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WORLDRADIO

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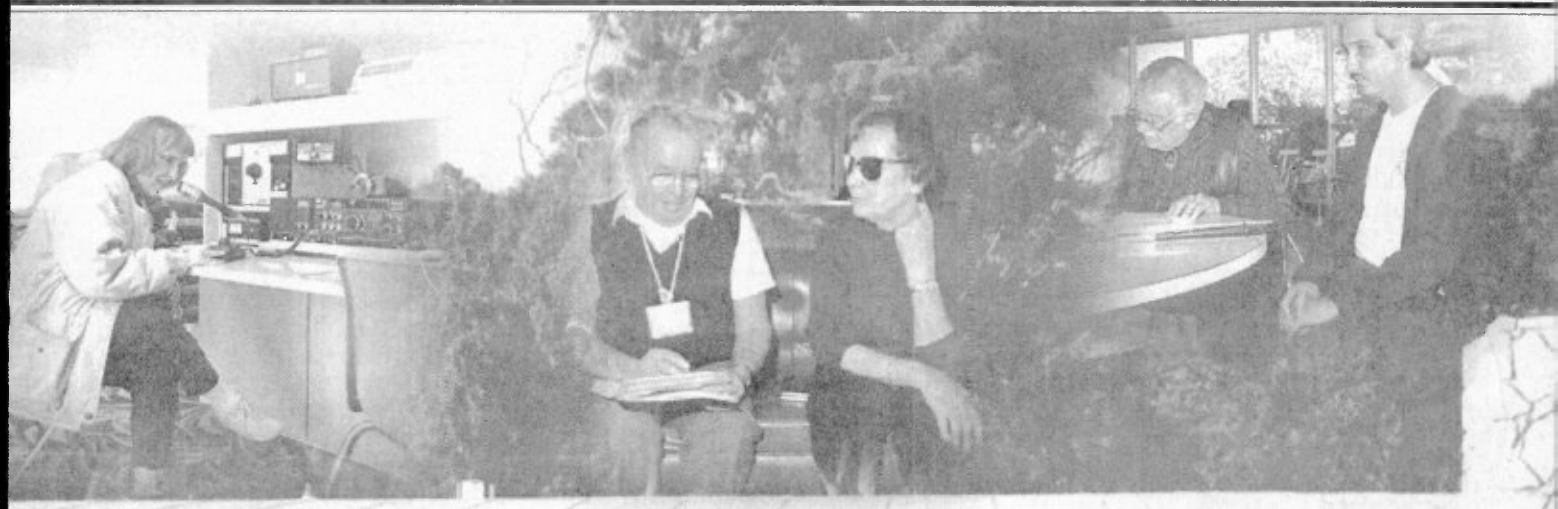

Camping with the Handi-Hams

— See page 6

NEWSFRONT

Worldradio

Some information has been supplied to ***Worldradio*** **Newsfront** courtesy of *Newsline*.

Virginia Governor signs antenna bill

Hams in Virginia won an important victory as Governor Jim Gilmore signed into law that state's new antenna bill that limits local regulation of Amateur Radio antennas. The measure requires local ordinances involving the placement, screening, or height of antennas to impose the minimum regulation necessary to accomplish the locality's legitimate purpose.

The new law sets a height of 200 feet as the regulatory minimum in localities having a population density of fewer than 120 persons per square mile. It also provides for a 75 feet regulatory minimum height in more densely populated communities. Localities may not regulate the number of support structures in either case. In other words, a Ham can put up as many antennas as he or she wants.

Bob Ham, KK4IY, of Vinton Virginia was the prime mover behind the bill. He worked with state Senator John Edwards of Roanoke to get it into the legislature and get it enacted into law. It goes into effect on 1 July. — *ARRL, Newsline*

Georgia Hams heroes following tornado

Hams in Georgia sprang into action 20 March after a tornado ripped a ten-mile path of destruction across the northeastern section of the state. The twister hit near Gainesville, leaving a dozen dead and more than 100 injured. Damage is estimated in the millions of dollars. The tornado also knocked out power and telephone service. As a result, cellular telephone systems became overloaded and unusable.

According to Hall County Assistant Emergency Coordinator Terry Jones, K4FB, members of the Lanierland Amateur Radio Club and Hall County's ARES were among the first to react. They established a net on the clubs VHF repeater and passed massive amounts of storm related traffic.

To help with the lack of telephone service, the Lanierland group's UHF repeater's autopatch was pressed into service to handle emergency phone calls. A specially equipped Amateur Radio communications trailer owned by the Chattahoochee Baptist Association of Gainesville was also deployed. It set up operations next to the Hall County Emergency Management Agency command post. Jones estimates that over a hundred hams volunteered to provide communications in the wake of this unforeseen disaster. — *ARRL, Newsline*

Worldradio on the Web

We are now on the Internet. Want to order a book? Questions about subscriptions? Need some interesting links? This, and much more can be found on the ***Worldradio*** home page at: http://www.wr6wr.com. Stop by and take a look!

Amateur Radio eases tornado recovery in Minnesota

Ham radio operators from across Minnesota provided a link with the outside world after tornadoes struck two towns in the southern part of the state. Tornadoes flattened Comfrey, a farm community of about 500, and badly damaged the City of St. Peter. Utility services were knocked out by the storm on 29 March. At least two people were killed.

For Minnesota Section Manager Randy "Max" Wendel, NØFKU, this was more than a disaster that required the help of Ham radio. St. Peter is his home town, and the place where his parents still live. Wendel and Minnesota SEC Gary Peterson, NØZOD, were among dozens of ARES members who responded, after getting word from Mike Langer, WQØA, in St. Peter of "unbelievable devastation." Wendel reports Langer went silent as soon as he realized that his own house no longer existed.

Wendel and Peterson alerted other ARES members to be prepared to assist with communication, then headed for St. Peter. ARES members from Rochester and the nearby Mankato area were among the others who turned out. Wendel arrived in St. Peter after nightfall, using his ARES identification to get past state police barricades. Wendel found his parents safe and their home damaged.

Wendel said Hams already had situated themselves at key locations, including the Nicollet County Emergency Operations Center, a shelter for victims, and at a sports arena. The ARES team set up an emergency base station at Gustavus Adolphus College.

During the next day Amateur Radio was the only communication out of the city and the primary means to coordinate supplies into the city from the Red Cross in Mankato to the shelters in St. Peter. The morning after the tornado, the Salvation Army arrived to distribute food. Amateur provided logistical support for that effort as well. Other amateurs shadowed disaster assessment officials who went door to door throughout the city or handled net control duties at the EOC. Others simply made themselves available as needed to cooperate in the recovery effort.

Dave Kleindl, KAØBFP, scrounged enough materials to construct a dipole to put a local broadcast station back on the air after its towers had been downed in the storm. With help from other amateurs, Kleindl coordinated with the city's public works department to get a generator to a water tower that was still standing and reactivated the local VHF/UHF amateur and public safety repeaters and also provided power for the water tower itself.

Wendel says the police and public works antennas were blown off the water tower. Kleindl switched the transmitters over to the Ham antennas which withstood the estimated 200 mph winds, allowing local government communications to resume. The amateur VHF and UHF repeaters temporarily were put over onto mag mount antennas.

On 01 April, Wendel said that snow was falling in the stricken area. He said he expected Ham radio involvement to wind down when normal communications systems are restored. — *ARRL Letter*

ARRL Atlantic Division award winners

ARRL is pleased to announce the winners of the 1998 Atlantic Division awards.

The "Amateur of the Year" is John Creel WB3GXW, from Silver Spring, Maryland. Licensed since 1967, John is an ARRL Life Member and an Official Bulletin Station. He owns and operates repeaters on 2 Meters and 440 MHz. He is active in RACES and in demonstrating Amateur Radio to youth at summer camp. The Foundation for Amateur Radio named John their "Ham of the Month" in April, 98.

John is also involved in leadership of the Laurel Amateur Radio Club's Laurel VEC and participates in the annual National Conference of VEC's in Gettysburg. He is an active Volunteer Examiner for Laurel VEC at monthly test sessions and sessions held at Amateur Radio events in the Washington / Baltimore area.

John belongs to a family of radio Amateurs. His mother, wife, and two daughters are also licensed hams. As the Foundation for Amateur Radio said in their "Ham of the Month" commendation, John "has made significant contributions to the Amateur Radio Service and is an outstanding model of a public and community service volunteer."

The "Grand Ole Ham" lifetime service award for 1998 goes to Rolland Madara, W3PWG, from Lansdowne, PA. He was nominated by the Phil-Mont Mobile Radio Club of Philadelphia, PA. Known as "Rollie" to his many friends in the Amateur family, he has been licensed for 47 years and has also been a member of Navy MARS for 36 years and Army MARS for 41 years. For more than 25 years, he was an operator at the Franklin Institute Science Museum's Amateur Radio exhibit W3TKQ (now W3AA). Although he has turned over trusteeship of the station callsign to a younger Ham, Rollie still volunteers one day each week at the Museum.

Now in his late 80's, Rollie served 24 years in the U.S. Navy, followed by employment with RCA and GE until his retirement in 1972. Since then he has been an active ambassador for Amateur Radio through W3TKQ / W3AA to the thousands of museum visitors of all ages. Another interest in his life is genealogy, and he has traced his lineage through many generations. The Amateur Radio community is indeed fortunate to have a gentleman like Rolland Madara W3PWG on our family tree! — *Kay Craigie, WT3P, ARRL*

Ham radio bumped from circus train

After thirty years of dedicated service, Ham radio has been kicked off the annual run of Wisconsin's Great Circus Train to make way for commercial communications.

Ham radio first came aboard the circus train in 1965. This, when ARES member Don Evenson, K9JYX, got permission to install a VHF station in one of the cars. That station relayed messages to an HF mobile station that was chasing the train. As the years progressed, improvements in VHF technology simplified communications. In 1994 onboard HF gear was added to complete the Ham station on the rails.

The museum says that it evicted the Hams to eliminate as much clutter as it can to open up more space for the passengers. Communications will be provided by a commercial communication supplier instead of the Wisconsin Amateur Radio community. — *Newsline*

Three East NY DECS quit

Three Eastern New York Section ARES officials have quit their appointments as District Emergency Coordinators. The three resigned from the program "en masse" in an e-mail message sent to ARRL Field Services Manager Rick Palm, K1CE.

Those leaving the program are District Emergency Coordinator for Administration and Operations April Stack, K2ZCZ, Northern District Emergency Coordinator Tom Woznack, N2SQO, and Central District Emergency Coordinator Ken Goetz, N2SQW. Goetz also serves as the New York State RACES Radio Officer.

No reason was given for their decision to resign. — *Hudson Divsion Loop, Newsline*

Congratulations to Richard Tidberg, WF9J,
winner of a $200 gift certificate (redeemable from MFJ). His name was selected at random by the computer from the ***Worldradio*** subscriber list. Check here next month to see if your name has been selected.

Worldradio
June 1998

— News & Features

Departments

Next month's columns will include Amateur Satellites, County Hunters, RFI & You, Traffic, and Youth Forum

Worldradio

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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. As readers, you are participants in an alliance of active radio amateurs concerned with reality, using radio as a communications tool to develop the skill, quality and full potential of Amateur Radio.

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Publisher's Microphone

This issue marks 27 full years of the monthly publication of *Worldradio*.

We now present the latest who when this is read, will make their radio buddies turn green with envy. The latest to be honored in print for becoming *Worldradio* Super-Boosters (Lifetime Subscribers) are:

- **Sally Gangloff, N1ZYV**
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- **J. Ricsohl, KK5RIC**
  Nogal, NM
- **Brian Woodson, KE6SVX**
  Morgan Hill, CA

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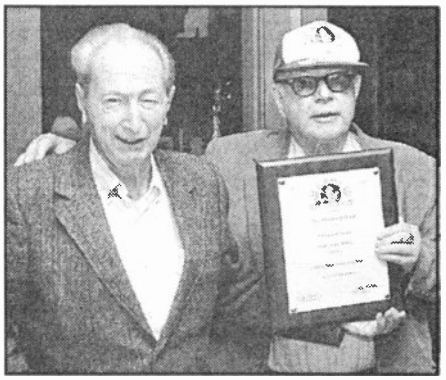
The *Worldradio* Staff Amateur Radio Club had a grand time in the WPX Contest, sponsored by *CQ* magazine. As prefixes are the multiplier in this contest, the WR6 of our club station call WR6WR made quite a few happy to work us. Our category was multi-single. With six operators taking turns we kept the station on the air for the full 48 hours. Look for WR6WR on Field Day.

The multi-single category in contests may become more and more popular. We seem to be in an era of a two-headed monster. First, there are those who, unhappy with their own lives, want to make anyone appearing to be enjoying themselves buckle under. They are the anti-antenna crowd. They are the CC&R Commissars. Everyone will live as they say and under their heel.



Above, Paul Wolf, W6RLP, QCWA Chapter 169 President (with cap), hands Frank Jacobs, W2BSL, his award, and at right, congratulates Norm Brooks, K6FO.

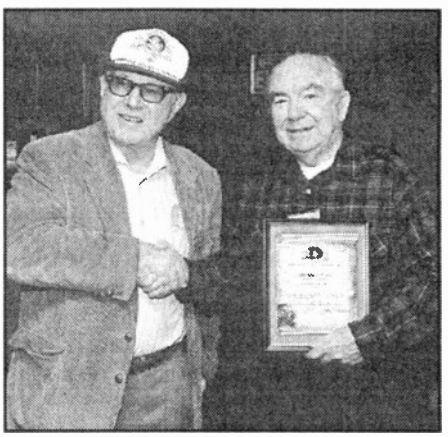
There is also another problem. Do you remember the days when Western Electric made every telephone out of metal? If you took one apart you saw a big husky capacitor across the terminals of the earphone element.

All that is gone as we are now in the day of the plastic $2.98 telephones from Red China. Interference, interference, interference.

Gone also is the day when neighbors tried to be, well, neighborly. Now the feeling is since everyone seems to move every few years there is no point in bending a little and the first thing out of many mouths is, "I'll sue!"

So, those who find themselves in one pickle or another, or both, who crave to contest above the QRP level may find it necessary to engage in a group activity.

While one's operating time may be shortened (compared to single operator classification), there are, as consolation, the pleasures of being in on a team effort. Besides, depending on what shifts are pulled, one's family may not feel totally neglected for a whole weekend.



QCWA Chapter 169 just gave out two awards — a Meritorious Award to the world-famous Norm Brooks, K6FO, for untiring and devoted efforts and services to QCWA, and the other to Frank Jacobs, W2BSL, marking 75 years in Amateur Radio. First licensed at 14, Frank, now 91, spent his career in radio communications, which may give the "RF is harmful" crowd cause to reconsider their opinions. It may be, if W2BSL is an example, that RF is indeed GOOD for you!

— Armond, N6WR

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A very special place.....

RICK McCUSKER, KO6DJ

One of the first sunny, clear weekends this year in South ern California provided the spectacular setting for the Courage HANDI-HAM Camp during the last week of February. The camp was held at a facility owned by the California Crippled Children's Society, Camp Joan Mier, just north of Malibu, California.

This year, 28 campers and instructors from the western U.S. participated in the week-long event. Most of the participants are in some way disabled. Some are blind, and others are physically disabled. They come from Minnesota, Utah, Colorado, Ohio, California and Iowa. Each comes with the desire to learn about Amateur Radio as a beginner, or to earn an upgrade in their current license class.

The staff at the camp offers instruction in each of the license classes, and in Morse code. They also provide other services for the campers, as well as being an inspiration for the campers to succeed in their tests.

Patrick Tice, WAØTDA, is the coordinator for the HANDI-HAM camp. He has been with the organization for many years, and looks forward to coming to Malibu each year. He is the man in charge, as well as being a Morse code instructor at the camp. During the week of the camp, he is very busy taking care of the small details that occasionally (always!) come up. One very unusual problem for the camp this year was mudslides on Pacific Coast Highway that blocked access to the camp. The camp actually started late this year because of the impassable roads.

Dr. David Justis, KNØS, affectionately known as "Doctor Dave" is an Emergency Room Physician at Fairview Southdale Hospital in Duluth, Minnesota. He not only serves as an Extra theory instructor, he is also the camp doctor. Dave has attended every California camp, and most of the Minnesota camps. He was recently honored for 2,500 volunteer hours with the HANDI-HAM organization. When I visited, he was teaching a theory class.

Chris Peterson, KGØBP, is the equipment manager for the Handi-Ham organization, and he is also a Morse code instructor for the camp. His guide dog, "Nimitz" is a friendly, and playful golden Labrador Retriever. Chris has been trying to teach "Nimitz" theory in order to make him a "Guide/Ham dog", but "Nimitz" would much rather play than pay attention.

Linda Reeder, N7HVF, operating the HF station in the cover photo, is another blind instructor at the camp. Her specialty is teaching Morse code. She is a regular feature on the "See You Saturday" net at around 1600UTC on 7268.5 every Saturday morning.

Wayne Keeny, N6CCU, of Los Angeles teaches theory to students using Braille notes. He has been coming to the camp as an instructor for several years. He is a very patient fellow, and takes his time to make sure that the students understand the material he is teaching.

David Coons, WT8W, not only volunteers his time at this camp as an instructor, he is also Vice Director of the Great Lakes Division for the ARRL. He is one of those special Hams that gives back to the hobby much more than he takes.

Bob Beach, W8LCZ, of Springfield, Ohio, has been with the camp for five years. He also is an instructor and is very handy with a screwdriver and soldering iron. Bob goes to both camps every year, and has constructed the equipment consoles used by the HANDI-HAMS. He is ably assisted by Johan Van Nimwegen, KO6I, from Van Nuys, CA, the camp station manager. Johan brings his motorhome, and spends the entire week at the camp. His motorhome is well stocked with those special "treasures, aka junk/parts/doohickies" that everyone needs for a successful station.

Each of the students has all their special needs taken care of by this outstanding corps of volunteers. "If not for these volunteers, this would not be possible," said Pat. "Each of these people give up so much, so much away time from their friends and families, it just amazes me."

The camp was specially designed by the architects to serve those with disabilites since its inception. It serves year-round as a special place for those that it greets like an island of refuge away from the daily challenges. It's located on a bluff, overlooking the Pacific Ocean, just above Highway 1. The grounds are maintained in perfect condition all year, and include several small dormitories, a large dining and social hall, a swimming pool and a basketball court. Each of the dormitories has three rooms and a central bathroom. The camp shares grounds with a Ventura County Fire Station, so fire protection is not a problem.

The campers are given daily lessons from instructors in theory, Morse code and rules and regulations. Each camper receives personal attention from the instructors, usually in a one-on-one situation. At the end of the week, groups are taken to separate rooms or areas and given practice tests along with a final study session to get ready for the big day.

On Saturday, members of the San Fernando Radio Club come to the camp and serve as Volunteer Examiners. They administer the test in several ways.

Michael Hampton, WB6JTJ, was given the 13 words per minute code test. He copies the code on a Braille machine because he is blind and he reads back what he has copied aloud to his examiners. Archie Willis, W6LPJ, Marv Druskoff, K6VIV, and Gene Leary, WB6OOX, follow along with their copies of the text, looking for one minute of solid copy. Michael was close but did not have the one minute. He successfully answered seven of the ten questions about the text and upgraded to General.

Jack Henry, WA6EMC, gave the test to Jewell McGinnis, of San Francisco. Jewel is blind, so Jack reads each question to her, gives the possible answers and writes down the answer that Jewel gives him. She passed her test and is now a Technician. *(Cover photo, top center)*

Simon Rosconi, K6DXN, is also blind and came to the camp to study for his upgrade to General. We had quite a conversation about equip-

ment and some of the experiences we have both had with Amateur Radio. Simon said, "I have been messing around with radios since I was a little guy. In fact, I met my wife through the radio. If it wasn't for radio, I know my life would have been entirely different." Simon has aspirations of being a dispatcher for either a fire department, or an ambulance service.

Each of the above has the same desire to learn about our fascinating hobby, and they all share the same goals. Without the program, they would not be here. The curriculum is adjusted to match the needs of the individual, with each camper getting as much help as they need to succeed.

All of this has a price. The HANDI-HAM organization gets some support from the United Way, but the majority of its funds come from Hams like you and me. Without our support, the camps would not be possible.

A big part of the funding is spent on rent for the camps. All expenses for the campers are paid for by the Handi-Hams while they are at the camp. Almost all of the instructors at the camps are volunteers, and they pay for their expenses out of their own pockets.

The HANDI-HAM equipment program is a truly unique entity. Hams send in equipment for donation, and the equipment specialists either refurbish it, or put it in storage. Some Hams have the impression that they don't have anything that would be appropriate for donation to the program. The equipment specialists can make use of any piece of gear by modifying it for use, or by selling it at the Hamfest that they have every year to raise funds. So that "Acme" HF/VHF crystal-controlled "debronkerlator" that has no value to you can be used to raise a couple of dollars for the HANDI-HAMS.

Refurbished equipment is offered to Handi-ham members at very reasonable costs. The cost is based on factors, such as what kind of equipment, and the ability of the Handi-Ham member to pay for the shipping costs and equipment. Occasionally a member overseas will have a need for a piece of equipment. In that case, the HANDI-HAM member and staff look for someone to hand carry the item to the member. They won't ship the equipment to an overseas address because the shipment has a very good chance of becoming "lost". The gear is also matched to the HANDI-HAM members license class and plans for upgrading.

The organization encourages applications for the camps from any individual who would like to attend. Application packets are available from the Courage HANDI-HAMS by writing to:

Courage HANDI-HAM System
3915 Golden Valley Rd.
Golden Valley, MN 55422

or you can call them at 612/520-0512. They can also be reached by email at: handiham@mtn.org

What Amateur Radio means to me

Third place winner of our recent contest

DICK KELLY, W6BKY

There are many threads that tie our lives together. Ham Radio is one of these threads for me. In addition to being a fascinating hobby, Ham Radio has opened doors for me, both personally and professionally.

My twenty-seven year career in computers was made possible by the technical knowledge I began to accumulate as a Ham Radio operator. In the early days I built all of my Ham Radio equipment. I had to because "commercial" rigs were beyond my budget. I'm not talking Heathkits here, I mean from the ground up using parts salvaged from old consumer electronics. Do I think everyone should start that way? Absolutely NOT, but it did get me started in a field I would have passed by if not for Ham Radio.

On the personal level, Ham Radio has introduced me to my best and dearest friends. Unfortunately, many, including my "Elmer," John Dickens, W6VUV, are now silent keys. I would, of course, have friends good and true without Ham Radio, but there's a special bond with those who share the magic of personal communication via radio. For many, this magic has lost some of its appeal with all the recent advances, such as the internet, cellular phones, etc. For me, however, the magic is still fresh and wondrous.

Sure, most of the thousand or so QSOs I have each year on the HF bands amount to little more than casual chit-chat, but some develop into real conversations, and a few will lead to lifelong friendships.

A life without Ham Radio is unthinkable to me. Thanks to all my Ham friends, new and old, for providing an important thread in my life.

E-mail:
W4zc@macconnect.com

FCC personnel changes

D'wana R. Terry has been named Chief of the Public Safety and Private Wireless Division of the FCC's Wireless Telecommunications Bureau (WTB), which oversees the Amateur Service. Acting chief since January, Terry earlier served as chief counsel to the WTB chief after serving as a legal advisor. Prior to joining the FCC, Terry was an associate in a communications law practice specializing in mass media regulation.

Are communications privacy rules being misconstrued?

The Communications Act of 1934 (The Act) included a section dealing with preserving privacy of communications. Section 705 of The Act prohibits disclosing and/or using the contents of any message to anyone but the intended recipient. It is unlawful under this section to use traffic monitored for personal or business benefit.

Amateur and CB transmissions, marine and aircraft communications, broadcasts to the public or calls from ships, aircraft, vehicles, or persons in distress are specifically exempted. Also exempted are Government, law enforcement, civil defense, business band, public safety (e.g., police and fire) IF these signals are "readily accessible to the general public."

Communications capabilities not foreseen in 1934 have led to changes in the Act. In particular, the Electronic Communications Privacy Act of 1966 and the Digital Telephony Act of 1994 make it a criminal offense to intercept, disclose or use private wire or radio based communications — including mobile, cellular, satellite, microwave, cordless phone calls or paging.

One limitation stemming from these prohibitions which has a potential impact on the design and use of equipment intended primarily for amateur use is the ban against companies to sell or import scanners which cover or can be easily altered to receive cellular phone frequencies. In addition, scanners must not be capable of converting digital cellular frequencies to analog voice audio.

Last summer Congressman Billy Tauzin (R-La), Chairman of the House Telecommunications Subcommittee, introduced a Bill (HR 2369) identified as the Wireless Privacy Enhancement Act of 1997. An article in the W5YI Report for 1 February 1998 said that HR-2369 would have prohibited the sale of any scanner that could receive ANY commercial mobile radio service (CMRS) frequency including police, fire and emergency medical service channels, and made it illegal to monitor or divulge information gathered over frequencies allocated to CMRS. The bill would have also affected amateur and short-wave general coverage receivers: if enforced literally, scanner listeners would not have been able to monitor most of the frequencies below 30 MHz.

Tauzin later said that he had meant only to ban any scanner capable of eavesdropping on private mobile phone calls in the CMRS and

Amateur Radio Call Signs

The following shows the last call sign in each group to be assigned for each VEC Region under the sequential call system as of 01 April1998.
For more information about the sequential call sign sytem, see Fact Sheet PR5000 #206-S dated August 1996, or contact the Federal Communications Commission, Consumer Assistance Branch, 1270 Fairfield Road, Gettysburg, PA 17325-7245, toll-free 1-888/225-5322.

Radio District	Group A Am Extra	Group B Advanced	Group C Tech./Gen.	Group D Novice
Ø	ABØHJ	KIØMI	++	KCØDDQ
1	AA1TM	KE1JJ	++	KB1CPX
2	AB2FD	KG2NZ	++	KC2DIB
3	AA3QX	KF3BJ	++	KB3CIY
4	AF4JA	KU4QO	++	KF4WSW
5	AC5PK	KM5PU	++	KD5DUP
6	AD6EU	KQ6VD	++	KF6QGU
7	AB7XQ	KK7MR	++	KC7BEJ
8	AB8CG	KI8FK	++	KC8JSY
9	AA9VV	KG9MX	++	KB9SLZ
N. Mariana Is.	NHØE	AHØAY	KHØGW	WHØABI
Guam	++	AH2DG	KH2TI	WH2ANV
Hawaii	NH7G	AH6PH	KH7JD	WH6DEN
Amer. Samoa	AH8P	AH8AH	KH8DL	WH8ABF
Alaska	ALØJ	AL7RC	KLØOA	WL7CUS
Virgin Is.	++	KP2CN	NP2KA	WP2AIJ
Puerto Rico	NP3V	KP3BF	NP3VG	WP4NNQ

++All call signs in this group have been issued in this district.

Very Important Notice!!

If you received this copy of ***Worldradio*** and you're not a regular subscriber, this was your free sample copy. We sent it to you so you could see all the news, features and columns in ***Worldradio***.

You are cordially invited to join in with all the other active Amateur Radio operators by subscribing.

Worldradio is two-way communication. Send in your news, information and letters.

Your comments and suggestions are most welcome.

Amateur Radio is a very rewarding activity and ***Worldradio*** hopes to reflect that.

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not restrict citizens from listening to non-commercial amateur and public safety transmissions. The bill has now been rewritten to protect wireless telephone calls and paging. Nevertheless, it has sown a seed which may produce an unwanted crop.

The latest report on this matter appeared in Amateur Radio Newsline #1075, 20 March 1998 under the heading "Don't Believe all that you read on the Internet." The Report says:

An incorrect version of House of Representatives measure HR-2369 posted to the Internet is causing the wrong kind of knee-jerk reaction among radio hobbyists reading the story.

HR-2369 is the Wireless Privacy Enhancement Act of 1998. As previously reported on Newsline, this bill has already been amended by the House Telecommunications Subcommittee. It has also been approved by the full Commerce Committee and is the version that will go to the floor of the House.

Unfortunately, the version of the bill appearing on at least one Amateur Radio web site and quoted by amateurs to the Internet is a very old version. Thanks to the ARRL and other hobby radio groups, the revised version and its accompanying report go to great lengths to protect legitimate recreational radio users including amateurs, scanner enthusiasts and SWLs. And as we have already reported, the new language does not include many of the original prohibitions.

But some amateurs have not taken the time to properly research the latest information on HR-2369 and have posted the inaccurate information to the various news groups as well as to the national packet radio system and several special interest Amateur Radio remailers. Needless to say this is causing a lot of confusion.

It's obvious that this problem is not about to go away on its own. Therefore, Hams are advised to get their information on this and other important issues directly from reliable sources. There are many including the ARRL Letter, the W5YI Report, This Week in Amateur Radio, and, here on Newsline.

Note by the editor: This story illustrates the need for we radio amateurs to keep our eyes and ears attuned to the news, and immediately bring these kinds of things to the attention of those who can make proper representations to lawmakers and regulators.

HR 3572, spectrum protection bill introduced

At the request of the ARRL, a bill has been introduced in Congress to ensure the availability of spectrum to Amateur Radio operators. The bill (HR 3572, the Amateur Radio Spectrum Protection Act of 1998), would protect existing Amateur Radio spectrum against reallocations to or sharing with other services unless the FCC provides "'equivalent replacement spectrum'" elsewhere. The bill was introduced 27 March by Rep Michael Bilirakis of Florida, a Republican, with the cosponsorship of Rep Ron Klink of Pennsylvania, a Democrat.

If approved, the measure would amend Section 303 of the Communications Act of 1997 to preclude reallocation of any primary Amateur Radio allocations or diminution of any secondary allocations, and would block any additional allocations within such bands that would substantially reduce their utility to Amateur Radio, unless the Commission at the same time provides "equivalent replacement spectrum" to the Amateur Service.

The bill points out that a basic purpose of Amateur Radio is to provide "voluntary, noncommercial radio service, particularly emergency communications," and that Amateur Radio has "consistently and reliably" provided emergency communication during and after disasters. The measure notes that the FCC has "taken actions which have resulted in the loss of at least 107 MHz of spectrum to radio amateurs."

HR 3572 has been referred to the House Commerce Committee, and an effort is under way to enlist additional co-sponsors for the measure.

Antenna whips lawyers

JOAN D. WOOD

Some thirty years ago, the Wood Family, then of Paradise Valley, Arizona, became involved in an unusual lawsuit which, though quite a challenge, had some memorable moments we still treasure.

To backtrack a little, son Brian, at about thirteen, had been given a radio receiver set for his birthday. He became fascinated listening to the Hams talking to each other from all parts of the world. Studying code and learning everything he could about Ham Radio, he decided it was for him, and he wanted to build the "whole works" himself. His dad wanted him to earn the needed money, so the big question was how? With his plan in mind, Brian asked his dad if he would lend him the capital to finance his idea. He would buy quantities of flagpoles and American flags, sell them throughout the widespread neighborhood, pay back his dad, and start building.

Before long, our young entrepreneur's shack — a good half of his dad's tool shed — became alive with "dit-dit-dahs" and later contacts all over the world. WA7FIK was off and running. We truly had an avid Ham!

Then came the shock. Three years had passed when suddenly our builder sued us and Brian for breach of deed restrictions because of Brian's high antenna! Now 16, Brian was livid. Immediately he checked the deed restrictions. Nothing indicated a violation Nevertheless, we would have to prove this in court, so Brian and his dad got busy.

Among other things, the suit referred to the antenna as a "structure" and "ugly" (Brian thought it was beautiful!). Brian and his dad proceeded to take pictures from the top of a hill overlooking a myriad of rooftops. Needless to say, the entire area was alive with antennas and telephone and electric poles. This painted such a busy picture that one barely noticed the antenna in question.

Then they went from house to house asking owners if there were any interference on their radios and TVs. Each reply was "No," and each was quite willing to sign Brian's petition. In fact, some offered to testify in his behalf against such a ridiculous charge.

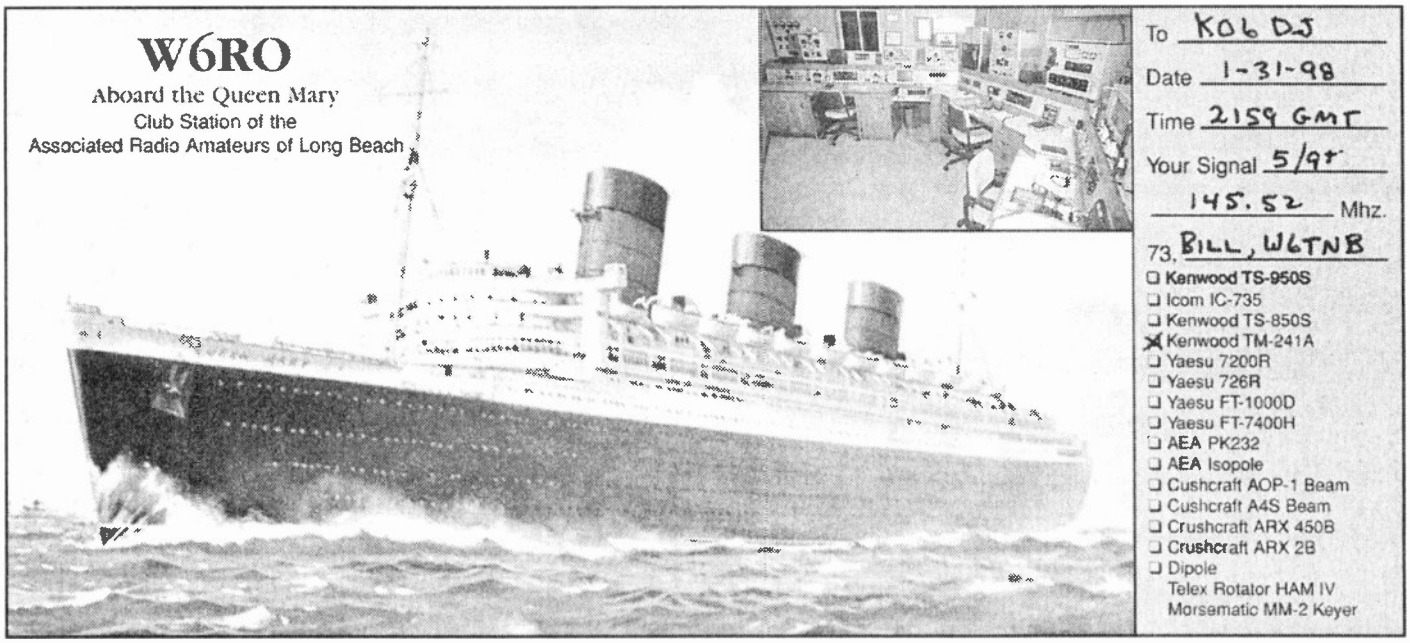
Much time was spent ferreting out any possible problems. Finally, the day of the trial arrived. We all had butterflies, that is, all but Brian. He knew he hadn't done anything wrong, and he really knew the subject of Ham Radio. However, even our lawyer was surprised when the prosecution called Brian to the stand first, as their witness! The lawyer asked him some general questions and then asked his final, fatal question, "How does this Ham Radio work?"

Brian promptly proceeded to reply in great technical detail, and when the lawyer tried to stop him, Brian replied, "You asked me a question that must be answered in full, and I intend to answer it." Unruffled, he stepped down from the witness stand and went to the blackboard to illustrate his point. With that, the presiding judge, who looked to be a crotchety older man, covered his mouth with his hand to hide a grin, and I was sure that Brian would prevail.

A number of Hams and respected businessmen testified for him, but the prize testimony came from a retired Navy captain who operated Senator Barry Goldwater's big Ham station high on the hill beside his home, which was just down the road from where we lived. He described the great services rendered by Ham operators in emergencies and how important it was to encourage young people to be active in such positive work. Then he further praised Brian's efforts.

Throughout the two-day trial, the judge restrained his obvious enjoyment of the case and finally delighted in dismissing it with a smile!

Years later, when Brian was building his home in a new area, the first thing he did was form a homeowners' association, become its first president, and as the first order of business, present deed restrictions, which included, need I say, the acceptability of Ham Radio installations and antennas in that area. Today his antenna stands tall and proudly reminds us all of the lesson learned in legally standing up for what is fair and right. (Joan Wood now lives in Gardnerville with her sister Mimi Jobe. I would like to thank Joan for writing up this delightful story after relating it to us at a Christmas party last year — N7MXA) — *Sierra Intermountain Emergency Radio Association "SIERA News"*



An elegant Lady-of-the-Sea

RICK McCUSKER, KO6DJ

Recently I had the opportunity to visit the Amateur Radio station aboard the Queen Mary in Long Beach, California. Actually, my wife was attending a cross-stitch festival on the ship, so I decided to do a story about the Ham shack. (She has no interest in Amateur Radio; I have no interest in stitchery!)

Although I had spent the better part of my youth in the Long Beach area, I had never been aboard the Queen Mary. The ship was opened for tours about the time that Uncle Sam requested my services, and I have not lived in the Los Angeles area since 1970.

The first impression you get on arrival at the dock is "How can anything this big have ever been able to actually move through the water?" Yes, she is massive! She is 1,019 feet long and 118 feet wide and top speed was 29 knots. She was so fast that when she was used as a troop transport in World War II, the German government offered a reward and the Knights' Cross to the U-boat captain that sank her. Fortunately, her speed allowed her to out-maneuver torpedoes. She successfully delivered up to 16,000 troops per voyage, safe and sound.

During 1966/67, the Queen Mary was scheduled to be retired. The City of Long Beach, California, saw this as an opportunity to bring a piece of maritime history to the area, and purchased the ship in 1967. Plans were made to convert her into a floating hotel and tourist attraction, as well as a learning center for residents of the area.

Nate Brightman, K6OSC, brought up the idea of an Amateur Radio station aboard the Queen during her final voyage from Southampton to Long Beach, to the members of the Associated Radio Amateurs of Long Beach. After getting the green light, Nate started a very difficult "paper chase" trying to get things organized.

An application was filed with the City Manager's office for permission to install a station for the voyage. The letter granting the request arrived the same day as the ARRL Southwestern Division Convention was being held in Los Angeles, and an announcement was made during the "Open Forum" about the plans.

Permission also had to be obtained from the British government. A letter was sent, but no reply was received. Virgil Talbot, ARRL Southwestern Division Vice Director was going to England, and he tried to see C. Eric Godsmark, the official in charge of issuing radio licenses for the British General Post Office, but could not get in to see him.

Nate then wrote to John Savage, G3MSS, the Collins representative in London. John met with Mr. Godsmark, and was told that the club could get permission provided that they paid a British amateur to operate the station. Since this was a club project for the ARA of Long Beach, the condition was not acceptable.

Ray Myers, W6MLZ, the Southwestern Division Director gave Nate the name of an amateur whom he knew at the State Department. A phone call was made, and the situation was explained. Under normal protocol, ARA of Long Beach was not allowed to deal with the British government. But, if the City of Long Beach would send a written request for the station to the State Department, he would send the request through the U.S. Embassy in London.

Nate filed a request with the City Manager, and was told that as soon as proof of a ticket being purchased for the voyage was produced, the request would be sent. The club used its funds, borrowed enough money to make a deposit on the ticket, and the City of Long Beach sent the letter to the State Department. Within a week the State Department notified Nate that the request for the station had been granted.

Now came the difficult problem of raising the money for the rest of the ticket. The club applied to the Long Beach Police Department for a permit to solicit funds, a requirement for public fundraising. Merchants and friends of amateurs were solicited for funds. Amateurs who received QSL certificates sent contri-

butions so that by the time the ship arrived in Long Beach 07 December 1967, enough money had been raised to cover all expenses of the operation.

A difficult(???) search for a volunteer for the final voyage from Southampton to Long Beach was made, and Al Lee, W6KQI, a member of the club, was issued the license, GB5QM. This was the first time that an Amateur Radio station had been allowed aboard the Queen, and the first time a British license had been issued to an American.

