JW6WDA	-LA5NM	8R1Z	-A22TJ
JX8KY	-LA8KY	9X5WP	-W14K
	(See Note 4)		-WB6VKD
K8UNP/PJ7	-K8UNP		
BY4SZ	-P.O. Box 51, Suzhou, PEOPLE'S REPUBLIC OF CHINA		
CP6JX	-P.O. Box 82, Santa Cruz, BOLIVIA		
FK8FF	-P.O. Box 4204, Noumea, NEW CALEDONIA		
PJ9MS	-Angus Murray Stone, All Saints Rectory, Heelsumsstraat, Curacao, NETHERLANDS ANTILLES		
TA2G	-P.O. Box 14, Emek, Ankara, TURKEY		
TA2N	-45 Tunas Street, Ankara, TURKEY		
TA2S	-45 Tunas Street, Ankara, TURKEY		
TA4A	-P.O. Box 88, Aydin, TURKEY		
TF7PS	-P.O. Box 90, Hveragerdi 810, ICELAND		
TJ1AP	-P.O. Box 50, Mbalmaya, CAMEROON		
TU2BU	-Albert Curley, Department of State-Abidjan, Washington, D.C. 20520		
TZ6MG	-Eddy Leliveld, Drontermoorstraat 70, 8226 HL Lelystad, NETHERLANDS		
V85DU	-P.O. Box 989, Gadong, BRUNEI		
V85HT	-P.O. Box 222, BSB, BRUNEI		
V85IR	-P.O. Box 85, Gadong, BRUNEI		
V85RM	-P.O. Box 191, BSB, BRUNEI		
VP6BKT	-P.O. Box 260, Mount Pleasant Airport, FALKLAND ISLANDS		
VQ9BP	-P.O. Box 3152, Spartanburg, SC 29304		
Y86WCS	-P.O. Box 118, Ilmenau, GERMAN DEMOCRATIC REPUBLIC		
YJ8RG	-P.O. Box 323, Sarina, Queensland 4737, AUSTRALIA		
YN4RC	-Bob Walsh, Casa La Salle, Apartado 78, Bluefields, NICARAGUA		
ZK2JB	-P.O. Box 181, NIUE ISLAND		
5J0FRC	-P.O. Box 1767, Bogota, COLOMBIA		
9M6AE	-P.O. Box 10777, Kuala Lumpur, MALAYSIA		
9M8GH	-P.O. Box 2870, Kuching, Sarawak, EAST MALAYSIA		

Notes

1. For contacts made after March 1, 1986, QSL cards may be sent via DL2NF. For contacts made prior to that date, send your cards to DJ4SO.

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.

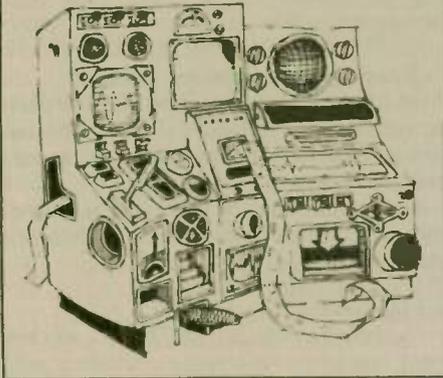
You can get a free complete set of these predictions for low angle antennas, Maximum Usable Frequency (MUF) and Frequency of Optimum Transmission (FOT). You may also request an introduction to using HF propagation predictions. Requests should be sent to W6LS, 2814 Empire, Burbank, CA 91504. Each request should be accompanied by an SASE (54¢) envelope at least 9"x11 1/2".

JANUARY 1987

UTC	AFRI	ASIA	OCEA	EURO	SO AM
0100	10.4	17.9	22.5	9.3	14.0
0200	7.6	14.5	19.0	9.1	12.2
0300	6.3	12.1	15.8	8.7	11.8
0400	9.3	11.2	13.7	8.0	11.9
0500	9.0	10.8	12.4	6.9	12.0
0600	9.4	10.2	11.7	6.4	12.2
0700	10.1	9.8	11.8	7.6	11.4
0800	10.5	9.5	12.0	10.4	10.9
0900	10.6	9.9	11.7	11.2	11.7
1000	10.4	10.0	11.7	11.8	13.7
1100	9.9	10.7	12.5	11.4	11.4
1200	9.4	11.0	12.8	10.5	9.9
1300	10.1	10.0	11.5	10.4	10.9
1400	12.5	8.9	10.4	12.0	14.2
1500	15.5	9.8	12.1	14.9	17.8
1600	17.8	11.5	14.2	15.0	20.0
1700	19.7	11.5	12.3	13.0	21.1
1800	21.7	11.0	12.4	11.4	22.0
1900	22.1	10.9	14.8	10.1	23.0
2000	20.0	12.6	18.7	9.2	23.8
2100	18.0	15.1	21.0	8.8	24.1
2200	15.9	18.0	21.5	8.6	23.3
2300	13.9	20.4	21.9	8.8	20.9
2400	12.3	20.7	23.2	9.1	17.3

Computers and Hams

Julian Macassey,
N6ARE



Finding a computer club

When you start a hobby, any sort of hobby, it is a good idea to join a club. Clubs are where you meet the pundits. You also meet people who are as confused and embarrassed as you are. Finding a club can be the tricky part.

If you are interested in radio, you usually join the local ham club. The problem is, you usually have to be "doing" radio to find out where the local club is. Sure, they have a repeater with PL on it to exclude the riff raff. If you are active on local frequencies, you will know about the "club repeater." The PL also excludes anyone who would like to join the club and ask where the meetings are.

If you read this publication, you can look up your local club listed in the club pages. But if you just think Amateur Radio sounds like a good idea and would like to know more, you are usually stuck unless you bump into a ham at the local parts store.

A radio club is a radio club. They tend to cater to all kinds: CW fiends, DXers, RTTYers, VHFers, repeater fans, builders and even packet nerds. There are specialized clubs for each facet of Amateur Radio, but the local club is a place where they can all meet and drink bad coffee. Come Field Day, they all pull together. During meetings, they may even talk to each other.

Computers are different from radios. These days, all computers do about the same things the same way. They usually have keyboards, monitors, memories, disk drives, etc. They share the same peripherals (computerspeak for "expensive accessories"), such as printers and modems. But because they all have different operating systems, disk formats and software, they are perceived as totally different animals.

The perception is somewhat valid.

Simple tasks like turning on the printer on one machine may be done a totally different way on another. Furthermore, computer owners get very religious about their machines. Each believes his computer is the world's best; any other computer is junk. Unless you are willing to supply boxing gloves, it is not a good idea to try and bring together a mix of computer owners.

If you have an IBM PC, do not ask a Commodore C-64 owner how to connect a modem to your computer. If you do, after hours of derision, you will perceive that the C-64 owner hasn't got a clue as to how to switch on an IBM PC, let alone do anything with it. He just took the opportunity to vent his spleen. To find out what needs to be done with an IBM PC, talk to another IBM PC user. Ignore the owners of other computers, even if they are your friends.

For support, relief and comfort, you need to get together with fellow sufferers. If you have athlete's foot, you will get little sympathy at the halitosis sufferers convention. Where do you find fellow sufferers? Computer clubs usually call themselves "users groups." To call themselves clubs would infer that they had fun. Clubs that take themselves too seriously and strive for pomposity often call themselves societies. Computerspeak for a club or society is a users group. It may make the membership feel better to think they are above a regular club, but the coffee is still terrible.

Users groups are sometimes half-heartedly supported by manufacturers. Some retail stores sponsor a group. Most of the computer clubs are held

together on an ad hoc basis. Many years ago, a company called Osborne produced the first portable computer. They went broke years ago, yet all over the country there are Osborne users groups.

How do you find a computer club? First of all, try a local retail store that sells your brand. Sometimes manufacturers will list an address for clubs in its literature. If you are really lucky, someone who owns the same machine as you will tell you about a local club. There are about 25 magazines for every model of computer; many clubs run small ads in the back.

A local club will have members who have had the same problems as you and can provide solutions. Manufacturers are indifferent and arrogant to owners' applications problems. If you do resolve a problem with your computer, manufacturers aren't interested. Users are. Members also have experience with various accessories and can give advice. The biggest bonus from being in a club is software.

Learning the features and applications of software is usually something the manual is not good at. A club member who uses software daily can get you going in minutes. Doing it alone can take weeks.

Another big bonus is that before you splurge on an expensive piece of software, you can talk to a user rather than a salesman. The salesman is there to convince you that the latest software is what you really need. A user has a different perspective.

The final bonus is called "free software." Every computer has tons of public domain software that is free to anyone who wants to use it. Some of this software is excellent. Most clubs archive this stuff and will give away copies if you bring the blank disk. Some clubs charge a small fee that goes toward buying more bad coffee.

The speakers that come to clubs can be other users, or industry giants and famous pundits. Of course, when you start any hobby you will understand about one word in five. But persevere; soon you will also be fluent in computerspeak. In a club environment, you can ask the person next to you what it means. Reading a magazine, there is no one to ask when you hit a difficult word.

So for real help and progress with your computer or future computer, buy a Thermos and join a club. Why the Thermos? To bring your own coffee. □

New SEC for SVS

The new Section Emergency Coordinator for the Sacramento Valley Section is Ron Wenstrom, KJ6R, of Citrus Heights, California. Replacing Ron as Sacramento County EC is Jim Pearce, N6ESV. □

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10-10 INTERNATIONAL News

Chuck Imsande, W6YLJ
10-10 19636

Sunspot Cycle 21

For those interested in following sunspot cycle activity, the World Data Center for Solar Terrestrial Physics has published a chart showing Solar Cycle 21 from its beginning in June 1976, through its maximum in December 1979, to its predicted low in January 1987. This chart shows both the predicted and observed readings of Cycle 21. It is interesting to note that the predicted sunspot numbers were in many cases lower than the actual observed numbers. The sunspot maximum for Cycle 21 occurred in December 1979 with a final smoothed sunspot number of 164.4.

Also included on the chart is the mean of Cycles 5-20 showing that the up-side of the cycle, or the increase in the sunspot number, rises very fast compared to the down-side of the cycle in which the sunspot number decreased fairly slow. Compared to Cycle 21's high number of 164.5 in December 1979, the provisional smoothed sunspot number

for January 1986 was low of 13.9. No wonder the band conditions have been poor!

Why do we worry about such things as sunspot cycle numbers you ask? Because — in the simplest of terms — the higher the sunspot number, the better propagation (or band conditions) are, particularly on our beloved 10-meter band. So, what does reading this chart tell us?

First, that the up-side of the cycle is much faster than the down-side. Second, it is predicted that in October and November 1986 the sunspot number is going to begin to increase. Third, we must have faith, as, like all sunspot cycles before, Cycle 21 will bottom out and 10-meter band conditions will improve. Hang in there!

If you would like a copy of this interesting chart, drop a #10 (business) size SASE to 10-10's Vice President, Norm Lefcourt, W6IRT, 10-10 #14981, 7713 Wilkerson Ave., North Hollywood, CA 91605.

Did-ya-know?

