Worldradio

Year 24, Issue 4 October 1994 • $1.25

FEATURED IN THIS ISSUE

Goldsboro, NC — Possum crossing

Kenosha, WI — SATERN disaster seminar

Los Cedros Island, Mexico — Inadvertent DXpedition

San Francisco, CA — USS *Pampanito*

Tucson, AZ — Packet radio


Worldradio

Year 24, Issue 4

October 1994 • $1.25

The inadvertent DXpedition

JOHN KAUKE, N6JUO

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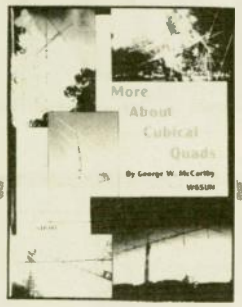

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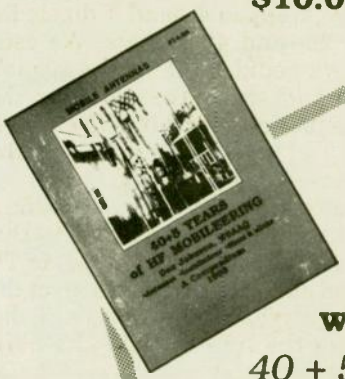

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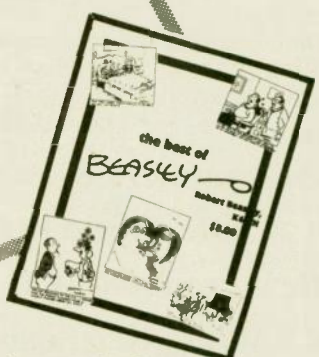

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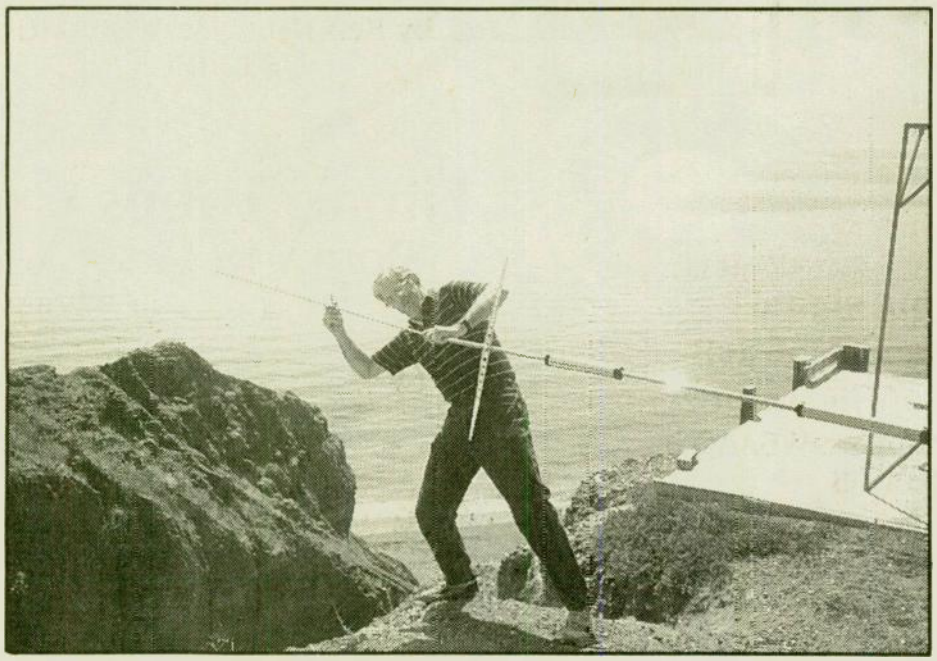

The inadvertent DXpedition

JOHN KAUKE, N6JUO

As antenna Elmer of the Westside Amateur Radio Club in Marina del Rey, California, I have been criticized for not setting down antenna advice in writing often enough. Now this is a broad subject, and no single system will fit every bill. A phone call or two every month brings a question concerning what antenna is best for a given location and need.

In early May I received a telephone call from Dix Roper, KD6JWF, which really caught my imagination. Dix owns a house on Cedros Island, which lies roughly 450 miles south of Los Angeles, and some sixty miles west of the Baja California coast, in the Pacific Ocean. Dix asked me for a recommendation on what rig to purchase and what type of antenna he should install to maintain reliable communication with Southern California, as well as for QSOing in general.

The island supports several thousand people who are engaged in the seafood and salt industries. The public utilities are crude and spasmodic, meaning the station should be power self-sufficient. Dix already had a bank of 12 volt batteries and an automatic charging system that charged whenever the town's power utility plant chose to generate power, which depended on how much diesel fuel they had on hand at any given time. A 12 volt powered, 100 watt HF transceiver was the obvious choice, and I recommended the Kenwood TS 450 with antenna tuner.

Selecting an antenna for the location, sight unseen, was a little more difficult. The only sizeable trees on the island are Cedar trees (hence the name of the island) which grow along the mountainous ridge some 3000 feet above sea level. The soil on the island has very poor conductivity, meaning it would be difficult to provide a good ground system for a vertical antenna. Digging holes and building a tower would require all materials be flown in.