The voyage lasted six weeks due to the route of the Queen around Cape Horn. At 118 feet wide, she is too wide to go through the Panama Canal, and several stops were made for final visits and to take on fuel.

During the final voyage, Al made over 3,000 contacts on all of the amateur bands. Each Ham who made contact with the Queen was sent a special commemorative QSL certificate with details about the voyage and a very nice photo of the Queen. Equipment for the final voyage was a Swan 500 transceiver, donated by Swan, and was given a very good workout.

On arrival at Long Beach, the radio operator aboard the Queen sent an arrival message to the U.S. Coast Guard radio station at Long Beach. At the conclusion of this message, every ship in the area sent greetings and farewell messages to the Queen. The radio operator was kept busy for over two hours handling unanticipated traffic and, at the conclusion of this traffic, GBTT (the Queen's international call sign) went silent forever.

After the Queen Mary arrived, the ARA of Long Beach sent Mr. Godsmark a plaque of the QSL certificate. The plaque was presented to him at the American Embassy in London. Nate also sent several newspaper articles about the ship and they started corresponding. Mr. Godsmark was also a Ham, but preferred to be relatively inactive while in office. In 1973, he visited the "colonies" and was the guest of Nate, K6OSC, and his wife, Evelyn, WA6TZW. They traveled over 3,000 miles by car, and visited the Queen Mary, as well as the usual tourist destinations, including Las Vegas. The two families have been friends for over 30 years!

During renovation, Nate wrote to the Long Beach City Manager suggesting that an Amateur Radio station be installed on the ship. No action could be taken on the suggestion at that time.

When renovation was completed in 1970, the Queen was moved by tugs (she will never move under her own power again), to her permanent location. During this move, Nate, K6OSC, and his son Howard, K6OSD, operated as W6RO and made several contacts. Another commemorative QSL card was created, and sent to Hams who made contact during the move.

On 20 June 1974, Nate wrote a 12-page proposal for Amateur Radio operation aboard the Queen Mary. Although the idea was favorably received, money for establishing a station was not available. Then in 1979, the ship was turned over to the Port of Long Beach, money was available and the project took off.

During the Amateur Radio installation, insurance was a concern, and the ARRL was contacted for insurance coverage. ARRL replied that they can't provide insurance for a station located on a ship. But because the Queen Mary had almost all of her machinery removed during renovation, and the plans to convert her into a hotel were being implemented, her official classification was changed. Instead of being a ship, she was now a building, subject to building codes for the City of Long Beach. In order to qualify for ARRL insurance coverage for the station, copies of the Coast Guard documentation for the change in status had to be submitted along with another application for coverage. ARRL has provided coverage ever since.

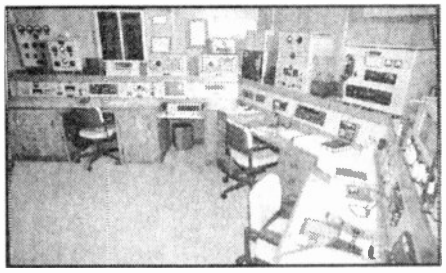
Finally, after years of frustration, W6RO, aboard the Queen Mary, went on the air on 27 April 1979. The station has been in continuous use since that date.

Nate Brightman, K6OSC, has been the station manager of the Queen Mary station, W6RO, ever since the permanent Amateur Radio station was installed. Along with other members of the ARA of Long Beach, he helped in the construction of the Amateur Radio station and the radio exhibit just outside of the Wireless Room.

It was decided the Wireless Room would be staffed by at least one Amateur Radio operator during the hours the ship was open to the public. Volunteers were given training in the equipment aboard and in the historical equipment that remains as part of the wireless room.

Cushcraft donated the antennas and they were installed above the Wireless Room.

There are currently dipoles for 80 and 40 Meters, a vertical HF antenna, and a 3-element multiband beam. The longwire antennas that formerly had been strung between the smokestacks were removed during the renovation. (These antennas still appear to be in place, but the wire was replaced by rope!!) Cushcraft continues to donate the antennas that must be replaced every three to five years, due to the salt air environment. They also have a problem with very large birds making rough landings, using the antennas as a place to rest and deposit souvenirs.



W6RO shack, original gear on top of console, with Ham gear mounted below.

Radio equipment for the station is donated by Yaesu, Kenwood and Icom. They update the equipment on a regular basis.

Each volunteer working aboard the Queen is required to be in uniform when on duty. The uniform currently being used is a white shirt, black necktie and black or dark blue pants. When the Queen first opened for tourists, the uniform resembled the one worn by the officers who staffed the wireless room, but because the weather in Long Beach can be warm during the spring and summer months, they usually had a "ripe" odor and required cleaning once a week. With over 80 uniforms being cleaned each week, a decision was made to change the uniform to the one being used today.

Some time ago, a U.S. Navy admiral was being given a special VIP tour of the Queen. During this tour he visited the Wireless Room and was impressed by the "officers" and their knowledge about the operation of the wireless equipment. He was later told that they were actually Amateur Radio operators, and that they were volunteers. He was very surprised to hear this, and sent his compliments to the "professional officers" of the Wireless Room.

In 1997, in an effort to save money, the City of Long Beach considered selling the Queen Mary to Japan. There was a promise of financial compensation to last over several years, but clear minds prevailed, and the Queen is going to stay in Long Beach.

As you approach the Queen Mary, you will notice a very nice, quaint "village" of souvenir shops and small food concessions. During the next three years, this village area will be removed and replaced by a parking structure, another hotel and better shops and food concessions.

To your right, you can't help but notice the huge dome sitting there like an inverted satellite dish. Howard Hughes' "Spruce Goose" wooden seaplane was displayed inside it for several years, until it was moved to the Pacific Northwest. The dome is now used for movies, and all of the "Batman" movies were filmed inside. The dome will be retained in that location for several more years, and has been leased by a major studio for more movie use.

There are currently over 100 Amateur Radio operators in the group of volunteers that staff W6RO. Any licensed amateur is allowed to operate from the Queen Mary, and operators from around the world have been "guest" operators while visiting. Every guest operator has his/her name entered in the visitor's log and is given a certificate verifying that she/he was a guest operator aboard the Queen.

During my visit aboard the Queen, I operated in the 20-meter band, and made contact with AB7RU and KK7LQ. Both were very surprised to be talking to the Queen Mary, and each will receive a nice QSL card with an excellent photo on the face of the card. I was using a Yaesu FT-1000 that has been donated by the Yaesu Corporation, going into a vertical antenna, at 100 watts. They can't have amplifiers aboard because any power higher than 100 watts gets into the hotel television system! The operator on duty, Bill Holder, W6TNB, showed me the installation of the amateur equipment, and the original commercial equipment that is still in place in the Wireless Room. Bill is also Assistant Manager of the station and is responsible for indoctrinating new operators and maintaining the equipment.

After my turn at operating, Nate and Bill served as my personal tour guides on a first-class tour of the ship. I visited all of the areas open to the public as well as some areas that are available to employees only. It was a very long tour!

If you are fortunate enough to work W6RO, QSL cards are available by sending an SASE (business-size) to: P.O. Box 7493, Long Beach, CA 90807.

If you are going to be in the Long Beach area, I strongly recommend a visit to the Queen Mary. Amateurs that are interested in operating W6RO should let the staff know about two weeks ahead of time, if possible. Nate Brightman, K6OSC, is the station manager, and will let you know in advance if an operator is available during your visit to the Queen Mary. Nate can be contacted at: 4219 Gaviota Ave., Long Beach, CA 90807-3012, or by e-mail at: nehtan@juno.com. His phone number is 562/427-5123.

My thanks go to Nate, Bill, and the rest of the Associated Radio Amateurs of Long Beach for keeping such an outstanding piece of maritime history available for all Amateur Radio operators and those interested in such a magnificently restored vessel.

Hamfesting with AA3JU,

or, "How to buy a boat anchor and still live indoors"

GEORGE C. COOK, AA3JU

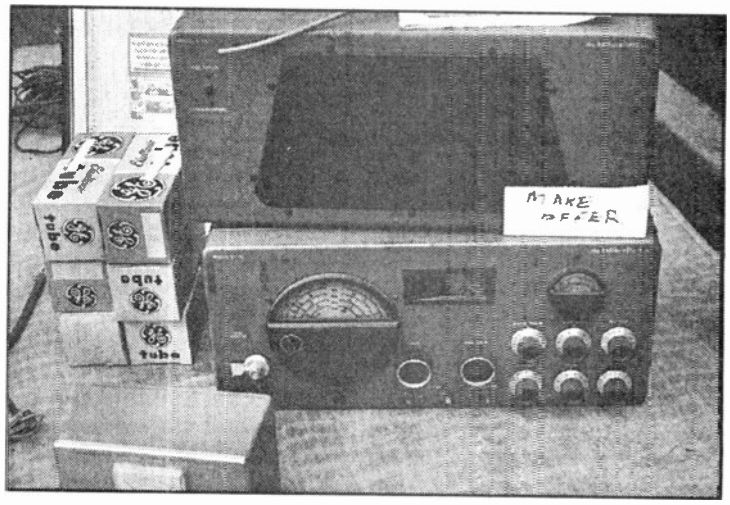
Hams are certifiably insane. All of us are. And no matter how you try to deny this fact, you are too! I can prove it. Who among us has not risen up at 4:30 a.m. to trek down to some distant athletic field just so that they might be first through the gate to peruse tables heaped high with the kind of treasures that can be found only at hamfests (junk)?

Now most sane, rational folk (unless they are employed by the local dairy) are sound asleep at the predawn hours of a Saturday or Sunday morning. There are those who may argue that both fishermen and hunters get up mighty early on weekends, and with that argument, I rest my case. "We are insane!"

Let's have a look at the wonders to be found within the gates. Now I know that copious pages have been written concerning getting the best buy at a hamfest, and how to buy a really good second hand radio there. Enough that you could likely fill a set of encyclopedia covers with them. But, alas, they all are bunk.

What we go to find at hamfests are the discarded diamonds and rubies of a thousand shacks. Things that are held up on National Shack Clean Up Day (that's when the wife says, "Clean this mess up or you are gonna live in the garage"). And you, its proud owner say, "No, I will not throw this away. I'll take it to a hamfest and sell it." So you do. And there you are, carefully looking over the assorted Thingamabobs and doojiggys haggling over the price.

Now if you REALLY want to have a successful trip to a hamfest, ya gotta buy a boat anchor. Yup, some truly god-awful HUGE piece of gear at least 40 years obsolete. The bigger the better! I don't know where all those Hamurflux HZR 15s go or what people do with them. (Or for that matter what I should do with the one I bought.) Seems to me that holding up planks to use as tables at a hamfest might be a good idea. Or perhaps as corner stones for a good-sized skyscraper. But I do know that they are truly the best thing you can get at a hamfest. But I don't think that your wife will agree.



Ah yes, the little woman. Can't forget about the wife. They have a sixth sense about these things. I can hear her toe tapping from four blocks out. They get this look on their face that says, "You are NOT bringing that hunk of junk into the house!!!" No matter what level of pleading and begging you do, only one set of words will placate her. "OK, honey, I will take some of my old stuff to the next hamfest and sell it." And so the cycle continues. There is one other option. You can convince her to get her own ticket. Mine did. And now she goes to hamfests with me. Now the big question is what will we ever do with that bright yellow Gonset Communicator she bought?

No poignant dissertation of hamfestery would be complete without a hats off bow to the food served there. Of all the committees involved with a hamfest the food people are amongst the hardest and longest working of the lot. I have no doubt that for any given Sunday morning hamfest the coffee starts brewing sometime on Wednesday evening. The last show I was at, I lucked into a last hour special on burgers and coffee. Took them right home and patched up several leaks in the roof where I had recently removed a tripod. It took me nearly a year to figure out what purpose the hot dogs served, but suddenly it came to me. If you slip one or two of them between the spaces of your vehicle springs, you will instantly have enough additional buoyancy to haul home a Hamurflux, a Gonset and even a WWII surplus scope that I just know I will fix some day.

So before the season ends, come on down to a hamfest and let your insanity show a bit. Amongst all other things, it is a great place to shake hands with the other assorted bolts and nuts on the bands. I'll be there. I am the one wearing the SPAM T-shirt, haggling over the price of a broken microphone.

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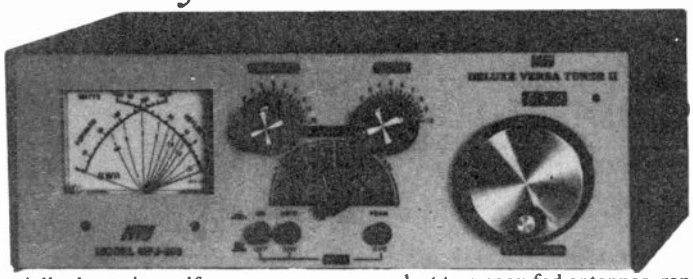

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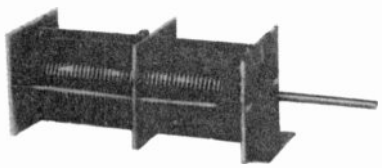
AirCore™ Roller Inductor



MFJ-969's *AirCore*™ Roller Inductor, three-digit turns counter and spinner knob gives you exact inductance control for *absolute minimum* SWR.

MFJ's exclusive *AirCore*™ Roller Inductor has an air core *that can't burn up!* You get ultra high-Q, the lowest loss, highest efficiency and highest power handling of any roller inductor in ham radio.

MFJ's exclusive *Self-Resonance Killer*™ keeps potentially damaging self-resonances away from your operating frequency.

Large self-cleaning wiping contact gives you excellent low-resistance connection without contact arcing or burning.

Solid ¼ inch brass shaft has self-align bearings for smooth non-binding operation.

Covers 6 Meters thru 160 Meters

The MFJ-969 covers *all* frequencies from 6 Meters through 160 Meters, *including the "magic band"* -- the widest matching range of any full featured antenna tuner.

Match any Antenna

You can match dipoles, verticals, inverted vees, random wires, beams, mobile whips, shortwave receiving antennas -- nearly *any* antenna. You can use coax cable or balanced feedlines. Has heavy duty 4:1 balun.

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MFJ's lighted Cross-Needle Meter shows you SWR, forward and reflected power *simultaneously*. It reads *true peak* forward power and average power on 300 watt or 30 watt ranges.

Meter light has ON/OFF switch and requires 12 VDC or 110 VAC with optional MFJ-1312B, $12.95.

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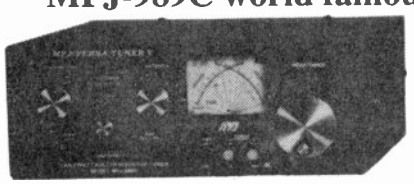

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Match dipoles, verticals, inverted vees, random wires, beams, mobile whips, shortwave -- nearly any antenna. Use coax or balanced lines.

MFJ's new *AirCore*™ Roller Inductor, three-digit turns counter and spinner knob gives you exact inductance control for absolute minimum SWR. *It has an air core that can't burn up!* An exclusive *Self-Resonance Killer*™ removes damaging self resonances.

Two *massive* 250 pf transmitting variable capacitors with extra wide (0.27 inch) spaced stator plates can handle 6000 volts and amps of RF current for arc-free operation.

Lighted Cross-Needle meter lets you read SWR, forward, reflected power *simultaneously*. Read peak and average power in two ranges.

The MFJ-989C's six position antenna switch is made of two individual ceramic wafers wired in parallel. Wide spaced, heavy duty contacts handle extreme current and voltages. *We've never burned one up!*

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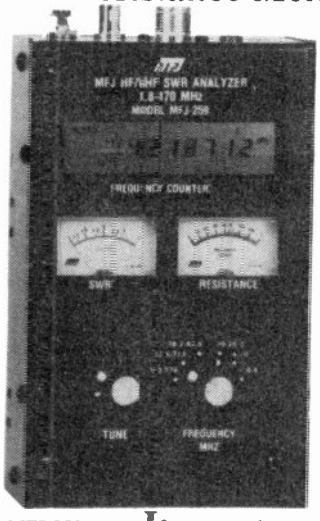
MFJ . . . the world's most trusted name in antenna tuners

MFJ *HF/VHF* SWR Analyzer™ with RF Resistance Meter

Read your antenna SWR from 1.8-170 MHz . . . 10-digit LCD frequency counter . . . RF Resistance Meter™ . . . smooth reduction-drive tuning . . . simple-to-use . . .



MFJ-259 **$239.95**

If you work with antennas, MFJ's revolutionary new *SWR Analyzer*™ is the best investment you'll ever make! Now you can diagnose a wide range of antenna problems instantly with one easy-to-use instrument.

What the MFJ-259 Does

The MFJ-259 gives you a complete picture of your antenna's performance anywhere between 1.8 and 170 MHz -- you can even check SWR outside the ham bands without violating FCC rules. Set the bandswitch and tune the dial--just like your transceiver. SWR is displayed instantly!

RF Resistance Meter™

Does 2:1 SWR mean 25 ohms or 100 ohms? *The new MFJ-259 tells you at a glance!*

Now you can measure RF resistance up to 500 ohms at minimum SWR -- instantly -- on MFJ's *exclusive* side-by-side RF Resistance and SWR Meters!

Take the guesswork out of building matching networks and baluns for your antennas.

Watch the effects of spacing on radiation resistance as you adjust your antenna.

Here's What You Can Do . . .

Find your antenna's true resonant frequency from the shack.

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Tune critical HF mobile antennas in seconds -- without subjecting your transceiver to high SWR.

Measure your antenna's 2:1 SWR bandwidth on a single band, or analyze multiband performance over the entire spectrum from 1.8 to 170 MHz!

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The MFJ-259 is fully portable, powered internally by 8 AA batteries or 110 VAC with MFJ-1312B, $12.95. It's in a rugged all metal cabinet that's a compact 4x2½x6¾ inches. Take it to remote sites, up towers, on DX-peditions -- anywhere your antennas are located.

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MFJ SWR Analyzers™ work so good, many antenna manufacturers use them in their lab and on the production line -- saving thousands of dollars in instrumentation costs! Professional installers and technicians use them worldwide.

Get More by Paying Less

With the MFJ-259, you get full 1.8 to 170 MHz coverage, simple operation, instantaneous readings, a high accuracy frequency counter and MFJ's exclusive *RF Resistance Meter*™-- all for a low $239.95.

1.8-170 MHz *SWR Analyzers*™

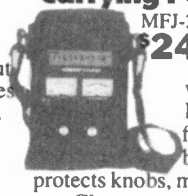
MFJ-249 **$219.95**

MFJ-249 *HF/VHF SWR Analyzer*™. Same as MFJ-259 but less RF resistance meter. Includes 10-digit LCD frequency counter, *full* 1.8-170 MHz coverage and smooth vernier tuning.

MFJ-209 **$109.95**

MFJ-209 *HF/VHF SWR Analyzer*™ is same as MFJ-259 without LCD frequency counter and RF resistance meter. Has jack for external frequency counter, smooth vernier tuning.

Carrying Pouch with Window



MFJ-29B **$24.95**

Tote your MFJ-259 /249/209 *SWR Analyzer*™ anywhere with this custom Carrying Pouch. Made with a special foam-filled fabric, it cushions blows, deflects scrapes, and protects knobs, meters and displays from harm.

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Plug a dip meter coupling coil into your *MFJ SWR Analyzer*™ and turn it into a sensitive and accurate bandswitched dip meter.

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440 MHz *SWR Analyzer*™

MFJ-219 **$99.95**

Read SWR of any antenna 420 to 450 MHz -- just plug coax of your antenna into SO-239 connector, set frequency and read SWR. Uses microwave integrated circuits and microstrip technology. Jack for external frequency counter. 7½x2½x2¼ in.

MFJ-219N, $99.95, sames as MFJ-219 but with "N" connector.

MFJ-219 uses 9 volt battery or 110 VAC with MFJ-1312B, $12.95.

MFJ 2 Meter *FM SignalAnalyzer*™

Measure signal strength over 60dB range - Check and set FM deviation - Measure antenna gain, beamwidth, front-to-back ratio, sidelobes, feedline loss in dB - Analyze audio quality with scope

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MFJ's revolutionary handheld 2 Meter *FM SignalAnalyzer*™ lets you measure signal strength with over 60 dB dynamic range; check and set FM deviation of your packet and voice radios; measure antenna gain, beamwidth, front-to-back ratio, sidelobe suppression and actual feedline loss in dB.

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You can tune in any signal between 143.5 and 148.5 MHz. It's built-in discriminator-meter function makes accurate tuning simple and easy.

You can plug in headphones to help you tune in and identify signals easily. There's also a battery check function. Uses 9 volt battery. Measures 4x2½x6¾ inches.

Here are some countless jobs your MFJ *FM SignalAnalyzer*™ can perform . . . evaluate antenna performance, detect feedline faults, plot field strength patterns, position your antennas, measure preamp gain, track down hidden transmitters, check and set deviation, analyze audio quality, scan the band, tune transmitters and filters, and much more!

The MFJ-224 2 Meter *FM SignalAnalyzer*™ may be the most useful 2 Meter handheld test instrument you may ever own.

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MFJ . . . the world leader in ham radio accessories!

"Fresno, We Have a Problem"

Myrna and Michael Staal watch and listen with parental concern as the troubled Russian space station Mir continues its mission.

But the Fresno business owners also feel a sense of pride knowing they have helped Mir in its time of crisis.

Antennas designed in the Fresno warehouse of M², the company co-owned by Staal and his wife, have become a vital link in the communications between the damaged space station and Earth.

When a fire aboard the space station destroyed its power supply in February, space-to-Earth communication was virtually limited to the waist-strapped hand radios worn by Russian and American astronauts.

It was an Earth-based antenna designed by Michael Staal that kept the radio contact clear and continuous. "We wouldn't be talking to the Mir without him," said Michael Yettaw, communications work leader at NASA Dryden Flight Research Center in the Southern California desert.

Yettaw said Mir was able to communicate with Moscow through the ground-to-air radio link overseen by NASA's Dryden Flight Research Center, largely because of help from Staal's antenna based at Edwards Air Force Base. Yettaw said he has called on the special antenna-making skills of Staal many times over the past four years, but never have his products been so critical.

The antenna, sold to NASA for about $1,200, is an aluminum pole stretching 11 feet into the sky, interconnected with a series of rods. It resembles a rooftop television antenna. The Staals say the size and shape of the antenna enable it to pick up signals from great distances.

Its making, however, is detailed and calculated, and involves the expert knowledge of Staal and sophisticated computer technology.

Stall is considered by many to be a Ham Radio and antenna expert whose advice is sought by angencies worldwide. M² manufactures and sells antennas, positioners and accessories primarily to Amateur Radio operators. Last year, the company had sales of about $1 million.

M² also has manufactured antennas or satellite systems for several NASA agencies, aerospace industries including Lockheed, embassies around the world and the United Nations. This portion of the business is quickly growing, and has earned Staal a reputation among the communications industry elite.

He received an achievement award last year from NASA for designing a new antenna, which he helped install in Antarctica, to communicate with the IMP-8 McMurdo satellite.

Staal designs much of the equipment with help from son Matthew. Myrna is the president of the company, which has 15 employees.

In the 10,000-square-foot warehouse, Staal points out a model similar to the antenna aiding contact with Mir. He said the antenna was designed before the onset of Mir's problems, but he never thought it would play such an important role. The antenna ended up being the only thing still picking up Mir signals after it experienced problems, Staal said.

It's something that Staal said he could never have imagined.

An Amateur Radio buff, he began experimenting as a child by hooking up his radio antenna to his bedsprings for better reception. He later realized he could increase reception by connecting an antenna to a window screen. Years later, he crafted an antenna of beer cans — when they were made of steel, not aluminum, he pointed out.

He pursued a series of jobs using his radio background, including work at Lockheed, and eventuallly launched his own business building and designing radio antennas, satellites and other products in the Bay Area. The Staals, both graduates of California State University, Fresno, moved the business to Fresno in 1988.

The name of the business - M² - reflects the first letter in both Michael and Myrna's names.

Following the significant role M² equipment played with Mir, NASA has increased its orders from the Fresno business.

The Fresno company recently designed a special pedestal for NASA-Mir contact, a mechanically point-and-direct antenna system to catch signals in a flight path. The price tag: $10,000.

A larger company might have charged $250,000, said Michael Staal. M² can charge less because it is a small company, he said.

That is part of the attraction, said Yettaw, of NASA Dryden Flight Research.

"We have a fleet of small vendors like this that we are greatly indebted to. This is the new NASA that does things faster and cheaper," he said, and small companies with quick turnaround are helping.

Buying from a small, family-owned business is more rewarding, adds Yettaw.

"When you buy from a guy like Mike, you are buying from a small company with few employees instead of a huge corporate entity, and you have to feel good about that."

"We like to think we are helping reduce our country's deficit," said Myrna Staal.

It's a great feeling, said son Matthew, to think, "Wow — You're building something for NASA. It's not just some widget." — *reprinted with permission from* the Fresno Bee

Amateur Radio links shuttle to Reno Air Races

NEIL DRESBACH, WA7KCD

Last year at the 1997 National Championship Air Races, I had the opportunity to meet Astronaut Curt Brown, when he was brought out to visit our pylon. During our visit we talked about the 1992 Air Races when members of the Sierra Nevada Amateur Radio Society (SNARS) provided the Ham Radio link between the Air Race announcer and the space shuttle.

A few weeks before the air races, SNARS was contacted about the possibility of using the club portable repeater to provide a 2 Meter link between the space shuttle and the announcer at the National Championship Air Races. The purpose of this link was to provide a link for the announcer, along with another astronaut whose name escapes me, to do an interview with the Shuttle commander, "Hoot" Gibson. He was not only the Shuttle commander, but one of several astronauts who are pilots flying at the Air Races. This interview would be put out over the public address system for the crowd to hear, courtesy of Jim Newell at the announcer's stand.

Several days of frantic preparation, phone calls, radio checks etc., followed, leading up to the day prior to the interview. The day prior to the "live" day found Rex Parcels, K7AZ, standing by the repeater trailer pointing a beam antenna in all directions looking for a signal on the agreed frequency. Meanwhile, Ron Dennis, N7GXI, Rick Hallman, N7TR, Jim Newell, K7JN and Jay Ranney, K7WYC, were checking and rechecking equipment and their watches waiting for the window for the Shuttle to appear.

Right on schedule "Hoot and crew" appeared on frequency with a nice signal. All of the necessary checks and reports were run to confirm that it "was a go" for the next day.

After the "business" was taken care of, and before the Shuttle window closed, each of us was given an opportunity to make a contact with the Shuttle. When it became my turn, I told "Hoot" that he would be "on the clock next time around," a phrase used to inform race pilots that their next lap would be an officially timed lap for their qualifying. His response was that they had calculated it would take approximately .3 to .4 seconds to cover the 3.11 mile course.

The next day was one of waiting and wondering if this would work as it had "in practice." Finally the moment of truth arrived, the window opened, the shuttle was there, and we were on the air, much to Jim's relief. After standing in front of thousands of people, in the stands, holding a hand held listening to Sandy, the announcer, telling the crowd what was going to happen and not hearing anything on the radio, I think he was relieved to hear them. At one point the shuttle crew reported they were north of Reno going over Pyramid Lake and at that point the crowd turned looking to the Northeast. I'm not sure if they expected to see the crew wave out the window or what.

The event went just as planned with the crowd really enjoying the event, not to mention the good advertising for Ham Radio.

Finally meeting one of the crew was really interesting, especially to hear his account of the contact. One of the things I have always found to be fascinating with this hobby of ours is when you finally meet someone you have talked to, it seems to add a whole new dimension to the event or contact. — *SNARS newsletter, "Static"*

An unusual QRP antenna

KENT BAILEY, WA4DQU

The antenna in the photograph was set up to keep a schedule with my buddy in Connecticut from my home in northwest Georgia and takes less than ten minutes to set up. The antenna is facing north east at 35 degrees magnetic. It's made up of a 20-meter dipole supported on two bi-pods at seven feet above the ground with a wire reflector located 12 feet from and parallel to the dipole. The reflector is supported by two 12x6-inch plywood standoffs. I am feeding the dipole with 42 feet of RG58U coax from my 2-watt QRP transceiver.

The bi-pod is easy to make. The one in the picture is made from two one by one and half inch sticks, eight feet long. Drill a hole about six inches from the top and another hole three feet up from the bottom of each stick. Tie the top together and knot a line through the three foot holes about three feet long so the legs do not spread out too far.

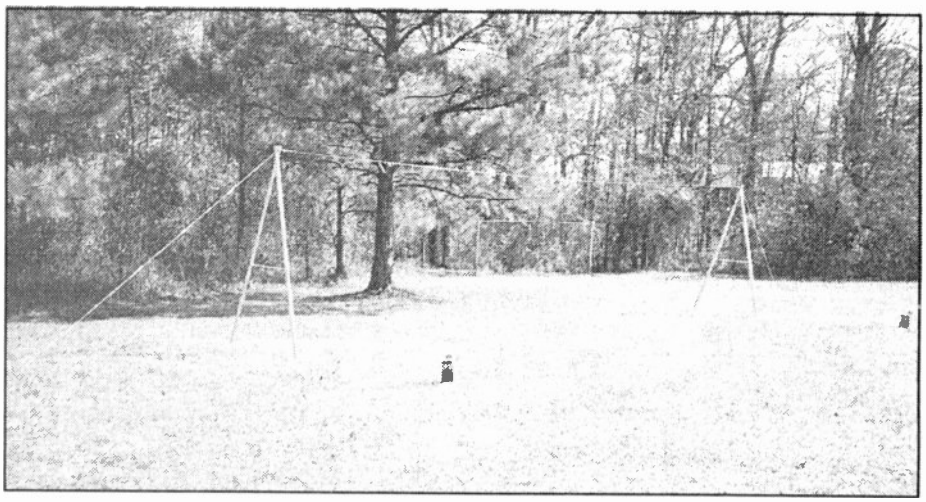
All you need now is some tent pegs and nylon line and you can set up the antenna, work everyone you can, and take the antenna down before the yard police see it. I worked my schedule and had rag chews with Hams in New York, New Hampshire and Quebec.

Experimenting with this antenna has been one learning experience for me. I found that once I adjusted the dipole for the best SWR, I could use it from 20 feet up to laying on the pine needles and the SWR would still be good. Look at the wall of trees in front of the antenna and remember that I am QRP only. Just two watts out! The trees absorb some signal and the ground absorbs some signal, but not enough to prevent good contacts. At least you can work your friends on the other side of the mountain.

I also learned that the ground does not reflect a thing. All it does is absorb signal. That is the reason for the reflector. The reflector needs to be about five percent longer than the dipole and 12 feet from the dipole. It does not matter if your dipole is only four feet above the ground, keep the reflector 12 feet from and parallel to the dipole. Tune the reflector for the best SWR.

I worked Spain, Belgium and Germany with the antenna only four feet high. If you really want to learn something about antennas you need to play with a cheap old wire antenna. You sure will find out what you'll need in that dirt for an image or return path for that stick.

Try it, it's an eye opener.



This QRP antenna worked East Coast to Europe

Connecticut repeater coordination on WWW

At least one state may soon have repeater coordination taking root on the world wide web. Connecticut is where the total failure of the Tri State Repeater Council left a large part of the Northeast with no viable repeater bandplanning effort.

Now, one Ham is acting to provide repeater owner operators a method to keep up with what's happening in the world of repeaters in that state. Joe Szczech, K1IKE, says that he is establishing a page to service the needs of Connecticut repeater owners.

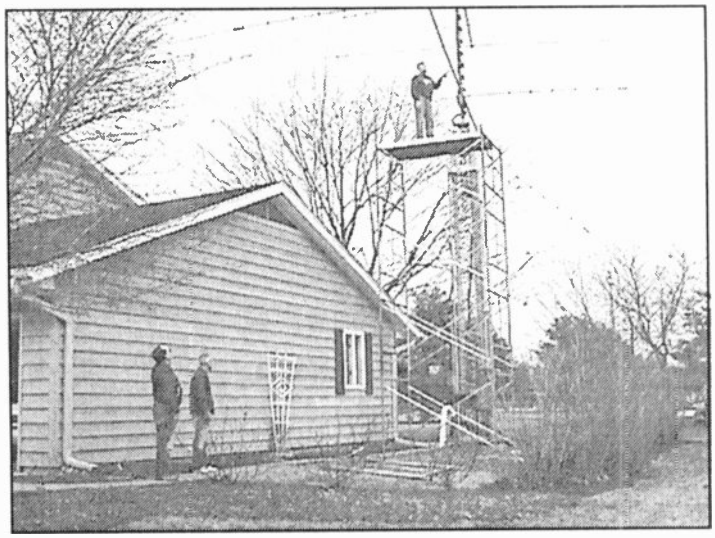
K1IKE also says that he will also try to put together a separate Connecticut Repeater Owners remailer. The purpose of this group will be to discuss the future of repeater coordination in the Connecticut area.

Joe says he is looking for some very inexpensive software with which to run the remailer. He also says that Connecticut repeater owners are invited to take part in both aspects of this project. Input goes to Joe via e-mail to ctrepeaters@snet.net. — *Repeater Owners Remailer, K1IKE, Newsline*

My Sunday morning project

DICK ISELY, W9GIG

There is a lot more to owning a tower and antennas than what you are told by the manufacturers and read in the various Amateur Radio publications. Everyone either ignores or glosses over the fact that nature is constantly trying to dismantle your installation. Sometimes it's quite obvious, even spectacular when a major ice or windstorm occurs. But most of the time it is a subtle long-term process involving water infiltration, corrosion, ultra violet degradation, and vibration. This time around, vibration was the culprit.



Scaffolding in place

About two years ago, I began to receive a few 40 Meter signal reports saying I was "rough copy" and that my "audio was going up and down". By last fall, these reports were more frequent. This past January, my 40 Meter Yagi was virtually useless for even a local QSO.

Necessity coupled with our unusually warm winter weather finally got me to climb my tower and take a close look at this antenna (the bottom one in my stack). My inspection disclosed one of the stainless steel bolts that clamped the gamma match slider to the antenna boom had vibrated loose and dropped out — even though a "shake-proof" lock washer had been used. For all intents and purposes, my antenna was electrically disconnected from its coaxial feed line! A classic example of the "For want of a nail, the shoe was lost; for want of the shoe, the horse was lost, etc..." story.

I could not reach the slider from the tower. I was faced with two choices: either tip over the tower — a long involved two day process requiring partial dismantling of the lower antennas, or devising some way of reaching it from the ground — a vertical distance of 24 feet with the tower fully retracted.

I first thought of using a scissors lift, but the required height and soft ground ruled that out. You can see the four sections of bricklayers' scaffolding that was used to reach that part of the antenna. If you consider using this method, the scaffolding must be absolutely level and four sections (20 feet) is about as high as you want to go with a free-standing scaffold. Anything higher than this should be guyed or strapped to the tower.

The actual antenna work was simple and quick. Including a run to a hardware store for parts, it only took about 45 minutes to complete the repair. This time, I used a lock washer, an additional lock nut, and put locking compound on the bolt threads. I don't want to have to do this again. We had the scaffolding down and loaded back in the truck before noon.

Some of you may ask if this was really necessary. Two weeks later, I entered a contest and worked several countries on 40 Meters. Most stations answered my call the first time, and I only had to give a signal report once to each contact.

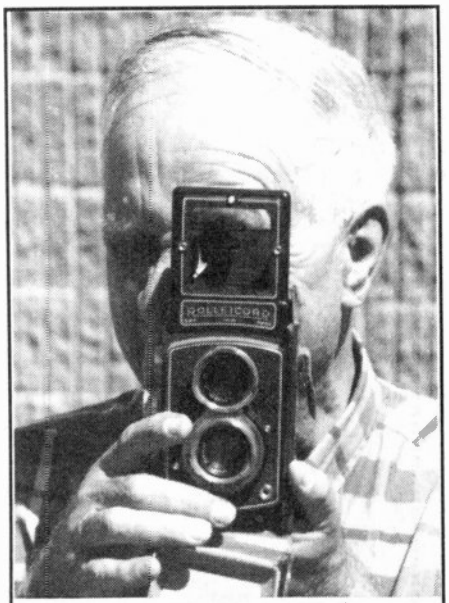
Replacing the one missing bolt

Thus it was truly a Sunday morning project. I want to thank my neighbor Tom Zambreno (the person on the tower with me), Kermit Carlson, W9XA, (who took these two digital photos) and Alan Ahasic, W9AN. They made this antenna project go very fast.

RSGB president urges experimentation

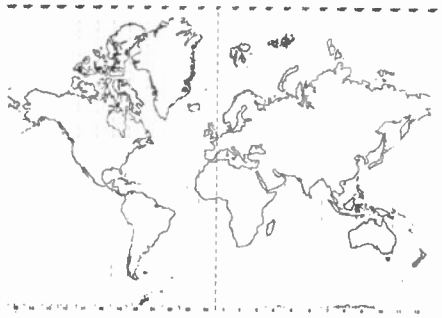
The president of the Radio Society of Great Britain has urged all of the worlds radio amateurs to once again use Ham radio to experiment. Ian Kyle, GI8AYY made his comments at the recent U.K. National VHF Convention.

Kyle says that one key is for Hams to experiment with new communications concepts while making certain that telecommunications regulators see this experimentation. — *RSGB, Newsline*



Got a Rollei? Take a picture for *Worldradio!*

Awards



Contact All Time Zones

To help commemorate 25 years of ***Worldradio,*** we announced an award known as "Contact All Time Zones" (CATZ).

• Rules

The start date for valid contacts is 01 July 1996 at 0000Z.

The world is divided into 24 time zones. Each time zone is 15 degrees wide. For the sake of this award, half-hourly zones and out-of-zone artificial time changes will be ignored.

This award is based on the true 15 degrees each, world map 24 time zones.

The applying station must have one (two-way) contact on Amateur Radio allocated frequencies with a station in each of the world's 24 time zones. Contact with one's own nation does not count.

The operator applying for the award must have made all 24 contacts from a location within the same country.

The award may be endorsed as the applicant wishes in regard to band and/or modes.

• Application

The applying radio operator must be in possession of 24 QSL cards, one from each of the time zones.

A list shall be made showing each contact's call sign, date, band, mode and the time zone starting with the prime meridian (0°) and moving eastward.

There is a fee of $5 to cover the cost and mailing of the 8 x 10 certificate (mailed unfolded).

It is not necessary to mail your QSL cards to ***Worldradio.*** Send a statement signed by two other licensed radio amateurs (General Class or above) that they have inspected and verified the required QSL cards.

Address applications to CATZ Award, ***Worldradio,*** 2120 28th St., Sacramento, CA 95818.

Recipients of the CATZ award will be announced in the ***Worldradio*** DX column. **WR**

Book Reviews

"Morse Code: Breaking the Barrier"

RICK MCCUSKER, KO6DJ

Why are so many Hams and would be Hams troubled by learning high speed code? It's all in the way that you are taught or how you try to teach yourself.