Did-ya-know that Mr. FourTenTen is Mike McKinney, KA3LUP, (10-10 #41010), a 15-year veteran of the Baltimore Police Department. Mike hopes to work all stations with "1010" in their number. Look for Mike on the Ft. McHenry Net when time permits.

Did-ya-know that Al Lee, W6RNX, 10-10 #92, received the new 10-10 Worked All Continents award #92! Al says that makes the third #92 for him; 10-10 #92, Keystone Chapter #15KC92, and now 10-10 WAC #92. Al's QTH is Palmdale, California and is 10-10 Net Control Station on Tuesdays on 28.800 MHz at 1800Z. Check in with Al on

Tuesdays when band conditions permit.

Did-ya-know that, if you did not receive the last issue of the *10-10 International News*, your dues have probably expired? Send \$4 to your Call Sign Manager. He'll make you an active member again and you will start receiving your quarterly *News* again.

Did-ya-know that I need little tidbits of information for this part of the column? How about dropping me a note with a bit about yourself or a 10-10 friend that fits the "Did-ya-know" category? Send it along today while it is fresh in your mind.

10-10 BARS

Bobbie Vaughan, WB7NUU, advises that she is having some problems with Bar Applications due to some applications not following the established procedure. The following are the established rules for Bar Awards:

"BARS: A Bar is awarded each time a list of 100 numbers — no more, no less — is submitted. Numbers must be in serial order, showing call sign, handle and QTH. Logbooks or copies of logs are not acceptable. Give your name, address, call sign, 10-10 number and the bar which you are requesting. SASE is required. Submit only one list at a time. Proof of paid-up membership must be submitted with each application."

Applications for Bars 100-900 go to Bobbie Vaughan, WB7NUU, 8323 W. Roma Ave., Phoenix, AZ 85037. Bars 1000 and up go to Charles Busby, KC5FX, 4621 Catchin Dr., Ft. Worth, TX 76180.

Briefly

If you would like information on how easy it is to join 10-10 and receive your own 10-10 number, drop me a note along with a #10 (business size) SASE to: 18130 Bromley Street, Tarzana, CA 91356-1701, and a packet of information will be on its way to you.

As we approach the holiday season, we wish you and yours a very happy holiday season and the best of health for the new year. And please, if you make only one New Year's Resolution, make it to tune across the 10-meter band at least *once* each time you sit down at your operating position.

Best 73 es cu next month.

Canadian CW tests

The Canadian Department of Communications has approved a plan so that amateurs in that country can give Morse code examinations.

If he passes a CW exam given by three individuals, an applicant will receive a letter stating his qualifications. The letter is used when the applicant attempts to pass a theory exam.

— Lake Area RC, Watertown, SD

CaGen Software
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Virginia Beach, VA 23452

Carey — W4HIR
Gene — N4BRA

C-64

Ham Radio Applications

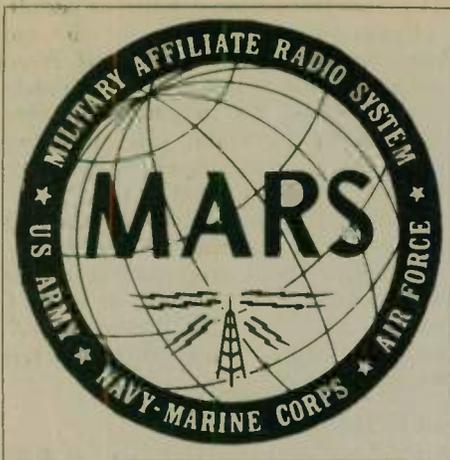
C-64

The CaGen CONTEST LOG — is a rapid-action (machine language) program for the C-64 & 1541 disk drive, with optional printer. It handles up to 2500 QSOs per disk file, producing a permanent log and dupe sheet for all contest situations. Duping is very speedy, with audio & screen notification of status. Only call and exchange information are entered by the operator. It offers many more features — see June 1985 issue of 73 Magazine for a complete review. \$35

NEW! CaGen SUPER DUPER — as its name implies, is a machine language program which provides IMMEDIATE dupe notification when the RETURN key is depressed after entering a call sign. It handles up to 2500 QSOs per disk file. You have to see it to believe it! If, after purchasing this program, you find a program for the C-64 that will handle 2500 QSOs and can be proven to us to be faster, we will cheerfully REFUND YOUR MONEY! \$35

NEW! CaGen UNIVERSAL LOG — is also a machine language logging program designed for all general logging applications. It is flexible in format, allowing for use in tracking 10-10, County Hunters, net members (great for NCS operations), general logging of daily QSOs or tracking awards progress. Its appeal is in fast retrieval and the ability to "key" searches on call sign plus any other single log item (such as name, 10-10 number, net membership number, etc.). You control its format, and its uses are limited only by your imagination. \$35

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Representing MARS at the ARRL National Convention in San Diego, California, September 5 - 7, were (left to right): CPO Roger Quinn, NNN0ASE, Director Navy/Marine Corps MARS Region 5; Larry Bronstone, AAA9W, Director Western Area Army MARS; Larry Warren, AAA9A, Chief Army MARS; and Ray Collins, AGA3C, Chief Air Force MARS.

Army MARS will test packet

Norm Brooks, AAR9NI/K6FO

By the time you read this, six complete HF packet stations purchased by Army MARS will be in place and operating.

Larry Warren, AAA9A, Chief, Army MARS was moderator at the MARS Forum of the ARRL National Convention, San Diego, on September 7. The theme of his remarks was "A New Look At MARS." He pointed out that computers are changing the way people communicate, and this is also true of MARS.

Packet

Many MARS members — especially the younger ones — have been asking, "Why don't we use packet on MARS?" Warren approached Lt. Gen. Paige, under whose supervision Army MARS falls, for authority to purchase the six packet stations. General Paige, who is an avid radio amateur, gave the go-ahead for the project.

The six packet stations are at the six gateway stations at Korea, Hawaii, Germany, Presidio of San Francisco, Ft. Ritchie, Maryland, and Ft. Sam Houston, Texas. Long-haul MARS traffic between these stations will be handled by trials of both packet and AMTOR. Air Force MARS and Navy/Marine Corps MARS have agreed that Army should go ahead with the trials. They will be given the results of the tests.

Satellites

You may recall that Army MARS announced the use of the NASA ATS-3 satellite for emergency communications. The Army method of operation did not conform to what NASA wanted, so Army MARS backed off. However, Army MARS is looking at various DOD satellites with the objective of getting MARS into satellite operations also.

Military and amateurs

Perry Williams of ARRL is asking MARS assistance in a program where ARRL will be on military posts and teach new recruits Amateur Radio. They would be licensed while they are in the service. With the VEC program, they could be tested and licensed all at once.

Young military people are trained by the hundreds of thousands. Most recruits don't stay beyond one enlistment. Think of the great number of Amateur Radio licensees that would be returned to civilian life! They would have been introduced to Amateur Radio while they are young and enthusiastic. Later would be too late.

DOD support

"I really believe there is a new look in MARS," Warren reiterated. We have the full support of the Department of Defense (DOD). They now see us as a viable support communications system, rather than handlers of morale and welfare traffic.

DOD is supporting all three MARS services in money and equipment. They have given the three MARS Chiefs the go-ahead to support the major Amateur Radio conventions — Dayton, ARRL and the other big ones. We also enjoy better support from MARS membership than in the past.

(please turn to page 47)

Are you radioACTIVE?



Dean LeMon, KR0V sure is! Dean got active in Amateur Radio when he was 16 years old and earned his Extra Class license in less than four years! "It's a fascinating hobby and a great

way to meet all kinds of new people from all over the world."

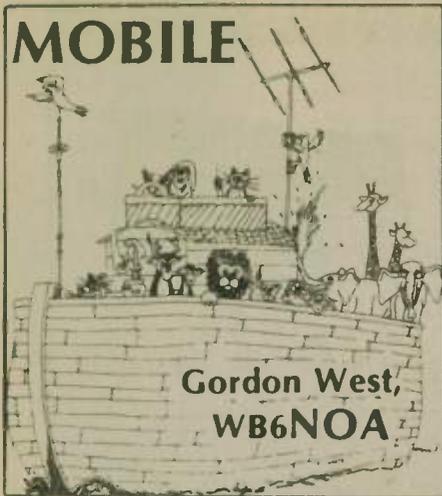
Dean has cerebral palsy and got started in Amateur Radio with help from the Courage HANDI-HAM System. The HANDI-HAM System is an international organization of able-bodied and disabled hams who help people with physical disabilities expand their world through Amateur Radio. The System matches students with one-to-one helpers, provides instruction material and support, and loans radio equipment.

Isn't it time you got radioACTIVE with the Courage HANDI-HAM System?



Call or write the Courage HANDI-HAM System
W0ZSW at Courage Center,
3915 Golden Valley Road,
Golden Valley, Minnesota
55422, phone (612) 588-0811.

MOBILE



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.

A simple ground test

This past year I received many letters about several different problems with mobile and marine Amateur Radio installations. By far the largest problem area is the amount of ground necessary for a high frequency, single sideband, 2 MHz to 30 MHz boat and mobile home installation. Almost everyone asks, "Isn't there an easy way to test how much ground I need on my boat or at my cabin?" Yes, there is a very easy way to check your groundplane capacity. Read on!

For the proper distribution of RF currents on your antenna system on medium frequencies between 2 MHz and 30 MHz, you need at least 100 square feet of groundplane to act as the counterpoise. This 100 square feet of groundplane also applies to your home 5-band trap vertical that is presently only using a couple of 1/4-wavelength radials on each band. Will the addition of more ground counterpoise give you a better signal? Indeed, and you would be surprised as to how easy it is to see how an "optimum" ground counterpoise system behaves on your present antenna network.

A good ground counterpoise system is developed through the use of 3"- or

4"-wide copper foil. For boats, the foil is best placed below the waterline in as many areas as possible to develop a capacitive coupling to the sea water. If your underwater through-hulls all have a green bonding wire attached to them, you can go ahead and parallel the foil and hose clamp the foil to each through-hull for a direct connection to the sea water.

It's also a good idea to pick up stainless steel tanks below the waterline for additional ground potential. On sailboats, tapping into, or attaching to, a lead keel or keel bolt is an excellent way to achieve a massive groundplane system.

On vehicles, your groundplane is the skin of the vehicle, and there's not more that you can do to improve upon the massive ground counterpoise you already have.

For temporary cabin and home installations, you can add 1/4-wavelength ground foil strips as well as attach ground foil connections to your aluminum rain gutters and down spouts.

If practical, you can also use copper or bronze screen to dramatically add more square feet to your ground counterpoise system.

All of these ground systems must be attached directly beneath your antenna system. Whether your boat is using a tuned backstay or individual resonant whips, the ground counterpoise system must be developed directly under the whips in order for them to achieve resonance. Never can you run wires to interconnect ground counterpoise foil and screen systems.