Our means of transportation to the island was to be a Piper Apache aircraft. After considerable examination of specs and packing dimensions, I chose the Create Design 730-1, which is a rigid, trapped 4-band V dipole for 10, 15, 20, and 40 Meters. We estimated we could fit it in the plane's interior and still have room for the pilot, Kent Tarver (ex-W4TBB), as well as Dix and me, along with all the provisions we were taking.

The antenna was to be mounted on a ten foot water tower adjacent to Dix' house, so we took along ten feet of TV mast and clamps so we could erect the V dipole above the water tank. I also took along the MFJ-249 HF/VHF SWR analyzer, which proved to be worth its weight in gold.

We departed the Los Angeles area on Friday, May 27th, at roughly 11 a.m., and flew nonstop to Ensenada, Mexico, where we cleared customs, refueled, and took off for Cedros Island. We landed about 2:30 p.m. on a paved landing strip. We were met by the airport's sole inhabitant-a taxi driver who drove up to the plane offering his services. Happily, he had a roof rack, and we were able to get all our gear and ourselves aboard and head for Dix' home on the far side of the village.

That evening we installed a homemade wire vertical for use on 20 Meters and made a couple of contacts. We then made our plans to install the V dipole the following morning.

We had the antenna assembled and ready to test before erecting it on the water tower in a matter of a couple of hours, and found 10, 15, and 20 Meters were all under 1.5:1 SWR. Only the 40 Meter portion of the trap dipole required tuning, and we set it up for resonance in that portion of 40M occupied by the maritime mobile nets. By midafternoon we were on the air making contacts on all four bands with excellent reports. I should add that Dix' house is located approximately 200 feet above the beach and overlooks the Gulf between Cedros Island and Baja California; an ideal site.

Around 5:30 p.m. we were tuning around the 20M band looking for a clear spot and happened to land on 14.260. Not realizing the customary use of that frequency, I called a short

(please turn to page 61)

World Radio History

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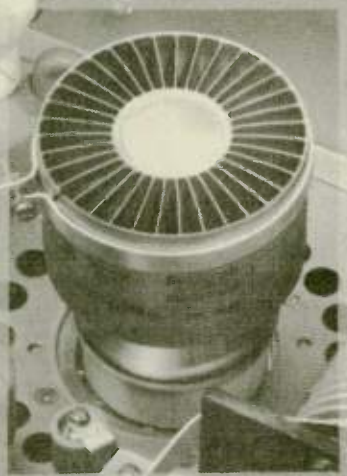

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World Radio History

SATERN disaster services seminar

ANN SHAVER, WH2E

Inspector John J. Laffee, New York Police Department, will discuss the 1993 World Trade Center Bombing and the role of Amateur Radio volunteer communicatiors at the third annual Disaster Services Seminar, sponsored by the Salvation Army.

The seminar will be held at Camp Wonderland, near Kenosha, Wisconsin. Beginning at 6 p.m., Friday 14 October, the conference ends 16 October after lunch. Open to all emergency services volunteers, including but not limited to Amateur Radio operators, the program features a variety of speakers.

Other speakers will address such topics as the San Fernando Valley earthquake, firefighter rehabilitation in disasters and emergency antenna systems. In addition, small group workshops will give participants an opportunity to explore in more depth topics of particular interest.

Camp Wonderland is located in a wooded, rural area, and the program includes ample time for relaxing as well as getting acquainted with a wide range of emergency service personnel. SATERN (Salvation Army Team Emergency Radio Network) will sponsor special event station WW9E during the three-day conference. A Volunteer Examiner team plans to hold upgrade testing on Saturday, 15 October.

There is a $25 registration fee for the conference. This includes two nights' accommodations at Camp Wonderland, meals and workshop materials. Preregistration is mandatory. For further information or to apply for this worthwhile, enjoyable weekend, contact Della Garcia, Emergency Disaster Services, Salvation Army, Metropolitan Division, 5040 N. Pulaski, Chicago, IL 60630.

All amateurs interested in sharpening their emergency service skills are invited to attend. Participants need not be members of either the Salvation Army or SATERN, but watch out! A blatant attempt will be made to interest participants in SATERN. **WR**

Risky business

The recent story about hot dogs and health originated in the *Los Angeles Times* and was widely circulated via its news service. Not heard on TV recaps was a statement by the study's originator, University of Southern California epidemiologist John Peters, who said that the hot dog indictment was "part of a little side questionnaire to our study on electromagnetic fields. We were as surprised as anyone," Peters said, "by the hot dogs findings. . . It was the biggest risk for anything we saw in the study — about four times the risk for EMFs." —*The ARRL Letter*

Let there be...