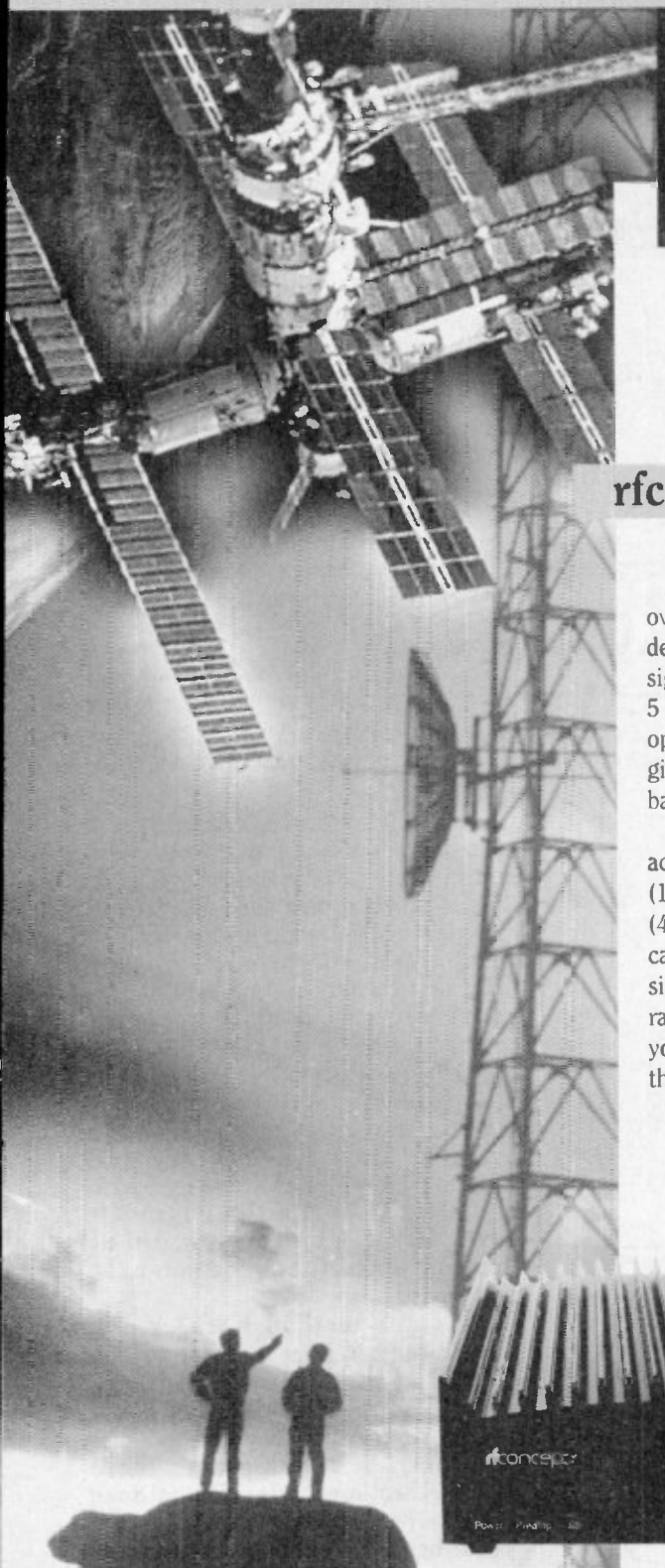
"Morse Code: Breaking the Barrier" is a book written by Dave Finley, N1IRZ, and published by MFJ. This book gives a very interesting look at the Koch method of learning code.

The Koch method is learning code, at high speed using groups of characters. Groups of two, three, four or five characters are sent in random groups until the student learns that group. Then additional characters are added, with tests given at frequent intervals to make sure that the groups have been learned. The big difference is that you are taught to copy code by reflex, not by hearing the character, recognizing the character from your memory, and then writing the character down. Instead, you write the character down by reflex action, without thinking about the sound you have just heard.

Does this method work? Yes it does. I learned code using the Koch method at radioman school in the Coast Guard. CW operators using this method retain code knowledge at a much better rate than those using other methods. Yes, it does work!

The book also goes into fascinating history of CW, from the very beginning of telegraph use up to the recent usage of code. If not to study for the code, this book is worth the price just for the history lesson

"Morse Code: Breaking the Barrier" is available from MFJ Enterprises, P.O. Box 494, Miss. State, MS. 39762. Phone: 601/323-5869, 8-5 M-F, CST. Email mfj@mfjenterprises.com or webpage at: www.mfjenterprises.com



■ Computer Designed ■ RF Sensing Transmit
■ Reliable ■ Made in the USA

rfconcepts

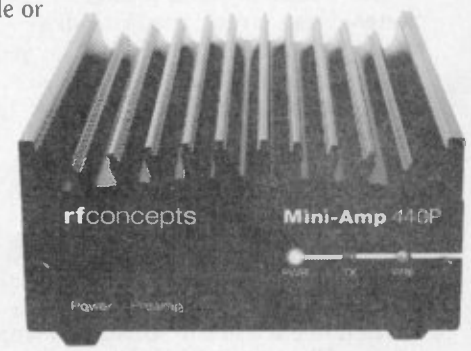
RF Amplifiers That Help You Make the Connection!

The Mini-Amp™/Max-Amp™ Lines

rfconcepts Mini-Amp

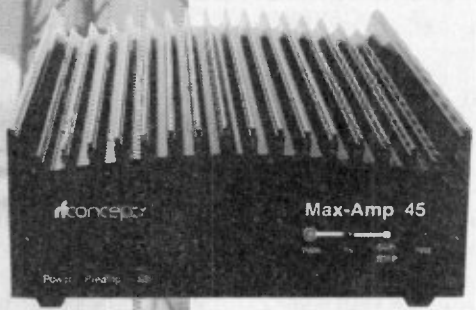
There are times your handheld radio needs a little "boost" to overcome distance or operating conditions. The rfconcepts Mini-Amp line is designed to help your HT get HEARD and using the preamp, receive more signals. Mini-Amps can add 10 ~ 15 dB gain to your signal, yet require just 5 amps @ 13.8 VDC to do the job. Perfect for mobile, base or field operations. With just 2 or 3 watts in, you can generate 20 to 30 watts out, giving your HT the "punch" of a mobile or base transceiver.

Mini-Amps with preamplifier activated can add 15 dB gain (144 ~ 148 Mhz) or 10 dB gain (438 ~ 450 Mhz) to your receive capability. You can "dig out" weak signals, work some satellites or catch rare "tropo" openings. Base or mobile, your operations will be enhanced with the Mini-Amp line from rfconcepts.



rfconcepts Max-Amp

The MaxAmp can add range to your base station, adding to the pleasure of your operations. Your transmitted signals may be heard where they were not before. Two meter SSB and weak signal operators in particular will appreciate the added range on transmit and receive if the preamp mode is selected, which can add 15 dB gain to received signals. All rfconcepts units feature a clean "no nonsense" design with ribbed case for maximum heat dissipation.



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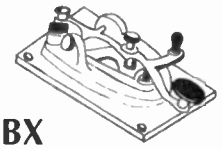
e-mail: sales@kantronics.com
web: www.kantronics.com

Silent Keys



STANLY HARTER, KH6GBX

Stan Harter, KH6GBX, Assistant Chief, Telecommunications Unit, Information Technology Branch of the California Governor's Office of Emergency Services, died 2 April 1998.

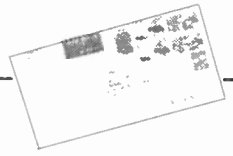
Stan was an assistant director of the state civil division (communications and warning officer) and the Chief of Telecommunications for the State of Hawaii from 1962-1982. From 1982-1985, he was Communications Coordinator for the City of Bakersfield, California, and Kern Country, CA. In 1985, he accepted a position with the California Governor's Office of Emergency Services as its RACES Coordinator.

Stan was the voice of the Emergency Alert System, and of the previous Emergency Broadcast System. He also served as a Lieutenant Colonel in the Civil Air Patrol. Serving the needs of his community always was his primary concern. He had served as a Reserve Police Officer, wildland firefighter, fire lookout instructor, Communications Unit Leader, Logistics Chief, Fire Information Officer and a guest lecturer.

He was a professional broadcaster, news anchor and broadcast engineer. During the 1950's, Stan was a part time on-air personality at KSAN, in the San Francisco Bay Area. He was known as "Stan the Jazzman", and brought new jazz and gospel music to Bay Area audiences. He was responsible for the introduction of different forms of Jazz and black influenced gospel music to the rest of the nation.

Those of us who knew Stan will miss his sense of humor and his always ready jokes.

(Continued on page 69)



Off the air

Reply to CW

Having just received my May 1998 copy of ***Worldradio***, I feel compelled to reply to the letter from John Frank, Jr., WB3ICL, (pg. 22), wherein he advocates that "Morse won't hunt!".

Apparently, Mr. Frank has fallen into the same old trap that most of the CW "naysayers" fall into. He equates the demise of CW on Coast Guard vessels with the premise that CW is outdated everywhere. Like all "anti- CW prophets," he is confused about the different purposes of the two organizations. The C.G. is a business, Amateur Radio is not. It is just as the name implies "amateur", as distinguished from "professional." I agree (although saddened by the demise) that the C.G. had to keep pace with the new technology of communications, and CW was no longer needed, although they would be wise to keep a key handy onboard, just in case.(see ***Worldradio*** Ed. note on rescue of Bahamian freighter, pg.– 22)

Mr.Frank is applying a one dimensional approach to the issue. "Since the C.G. did away with CW, so should we. What's good for the C.G. is good enough for us". Right, Mr.Frank? Wrong.

Whatever happened to tradition and old style values? Amateur radio is a hobby, repeat, a hobby, not a profession. No one is going to lose their job, or be "decommissioned" if we keep Morse code around. If you follow Mr.Frank's line of thinking, then it would be logical to do away with some of the theory on the amateur exams. "I don't intend to get into satellite communications, so why do I have to answer those questions on the exam? I don't intend to build/repair my own radio, so why do I have to explain Ohm's law? I don't intend to construct my own antennas, so why do I have to answer those questions about resistance, impedance, etc.?"

According to Mr. Frank's reasoning, many people would only have to demonstrate an ability to plug a radio, or computer, into an AC socket, and that should be sufficient for obtaining their license. From his same, misguided rationalization, it could be argued that SSB is fast becoming obsolete, so why require any of us to know anything about SSB operating procedures? As long as you know how to push a mike button, that's good enough. Right, Mr. Frank? Wrong! And you know it.

Come on, Mr. Frank, where is your pride and spirit of tradition? That which has made Amateur Radio the very special hobby (yes, hobby) it is today? What's wrong with making the achievement of becoming a Ham a little more difficult than becoming an Internet Surfer? Your "get with the almost 21st Century" argument is typical of someone who has been so swept up in the rapid advancement of computers, satellites, internet, etc, that you have forgotten how to "stop and smell the roses".

When these "Ham prospects" you mentioned, complain about the code, try saying this to them and get their reaction: "Well, Bill, I understand what you're saying about the code being difficult, but I guess, that's what makes Amateur Radio so special. It's definitely not for everyone, especially the faint of heart."

Mr. Frank, you're right when you say, "They just don't want to be bothered". They want the easy way out. Technical requirement? HA, don't make me laugh. Ever heard of the Gordon West, or W5YI schools for "learning" the theory? Any fool with an average IQ and memory span can "learn" the answers to the extra exam. They won't know what they answered, but, by golly, they passed, and that's all that counts. We got another idiot into the fraternity. Right, Mr. Frank?

I am, indeed, saddened to see such ridiculous arguments for dropping the code requirement, as you put forth, especially since you must have entered the hobby when things were different; when you had to put forth some effort to get your ticket. "WB3ICL" is not a new call.

Why the big concern over how many newcomers we get in the hobby anyway? If they are not the type of people that are willing to put forth a little effort to achieve the competence level our founding fathers set as a requirement, then they don't belong in this hobby. It could be that such an "anti-CW" attitude is one good reason the bands are full of garbage-mouth incompetents, and CB'er types today.

Just take a minute and listen to the CW bands. You won't hear that ridiculous gibberish down there. Nothing but real pros. Now tune to 14.313, or 14.300, on any given day, and see what you hear. Does that tell you something?

No thanks, Mr. Frank, I'll keep the "oldsaws". The "real world", as you put it, isn't for me. Too many good, traditional values lost in the name of "progress". Too many "unreal people" in the "real world". You guys go ahead and move on. I'll keep my CW sanctuary, and the satisfaction that only comes when you really "earn" something. Something you and these "21st Century folks" will never understand. 73

BRIAN HUNSAKER, W5CHH
Bayview, TX

SPECIAL EVENTS

RARE VHF GRID SQUARE

Grid square FN40 will be activated to coincide with the July 1998 CQ VHF contest veekend. The Candlewood Amateur Radio Association in Danbury, CT, will set sail for grid FN40 located just off the eastern tip of Long Island, NY, on 11 July. Operation will begin before the contest period at 1300Z and conclude at 2359Z, Saturday only. Contest class will be multi-op class 2. Packet cluster spots will be through YCCC and Tri-State networks.

The club call, W1QI will operate simultaneously on 50, 144, 220, and 432 MHz bands, using SSB primarily, with some CW and FM. Plans and operating details will be posted as they develop on the C.A.R.A. web page at www.danbury. org/org/cara/

DR. LOOMIS ANNIVERSARY

The Fulton County Dr. Mahlon Loomis Committee will operate W2ZZJ on 19 July to commemorate the 172nd anniversary of the birth of Dr. Loomis, the American Radio pioneer, who was born in Oppenheim, New York on 21 July 1826. Operation will be from 1300-2000Z on the General phone portion of 75, 40 and 20M, and on the Novice 10M phone band. For a parchment certificate and extensive literature, send QSL, contact #, and a #10 SASE (55¢) to: George P. Sadlon, W2ZZJ, 5738 STHWY 29A, Stratford, NY 13470.

Station Appearance

JOHN BOWMAN
N7RVW

*Send **Worldradio** a picture of your shack and the staff will choose a winner to receive a free one-year subscription to **Worldradio**!*

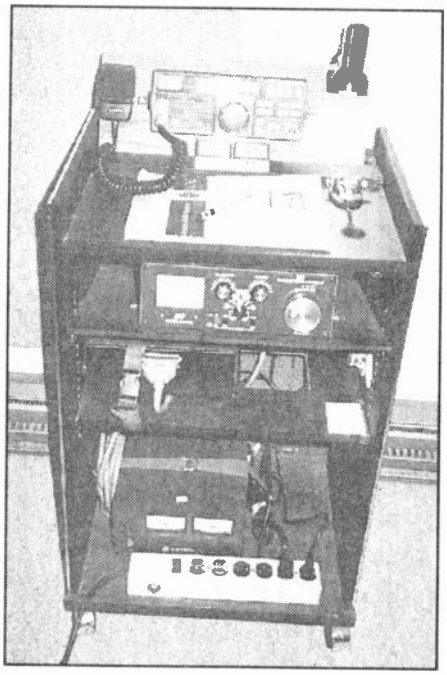
Stations will be judged by neatness (wires tucked away, etc.) and accessibility of equipment. Monetary value of equipment is not a consideration.

To see this station in full color see our website: www.wr6wr.com

Self-Contained HF Station For Home and Travel

Tiring of transporting, packing, unpacking a complete radio station on frequent trips to my cabin-in-the woods led me to convert a used stereo cabinet into a self contained radio station. Now within a matter of minutes, I can be on the air by simply connecting to a pre-installed G5RV and clamping on to a 75' well casing.

The 19 1/2"x 15"x 31" recycled stereo cabinet pictured here houses my back up Yaesu FT 747GX transceiver. The detachable head is fastened to a removable board for easy storage during travel. An MFJ Model 969 tuner, an Ameco K-4 straight key and an Astron RS-20M power supply completes the working components of the unit. A multi-AC connector bar and a clip-on 25 watt R14 lamp provides ample lighting for the 18x12" desk top. An MFJ 1312B AC adapter supplies power to the tuner. Storage space for log books, an MFJ 12/24 hour Dual LCD clock and other miscellaneous items are available within the unit.



The self-contained station offers an extra field day option as well as use in actual emergency exercises and drills. Its design also offers apartment dwelling Ham operators with a viable space saving option. The Unit can easily be rolled into a closet or other storage area. During the summer months if the fish aren't biting, I roll the unit on to my shaded cabin deck and "fish" for DX.

I have discovered that cast off commercial built stereo "package" cabinets complete with adjustable shelving, door and wheels can be purchased at garage sales and thrift stores far below the costs of new materials. Besides saving a few bucks, it also saves a lot of sawing, nailing, gluing and sore thumbs.

Modifications to the cabinet were quite simple. A two inch diameter hole was drilled through the desk top to provide a path for the transceiver's detachable cable head hook up. The detachable head as well as a clip for the hand held mike were mounted on a piece of 3/4" plywood 16"x 6"with two 2" angle brackets. It sits snugly in a routed channel fastened to the desktop.

Purposely, the glass door, and other exterior backing were removed to insure adequate ventilation for the components and to provide easy access to the tuner's three antenna connectors. The two shelves have been permanently secured into place with 1/2" flat head wood screws and 2" angle brackets. All equipment except the tuner is secured by 2" webbing with quick release connectors for speedy removal.

Flexible copper mesh strapping is used to tie all the equipment to a common ground. A pair of 6" brass trunk handles were bolted to sides of the unit to aid in lifting and securing the station during transport. Heavy duty two inch tie-down straps are used to rachet down the unit to two eyebolts in my canopy covered truck bed.

—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**!*

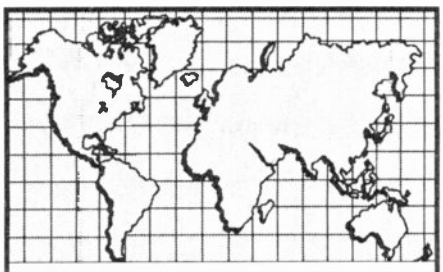
LINDA REEDER, N7HVF

Many Hams are faced with the problem of radio interference with their neighbors. My neighbor is upset with me, because when I transmit on my low band rig, it makes his cordless telephone ring. I felt really bad and wanted to help him. I already have filters on my own equipment. I told him if he would buy some filters from Radio Shack to put on the base of his cordless phone, it should solve his problem, but he wasn't very cooperative.

Anyway, turnabout is fair play. One day when I was on my cordless phone, all of a sudden I heard Beatle music. I kept changing the channels to get rid of it, but couldn't, so we hung up. I picked up the phone to call my friend back, and lo and behold my neighbor was talking to his friend about me. He said he reported me to the FCC. I wonder what he would think if he knew I could hear his conversation on my phone?

Join other Amateurs – help the physically handicapped be Licensed Amateurs

Courage HANDI-HAM System
Courage Center
3915 Golden Valley Road
Golden Valley, MN 55422



DX WORLD

John F.W. Minke III, N6JM
P.O. Box 310 Carmichael, CA 95609-0310
• E-mail: n6jm@pacbell.net•

W-100-N

The following DXers completed the necessary requirements for Worked 100 Nations (W-100-N) award during the month of March:

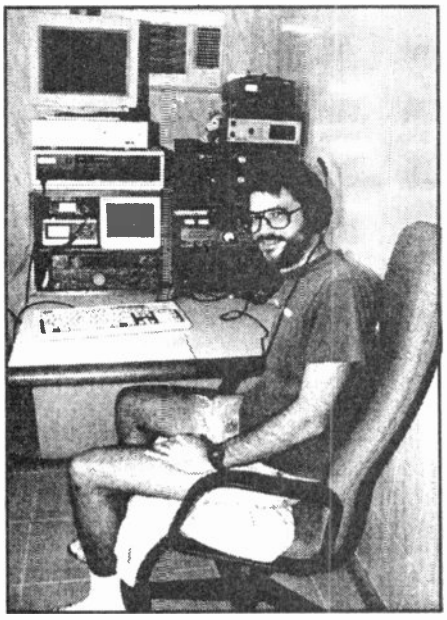
Robert J. Forgey K7LFY
#528 -All 40M CW 09 Mar 98
Robert F. Francoeur K1ATL
#529 -All CW 27 Mar 98
Michael R. Spinler N7VZU
#530 27 Mar 98

There have been applicants recently that have been using the DXCC Countries List as a basis for W-100-N, such as Guatanamo Bay. Sorry, but that one would normally count as U.S.A., and I'm not sure it would count for really anything as it is a military reservation in a foreign country. Uninhabited islands, such places as Clipperton or Spratly, do not count either. However, to get picky, contacts with 9MØC from the hotel in the Spratlys would have to count as Malaysia. Fortunately, some applicants had enough contacts to meet the minimum 100 nations required. When in doubt, request the Nations List and Application Form from ***Worldradio***. I would appreciate it if these forms were used.

CATZ

And, for the second award introduced by ***Worldradio***, there were no satisfactory applications. There were two, but both were rejected as the 1 July 1996 start date was not observed.

In February we received an application for this award where the applicant provided just a single QSL card - for KC4AAA at the South Pole. Sorry, but that isn't going to work either. McMurdo is not at the South Pole. It is about 825 miles from the pole and they use the same time as New Zealand. Therefore, you get credit for the zone from 165-180° east only!



Very active from Hong Kong is Brett Graham, VS6BG, who has worked many a deserving DXer. Brett is very active in contests. Although he is presently signing with 9M6BG from East Malaysia Brett resides on Hong Kong Island (AS-006). He has held former calls of WB7PSP, KB7G, VS6UP, and XX9TDM. (Photo courtesy of VS6BG.)

Spratly Island (1S)

The 9MØC DXpedition to the Spratly Islands (AS-051) closed down on 24 February after making over 65,000 contacts. Included in this total were over 180 DXCC countries. Don Field, G3XTT, reports that they were able to run four 400-watt stations around the clock. In addition two 100-watt stations were available for use when necessary.

The bulk of the contacts were made on 15, 20 and 40 Meters as the total of each of those bands was in excess of 10,000 contacts. This should have placed the demand for Spratly Island way down on the bottom of this list. All should have logged 9MØC somewhere during the operating period. Those who didn't no doubt didn't need it or were not available to work them. The operation was from the Layang-Layang Dive Resort which is a far cry from the earlier DXpeditions to the island group. No such luxury in those days.

Vietnam (3W)

Nickolay, UAØFM, has been very active on the top band as 3W5FM from Vietnam. However, by now the season for that band has about ended. Also, check on 20 Meters near 14.007 MHz from 1330 UTC, and again at 2300 to 0000 UTC.

Also active on 15 and 20 Meters CW is 3W7TK. His length of stay is unknown. Try looking for this one near 21.025 MHz around 1400 UTC.

The Ohio/Penn DX Bulletin reports that Torsten, XV7TH, has been active on 10 Meters near 28.500 MHz at 1430 UTC, and also on 20 Meters on 14.195 MHz around 1500 UTC. For 15 Meter possibilities try 21.250 MHz at 1000 UTC.

Rolf Salme, SM5MX, has returned to Vietnam and will re-activate his dormant call of XV7SW in Hanoi. Rolf will be active through mid-May and will answer QSL requests when he returns to Sweden.

Other calls heard active on the bands during the month of March included: 3W6JD on 20 Meters; 3W6LK on 15 and 40 Meters, and 3W6WE on 15 and 20 Meters. 3W6EZD was also active. Note that there are presently two different prefixes for this country. 3W6WE was active during the CQ Worldwide WPX Contest.

Mauritania (5T)

Due to the fact that Amateur Radio operations from Mauritania have almost become non-existent,

Andy Lueer, DJ7IK, and others, are planning a DXpedition to that country sometime next year. More details on this one later.

Togo (5V)

The Daily DX notes that Marc Bagalino, F5PCU, is active from Togo and using 5V7BM. He should be there until the end of 1999. Marc has previously operated as 5T5NU, 5TØRIM and TL8MB.

Nepal (9N)

Henning, 9N1CU, should be active from this one for the next three years. He is presently active on 15, 20 and 80 Meters, and soon to be active this summer on 40 Meters.

Estonia (ES)

Those special calls with the ES8Ø prefixes heard on the bands are commemorating the 80th anniversary of the Estonia Republic. At the time of the Bolshevik Revolution in 1917, the Baltic States were included as part of the vast Russian Imperial Empire. Prior to being absorbed by the empire the area of Estonia had been known as Livonia. During World War II Nazi Germany was a threat and the Soviet Union annexed them. However, following the war Joseph Stalin decided to keep them until they seceded just prior to the collapse of the Soviet Union.

Amsterdam Island (FT5Z)

The DXpedition to Amsterdam Island (AF-002) this December is coming together very well. Mehdi, F5PFP, reports that he will be joined by Eric, F5SIH. The two of them plan for multi-band activity, 10 through 160 Meters, using CW, SSB and RTTY. DX News Sheet reports that they should be active 27 November through 23 December.

As in most DXpeditions financial assistance is necessary. Please send your contributions to the Lyon DX Group, Eric Blanchard F5PXT, Treasurer, 2 Rue Bichat Bat 32, F-69002 Lyon, FRANCE.

Although they already have proper authorization and the call of FT5ZH they will be using a special call that will be announced just prior to departure.

Temotu Islands (H4Ø)

The new DXCC criteria became effective 31 March 1998. Tim Totten, N4GN, reports that the Temotu Islands, located in the South Pacific, collectively form the easternmost province of the Solomon Islands, an independent country since 1978. Since Temotu is separated by more than 350 km from the rest of the Solomon Islands, it should easily qualify as a new DXCC entity. The South China Sea DX Team (SCSDXT) teamed with the Solomon Islands' IARU member organization, SIRS (Solomon Islands Radio Society), in organizing a DXpedition to Temotu, and the application for new DXCC status. Remember the distance separation criteria had changed from miles to kilometers under the DXCC 2000 rules.

The team members, whose calls included: H44GP, H44GR, JA5DQH, N4GN, N7NG, OHØXX, OH1RY, OH2BC, OH2BE, OH2BH, OH2TA, W6OSP and 9V1YC, began arriving on 21 March and were on the air using their individual H44 calls while making final preparations for the main event.

These early operations, which included activity in the CQ Worldwide WPX Contest, count for DXCC credit only as the Solomon Islands, under the current rules. Then at 23:59 UTC 31 March, the team started operating as H4ØAA. The Solomon telecommunications authorities has assigned the previously unused H4Ø prefix to Temotu for all future Amateur Radio operations.) At this point QSOs will count for Temotu DXCC credit, presuming the application for new DXCC status is eventually approved. If you were one of the deserving who worked this one, remember only contacts beginning 1 April 1998 will count. Contacts made during the contest will count only for the parent country, the Solomon Islands.

In addition to the H4ØAA operation, Jim Smith, VK9NS, spent three hours in a canoe en route to Pigeon Island, one of the Reef Islands (OC-065). Jim also put this new one on operating H4ØAB beginning 1 April.

The H4ØAA operation was from a small resort in the village of Lata on Nendo Island, also know as Santa Cruz Island. All these islands, located in Temotu province, include the Santa Cruz Islands (OC- 100), Reef Islands (OC-065), Duff Islands (OC-179), Tikopia Island (OC-178), Anuta Island (OC-178), and Fatutaka Island (OC-178). Most likely Vanikolo Island (OC-163) will also be included. The IOTA reference numbers are included here and obviously the H4ØAA operation is not the first Amateur Radio operation from these islands, nor was Jim Smith's H4ØAB operation.

Pitcairn Island (VP6)

The official changeover in prefixes for Pitcairn Island was to be official on 1 May 1998. As of this date all VR6 calls will now be of the VP6 prefix. The reason given is that the VR block now belongs to China and went to them when Hong Kong returned to its former country last summer.

The older Hong Kong calls had always used the VS6 prefix. A few years ago they began using the VR2 prefix, which at one time had belonged to the Fiji Islands. The VP6 prefix is not brand new. This prefix had belonged to Barbados up until that one gained independence.

Chatham Island (ZL7)

The recent ZL7DK DXpedition to Chatham Island (OC-038) collected some 31,335 contacts during their stay on the island. Many thanks to the team for their efforts who included: Falk Weinhold, DK7YY; Mar Kasper, DL3DXX; Jan Maerz, DL7UFN; Manfred Gronak, DK1BT; Tom Kuehn, DL2OAO; and Joe Puchstein, DL8WPX/YB1AQS.

The first contact made was with JA6PSP at 0852 UTC on 23 Feb 1998 on 30 Meters. Likewise, the final contact was with DKØEE on 160 Meters at 1734 UTC on 8 March 1998.

Campbell Island (ZL9)

After a successful DXpedition to the Kermadec Islands as ZL8RI, the Kermadec DX Association has planned another DXpedition for January 1999, this time to Campbell Island. Included will be an international team of operators from New Zealand, Japan, Canada, Ireland

DX Prediction — June 1998

Maximum usable frequecy from West Coast, Central U.S. and East Coast (courtesy of Engineering Systems Inc., Box 939, Vienna, VA 22183). The numbers listed in each section are the average maximum usable frequencies (MUF) in MHz for contacting five major areas of the world centered on Africa—Kenya/Nairobi, Asia—Japan/Tokyo, Oceania—Australia/Melbourne, Europe—Germany/Frankfurt, and South America—Brazil/Rio de Janeiro. Chance of contact as determined by path loss is indicated as bold *MUF for good, plain MUF for fair, and in parentheses for poor. UTC in hours.

CENTRAL U.S.A.

UTC	AFRI	ASIA	OCEA	EURO	SO AM
8	21	*18	*19	15	*16
10	24	*15	*17	16	*18
12	*29	17	*16	*19	*22
14	*33	*20	15	*22	*27
16	*35	*20	*(15)*	*23	*31
18	*36	18	*(14)*	*23	*33
20	*29	22	27	*21	*34
22	*24	*25	*33	*20	*31
24	21	*25	*35	*16	*26
2	*18	*24	*35	14	*22
4	*20	23	*33	*17	*19
6	*27	*22	*28	*20	*17

WEST COAST

UTC	AFRI	ASIA	OCEA	EURO	SO AM
10	*(18)*	*22	*17	16	*21
12	*(21)*	*18	*16	16	19
14	24	*20	*15	19	*25
16	27	*20	15	*22	*29
18	*28	17	*(14)*	*23	*32
20	*29	*22	28	*21	*34
22	*25	*25	*33	*18	*31
24	21	*28	*36	15	*27
2	19	*30	*36	13	*23
4	*20	*30	*34	17	*20
6	*26	*29	*29	*21	*18
8	22	*27	*19	*20	*16

EAST COAST

UTC	AFRI	ASIA	OCEA	EURO	SO AM
7	20	*18	*21	*15	*17
9	22	*(16)*	*18	*17	*18
11	*28	18	*17	*20	*22
13	*32	*21	*(16)*	*22	*27
15	*34	18	*(15)*	*24	*31
17	*35	*(15)*	*(14)*	*24	*33
19	*32	*(17)*	*(18)*	*23	*35
21	*27	20	31	*21	*32
23	*22	22	*34	*19	*29
1	*20	24	*35	*16	*24
3	*16	23	*34	*14	*21
5	*24	*22	*30	*18	*18

and the United States. The team leader will be Ken Holdum, ZL2HU, who estimates the cost of the DXpedition to be about $65,000.

Operation is to commence on 9 January and will remain on the air through 25 January, utilizing CW, SSB and RTTY on all bands. The team is looking for financial assistance and donations may be sent via Ken at: The Kermadec DX Association, P.O. Box 56099, Tawa, Wellington, NEW ZEALAND, or to Declan Craig, EI6FR, a team member at: The Kermadec DX Association, 167 St. James's Road, Greenhills, Dublin 12, IRELAND, for Europeans. All donations will be returned if the DXpedition does not materialize.

Deleted Country

The ARRL Membership Services Committee announced that both the ARRL DXAC and Awards Committee voted to delete Southern Sudan (STØ), thus placing it on the Deleted Countries List.

While the status in Southern Sudan changed in 1983, contacts made prior to 1 January 1995 will count for the deleted country. The DXCC Desk cites two reasons for this. First of all there have been accredited operations since the 1983 date, and this raises a fairness issue. The second reason is that the DXCC Desk has processed QSL cards from those operations, many of them onto paper records. Since the credit would have to be individually checked, it would be very costly to the League in terms of time and money to search and remove post 1983 Southern Sudan contacts from the records. Also, it might not be possible to do the job completely and accurately.

At the same time, both committees agreed to make no changes in the status of Fernando de Noronha.

(PYØF), and Kure Island, (KH7K).

With Southern Sudan now deleted this now makes a total of 58 deleted countries and 328 current DXCC countries. This was the last of the DXCC countries to be deleted as the new DXCC 2000 rules went into effect 31 March 1998. Any countries deleted after that date just disappear and never existed.

IOTA

Lew Jenkins, N6VV, will be heading an IOTA DXpedition to Micronesia where he plans to activate Mokil Atoll for the first time. Look for Lew and his crew signing V63VV/P, and possibly two other calls, 1-7 June. Activity is planned for both CW and SSB on all bands.

425 DX News notes that Luis, PY2HA, operates from Santo Amaro Island (SA-071).

Look for PQ5L from Mel Island (SA-047). This will be a four-day operation, CW and SSB, 28-31 May.

Declan, EI6FR, says that WestNet DX Group will be active 25-29 June from Saltee Islands (EU-103) signing with the call EI7NET. The group plans to include at least nine operators for this affair. The group has

been responsible for activating several IOTA island groups in the past.

Here is another selection of IOTA activity that was available during the month of March. If you were active during the CQ Worldwide WPX Contest at the end of March, many of these reported calls may have been busy in the contest. Check your logs.

AF-018 IH9/OK1JRPantelleria Island	24-27 Mar
AF-018 IH9/OK1MMPantelleria Island	29-30 Mar
AF-032 5H1/GØIXCZanzibar Island	09-19 Mar
AF-079 ZS26BIBird Island	09-13 Mar
AN-006 EM1LVGalindez Island	18-31 Mar
AN-006 EM1HOGalindez Island	03-13 Mar
AS-008 7K3EOP/1Miyake Island	05-16 Mar
AS-008 JA1EYMiyake Island	22-25 Mar
AS-015 9M2TOPinang Island	14-22 Mar
AS-017 JR6VDUOkinawa Island	14 Mar
AS-024 JS6LIHYaeyama Islands	10 Mar
AS-036 JA6VAGTsushima Island	16 Mar
AS-036 JA6KFYTsushima Island	19 Mar
AS-042 R3CA/0Sredniy Island	19 Mar
AS-042 RØDATSredniy Island	05-31 Mar
AS-042 RØDJGSredniy Island	31 Mar
AS-045 HL5FUAUllung Island	02-31 Mar
AS-047 JH3QFL/PMinami Dato Island	21-22 Mar
AS-053 HSØ/IK4MRHPhuket Island	02-31 Mar
AS-074 9M2QQKetam Island	31 Mar
AS-112 A43DIDaymaniyat Island	25-28 Mar
AS-117 JH4FBV/4Innoshima	28 Mar
AS-117 JAØWJN/ØSado Island	14 Mar
AS-117 JG6URG/4Honshu Coastal	20-21 Mar
AS-133 XUXOGulf of Thailand	31 Mar
EU-008 GM3VPB/PLittle Colonsay Island	30-31 Mar
EU-009 GMØHTGOrkney Islands	14 Mar
EU-010 GMØKCYIsle of Lewis	02 Mar
EU-010 GMØHBFNorth Uist Island	14 Mar
EU-011 G3RPCIsles of Scilly	05 Mar
EU-016 9A4RUBrac Island	01 Mar
EU-016 9A2GFBrac Island	25 Mar
EU-016 9A4RVKorcula Island	23 Mar
EU-020 SM1BIQGotland Island	21-31 Mar
EU-031 IC8POFIsle of Capri	13 Mar
EU-037 SM7DLZOland Island	02-31 Mar
EU-049 SV8CYVSamos Island	12-31 Mar
EU-049 SV8DTLLesvos Island	18 Mar
EU-052 SV8CSZante Island	22 Mar
EU-052 SV8EPKefallinia Island	02 Mar
EU-052 SV8AXZZante Island	19 Mar
EU-057 DL4PMRuegen Island	02-30 Mar
EU-057 DL5KUDRuegen Island	06 Mar
EU-068 F/G3SWH/PIle de Seine	28-30 Mar
EU-068 F/G3RTE/PIle de Seine	28-30 Mar
EU-082 U1ZA/AKildin Island	03 Mar
EU-092 GM4CHX/PGruinard Island	30 Mar
EU-096 OH1LU/PEprosaari Island	23 Mar
EU-121 EJ/G3PFSCape Clear Island	30-31 Mar
EU-124 GWØHWN/PAnglesey Island	17 Mar
EU-124 GWØMOIAnglesey Island	01 Mar
EU-133 R1ASPKotlin Island	03-31 Mar
EU-136 9A4A Pag Island	18-26 Mar
NA-010 VE1XACape Breton Island	27 Mar
NA-031 AA1AC/PAquidneck Island	21-22 Mar
NA-049 HKØ/KG5GLProvidencia Island	01-06 Mar
NA-052 N2OFYMarco Island	18 Mar
NA-055 AK1LVinalhaven Island	02-27 Mar
NA-057 HR6/WD4JNSRoatan Island	05-09 Mar
NA-059 NO7F/KL7Unalaska Island	08-16 Mar
NA-062 K2ZR/4 Key West	06-10 Mar
NA-062 WB1BVQ/MFlorida Keys	03-04 Mar
NA-065 KK7JPWhidbey Island	21-24 Mar
NA-066 K6TSanta Catalina Island	19-20 Mar
NA-069 N9YCW/4Sanibel Island	21-24 Mar
NA-072 HP1XVHContradora Island	26 Mar
NA-080 C6AIEAbaco Island	03-04 Mar
NA-110 K9JWV/4James Island	18-19 Mar
NA-111 KA3UNQ/PLong Beach Island	16 Mar
NA-138 N5VLAmelia Island	03-22 Mar
NA-143 N5FTR/PGalveston Island	06 Mar
NA-147 J3/W1IAMCarriacou Island	03 Mar
OC-011 V63KUMoen Island	12-31 Mar
OC-013 ZK1DIRarotonga Island	03-31 Mar
OC-013 ZK1JDRarotonga Island	19-25 Mar
OC-022 YC9BUBali Island	14-24 Mar
OC-059 V63AOKosrae Island	01-18 Mar
OC-065 H44/VK9NSPigeon Island	30-31 Mar
OC-100 H44RYNendo Island	25-31 Mar
OC-129 DU6BGPanay Island	04-27 Mar
OC-129 DU6LNPanay Island	16 Mar
OC-130 DU9HKDMindanao Island	12 Mar
OC-136 VK3VQPhillip Island	17 Mar
OC-137 VK4YIMacLeay Island	06-26 Mar
OC-137 VK4LVBribie Island	25-27 Mar
OC-142 VK4DJCHerron Island	20 Mar
OC-142 VK4CSP/PHerron Island	18-23 Mar
OC-169 A35RKHaftapi Island	05-31 Mar
OC-203 K8VIR/ZL4Stewart Island	11 Mar
OC-210 YC8TXWSengihe Island	15-31 Mar
SA-008 CE8ABFTierra del Fuego	05-30 Mar
SA-008 LU3XPSTierra del Fuego	12 Mar
SA-008 LU8XPATierra del Fuego	01 Mar
SA-008 LU6XQITierra del Fuego	22 Mar
SA-012 YV7AXMIsla Margarita	21 Mar
SA-016 PR8OLSao Luis Island	21 Mar
SA-040 HK3JJH/1Rosario Island	16-19 Mar
SA-055 LU7DWMartin Garcia Island	09 Mar
SA-064 CE7AOYIsla Las Huichas	14-21 Mar

Island activity from Indonesia was non-existent during the first half of March as all Amateur Radio activities in that country had been suspended during that period.

The Daily DX notes that the ZS26BI DXpedition to Bird Island (AF- 079) collected some 3,042 contacts in three days of operation with poor conditions.