What all this grounding does is dramatically lower the take-off angle of



Whip base on stanchion

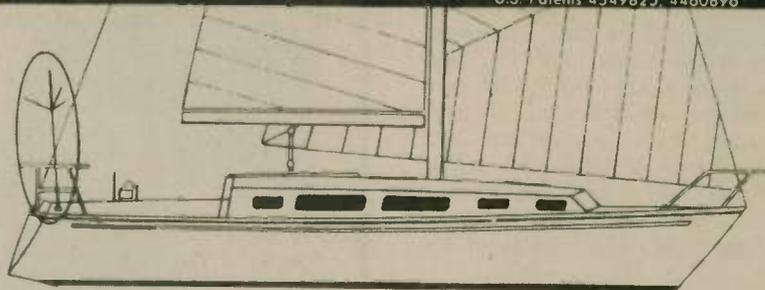
signals entering and leaving your antenna system. The more groundplane you add, the lower the take-off angle and the better DX you're going to get.

The ground counterpoise also will help resonate stubborn whips that never seem to achieve resonance despite all the trimming and cutting you may do. The more ground you add, the better the radiation pattern on your antenna system, and the better your skywave and groundwave results.

Now here's my secret for a simple test

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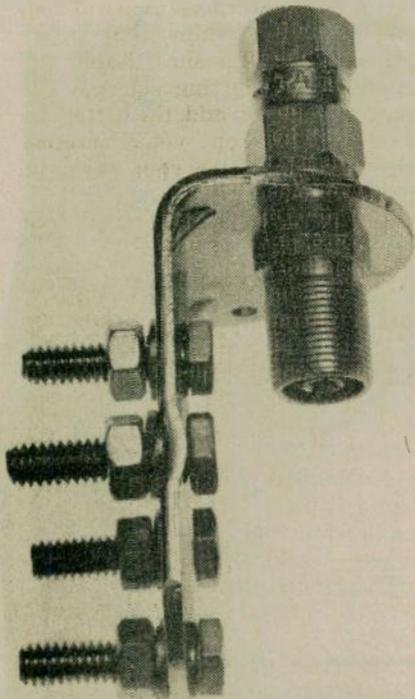
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as to the adequacy of your ground system aboard, first, boats. Buy a single roll of aluminum foil. Securely wrap the foil around the feedpoint 1" below where your antenna radiator begins. On whips, this is where the whip is mounted on a stainless steel stanchion. On automatic, pre-tuned, backstay antennas, the foil is added to the tuner ground lug. On long-wire systems where the tuner is located right beside the transmitter, the foil is added to the back of the tuner.

Now take the roll of foil and toss it overboard. Let those 25 yards of foil disappear into the briny deep and listen as the signals will build on your receiver.

Now establish communications with a local groundwave station, or a skywave stations hundreds or thousands of miles away. Now conduct your comparison — first transmitting with your ground foil that's dangling in the water connected to your feedpoint ground connection, and then quickly have someone pull the foil off your ground connection and see what the system looks like with your present ground. If there's absolutely no change in the transmission and reception, your present ground system is adequate. However, if the station reports that as soon as you removed the ground connection from your feedpoint your signal dropped a certain number of S units, this points out that your present ground system is inadequate.



A good rail mount for sailboats

The ground-on, ground-off, ground-on test must be done almost instantly so you don't confuse strong and weak readings with normal gains and fades of band conditions that rise and fall many

times in a minute.

A great way to run this test is to have someone remove the ground foil that's dangling in the sea water on the even numbers as you count from 1 to 20. If you count nice and fast, and if your friend is quick with putting the foil on and off the feedpoint ground connection fast, you should be able to not only receive reports about your increase in signal strength, but also hear the difference as the ground foil is quickly added and detached on receive.

Same procedure on home installations — although you'll need some sort of local communications to tell your friends on the roof when to add and take off the ground foil. Aluminum foil is quite inexpensive, and you can test with four rolls of 25-yard aluminum foil layed out in four different directions quite easily. These non-resonant, large surface area, ground counterpoises should really make the difference in lowering the take-off angle of your signal.

An important note if you are using the new ICOM AH-2 automatic antenna tuner or the ICOM AT-120 marine automatic tuner: the metal mounting stubs for attaching the tuner to a metal surface are not connected to the ground side of the tuner. You must go directly to the ground tuner lug in order to make the groundplane connection.

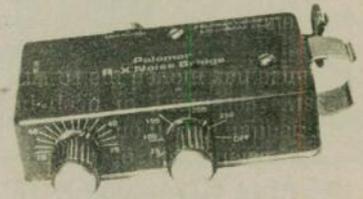
A good ground system is realized when the throw-overboard foil makes no appreciable difference as to your groundwave or skywave signal. This means you've achieved, with your present system, as much ground capacity as necessary to give you a good low angle of radiation. Pat yourself on the back if it makes no difference.

For very temporary maritime mobile or portable installations, you can bring along aluminum foil and simply throw it overboard or run it out in the bushes in order to effect a suitable counterpoise. When I go on weekend boat trips with friends, I always bring along my rig, my 4-band Valor multi-band antenna and several rolls of aluminum foil. When we get to where we're going to anchor, the foil goes overboard, and I'm on the air almost instantly.

The conductivity of aluminum foil is so close to copper that it's a great way to give your counterpoise system a try. If the results are as dramatic as I think they'll be, switch over to an internal copper system, and you're ready for some great DX aboard your boat, at your house, or at your temporary cabin out in the boondocks.

Thanks for all your letters this year, and I hope to continue next year with informative articles on maritime and mobile operation as well as equipment installation and equipment reviews. See you next year! □

R-X NOISE BRIDGE

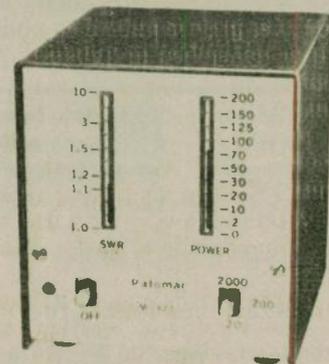


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The Palomar R-X Noise Bridge tells you if your antenna is resonant or not and, if it is not, whether it is too long or too short. It gives resistance and reactance readings on dipoles, inverted Vees, quads, beams, multiband trap dipoles and verticals from 1 to 100 MHz.

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MasterCard

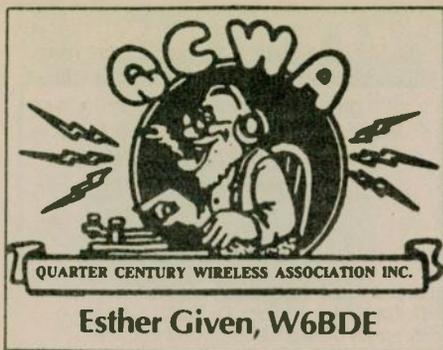
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The Quarter Century Wireless Association is fast approaching a milestone. As its 39th birthday looms at the end of the year, so does its enlistment of member #20,000. History tells us that QCWA's very first meeting, held in New York City on December 5, 1947, had 33 attending from the greater New York area and one from Connecticut.

This get-together was the result of a November 14, 1947 round-table QSO on 10 meters where six "old-timers" felt there should be an organization of hams licensed for 25 or more years. In the short three-week interval, they had spread the word and QCWA was born. At the second meeting 20 more interested participants had joined, making a total of 54. Charter membership was cut off at that meeting's end. To-

day, 13 of those charter members are still among us.

QCWA members are assigned a number upon joining. This numbering system started with member #1 in 1947 and as of this writing, is mighty close to the 20,000 mark. Of these 20,000, many have joined the ranks of Silent Keys; others — for whatever reasons — have let membership lapse. In spite of these losses, QCWA can proudly claim that 50% of its total membership over those 39 years are still active members.

As noted frequently in this column, QCWA membership requirements are few. An applicant must have been a licensed Amateur Radio operator 25 or more years ago and must be able to verify such issuance by Callbook listing, photocopy of original ticket or other valid proof.

The licensing need not be 25 consecutive years, but the first must be 1961 or earlier. As of January 1, 1987, anyone first licensed anytime in 1962 or before is eligible for membership. The actual anniversary date need not be

reached. It's the year that counts. Application forms are available from any QCWA Chapter secretary or QCWA Headquarters, 1409 Cooper Dr., Irving, TX 75061.

Five QCWA officers and directors attended the ARRL National Convention in San Diego in September. One of the extracurricular highlights was dinner at the Grosvenor Inn where QCWA will hold its 1987 convention the first week in October. San Diego Chapter 14's convention planning committee has made excellent headway in preparing for next year's event. Committee members include, Thurman Beach, W6OOX; Warren Simmons, W6MI; Smith Carter, WA6JQM; Robert McDonald, KE6VB; George Mitchell, K6ZE; Jack Phelan, W6FH; and Ray Nichols, W7LFU.

Currently, QCWA boasts 158 chapters throughout the world. Most of them take great pride in honoring their members who have achieved goals or accomplishments for which QCWA recognition or certificates are available. Space does not permit us to list these awards each month, but we join friends and well-wishers in congratulating the recipients. When we hear of happenings of distinctive significance we try to bring them to our readers. This month we salute the following:

PELICAN CHAPTER 128, St. Petersburg, Florida, honored two of its founding members — Bill Franklin, W4KC, and Reg Iverson, K4QZ — each of whom were presented awards for having achieved 70 years of Amateur Radio service. This may be the first chapter to boast two 70-year hams.

BATON ROUGE CHAPTER 109 in Louisiana also presented a 70-year QCWA certificate honoring Ernest McNeal, W5MI, who was actually on the air in 1911, five years before amateur calls and licenses were issued.

GERMAN CHAPTER 106 celebrated its 10-year Jubilee at Bad Bentheim where the DNRT (Dutch-German Border Meeting of hams) was held.

NORTHERN LIGHTS CHAPTER 92, Anchorage, Alaska, honored Mary Olendorff, KL7BJD, with honorary life membership in the chapter for her tireless work in maintaining communications among the amateur operator fraternity during Alaskan pioneer days.

CENTRAL NEW JERSEY CHAPTER 138, presented their annual Elmer of the Year Award to Gerald Silverman, WB2GYS, for outstanding work in helping bring new people into Amateur Radio. □

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ICOM/Kenwood/Yaesu Newsletters - currently renewing for 1987. The response is overwhelming! Be a part of one of the world's largest information sources for Amateur Radio equipment — Subscribe Now!

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Now you can wear and display your call, name and your club name on a high-quality T-shirt for only \$10.00. Your call, name and A.R.R.L. logo (if desired), printed on shirt front, with club name printed on shirt back. Shirts (sizes S,M, L,XL) are available in light blue, light yellow, beige (tan) or white. A.R.R.L. logo available in 2 1/4" x 5" or 1 3/8" x 3" in red. Lettering is available in two styles — Ivy Open or Sportswear — and the following colors: black, royal blue, maroon, brown, green, red, or orange. For individual orders please add \$1.50 shipping and handling. Club orders (would prefer quantities of 10 or more) are shipped postpaid.

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High quality golf shirts available, printed one side \$12, both sides \$14.

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Pomona, CA 91768
California residents add 6% sales tax.

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(+) • Call (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.
WA6WYI 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/R
P.O. Box 661, San Pablo, CA 94806
Meets 2nd Sunday at 9:00 a.m.
Hickory Post Restaurant/Lucky Lanes
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.
Wawoha Middle School; 4524 N.
Thorne; Fresno. W6TOR 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 N6IYU, 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 Dave Tykol, WA6RVZ, Club Liaison,
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.

Tahoe Amateur Radio Association
Meets 2nd Saturday/monthly. 1200 lunch, 1300 mtg.
Zephyr Cove Library. Contact Jim Leitner, WA6VKL
Rptrs: 147.24+; 146.85-; 442.475+; 145.60 Simplex —
K6GZK System.

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

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 Megacyle Society (RAMS)
Meets: Irvingwood/Acacia Church
3900 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 — K3NOO/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.
P.O. Box 131, 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, A18S (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, KABCAS, 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 — 146.1070
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 Klub (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. Geneal 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



One of the abiding principles of QRP in particular and Amateur Radio in general is KISS — Keep It Simple, Stupid.

But some recent developments indicate the KISS principle is being kissed off in some otherwise outstanding construction articles of more than passing interest to low-power enthusiasts and homebrewers.

That they appeared in another magazine is irrelevant, as are the names of the authors, for the point of this month's column can be made without identifying either. And it just as easily could have happened in this column as elsewhere.

The first article appeared in the fall of 1985, and it was on a 40-meter, CW transceiver with a direct-conversion receiver — a project the magazine touted as uncomplicated. It was a club construction project, and several rigs were built under the direction of the author.

The receiver section, indeed, was intriguing in that it was an updated version of an earlier design, and it had a tunable bandpass filter section, which made it even more attractive. Closer inspection, however, showed the design called for five precision (1%) resistors in the bandpass filter, and they were of oddball values such as 19.6 ohms.

A letter to the author of the article produced a warning that the values called for were a must: "Substituting nearby values will change the bandpass filter, and the results will be unpredictable."

Jumping ahead to the early fall of 1986, we find the second article in question — this one on an interesting, compact receiver design that would be ideal for portable operation. It called, however, for a particular crystal filter among the otherwise readily available components.

The thing these two major articles have in common is that certain components are specified but without naming a source for them, and this is a bad practice for Amateur Radio.

It is not disputed that the bastard-value, precision resistors are the ones needed to make the bandpass filter work properly. After all, when one sets sights on a given bandpass frequency and has standard-value capacitors available, the

formulas for those circuits will yield oddball values for the resistors.

But a 19.6-ohm, 1% resistor is not something the average homebrewer can expect to find hanging on the wall of a neighborhood Radio Shack. And a check of the catalogues of a half-dozen mail-order houses failed to produce the non-standard resistors among the more sophisticated components offered.

None of this, of course, prevents the builder from a "roll-your-own" effort of combining standard-value resistors in series and/or parallel and coming up with the proper values. But even that approach apparently was not contemplated by the author, since the printed-circuit board pattern for this transceiver provides room only for *one* resistor for each of the five precision components in the filter.

It has been traditional in articles of this nature to suggest either a source for the required components or list a combination of components which, when connected in series and/or parallel, will yield the mandated value.

As for the crystal filter in the second receiver article, that also emerges as an esoteric part far from being readily available. And again, no source is provided, although the author does list the manufacturer and the part numbers.

These two construction articles have

another thing in common: They are available in kit form from commercial sources. However, unlike other construction articles also available in kit, the critical components are unavailable individually.

Inquiries to the first kit source produced a letter saying the precision resistors were not for sale separately, although PC boards and the other standard components are part of the company's routine catalogue offerings. The second company flatly refused to sell the PC board or any other component separately; it's all or nothing.

The inequities of this situation are obvious, and they are especially hard to fathom, since the magazine involved has for years urged build-it-yourself projects as a key to the future of our hobby.

Imagine the frustration to the newcomer to Amateur Radio whose interest in finally trying his/her hand at building something has been whetted and then dashed when confronted either with hunting for components not readily available or having to buy a commercial kit.

This is not to knock commercially available kits, for they are a fine way to go, especially for the beginner. But there are many who realize the savings from and the personal satisfaction in assembling components and building on their own. Not having a readily available source of supply of components thwarts both.

And there is questionable merit in a highly touted construction article which calls for components not routinely available except through the purchase of a full kit. If nothing else, it raises the serious question of the article's real intent: encouraging home construction or the sale of the kits. □

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The future of our hobby certainly is with our young people, and we are finally getting around to promoting it to the coming generation. I had just turned 16 when I got my first FCC ticket, and it has been in force continuously for 54 years. My hobby has been very good to me. It got me my Radiomart Third Class rating in the Naval Reserve; later it took me from the Infantry to the Signal Corps in World War II, and after that provided me with a year-long trip to Africa. Amateur Radio has had a big effect on my life in general.

I made the trip to Africa with the Gatti-Hallicrafters Expedition first because of Amateur Radio and second because I was a photographer. Bob Leo, W7LR, and I shared the Amateur Radio operation, and it was fun!

So I want to promote Amateur Radio to our young people, because they can get a lifetime of enjoyment out of it.

In the last issue of *Worldradio* you probably read about the Youth Forum Astronaut Tony England, W0ORE, held at the National ARRL Convention. Well, taking a clue from the big League affair, my club — The Red River Radio Amateurs, Inc. — also sponsored a Youth Forum with Doctor Tony when we hosted the Dakota Division convention. And what a job Tony did for us!

I somehow wound up with the publicity chores for the convention; so instead of holding a simple press conference where the TV, radio and newspaper people could pepper Tony with questions about the space race, I had Tony meet the press in the radio club ham shack at Agassiz Junior High School in Fargo, North Dakota, where Mike Olson, KI0E, is a science teacher and club advisor.

It worked like a miracle. All the TV stations gave us great coverage. Tony talked to the young radio club members while the cameras rolled. For Tony it was a homecoming, because he had been a student in that very school and got his interest in becoming a scientist aroused

during the Agassiz period of his life.

The next day Tony held the Youth Forum at the convention hotel. About 150 youngsters turned out to watch Tony's presentation of film and slides as well as ask him questions about science as a career, Amateur Radio as a hobby and space exploration as a way of life. It was fantastic! What a great job he did with those kids. They asked him all kinds of questions, but the one that tickled me was a little girl's query: "Were you scared?" It got a laugh from the others.

The upshot of all this is our club's fall class of Novice candidates is bigger than ever. Later that evening, Tony spoke to the convention banquet audience, and he held them spellbound with movies of his space trip and his Amateur Radio activities aboard the shuttle. It was the perfect program for a fine hamfest gathering.

As part of the convention educational program we put on three hours of digital radio for beginners. We covered steam RTTY, AMTOR and basic packet operations. We also demonstrated bulletin boards, digipeating and message handling. The turnout was excellent and the questions from the floor indicated a lot of interest in digital communications.

One DXer brought up this question: "Don't packet operators on 14.103 MHz realize they are interfering with the 14.100 beacon program?" Well, a lively discussion followed, but like all discussions of that kind, nothing concrete ever comes out of it. I didn't realize such a problem existed. If you have any comments on this, I would like to see them.

Our close proximity to Canada brought down a batch of VE hams. The Canadians scooped up a pile of TNC units from the dealers who exhibited at the convention. One dealer told me 80% of his sales went to our northern neighbors. Packet was a hot item at the trade show booths.

One Canadian, obviously mad at packeteers gradually moving higher and higher into the Canadian phone band with their buzz saw sounds, made two speeches against the practice. The first was at the packet session and the second was at the ARRL Forum. Here again nothing solid was decided, but it made for a lively discussion. What are your feelings on the subject?

I spent a Sunday afternoon on 14.103 watching the packets flow back and forth on that frequency. What a jungle. Perhaps it should be called a "Retry Jungle," as people try and communicate through all the thousands of retry calls, acks and the like. I managed to work an F6 and an EA1. When I use the word "work" I use it loosely, for about all I got out of the QSO was "****CONNECTED TO..." and one or two lines like "Hello from France." The rest of the QSO went down the drain when the packet machine retried out on me.

I looked back through the RX buffer at just what had been going on the frequency. Most of the monitoring was nothing but calls — hundreds and hundreds of calls with very few answers. So, on 20 meters I feel we have a very good system which is choked up on its own protocol. Shouldn't we have a calling frequency and then move to another nearby QRG for chatting? We need some operating practice designed to advise the other party where to go, and do it in one or two very short packets. Perhaps a Q signal especially for such use would be in order. I've tried to tell another station where to move to, but lose contact through retries before I get the job done. I even feel that 10 retries (the average default setting) is too long. So here is another problem for discussion. What do you think?

The bulletin board network of auto-forwarders has changed frequency again. For a few months I had a bulletin board running, on a part-time basis, and it worked great. I was able to pass traffic to some of my DXing steam RTTY buddies by using the gateway feature and auto-forwarding on 2 meters. Super system to say the least.

But other interests caused me to take the BBS down for a while, so when I returned to the frequency I discovered that most of the BBS operators accept connects only from other BBS stations. The main link to my East Coast DX friends had moved to California and I was unable to find a suitable station to do the job, so I just listened. After monitoring the BBS frequency for a while, I did not see much traffic; it consisted mainly of housekeeping messages. I guess that is progress.

For a long time I have been getting my OSCAR tracking Keplerian elements by packet radio, but now I use the AMSAT telephone BBS in Indianola, Iowa. Operated by Ralph Wallio, W0RPK, it is

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impossible to get the latest AMSAT news and Keplerian elements in about six minutes. The information is updated every Saturday. The BBS, as I understand it, is only available on off-business hours, so don't log on during the day. The phone number is (515) 961-3325. On the first call you must leave your name, call sign and AMSAT number. Then, a day or two later, you will be able to access the board. It works great!

Eavesdroppings

"THE FIRST STATION I WORKED ON RTTY WAS ALSO MAKING HIS FIRST CONTACT ON RTTY. NEITHER OF US KNEW WHAT BUT-TON TO PUSH." ... "IF I CAN TYPE AHEAD INTO THE BUFFER, THEN WHEN I XMIT I CAN KEEP AHEAD OF THE CURSOR AND DON'T GO INTO STRESS!" ... "RST 599 HERE IN SANDBOX, OKLAHOMA." ... "HOPE TO MEET YOU HERE AGAIN IN THE FRIENDLY MODE." ... "I AIM AT THE RIGHT KEY, BUT I HAVE TO TAKE WHATEVER COMES OUT." ... "THE NAME

MARS (continued from page 39)

Interoperability

"We will not have one MARS in a purple uniform," declared Warren. The three services have different missions. But we will be interoperable. When we showed General Paige our Interoperability Manual, he ordered, "Send a copy of it to Washington, D.C. to the Joint Services Interoperability Committee. Put on a note — If MARS can do it, why can't you?"

There are still some rough spots, however. Some states have said, "We're not going to do it." In the future, they will. Interoperability is a must in case of major emergency.

Air Force MARS

Air Force MARS was represented by Ray Collins, AGA3C, Chief Air Force MARS. He stated, "Any organization is only as good as the young people coming in." Since the audience was predominantly MARS members, he said he felt like he was "preaching to the choir."