IOTA Contest

The list of islands that may be activated during the IOTA contest continues to grow. Such groups will include:

EU-123 Bute Island Otley ARC

EU-160 Kambal'nitskiye Koshki Islands RA1QQ/RW1ZZ

IOTA Validation

The following IOTA operations have provided acceptable validation material:

AF-023 S92FC Sao Tome Island Oct 1997

AF-023 S97A Sao Tome Island Oct 1997

AF-044 S91FC Principe Island Nov 1997

AS-074 9M2OM/P Ketam Island Aug 1997

AS-088 A71CX/P Al Safliyah Island Nov 1997

AS-124 A61AH/P Sirat al Khwar Island Nov 1997

EU-038 PA3BLS/P Texel Island Dec 1997

OC-108 YC5XIP Jemaja Island Jul 1997

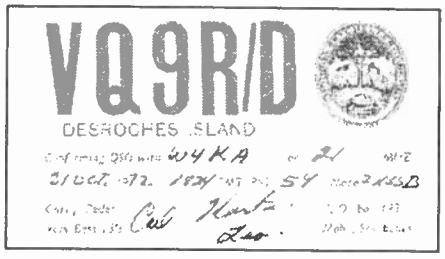
OC-109 YC5XIP Midia IslandOct 1997

OC-173 VK8SEA/P Bathurst Island Nov 1997

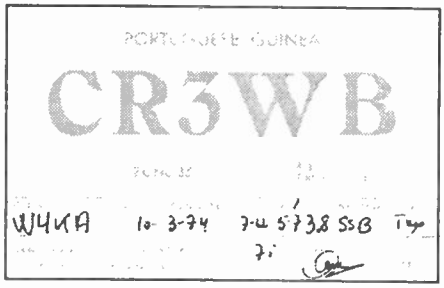
Note that some of these island operations provided validation material, even though it was not required.

Antique QSL Department

The following three cards are from Leo Haijsman, W4KA, and date back to the 1970s. These are not really antiques, unless you use your own age as a base. Whatever that may be these cards should be interesting.



Carl Reder, VQ9R, hopped over to Desroches Island from the Seychelles for some operating back in 1972, to the pleasure of many a DXer. Carl, now N6BUM, was very active in those days operating from the Seychelles. Desroches Island was added to the Deleted List in 1976.



Leo had a nice 75 Meter contact with CR3WB of Portuguese Guinea back in 1974. Notice that the date is shown as 10-3-74. It is assumed

ANAHEIM, CA
(Near Disneyland)
933 N. Euclid St., 92801
(714) 533-7373
(800) 854-6046
Janet, WØMF, Mgr.

BURBANK, CA
2492 W. Victory Bl., 91506
(818) 842-1786
(800) 854-6046
Marv, K6VIV, Mgr.
Victory Blvd. at Buena Vista
1 mi. west I-5

OAKLAND, CA
2210 Livingston St., 94606
(510) 534-5757
(800) 854-6046
Mark, WI7YN, Mgr.
I-880 at 23rd Ave. ramp

SAN DIEGO, CA
5375 Kearny Villa Rd., 92123
(619) 560-4900
(800) 854-6046
Tom, KM6K, Mgr.
Hwy. 163 & Claremont Mesa

SUNNYVALE, CA
510 Lawrence Exp. #102
94086
(408) 736-9496
(800) 854-6046
Ken, K1ZKM, Mgr.
So. from Hwy. 101

NEW CASTLE, DE
(Near Philadelphia)
1509 N. Dupont Hwy., 19720
(302) 322-7092
(800) 644-4476
Bob, N9GG, Mgr.
RT.13 1/4 mi., So. I-295

PORTLAND, OR
11705 S.W. Pacific Hwy.
97223
(503) 598-0555
(800) 854-6046
Ray, KI7TN, Mgr.
Tigard-99W exit
from Hwy. 5 & 217

DENVER, CO
8400 E. Iliff Ave. #9, 80231
(303) 745-7373
(800) 444-9476
Joe, KDØGA, Mgr.

PHOENIX, AZ
1939 W. Dunlap Ave., 85021
(602) 242-3515
(800) 444-9476
Gary, N7GJ, Mgr.
1 mi. east of I-17

ATLANTA, GA
6071 Buford Hwy., 30340
(770) 263-0700
(800) 444-7927
Phil, N4DRO, Mgr.
Doraville, 1 mi. no. of I-285

WOODBRIDGE, VA
(Near Washington D.C.)
14803 Build America Dr.
22191
(703) 643-1063
(800) 444-4799
Mike, KA3TMQ, Mgr.
Exit 161, I-95, So. to US 1

SALEM, NH
(Near Boston)
224 N. Broadway, 03079
(603) 898-3750
(800) 444-0047
Chuck, KM4NZ, Mgr.
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Exit 1, I-93;
28 mi. No. of Boston

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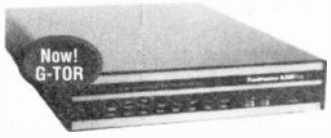

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NEW!

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- Dual receive • 200 memory channels
- 6 character alphanumeric display
- Crosband repeat • Auto repeater shift
- CTCSS enc./dec. • CTCSS tone scan

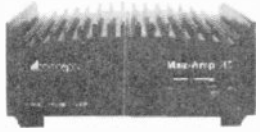
(AR-446 also shown)

AR-146 2M Mobile

- 3 select pwr. settings (5/10/50w)
- 40 memories plus a CALL channel
- Built-in CTCSS encode/decode
- Wide receive cov. 130-180 MHz

NEW!

fconcepts



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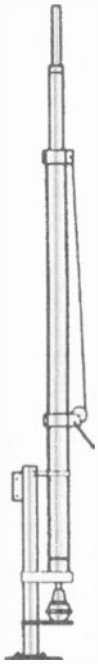

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40' Tubular Tower

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MA-550

55' Tubular Tower
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Pleases neighbors with tubular streamlined look

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Towers Rated to EIA Specifications
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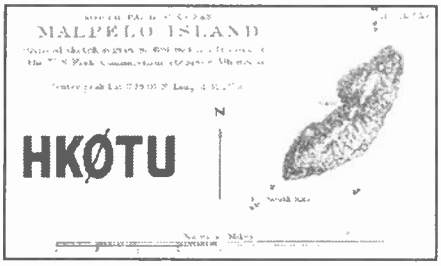
that this meant 10 March, or was it 03 October. This is why it is important to spell out the month (or use Roman numerals). And, I have received QSL responses in the past from well-known QSL managers using the American way of dating: month, day and year. They should know better. Anyway, off the soapbox. This country would later be known as Guinea-Bissau.



The HKØTU card is for the March 1977 DXpedition to Malpelo Island by 16 operators from Colombia, and sponsored by Liga Colombiana de Radioaficionados. Landing on this island is extremely difficult and permission to land is also difficult to obtain. If you have this one confirmed you should guard it with your life.

QSL Information

In February long-time QSL manager (for over 20 years) Joe Arcure, W3HNK, was hospitalized for heart by-pass surgery. As recovery will require rest please be patient while waiting for QSL requests handled by Joe. Joe has always done these chores by himself. Whether local DXers will assist him during his recovery it is not known. However, please be patient.

Thanks go to the following contributors for this month's column: DJ7IK, EI6FR, F5PFP, G3XTT, G4LVQ, JA1ELY, JH1ORA, SU1HM, YCØFTD, K3ZO, N4GN, AI5P, NI6T, N6VV, Western Washington DX Club (WAØRJY), Northern Arizona DX Association (W7YS), American Radio Relay League (K5FUV), Juliet Alpha Cluster (JE1OMO), WebCluster (OH2BUA), 425 DX News (I1JQJ,), DX News Letter (DJ5AV), The OPDX Bulletin (KB8NW), Internet DX Mailing List (VE7TCP), The Low Band Monitor (KØCS), Island/DX News (W5IJU), The Daily DX (W3UR), QRZ DX (N4AA), and DX News Sheet (G4BUE).

Did you work WR6WR during the CQ Worldwide WPX Contest? This was a multi-operator effort by the staff members of that world famous Amateur Radio publication, ***Worldradio***. In addition to that famous call there were many other exciting things to work. Hope your month produced some interesting DX for you. 73 de John N6JM.

Space papers wanted

The 16th Annual AMSAT Meeting and Space Symposium slated for 16-18 October in Vicksburg, Mississippi, has issued its first call for papers. Subjects of the papers should be topics of interest to the Amateur Radio satellite service. One page abstracts are due no later than 01 June. E-mail them at w5xx@magnolia.net — *AMSAT, Newsline*

10M pedestrian mobile — Australia to US

What is believed to be the first pedestrian mobile contact between Australia and the U.S. on 10 Meters for the new cycle 23 took place Saturday 28 March. That's when Peter Parker, VK1PK, contacted KZ5MM and NE6GN.

What makes these contacts unique is that Parker was a walking mobile. He used a converted Johnson CB transceiver powered by a 12 volt battery feeding a home made groundplane as a station. The contacts to the U.S. followed a successful pedestrian mobile QSO with ZL2RR earlier that same morning.

This is believed to bethe first time that the Pacific was able to be spanned by a pedestrian mobile station not using a remote base or other type of relay configuration. Output power of Parker's station was only 12 watts PEP. — *Q News, Newsline*

QSL managers

The following QSL routes are correct to the best of our knowledge. Corrections would be appreciated.

3A/N9NC	—OM2SA
3A/WØYR	—OM2SA
3C1GS	—EA5BYP
3D2CB	—OKDXF(1)
3D2H!	—JA1KJW
3D2KT	—OKDXF(1)
3D2KZ	—JA8VE
3D2ME	—7N1RTO(1)
3D2QB	—SM3CER
3D2SH	—JA1JQY
3D2TK	—JA3MCA
3D2TN	—OKDXF(1)
3D2WC	—OKDXF(1)
3DAØCA	—W4DR
3DAØNX	—ZS6CAX
3V8BB	—I5JHW(3)
3W5FM	—UAØFM
3W6EZD	—XU2C
3W6LK	—W2LK
3W6WE	—K2WE
3W7TK	—OK1HWB
3XA8DX	—DJ6SI
3XY7A	—VE6DYS
4G5ØN	—DU9RG
4H9RG	—DU9RG
4K8ØADR	—4K7DWZ
4K9W	—DL6KVA
4LØCR	—IK7JTF
4L1DX	—OZ1HPS
4X50DS/SK	—4Z5AD
5A21PA	—ON4APS
5B4/T97M	—K2PF
5B4AGC	—N4JR
5H1/GØIXC	—GØIXC
5H3/GØIXC	—GØIXC
5N3BHG	—OE6LAG
5N3CPR	—SP5CPR
5R8EE	—FR5EL
5R8FK	—NY3N
5R8FU	—SMØDJZ
5WØSZ	—OKDXF(1)
5WØVD	—OK1VD
5WØVV	—OKDXF(1)
6W1RE	—6W1AE
7Q7KH	—WF5A
7Z1IS	—SMØOFG
7Z5OO	—N2AU(4)
8P6DA	—KU9C
8P9IF	—G3PJT
8P9IJ	—VE3VET
8Q7AA	—N7TX
8Q7BV	—HB9DIF
8Q7DF	—IK5MDF
8Q7VB	—OH2VB
9G1MR	—IK3HHX
9G5SW	—G3VMW
9HØVRZ	—PAØJR
9H3VK	—DL1VSS
9H3ZV	—G4ZVJ
9J2AM	—JAØJHA
9J2BO	—W6ORD
9K2AI	—IK7JTF
9K2JH	—KE4JG
9K2MU	—WA4JTK
9K2OO	—9K2RA
9M2NK	—JE1JKL
9M2QQ	—DF5UG
9M6AAC	—OH2YY
9M6AG	—JA9AG
9M6PO	—OH2YY
9N1AT	—JH8XIX
9N1CU	—JH8XIX
9N1IZ	—JH8XIX
9N1JZ	—JH8XIX
9N1OW	—JH8XIX
9N1UD	—K4VUD
9N1XI	—JH8XIX
9N1ZS	—JH8XIX
9U/EA1FH	—EA1FFC
9U5CW	—EA1FFC
9V1YC	—AA5BT
9XØA	—DL5WM
A35RK	—W7TSQ
A43DI	—A47RS
A61AJ	—W3UR
A61AP	—IK7JTF
A61AS	—YO3FRI
A92FZ	—W3HC
AH2R	—JI3ERV
BA1CO	—W3HC
BV4FH	—KG6DL
BV5BG	—IK7JTF
C46A	—9A2AJ
C6A1E	—WZ8D
C6AKE	—WA4JID
C91A	—I4LCK
CEØ/KF8OY	—KF8OY
CN/OM3CGN	—OM3CGN
CO2JD	—HI3JH
CO3ET	—WD4OIN
CO4BM	—CT1SO
CO7EH	—AD4OQ
CO7KR	—DL5DCA
CQ5P	—CT1ETE(2)
CR5E	—CT1EEN
CR7EEN	—CT1EEN
CR8EEN	—CT1EEN
CS1E	—CT1EEN
CS98VB	—CT4VB
CT1EEN/P	—CT1EEN
CT3BX	—DJ6QT
CT7E	—CT1EEN
CT98EEN	—CT1EEN
CU2X	—DL3LAB
CV1S	—CX1SI
CV8D	—CX8AT
CX/LU2CP	—CX6FP
D2AI	—CT1EGH
DJ/PP1CZ	—PP1CZ
DU1/KH0BZ	—WHØAAV
DU1WHO	—WHØAAV
DU3NXE	—W4NXE
DU7CC	—SMØCNS
DU8ARK	—I2YDX
E21CJN	— W 3 P P / K3WUW
EA8/DL7AU	—DL7VRO
EA8/G3IZD	—G3IZD
EA9LZ	—EA7JB
ED5WPX	—EA5ELX
ED8CMT	—DL7VRO
EJ/G3PFS	—G3PFS
EK1X	—RV6LAH
EK8WB	—IK2QPR
EM1HO	—I2PJA
EM1LV	—UR8LV
EM4U	—UT4UZ
EN5J	—UU2JZ
EP3HR	—I2MQP
ES8ØJ	—ES1AX
ES8ØL	—ES6PL
ES8ØM	—ES1QD
ES8ØQ	— E S 5 M C / ES5RY
ES8ØR	—ES7RE
EW35WB	—EW1WB
EX8F	—DL8FCU
EY2Q	—DJ1SKO
EY8CQ	—DJ1SKO
EY8XX	—GW3CDP
EZ8AI	—RW6HS
F/G3RTE/P	—G3SWH
F/G3SWH/P	—G3SWH
FC5FG	—F6DZU
FJ/K1YJK	—K1YJK
FK8HC	—VK4FW
FM5JY	—F5JYD
FP/K8AEM	—K8AQM
FP/KG8CO	—K8AQM
FP/N8CC	—K8AQM

FP/W8MC —K8AQM
FP5BZ —F5TJP
FT5WG —F6APU
FT5XN —F6PEN
FW5XX —ON4QM
GBØSM —G3WNI
GB5TI —GMØKVI
GB8FF —GMØKVI
GH0STH/P —G4DIF
H4ØAB —VK9NS
H44AL —VK4AFL
H44DX —OH2BN
H44RY —OH1RY
H44XX —JA5DQH
HBØGR —HB9AAQ
HB2CA —HB9DLE
HB5RL —Bureau
HC6CR —NE8Z
HFØPOL —SP3BGD
HH2LQ —NN6C
HKØ/KB5GL —AC7DX
HKØAUE —HKØFBF
HK3JJH/1 —HK3JJH
HP3XUG —KG6UH
HR5/F2JD —F6AJA
HSØ/VK3DXI —DL4DBR
HU1X —YT1AO
HU4X —Z32AU
HV4NAC —IKØFVC
HZ1AB —K8PYD
HZ1RT —IK7JTF
II3OTA —IK2PZG
II9ZZ —IT9PKO
IR2A —IK2HTW
IR4B —IK4AUY
IR8J —IK8WEJ
J3/K1DFT —W1KMV
J3/PA3EWP —PA3ERC
J41TEN —SV1DNW
J43PTR —SV3AQN
J45RDS —SV5AZP
J45T —SV5TH
J47LAF —SV7CO
J6/PA3BBP —PA3ERC
J68BW —KF8OY
J73KKZ —W2KKZ
JA5UIM/4 —JA5UIM
JF1LGD/JD1 —JF1LGD
JH3QFL/6 —JH3QFL
JI6KVR —EA5KB
JT1FCO —VK4MZ
JT1JA —VK4MA or VK4MZ ?????
JW5HE —OZ8RO
JW6VJA —LA6VJA
JW7EHA —LA7EHA
JW8NHA —LA8NHA
JX1UG —LA1UG
JX2FL —LA2FL (1)
JX3EX —LA3EX
JX4CJA —LA4CJA
JX6RHA —LA6RHA
JX7DFA —LA7DFA(1)
JX9CAA —LA9CAA
JX9EHA —LA2T
JX9ZP —LA9ZP (1)
JY5SK —W9XY
JY9RU —F6ARU
K4AU/WH1 —K4AU
K6T —KI6T
K8XP/KH9 —WA4YBV
K9AW/KH2 —WF5T
KC4AAA —NC6J
KC4AAC —K4MZU
KC4AAD —K4MZU
KC4AAF —K4MZU
KG4AU —WV4N
KG4GC —W4WX
KG4OX —W4OX
KG4WW —KX4WW
KG6SL —JH1AJT
KH2/DF8AN —DF8AN (1)
KH8/KF4MIW —OKDXF (1)
KH8/N5OLS —N5JA
KH8/WP2AIH —OKDXF (1)
L5ØDT —LU6DSR
LX/PP1CZ/P —PP1CZ
LZØA —LZ1KDP
LZØL —LZ1KDP
MJØAWR —K2WR
N2OO/KH9 —WA4YBV
N2WB/KH9 —WA4YBV
N3WCN/HH2 —N1XVU
N4DAZ/KH1 —WA4FFW
N6MZ/KH9 —WA4YBV
NH4/HH6YK —NH6YK
NIKS/KH0 —JA1FUI
OE9S —OE2GEN
OG5F —OH1VR
OHØW —OH2IW
ON5ØLUS —ON5SE
ON5ØRAM —ON4LCT
OX3LG —OZ2ELA
P29AS —K6VNX
P29PL —VK9NS
P3A —W3HNK
P4ØW —N2MM
P4ØXM —DL3XM
P49M —VE3MR
PJ8DM —KF4KRZ
PJ8LT —W1YJI
PJ9/K2NG —WA2NHA
PJ9JT —W1AX
PPØF —PP1CZ
PPØMAG —PP1CZ
PP4P —PP1CZ
PQ5L —PP5LL
PR5L —PP5LL
PT163MP —PP5LL
PT2/PP1CZ —PP1CZ
PW1Z —PP1CZ
PYØF/PP1CZ —PP1CZ
PYØMAG —PP1CZ
PY1/PP1CZ —PP1CZ
PY2/PP1CZ —PP1CZ
PY4/PP1CZ —PP1CZ
PY6/PP1CZ —PP1CZ
PY7/PP1CZ —PP1CZ
RØDAT —UA3DAT
R1ANF —DL5EBE
R1ANL —UA6AH
R1ANZ —UW1ZC
R3CA/Ø —UA9OBA
RA9DX —SP7LZD
RI1OA —IK2QPR
RM6A —RW6AWT
RU1POL/Ø —UAØKCL
SØ4WW —ON5NT
SØ8R —EA2JG
SØRASD —EA2JG
S21YG —DL3NEO
S91FC —CT1EAT
S92AT —NJ2D
S92FC —CT1EAT
S97A —CT1EAT
SMØCNS/4E7—SMØCNS
SMØCNS/DU7—SMØCNS
SNØJG —SP2BIK
SO2DBO —DL5DBO
STØAP —DJ6SI
SU1HM/6A —IK3ZAW
SU3AM —DL1FCM
SU8LXR —SU1ER
SX2T —SV2TSL (1)
SX2THE —SV2TSL (1)
T32RT —W6UC
T95A —K2PF
T99DX —DL3NCI
TA2DS —WA3HUP
TA2IJ —DJ9ZB
TA3ZJ —DL3FDU
TA3ZK —DL4VBP
TI2IDX —WA9BXB
TJ1GD —SP9CLQ
TL8CK —F6EWM
TM2T —F6KDF
TP4CW —F6FQK
TR8CR —F6AJA
TR8SS —DK8SS
TT37Y —F6FNU
TT8FC —EA4AHK
TT8JE —F6FNU
TT8KM —F6FNU
TU3F —F6AXP
TY1IJ —DK8ZD
TZ6HP —JA1OEM
UAØAZ —W3HNK
UI8OAA —IK2QPR
UJ9A —UA9AB
UK8GK —RW6HS
UK8OM —IK2QPR
UM8OM —IK2QPR
UN7LG —KU9C
UN9PQ —IK2QPR
UR5IFB —KA5TUF
USØHZ —W3HNK
UT1T —UR7TZ
UU4JWA —LY1DS
V26E —AB2E
V26HL —AA1M
V26OC —N3OC
V26U —W2UDT
V26XX —GMØGAV
V31DL —WI9H
V31FE —VE3FE
V31LL —N7TLL
V31NX —N6FH
V31TR —K8BK
V31VI —N6KZ
V44KJ —WB2TSL
V47KP —K2SB
V63AJ —DF8AN (1)
V63VV —N6VV
VK4CSP/P —HB9CQK
VK8DX —N3AHA
VK9LL —JH4RHF
VK9LR —JH4RHL
VK9LZ —NØAH
VP2EEI —K3DI
VP2EKS —HB9KS
VP2EXM —DL3XM
VP2VI —AB1U
VP5/K6HNZ —K6HNZ
VP5E —K6HNZ
VP8CKN —G7LRO
VP8CXV —GØØTQJ (1)
VP9ANV —WB2YQH
VQ9AT —WBØBNR
VQ9ZZ —NS1L
VR2MM —JR3JFZ
VR6YL —K6RPF
WA4FFW/NH1—WA4FFW
WR6WR —N6WR
XE2MX —K6VNX
XT2OW —F5RLE
XU2A —XW2A
XUXO —7L1MFS
XV7SV —SMØDRV
XV7SW —SM5MX
XV7TH —SK7AX
YBØARA/9 —N2AU
YC8DEZ —YB1XUR
YC8FI —IKØZKK
YE2B —YCØFTD
YI1HK —KK3S
YI1SEA —WA3HUP
YJ8UU —ZL2HE
YN4/WK6O —KB5IPQ
Z31JA —NO6X
Z38/NN6C —NN6C
Z38/NO6X —NO6X
Z38C —NN6C
ZC6MPT —JA1UT
ZD9BV —W4FRU
ZF2FD —N7ML
ZF2JB —KK9A
ZF2MR —W6MR
ZF2RV —WJ7R
ZK1DI —DK1RV
ZK2CK —HB9BCK
ZK2FT —DL7FT
ZL7DK —DK7YY (1)
ZL7IR —K8VIR
ZPØZ —W3HNK
ZS26BI —ZS1FJ
ZW1CZ —PP1CZ
ZY5YZ —PP5LL
ZZØTA —PP1CZ
ZZ1AA —PP1CZ
ZZ1CZ —PP1CZ

3W6KA —Kasati Ham Radio Club, P.O. Box 76, Saigon, VIETNAM
4K9C —Boris Gorobec, P.O.Box 214, 370000 Baku, AZERBAIJAN
5A1A —P.O.Box 74421, Tripoli, LIBYA
5R8EW —Patrick, P.O.Box 3934, Antananarivo 101, MADAGASCAR
5W1PC —Perry, P.O.Box 2007, Apia, WESTERN SAMAO
6W1RB —Marie Therese Horgue, P.O.Box 3749, Dakar, SENEGAL
6W1RE —Didier Senmartin, P.O.Box 3024, Dakar, SENEGAL
7N1RTO —Mamoru Endo, 102-83-2 Kizuki-Omachi, Kawasaki 211-0031, JAPAN
9H1ZX —Frank Pleven, St.Joseph Flat/2, Mriehel Street, B'Kara, MALTA
9M6CT —Phil Weaver, P.O.Box 7, Bangkok 10506, THAILAND
9N1CU —Henning, P.O. Box 4010, Katmandu, NEPAL
DS5YMF —Chois Yei-Hyun, P.O.Box 36, Kyeongju 780-600, SOUTH KOREA
BG7BF —Ro, 249 Yanfeng Road, Hengyang, Hunan 421001, PEOPLES REPUBLIC of CHINA
CO8TW —Juan Carlos Veranes, P.O.Box 8, Santiago de Cuba 90100, CUBA
DF8AN —Michael Noertmann, Neustadt 18, D-37154 Northeim, GERMANY
DK7YY —Falk Weinhold, P.O. Box 700343, D-10323 Berlin, GERMANY
ER1DA —Valery N.Metaxa, P.O.Box 9537, MD-2071 Kishinev, MOLDOVA
EU1AA —Valentin Benzar, P.O.Box 41, Minsk 220050, BALERUS
EW2AA —Alex Savushkin, P.O.Box 72, Minsk 220050, BALERUS
F5IYJ —Philippe Givet, 23 Rue Nouvelle, F-21110 Varanges, FRANCE
FR5HR —Rene Allegre, 56 Leconte de Lisle, Bois de Nefles, F-97411 Saint-Paul, FRANCE
GØTQJ —Chris M.Vernon, 57 Parker Road, Wittering, Cambs.PE8 6AN, ENGLAND
J39CY —Frank Noel, P.O. Box 578, St. Georges, GRENADA
LA2FL —Magne Oeverboe, Brakka H-2, N-4030 Hinna, NORWAY
LA7DFA —Per Rinar Dahlen, P.O. Box 105, N-6520 Frei, NORWAY
LA9ZP —Astor Ernstson, Aasveion 3, N-8011 Bodoc, NORWAY
OH2PM/BY1QH —Pertti Simovaara, Asia Pacific Building Apt 1106, No 8, Ya Bao Lu, Chaoyang District, Beijing 100020, PEOPLES REPUBLIC of CHINA
OKDXA —Oklahoma DX Association, P.O.Box 88, Morris, OK-74445-0088
OKDXF —OKDX Foundation, P.O. Box 73 Bradlec, 293 06 Mlada Boleslav, CZECH REPUBLIC
RW1QW —P.O.Box 23, Vologda 160035, RUSSIA
RW9A —P.O.Box 15992, Chelyabinsk 454091, RUSSIA
SVØLK —Helmut Muschalle, P.O.Box 9, GR-70014 Hersonissou, Crete, GREECE
SV2TSL —Radio Amateur Union of Northern Greece, P.O.Box 10483, GR-541 10 Thessaloniki, GREECE
TF8GX —Gulli, P.O. Box 345, Keflavik 230, ICELAND
SU3YM —P.O.Box 545, Port Said, EGYPT
UT9NA —Serge, P.O.Box 8100, Vinnitsa 286050, UKRAINE
VK9EKY —Frank Z. Murdzia, 3-8-41 Shijimizuka, Hamamatsu, Shizuoka 432 8018,JAPAN
W3PID/DU9 —John Griffing, Hubangon-Mahinog, 9101 Camiguin, PHILIPPINES
YBØAI —Taufan Prioutomo, JI Kebon Kelapa 25-A, Jakarta 12220, INDONESIA
YC1UVV —Adi Fitrato, Jl.Husada I No 81, Cibening, Bekasi 17412, INDONESIA
YS1EJ —Juan M Molina, P.O. Box 01-419, San Salvador, EL SALVADOR
YT4D —P.O.Box 99, 74000 Doboj, R.S., via YUGOSLAVIA
ZV3A —Alberto V. Christensen, R. Irmao Jose Otao 170/1302, 90035-060 Porto Alegre (RS), BRAZIL.
ZV3C —Alberto V. Christensen, R. Irmao Jose Otao 170/1302, 90035-060 Porto Alegre (RS), BRAZIL

NOTES:

1. This QSL manager's address is shown above. 2. This route applies for contacts made in 1994 only. 3. This route applies for the period 25-31 March 1998 only. 4. There have been several contacts, especially on 18 March 1998, that were pirated operations. Do not send QSL requests for these operations as they will be returned unconfirmed.

FM, Repeaters & VHF

Bill Pasternak, WA6ITF

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E-mail only up to 50 kilobytes can also be sent to wa6itf@juno.com

AMSAT president on mandatory bandplans

Last month we reported that the ARRL Board of Directors will seek to have the FCC issue a "declatory ruling" making operation of non-compatible modes (such as FM in the SSB segment of a band) outside of an accepted voluntary bandplan deemed to be "bad operating practice." Now, AMSAT North America President Bill Tynan, W3XO, says that he wants to be certain that Ham satellites and manned Amateur Radio operations (SAREX, MIREX, etc.) that use FM will continue.

W3XO says that he supports the intent of ARRL's initiative but he will also suggest to the AMSAT North America Board of Directors for the organization go on record to preserve the current practice of using FM in conjunction with Earth-to-space and space-to-Earth communication within the satellite subbands.

"There are a number of satellites currently operating in the satellite band that utilize FM. What I was saying was that — subject to discussion and approval by the AMSAT-NA Board of Directors — I felt we should make it clear that there has to be provisions for continuing the use of those satellites — and possibly future (FM) satellites in those segments," Tynan says.

But Tynan takes a much stronger position against FM in regard to non-space communications taking place in the Ham satellite bands. Tynan says that he will also recommend that the Board support a ban on FM terrestrial only communications within the Ham satellite segments.

"It is potentially destructive to satellite operations to have a terrestrial operation in the 145.8 to 146.0 MHz satellite band. That's really the band we are talking about. If an (interfering) operation of that type takes place it is more likely to be FM because most people have FM equipment," says W3XO.

The League wants the Commission to assert that any operation that conflicts with established, voluntary band plans and causes interference or adversely affects others operating in accordance with applicable band plans, is considered poor amateur practice, regardless of the band on which the conflict might occur. Bill Tynan's tacit endorsement — even with his stated reservations — will go a long way in convincing the FCC to look with favor on such a petition — if and when the ARRL submits it to the FCC.

VK spectrum hunters target 70 CM

The 70 centimeter Ham band in Australia is under attack from that nation's Radio Site Owners and Users Association. The Radio Site Owners and Users Association is a lobbying body of about two dozen organizations which run the majority of land mobile radio sites in V-K land.

According to Australia's Q News, the association is urging its members to campaign for the reallocation of the 380 to 400 MHz and 420 to 450 MHz bands away from their current users. They want more commercialized use of this spectrum.

The Association is also warning its members that they may have to go into what amounts to a war with Amateur Radio to get the 70 centimeter band away from Australian Hams. A recent Association newsletter warns members that Australian amateurs maintain very effective lobbying. They recently gained a reduction in fees shortly after new license fee structures were announced.

On the Hams side, the Wireless Institute of Australia is already using its lobbying ability to protect the 70 centimeter amateur allocation. It's Government Liaison Team has already been mobilized to gain the support from the Australian Department of Defense in hope of fending off this imminent threat to the 70 centimeter band.

Alex Magosci, W2OV, on the future of open repeaters

The co-founder of one of the nation's largest repeater clubs says that the world of FM is in for some rough times. Alex Magosci, W2OV, who is one of the driving forces behind New York's Metroplex Amateur Communications Association says that he sees the problems of overcrowding and malicious interference leading to a privatizing of more and more repeaters:

"Unfortunately I see them getting closed up electronically. That is the only real solution to solving jammer and trouble maker problems. So I see a lot of systems that are probably going to go private. And either go private electronically or go closed all together. Or both, a combination of both. And fancy systems, one step beyond even digital PL," says W2OV.

Magosci says it does not have to be this way, but only the FCC can really end the problems that are causing repeater owners to close their doors to all but the select few: "When I got my license I was afraid of the FCC. I would be the last person in the world to make a mistake on the air. To transmit off frequency or something. Double check, triple check everything before you push the transmit button.

"But today I see that attitude is not with your average person that joins Ham radio. They don't know who the FCC is and we are the 25th priority with the FCC. And until we get a good scare into us we're not going to do anything better. We are going to get sloppier and do it worse."

Magosci notes that tradition tends to guide longtime Hams along the right path. He says however that newcomers do not have that guidance and without FCC support things will not get much better.

File comments to the FCC e-mail

You can now file comments to the FCC by electronic mail. The Commission has instituted a form on its website where you need only fill in your views and affix an electronic signature. After that you can save a copy as an ascii text file before e-mailing it back. The form and full instructions are available at www.fcc.gov/e-mail/email.html

The internet repeater connection

On an Internet related note, you may remember that late last year the Newsline Ham radio news service reported how amateurs are linking local area repeaters to the Internet. This, for worldwide connection to other amateurs and amateur repeaters.

In the December 1996 issue of *QST Magazine,* in the FM and Repeaters column, Murray Green, K3BEQ, wrote about the procedural aspect of communicating through repeaters using the Internet. In a follow-up article, in the March 1998 issue, K3BEQ provided information on how to go about obtaining the software necessary to access repeaters via the Internet or to talk to other amateurs on a computer to computer basis. Both items are must reading for any repeater operator considering using the Internet for linking purposes.

NFCC election

Word from the National Frequency Coordinators Council that the group has completed its second directors' election and the new National Frequency Coordinators' Board election. Those that have won office include Whit Brown, WBØCJX; Clay Freinwald, K7CR; Dick Isely, W9GIG; Dave Shiplett, AC4MU and Owen Wormser, K6LEW.

The NFCC also has a new Board of Directors. Some of the names are the same as those serving on the frequency coordinators board. They are Dick Isley, W9GIG, as President, Whit Brown, WBØCJX, as Vice President, Clay Freinwald, K7CR, as Secretary and Dave Shiplett, AC4MU, as Treasurer.

Under the amended bylaws, these officers will serve until the next NFCC Directors' Election to be held in September.

SCRRBA retirees

The political face of UHF repeater coordination politics in Southern California has changed. This with the announcement that Bill Kelsey, W6QC, and Robin Critchell, WA6CDR, are stepping aside from elective office in the Southern California Repeater and Remote Base Association. This, after two and a half decades of service to the regions Ham radio community.

The Southern California Repeater and Remote Base Association is a direct descendant of the old California Amateur Relay Council. CARC was the nations very first coordination group established in the early 1960s and gave birth to several smaller groups that became the basis of all volunteer coordination efforts across the nation.

Kelsey and Critchell were two of the original founding members of the Southern California Repeater and Remote base Association and have helped guide the group into one of the most politically powerful regional coordinators in the nation.

Replacing Kelsey as president of SCRRBA is Joe Sadler, WA6PAZ, with Mike Penrose, W6ADF, as the organization's new Treasurer. Both Kelsey and Critchell will remain with the coordination group in advisory roles.

Changes at SERA

Some major political changes may also be coming to the South East Repeater Association. This with the announcement that two of its longtime leaders are stepping aside.

Dave Shiplett, AC4MU, and Ray Adams, W4CPA, have also announced that they will not stand for re-election. Shiplett has spent the past twelve years involved in repeater coordination with SERA. For the last six he has served as the organization's president. He also serves on the board of the recently formed National Frequency Coordinators Council or NFCC.

Ray Adams, W4CPA, may be better known to the nation's Ham community under his previous call of N4BAQ. He has been SERA's treasurer since 1981 and has an unbelievable sixteen years of volunteer time under his belt. Ray's new call sign is very apropos as he is by trade a Certified Public Accountant with his own accounting firm in Knoxville Tennessee.

The South Eastern Repeater Association on which both men served is an umbrella group of recognized repeater frequency coordinators providing service to over 1,950 repeaters and their owners along with almost 100,000 users in nine south eastern states.

Micro size and micro cost repeaters

Seeing who can build the tiniest fully operational repeater seems to have become a contest and an art. Witness the following as adapted from a posting by Charles A. Rubenstein (rubenc@iglou.com) to the Repeater Owners Reflector. Says Charles: "I have made a habit of building a new 'SKI-Peater' for our use each February when we go to Vail skiing. Each year it gets smaller and smaller. Then I sell it at Hamvention in Dayton.

"This year's project is made of two Maxon data radios with a tiny Sinclair duplexer and simple 'controller' to wit: a stamp sized IDer board which has hang timer and timeout timer. I power it with a laptop battery which should last a

few days of use at the summit of the mountain.

"Last year's was 2 GE MPI boards and Cellwave miniduplexer in small diecast boxes with the battery and controller in a small ammo case. It now lives in Maryland."

No where near as tiny in size, but very small in cost is a repeater built by Joe Szczech, K1IKE (joe check@snet.net). It consists of a Maggiore receiver and transmitter on 440.800T/445.800R, a Creative Control Products controller, a Cellwave miniduplexer, a GLB preselector/preamp and a MastrII for the 6 Meter remote base.

Joe says that his goal was to use up repeater stuff that was laying around from a repeater "buyout" that he did. He says that "...one of the local Hams packed it in and sold off all his repeater goodies." Joe says that his goal was to have a low power repeater for the local area with access to 6 Meters. Also, something portable for Hamfests, etc. This system, says Joe, "... fits the bill, and cost me less than 100 bucks."

The e-mail bag

First a word on organized 2 Meter activity from Dan Sullivan, N3OPM:

From: Daniel F. Sullivan Jr.
To: vhf@w6yx.stanford.edu
Bill,

These are some of the 2 Meter activity nets: In the North and East:

Sunday 10:30am est 144.250 beam towards FN20oj
Monday 9:00 pm est 144.230 beam towards Virginia Beach,Tidewater area (FM17/26)
Tuesday 8:00 pm est 144.230 beam towards FN22vw
Thursday 8:30 pm est 144.250 beam towards FN31fh

73 de Dan N3OPM

•

Then regular contributor Robert Homuth has these words regarding 6 meter FM simplex:

From: kb7aqd@kf7tp.ampr.org
To: billwa6itf@AOL.COM
Re: Six Meter Idea for FM?

As weak-signal operators do, we 6 meter FM guys should select one night a week to either call CQ on 52525 kHz FM simplex, or answer CQ calls.

Or, pick one time each day — say 0200z, and get on every single night listening for locals, and the rare skip opening.

How about a get-together on one holiday — like the CW fans have "Straight Key Night"? Pick one day, and give a CQ call on 52525 and 52540 kHz FM on the top of every hour to find your local neighbors on the Magic Band?

Try an "FM on Six" field-day mountaintop setup. Post your activities at the local club, and request reception reports from members and non-members alike who have VHF scanners instead of 6M.

FM rigs

Also recall that 52.525 MHz FM is also one of the "Wilderness Protocol" simplex frequencies. The ARRL has proposed monitoring that, and 146.52, 223.5 and 446 MHz simplex for campers and hikers out of repeater range.

They recommend listening on top of the hour at the following local times: 7:00 a.m. 11:00 a.m. 3:00 p.m. 7:00 p.m. to any of those simplex channels for priority or distress calls.

Hams monitoring 146.52 MHz have told me they have answered no emergency calls yet — but they have logged a number of campers and hikers pleased that someone was listening.

If everyone listens on 52.525 MHz simplex, and no one calls CQ...how do we know the band is open?

73
Robert Homuth, kb7aqd
Phoenix, Arizona

•

Robert also passes along this note that he received from Holland regarding 2 meter FM simplex DX:

Hello Robert!

FM DX? FM DX! Why not!

I've been active on 144 for about 18 years by now and I can tell you that FM DX can be very nice. FM is not good for Aurora, but TROPO and Sporadic E will do fine.

I have worked a lot of FM during the past years and 1500 km is not unusual for TROPO. In Sporadic E-openings FM is sometimes the best way. Especially when we have openings towards EA and I. There are many people over there who only have/use FM, so SSB is not bringing in DX.

I've had many contacts on FM between 1500-2000 km and most of those QSOs were made with only 25 watts into a single 16 el. yagi! It's really big fun doing this. Remember: when an opening permits 59+ signals, FM is quite comfortable!

I mostly work CW/SSB nowadays with two times 16 el. yagi and 700 watts. I managed to work W5UN and some others by the moon. But FM-ing gives a lot of pleasure and you're totally right that there is a lot of activity with the FM-mode.

Here in Europe, most FM-people work via repeaters and use verticals. As you know, a vertical is just fine for Sporadic E, because the polarization shifts after the E-layer reflection. My best DX (CW) is UL7 (Kazakhstan), about 3500 km (double hop Es) and the most exciting QSO I ever made was with EA9, Ceuta in Africa, about 2400 km (yes: SSB). I used at that time 25 watts into a two elements HB9CV indoor, while the EA9 used a vertical.

Really 144 MHz amazes me every day!

Good luck with your experiments and 73!

Eltje, PA3CEE QTH: Wirdum Gn. JO33ji

And that's it for June and the first half of 1998. What does the second half have in store? Visit with us next month.

New Maine Section Manager

Michelle Mann, W1GU, has resigned as Section Manager of Maine. Completing the few months remaining in her term will be the new Section Manager-elect William "Bill" Woodhead, N1KAT, of Auburn.

Woodhead ran unopposed for the Section Manager's position for a full term starting 1 July — *ARRL Letter*

Turn a friend on to ham radio!

Visit Your Local RADIO CLUB

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

ARIZONA

Arizona Repeater Association. P.O. Box 35758, Phoenix, AZ 85069-5758. Operates 20 VHF & UHF rptrs. in AZ. Meets 4th Thurs./monthly, 7:30 p.m., APS Bldg., 21st Ave. & W. Cheryl, Phoenix. Info: (602) 849-0851. 9/98

Cochise Amateur Radio Assn., (CARA). Meets 1st Mon./monthly, 7:30 p.m. at club facility on Moson Rd., Sierra Vista, AZ. K7RDG/R 146.76(-) rptr. PL162.2. 5/99

Old Pueblo Radio Club, (OPRC). P.O. Box 42601, Tucson, AZ 85733. Meets 2nd Wed./monthly, 7:15 p.m., Tucson Med. Cntr., Grant & Beverly St. in the AZ Rm. of the Volunteer's Bldg. (1st bldg. on the left going north off Grant). 2/99

Tucson Repeater Assoc., P.O. Box 40371, Tucson, AZ 85717-0371. Meets 2nd Sat./monthly, 7:15 p.m., Dept. of Emergency Mgmt., 130 W. Congress. Net Thurs. 7:30 p.m. 146.82(-), 146.88(-), 147.08(+), 448.550(-) & 145.15 Packet. 3/99

CALIFORNIA

Amador County Amateur Radio Club. P.O. Box 1094, Pine Grove, CA 95665. Meets 1st Thurs./monthly, 7:30 p.m., Jackson Sr. Cntr., 229 New York Ranch Rd., Jackson, CA. Info: call 146.835(-). 3/99

Beach Cities Wireless Society. P.O. Box 4016, San Clemente, CA 92674. Meets 2nd Thurs./monthly, 7:30 p.m., Ole Hansen Beach Club, 105 W. Avenida Pico, San Clemente. Rptr. 146.025(+) PL 110.9. 7/98

Coachella Valley ARC. Box 11092, Palm Desert, CA 92255-1092. Meets 2nd Wed./monthly, 6:30 p.m., Portola Com. Cntr., 45480 Portola, Palm Desert. Info: Bill Dews, (760) 346-8611. Net Thurs. 7 p.m. 146.025(+) PL 107.2. 5/99

Contra Costa Communications Club, Inc., WD6EZC/R. P.O. Box 20661, El Sobrante, CA 94820-0661. Meets 2nd Sun./monthly (except May & Dec.), 0630, Baker's Square Restaurant in Richmond, CA. Info: Ed Caine, KA6OFR, (707) 996-0962. 1/99

Downey Amateur Radio Club Inc., W6TOI. Meets 1st Thurs./monthly, 7:30 p.m., So. Middle Sch. cafetorium, 12500 S. Birchdale, Downey, CA. VHF net W6GNS rptr. 146.175(+) Thurs., 7:30 p.m. 5/99

East Bay Amateur Radio Club, Inc. Meets 2nd Fri./monthly, 7:30 p.m., Albany Sr. Cntr., 846 Masonic Ave., Albany, CA. Info: S. Primbsch, (510) 741-8227. 145.11(-) MHz. 11/98

Fresno Amateur Radio Club. Meets 2nd Fri./monthly, 7:30 p.m., Ernie Pyle School, 4140 N. Augusta, Fresno, CA. 146.94(-) 223.94(-) 11/98

Fullerton Radio Club, Inc., W6ULI. P.O. Box 545, Fullerton, CA 92632. Meets: 3rd Wed./monthly, 7:30 p.m., Sr. Citizens Ctr., 340 W. Commonwealth, Fullerton. Net ea. Tue., 8 p.m. 147.975(-). Info: Bob Hastings, K6PHE (714) 990-9203. 7/98

Garlic Valley Amateur Radio Club (GVARC). Meets last Sat./monthly, 8:30 a.m., Gavilan Restaurant near Monterey exit, hwy 101, Gilroy, CA. Info: Hal, AC6LK, (408) 779-7787. Net Tues., 7:30 p.m. Club rptr. K6THR, 147.825(-). 9/98

Golden Empire Amateur Radio Society, (VEC). P.O. Box 508, Chico, CA 95927. Club call W6RHC, rptr. 146.85(-). Meets: 3rd Fri./monthly, 8 p.m. at 1528 Esplanade, Rm. 101, Chico. 10/98

Livermore Amateur Radio Klub, (LARK). Meets 3rd Sat./monthly, 9:30 a.m., City Council Chamber, 3575 Pacific Ave., Livermore, CA. Net Mon. 1900 on 147.12(+). For info: LARK Secretary, P.O. Box 3190, Livermore, CA 94551-3190. (510) 846-6513. 1/99

Marin Amateur Radio Club (MARC). W6SG. Box 151231, San Rafael, CA 94915-1231. Meets 1st Fri./7:30 p.m., Kaiser Hosp., Bldg. 2, Terra Linda, CA. (except July & Dec.; contact Membership Chair., Pete Wolford, N6IYU, 924-1578). Sun. AM Club at Red Cross, San Rafael. 9/98

Motorcycling Amateur Radio Club. Meets 2nd Sat./monthly, 8 a.m., Lake View Cafe, 2099 E. Orangethorpe, Placentia, CA, at 91 Fwy/Lakeview. Info: Ray Davis, KD6FHN, (714) 551-1036 or (714) 551-2010. 3/99

Mount Diablo Amateur Radio Club. P.O. Box 23222, Pleasant Hill, CA 94523. Meets 3rd Fri./monthly, 8 p.m., Our Savior's Lutheran Church, 1035 Carol Ln., Lafayette, CA. Net Thurs. 7:30 p.m. on 147.06(+) PL 100Hz. Info: (510) 932-6125. 7/98

North Hills Radio Club. Meets 3rd Tue./monthly, 7:30 p.m., Carmichael Elks Lodge, 5631 Cypress, Carmichael, CA. Nets 8 p.m. Tue., Wed., Thur., 145.190(-) PL 162.2 and 224.400(-). Contact: Bob, AC6HF, (916) 966-3654. E-mail: ac6hf@juno.com or http://www.ns.net/~NHRC 3/99

Orange County Amateur Radio Club. Meets 3rd Fri./monthly, 7:30 p.m., Orange County Red Cross, 601 N. Golden Circle, Santa Ana, CA. 146.550. Contact Bob Buss, KD6BWH, (714) 534-2995. 2/99

Poinsettia ARC. Meets 1st Thurs./monthly, 7:30 p.m., First Christian Church, Telegraph Road. & Teloma Drive, Ventura, CA. For info: George Myers, KA6WZR, (805) 644-1131. 4/99

River City A.R.C.S. Meets 1st Tues./monthly, 7 p.m., SMUD Bldg., Don Julio at Elkhorn, Sacramento, CA. License classes offered. For info contact Lyle, AA6DJ, (916) 483-3293. 9/98

Sacramento Amateur Radio Club. Meets 2nd Wed./monthly, 7 p.m. Sac. Blood Ctr., 32nd St. & Stockton Blvd., Sacramento, CA. Info net at noon on rptr. W6AK/R 146.91(-). Steve Cates, KC6TEV, (916) 391-7341 or Les Ballinger, WA6EOQ, (916) 393-4775. 2/99

Sacramento "Old Timers" Amateur Radio Society and Sacramento Valley Chapter #169 QCWA (Quarter Century Wireless Assn.). Meets 2nd Wed./monthly, 8 a.m., Lyon's Restaurant, 1000 Howe Ave. For info contact Paul Wolf, W6RLP (916) 331-1830. 12/98

Santa Clara County Amateur Radio Assoc., (SCCARA) W6UW & W6UU. P.O. Box 6, San Jose, CA 95103-0006. (408) 249-6909. Meets 2nd Mon./monthly, 7:30 p.m., Hewlett-Packard, Bldg., #48, 19483 Pruneridge Ave., Cupertino. Net all other Mon., 7:30 p.m. W6UU/R 146.385(+), 442.425(+) PL 107.2. 5/99

Shasta Cascade Amateur Radio Society, (SCARS). 2124 Airstrip Rd., Redding, CA 96003. Meets: 3rd Wed./monthly, 7 p.m. at the C.D.F. Conf. Rm. Grape St., near Parkview Ave., Redding, CA. Net 146.64, Wed., 8 p.m. 10/98

Sierra Foothills ARC. P.O. Box 1005, Newcastle, CA 95658. Meets 2nd Fri./monthly, 7:30 p.m., Auburn Library (Beecher Rm.), 350 Nevada St. Thurs. nets 7:30 p.m. 145.430(-) PL 94.8, Sun. net 7:30 p.m. 28.415. 3/99

South Bay ARC. P.O. Box 536, Torrance, CA 90508. Meets 3rd Thurs./monthly, 7:30 p.m., Torrance Memorial Hosp., 3330 Lomita Blvd., Torrance, CA. Talk-in on WB6MYD rpt. 244.38(-). Info: (310) 328-0817. 7/98

This month ... Bicycle Mobile Hams of America, from Boulder, CO, have won an MFJ Antenna Analyzer to share with its members. The club's name was selected at random from our "Visit Your Local Radio Club" listing.

Southern California Six Meter Club. P.O. Box 10441, Fullerton, CA 92635. USB Net Tue., 8:00p.m., 50.150. FM Rpt. Net Thurs., 7:30 p.m., 52.86/52.36 tx. FM Smplx, call freq. 50.300. Net Sun., 10 a.m. 50.40. 4/99

Southern Sierra ARS. Meets 2nd Thurs./monthly, 7 p.m., Veteran's Hall, 125 East F St., Tehachapi, CA. Contact: Caroline, KD6KMN, (805) 822-5995. 147.06(+), 224.42(-), 145.090(S) Packet. 1/99

Stanislaus Amateur Radio Assoc., Inc. (SARA). P.O. Box 4601, Modesto, CA 95352. Meets 3rd Tues./monthly, 7:30 p.m., Stanislaus Co. Admin Bldg. 145.39(-) PL 136.5, 224.14, 440.225 PL 136.5. 3/99

Tri-County Amateur Radio Assoc. P.O. Box 75, Claremont, CA 91711-0075. Meets: 2nd Mon./monthly, 7:30 p.m., Covenant United Methodist Church, corner of Towne Ave. & San Bernardino Rd. in Pomona, CA. 1/99

Trinity Country ARC. P.O. Box 2283, Weaverville, CA 96093. Meets 2nd Wed./monthly, County School Adm. Bldg. in Weaverville, 7:30 p.m., Rptrs: WA6BXN 146.73(-) PL 85.4, W6HOR 146.925(-) PL 85.4. 10/98

United Radio Amateur Club, K6AA. L.A. Maritime Museum, Berth 84, Foot of 6th St. San Pedro, CA 90731. Meets 3rd Fri./monthly (except Dec.), 7:00 p.m. Monitors 145.52 Simplex 10 a.m.—5 p.m. 7/98

Vaca Valley Radio Club. Meets 2nd Wed./monthly, 7:30 p.m. (Board mtg., 7 p.m.) Vaca Fire Dist. Stn., Vine St. in Vacaville, CA. Rptr. WD6BUS 145.47(-) PL 127.3. Gerald Grossardt, (707) 447-0869. 5/99

Victor Valley Amateur Radio Club. P.O. Box 869, Victorville, CA 92392. Meets 2nd Tues./monthly, 7:00 p.m., Presidio Recreation Cntr., 11100 Apple Valley Rd., Apple Valley, CA. Talk-in 146.94(-), PL 91.5. Net Sun. 7 p.m. 146.94(-). 2/99

West Coast Amateur Radio Club, (WCARC). P.O. Box 2617, Costa Mesa, CA 92628. Meets 3rd Thurs./monthly, 7 p.m., Fountain Valley Sch. Dist. office, 17210 Oak St., Fountain Valley, CA. 145.440(-) PL 136.5. For info: Jane, KD6ODV, (714) 531-6707 10/98

Westside Amateur Radio Club. P.O. Box 11092, Marina del Rey, CA 90295. Meets 4th Tues./monthly, 7:30 p.m., West Dist. Red Cross Bldg., 11355 Ohio Ave., W. Los Angeles, CA (VA Cntr. grounds). Net every Tues., 8 p.m. 146.67(-) except mtg. night. Website: http://www.qsl.net/warc Voice mail: (310) 917-1100. 6/98

Willits Amateur Radio Society, (WARS). 1712A South Main St., Ste. 73, Willits, CA 95490. Meets 4th Mon./monthly, 7 p.m., Brooktrails Fire Dept. (northwest of Willits). Talk-in: 145.13(-), PL 103.5. 9/98

Yolo Amateur Radio Society. Meets 1st Tues./monthly, 7:30 p.m., Denny's Restaurant, 4120 Chiles Rd., Davis, CA. Contact Dave Nishikawa, KC6YFG, (916) 756-6375/Talk-in 144.430. 10/98

Yuba-Sutter Amateur Radio Club, (YSARC). P.O. Box 1169, Yuba City, CA 95992. Meets 2nd Tue./monthly, 7:30 p.m., Yuba City Police Bldg., 1545 Poole Blvd., Yuba City. 2/99

COLORADO

Bicycle Mobile Hams of America. 46 states/6 nations membership. Annual Forum at Hamvention. Net: 14.253, 1st & 3rd Sun., 2000 UTC. Info, sample newsletter: SASE to BMHA, Box 4009-W, Boulder, CO 80306. 2/99

CONNECTICUT

Tri-City Amateur Radio Club. P.O. Box 686, Groton, CT 06340-0686. Meets 2nd Tue./monthly, 7 p.m., St. Lukes Lutheran Church of Gales Ferry on Rt. 12. Info: Bob Dargel, KA1BB, (860) 739-8016. 11/98

FLORIDA

Gulf Coast ARC. P.O. Box 595, New Port Richey, FL 34656. Meets 4th Mon./monthly, 7:30 p.m., 3852 Prime Place, New Port Richey. WA4GDN rptrs. 146.67(-) & 145.33(-), serving all of Pasco County. 10/98

Indian River ARC, Inc., (IRARC). P.O. Box 579, Cocoa, FL 32926-0579. Meets 1st Thurs./monthly, 7:30 p.m., Community Church of the Nazarene, 400 Crockett Blvd., Merritt Island, FL. 3/99

Port St. Lucie ARA. Meets 1st Fri./monthly, 7:30 p.m., St. Andrews Church, Prima Vista Blvd., Port St. Lucie, FL. Contact: Roy Cox, KT4PA, (561) 340-4319. Call in 146.955(-). 11/98

South Brevard Amateur Radio Club. P.O. Box 2205, Melbourne, FL 32902. Meets 1st Tue./monthly, 7 p.m., Public Library, 540 Fee Ave., Melbourne, FL. 6/98

Vero Beach ARC, W4OT. P.O. Box 2082, Vero Beach, FL 32961. Meets 2nd Thurs./monthly, 7:30 p.m., Emerg. Mgmt., Indian River County Adm. Bldg., 1840 25th St. Net Mon., 7:30 p.m. 146.64. 2/99

GEORGIA

Dalton Amateur Radio Club, Inc., (DARC). P.O. Box 143, Dalton, GA 30722-0143. Meets 4th Mon./monthly, 7:30 p.m., Magistrate Court Bldg., corner of Waugh St. & Thornton Ave., Dalton, GA. Info: Harold Jones, N4OTC, 706/673-2291. 4/99

HAWAII

Big Island Amateur Radio Club. P.O. Box 1938, Hilo, HI 96721-1938. Meets 2nd Tue./monthly, 7 p.m., Army Reserve Center, 470 W. Lanikaula St., Hilo. Talk-in on 146.88(-). Lunch, 11 a.m. Fridays, Pizza Hut, Puainako Twn. Ctr. 7/98

Emergency Amateur Radio Club, (EARC). P.O. Box 30315, Honolulu, HI 96820-0315. Meets 4th Thurs./monthly, 7 p.m., Lincoln Elem. Sch., 615 Auwaiolimu, Honolulu. Nets: nightly 7:30 p.m., 146.88 & 146.80. Rptrs: 146.76(-), 146.80(-), 146.88,146.98(-), 146.94(-). Info: (808) 833-6944, WH6CZB. 11/98

ILLINOIS

Chicago FM Club Inc., (CFMC). P.O. Box 1532, Evanston, IL 60204. 146.76(-) PL 107.2/224.10/224.18/443.75 PL 114.8. Ham help line: (773) 262-6773. Info net Tues., 9 p.m. on 146.76(-). Meets 3rd Wed./monthly, 8 p.m. 7/98

Fox River Radio League. P.O. Box 673, Batavia, IL 60510-0673. Meets 2nd Tue./monthly, 7:30 p.m., Old Bank Bldg., 900 No. Lake St., lower level, Northgate Shopping Ctr. & Rt. 31, Aurora, IL. 7/98

Hamfesters Radio Club, W9AA. P.O. Box 42792, Evergreen Park, IL 60805. Meets 1st Fri./monthly, 8 p.m., Crestwood Civ. Ctr., 139th & Kostner, Crestwood, IL. Nets: Sun. (local) 0100 UTC, 28.410 MHz; Mon. 9 p.m. 146.43 S., Packet Mailbox 145.65 MHz. Info: (312) 974-3291. 1/99

Peoria Area Amateur Radio Club, (PAARC). P.O. Box 3508, Peoria, IL 61612-3508. Meets 2nd Fri./monthly, Red Cross Chapter House, 311 W. John Gwynn Jr. Ave., Peoria, IL. Voice mail: (309) 692-3378. Rptrs: 147.075(+) & 146.85(-). 6/99

Schaumburg ARC. P.O. Box 68251, Schaumburg, Illinois. Meets 3rd Thurs./monthly, 7 p.m., Rec. Center, Bode and Springinsguth Roads. (630) 612-9446. http://members.aol.com/sarcradio 10/98

The Starved Rock Radio Club, W9MKS. P.O. Box 198, Tabor St., Leonore, IL 61332. Meets 1st Mon./monthly, 7:30 p.m. Rptr. net 7 p.m. Wed./wkly., 147.12(+). 1/99

LOUISIANA

Baton Rouge ARC. Meets last Tue./monthly, 7 p.m., Catholic HS cafeteria, 855 Hearthstone Dr., Baton Rouge, LA. Info: Norma Ramey, WD5GFD, (504) 654-6087. Club rptr. 146.79(-). 10/98

MAINE

Androscoggin Amateur Radio Club. Meets 1st Wed./monthly, 7 p.m., Auburn Police Station, 1 Minot Ave., Auburn, ME. Info: (207) 782-8699. 11/98

MASSACHUSETTS

Quannapowitt Radio Assoc., Inc. 6 Savin St., Burlington, MA 01803. Meets 3rd Fri./monthly, 8:00 p.m., at Lynnfield-Wakefield-Lynnfield Methodist Church, Vernon St., Wakefield. Info: Jim Chamberlain, N1AKG, (781) 944-5098. 3/99

MICHIGAN

Adrian Amateur Radio Club, W8TQE. Box 26, Adrian, MI 49221. Meets 1st Fri./monthly, 7:30 p.m., Civil Air Patrol Bldg., Lenawee Co. Airport, Cadmus Rd., Adrian. ARES net Sun., 9 p.m. 145.37(-). Info: Mark Hinkleman, NU8Z, (517) 423-5906. 4/99

Genesee County Radio Club, Inc. Meets 3rd Tues./monthly, 7:30 p.m., Genesee Area Skill Center, Torrey Rd., Flint, MI. (810) 655-4360. 3/99

MINNESOTA

Viking Amateur Radio Society (VARS). Meets last Tues./monthly, 7:30 p.m., basement EOC, Waseca, MN. Call-in 146.94(-). 10/98

St. Cloud Amateur Radio Club. Meets 3rd Thurs./monthly, 7:30 p.m., Radio Club Bldg., 401 4th St. N., Waite Park, MN 56387. Info: (320) 255-1410, 146.94 or 147.015 or www.w0sv.org/ 2/99

MISSISSIPPI

Jackson Amateur Radio Club, Inc. Meets 3rd Thurs./monthly, 7 p.m., Am. Red Cross Bldg., Riverside Dr., Jackson, MS 39202. 11/98

NEVADA

Frontier Amateur Radio Society, (FARS). Meets: 2nd Sat./monthly, bkfst. mtg. 8 a.m., Country Inn, SE cor. W. Sunset, Valle Verde, Henderson NV. Club info: Jim Frye, NW7O, (702) 456-5396 or Bill Scarborough, WA6ASI, (702) 269-9551. 8/98

Wide Area Data Group, Inc. P.O. Box 3132, Sparks, NV 89432. Meets 1st Sat./monthly, 8:30 a.m., Bonanza Casino/Restaurant, 4720 N. Virginia, Reno. Info: (702) 356-8200. Call on 147.30(+) MHz. 5/99

Sierra Intermountain Emergency Radio Assoc., (SIERA). Meets 2nd Tues./monthly, 7:30 p.m., Carson Valley United Methodist Church, 1375 Centerville Ln., Gardnerville, NV. Contact: George Uebele, WW7E, (702) 265-4278, 147.330 MHz. 11/98

NEW HAMPSHIRE

Great Bay Radio Association, WB1CAG. P.O. Box 911, Dover, NH 03820. (603) 749-2970/332-9107. Meets 2nd Mon./monthly, 7 p.m., Rochester Community Ctr. Talk-in: 147.57. 1/99

Port City Amateur Radio Club, (PCARC), W1WQM. P.O. Box 1587, Portsmouth, NH 03802. Meets 1st Wed./monthly (Sept.-June), The Edgewood Ctr., 928 So. St., Portsmouth. Rptr. 146.805(-) PL 127.3. 7/98

NEW JERSEY

Bergen Amateur Radio Association, (BARA). P.O. Box 304, Hackensack, NJ 07601. Meets 1st Sun./monthly, New Milford Elks Lodge, Patrolman Ray Woods Dr., New Milford, NJ 07646. Nets: 28.350 Mon. 9 p.m., 146.79(-) 9 p.m. Wed. 6/98

The Garden State Amateur Radio Assoc., (GSARA). P.O. Box 34, Fair Haven, NJ 07704. Meets twice monthly/1st & 3rd Wed., 8 p.m., Bicentennial Hall, Cedar Ave. (off River Rd.) Fair Haven, NJ. Contact: Bob Buus, W2OD, (732) 946-8615. 12/98

South Jersey Radio Assoc., (SJRA), K2AA. Meets Jan.-Oct., 4th Wed./monthly, 7:30 p.m. (Nov.-Dec. 3rd Wed), Bloomfield Fire Hall in Pennsauken, NJ. Talk-in: 145.29(-) rptr. 8/98

NEW YORK

Amateur Radio Association of the Tonawandas, (ARATS). P.O. Box 430, No. Tonawanda, NY 14120. Meets 3rd Tues./monthly (except July & Aug.), 7:30 p.m., Sweeney Hose Co., 499 Zimmerman St., No. Tonawanda, NY. Talk-in. 146.955(-) rptr. W2PVL. 11/98

Genesee Radio Amateurs, (GRAM). N.Y.S. Civil Defense Ctr., State St., Batavia, NY 14020. Meets 3rd Fri./monthly, 7:30 p.m. 147.285(+) W2RCX. 1/99

Hall of Science Amateur Radio Club. P.O. Box 150131, Kew Gardens, NY 11415. Meets 2nd Tue./monthly, Hall of Science Bldg., 47-01 111 St., Flushing Meadow Park, 7:30 p.m. Info: Arnie, WB2YXB, (718)343-0172. 2/99

PROS, Pioneer Radio Operators Society. Meets 1st Wed./monthly, 7 p.m., Sardinia Town Hall, Savage Rd., Sardinia, NY. Net 9:15 a.m. Thurs. 3853 MHz 3/99

The Radio Club of J.H.S. 22, N.Y.C., Inc. WB2JKJ. P.O. Box 1052, New York, NY 10002. 24-hr. hotline: (516) 674-4072. Fax: (516) 674-9600. Non-profit org. using Ham Radio to enhance the education of youngsters, nationwide. Join us — "Classroom Net," 7.238 MHz, 7 a.m. E.S.T. PSE QSL! 10/98

Suffolk County Radio Club, (SCRC). Meets 3rd Tues./monthly, 8 p.m., Bohemia Rec. Ctr., Ruzicka Way, Bohemia, NY. Talk-in: 145.21(-) rpt. Info: W.S. Black, KB2YAP, (516) 289-5587. 4/99

Westchester Emergency Comm. Assoc., (WECA). Meets 2nd Mon./monthly, 7:30 p.m., Westchester County Ctr., White Plains, NY. Contact WECA INFO LINE (914) 741-6606 for details. Talk-in WB2ZII/R 147.06(+) PL 114.8/2A. 11/98

Yonkers Amateur Radio Club, (YARC). Meets 2nd Sun./monthly, 10 a.m., 1st Pct., Yonkers Police Station, E. Grassy Sprain Rd., Yonkers, NY. Info: P.O. Box 378, Centuck Sta., Yonkers, NY 10710. (914) 963-1021. 146.865(-), 440.150(+). 10/98

NORTH CAROLINA

Cape Fear Amateur Radio Society. Meets 3rd Mon./monthly, 7:30 p.m., Methodist College, Fayetteville, NC. Talk-in 146.91/31. Info: Kelly Kanode, N4EWG, (910) 867-4300. 4/99

Stanly County Amateur Radio Club. Stanfield, NC. Meets 4th Thurs./monthly, 7 p.m. Talk-in 146.985(-) for location. Wed. net 9 p.m. 146.985(-). Fri. tech net 9 p.m. 147.390(+). Phone: (704) 888-4815. 5/99

SOUTH CAROLINA

Sumter Amateur Radio Assoc., Inc. (SARA) P.O. Box 193, Sumter, SC 29151-0193. Meets 3rd Mon./monthly, 7 p.m. Central Carolina Tech. College, Rm. 102, 506 N. Guignard Dr. Contact: Dee, N0ZTV,(803)499-6315.E-mail: deebrown@sumter.net. Talk-in 147.015. 9/98

OHIO

Ashtabula County ARC. Ken Stenback, W8KS (964-7316). County Justice Ctr., Jefferson, OH. Meets 3rd Tue./monthly, 7:30 p.m., County rptr., 146.715(-). 10/98

Clyde Amateur Radio Society (CARS). Meets 2nd Tue./monthly, 7:30 p.m., Municipal Bldg., Clyde, OH 43410. NF8E rptr. 145.35(-) and 442.625(+) MHz. Net Sun. 9 p.m. Info: E. Remaley, KA8CAS. 3/99

Greater Cincinnati Amateur Radio Assn., (GCARA), W8DZ. ARRL SCC, meets 4th Wed./monthly, 7:45 p.m., Brusman's Hall, 4813 Vine St., St. Bernard. Nets: Mon. 145.27-, Thurs. 1.936 MHz, 9 p.m. Info: http://w3.one.net~rkuns/gcara.html, K8JE (513) 825-2868, W8XS (513) 474-0287. 12/98

Lake Erie Amateur Radio Assoc., (LEARA). Meets at Dimitri's Rest., (Mid-Town Shopping Ctr.), Snow & Broadview Rd., Solon, OH, last Tues./monthly. Dinner at 6:30, mtg. at 7:30 p.m. (R.S.V.P. to Marv Grossman 440/349-8398 for dinner by 11 a.m. day of mtg.) 4/99

Toledo Mobile Radio Association. P.O. Box 273, Toledo, OH 43697; (419) 243-3836. Meets 2nd Wed./monthly, 7:30 p.m., Luke's Barn, Lucas County Rec. Ctr., 2901 Key St., Maumee, OH. 147.270(+) Net every Sun 8:30 p.m. 2/99

Van Wert Amateur Radio Club, Inc. P.O. Box 602, 1220 Lincoln Hwy., Van Wert, OH 45891. Meets 1st & 3rd Sat./monthly, 8 p.m. Call-in: 146.85(-). 2/99

Western Reserve Radio Assoc. P.O. Box 81252, Cleveland, OH 44181-0252. Meets 2nd Wed./monthly, 7:30 p.m., Jenkins Communications Cntr., Main St., Olmsted Falls, OH. Info: B. Beckman, N8LXY, Pres., 146.73(-), 444.900(+) MHz. 7/98

OREGON

Central Oregon Coast ARC. P.O. Box 254, Florence, OR 97439. Meets 3rd Sat./monthly, & every Wed./weekly, 9 a.m. for breakfast at Lovejoy's/Pier Point Inn. Net Wed. 7 p.m., 146.80(-). Info: 997-2323 or 997-4074. 1/99

Central Oregon Radio Amateurs, (CORA). P.O. Box 723, Bend, OR 97709. Meets last Thurs./monthly, 7 p.m., Bend Sr. Ctr., 1036 NE 5th, Bend, OR. 147.06(+) MHz. Info: (541) 389-7194. 7/98

Keno Amateur Radio Club. P.O. Box 653, Keno, OR 97627. Meets 3rd Thurs./monthly, 7 p.m., Keno Fire Stn. Rptr. 147.32(+) K7ENO. For info: Tom Hamilton, WD6EAW, Tel./FAX: (541) 883-2736. wd6eaw@cdsnet.net 11/98

Umpqua Valley Amateur Radio Club, Inc. P.O. Box 925, Roseburg, OR 97470. Meets 3rd Thurs./monthly, 7:30 p.m., Douglas County Court House, Rm. 310, Roseburg, OR. Info: W6VDF/R 146.90(+) or (541) 673-2747. 6/99

PENNSYLVANIA

Butler County Amateur Radio Assn. P.O. Box 1787, Butler, PA 16003-1787. Meets 1st Thurs./monthly, 7:30 p.m., Boy Scout Cntr., 830 Morton Rd., Butler, PA. Call-in W3UDX/R 147.36(+). Net 10:10 p.m. nightly. 11/98

Mercer County Amateur Radio Club, W3LIF. P.O. Box 996, Sharon, PA 16146. Meets 4th Tue./monthly, 7:30 p.m., Shenango Valley Med. Ctr, Farrell, PA. Net, Thurs. 9 p.m. on 145.35(-) W3LIF, Digi. 145.01. 3/99

TEXAS

Brownsville ARC (CHARRO). Meets 2nd Tue./monthly, 7:00 p.m., Confederate Air Force Hangar, Brownsville Airport in TX. Coffee mtg. Sat./weekly, 10 a.m., Days Inn, Hwy 83 & Price Rd. Talk-in on 147.040(+). 4/99

VIRGINIA

Southern Peninsula Amateur Radio Klub, W4QR (SPARK). Meets 1st Tue./monthly Salvation Army Community Bldg., Hampton, VA. Repeaters 146.73(-), 449.55(-). VE Exam Info: (757) 898-8031, W4RTZ. 2/99

Virginia Beach ARC. Meets 1st Thurs./monthly, 7:30 p.m., St. Andrews United Methodist Church, Tucson & Princess Anne Rds., Virginia Beach, VA 23462. 2/99

WASHINGTON

The Mike & Key Amateur Radio Club. Meets 3rd Sat./monthly, 10 a.m., Salvation Army Renton HQ., 720 Tobin St., Renton, WA. Talk-in on 146.82(-) (103.5 CTCSS) rptr. Doors open at 9:30 a.m. 5/99

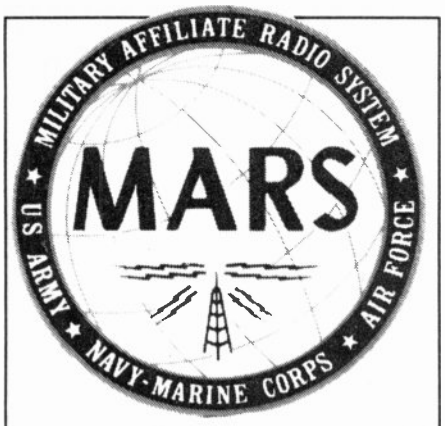
WEST VIRGINIA

Jackson County Amateur Radio Club. Meets 1st Thurs./monthly, 7:30 p.m., United Nat'l Bank of Ripley. Net Mon. 9 p.m. on 146.67(-) WD8JNU/R. For info: D. Tennant, N8ZYB, Rt. 1, Box 188, Mt. Alto, WV 25264. 7/98

Tri-State Amateur Radio Assn. Meets 3rd Tues./monthly, 7 p.m., The American Red Cross, 111 Veteran's Memorial Blvd., Huntington, WV. 5/99

WISCONSIN

Central Wisconsin Radio Amateurs, Ltd. Meets 2nd Wed./monthly, 7:30 p.m., UWSP Science Bldg., A107. Info: Al Mallek, N9WBS, 246 Georgia St. North, Stevens Point, WI 54481. Call in on 146.985 or 146.670 5/99



Lorraine S. Matthew, N4ZCF
MARS Call AAA9PR
E-mail: LoriMatt@aol.com

A most interesting document has appeared on the Internet at the address: www.dtic.mil/c3i/policy/mars.html

This document carries the title, "A REPORT TO THE HOUSE OF REPRESENTATIVES ON THE MILITARY AFFILIATE RADIO SYSTEM (MARS) BY THE SECRETARY OF DEFENSE DECEMBER 31, 1997."

In June 1997, the House National Security Committee, in its Report (105-132) on FY98 DoD Authorization, directed the Secretary of Defense to submit a report by 31 December 1997, identifying how the Department of Defense is utilizing the MARS system and recommending ways in which it can be expanded.

The report was to cover the following areas of concern:

1. Explain DoD oversight of the current program, identify how the individual service programs are currently organized and configured, and discuss possible mission expansion, contraction, or adjustments;

2. Identify ways to improve the reliability of the MARS system;

3. Recommend ways to integrate MARS resources in support of other government agencies, identifying options for interfacing and linking MARS with regular DoD communications resources and with other emergency communications resources and systems;

4. Propose ways to better organize, train, and utilize MARS personnel resources;

5. Identify necessary adjustments and realignments to the structure, staffing, and grade levels throughout the MARS program;

6. Provide an estimate of the costs to DoD of obtaining MARS-type services commercially or "in-house" using other active DoD personnel and identify the cost savings to the Department through the use of MARS; and

7. Identify the level of funding that will be required to institute each of the recommendations.

The Secretary of Defense did submit the requested report to the House National Security Committee on 31 December 1997.

In the space allotted to this article, I cannot explore all the facets of the report and I encourage all readers who have Internet capability to download a copy. I also encourage all readers who do not have this capability to request a copy from those who do.

The MARS mission was defined in the following terms:

Provide Department of Defense sponsored emergency communications on a local, national, and international basis as an adjunct to normal communications.

Provide auxiliary communications for military, civil, and/or disaster officials during periods of emergency.

Assist in effecting normal communications under all hazard conditions.

Create interest, and furnish a means of training members in military communications procedures.

Provide a potential reserve of trained radio communications personnel.

Handle morale and quasi-official record and voice communications traffic for Armed Forces and authorized U. S. Government civilian personnel stationed throughout the world.

Conduct an appropriate Amateur Radio program as part of the annual celebration of Armed Forces Day.

The Secretary went on to say that "although changes are periodically made to these functional activities, the broadly stated mission of MARS continues to be valid. It is for this reason that there is no requirement for a change in the MARS mission."

The mission is detailed and based upon the DoD Directive 4650.2 with the Armed Forces Day program detailed in DoDD 5410.18. I include these references to emphasize that MARS, indeed, is part of the structure of the Department of Defense.

"In recent years, the MARS has become a key player in the national SHAred RESources (SHARES) High Frequency (HF) Radio Program which was developed by the National Communications System (NCS) in its role of planning and preparing for national security and emergency preparedness (NS/EP). ... The SHARES network consists of 1130 HF radio stations, representing 66 Federal, state, and industry resource contributors. SHARES stations are located in every state and at 36 overseas locations. Of those 1130 HF radio stations in the SHARES network, nearly 400 of them are MARS stations."

Army MARS members, disaster-relief agencies, and the thousands of individuals served by Army MARS are well aware of the cost effectiveness of the MARS program.

The Secretary was asked to identify the costs in response to two scenarios suggested by the House committee that could be utilized to replace the MARS systems. The MARS system was recognized as providing operations twenty-four hours per day seven days per week.

One scenario would use commercial means of replacing the system. In this plan, ten superstations would be set up each operating twenty-four hours per day, seven days per week ("full period" operation). The advantage of the geographic location of 9000 members in order to provide such essentials as EEI reports and meeting other very localized needs would already be lost. The cost for this commercial approach was estimated to be over $13,000,000 annually with an initial startup cost of $15,000,000.

The other scenario was to use "in-house" military personnel. The costs here for "equivalent services" would be almost $12,000,000 with the same $15,000,000 startup cost. Again the ten superstation concept would be used thus again losing the proved value of the geographic spread of 9000 MARS members.

Annual cost avoidance to the nation by utilizing the MARS system is over $25,000,000 for the initial set-up years and over $11,000,000 each year thereafter.

The combined MARS systems are run at a cost of $700,000 per year. This includes all three MARS programs with the involvement of 9000 MARS members.

It is evident from this document that the Secretary of Defense knows that MARS operators are ...

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Computers & Basic Stuff

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BASIC Wires

Several readers wrote or called to say they had difficulty running April's MATHMIX.BAS program. It seems that typing the program exactly as it appears on these pages might have been the problem.

Remember, when writing a BASIC program always begin a line with a line number and end it with a carriage return (e.g., the <ENTER> key). When you encounter a line of mine that does not have a beginning line number, then it is simply an extension of the line above it. Normally I count line numbers by increments of 10. That then leaves plenty of room to add more lines in between if it becomes necessary.

For example, MATHMIX runs fine, as is. But I recently modified the listing to make the computer look "more intelligent" when it runs the program. These four lines, added right after line 90, will do the trick:

```
91 IF D<12 THEN PRINT " AND:";
92 IF D=>12 AND D<25 THEN PRINT "  THUS:";
93 IF D=>25 AND D<38 THEN PRINT "  SINCE:";
94 IF D=>38 AND D<50 THEN PRINT "  THEREFORE:";
```

When Doug Foster, N7WMS, got the program up and running, he wrote to say, "This is one program I like, it does nothing while it does everything."

Now, to WIRES —

All too often we just take wires for granted. After all, what can be complicated about a simple conductor?

It's possible that in most cases "any old wire" will suffice. In many simple circuits the wire doesn't have to be especially thick or strong, and we can probably get by with something tangled up in the junk box. There are other times, though, where we need to be more careful in our selection.

For example, using soft-drawn copper wire for a dipole antenna could throw resonance off by more than a megahertz on some amateur bands! How? Simply by stretching. The antenna may work fine for awhile, but a strong wind or some ice loading can stretch it by several percent, changing its resonant frequency, and leaving us wondering why. Hard-drawn copper wire will also stretch, but not as easy nor as much. Non-stretching copper-clad steel should be the wire of choice. But how many of us even know the kind of wire we're using for our antennas?

Here's another example: You build an auxiliary battery supply to use with your handi talkie. You use #18 solid hook-up wire, the kind commonly sold in hardware stores for wiring doorbells and alarms. The outboard battery works like a charm — for awhile. Then it just quits.

You test the battery and it's okay. Then you discover that one of the hook-up wires has broken, allowing air in to form an insulating circuit that electrons can't cross. Had you used stranded wires instead of solid conductors, this might have been prevented, or at least delayed. Any time you expect a wire to do a lot of bending and flexing you should be using stranded wires. Just check your microphone and headphone cables. That's true, too, of coax cable. If it's going to flex in the wind, or wrap and unwrap as you change beam headings, then it should have a stranded center conductor.