Air Force MARS is getting into interoperability between the three MARS services, plus ARRL and other agencies. He knows packet is the coming thing, and Air Force MARS is thinking about it. Affiliates are authorized packet operation on experimental nets.

Navy/Marine Corps MARS

Art Delperdang, Chief, Navy/Marine Corps MARS was not able to be present at the forum, as he was tied up at another conference. He was represented by CPO Roger Quinn, NNN0ASE, Director Navy/Marine Corps MARS Region 5. □

HERE IS TOM TOM AND I'M A PROFESSIONAL MUSICIAN." ... "MY WIFE CONSIDERS HERSELF A COMPUTER/RADIO WIDOW AND SO SHE AVOIDS COMPUTER/RADIOS." ... "FORGIVE ME FOR MY SPALING — I'M IN THE USA ONLY 14 YEARS. SPEEK HUNGARIAN PERFECT." ... "THE BIGGEST DETRIMENT TO HAM COMMUNICATIONS IS THE KILOCYCLE KOP WHO RUNS UP AND DOWN THE BAND ORGANIZING THINGS." ... "I HAD BETTER GET OUT OF HERE BEFORE SOMEBODY COMES AND KICKS MY SOAP BOX OUT FROM UNDER ME." ... "I

THINK I HAVE THE PROBLEM IN MY C-64 FIXED, IT HAS BEEN WORKING FOR OVER AN HOUR."

Paul Linnell, WA0QBN, is looking for a CP/M bulletin board program to run on his packet lash-up. Any helpers?

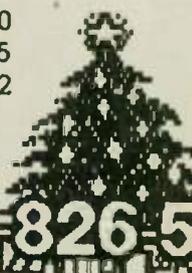
Second-hand DX is what I call it. One day I called 9M2DT on 20-meter packet. He didn't answer; I didn't know if he was there. But right away after I quit calling, a number of U.S. stations tried digipeating through me to him. I would have been surprised if he came back!

Write me if you wish. It's Bill Snyder, W0LHS, 1514 S. 12th, Fargo, ND 58103. Tnx, 73 and DIT DIT. □



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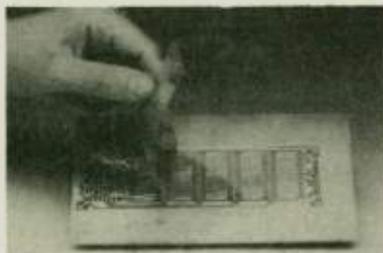
Quickie antennas and supports

Antenna construction projects seem to interest most Amateur Radio operators and construction fans. So here are a couple of simple antennas which may be used for portable or mobile operations. The ideas may be used for antennas at other frequencies, even though these are designed for 2-meter operation.

The "tape-tenna"

Here is an idea which should be of interest to the traveling ham. When trying to operate from inside a motel room, the hand-held transceiver's whip antenna sometimes loses its effectiveness due to the surrounding room and the at-

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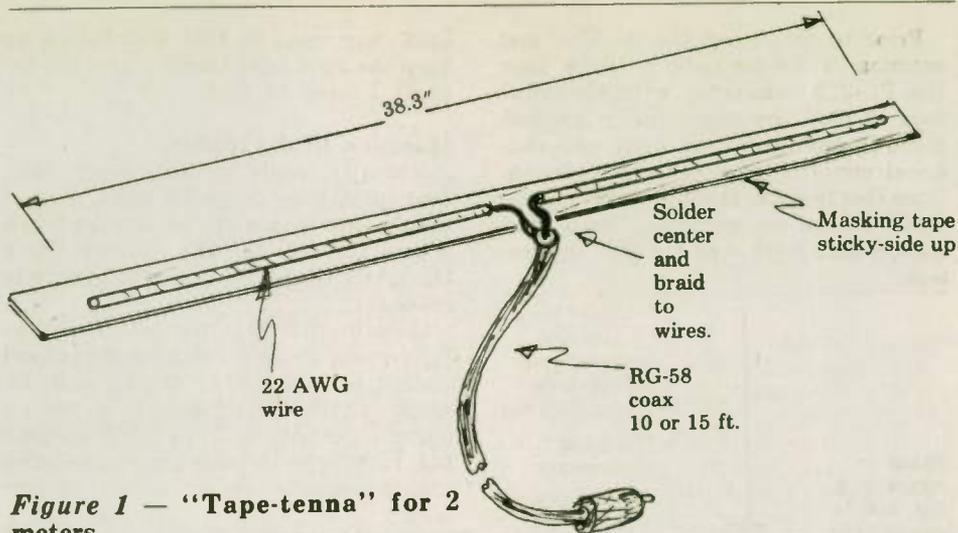


Figure 1 — "Tape-tenna" for 2 meters

tenuation it provides to the transmitted signal. To be effective, the rig has to be operated close to a nearby window. This window is usually not near the motel bed, where the operator desires to maintain a horizontal operating position.

The solution is the "tape-tenna" with about 10 feet of feedline attached. Figure 1 illustrates. The antenna is simply a 1/2-wave dipole mounted on masking tape which is taped to the window glass. Simple. For 2-meter operations, cut two 19" lengths of wire (insulated #22 AWG is the best). Also cut about 10 or 15 feet of RG-58 coax. Now solder one piece of coax connector on the other end and you're done!

Next, get a roll of masking tape and keep it, with your new portable dipole, in your briefcase ready for use. Here is how to use it: lay out about 40 inches of tape on a table top, sticky-side up. Take one end of the dipole wire and press it down on one end of the exposed adhesive side.

Press the wire down on the tape in a linear fashion for the length of the antenna. When that is completed, take the tape and wire assembly and stick it on the window glass — vertically for vertical polarization and horizontally for horizontal polarization. Also tape the feedline to the glass at right angles to the antenna for about a 1-foot distance.

The feedline can now be run to the bed or a nearby chair where you can operate in comfort. Large bay windows or sliding glass doors work best, with the antenna centered on the glass area.

No-hole mobile antenna

The no-hole mobile installation has always been my dream. The closest I have come is operating hand-held equipment on the car seat with some kind of semi-fixed or removable antenna. One of the simplest antenna systems I have contrived is a simple drooping ground-plane vertical antenna mounted to the existing car radio antenna. The radio antenna is simply acting as a mast, holding the vertical 2-meter antenna a few feet off the car body. The coax is run through the door jamb rubber seal or through a window (or some convenient rust-out!).

Figure 2 illustrates construction of the actual antenna. To minimize wind drag on the car antenna, the antenna elements should be kept as thin as practical. Coat hangers work fine. Thin brass rods work better and can be purchased at local hardware stores for a couple of dollars. The elements are simply soldered to an SO-239 bulkhead-type coax connector.

If coat hangers are used for the elements, make sure to sand the paint off the ends where the soldering will occur. Also, a several hundred watt soldering gun or iron may be required to generate the necessary heat; the connector and elements react as a good heat-sink! An RG-58 feedline with a standard PL-259 UHF connector is used to mate with the antenna

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Prior to mounting the feedline and antenna to the car radio antenna, tape the PL-259 connector with electrical tape so that the connector or ground-plane assembly will not come into electrical contact with the car antenna. Once this is done, the assembly may be taped to the car antenna. Small hose clamps also work well for this application.

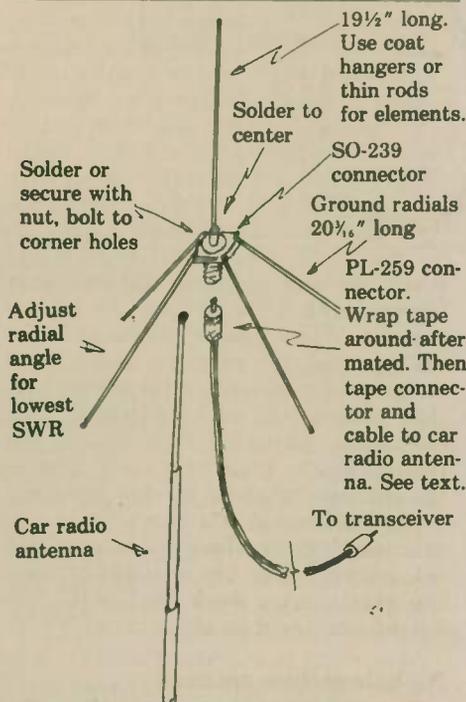


Figure 2 — Drooping groundplane antenna

Although the wind drag is minimized with the thin elements, I have found it necessary to keep the car radio antenna in its "telescoped-in" configuration. This gives more support against wind drag and less bending of the antenna at high driving speeds.

Bike mount mast

Bike rack bumper mounts are the answer to the no-hole mobiler's dreams! *Figure 3* shows a simple mast which I used for several trips in a VW to hold the groundplane vertical previously discussed about 6 feet off the ground. Total cost of the configuration was one bike rack and about \$4 of hardware!

Most bike rack mounts have a short section of 3/4" tubing attached to them. This tubing, I discovered, allows standard 1/2" PVC pipe, which has about a 3/4" outside diameter, to slip nicely into it. With two sections of the PVC pipe and one coupling, all available at your local hardware store, a mobile mast can be made.

For a really neat installation, a second pipe coupling may be purchased. One end of this coupling is screwed onto the PVC pipe thread, and the other end is filed out so that a snug fit is achieved with the PL-259 connector, used to mate with the groundplane vertical. A "drag

line" was used in this installation to keep the mast from bending over too far at 65, I mean 55, mph.

Question to the readers

Recently, while winding some coils, two questions came to mind that I didn't have an answer for or even know where to look for the answer. So I thought I would ask our knowledgeable readers.

Question #1: Has anyone out there figured out a way of cleaning the enamel coating off of fine 28 or 32 gauge wire instead of carefully scraping it off with a sharp knife edge or blade??? The scraping technique is both time-consuming and potentially damaging to the fine wire.

Question #2: Does anyone know of a simple way (or device used) to wind toroid-type coils??? This, too, is a time-consuming process which generally ends up with one not cutting a sufficient amount of winding wire for the coil he or she desires.

I would like to hear from you if you have solutions to these questions. Write to me care of Worldradio. Also, I wouldn't mind hearing from you if you have an idea that I might develop into a weekend construction project! I'll even mention your name and call sign in this column so you can become famous and receive verbal laurels and/or abuse! □

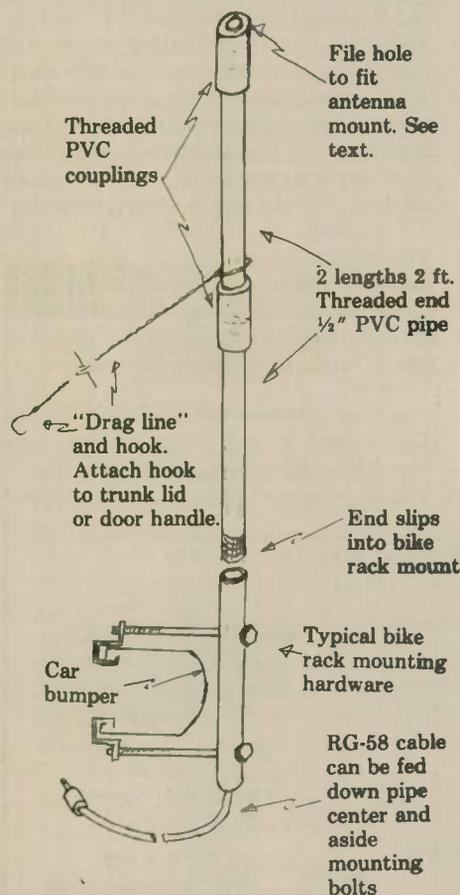
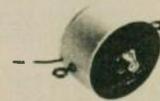


Figure 3 — Low-cost mobile mast

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Fills

Ideally there should be no need for fills. The sending station would transmit at the proper speed, send perfect code or enunciate properly, there would be no noise, babies wouldn't cry, telephones wouldn't ring, etc. In the real world it just doesn't work that way. Despite the best of intentions at both ends of the circuit, the receiving operator frequently misses some part of the message, or at least is not sure that what was copied is entirely correct. Hence the need for fills.

In general, there are two ways to get a fill, depending on the equipment used by the sending station. If that equipment is designed for break-in operation, the receiving operator can cause the transmitting operator to stop sending whenever anything is missed. In that way, time can be saved, and the transmitting operator can be spared sending the message when noise makes reception impossible. It's important to remember that your station does not have to be equipped for break-in operation for you to take advantage of a transmitting station's break-in capability. It's a bit exasperating to be told after sending a message that the receiving operator got next to nothing of it. "Why didn't you break me?"

Break-in is more commonly used on CW, although more phone stations than CW stations are equipped for it. CW stations so equipped often begin a message with QSK to advise the receiving operator that it is available. If you need a fill, just send a few dits or dahs or hold

your key down or send BK to interrupt transmission, then ask for what you need.

It is regrettable that more traffic handlers don't use break-in when passing traffic by phone. If you use push-to-talk, just take your finger off the mike button during pauses. If you operate VOX, set the delay short enough so that you can listen during pauses. Unless the receiving operator is copying you in shorthand or is using a recorder, you have to pause anyway to give time to write, so listen for a "break" during those pauses.

There is no standard procedure for voice operators to indicate that they can be interrupted in this way, so you usually won't know whether or not it will work. It's worth trying, however, and once voice operators have experienced the benefit of not having to talk needlessly to someone who can't hear them, maybe more will take their fingers off the mike button and listen.

The other way to get a fill is to ask for it after the message has been transmitted.

On CW, several abbreviations are in common use: AB, all before; AA, all after; BN . . . AND, between . . . and . . . ; WB, word before; WA, word after. Or just spell it out: "Need last name of addressee," "First word of text."

When operating voice, say it with words; just ask for what you need. On MARS nets there are detailed voice procedures for requesting fills, and operators are expected to follow them. When conditions are marginal, such procedures may help avoid misunderstandings because the operators will expect only certain words to be used, "Say again," for example, not "Repeat," "Word after . . . and before . . ." These procedures are spelled out in the manuals and are used by the military in voice traffic handling, but are not in general use in amateur traffic handling, which tends to be more informal.

A few cautions when asking for fills. Don't send R, don't say "Roger" until you have the message 100% correct. If you do, you may find yourself unable to

get a needed fill, as the transmitting station might not listen for your request — you have already acknowledged receipt.

It's nowhere written in any procedure, but many CW operators send a couple of fs (didit didit) to indicate that fills are needed, or it may be unintentional. The operator is just marking time while looking over the message to see just what fills are needed.

Note that AB means "all before," not "all between." BN is the abbreviation to use to get a fill in the middle of the message. When you indicate a fill that is needed, be sure your indication is clear and unambiguous. "Word after AND" might not be so good if there are several ANDs in the text. Perhaps most important of all is that we should ask for fills whenever we are not sure. Don't guess; that's the way garbles find their way into messages.

Solar power?

Many of us have some kind of standby power to make it possible to operate when commercial power is not available. Some amateurs have used solar cells to power their rigs, either to get bonus points on Field Day or just to show they can do it. But two articles appeared in September on new developments that could make solar the dominant source of electricity in a few years.

According to the *New York Times*, inventor Alvin Marks — who has over 100 patents to his credit — has been granted patents on solar cells using plastics, organic materials, costing much less to manufacture than the silicon cells now used to generate electricity. Then

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Popular Science had an article saying that BASF has produced a plastic storage battery, again using organic materials, that can be recharged as many as 500 times, and then can be disposed of in the fire.

Silicon cells cost \$15 or so per watt, with efficiencies of maybe 15%. Commercial power generating and distributing equipment runs \$1 or more a watt for the complete system, usually closer to \$3 or \$4, and overall system efficiencies are usually less than 30%. But the new solar cells are expected to cost well under \$1 per watt, and to show efficiencies of 70% or higher. Since an average house has more than enough roof area to generate the energy needed by its inhabitants, if these two devices prove to be practicable they may well revolutionize electric power distribution.

A hidden bonus: a high-efficiency solar panel would convert most of the solar energy falling on the roof into electrical energy, greatly reducing the heat absorbed in summer.

Rules for solar power systems were added to the 1984 National Electrical Code, Article 690. Perhaps the committee that produced the article anticipated future developments in this line. And now it looks like in the not-too-distant future most of us will have standby power, if we aren't completely independent of commercial electric service. And maybe we'll rescue the environment in the process, reverse the "greenhouse effect" that threatens to raise our planet's temperature dangerously, and end acid rain. We might even be able to see the stars again the way we could 30 or 40 years ago.

December again

It's the month when the National Traffic System gets its annual workout, when normal traffic loads are doubled or tripled with all the greetings we amateurs send for ourselves and friends and relatives, and when exhibition stations offer the general public the opportunity to send greetings from shopping malls and similar places, further adding to the load. Sure, it means a lot more work, but it also means we have an opportunity to test the system under conditions comparable to what we might encounter in a widespread communications emergency.

Nets may conduct additional sessions to handle the overloads, as the managers determine, and amateurs will be keeping extra schedules outside of nets too. Anyone who wants to make Brass Pounders League and has the time should have no difficulty finding opportunities. When there's too much traffic for the regular liaison station to carry to the area or region net, offer to go as an alternate. Or if the time runs out and there is still traffic to be handled, offer to take it if you can move it. It need not go by regular NTS routes, especially if they are already clogged. Delaying traffic because of overloads when other ways of clearing it are available does nobody any good. One thing is sure, though — if you like to handle traffic, you should have a great time in December.

While speaking of December greetings, your columnist for the tenth time extends his own wishes that you and yours have a great time during this holiday season, whether it's handling traffic or otherwise. □

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CaGen SCRATCH PAD

The CaGen Scratch Pad is a general utility (machine language) program which will prove useful to all C-64 owners, with special value to programmers — for screen design and plotting. Users can store and retrieve information such as program documentation, schedules, shopping lists, recipes, appointments, etc. Use as an "electronic notebook". Programmers can eliminate costly printing bills for instruction manuals by creating documentation files on the actual program disks for user printing or viewing on screen. A very handy tool. \$45

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The CaGen Display program is a variation of "Scratch Pad" which produces continuous information displays on a monitor for advertising, public information, or any general informational purpose. Any screen that can be created with the C-64 keyboard (text and/or graphics) will be displayed. Perfect for point-of-sale advertising, club displays and the like. Use it anywhere you need an "electronic bulletin board". Has all the features of "Scratch Pad" except for special files such as documentation described above. It produces up to 19 continuous screens with variable display times for each screen. \$45

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The CaGen Custom Catalog is a machine language program for the C-64 & 1541 disk drive which will catalog and sort disk directories on screen and then produce printouts of the resulting lists. Placed in the public domain because of its universal appeal to all C-64 owners and as a sample of CaGen Software.

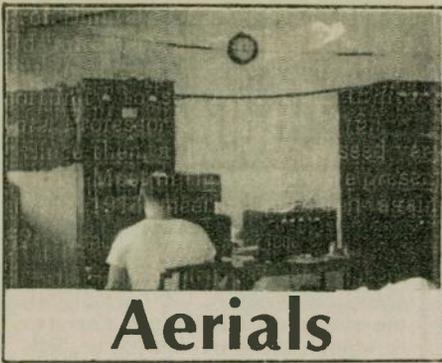
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The CaGen DISK-KIT 128 is a machine language sector editor for the new C-128 & 1571 disk drive. Useful for all C-128 owners and programmers. It will read and write to all sectors on both sides of a 1571 GCR Formatted disk. It will not handle MFM format. Placed in the public domain as a courtesy of CaGen Software.

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Aerials

The Yagi was the first antenna breakthrough development for HF and VHF communications, yet it was conceived in 1926 — 60 years ago! All amateurs are familiar with it. Every “Tri-bander” uses the parasitic technique first developed in Japan by Yagi and Uda. Yet little is known about these men and their antenna. We are grateful to Dr. Gentai Sato — professor of Electrical Engineering at Sophia University, Sendai, Japan — for this month’s column.

The Japanese celebrate two dates in a man’s life — his birth and his 60th birthday — as most memorable occasions. We present this month’s article on the 100th anniversary of Yagi’s birth. We think you will enjoy the translation from Japanese to English without changes in phrasing, as Prof. Sato wrote it.

Hidetsugu Yagi

This year of 1986 marks the 100th birthday of Prof. Hidetsugu Yagi, who is known as the inventor of the “YAGI-UDA” antenna. He was also the first Japanese to be elected to be a Fellow in the American Institute of Electrical and Electronic Engineers. The 100th anniversary celebration of his birth was held in Sendai, Japan on May 24th. The impressive ceremony of deep personal significance has moved me to write this note.

On a relaxed Saturday afternoon, the ceremony was held on the campus of Tohoku University. About 150 people gathered around the bronze statue of Prof. Yagi erected in the yard of the Department of Electrical Engineering. The sky was clear and blue, and the May breeze was soothing. Most of those attending must have recalled the day 10 years previous — May 23, 1976 — when the bronze statue was unveiled.

Mrs. Yagi attended with her family; a 20-year-old granddaughter in a beautiful Japanese kimono, unveiled the statue. Prof. Shintaro Uda, for whom this Yagi-Uda antenna is also named, was present. But to my regret, that was my last opportunity to see Prof. Uda. (*Editor’s note: Professor Uda died in 1979.*)

Since then, a decade has passed very swiftly. Most of those who were present at the 1976 meeting gathered again.

There could be seen some new people. One of my close friends, K. Sato, president of Yagi Antenna Company was there. Some of them must have eagerly waited for this day, I suppose.

Prof. Yagi’s 3-year-old great-grandson, escorted by his father, placed a wreath before the statue with many people’s eyes kept on. On the back of the pedestal, is engraved the epigraph composed by Prof. Uda and written by the brush of Prof. K. Nagai. We are all reminded of Prof. Yagi’s spirit of originality and his contributions to the field of electronics. The ceremony was conducted by Prof. R. Sato.