Along similar lines, here's a case in point: I've been using 450-ohm ladder-line to feed my dipole. Last winter I noticed that the wire, whipped by Oklahoma's typical breezes, had flexed one time too many and had detached itself from the feed-in point to the shack. I reattached it and it worked fine — until a recent Sunday when one of the wires flexed itself apart again. The problem is that the line I used had single conductors of hard-drawn copper. Had I used a good quality multi-conductor line, preferably one made with copper-clad steel wires, this problem might not have occurred.

Wire Facts—

Some years ago I presented a simple formula for finding the diameter of American Wire Gauge (AWG) wire sizes. The formula was one I developed, and it worked surprisingly well when compared to "real" sizes. I think the formula I came up with was D=.324*2^(AWG/-6), where D is diameter, in inches, and AWG, of course, is the American Wire Gauge number. However, several readers pointed out that AWG sizes had more of a rhyme and reason to them, and they provided me with the "correct" formula.

It was pointed out that wire sizes fit a geometric progression. It seems that the largest wire size, AWG #0000, is .4600 inches in diameter and #36 wire, 40 numbers smaller, is .0050 inches in diameter. Each of the 39 sizes in between 0000 and 36, then, is each incremented by .4600/(.0050^(1/39)), or 1.1229322.

Therefore, the "real" diameter of AWG wire can be determined by: D=.4600/(1.1229322^(AWG+3). The three largest sizes, AWG #0000, #000 and #00 can be treated as -3, -2 and -1, respectively, in the formula.

BASIC Wire Tables —

Al LaPlaca, W2WW, suggested I present a BASIC program for determining copper wire data, but recommended I not limit it to just computing wire diameter. He suggested other data be included, like determining metric sizes, current-handling capability, coil-winding data, etc.

This month's program grew from Al's recommendation. In it you enter the AWG size and your screen will display the wire's circular mil area, its diameter in English and metric units, its approximate insulated diameter (for typical enamel insulations), the number of turns per inch in a coil of solid insulated wire, the wire's resistance in ohms per foot and feet per ohm (at 20 degrees Celsius), its weight in pounds per 1000 feet, its length per pound, its rated maximum tension* (the

```
10 CLS: PRINT "WIREDATA.BAS, BY KD5DL 6/98": PRINT
20 PRINT:INPUT "WIRE SIZE (AWG)";A:B=.46/(1.1229322^(A+3))
30 C=(B*1000)^2: D=B*25.4: E=.0025/((1+(A/840))^A)
40 G=.3047+.9403/B-.0003/(B^2): H=10.371/C: K=.0030267*C
50 L=1/K*1000: M=.0046*C^1.0091: N=.3022*C^.7621: P=C/700
60 PRINT "DIAMETER (IN) = ";USING "#.####";B
70 PRINT "DIAMETER (mm) = ";USING "##.####";D
80 PRINT "CIRCULAR MIL AREA = ";USING "######";C
90 PRINT "DIA WITH INSULATION = ";USING "#.####";1/G
100 PRINT "TURNS PER INCH = ";USING "###.##";G
110 PRINT "OHMS PER FOOT (20 deg C) = ";USING "#.#####";H
120 PRINT "FEET PER OHM = ";USING "#####.###";1/H
130 PRINT "POUNDS PER 1000 FT = ";USING "####.##";K
140 PRINT "FEET PER POUND = ";USING "####.##";L
150 PRINT "MAXIMUM TENSION (lbs) = ";USING "####";M
160 PRINT "FUSING CURRENT (Amps) = ";USING "####";N
170 PRINT "CURRENT CAPACITY (Amps) = ";USING "####.###";P
180 PRINT: INPUT "DO ANOTHER ";A$: IF A$="y" OR A$="Y"
THEN 20
190 END
```

A simple BASIC program to determine the resistance for copper wire at various temperatures can be added to the above program (or, omitting lines 175, 176 and 240, it can be used as a stand-alone program):

```
175 INPUT "  RESISTANCE FOR DIFFERENT TEMPERATURES ";A$
176 IF A$="y" OR IF A$="Y" THEN 200
200 INPUT "WIRE RESISTANCE AT 20 DEGREES ";A
210 INPUT "NEW TEMPERATURE (CELSIUS) ";B
220 C=(234.5+B)*A/254.5
230 PRINT "RESISTANCE AT";B;"C (OHMS) =";USING
"###.#####";C
240 GOT0 180
```

force you can expect it to endure without breaking), its fusing (melting) current, in amperes, and its current-handling capacity**, again in amps.

(The maximum tension* is based on 15 percent of the breaking strain of hard-drawn copper wire. Its current-handling capacity**, one ampere per 700 circular mils, is calculated to be a safe value for winding small coils and transformers for amateur use.)

There's one other thing that's nice to know: a wire's resistance increases with its temperature. Most of the time the increase is not going to be a significant problem, but if you're winding a transformer or a motor that will run "hot," the increased resistance might call for recalculating the wire's current-handling capacity.

I think these two programs pretty much cover the gist of Al's suggestion for a BASIC wire table. Next time we'll look at a BASIC listing for designing short center-loaded dipole antennas. Until then, stay "radio active."

Have a friend interested in Amateur Radio?
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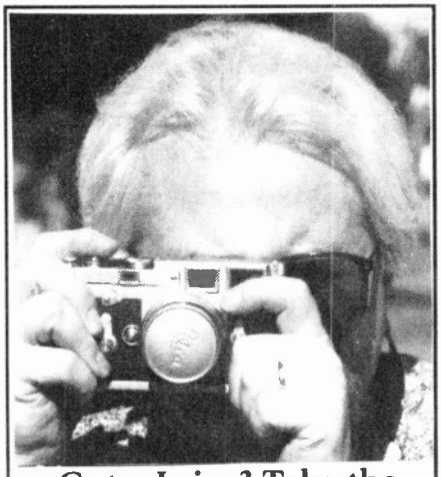

Got a Leica? Take the lens cap off and take a picture for *Worldradio!*

Search And Rescue Communications

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As I was preparing to e-mail this column to ***Worldradio***, I received word from Cary Mangum, W6WWW, in California that Stan Harter, KH6GBX, had passed away Thursday, 2 April 1998. Because of the way publishing deadlines work, many of you will have already heard and many will have attended services for Stan. Because Stan and I traded mail and e-mail for many years, I felt the need to write a few words at his passing, for he will be sorely missed.

Many years ago Stan mailed me a giant package of materials he had prepared in Hawaii concerning emergency communications and radio volunteers. He had read an article I'd written for the Civil Air Patrol and taken the time to look up my address to send this material. It was classic Stan. He saw the opportunity to offer some assistance and did so in a big way.

I responded by sending him a package of materials from Utah. We began what developed into many years of sharing ideas and opinions. I believe I benefited the most from this exchange of materials and ideas, for he was an expert in the field of emergency communications. Stan was a kind and patient teacher. If I penned a column containing something he didn't agree with, he would kindly write and offer alternatives and suggestions. On the other hand, when he agreed with something I wrote, I'd get a simple note saying, "Well done."

I have a large collection of materials that Stan had sent me over the years; items I refer to decades after they were written and sent. Each page contains comments and ideas that were carefully and thoughtfully prepared by Stan, tempered by years of experience and observation. Stan was truly a communications visionary.

Stan and I exchanged mail, electronic mail, and spoke once or twice by phone. We never met in person, we never had lunch together, we never worked an emergency together, but I will miss him dearly. If there was something to be done, Stan was one to pitch in and help get it done. He was an example of leadership by example and the kind of person you would find on the front lines, carrying a lion's share of the burden. He was a tireless CAP volunteer as well.

Listening to Stan was an education in emergency communications theory and practice. He was, in my mind, THE authority. Those who had the opportunity to work with him daily in Hawaii and in California should count themselves lucky to have studied at the hands of the master. His keen wit and tremendous insight was a joy to witness and experience.

Stanly Easton Harter, KH6GBX, and Civil Air Patrol Lieutenant Colonel, silent key. You are already missed. 73 my friend.

Direction Finding

One of the best ways to learn how antennas work, how radio signals bounce around, and then propagate is to tackle the science and art of direction finding. When it's a fun event, we call it fox hunting or bunny hunting. When we're looking for the source of an emergency signal, we call it a DF mission.

Amateur Radio operators for years have held bunny hunts and enjoyed the sport of hidden transmitter hiding and finding. When aircraft began to carry emergency locator transmitters (ELTs) in the 1970s, this skill became integral to the search and rescue community.

My first exposure to DF came in Wyoming as a CAP member tracking ELTs using a device called a B-Line. It was your basic receiver with a couple of phased antennas and took a great deal of skill to use. We later graduated to the Ltronics ELPer which made the task much easier. We learned how to use the "build and fade" method in an aircraft and tried all sorts of ideas and concepts over many years.

I call it an art and a science because of the way radio waves travel. I've seen an ELT signal follow a power line or fence line for miles. I've seen signals reflect off of tall mountains miles from the target giving the ground team hours of challenge as the plane crash was sought. Several lessons have been learned, chief among them: Practice, Practice, Practice.

In Salt Lake City over 15 years ago, amateur operators regularly gathered for a Saturday bunny hunt. It was fun, it was educational, and it was challenging. It happened in good weather and bad. I don't know why the event ended. Maybe interest dwindled. Maybe the bunny died.

Foxhunting Weekend

I was excited to learn that *CQ VHF* magazine under the prodding of Joel Moel, KØOV, declared 25-26 April as National Foxhunting Weekend. This is a great activity. It teaches radio skills. It teaches listening skills. It teaches teamwork. It's fun. It prepares you to track interference. It prepares you to track emergency signals. It's a good thing! I hope it becomes a yearly event.

You can easily hold a bunny hunt. One of your group can sit in a car

somewhere and transmit on simplex. The rest of the group must find the "bunny." You can get creative and build an automatic transmitter and then hide it in a parking terrace, an office, bury it under a bridge, put it on a public transit bus, or do just about anything imaginative to make the event challenging.

Finding the transmitter requires only a receiver to get started. The recommended "bunny" frequency is 146.565 MHz. Beginners can use the signal strength method and as you get closer, use creative antennas such as a paper clip. When you're real close, you can tune off frequency and not use an antenna. It's a real thrill when you find that transmitter buried under a bridge with just a tiny bit of antenna sticking up out of the mud.

Most of the rules are simple. First, have fun. Don't transmit on the bunny's frequency. Be polite. Invite everyone. Help the newbies learn how it's done. Some groups see who can find the transmitter first. Some groups see who can be first and travel the shortest distance (least miles). Most of all, have fun.

There are many sources for DF techniques. I would refer you to the Internet and any search engine. If you look for "fox hunting" or "direction finding" you'll connect to a site with many, many ideas and links to other sites.

A Bunny Controller

I do want to suggest one good source of a "bunny" transmitter controller. It's fun to build and easy to use. It was developed by Byon Garrabrant, N6BG, of Las Vegas. Byon calls it the PicCon. The tiny device operates with a PIC microcontroller. You build this controller and connect it to any transceiver. With the PicCon I built, I've found a good use for my old Icom IC-2AT.

You can contact N6BG via mail (Byon Garrabrant, 8128 Kokoma Dr., Las Vegas, NV 89128), e-mail (byon@mail.com), or on the Internet at http://www.qsl.net/n6bg/thunt/. On his Internet site, you can download the latest instruction manual and get pricing and sources for materials. You can purchase directly from him the programmed PIC chip, a board, or a complete kit of parts. The instruction manual is well written and you can have this up and running in one evening. (His web site also has links to other transmitter hunting sites.)

The controller will send various tones at designated time cycles (10 seconds on, 50 seconds off), it will identify in Morse code, you can program a delayed start (hide the bunny the night before and have it start the next morning), and have it quit after a designated amount of time. It's a beautiful thing! The cost is not prohibitive and makes the bunny hunt much more exciting because of all the devious things you can do with it.

A DF event is something that gets more fun over time because you get better at finding the transmitter and the "bunny" or "fox" gets better at hiding. When you're really hooked, you begin to learn about exotic antennae and begin reading books on how radio signals radiate and reflect.

Two suggestions. When the hunt is over, plan to gather somewhere for a snack and a chance to compare notes. Some hunters will have yagi antennas and others will use some sort of direction finder they've built or purchased. Take some time to share ideas and techniques. The fun is in getting more and more adept at finding the bunny. You'll make friends and enjoy a healthy competition.

Second, try to confine your event to one municipal area and let the local sheriff or police department know what you're doing. It's often cause for alarm when citizens observe the DF antics. It's a good thing to give the local law agency a heads up. You could also invite them to participate or observe, or plant the bunny in a fire station aboard a squad car.

Be sure you invite other groups such as Civil Air Patrol and sheriff SAR units. All they need is a scanner or receiver tuned to the bunny's frequency. It's a great way to involve kids and interest them in Amateur Radio. Best of all, you're preparing yourself in an emergency skill. You never know when you'll need to locate an emergency signal.

Lessons Learned

I'm starting to see more and more emergency publications run articles on how agencies responded to events and include a section on lessons learned during the response. These lessons are invaluable, especially for others facing similar situations. After every exercise or event, it's critical that your group sit together and talk about what happened. It's not only a good stress relief for your members, it is a great way to share experience and gain expertise.

Effective responses happen because you have corrected past mistakes and have "made it better" over time. As I teach in some of the seminars I conduct, "learn from inconvenience." Continue doing what went right, and correct what went wrong. Find what was inconvenient and plan to improve that area next time. Listen to what others found inconvenient. Take notes. Let everyone critique the operation. Every input is important and there are NO correct answers, but possibly MANY correct answers. Look for "lessons learned" in every event — from club meetings, to training meetings and events, to actual responses. Make it better. Until next month, best wishes from Salt Lake City.

YLs on the air

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Contest Info

YLRL Vice-President Cleo Bracket, KØJFO, has announced the winners of the YL-OM Contest, which was held in February. Mady Langdon, operating with the call OZ1KLD from Denmark, was the highest-scoring YL in the SSB portion, and Richard Hall, NY4T, was the highest-scoring OM. In the CW portion, Joyce Collins, N8UUO, was the highest-scoring YL, and Eric Rust, K5LH, was the highest-scoring OM. Congratulations to all the winners.

Helen Archibald, VE2YAK/CG2GGQ, who is the CLARA coordinator for Guides On the Air (GOTA), reports that the 1998 event was a success. Improving band conditions in February enabled everyone to make contacts, but the good propagation also meant there were some very crowded frequencies. Among the YLs who hosted Girl Guides in their homes were Cecilia Ratelle, VE3CJR, who had a group in for the first time and Joyce MacDonald, VE3JCE, who had 15 Guides visiting. Some of these girls had participated in other years and were old pros at the microphone. Jeanne Gordon, VA3WX, hosted 35 Guides, 1 Pathfinder, 11 leaders, and a District Commissioner from her area. This is a very worthwhile project, and Helen reminds you to mark your calendars for 20-21 February 1999.

YL Meetings

The YLRL Forum at the Dayton Hamvention will be held at 11:45 a.m., on Friday, 15 May 1998, in Room 3. This is a new time and day for the meeting, so please help to get the word out. We'll have information on YL activities in this country and around the world. Don't forget to stop by and sign in at the YLRL and Buckeye Belle booth, C-11. The presidents of both groups will be on hand to greet you, and it's an excellent place to meet YLs.

The Korean Ladies Amateur Radio Club (KLARC) had planned to host the next worldwide YL meeting in 2000, in Seoul. However, due to the unstable financial situation in Korea right now, YLs on the organizing committee felt that hosting the meeting in 2000 might be questionable. YLs at the KLARC General Meeting, on 21 March 1998, discussed the meeting and decided not to continue with the plans. Kwak Bae Sook, HL1ATI, expressed deep regrets on behalf of the organizing committee and KLARC members. The location for the next meeting in 2000 will be discussed in Longyearben, Svalbard, during the Polar YL Meeting '98 in August. Are there any volunteers out there?

Dave, ZL1AMN, and Aola, ZL1ALE, Johnston

This summer, JLRS members will be meeting in Osaka for their 41st anniversary celebration. The meeting will be held at the Nankai South Tower Hotel, on 25-26 July 1998, and any YL planning to be in Japan is invited to attend. Kazuko Nagoya, JR6KXK, is the DX Chairwoman and will send you registration forms and other information. Her address is 4-6-3, Takakisehigashi, Saga City, 849-0922 Japan.

The British YLs are already making plans to celebrate BYLARA's 21st birthday in 2000. They're thinking of applying for a special call sign to use from various locations during the year and will have a special QSL and other souvenir items. BYLARA has already applied for a new club call, which is MXØBYL, and you should be hearing it on the bands in the near future as members use it for special events. Janice James, GWØKPD, will serve as QSL manager for the call.

Aola Johnston, ZL1ALE

I first met Dave, ZL1AMN, and Aola Johnston, ZL1ALE, in Hawaii, in 1989, during YLRL's 50th birth-

day celebration. It was really a pleasure to see them again at CLARA's 30th birthday party last fall. Dave and Aola had celebrated their golden wedding anniversary on 1 March 1997, and continued the celebration during the year by later visiting Norfolk Island and then going over to the U.K. before they arrived in Toronto for the party.

Aola was first licensed as ZL1TFQ, in April 1966. She held this call for six months before passing the 12 wpm Morse test and receiving the ZL1ALE call sign. Six months later, she passed the 15 wpm Morse test and received her HF permit, and since then, she has operated on all bands, from 160 Meters through 432 MHz.

Aola has worked 346 DXCC countries, and has 328 confirmed, making her the first ZL YL to reach the Honor Roll. She has also gone on some DXpeditions, including a three-island operation in Western Samoa, as 5W1BY. In 1977, she was ZK2YL, the first YL to operate from Niue. Also in 1977, she assisted the expedition to the Kermadec Islands, by serving as the New Zealand link station, even though she was suffering ill health at the time.

ZL1ALE is a well-known call in YL-ISSB circles as Aola has been an active member for over 25 years, and she was recently honored by YL-ISSB with the Top Flight Operators Award. She is also a member of WARO, JLRS, CLARA, ALARA, NZART, YLRL, and BYLARA. Dave and Aola have traveled overseas on several occasions, and Aola has always made a point of meeting her sponsors in the countries she has visited.

Dave and Aola have taken an active part in the International Tourist Host Programme since its inception in New Zealand and are both active members of their local Amateur Radio club on Papakura, which has a high percentage of YL members. Dave has also served as NCS of the 222 DX YL Net since 1991, and during that time, 226 different YLs have checked into the net from 52 countries. This net meets at 0530 UTC, on 14.222 MHz, on Monday, so check in and say hello to Dave, Aola, and the other YLs on frequency.

YL Updates

Tiny Jaspers, ON4CAT, was the YL operator of a Belgium team that operated from Libya as 5A21PA in early March. Tiny was heard on both 20 and 15 Meters, and Lenny Mendel, K5OVC, worked her on 15 for his 295th YL DXCC country!

Leena Laine, OH2BE, was a member of the H4ØAA group in late March/early April. Contacts on 1 April and after from Temotu will count for a new country if the pending application is approved, as is expected. QSLs go to OH2BN.

Kyoko Miyoshi, JR3MVF, and Hiromi Hishigi, JJ1CAS, were part of a five-member group from Japan, who operated from Saipan on 21-22 March. QSLs go to Hiromi, whose address is 3-19-4-403 Minami-Magome, Oota, Tokyo 143 Japan. Both Kyoko and Hiromi will be attending the Svalbard YL meeting.

Nicole, 5NØYL, and Pat, 5NØT, have left Nigeria and were awaiting new licenses for the Congo at presstime. QSLs for both operations go to F2YT.

Mamtoz, S21J, is a new YL on from Bangladesh and has been very active on 20 Meters SSB. Listen for her around 1400 UTC. QSLs go direct to Box 3512, Postal Code P 1209, Dhaka, Bangladesh.

Oyunaa, JT1CC, is the daughter of Batar, JT1BG, and is now active from Mongolia.

Christine Toporitschnig, HB9BQW, is the only YL member of the Swiss team going to St. Brandon for a DXpedition on 6-17 May. QSLs go to HB9RF/3B7, Postfach 37, 6319 Allenwinden, Switzerland. Complete details, including photos of the 15 operators, can be found on the Internet at http://www.3b7-brandon.ch.

Thanks very much for all your letters and e-mails. It's great to hear from you. Please note my new e-mail address, which is waØwof@paola-online.net.

The Club Huddle

Mike Flaherty
WA6UBW

P.O. Box 189490
Sacramento, CA 95818-9490

As officers of a club, your main concern when a meeting or special event approaches should be that a substantial number of members and guests will attend. Why consider attendance important? Look at the purpose of Amateur Radio clubs. Is it not to bring together persons who have an interest in this fascinating hobby?

Considering that, attendance is a yardstick which demonstrates how well your club meets the interests of its membership. While attendance does fluctuate due to such factors as conflicting events and weather, declining attendance over a period of time should be a warning sign to club officers. While everyone has a different definition of what makes a meeting successful, consider for now that it's one which everyone enjoys, and leaves wanting to attend the next meeting.

Three major factors contribute to making meetings successful. Number one is a streamlined agenda which minimizes the amount of business conducted on the floor. Number two is a speaker or program which entertains and educates attendees. Number three is making members and guests feel welcome from the moment they arrive at the meeting place. First, some clubs spend far too much time discussing items which are of little or no interest to the majority of members. To remedy this, conduct as much business as possible at board meetings. Bring only business items requiring approval by the general membership to the membership meeting for discussion and disposition.

Another possibility is to have the program early in the meeting and the business portion of the agenda after a mid-meeting social and/or refreshment break. Those with no interest in club business can leave after the break. At times a club issue or item of business may begin to overwhelm the meeting. The president should consider referring it to a pro forma committee which reports back at the next meeting with a recommendation to disposition of the matter. Parliamentary procedure calls for the committee's recommendation to be placed as a motion on the floor to be discussed and voted on by the membership.

Second, presenting excellent speakers and programs draws members and guests to your meetings. To facilitate this, clubs should have a person specifically responsible for scheduling programs. The meeting coordinator's duties should include developing a list of possible topics and speakers, contacting prospective speakers, scheduling programs for the year, and confirming in writing the arrangements and dates with the speaker. The coordinator should follow up about a week before the meeting date to reconfirm details with the speaker. After the meeting the club secretary should send the speaker a thank you letter.

Third, take steps to ensure one or more persons greet members and guests alike. Make everyone feel welcome from the moment they step into the meeting room. Nothing cools a person's interest in a club more than being ignored the entire evening.

Consider designating one or more senior members as hospitality host(s) to greet new members and guests as they arrive for the meeting. Another icebreaker is to have someone be a "mystery member" and award a prize to the tenth person who shakes the mystery member's hand and exchanges name and call sign. Larger groups may want to make it the 15th or 20th person.

Publicity for meetings is a must. First, schedule programs far enough in advance so your club newsletter includes an announcement of the program. Second, provide area newspapers with a press release and TV and radio stations with a public service announcement (PSA). This publicity brings your club to the attention of the community and attracts guests who may become members.

Press releases and PSAs must include the club name and say it is an Amateur Radio club. Provide the meeting date, place, time, and location as well as the speaker's name and a brief description of the speaker's topic. Be certain to include the name and phone number of a member interested persons can call for further information.

The program coordinator or publicity liaison person should contact

area newspapers and TV/radio stations to determine how they want community meeting information submitted and how far in advance it's needed. Use this initial contact to make friends with staff persons you may need to contact in the future. Sending a letter confirming the contact helps them remember your name.

Providing good programs means finding persons experienced in speaking before groups who have something interesting to share with your members. Sources of speakers can include your own club, other Amateur Radio clubs, visiting Hams, manufacturers and retailers of Ham equipment, ARRL officials, and others from within your community.

Topics may be on subjects other than Ham radio. Consider the Red Cross, Salvation Army, your police department, state highway patrol, and other organizations and agencies for programs and speakers. With a bit of discussion, the program coordinator and speaker can usually agree on a topic of interest to the club.

One example of a well received program is that given by the station engineer of a 50,000 watt AM broadcast station. He spoke about maintaining and repairing the transmitter. He brought the schematic along, mounted on a 4' x 8' sheet of plywood. A member asked the engineer how he troubleshot such a high powered device when something went wrong. Keeping a straight face, he said, "I just go into the transmitter room and look around to see what's missing!"

Another example of a successful program is the California Highway Patrol sergeant who spoke about how club members could work more effectively with CHP Dispatch when reporting emergencies. After his formal remarks, the sergeant asked for questions.

A member explained in great detail why she wasn't at fault for running out of gas on the treacherous Pasadena Freeway and fussed about how long she waited for CHP assistance. Finally she asked the sergeant *how* she could get a highway patrolman to stop when she needed help. "If I were you ma'am, I'd hang my bra out the window. There isn't one of my officers who wouldn't stop to find out what was happening!" His humorous retort ended the program in a roar of laughter.

An earlier column mentioned the West Coast ARC's monthly breakfast called BELCH and lamented that readers may never know what the acronym meant. Reader Jim Fish, KB6OUM, burped forth with "Breakfast Eaters League of Congregated Hams." And now you know the rest of the story...

Turn someone on to Amateur Radio.

Inside Amateur Radio

The following story has been excerpted from Inside Amateur Radio, *by the late Lenore Jensen, W6NAZ. The book can be purchased from Worldradio Books, P.O. Box 189490, Sacramento, CA 95818. Price is $9.00 plus $2.00 shipping and handling. CA residents please add 70¢ sales tax.*

Tinker trouble

LENORE JENSEN, W6NAZ

Tinkering with electronics is traditional with most amateurs, but Milt Daniel, WA7ZHR, remembers when it got him into trouble.

"When I was about 16 years old, a schoolmate of mine was going out with a girl in Portland, Oregon.

"The girl's mother was rather a social climber and was looking for something new to impress her guests. Her latest brainstorm was to have a small lamp on the dinner table before each place setting. The stipulation was that there could be no holes in the tabletop.

"After considerable experimenting, we decided it could be done. The magnetic field from a coil in the bottom of the table, underneath, would pass through the wood to a similar coil in the bottom of a lamp base on top. It lit up a 25-watt bulb very nicely!

"We scrounged up enough materials for the coils and made lamp bases from the burl of an old cedar stump.

"We proudly demonstrated and the lady was ecstatic. She gave a dinner party to show off her new triumph. We were ecstatic also, just thinking of how many of these things we were going to sell!

"But there was something about the laws of physics we had not yet learned. The dinner began sensationally. However, one of the guests soon found that a lamp became dimmer if removed from the direct field beneath it. This was no problem.

"As the dinner ended, somehow a table knife got shoved on the table directly over the coil below. Smoke arose from the knife and the knife turned blue!

"A hole was burned in a nice new expensive lace tablecloth—also in our lamp business!" — *From Idaho Society of Radio Amateurs*

Richard Fisher, nu6SN

1940 Wetherly St., Riverside, CA 92506
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QRP FD: Two for the road

The QRP transceiver and giant antenna traditionally share star billing when low power operators fan out for the ARRL's annual Field Day, but there's an important supporting cast, too.

For every award-winning QRP CW performance you're likely to find a good keyer and paddle listed in the closing credits. After all, where would the marquee names be without that duo?

Embedded Research and the Paddlette Co. in recent years have been providing high quality materials for CW ops, and the companies' latest offerings could be perfect when casting for a low impact, lightweight QRP Field Day, 27-28 June.

The TiCK-EMB keyer

It's no accident that veteran QRPers Gary Diana, N2JGU, and Brad Mitchell, WB8YGG, who head the Rochester, NY-based Embedded Research, are becoming known worldwide for their popular TiCK keyer kit line.

For the price and versatility, it's hard to find a better bargain. A nicely loaded keyer for less than $35 is pretty rare.

Like most good companies, though, Embedded has not rested on the laurels of its early keyer designs, choosing to solicit feedback from TiCK users to refine and improve the circuits.

The TiCK-EMB was born of those suggestions — EMB standing for Enhanced board and Memory Back-up.

The TiCK-EMB has taken the TiCK-1, -2 and -2B's best qualities and added to them.

The 'EMB offers the features of the TiCK-2B (modes A and B iambic keying, adjustable speed control, tune function, left or right-handed paddle selection, sidetone ON/OFF, off-board piezo transducer monitor option, straight key mode, 25-character memory, and BEACON mode), and then upped-the-ante with a board-mounted 3-volt lithium battery for memory back-up, and a top flight, beautifully marked PC board.

Like the other TiCKS, the small 'EMB has the latest RISC-based microcontroller technology — the remarkable PIC12C509 eight-pin chip.

At nu6SN it took a little more than a half hour to put the TiCK-EMB kit together and run it through its paces on the air. Key line output and paddle input jacks are mounted on the board, along with the momentary pushbutton used to toggle keyer functions and access the unit's functions menu.

A nicely written six page construction and operation manual takes the builder step-by-step through assembly and start-up. The 'EMB is a great beginner's project.

The single-sided PC board is only 2.00 X 2.25 inches and can easily be slipped into almost any of today's transceiver cabinets. Or, if you're like me, you'll want to mount the TiCK-EMB in its own enclosure so it can be used — and enjoyed — with any rig in the shack.

The keyer's small lithium back-up battery sits firmly in its board-mounted holder, assuring that the operator's pre-set parameters and memory/beacon message are protected when the keyer's main power source is removed. In "sleep" mode, the 'EMB draws only 1 microampere of current.

The kit, by the way, can be powered from a DC source ranging anywhere from 7 to 25 volts. I'm using a convenience-store variety 9-volt cell.

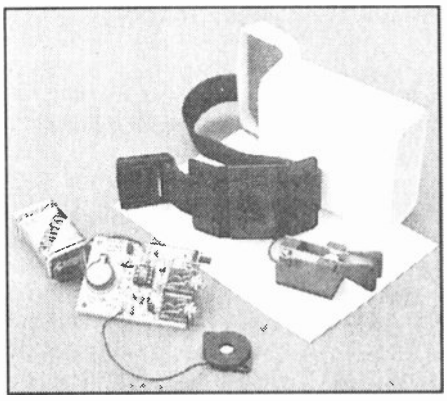
An LT1121CZ-5 LDO (low drop out) voltage regulator is used to wrestle the DC input to a manageable 5 volts. It was chosen by Embedded for its low current drain — much less than the common L7805.

The PC board is high quality and beautifully silkscreened, complete with an outline of each part and its number: R3, C5, U1, etc. Embedded couldn't have made the TiCK-EMB much easier to build.

Worldradio's October 1997 QRP column took a comprehensive look at the TiCK kit series, and the keyers' operation in both theory and practice. If you missed the article, or can't find your dogeared copy of the magazine, drop me a self addressed, stamped envelope and I'll be happy to send you a photocopy. If you'd prefer the review via e-mail, send a request to: nu6SN@aol.com.

Embedded's TiCK-EMB kit is $33, plus $2.50 shipping in the U.S., $5 DX.

For complete information about the TiCK series from the manufacturer, write: Embedded Research, P.O. Box 92492, Rochester, NY 14692. The company's web site is:



Embedded Research's TiCK-EMB, left, and the Paddlette Co., BP paddle, with knee mount hardware, elastic strap and carrying case can make a nice addition to your Field Day layout.

www.frontiernet.net/~embres. E-mail: embres@frontiernet.net.

Meanwhile, consider the TiCK-EMB for your '98 Field Day's cast of characters. It could be the ticket to an award-winning performance.

"Honey, I shrunk the paddle"

Bob Hammond, KI7VY, owner of Paddlette Co., of Edmonds, WA, has taken the company's original knee-mounted Paddlette paddle (introduced in ***Worldradio's*** New Products in August 1997, and reviewed in the February 1998 QRP column) and come up with his own version of "Honey, I Shrunk the Paddle."

This subminiature wonder is a gem of a CW-sending instrument.

Called the Paddlette BP, the paddle weighs only eight-tenths of an ounce, with a "footprint" of just .75 X 1.25 inches. For trail or Field Day use, it can be magnet-mounted to a specially designed 22 gauge aluminum knee mount, then strapped to the operator's leg using a 24-inch-long, 1-inch-wide elastic strap with quick-release buckle.

The Paddlette BP paddle, knee mount and strap fit snugly into a hinged-top polypropylene carrying case about the size of a Band-Aid box.

If this sounds like a paddle just right for backpacking, you're right. And thus the BP designation.

Although it may look like a toy, the BP certainly is not. It's a quality paddle that would be a welcomed addition to just about any QRPer's Field Day tote bag. "Designed expressly with mobile, QRP and backpacking Hams in mind," the manual says, "it is as rugged and reliable as it is small and lightweight."

As a longtime brass pounder, I found its operation smooth and almost effortless — despite its small size.

All the knee mount hardware tips the scale at just 1.25 ounces. So the whole package falls into the featherweight division.

A hex tool is provided with each paddle so operators can adjust the contact gaps to their liking. "Fine pitch screws with 56 threads per inch make precise setting of contact gaps simple," the manual says, adding that a "20-degree rotation changes the gap only .001 mil."

After the Paddlette BP arrives, you'll need to affix the paddle to the knee mount using the self-adhesive magnets provided, and then adjust the knee strap to your taste. A comprehensive manual provides all the details, and includes step-by-step instructions for making fine adjustments to the contact gaps.

It's left to the buyer to add the key plug of their choice, requiring soldering a three-connector plug (available in various sizes from Radio Shack) to the end of the BP's three conductor key line. No big chore!

As an option, the manual includes guidelines for mounting the BP to work as a straight key.

Price of the complete Paddlette BP outfit, which includes the BP paddle, aluminum knee mount, elastic strap and carrying case is $47, plus $2.50 shipping. To order or for more information, write: Paddlette Co., P.O. Box 6036, Edmonds, WA 98026. Telephone: 425/743-1429.

QRP bits and pieces

The New Jersey QRP Club applied for a special call sign and received its first choice: WQ2RP . . . The Southern California QRP Society's membership is growing by leaps and bounds, according to Paul Carreiro, N6EV, and the group has a new web site: www.qsl.net/wq6rp . . . Internet QRP Club director Chuck Adams, K5FO, of Dallas, TX, made a surprise visit to the QRP Club of New England during the members' annual visit to ARRL headquarters in Newington, CT, in March . . . Dave Ingram, K4TWJ, World of Ideas columnist for *CQ* magazine, has published a new book on low power operation titled "QRP Now."

Ham books remailer

Ham-Books is an Internet remailer devoted to the literature and periodicals of Amateur Radio. Covered are magazines, newsletters, books and much more. To be added to the mailing list, send e-mail to majordomo@qsl.net. In the body of message simply type, subscribe ham-books. — *Newsline*

John G. Troster, W6ISQ

How would you like to visit Palm Springs, take a balloon ride, a jeep ride across the desert into the sunset, or listen to dinner speaker Dave Bell, W6AQ, deliver another of his happy orations? You can partake of all this plus lots more 9-10 October at the QCWA convention under the leadership of the redoubtable Don Doughty, W6EEN. See latest QCWA Journal for details and application form. Now read the Love Story. 73 + 25 de W6ISQ

Fairy tales do come true!

JEAN MAYHEW-MAXWELL

Once upon a time there was a 15-year-old boy who was so much in love with a 15-year-old girl that he couldn't sleep or eat. His lovesickness was very real but he couldn't talk to her about it. He thought she was the most beautiful thing he had ever seen. They both played in the high school band, but he was two years advanced scholastically, and graduated from high school the year she was a sophomore, in 1935, when they were both 16.

He did all sorts of things to get her attention, like arranging a trumpet trio for himself and two friends to play, in the hope that SHE would accompany them and he could thus be close to her. He also took to writing notes to her in study-hall, since he was absolutely tongue-tied in her presence and couldn't speak at all. In one of those notes he invited her to the senior prom.

Any 15-year-old girl would be gaga over such a possibility, so she hurried home to ask her parents' permission to go. To her embarrassment, they finally acceded but only with the stipulation that THEY would escort her both to and from the dance. But yes, she wrote back her acceptance to the boy (under those embarrassing conditions — better that than nothing). And it was not until she had written a note back that she would like to go with him, that he suddenly realized that he had asked a girl to a prom AND HE DIDN'T KNOW HOW TO DANCE!

He promptly enlisted the help of a buddy who knew the dance steps and practiced all morning the day of the dance. He was terrible. Like a person dancing on stilts. To make matters worse, he couldn't seem to talk to her either. One five-word sentence remains in memory: "Would you like to dance?" and that was about it. A distressing first date for them both and the only date they ever had with each other.

He returned to his home in Mt. Pleasant, MI, after World War II with his wife and baby, and built its first radio-broadcast station, WCEN, after which RCA hired him away. He spent the remainder of his career with them as an electrical engineer in Princeton, NJ, managing their antenna laboratory, and designing antennas which orbit the earth on satellites giving us long-range weather forecasts. He has antennas on the moon buggies parked in NASA's used car lot on the moon.

Several of his antennas are in the Smithsonian, including those on the World's first weather satellite, TIROS I. (He played trumpet during the war with such big bands as Alvino Rey. He now plays a mean string bass with a Glenn Miller-style, 14-piece big band of retired professional musicians. They play in the central Florida area for such gigs as senior citizen center afternoon dances, attended by 200-500 people each week.)

After being retired for 15 years and widowed for 12, he decided that he was reading altogether too many obituaries of those who had been close to him in his early years, and decided to do something about it — he would have been devastated had he ever seen her name there. Fortuitously, he saw the 15-year-old girl's picture in a publication, indicating that she had married, raised a family and had a rewarding career, all without his knowledge of her whereabouts. He acted upon his wishes to find out more about her, and called her to ask permission to send pictures and to ask for some from her.

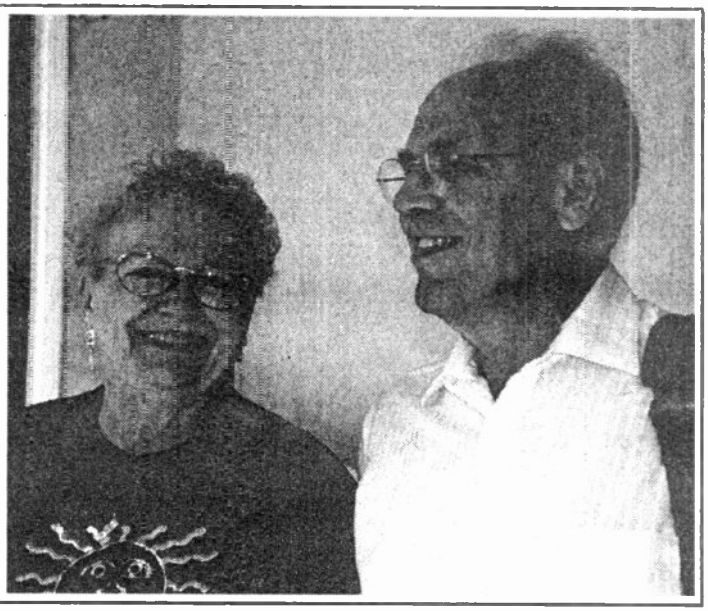
The lady was shocked (and pleasantly surprised) to hear from him after 61 years, for she didn't know where HE had spent his life either. Her immediate reaction was "What a marvelously youthful and vigorous voice this man has!"...knowing, of course, that he had reached the same age as she, and might possibly show that age in his voice, which he did not. It is also important to remember that she had really not heard his voice much in his youth. (He couldn't talk to her, remember?)

Well, now he could and did talk...wonderfully. So wonderfully that, one phone call led to another, the lady fell hopelessly in love with the voice of a man she had not seen in 61 years.

After several Fed Ex, Fax and e-mail messages, supplemented by many phone calls, they decided that surely a three-day, get-acquainted cruise was in order, and he immediately booked it. She flew to Florida to meet him, and her opening words (after a giant hug) were, "Where did you say this boat is going?" To which he replied, "I can't remember. I'll have to look it up."