Then all of us moved to the Plaza Hotel in downtown Sendai to continue the celebration. Eight selected gentlemen, who were either students of Prof. Yagi or very close to him, were seated in a row on the stage. Under the skillful chairmanship of Prof. Yeshio Endo, these aged men told us their many, many memories of the professor. Then some of us indulged in reminiscences and others refreshed the memory of the speaker. Still people paid respect to his pioneer works again. The seniors introduced some heretofore unknown episodes which were interesting, precious and unforgettable.

Then a grand banquet was held under the chairmanship of Prof. J. Nishizawa. Some speakers emphasized very much the importance of originality in research.

In the 1920s, wireless communication engineering — which was called “weak electric current engineering” at that time — was quite a minor field compared to electric power engineering. In Japan, there were few researchers in wireless except in Tohoku University where Prof. Yagi was the leader.

Fortunately, the Saito Gratitude Foundation had been established by Mr. Z. Saito, who was one of the greatest landowners in the area. This foundation provided huge financial support to Prof. Yagi’s group at Tohoku University which was doing “The Study of Communications Utilizing Electricity.” The group made many outstanding contributions. One was the invention of an antenna “with very sharp directivity attained by using directors and reflectors.” This antenna was reported in the Journal of The Institute of Electrical Engineering in Japan, in March 1926. (*Editor’s note: the Yagi-Uda antenna was officially invented in 1926.*)

From Tohoku University so many papers were contributed to the Institute at that era that the Institute gave a cry of joy because there were more papers than the Journal could possibly publish. The research of the weak electric current engineering group of Tohoku University was most active and there was a heated atmosphere among the group.

The sons of Prof. Yagi and Prof. Uda were also present and talking cheerfully with each other. The history of six decades ago was made fresh and alive again by these descendants.

Prof. Yagi’s paper was published in the Proceedings of the Institute of Radio Engineering (now Institute of Electrical and Electronic Engineering-IEEE). A Dr. L. H. Dellinger, writing in the following issue of IRE and discussing this paper by Prof. Yagi, said: “Whether the use of ultra-short radio waves will be important in long-distance communication, or whether Prof. Yagi’s idea will have their principal application in a method of directing radio waves of more usual frequencies, time only can tell. In conclusion, I would like to say that I have never listened to a paper that I felt so sure was destined to be a classic.”

Hidetsugu Yagi was born on January 28, 1886. At that time, Hertz in Germany was engaged in experiments on the generation and propagation of electromagnetic waves. Thus, Prof. Yagi was born at the dawn of the wireless age. He is held in high esteem by us.

I always respect those scholars and engineers who have achieved theoretical and experimental works on Yagi-Uda antenna; they include Englishmen,

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Americans, Australians, Germans and Japanese. This meeting was so significant that it gave me the deepest impression.

I myself was born in the identical month and year of the invention of the Yagi-Uda antenna, and close to Sendai, Japan (1926), where Prof. Yagi and Prof. Uda worked.

In 1939 Prof. Endo took charge of ultra short-wave radio telephony equipment connecting the city of Niigata with the Sado Island, using the Yagi-Uda antenna. Then, the war in the Pacific Ocean happened in 1941. Prof. Endo then took complete charge of ultra short-wave radio communication equipment and radars as a chief of the Sendai plant of Nippon Electric Co., Ltd.

During the war, at one time Prof. Endo was asked this question, "Hey! Merchant, does the apparatus work?" when a technical officer of the Army younger than him came to attend inspection. Then he stood at attention to answer "Ha! — ." At that moment, Prof. Uda came here and asked him, "Mr. Kato, do you know Mr. Endo, your senior?" At which time, then Captain Kato stood at attention to answer "Ha! —"

The younger captain was none other than Prof. Shinsuke Kato. He was later appointed one of the directors of Antenna Giken Co., Ltd., and had been charged with an important duty. Hereinafter, to avoid enemy's air attack (*Editor's note: from U.S. Army Air Forces*), the plant was moved to the country in Yamagata Prefecture.

Prince Fumimaro Konoe visited the antenna plant accompanied by the Governor of Yamagata, the Mayor of Yonezawa and the Chief of Police to ask a question on the comparison between performances of Japanese-made radars and those of American-made radars. At that time, the war situation was not going in our favor, so I thought it would be necessary to dispatch Prince Konoe to USSR for sounding about negotiation for peace.

Prof. Yagi was transferred from Tohoku University to Osaka University, and then he was appointed president of the Tokyo Institute of Technology. During the wartime he assumed the presidency of the Technical Agency.

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After the war, he was appointed president of Osaka University. But he was purged from official, public and business circles, and lived in a small rented house at war's end. Our country of a defeated nation was in a very severe shortage of food at that time.

I used to take a train of the Tohoku line, and carried rice to his home. Sometimes I encountered simultaneous inspection of authorities, and all of rice was confiscated. Fortunately, Prof. Yagi's purge was released and he planned the foundation of Yagi Antenna Co., Ltd. In fact, the first antenna which was manufactured by Yagi Antenna Co., was one designed by an assistant Professor Yasuto Mushiake under the leadership of Prof. Uda, in 1948.

Editor's note: Design, fabrication and sales of Yagi-type antennas continues today in Japan, for amateur and commercial use. Prof. Yagi agreed that Dr. Sato would establish an antenna company, as he put it, "considering that I was eligible to do so." That firm is Antenna Giken Co. Ltd. Dr. Sato visited Prof. Yagi at Yoyogi House to ask his opinion about forming his own antenna company, and after the professor's approval, Dr. Sato started his organization on December 1, 1956.

In addition to his commercial activities, Dr. Sato was invited to become a professor at Sophia University by Prof. Uda, and Prof. Yagi arranged that to happen. So now at age 60, Dr. Sato continues the fabrication and sales of Yagi-type antennas, while teaching its fundamentals at Sophia University.

Dr. Sato says he respects the mystery and the sanctity of electrical engineering as it pertains to antennas. As a matter of fact, he says, "I feel a deep impression in particular, and pay homage to the monument of Maxwell in England who predicted the existence of electromagnetic waves; the experimental device used by Hertz who confirmed existence thereof by experiments in Germany. Dr. Sato has visited the residence of Marconi at the remote rural district in Italy. He has also visited the Marconi Company in Chelmsford, England where he says he saw wooden desks and closets used since the foundation of that company — still being used! He considers this as evidence for respect of the will of the founder.

Dr. Sato stated that it was a curious fate for him to have been one of Dr. Yagi's disciples, and to have been allowed by fate to follow in his footsteps during his lifetime. Dr. Sato quotes Dr. Yagi's tombstone calligraphy, which translated into English states: "He is not a man but a brute who is not grateful to his parents and others." Dr. Gentei Sato is truly grateful to Professors Yagi, Uda and countless others, for many things. We are indebted to him for this story. □

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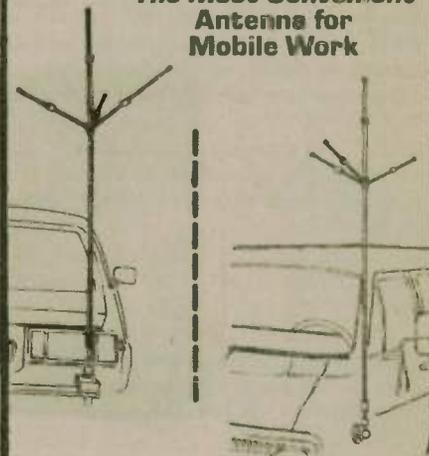
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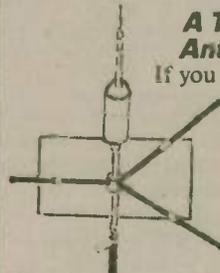
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HAMFESTS



Arizona

You are cordially invited to spend a weekend in Apache Junction, Arizona on the weekend of December 6-7, at the all-new "Oasis Swapmeet," sponsored by the SUPERSTITION ARC.

There will be free camping on the grounds Friday and Saturday nights (self-contained), with swap & shop all day Saturday and Sun-

day. Food will be served all day both days, and 120VAC will be made available for testing of gear before purchase. There is a \$3 admission charge for sellers, or \$1 for non-sellers, which covers both days.

The swapmeet is located on 1,000 acres of land adjacent to Oasis Park in eastern Maricopa County, between the cities of Mesa and Apache Junction. Primary talk-in is on 147.12 MHz, while information can also be obtained on 146.74 and 146.94 mountaintop repeaters as well.

For more information, contact Superstition ARC, P.O. Box 1551, Apache Junction, AZ 85217-1551. □

north of 9-mile, west of Dequinder.

General admission is \$2 in advance, \$3 at the door. Children under 11 years free. Tables \$1 per foot. Plenty of free parking.

Talk-in from the 9-mile and I-75 area on 146.52 simplex.

For tickets and table reservations, contact HPARC, P.O. Box 368, Hazel Park, MI 48030. □

Minnesota

The annual COURAGE CENTER HANDI-HAM WINTER HAMFEST will be held Saturday, December 6, at the Eagles Club in Faribault, Minnesota, starting with registration at 9 a.m. There will be a HANDI-HAM equipment auction, dinner at noon and program.

Talk-in on 19/79.

For more information, contact Don Franz, 1114 Frank Ave., Alberta Lea, MN 56007. □

Michigan

The HAZEL PARK ARC will hold its 21st Annual Swap & Shop on December 7, at the Hazel Park High School, 23400 Hughes —



Telephone Pioneer QSO Party

The 22nd Annual Telephone Pioneer QSO Party — sponsored by the John D. Burlie Chapter No. 89, of the Telephone Pioneers of America — will be held December 6-7.

The John D. Burlie Chapter again cordially invites all Telephone Pioneer Amateur Radio operators in the United States and Canada to participate in contacting as many individual members as possible and to reach members in as many different chapters as possible. Members of the United States Telephone Pioneer Association (USTPA) are also cordially invited to participate.

The QSO party will start at 1900 UTC, Saturday, December 6, and will end at 0500 UTC, Monday, December 8. Fifteen "bands" are defined for use during the QSO party. They are:

- | | |
|-----------------------|-------------------|
| *1.8: 1.800-1.900 MHz | 7.2: 7.150-7.300 |
| 3.5: 3.500-3.775 | 14.0: 14.00-14.20 |
| 3.9: 3.775-4.000 | 14.3: 14.20-14.35 |
| 7.0: 7.000-7.150 | 21.0: 21.00-21.25 |

- | | |
|-------------------|----------------|
| 21.3: 21.25-21.45 | 144: 144-148 |
| 28.0: 28.00-28.50 | 220: 220-225 |
| 29: 28.5-29.7 | UHF: Above 420 |
| 50: 50.0-54.0 | |

*Contacts on this band authorized *only* from 1601 UTC, Sunday, December 7 to 0500 UTC, Monday, December 8.

Any station representing a different chapter from the contestant may be contacted on any or all of the 15 bands for a maximum of 15 points per station, with no more

than 1 point per band. Any station in the same chapter as the contestant may be counted once for a maximum of 1 point per station; this contact may be on any band.

Phone users: Call "CQ Telephone Pioneers." CW and RTTY user: Call "CQ TP." Please observe good sportsmanship. Share frequencies with low-power stations. Give way to established nets.