To say that they had the best time of their lives on that cruise would be the understatement of the year. And at the captain's cocktail party, when he took her in his arms to dance with her, he took two steps,

Walter, W2DU and Jean, the happy newlyweds.



and she flew promptly to the moon to join his antennas. For now he could and did dance...wonderfully.

How a scientist of his caliber could also be such a true romantic is mind-boggling to say the least, but when he also said, "Figuratively speaking, I've been waiting for you all my life," The lady succumbed completely, and decided that her destiny had become irrevocably joined with his for whatever time is left to them both.

They plan to live their remaining years together, happily ever after. In the winter months (November through April) they can be reached at his home in DeLand, FL. In the summer they will be at her home in Mt. Peasant, MI. And for the record — his name is WALTER MAXWELL, known to Amateur Radio operators as W2DU, and on the internet as w2du@iag.net. He is retired from RCA's Astro-Electronics Division. Her name is JEAN BINKLEY MAYHEW-MAXWELL, Professor Emeritus, Central Michigan University.

On 27 February 1997, Jean and Walt were quietly and romantically married on the island of Anguilla, in the Netherlands Antilles, to which Eden they plan to return each year to celebrate this fairy-tale new beginning.

On 27 February 1998 Jean and Walt returned to their Eden on Anguilla to celebrate the first anniversary of their marriage, which was surely made in heaven. Although they'll be 80 on their next birthdays, their perpetual honeymoon would make 20-year-olds envious.

(In December 1996 we ran a story about Walt Maxwell, W2DU. In the story we mentioned Walt was a widower. No more, as you have just read. We think this is a beautiful love story for Moon-Swoon-June month for the QCWA column. And thanks to the Maxwells for sharing their love story with QCWA readers.)

10-10 INTERNATIONAL News

Chuck Imsande, W6YLJ
10-10 19636

Ten Ten Election

The 10-10 International Net, Inc. has an election for officers and directors every other year. One year all officers, President, Vice President and Secretary and five Directors are elected for four-year terms. The next election, two years later, five more Directors are elected. This split election provides continuity between one election and the next election. The election is conducted by secret ballot mailed first class to each fully paid-up member during the early part of June of the election year.

A Nomination Committee under the direction of Alvin Britton, N6TXT, #50198, selected the candidates for this year's election. They are to be commended for offering an excellent slate of candidates.

The election ballots for this year's election will be mailed early in June. This year's election will be for President, Vice President, Secretary and five Directors. The election this year offers an excellent choice of candidates and for the first time in several elections, more than one candidate for the President and Vice President positions and eight candidates for the five Director positions. This great list of candidates offers the 10-10 membership an excellent choice to select to run the Net for the next four years. Those elected will take office on January 1, 1999, and will serve for four years.

It is the responsibility of each full member to vote in the election. Review the list of candidates, which have been published in the *10-10 International News* in the January, April and June issues. Please review the candidate list and mark your ballot and send back as soon as received. Let us all vote and make 10-10 a truly democratic organization.

1999 10-10 Convention

Although it may seem a long time away, here is the first announcement of the 1999 10-10 Convention which will be held in Oak Ridge, TN. JimWhittlesey, KC4RHW, #57051, is the chair person for the Convention and has announced the dates of 11-13 June 1999. Watch for more information both in the *10-10 News* and ***Worldradio***. Mark your calendar now and plan ahead to attend.

Worked all State Capitals

Paul Johnson, N4JII, #37708, has just obtained an e-mail address. If you need to contact Paul about your Worked all State Capitals award, send him an e-mail at: n4jii@aol.com.

New DX Members

We welcome the following new DX Hams who became 10-10 members during the month of March 1998.

DJ8VW #69216
VE4ALN #69217
DL4NMD #69218
DL9LR #69219
DH7ML #69220

When band conditions allow, watch for these new DX 10-10 members. The number of DX members in Germany continues to grow. Our German group of 10-10 members continues to do a great job in attracting new 10-10 members. Watch for all of our DX members when the band conditions are open from your location.

Scholarship Fund News

The most recent report by the 10-10 Scholarship Manager, Morrie Goldman, W6EHM, #4189, lists 38 members who have recently made a contribution to the 10-10 Scholarship Fund. Although a listing of those "10-10 Scholarship Volunteers" is too lengthy to list here, each and every contribution is sincerely appreciated. Each contribution receives a Certificate of Appreciation. We are now half way through the 1998 Scholarship Fund year and contributions as of the date of this writing are at just about $2000.00, just about half way to our goal of $4000. If you have not made a contribution for 1998, please consider doing so today. 10-10 sponsors four (4) $1000.00 scholarships each year, and it is the hope of the Board of Directors that funding for this worthwhile program will be totally by contributions from the membership. This has been true for the past several years, and it is hoped that 1998 will again be a totally funded year for the scholarship fund by membership contributions. A contribution in any amount will be appreciated. Send your check to: 10-10 Scholarship Fund, Morrie Goldman, W6EHM, #4189, 21518 Marjorie Ave., Torrance, CA 90503-6814. As a convenience you may also include a scholarship contribution along with your dues.

Taxis on 10 Meters

For a number of years many New York City taxi cabs have been illegally using several frequencies within the 10 Meter band for their communications. This has been a problem in the NYC area and elsewhere when band conditions allowed propagation to the rest of the country and DX countries. The ARRL has been active in attempting to correct this illegal operation. Through the combined efforts of the New York City Taxi & Limousine Commission and the FCC, the radios in New York City taxis were inspected during one of their four times a year inspections at the Woodside (Queens) inspection station. The FCC checked taxis with radios with frequency counting equipment and a whopping 98% of the radios inspected were illegal. The FCC warned the drivers in person and followed with a letter saying that a recurrence would result

in a "Notice of Apparent Liability" and a possible fine of up to $5000.

Thanks to the ARRL, and its directors, for passing a resolution at their last board meeting thanking the TLC and FCC for their efforts. A criminal investigation continues as to the source of the modifiers of the radios. Tnx to Gerry Smith, W6TER, #23335, for this update on this long standing story.

10 Meters is an Amateur Radio band (not a band for taxis and other illegal operations) and one of the purposes of 10-10 is to encourage the use of 10 Meters, all of the band from 28.000 to 29.700, of course depending upon your license class.

Information about 10-10

If you would like information about 10-10, and how you can become a member and receive your very own unique 10-10 number. Send $2.00 and an address label for the return of your information package to: Mike Elliott, KF7ZQ, #54625, 10-10 Information Manager, 9832 Gurdon Court, Boise, ID 83704-4080. No SASE please as the information package requires a 9 x 12 envelope. You will receive a copy of the 14 page Prospective New Member Brochure which contains everything you want to know about the 10-10 organization, a listing of all 10-10 Chapters, their day, time, and frequency of net operation and an application form. Also enclosed will be a copy of the 8 page QSO Party Information Brochure and a copy of the latest issue of the *10-10 International News*, the 32 page 10-10 quarterly magazine.

If you have lost, or forgotten, your 10-10 number, send the same as above to Mike and you will get the information package along with your original 10-10 number.

If your membership in 10-10 has expired and you would like to renew your dues, send your dues ($10.00 for one year or $25.00 for three years [a savings of $5.00]) to: 10-10 International Net, Inc., 643 N. 98th Street #142, Omaha, NE 68114-2332. You will become an "ACTIVE" member again and receive all of the benefits of 10-10 including the quarterly *10-10 International News*. Remember 10-10 numbers are issued for life and your originally issued number is always yours.

1.2 GHZ threat

The ARRL has learned that the second civilian frequency for the global positioning system (GPS) could wind up within Amateur Radio's secondary allocation at 1.2 GHz. A decision on whether the new, second frequency will be 1205 or 1250 MHz is expected to be made in August. An allocation at 1250 MHz could mean the end of Amateur Radio in the band 1240 to 1260 MHz. The Amateur Radio 23-cm band runs from 1240 to 1300 MHz.

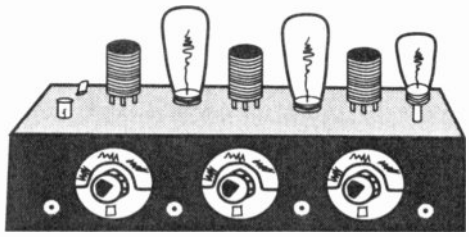
In February 1997, the Department of Transportation (DOT) and the Department of Defense (DOD) announced an agreement assuring civilian GPS users of a second frequency, referred to as L5 and considered essential for critical civilian GPS uses. According to a DOD news release, the White House Commission on Aviation Safety and Security, "called for the establishment of a second civil frequency as part of a broader program to maintain U.S. leadership in aviation and satellite technology."

For more information, see http://www.defenselink.mil/news/Feb1997/b022797_bt095-97.html— *ARRL Letter*

Central States VHF Society confab set

The 32nd annual Central States VHF Society Conference will be held 23-26 July in Kansas City, Missouri, at the Adam's Mark Hotel. Those interested in making a presentation at the conference should contact Tom Bishop, KØTLM, 4936 N Kansas Ave., Kansas City, MO 64119; tel 816-452-6953; e-mail kØtlm@juno.com. Conference proceedings will be published by the ARRL and will be available at the conference. Among other events, the conference will include antenna gain measurement and noise figure measurement sessions on Friday, along with a flea market. For more information, see the CSVHFS home page, http://www.csvhfs.org — *ARRL Letter*

OLD-TIME RADIO



The Amplifier

GEORGE FRANKLIN, WØAV

The time was the early thirties, the place St. Louis. I was a fresh, new SWL spending lots of time listening to the world on my little regen receiver using an old pair of headphones with enough spring power in the headband to squash a cantaloupe. Something had to be done before what few brains I possessed were compressed wafer-thin.

My dad wasn't a Ham, but he, like many others, had built his own BC radio in the early days. One shelf in the basement was stacked with bits and pieces left over from those days, including "A" and "B" (battery) eliminators, type 99 and 201A tubes, weird spiderweb coils and the like. Rummaging through these goodies I found a cast aluminum trumpet, the bottom at which a pair of headphones could be clamped for "room volume." Well, it did work after a fashion if those present held their breath and the room was closet-sized. This definitely wasn't the solution I needed to avoid acquiring a slightly flattened head.

I had often peered into the window of a small radio repair shop a few blocks away. One afternoon, I got up nerve to go inside and strike up a conversation with the proprietor, who turned out to be an inactive Ham. More importantly, he was very willing to give a young SWL and prospective Ham a helping hand. After I explained my dilemma, he sat down and drew a schematic diagram for an honest-to-goodness audio amplifier. This one-tuber, he promised, would provide plenty of volume to rattle a magnetic (yep, magnetic) speaker. This was for me, as I seemed to recall seeing a couple of the vital parts among my dad's collection. Happy day! Thanking my newly found friend and mentor, I dashed home to see what parts I could match to the schematic. Well, what I found was an old "Indian" logo interstage audio transformer and a 12-inch, double cone magnetic speaker; no luck on the rest. So it was back to the radio shop with a dollar which good old dad advanced me to finance my project.

The radio man looked at my shortage list and in quick order produced a "used but good" type 47 tube (25 cents), a breadboard 5-pin socket (5 cents, I think), a cathode bias resistor, a "bathtub" bypass capacitor and a bakelite blob which contained a screen bypass capacitor. My dollar was pretty well shot, but I still had enough for a Pepsi and a double-dip ice cream cone on the way home. I was in business.

With all the parts in hand, I was faced with the problem of coming up with some sort of a small chassis. Under dad's workbench I found enough thin walnut wood to make a chassis about four by six inches in size, using end pieces sawed from an orange crate, fastened together with round-head brass screws from dad's junk jar. I laboriously mounted the transformer and tube socket on top and the rest of the items underneath.

Now came the really tough part, soldering "push back" hookup wire to the various components. Dad had a huge, copper point plumbers' soldering iron which I had seen him heat with a blow torch years before. I was a twelve year old kid who had never soldered anything in his life, and my parents would never permit me to use a blow torch. What to do? Then it hit me. Why not heat the soldering iron in the gas-fired side-arm water heater next to the furnace? Why not, indeed? I lit the burner with a match, stuck in the iron and waited until it glowed a dull red. It would be plenty hot to do a good job, I reasoned. Sure enough, with acid-core solder and lots of plumbers' soldering paste I soldered up a storm, causing huge clouds of acid fumes to permeate the house, to my mother's distress, burning myself a few times in the process. Some hours later, with several fingers bandaged, I finally had the amplifier completed and ready to fire up. The moment of truth was at hand.

I used the stepdown transformer from my Lionel electric train to light the 47's filament. I don't know what voltage I used; I just moved the controller handle until it looked right. The "B" eliminator now powered the single tube receiver as well as the amplifier, along with the magnetic speaker. Now, for the long awaited moment when signals would flood the basement with ear-shattering volume. I plugged in the power plug and was greeted with a burst of silence. Well, maybe there was a sort of dull click, but no sound. Zounds! What had I done wrong? Had my mentor given me a spurious schematic? Surely not. Was one of my treasured components kaput? Maybe I had burned out "the tube." Woe was me. My spirits plunged to the depths of despair. My amplifier

was a dismal failure. I would never get to be a Ham. I might have to take up butterfly collecting or basket weaving. Even worse, I might have to devote myself entirely to school and homework.

When dad got home, I told him the bad news. He looked at my work, grimacing a bit at the chassis made of his cherished walnut, but pronounced it pretty good for my first radio project. Looking at the audio transformer, he suggested that I recheck my wiring. I was positive I had done everything exactly right, but to humor dear old dad I looked again. The transformer had four binding post terminals, clearly labeled B+, plate, grid and ground, two on each side of the core. Naturally, the primary would be on one side of the core and the secondary on the opposite side. Wrong! I had connected the transformer incorrectly.

That was fairly easy to fix, except now the wires were too short and had to be extended; more soldering, more smoke. When the corrective action was completed, I turned off the gas burner and let the soldering iron cool. I was confident that success was at hand.

This time, when I plugged in the power cord, there was a roar of sounds. My mother and father came running down the steps, terrified that I had finally done myself in, only to find me dancing around the basement screaming "it works; I made an amplifier." They both breathed sighs of relief, leaving me in my ecstasy, inundated with raucous squeals, intermingled with mangled voices, dots and dashes. My joy was total. Life was sweet.

My radio shop friend was entirely correct. The type 47 audio amplifier did rattle the magnetic speaker, especially since I had no volume control on the little regenerative receiver. It served me long and well. I soon forgot my initial despair, remembering only the satisfaction I felt at building something from scratch that (eventually) worked like a charm. I often think back to the other early rigs I built, using that plumbers' soldering iron heated in the gas flame. Incidentally, I soon learned that glowing iron and acid-core solder were not the way to go; too many connections turned green and disappeared. When I later inherited a used American Beauty 100-watt electric soldering iron I knew I had passed a crucial milestone in my Ham career, sort of like the much later transition from tubes to transistors, I guess.

Rockwell donates Art Collins papers to Iowa library

The papers of the late Arthur A. Collins, W9CXX, the founder and president of Collins Radio Company, have been deposited at the University of Iowa Libraries. Art Collins, who later became WØCXX, died in 1987. He was a pioneer in the development of highly reliable two way radio equipment for the amateur, military and commercial radio markets. To this day, Hams consider it to be the Rolls Royce in station gear.

Arts' company, Collins Radio, was headquartered in Cedar Rapids, Iowa, and it began producing Amateur Radio equipment in 1933. One, of the early highlights of Art Collins' career came when Admiral Richard E. Byrd was planning his first trip to Antarctica. Byrd asked Art Collins to design and build transmitters for the expedition that would enable him to make live broadcasts to the U.S. from the South Pole. Later, during World War II, Collins Radio supplied electronic equipment for airplanes and ships. These stories and much more are reportedly included in the papers now in the school's posession..

Art Collin's papers fill thirty-three large boxes with documents covering the years 1932 through the late 1970s. Materials in the collection include correspondence, subject files, photographs, notebooks, corporate annual reports, product literature, product drawings and other working papers.

Currently the material is being cataloged and it is not on display. There is no scheduled date when the University will be making it available for public view. — *Harold Ort, Newsline*

propagation

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A couple of weeks ago I turned on my HF radio and PacketCluster system to see what was going on. It was early evening, and if conditions were good, I expected to see European spots on the lower frequency bands from the east coast, and Pacific and Asia spots on the higher frequency bands from the west coast (see — there is an advantage being in the Midwest). What caught my eye was a spot from a WØ for 9M6BG on 10M CW.

If this had been a spot from the west coast, I probably wouldn't have paid any further attention. But being from a WØ made me go take a listen to see if I could hear the 9M6. And sure enough, there he was working a pretty good size pileup of mostly West Coast stations. I threw my call in a couple times, but to no avail — I couldn't beat the west coast (oh, well — so much for a Midwest advantage).

But hearing an Asian station here in the Midwest in the evening on 10 Meters got me thinking about Cycle 23. Now is as good a time as ever to review the progress of Cycle 23, along with some other related solar cycle issues, to see when the higher frequency bands may be back on a more consistent basis.

In my August 1997 column, I reviewed a prediction of Cycle 23 by a panel of scientists from the Space Environment Center (SEC) of NOAA. They met in September 1996, and predicted another big solar cycle. With more data now available, they reconvened in September 1997 to assess their earlier prediction, and to make revisions as necessary.

The first item they addressed was the time of minimum — when did Cycle 23 start? Based on a traditional numerical analysis back in September 1996, they had predicted the start of Cycle 23 as May 1996. But one of the scientists noted there were several factors that argue against this date. They ultimately agreed that October 1996 was the effective onset of Cycle 23.

Another item they reviewed was their prediction of the maximum SSN. Earlier they predicted the maximum to most likely be 160, with a lower uncertainty of 120 and an upper uncertainty of 200. They found no reason to alter this aspect of their prediction. But the new start date did effect when this maximum would occur. So they revised this to March 2000 as the most likely estimate for the peak, with uncertainty putting it between June 1999 and January 2001.

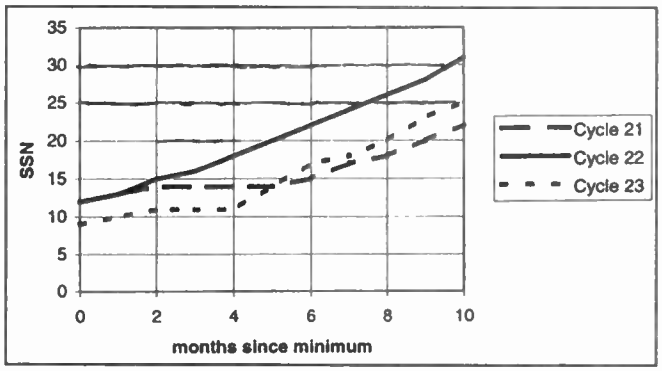


Figure 1 Comparison of Cycles 21, 22, 23

Figure 1 shows the early progress of Cycle 23, along with a comparison to Cycle 22 and Cycle 21. As can be seen, Cycle 23 may have started a little slower, but now it seems to be picking up speed. It indeed looks like Cycle 23 will be good news for higher frequency aficionados. I would expect a significant improvement in 15M and 10M by this coming fall.

Although this is a well-respected prediction from the SEC, the Winter 1998 issue of Communications Quarterly had an interesting article about Cycle 23. The author, recognizing the known fact that solar cycles can be considered to be approximately 22 years in length when the magnetic polarity of the spots is taken into account, paired the even numbered cycles with the subsequent odd numbered cycle. Figure 2 shows this for Cycle 10 onward. Note that the subsequent odd numbered cycle is usually between 1.2 to 1.6 times its even numbered predecessor, with an average of 1.4.

Applying this average to Cycle 23 says that the maximum SSN of Cycle 23 should be 158 (Cycle 22) times 1.4, which gives 221. That's bigger than Cycle 19, the biggest ever recorded cycle at an SSN of 201. The author points out that this analysis falls apart for cycles before Cycle 10, so it's not happened for all recorded history. But it is an interesting analysis. Only time will tell how accurate this method is. Better get your 6M station in shape, just in case!

Since we're talking about sunspots, it's appropriate to look at the theory of sunspots that I referenced in my January 1998 column. It was web site number 12 that I listed, and deals with the alignment of planets and the resulting gravitational pull on the sun. It's based on what we all learned in high school physics — that the gravitational force between two bodies is proportional to the mass of one body times the mass of the other body divided by the distance squared between them.

Since the sun has fluid properties,

Cycle Pairs	max SSN	Ratio- Odd Cycle to Even Cycle
10	98	1.4
11	140	
12	75	1.2
13	88	
14	64	1.6
15	105	
16	78	1.5
17	119	
18	152	1.3
19	201	
20	111	1.5
21	165	
22	158	???
23	???	

Figure 2 Cycle 23 Prediction Based on Cycle Pairing

the idea is that these gravitational forces from the planets in the solar system cause tides in the sun. This then results in sunspots. These tides would be dependent on planet alignment, and would be greatest when several planets are in a straight line (the word for this is syzygy - honest — go look it up in the dictionary).

Luckily we're not talking all the planets here — that would be a real big exercise in orbit mechanics. Knowing the masses and distances from the sun shows that Jupiter (largest effect), Venus, and Earth are the only ones that need to be considered. Mercury is somewhat

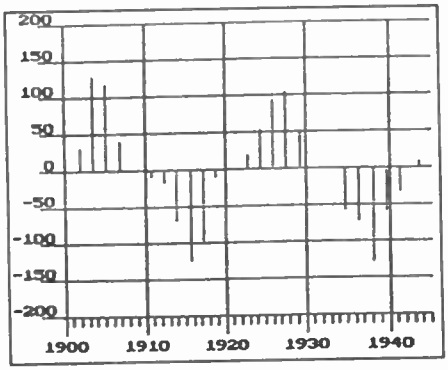


Figure 3 Jupiter-Venus-Earth Alignment

lower, and all the others are an order of magnitude lower than Mercury due to the combination of mass and distance in the formula above.

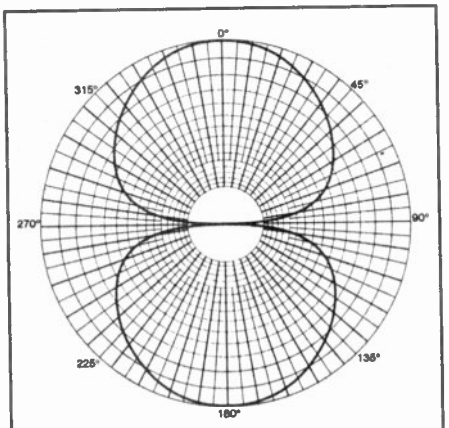
So what the author tried to do was see if there's a correlation between sunspot cycles and the alignment of these three planets. I won't go into the details of his analysis — it gets pretty deep. What I'll do is whet your appetite with one of his figures. Figure 3 shows the alignment of Jupiter, Venus, and Earth. The length of each vertical line represents the quality of the alignment — a very long line indicates very close to a straight-line alignment of the three planets. This figure looks a lot like a plot of solar cycles. Knowing Cycle 14 peaked in February of 1906, Cycle 15 peaked in July of 1917, Cycle 16 peaked in April of 1928, and Cycle 17 peaked in April of 1937 leads one to believe this guy may be on to something.

In summary, Cycle 23 is on the way up, with significantly better conditions expected on 15M and 10M this fall. Be sure to join in on the fun.

AMSAT seeks net info

The *AMSAT Journal* editorial staff is working with AMSAT-NA Vice President for Electronic Publishing, Paul Williamson, KB5MU, to put together an up-to-date list of all operational AMSAT nets.

The Journal hopes to publish this list on a regular basis, so that all satellite operators will be aware of net activity in their area, as well as help keep the AMSAT Web page information current. Forward date, time, and frequency information of your net operation to Andrew Reynolds, WD9IYT, wd9iyt@amsat.org. — *AMSAT News Service, ARRL Letter*



AERIALS

Kurt N. Sterba

Oh, me, oh, my. It's just getting weirder and weirder out there. It must be something in the air. Unfortunately, it seems to be catching.

Writing in a recent issue of "Populist Electronica" the usually highly reliable "Jose Otto", wrote (regarding the one-wavelength loop) "It has a gain slightly less than 1.8 dB above isotropic (dBi) which means that it exhibits a bit less than the gain of a half wavelength dipole."

Alas, that, I well believe, is incorrect. The one-wavelength loop has, instead, about 1.8 dB gain over the dipole.

I'll prove that statement to your satisfaction, I hope. Let's start with a dipole, which of course has zero dB gain over a dipole. Should we add a reflector to the dipole, (resulting in a two-element Yagi) there will be about 4 dB gain. Adding a director will result in a three-element Yagi. Such will have (regardless of the bunkum from the Granite Antenna Co.) in the real world, about six dB. OK, so far?

It seems to be well agreed that a two-element Quad has about 6dB gain. Right?

A two-element Quad has about the same gain as a three-element Yagi. So, since a reflector element has about four dB gain that must mean that the other two dB came from the driven element itself. Logical?

After all, the one-wavelength loop does have twice the length of a half-wave dipole, so you should get something for that shouldn't you?

As always, I make the offer that opposing views will receive an opportunity to rebut.

Then, in a (magazine published near the Big Apple) a manufacturer of Amateur Radio antennas wrote in an article, "The (XX) is an electrical and physical half-wave length long, center-fed shortened vertical dipole, and on 40 meters is only 15 ft. tall."

Hmmmm. Now it is possible to have an electrical half-wave dipole that is only 15 ft. long. What that means is that the antenna has properties (some form of loading) that allows it to be matched with 50-Ohm line. (Or whatever your particular circumstances may be.) For example, an eight-foot mobile whip on 75M may be resonant (electrical property) but it sure isn't a quarter-wave PHYSICALLY is it? That would be about 61 feet wouldn't it, and a bit awkward going down the turnpike.

So, I just can't figure out how, for 40M a 15-foot antenna can be a "physical half-wave." Physical length is what you measure with a yardstick. Either an antenna is a full size one or it is a shortened one. It can't be both.

As always, I make the offer that opposing views will receive an opportunity to rebut.

This isn't exactly Amateur Radio related but is given as an example of those whose activities can make one wonder. A catalog from the J&R company located in NYNY arrived yesterday. I reference page 153. Displayed are many FM receive antennas priced from $20 to $80 which do contain amplifiers.

Then for $250 the customer is offered an antenna which "brings in more distant stations with less noise than electronically amplified antennas."

Lil agrees that the statement does seem to imply that such device is minus any amplifiers.

It must work such amplifier-shy magic because it is, quote: "Full-size half-wave length antenna (7-foot 2-inches)".

Let's see now. The FM broadcast band extends from 88 to 108 MHz.

Mid-band would be 98 MHz. Using the usual formula 468/f MHz to find the length of a half wave antenna we see: 468/98 which equals 4.77 feet. (Or 4 feet, 9-1/4 inches.) Where their 7-ft. halfwave comes from is anybody's guess. This is not the first time this ad has run in that catalog in such a manner. Apparently either nobody at Audio Prism (the manufacturer) knows or cares.

Back to Amateur Radio. Now, we look at the very latest issue of "Populist Electronica" and again an article by "Jose Otto" who has a K4 call sign. The article shows a "typical VSWR curve".

As is usual for this type of chart, along the bottom, in a horizontal manner is the frequency range with the lower numbers at the left side and progressing to the higher numbers on the right end.

On the left side of the chart in a vertical line will be the SWR values, in a descending manner such as 5, 4.5, 4, 3.5, 3, 2.5, 2, 1.5, 1.

One plots the SWR values vs. the frequency by making dots where the SWR values and the frequencies connect. Then, in a connect-the-dots manner a curve can be seen. Depending on how the chart was devised and the parameters of the antenna the curve usually is bowl (or parabola) shaped.

One can see the frequency of the lowest SWR and either lengthen or shorten the antenna to shift the resonant point as wished. There are of course, other factors (mainly height above ground) that will also affect the SWR value.

Well, this referenced chart followed the usual form except, and this is a BIG except, below the line for an SWR value of 1, there was another line for an SWR value of 0.5 and all I can say is HUH? Then below the 0.5 line is another line for a value of 0. That is 0 as in zero.

Oh, what are they doing to our children? And our grandchildren! If this is the only article the newcomer reads about SWR they are going to have a very puzzling time of it. For, you see, as most, but not all, know the least SWR comes in at a value of 1. As in 3:1, 2:1 or, a ratio of 1:1 which is as good as it gets. That's it, there is no more. There is not, contrary to what the article shows, a 0.5 or 0 in any of this.

What is going on? Lil and I also have other interests and we never see in those fields the drivelly swill that appears in the Amateur Radio literature about antennas. It is almost painful to read some of what comes out of the Albanian Rust Removal Laboratory these days. George Grammer must be spinning in his grave.

In a recent issue of "Chickens Quacking," Lew Hatfield, in talking about the G5RV antenna mentioned that it would work on higher bands than its length would seem to be resonant for. As to why this is, he brushed it off by saying he "didn't want to get too technical." The problem with that is that if someone never runs into something that they have to stretch some to figure out they will never grow.

I was reading in the newspaper that compared to students in other countries, U.S. students ranked 40th in science knowledge. I guess they're "not getting too technical" either.

Oh, no doubt I have irritated many by pointing out that the above-mentioned SWR article is absolutely bonkers. They would prefer that I just let that article's readers stumble about trying to get an SWR of 1:0, I suppose.

However, I shall quote from a letter from the perceptive Todd Dokey, KF6AWG: "The only point I have to make is for those who think you are too terse, or shall we say even politically incorrect. They forget that any real science has no regard for anyone's feelings or opinions, it simply is. If they can't figure it out, that is not the fault of the real world they are trying to model with less than adequate attempts at understanding. It is the increasing anthropomorphic and self-centered view of reality that they stub their brains on; not you for pointing out the inconsistencies in their thinking. To simplify, if you stick your finger in a working light socket, does the electricity care that you doubt you will get shocked?"

Dale Svetanoff, WA9ENA, said, in part, that antenna manufacturers "owe it to the customers, as well as to their own reputations, to specify the gain reference, be able to back up the claims with hard test data (not modeling program theoretical guesses) or else delete all gain references if they can not (or will not) do the first two things."

He also said, "My wife, Sue, KE9LI and I count ourselves as two of 'Kurt's Pals.' We have been reading you and Lil for lo, these many years, plus we have both versions of *AERIALS*. For the most part we agree with you and feel great about the voice of truth being disseminated among the antenna heathens."

He closed a most interesting technical letter with, "I wish you and Lil Paddle well, and hope that you two keep up the never-ending task of maintaining a straight path through the antenna wilderness."

Speaking of computer modeling, I've been informed (and have received printouts to prove it) that one particular program regarding the V-beam is just nonsense.

(Yes, to answer many queries, AERIALS III will be published soon.)

Contests

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Contest Software

The personal computer has had a massive impact on contesting. Since the late 1980s, increasing numbers of contesters have used computers to handle the routine, painstaking work of logging and score calculation. For the operator, contest logging on a computer reduces fatigue, and puts more information at your fingertips during the fray.

Thanks to the PC and good logging software, gone are the piles of disorganized logsheets, arcanely-completed dupe sheets, confusing multiplier check lists and the mountains of pencil lead and eraser chaff that were a feature of every contest. Further, post-contest paperwork is kept to minimum, and those long nights toiling over logs on the kitchen table are a thing of the past.

For contest organizers, the widespread use of good logging software has allowed them to examine more logs in greater detail. This allows them to detect more logging errors, and do a better job of detecting those who might artificially inflate their scores. Yes, there are cheats in contesting, but they are few in number, and it's getting harder for them to escape detection.

While there are many different software packages now available that handle contest logging well, I can speak with some experience on three of the most popular: CT, NA and TR-Log. These three are all designed to run under DOS, although Windows versions of these programs are in the works. They all support the following important features:

- contest logging during or after the contest
- calculation of your score as you go
- instant identification of duplicate contacts
- instant identification of multipliers
- interface to those transceivers that can be controlled by computer
- PC-sent CW
- control of accessories, such as antenna rotators, Morse or voice memory keyers
- interface to your packet TNC or other source of packet radio-based DX information
- networked computers for multi-operator contesting

CT (or ConTest) first appeared on the scene in the late 1980s, when the original IBM PC was becoming a feature of many Ham shacks. CT was the first truly practical contest logging program, and it set the standard by which others are now measured. Written by Ken Wolff, K1EA, CT is now in its ninth version, and is undoubtedly the most popular contest logging software in the world today. Designed to run under DOS, a Windows95 version is now in development.

CT Versions 8 and 9 are both available, and v8 includes iterations that will perform well on XT, 286 and 386 IBM compatibles. V9 is designed for 386 and better machines with at least 2Meg of RAM. You can also try out the "freeware" version 6, which you can obtain on the internet at ftp.coast.net:/SimTel/msdos/hamradio/ct626.zip. Version 8 costs $69.95, and version 9 costs $79.95. Both are available from K1EA Software, c/o XX Towers Inc., 814 Hurricane Hill Rd., Mason NH 03048, or by telephone at 603/878-4600. Once you are a registered user, you can obtain support by phone, fax, modem, e-mail and the WWW. CT now supports twenty contests, including all ARRL contests, all CQ contests, the Worked All Europe, All Asia, and California QSO Party as well as a "DXpedition" mode that was used by the 1997 Heard Island operation (VKØIR).

NA appeared shortly after CT. Written by Dave Pruett, K8CC, NA was originally designed to support North American domestic contests that CT, then exclusively oriented to DX Contests, did not support. NA was, in effect, CT's domestic counterpart. The two are very similar, right down to the layout of the screen and the keystrokes used to access certain functions. When CT came out in Version 6, it started supporting contests that NA supported, like ARRL Sweepstakes, and the two programs have been in competition ever since. NA now handles most of the same contests that CT supports, others its competitor does not support, and it allows you to tailor the program to score a contest not otherwise supported by NA. NA is currently in version 10, and available for $60.00 (plus $4.50 for shipping) from Radio Bookstore, PO Box 209, Rindge NH 03461. You can order by phone at 800/457-7373, by e-mail at nx1g@monad.net. Take a look at the NA website, www.contesting.com/datom/CATALOG.HTM for more information.

TR-Log is a breed apart from either CT or NA. It uses none of the same keystrokes to access important functions, the screen looks completely different, and switching from either CT or NA to TR-Log (as many contesters have done) requires a lot of un-learning. Written by Larry "Tree" Tyree, N6TR, TR-Log directly supports 35 contests, and claims it's "designed to be used for any contest." TR-Log has most of the features found in the other packages, plus a few interesting innovations the others don't have.

For example, as more and more of the most competitive single operators use two transceivers side-by-each, TR was designed to support this demanding task. It also not only does automatic searches for dupli-

cate contacts, but it looks for call signs that differ by one character as you enter a call sign. It incorporates not only a CW memory keyer, but also allows you to connect your keyer paddle to use your PC as a regular keyer. Of the three, TR-Log is the most feature-laden, and the most reliably-supported by the author. You can obtain TR-Log from Geo Distributing, 913 Ramona St., Austin TX 78704, by phone at 512/416-7010, or from the TR-Log www site at www.qth.com/tr.

All three have user e-mail list servers or reflectors by which you can share your experiences and ask questions of others using their software. All three mailing lists reside at W4AN's contesting web page (featured last month) at www.contesting.com.

These are the only contest logging programs with which I have experience and which I would recommend as worthwhile investments. There are others I have seen which I would not recommend, and many more which I have never seen. If you are thinking of buying contest logging software, please consider your choice very carefully. Make sure the software is well-supported, has all the features you might ever want, and supports the contests you are likely to work. It should be easy to use, as you want to add to your enjoyment of radio, not divert your time into learning arcane keystroke routines.

Will using contest logging software make you a better operator? No, you still have to know what you're doing. However, good software will certainly reduce your fatigue during a contest, and it may free you up to improve your skills, but it's still up to you to find and work stations. Logging software won't find new multipliers for you, nor will it work stations you can't hear, but it will help you be more efficient. It's still up to you to be a good operator.

Contest of the Month — ARRL Field Day

1800 UTC Saturday 27 June to 2100 UTC Sunday 28 June 1998. (PDT: 11am Saturday 27 June to 2pm Sunday) (EDT: 2pm Saturday 27 June to 5pm Sunday)

Field Day (FD) has become one of the ancient and honorable traditions of Amateur Radio, nicely combining an emergency preparedness exercise with what looks, sounds and smells like a contest. Like a contest, there is a points-scoring system that rewards making lots of contacts, and FD contacts are very brief, just as you would expect in a contest. The emergency-preparedness side of the event comes through an active encouragement to operate as if disaster had struck your area, and you had to get on the air independent of your normal electricity supply, your normal antennas and even your home.

Most participants in FD literally take to the field, setting up stations in remote locations, perhaps at campgrounds, or public green spaces. Often organized as a club activity, some groups plan for months in advance, detailing the logistics of their FD operations as if they were preparing to ascend the twin peaks of Mr. Kilimanjaro. Others pore over the rules, looking for every possible advantage to increase their score by using "green" sources of electricity, obtaining press coverage, reaching out to the non-ham public or other opportunities to earn "bonus" points. For a great many, FD is a social event — a club barbecue with a couple of rigs running off a generator in the background.

You can take part in FD from home, in your car (boat, plane...), from the cottage, while camping with your family, or as part of the local club's effort. Before you make your first contact, however, you should figure out your exchange, and to do that, you have to know in what category you fit.

FD rules categorize entrants by two factors: the number of signals you transmit at any one time, and the kind of station you are operating. The first part of your category is simply a number. If you have only one transmitter going at any one time, you are a one-transmitter station. If two transmitters going simultaneously, then you're a two-transmitter entry. The rules provide no limit to the number of transmitters you may have in simultaneous operation.

As for the kind of station you are operating, there are five basic categories. Class A stations are club groups (you can even invent a club for the purpose - many do) or non-club stations with three or more operators. Class B are one- or two-person stations, not operated as a club. Class C are mobiles, whether on land, sea or air. Class D are the folks operating from home, using commercial power. Class E are those operating from home with "emergency" power, such as a generator, batteries, solar panels or a wind generator. Stations in Class D may not claim credit for contacts with any other Class D stations. Otherwise, everyone may work everyone else for QSO point credit. As well, there are separate sub-categories for Class A and B stations who operate exclusively from batteries and run five watts output or less.

So, let's say I go out with two of my buddies, and we decide to call ourselves the "Aylmer Radio Relay League" (I live in Aylmer, Quebec, you see) and we decide to operate two transmitters from a remote location using some form of emergency power source. That would put us in the "2A" category. If we decided to do the same thing from my house, we would be in the "2D" category, but if we used a generator for power, we would be in "2E." This FD, I actually plan to go camping with my family and some non-Ham friends. After everyone else goes to bed, I'll fire up my little HW-8, powered by a motorcycle battery. That would put me in the "1B" category, and should I decide to send in my log, I'll be sure to mark it "1B-Battery" to make sure they list me among the other flea-powered participants.

The second part of the exchange is your ARRL or RAC section. As I anticipate camping in Ontario, I will send everyone I work "1B ON" as my exchange. If you're not sure of your "section," your area in the ARRL field organization, please check with your local ARRL official. In all but the most populous states, it will be the same as your state.

A typical CW Field Day QSO might sound like this: Station 1: "CQ FD K8XXX K8XXX FD"

Station 2:"VE2SEX" (This station replies just by sending his or her call sign once.)

Station 1: "VE2SEX 2A MI" (K8XXX acknowledges the station to which they're responding, and sends the entry category and ARRL Section in which they're located. In this case, K8XXX is in the two-transmitter club category or with at least three operators, located in Michigan.)