Suggested phone frequencies (MHz): 1.870-1.895, 3.815-3.840 (Extra and Advanced); 3.915-3.940 (General); 7.255-7.295, 14.265-14.305, 21.355-21.395, 28.685-28.725, 50.10-54.00, 144.000-148.000, 220.10-220.50. Contacts via simplex or repeater are valid.

Suggested CW frequencies (MHz): 1.800-1.825; 3.555-3.595; 7.028-7.048; 14.055-14.095; 21.055-21.095; 28.055-28.095; 50.10-54.00. *Novice/Tech* — 3.725, 7.125, 21.125, 28.125. *RTTY* — 3.630, 7.100, 14.100, 21.100, 28.100.

Scoring: Total score = contact points × chapters contacted. Only one multiplier may be taken for each chapter worked. The maximum multiplier is 100 (TPA chapters 1-54 and 56-101) plus a maximum of 15 USTPA groups.

Exchange: Contact number and chapter number (USTPA club or chapter name/no.)

Reporting: If possible, return log sheets via your Pioneer Amateur Radio Coordinator. Send logs showing date, time station worked, chapter number, contact number and your claimed score, postmarked not later than January 15, 1987 to: Ted Phelps, W8TP, c/o John D. Burlie Chapter 89, Telephone Pioneers of America, 6200 East Broad St., Columbus, OH 43213. □

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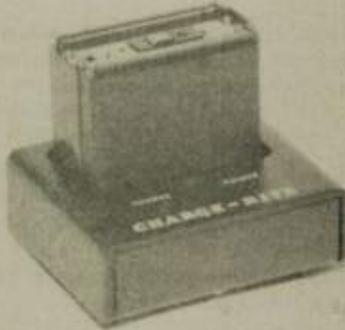
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NEW PRODUCTS

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the old format due to very limited space, and the fact that the writing surface didn't take well to anything except grease pencil.

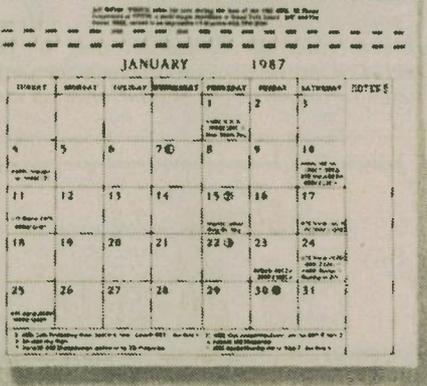
The 1987 Calendar promises to outdo the 1986 edition, primarily in the inclusion of additional information pages, and in the revision and improvement of some of the maps. Also, the 1987 version will include recognition of important dates in the history of radio, states the publisher.

The 1987 Photo Calendar will be in stock for shipment by December 1, 1986, and is priced at \$11.95 for U.S. Territories, Canada and Mexico, and at \$16 for overseas shipment. Prices include air mail postage, and are for pre-paid orders going to the same address. A \$1 discount per calendar is given on orders for three or more. Allow two to three weeks for delivery. KB1T Radio Specialties, Box 1015-Q, Amherst, NH 03031. □

Photo wall calendar

For the past five years, KB1T Radio Specialties of Amherst, New Hampshire, has published an Amateur Radio-oriented wall calendar. From 1982 through 1985, the calendar was the "year-at-a-glance" type, with all 12 months on a single sheet. The calendar was printed on metalized mylar and, while eye-catching, had the serious drawback that there was only room to highlight certain dates for contest events.

Last year saw a new format all together. The 1986 calendar was a 32-page, spiral-bound, 9" x 12" piece which, when opened, provided a 7" x 10" b/w photograph for each month, and room for noting many more operating events, including starting times and durations, plus public holidays and other dates of interest. The calendar also contained four maps (CQ Zones, ITU Zones, ARRL Sections and U.S. Grid Squares), and sample log and dupe sheet forms. Allowing a full page for each month meant there was enough extra room to write in appointments, schedules and other personal notes. This was not possible in



Yaesu duplexer

Yaesu Electronics Corporation announces the new AD-2 Duplexer for the FT-2700RH Dual Band FM Transceiver and FT-726R VHF/UHF all-mode transceiver. The AD-2 provides for semi or even full duplex VHF/UHF crossband operation with a single 2-meter/70cm dual band antenna. The one antenna may serve for both transmitting (on one band) and receiving (on the other band),

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Specifications: *Pass Bands* — 140-150 MHz and 400-450 MHz; *Maximum Power* — 50 watts; *Insertion Loss* — VHF less than 0.3dB, UHF less than 0.5dB; *Impedance* — 50 ohms; *VSWR* — Less than 1.2:1; *Receive Isolation* — 50dB.

For more information, contact your dealer or: Yaesu Electronics Corporation, P.O. Box 49, Paramount, CA 90723. □

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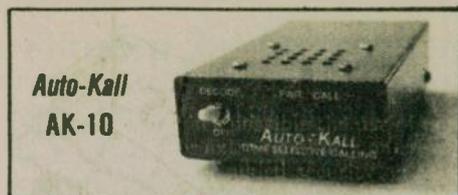
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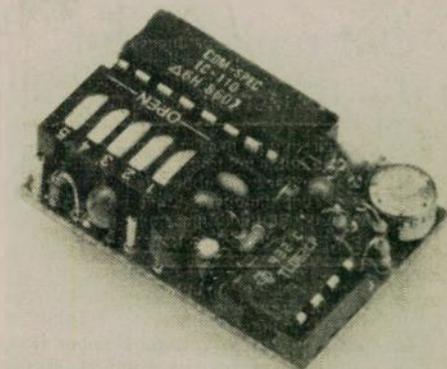


Auto-Kall

Motron Electronics Auto-Kall AK-10 is a touch-tone decoder designed for selective calling. It can be used with any FM or AM radio.

The AK-10 connects to the audio output of the radio and remains silent until its three-digit code is received. This activates the internal speaker to receive the incoming call. With the AK-10 it is possible to always be available on a busy repeater or simplex frequency without the need to monitor constantly. It features automatic reset, wrong number reset and easy user programming.

The price for Auto-Kall is \$89.95 plus \$3 shipping and handling. For complete information, contact Motron Electronics, 695 W. 21st Ave., Eugene, OR 97405; (503) 687-2118.



Programmable encoder

Communications Specialists of Orange, California has announced the introduction of their new Programmable Encoder, SS-32P. The SS-32P takes state-of-the-art programmability to the next level by allowing the user to specify the available tones in the memory. Up to 32 tone frequencies of the customer's choice are stored in an EEPROM memory built into the circuitry of the SS-32P. These tones may be standard or non-standard, and may be changed at a later date if desired.

The SS-32P is available in either CTCSS or BURST TONE format. SS-32PA will operate on any tone within the range of 67.0 to 250.0 Hz. The SS-32PB will operate between 250.0 and 3000.0 Hz. Both versions measure .9" x 1.3" x .4" and will operate on voltages as low as 6VDC for hand-held applications and up to 25VDC for mobile or base station applications.

The SS-32P makes possible the use of non-standard tones for extra flexibility on crowded channels, and for added security on tone-controlled repeaters.

The SS-32P is covered by a one-year warranty and is available for immediate delivery from stock. Price is \$28.95. A catalog is available on request.

Communications Specialist, Inc., 426 West Taft Ave., Orange, CA 92665-4296; (800) 854-0547 or (714) 998-3021. □

Mobile radio mounts

IIX Equipment Ltd. announces the addition of two new compact mobile radio mounts to its Mount 100 System. The additions bring the model count to four, which can handle all types of communication gear needed in mobile operations.

Models MM-1007 and MM-10010 are of a totally new design to provide the user with a strong adjustable mount for two radios that will fit in most vehicles. Two different widths are available — 7" and 10" — and construction is welded steel, finished in satin black with necessary hardware supplied.

UPS shipping is included in the price of \$79.50 for the MM-1007 and \$84.50 for the MM-10010. A free catalog and MM-100 Mount System information sheet are



available from IIX Equipment Ltd., P.O. Box 233, Oaklawn, IL 60454; (312) 423-0605. VISA and MasterCard are accepted. □



ICOM replacement batteries

Replacement batteries for the following ICOM models are now available through Alexander representatives: ICOM-BP2, ICOM-BP3, ICOM-BP4 and ICOM-BP5.

The Alexander model IC20 replaces the ICOM-BP2. It is a 7.2V, 450MAH rapid-charge nickel-cadmium battery pack.

Alexander model IC30 replaces the ICOM-BP3. With 8.4V and 250MAH, it takes a standard charge. It also is a nickel-cadmium battery pack. It must be recharged in a desk-type charger.

Alexander model IC40 replaces the ICOM-BP4. This is a 9V, 2000MAH alkaline battery pack.

Finally, the Alexander model IC50 replaces the ICOM-BP5. Rated at 10.8V with 450MAH, it also is classified as a rapid-charge nickel-cadmium battery pack.

Alexander is the largest independent supplier of replacement battery packs, chargers, analyzers, hand-held radio cases, and radio antennas for use with hand-held radios, biomedical and emergency equipment and VTR equipment. They've been in the rechargeable battery business for more than 20 years.

For further information contact: Alexander Manufacturing, ATTN: Service Department, P.O. Box 1508, Mason City, IA 50401. □

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ADVERTISER'S INDEX

AEA — 25, 27
Anne Wright, N6BOP — 42
Antenna Co. of America — 20
Antennas, Rudy Plak — 3
AVC Innovations, Inc. — 24
Bel-Tek — 45
Butternut Electronics — 16
Callbook — 60
CaGen Software — 38, 51
Charge-Rite — 54
Courage Center — 39
Cushcraft — 35

Desert Designations — 55
Diamond Systems, Inc. — 11
Dick Smith Electronics — 11
DX Edge — 22, 32
Engineering Consulting — 26
Fallert's Engraving — 45
Ham Radio Outlet — 30, 31
Handi-Tek — 18
Henry Radio — 5, 10
H.J. Theiler Corp. — 36
IIX Equipment — 6
IMRA — 18
International Radio — 42
John T. Little, KB7DT — 28
Jun's — 15
KAGIL — 28
KB1T Radio Specialists — 57
Kilo-Tec — 40, 54

Long Island DX Bulletin — 58
Meadowlake Corp. — 48
MFJ — 19
Mike Forman — 59
Morton Electronics — 50
N.P.S. — 14
NRG Control — 4
N6KW QSL Cards — 2
Omega Concepts — 37
Palomar Engineers — 6, 41, 49
P.C. Electronics — 7
Peter W. Dahl Co., Inc. — 17, 52
Pipo Communications — 51
QCWA — 20

Radio Amateur's Conversation
Guide — 34
Radio Clubs — 43, 44
Radio Engineers — 24
Radio Store — 56
Reno Radio — 21
Royal Newport Porcelains — 22
Sign-On — 8
Spider Antenna — 40, 53
Spi-Ro Distributors — 29
StarVizons — 47

TimeKit — 46
Tropical Hamboree — 23
Van Gorden Engineering — 2
Vanguard Labs — 48
W5YI-VEC — 12
W9INN Antennas — 32
Webster Associates — 3
World-Tech Products — 33
Wrightapes — 12
Yaesu — 13

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