Station 2:"R 4A QC" (VE2SEX informs K8XXX that they are running

Contest	Date/Time	Bands	QSO points	Multipliers	Exchange	Entry Categories	Entries
IARU Region 150 MHz	1400Z 6 June 1400Z 7 June	6M CW & Phone	1pt/km (to convert degrees to km mult. by 112.2	None	RST Ser# Grid locator	Single op using own equipment; All others	7 weeks CZ1EYN
Portugal Day Contest	0000Z 12 June 2400Z 13 June	80-10M SSB	1pt/CT,CU 3pt/others 0pt/own country	Portuguese districts and DXCC countries worked on each band	RST Ser# CT, CU will send name of district or region	Single op All Bands only	31 July P.O. Box 2483 1112 Listroa Portugal
Tbec Field Contest SSB (Sweden)	1200Z 13 June 1200Z 14 June	160-10M SSB	1pt/NA 3pt/DX 3pt/any mobile	Total of Maidenhead "Field" locators. The first two letters of your grid square are your "field."	RST + Grid square (1a. FN25)	Single Op: All band, low pwr, sgl band Multi-op: Single or multi-tx Single op entrants may not use PacketCluster	1 Mo. Box 2063 S-63102 Osterstand Sweden
WW South America CW (Brazil)	1500Z 13 June 1500Z 14 June	80-10M CW	1pt/VE 2pt/NA 4pt/DX 6 pt/S. America	DXCC + South American prefixes on each band. Final score is the sum of band-by-band scores	RST Ser#	Single Op: All bands, Single band, QRP Multi-op: Single or multi-tx	30 days Box 282 Rio De Jenairo 20001-970 Brazil
ARRL VHF QSO Party	1900Z 13 June 0600Z 15 June	50MHz	1pt/5M, 144MHz 2pt/220, 432 MHZ 3pt/942 MHz	Grid squares on each band	Grid squares	Single Op: Single or multi-band Limited (any four bands) Multi-op: Unlimited (all bands) or Rover	1 Mo. ARRL
All Asia CW	0000Z 13 June 2359Z 14 June	160-10M CW	1pt/20-10M QSO 2pt/80M QSO 3pt/160M QSO Work Asia Only	Asian prefixes worked on each band	RST Age (YLs may send DOB)	Single op: All bands, Single band Multi-op: Single or Multi-tx	30 July Box 377 Tokyo
West Virginia QSO Party	1800Z 21 June 2400Z 21 June	160-10M CW & SSB	1pt/SSB QSO 2pt/CW QSO 25pt for your first QSO with WVARC club station W3WVA	Stns outside of WV: WV counties (55) regardless of band. WV stns: WV counties, U.S. States, Canadian Provinces and territories, DXCC regardless of band	RST QTH	None indicated	15 July WA8WV or email: WA8WV@aol.com
ARRL Field Day	1800Z 27 June 2100Z 28 June	160M				Scoring is complicated. See QST for details	2 July ARRL

Addresses: *CQ* — 76 N Broadway, Hicksville, NY 11801 USA ARRL — 225 Main St., Newington, CT 06111. Call sign — Callbook address
Bands: The 30, 17 and 12M bands are never used in any contest. Official forms and complete rules may be available from me. Please send SASE for details.
for more listings check the contest page on the **Worldradio** web site: www.wr6wr.com

four stations from a location in Quebec.) Station 1:"TU K8XXX" (K8XXX thanks VE2SEX for the contact, and is standing by for other stations to call him. If he gets no response, he'll call CQ again.)

(VE2SEX, by the way, is the club call sign of the Groupe HF de l'Outaouais, a keen Field Day group in my region. Their call sign has a certain "appeal," does it not? QSL via VE2ZV)

The scoring system for FD is very complicated and detailed. You really should read the full text of the rules if you plan to submit an entry. These are available from ARRL for a 9x12-inch self-addressed envelope with four U.S. stamps (their address is "Field Day Package," 225 Main St., Newington CT 06111), they may be read on the WWW at www.arrl.org/contests/announcements/fd98.html, or by electronic mail. Send a message to info@arrl.org, with the following text on four separate lines in the body of your message: HELP, SEND FD.FRM, SEND FD.RLS, QUIT and the ARRL robot will respond almost instantly.

For Class A and B stations, keep the following incentives in mind when planning your operation: the rules allow 100 bonus points for each transmitter that you operate exclusively from emergency power; 100 bonus points for getting media coverage for your effort (or a valiant attempt); 100 for locating in a public place; 100 points for setting up an information booth to publicize Amateur Radio; 100 points for originating a formal message addressed to your ARRL Section Manager or Emergency coordinator reporting your activity; 10 points for each message you relay up to a maximum of 100 points; 100 points for making at least one contact via Amateur satellite; 100 points for making at least five contacts using some form of "natural" power; 100 points for

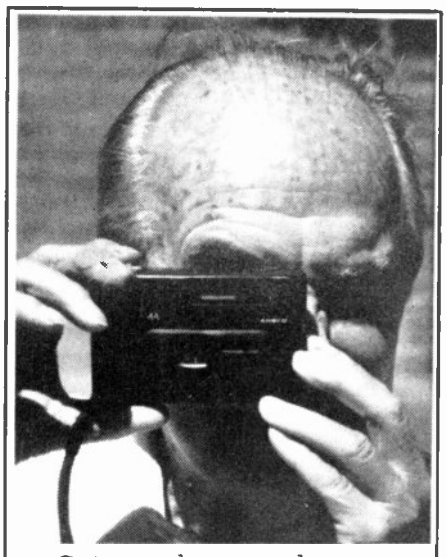
copying the official ARRL FD bulletin; 100 points for making at least one contact by packet radio; and 100 points for making at least ten contacts on frequencies above 50MHz. There are lots of bonus points to be made, and if you plan things right, these bonuses could well make you the top-scoring station in your section, or even the whole contest.

You may work the same station once on each mode on each band for point credit. Phone contacts are worth one point. CW, RTTY, Packet or other non-voice contacts are worth two points. If you run 150 watts or less, multiply your QSO points by two. If you run five watts or less or if you run a higher-powered station exclusively from some means other than commercial mains or a motorized generator, multiply by five.

Your Log

FD log requirements are a little different from most contests. ARRL doesn't require your full log, just a list of the stations you worked on each band and mode — what is otherwise called a "dupe sheet." You must also include a summary sheet, detailing your score, including all the bonus points you claimed. You must also include some evidence for the bonuses you claimed.

If you send for the ARRL FD Package, you will have all the official forms you require, but you may also want to use a computer to log. CT, NA and TR all handle FD and produce the required dupe sheet.



Got a cheap, cheesy little camera? Take a picture for ***Worldradio!***

If you participate as part of a multi-op group, make sure you list all the operators. You can be sure that they'll search for their call signs when they see the results in November *QST*, and no one likes to be left out.

So, is FD Really a Contest?

That, believe it or not, is actually a point of debate among contesters. Some embrace it as a great opportunity to introduce non-contesters to the sport, others denigrating it as solely an emergency communications exercise or a club social in the out-of-doors. No doubt there are many who take FD very seriously as a competitive event, plan in advance and refine their strategy, always seeking victory. I have to confess I normally come down on the "it's not a contest" side of the debate, but I am hard-pressed to provide an elaborate rationale for my view.

What really counts is that FD can be fun, competitive and a rewarding way to spend a weekend. What's more, it can give the hobby great publicity, and broaden the experience of every participant. And let's not forget, it is supposed to be an emergency preparedness exercise. The experiences you gain from FD may be (heaven forbid) useful someday.

Other contests in June

Mid-June is the peak of the summertime Sporadic-E (Es) season. Ten, six and occasionally 2 Meters may well come to life with stations. The ARRL VHF QSO Party is ideally-timed to take advantage of this annual propagation phenomenon, and if you can get on 6M or 2M CW or SSB, you would be well-advised to take part. Large numbers of people will be on all VHF and UHF bands, and this would be an ideal time to find new grids for your VUCC award. Another potentially interesting VHF contest is the IARU Region 1 (Europe and Africa) 50MHz Contest. If there's any transatlantic propagation possible on 6m, this contest will prove it out.

Other contests in June include the venerable All-Asia CW contest, where the world works Asia, the Swedish-sponsored Grid-locator contest, and smaller events focusing on Portugal, South America and West Virginia.

Good luck in the contests.

6 Meter Contest

SMIRK QSO party, 0000U 20 June — 2400Z 21 June. Contacts on 6 Meters only, voice or CW. No U.S. or VE1-VE7 contact between 50.100 - 50.125. Single operator only. Natural propagation only; no repeaters. Exchange call, SMIRK number (if you have one) and grid.

1 point for each contact. 2 points for each SMIRK contact. U.S. - VE1-VE7 multiplier of 2 for contacts above 50.2MHz. Multiplier of 2 for DX contacts by U.S. & VE1-VE7. Only on contact per station for score, but contacts made below 50.2 can QSY above 50.2 for x2 multiplier. Final score is points x grids worked. Log forms available at: http://6mt.com. Certificates for each high score in ARRL Sections, Maritime Provinces, Canadian Provinces and each DXCC country.

Logs due 1 August 1998 to: Pat Rose, W5OZI, PO Box 393, Junction, TX 76849. Send 6$ to above to join SMIRK (Six Meter International Radio Klub) and to get your SMIRK number.

"Electric Radio" Vintage Field Day

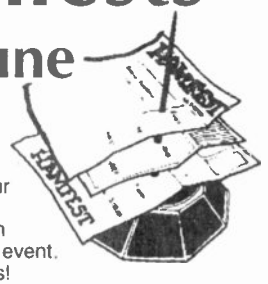
The 2nd Annual Electric Radio Field Day, starts 13 June at 7 p.m. local time, and ends 14 June at 7 p.m. local time. Participating stations must use vintage tube-type equipment, CW and AM modes only. "Only portable stations, actually in the field, away from home addresses are eligible to submit scores". Reports, due by 15 July, should include the log, (usual information), description of equipment used, power source, antennas, etc. We would also like a photo of your station. Reports and scores will be in the August issue of "*Electric Radio*". Send your reports to: Electric Radio, 14643 County Road G, Cortez, CO. 81321, e-mail: er@frontier.net

WTC beacon on 10 GHz

A 10-GHz beacon has been placed into operation from the top of the World Trade Center in New York City. The beacon, run by Larry Lipitz, NY2US, is at 10368.210 MHz and reportedly runs 80 mW to a six-slot antenna. The location is some 2200 feet above average terrain. Reports to NY2US. — *Del Schier, KD1DU, VHF Reflector, ARRL Letter*

Hamfests

June



Do you have a hamfest coming up? Send your information to our 28th St. office at least 2 months in advance of your event. We'll send prizes!

CONNECTICUT

The **Newington Amateur Radio League** will have its Flea Market 07 June 1998, 9 a.m.-1 p.m. at Newington High School, Newington CT. VE exams, no walk-ins. Admission is $5 (includes door prize ticket). Tables $15 each ($20.00 at the door). Dealers 8 a.m. set up. Talk-in: 145.45 (–). For information contact: Ralph Borriello, N1VIM 860/828-1695; r.borriello @snet.net

GEORGIA

The **ARRL Georgia Section Convention** (16th Annual Albany Hamfest) will be held at the Hasan Temple on Palmyra Rd., 12-13 June. Doors open to public Fri. 5-9 p.m., Sat. 9 a.m.-4 p.m. Features include VE testing Fri. at 6 p.m., outdoor flea market Sat. only ($10), forums and free parking. Talk-in: 146.82, Adm: $5 at door. Contact Arthur Shipley N4GPJ, AARC, P.O. Box 70601, Albany, GA 31708-0601, 912/439-7055, ashipley@isoa.net

ILLINOIS

The **Starved Rock Radio Club** Hamfest will be held at the Bureau County Fairgrounds in Princeton, IL. 07 June 1998. Doors open at 6 a.m. Advance tickets are $5 with 4 stubs before 20 May and $6 with single stub at the gate. Camping and outdoor flea market area is free. 8-ft. tables indoors, $10 ea. Talk-in: 146.355/955 PL 103.5. Contact Bruce Burton, KU9A. or Debbie Burton, N9DRU, 1153 Union St., Marseilles, IL 61341-1710, Tel. 815/725-2201; email: brburton @mtco.com

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The **Six Meter Club of Chicago, Inc.** will hold its 41st Annual Hamfest on Sunday, 14 June 1998 at DuPage County Fairgrounds, Wheaton, IL, west of Chicago. Admission $5. InfoLine: 708/442-4961. Gates open at 7 a.m. Talk-in: K9ONA 146.52; K9ONA/R 146.37/97 (107.2).

INDIANA

The annual "Dad's Day" Hamfest, sponsored by the **Lake County Amateur Radio Club** (LCARC, Indiana) will be 21 June, 1998 at the Lake County Fairgrounds, Crown Point, IN. Talk-in on 147.00, 146.52 & 442.075. There will be computers, software & hardware vendors. Setup 6 a.m., doors open to the public 8 a.m. $5 per person, tables $6 each. Food and beverages available. Contact Malcolm Lunsford, W9MAL, 6721 Harrison Ct., Merrillville, IN 219/769-3925 or w9mal@cris.com

KENTUCKY

The **Northern Kentucky Amateur Radio Club** announces Ham-O-Rama '98 to be held Sunday, 14 June at the Erlanger, Kentucky Lions' Park. Prizes and forums. ARRL sanctioned. Indoor exhibit area for major vendors. Extensive outside flea market with set-up at 6 a.m. General admission beginning at 8 a.m. Food and refreshments at popular prices. Admission $5 at gate ($4 advance). Children under 13 admitted free. Flea market spaces $2 each (tables not furnished). Indoor vendor space $15 per table (provided). Location: Erlanger Lions' Park; I-75 to Exit 184 (Route 236 East). Go one mile to Dixie Highway (U.S. Route 25 & 42). Turn right and go one mile to Sunset Avenue. Right on Sunset to end of street. For more information or advance registration, contact N8JMV c/o NKARC, P.O. Box 1062, Covington, KY 41012 or call 513/797-7252 (evenings). Talk-in: 147.255+ or 147.375+ repeaters.

MICHIGAN

The **Midland Amateur Radio Club** (M.A.R.C.), is sponsoring the 22nd annual hamfest, Saturday, 20 June 1998 at the Midland County Fairgrounds in Midland, Michigan. The show features amateur electronics and equipment (both new and used), Amateur Radio license exams, and door prizes. Doors open to the public from 8 a.m.-1 p.m. Admission is $4, advance reserved tables $6 each, trunk sale space $5. Food is available. Talk-in 147.00(+). For more information, write M.A.R.C. Hamfest, P.O. Box 1049, Midland, MI 48641. Please SASE, or call Jeff Weinberg at 517/636-0643(w), 517/839-9371(h),or e-mail: w8cq@bytethis.com

MICHIGAN

The **Independent Repeater Association** will hold their annually sponsored Hamfestival-West Michigan's largest hamfest, 6 June at the Hudsonville Fairgrounds near Grand Rapids. Doors open at 8 a.m. for general admission. Dealer setup, 7 p.m. on the 5th or after 6 a.m. on the 6th. Overnight camping is available. Bring your equipment, etc., to sell and trade. VE exams at 8:30 a.m. Admission $5 at the gate. Tables $8, trunk spaces $6. Book your reservations early to reserve the best spots. Contact Randy at 616/532-5450 from 4 p.m.-7 p.m. (EST).

MINNESOTA

The **Pine State Amateur Radio Club** is sponsoring a Hamfest 06 June 1998 8 a.m.-1 p.m. at Hermon High School (I-95 to Exit 44 (Cold Brook Rd.) North to US #2. Take US #2 one mile to the high school. From the Village take US #2 east to the high school.) Admission: $3 per person (under 12 free). Talk in: 146.34/94 146.52 simplex.

Features include tailgaters, dealers, VE exams(ARRL) all classes, demonstrations, display of chips and circuit components, old keys, old radios, a working station, ATV, food,

One major prize and many smaller prizes, ARRL and Section forum campgrounds and many motels within five miles. For information contact: Roger W. Dole, KA1TKS, RR #2 Box 730, Bangor, ME 04401; tel. 207/848-3846

NEW JERSEY

On 06 June 1998 the **Bergen Amateur Radio Association** will be holding its annual Spring Hamfest at Fairleigh Dickinson University. Buyer admission $5 with XYLs and harmonics free. Seller admission $10. Special features include VE testing, plenty of parking, food and restrooms. Take Rte. 4 east/west to the River Road exit. Follow the signs into the Hamfest area. Talk-in: 146.790 -600. For further information call Jim Joyce, K2ZO at 201/664-6725 please no calls after 10 p.m.

NEW YORK

The **Hall of Science Amateur Radio Club** Hamfest will be held at the New York Hall of Science parking lot 07 June, Flushing Meadow Corona Park, 47-01 111th Street, Queens, New York. Doors open for vendors to set up at 7:30 a.m. Buyers admitted at 9 a.m. Free parking, door prizes, food and refreshments. Admission by donation, buyers-$5, Sellers-$10 per space. Talk-in 444.200 repeat PL 136.5

For further Information Call at night only: Stephen Greenbaum WB2KDG, 718/898-5599; e-mail WB2KDG@bigfoot.com

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The **Long Island Mobile Amateur Radio Club** is holding its Hamfest on Sunday, 14 June 1998 at Briarcliffe College, 1055 Stewart Avenue, Bethpage, NY 11714, 9 a.m.-2 p.m. There will be Amateur Radio equipment, computers, dealers, ARRL and LIMARC information. General admission $6, children and sweethearts free. Vendor spaces $15, each space admits one person. Free parking for buyers. Food and refreshments available. Door prizes. For more information call the LIMARC 24 hour infoline: 516/520-9311 or on the web at www.limarc.org

OHIO

The **Goodyear Amateur Radio Club's** 31st Annual Hamfest and Family Picnic produced with the cooperation of the **Pioneer Amateur Radio Fellowship** and the **Silvercreek Amateur Radio Association** will be held 8 a.m.-4 p.m., Sunday, 14 June 1998 at Goodyear's Wingfoot Lake Park, near Suffield, Ohio, 10 miles east of Akron, OH. Entrance is from State Route 43, one mile south of 224. Admission $4 ($3 before 20 May 1998) Flea market space $5 ea. VE exams at 10 a.m. walk-ins only. Big drawing. Talk-in: 146.52/52, 146.985, 147.135, 147.390. Make checks payable to Ken Phillips, K8CHE, 351 Hillman Road, Akron, OH 44312.

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The **Medina 2 Meter Group** is sponsoring the Medina County Hamfest on Sunday, 07 June 1998 at the Medina County Fairgrounds Community Center, 735 Lafayette Road, Medina. Vendor setup, 6:30 a.m. Open to public 8 a.m.-3 p.m. Admission $5 at the door, $4 in advance. Vendors $10 per table (Advance $9). Flea Market $8 per space (Advance $7). Call 330/725-0119 for information about VE testing. For information contact: Medina Hamfest Committee, P.O. Box 452, Medina, OH 44258 w/ SASE.

PENNSYLVANIA

The **44th Breezeshooters'** Hamfest will be held Sunday, 7 June, 1998 from 8 a.m.-4 p.m. on the Butler Farm Show grounds, just north of Butler, Pennsylvania. Admission is $5 per person, under 12 admitted free. To reach the hamfest, take PA Rt. 68 East from Interstate 79 or take US Rt. 68 West from PA Rt. 8. Talk-in will be available on 147.96/.36.

Acres of tailgating spaces are available for $5 each. Dealers will be interested in the 200 indoor vending tables available at a cost of $15 per table, rented in advance, first come, first served. Deadline for reservations is 15 May. To reserve a table, send check for $15/table and SASE to: George Artnak, N3FXW, 3350 Appel Rd., Bethel Park, PA 15102, or call the Breezeshooters' Hotline at 412/854-5593 or via e-mail to: geoart@usa.net

Facilities are handicapped accessible; great food vendors. Check out the Breezeshooters' Web Site for additional information at: www.users.sgi.net/~wolfie/

WISCONSIN

The **Central Wisconsin Radio Amateurs** will hold its 21st annual Swapfest and Auction Sunday, 07 June. Junction City, WI at the U.S. Army Reserve Center. Indoor facilities are three times larger than last year. Huge paved parking lots for the tailgaters. Indoor dealers unload at the tables. Saturday setup and security. ARRL exams at 9 a.m. Food all day long. The big auction starts at noon. Talk-in: 146.670 WB9QFW/R and 146.985 W9NN/R. Junction City is 12 Miles west of Stevens Point, WI on US 10. For more information please call, write or e-mail John Feltz, W9JN, 973 E. First St., Junction City, WI 54443-9614; Tel.: 715/457-2506; e-mail: jfw9jn@tznet.com

New satellite tracing antennas arrive in Moscow

John Heath, G7HIA, reports on the AMSAT bulletin board that Leonid Labutin, UA3CR, has received the new satellite tracking antennas and rotor sent to him. In a packet message received by G7HIA, Leo confirms the safe arrival of the package in Moscow. Leo also sends his thanks to everyone who made a contribution to getting the new gear to him.

The package included all of the QSL cards he had received from stations who worked RS3A with a request to Leo to send QSL cards in return. — *AMSAT-NA BBS, Newsline*

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

DJ-C5T

Alinco has announced the introduction of the DJ-C5T, a "credit card" Handy-Talkie (HT) Transceiver designed to operate on the popular 2M (144-148 MHz) and 70 cm (420- 450 MHz) bands. The new HT, only slightly larger and thicker than a credit card, features an internal speaker, runs on an internal lithium-ion battery, has 50 memories, CTCSS encode and decode and includes AM aircraft band receive.

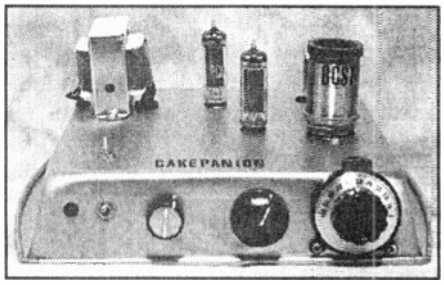
Featuring a removable flexible rubber-coated antenna, the transceiver can be carried by persons wearing business attire and it can be all but inconspicuous; hidden until needed. The lithium-ion power is long-lasting and recharges quickly, in two hours or less.

Lithium-ion batteries are also free of the "memory effect" often associated with NiCd power sources.

The DJ-C5T sports a small speaker that generates surprising audio. The transceiver can also utilize a variety of speaker/mic combinations and its accessories are interchangeable with the DJ-C1 and DJ-C4 models.

Among the features to be found are CTCSS encode and decode, programmable European tone bursts, 50 memory channels plus a "call" channel, adjustable offset (to 15.995 MHz), AM Airband receive, extended VHF receive (118-173.995 MHz), full coverage of the UHF amateur band (420-449.995 MHz) adjustable tuning steps, auto power off feature, battery save setting, MARS/CAP capability, packet radio capability and more. The radio comes with a clear plastic case and a "snap-in" charging unit.

The DJ-C5T is expected to be available at Alinco dealers in early May. Alinco's MSRP has been announced at $239.



Cakepan Kits!

Vintage Radio Kit Company announces the new 1998 catalog is now available. The kit features receivers and transmitter using that tried-and-true TUBE! Yes, these kits actually feature the old technology that we grew up with.

The CP ("Cakepan") CW5 is a 5-watt QRP transmitter installed in an upside-down cakepan! It is 9x9 inches and weighs less than five pounds. It operates on three bands, 160, 80 and 40 Meters using custom-wound plug-in coils, and puts out 100 milliwatts to 5 watts at 50 ohms. This little jewel also can transmit in AM, with broadcast quality audio. Assembly time is approximately eight hours, or you can order it fully assembled and tested.

The "Cakepanion" is a continous coverage regen receiver using plug-in coils. A Vernier dial tuning is available for amateur service. This unit features solid frequency stability and ultra sensitive reception and provides Hi Fi-quality 8-ohm audio output.

The CP5TR kit combines the two units into a very nice, compact QRP transceiver that you can take anywhere. For more information call: 781/784-0847 8-5, M-F, Eastern time. Email: CPCW5@aol.com or visit their website at: www.mnsinc.com/bry/vintage.htm

TX70-10 ATV Transmitter

The new P. C. Electronics TX70-10 ATV transmitter puts out more than 10 watts in the 70cm band (420-450 Mhz) continuous duty. This fast scan ATV transmitter is designed for those who already use their cable ready TV set on channels 57 through 60 or have a downconverter to receive. Also there may be those that only need the transmitter on 70cm while receiving a local crossband ATV repeater or public service applications where only the transmitter is necessary. There is a built in T/R relay to switch between the external ATV receiver or transmitter and the antenna. The unit is packaged in a rugged 7.3x4.7x3.3inch die cast aluminum box. With 10 Watts peak envelope power, the snow free line-of-sight DX, assuming 15.8 dBd Yagi's is 90 miles, which is more than enough for most local ATV repeaters for good color and sound. However, there are adjustable power controls to properly drive the RF Concepts 4-110 100 watt or 150 watt Teletec DXP-U150 linear amplifiers for greater DX or pushing through non line of sight conditions.

The front panel RCA jacks accept video and audio from most all camcorders, cameras or VCRs. You can transmit live action color or black and white video. A video monitor jack

outputs the camera video while in receive mode to enable setting up the focus and lighting before transmitting, and then presents the actual detected composite video in transmit so you can "fine" adjust the video gain. There is a low impedance mic jack for mixing with the line audio input to allow voice over commenting while showing your home video tapes to other amateurs. The PTL jack (Push To Look — after all this is video) is in parallel with the transmit/receive toggle switch.

This transmitter is AM, same as broadcast TV! So all you need to receive is a down converter and a TV set. There are no computers or any other black boxes required for fast scan TV — just your camera, TV set, 70cm antenna and 13.8 Vdc regulated power supply at 3 amps. The down converter output uses a BNC and the common Antenna is type N. The TX70-10 comes with one crystal which you must specify — 439.25, 434.0, 427.25 and 426.25 MHz are the most common and stocked frequencies. A second front panel selected crystal is available as an option for $20. There is also a repeater transmitter version, the RTX70-10

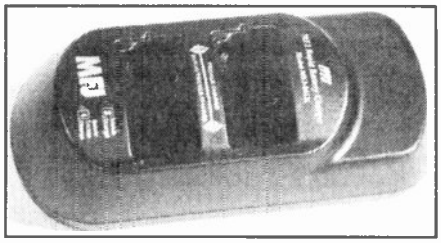
Price is $439 delivered UPS surface in the contiguous USA and sold only to licensed Radio Amateurs for legal purposes. For more information, call, write or email for their complete 10-page ATV catalogue from P. C. Electronics, 2522 Paxson Ln, Arcadia CA 91007; tel. 626/447-4565, email: tomsmb@aol.com; Inquiries to Tom O'Hara, W6ORG

MFJ RapidBattery Charger

MFJ's new RapidBattery charger is a battery charger with both quick and trickle charger will charge both Ni-Cd and Ni-MH batteries.

It uses MFJ's exclusive RapidBattery microprocessor technology to examine whether the battery is fully charged — this prevents overcharging and prolongs the life of your KENWOOD batteries.

MFJ-641K has a charging status



LED indicator. MFJ's battery charger also automatically switches from quick charge to trickle charge. When your battery nears fully charged, it pulses small doses of energy until the battery is fully charged. This also eliminates "over cooking" your expensive HT batteries.

MFJ's universal interchangeable battery slots eliminate installing complex battery chips and the possibility of mix-setting voltages that could destroy your expensive batteries. Your MFJ-641 K is supplied with one charger slot. Extra charging slots are available for other HTs, at $12.95 each. The MFJ-641K covers KENWOOD HT batteries PB-6, PB-7, PB-8, PB-9, PB-II, PB-30, PB-32, PB-33, PB-34; KNB-5, KNB-6, KNB-7, KNB-5A, KNB-6A, KNB-7A, and KNB-9A.

MFJ's RapidBattery KENWOOD Battery Charger comes with MFJ's famous No Matter What one-year limited warranty. That means that MFJ will repair or replace (at our option) your battery charger for one complete year.

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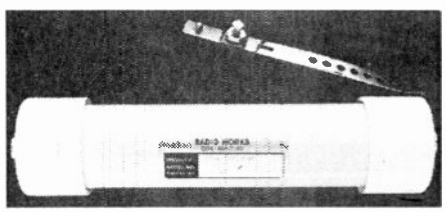

T-4G Line Isolator

The RADIO WORKS' new T-4G Line Isolator is an unbalanced, current-type device that is very effective in reducing stray RF on a coaxial cable's shield. This unwanted stray RF is often the result of antenna imbalance or direct pickup from the antenna. Line Isolators are indispensable in solving RF ground loop problems that upset the operation of modern ham gear. Line Isolators remove stray RF without having any affect on the signal carried by the coax.

Technically, the T-4G, a grounded Line Isolator, achieves the maximum possible isolation by providing a direct path to ground for stray RF traveling along the outer surface of the shield of coaxial feedlines. Further, with the T-4G, stray RF on the coax does not see a secondary path to you station equipment because of the extremely high inductive reactance of the Line Isolator's windings. Winding reactance is as much as 50% higher than with previous models.

If a direct earth ground is not available and the copper ground strap is not needed, the T-4 is available. It is used just like all previous RADIO WORKS' Line Isolators, but produces a 50% improvement in isolation over earlier models. The T-4 is inserted in series with coaxial cable connecting your transmitter to your linear and between your linear and your transmatch. RF in the radio room can cause TVI, RFI, and RF feedback problems and the installation of Line Isolators is often the best and sometimes the only solution to these problems. The T-4 replaces the 4KV-LI, and the T-3.

The introductory price of the T-4G is $33.95 and the T-4 is $29.95. They are available from the RADIO WORKS at 1-800-280-8327. Complete information is available on the World Wide Web at <radioworks.com>. The paper version of the RADIO WORKS' General Catalog is available, free on request. Email your request to Jim, W4THU at jim@radioworks.com or call the 800 number. You can also write or call the RADIO WORKS at Box 6159, Portsmouth, VA 23703. Telephone 757/484-0140 or FAX 757/483-1873.

Channel Islands 10-10 Chapter

With 10 Meters becoming very active, check out the Channel Islands Chapter's "10-10 International." The group holds a popular net every Wednesday, 1800 UTC, and again at 0200 UTC. Non-members are welcome. For more information, send E-mail to rcnoll@ix.net com.com — *various sources*

VE exam schedules

As a service to our readers, ***Worldradio*** presents a feature listing of those VE exams, times and locations which are sent to us. Please remember that our deadline for publication is three months in advance. For example, if your VE group is scheduling an exam for December, please have the information to us by mid-September. ***Worldradio***, 2120 28th St., Sacramento, CA 95818. Please mark the envelope "VE Exams." List the location (City), any information examinees should have (advance registration, etc.) and the name and telephone number of a person to contact for further information. Examinees should bring their original license (along with a photo copy), two forms of identification (at least one should be a photo), and required fee.

p/r pref=pre-register preferred but w/i OK
p/r=pre-register only—no w/i
w/i=walk-in only
w/i pref.=w/i preferred to p/r

State	City	Contact	Notes
Arizona			
7/11/98	Tucson	Joe, K7OPX 520/886-7217	w/i
Arkansas			
7/18/98	Gassville	Phil, AB5ZU 870/425-7406 after 4:30 p.m.	p/r pref.
California			
7/18/98	Clearlake	N6UZQ, 707/994-1133	w/i
7/23/98	Colton	Harold, AB6RN 909/825-7136 days; 909/685-6073 eves	p/r pref.
7/25/98	Culver City	Scott, K6PYP 310/459-0337 or Dave, N3BKV 818/559-2572	w/i
7/04/98	Culver City	Clive, AA6TZ 310/827-2538	w/i pref.
7/11/98	Cypress	Harrison, AC6TI 414/952-6114	w/i
7/25/98	Escondido	Harry, WA6YOO 760/743-4212	p/r
7/07/98	Fremont	Dennis, K6DF 510/791-0914	w/i only
7/05/98	Hanford	Carleton, AA6GZ 209/924-4221	w/i only
7/11/98	Harbor City	Elvin, N6DYZ 310/325-2965	p/r
7/25/98	Lake Isabella	HR HOTLINE 760/379-2947	p/r pref.
7/27/98	Montclair	Steve, 909/597-2249	w/i pref.
7/05/98	Oakland	Vern, AA6YE 510/233-4504	p/r pref.
7/18/98	Pablo Verdes	Paul KITKL 310/644-2271	w/i
7/18/98	Redwood City	Joe, KB6OWG 408/255-9000	w/i only
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Silent Keys

(Continued from page 24)

LARRY GASCH, W3SFY

Noted amateur Lawrence L. "Larry" Gasch, W3SFY, of Gaithersburg, Maryland, died 25 February 1998, after suffering a stroke. He was 70. Gasch had been licensed for almost 50 years and remained active until his death. After a tour with the U.S. Navy, he spent 25 years at the Naval Research Laboratory in Washington, DC, where he designed antennas. Gasch was a member of ARRL, a past president of the Old Buzzards Radio Club, and a member of the Board of Directors of the Montgomery Amateur Radio Club, where he taught Morse code classes. Gasch also was an ARRL Volunteer Examiner and was proud of the fact that eight members of his family also had become Hams. — *Peggy Kelly, N3PPG; Kay Craigie, WT3P, ARRL Letter*

MILO HNILICKA, AJ1S

Renowned inventor and researcher Milo P. Hnilicka, AJ1S, of Harvard, Massachusetts, died 22 February 1998, following a brief illness. He was 85. A native of Czechoslovakia, Hnilicka was credited with inventing freeze-dried coffee and space blankets. During his active career, Hnilicka was chief scientist at the National Research Corporation in Cambridge and held 28 U.S. patents in the area of cryogenics and vacuums. Other achievements include the development of simulators used for training astronauts. He also holds two patents associated with motion picture sound recording. Hnilicka has been listed in *Who's Who in American Men in Science*. He retired in the mid-1970s. Survivors include his wife, Lili, KA1CDP, and two daughters. — *Donald Strang, N1PPS, ARRL Letter*

CLIFF LAVERTY, W1RWG

Former ARRL New England Vice Director and Maine Section Manager Cliff Laverty, W1RWG, of Norway, Maine, died 29 March following a long illness. He was 80. Laverty served as Maine Section Manager from 1980-87, and as New England Division Vice Director from 1989-91. Laverty also held other field volunteer positions, including Maine Section Traffic Manager. A graduate of the University of Maine and the University of New Hampshire, Laverty was a retired teacher. Previously he worked as a flight radio officer for Pan American Airways and for the military during World War II. He also served as a Merchant Marine radio op and as a telegraph operator for the Boston and Maine Railroad. Laverty belonged to the QCWA and was a longtime member of the Yankee Radio Club in Maine. — *ARRL Letter*

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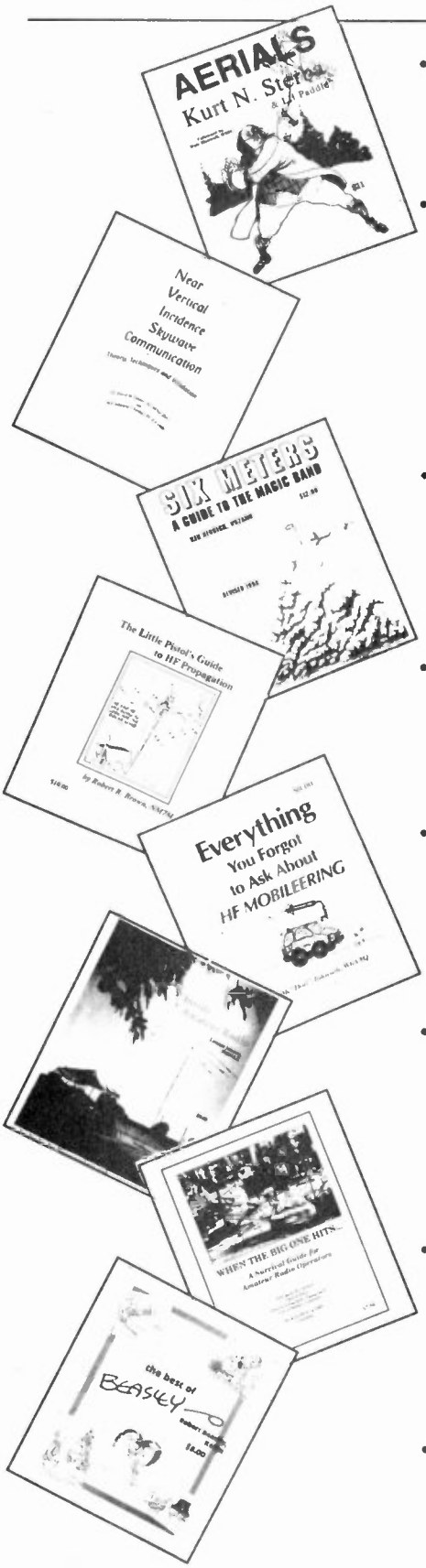

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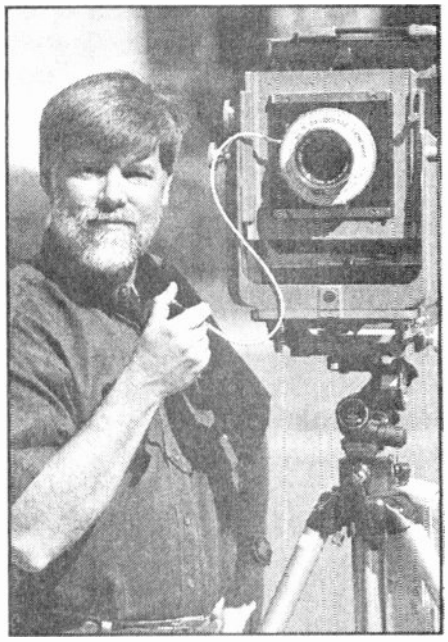
SARL beams Amateur Radio into classroom

The South African Radio League is taking science and technology into the classrooms of southern Africa with a weekly half-hour shortwave broadcast, "Talking Science with Amateur Radio." The program is broadcast to schools Tuesday mornings (7205 kHz) with repeats on Wednesdays, Thursdays, and Fridays. The program is a joint venture of the SARL and the South African Amateur Radio Development Trust and is sponsored by Sentech, the common carrier for broadcasting in South Africa. The program will cover a variety of scientific and technological subjects. Amateur Radio and shortwave listening as educational aids in the classroom also will be featured. — *SARL/SAART, ARRL Letter*



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New RTTY Journal

A little more than a year after the demise of *Digital Journal* (formerly *RTTY Journal*), Bill Henry, K9GWT, has debuted *The New RTTY Journal*. Henry, president of HAL Communications Corp, purchased the assets of the failed publication from Dale Sinner, W6IWO, who published the magazine from 1986-94 and to whom ownership had reverted when the International Digital Radio Association (IDRA) ceased publishing it last year. The publication had published continuously for 45 years.

Henry says he'll try for a "leaner" magazine, and will start with a quarterly publication. He called the short issue, Vol 46, No 1, as "the first step in the recovery" of the magazine and expressed hopes to begin regular printing this summer.

The introductory price for a subscription (16 pp., Feb., June, Aug., Nov.) will be $12.00 (U.S., Canada, Mexico); $17 elsewhere. After 01 June, the price goes to $15 for U.S. and $20 elswhere. All issues will be sent air mail. For information, contact Bill Henry at HAL Communications Corp, 1201 W Kenyon Rd, Urbana, IL 61801; tel 217/367-7373; e-mail: ghenry@hal comm.com; http://www.halcomm. com — *ARRL Letter*

Florida floods

Northern Florida amateurs responded when heavy March rains and strong winds resulted in flooding. Many rivers and creeks overflowed their banks.

Meanwhile, in Florida's West Panhandle, ARES personnel manned the Walton County EOC and a Red Cross shelter 08 March. According to Northern Florida Section Emergency Coordinator Nils Millergren, WA4NDA, a mandatory evacuation began 11 March along the Apalachicola River in Gulf County. Millergren says that as the emergency widened, an amateur was stationed at a shelter at Bonifay in Holmes County. ARES members in Florida's East Panhandle District were kept busy tracking the Chipola River. — *via ARRL, Newsline*

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