The Bishop ARC has a site on the summit of Silver Peak which towers above the desert town of Bishop, California. Keying your handheld on simplex frequency 146.43 MHz (numeral 5, for five seconds) will turn on a 150 watt floodlight aimed at Bishop for about one minute. How is that for a demonstration of Amateur Radio for your non-ham friends? —*Bishop ARC Newsletter*

The whale story

Eagle-eyed reader Richard Surber, N6YES, recognized the "Whale of a story, *The Far Side* comes to life in Oregon" in last month's issue, page 76, as the work of humorist Dave Barry. His book, *Barry Talks Back*, Crown Trade Paperbacks, publisher, contains the original story.

No wonder it was such a good story! Mr. Barry's work is extremely funny.

Thanks to Mr. Surber for letting ***Worldradio*** know the actual source of the piece, and of course, to Dave Barry and Crown Trade Paperbacks for doing the story in the first place! We are pleased to be able to give him proper credit. —*KB6HP*

CONTENTS

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World Radio History

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

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

We emphasize the positive aspects of this great activity, and desire your contributions dealing with dramatic, personal and humanitarian uses of Amateur Radio.

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PUBLISHER'S MICROPHONE

Your best ham buddy bought a Bentley, so you bought a Rolls. Your pal kept a jar of Grey Poupon at the ready. You got a case. He bought a cellular phone. You obtained two, so you could put him on hold. Then you saw your rival going up to the drive-through window at Tiffany's. Uh-Oh, it's time for the ultimate in One-Upmanship. Join the ***Worldradio*** SuperBoosters (Lifetime Subscribers)! The latest to do so are:

- Francis Gallo, WV2M, Fishkill, NY
- John Ward, KE2ST, E. Bloomfield, NY
- Paul McBride, W3ILG, and Althea McBride, WB3FUR, Williamsport, PA
- Joel Michello, KQ4ET, Virginia Beach, VA
- Chris Barbb, N8QLU, Melvindale, MI
- Les Hovland, AAØGY, Seneca, MO
- Jerry Hapner, KC5BFK, Sapula, OK
- Tom Worth, N5LWT, Enid, OK
- Mark Gustoff, WO7T, Tempe, AZ
- Gerald Pollack, WR6N, Fremont, CA

•

And, if the above mentioned WR6N wishes to use for his phonetics "**World Radio Six News**", he certainly has our permission. We hope he will go into the next Sweepstakes contest and make at least 1,000 contacts.

•

Also, we wish to thank the above mentioned KC5BFK for visiting us in Sacramento last month. We were pleased to meet him and his lovely XYL, Sharon, for an "eyeball."

•

Ken Miller, K6IR, Rockville, MD, wrote in about comments in this column in the July issue. "I am so pleased that someone has faced the issues of operator discipline... or the lack thereof and the proper attire... or lack thereof.

"The concept of tape recording needs to be considered at close intervals to emphasize and underscore the disgraceful practices that occur on our very precious Amateur Radio frequencies.

"Second, the topic of proper attire at the prime social events at our Amateur Radio operator gatherings is right on target. Attendees need not be attired as though they just stepped out of a page of *Gentlemen's Quarterly*, but it seems reasonable to show respect for each other and to dress as good social graces for the event suggest."

•

I've been reading the book "MARS: Calling Back To 'The World;' From Vietnam" by Paul Scipione, AA2AV. He says it took him 1,000 hours of work. I believe it and he must be a fast worker. The book is $22 plus $3 for shipping and handling. You may order it from the Center for the Study of the Vietnam War, 6354 N. 12th St., Kalamazoo, MI 49009. Make the check payable to Robb Adams, who is WA9ZMO.

In going through the book I saw a squib by friend Steve Hall, WM6P, who was at Dong Tam. Also, on this end of the circuit, were writings by Irma Weber, K6KCI, and ***Worldradio*** YL columnist Kay Eyman, WAØWOF. There was one page dedicated to the late Lenore Jensen, W6NAZ, who ran 40,000 phone patches, and there was a picture of Sgt. Ray Benny, 1971, now N6VR. Ray, did all of us really look that young once?

There was a picture of the MARS station at Dong Ha. That brought back memories. Should anyone think that MARS stations were back in some safe area (wherever that was supposed to be) such was not the case. In early 1967 (I was a civilian correspondent), I had just left the MARS station after visiting and in came the big Russian rockets. One hit the fuel dump and it became like daylight. I lay on the ground and pulled a sandbag over my head.

Thanks to *The Feedline*, newsletter of the Johnson City (TN) Amateur Radio Association for their nice mention of this magazine.

•

We see lots of FCC petitions and preliminary proposals written by amateurs. The greatest number seem to be by the anti-CW crowd who seem to want to give all HF privileges to those who pass a 5 wpm test or to not have any CW test at all. Let's imagine that such folks prevail and that, along with an even more relaxed theory test, two million people (one out of every hundred in the U.S.) get licenses and get on HF. The bands become so totally congested and chaotic that the FCC declares that the only salvation is narrow bandwidth transmission CW and thus SSB is restricted to above 28 MHz.

•

On a more serious note. Has the use of the term "ham" hurt our public image? Perhaps even using the word "amateur" is also pejorative, considering law enforcement and government agencies advise us to avoid it. "Amateur" (not-for-money) pilots are called "Private Pilots." Renaming may be worth some thought.

— Armond, N6WR

World Radio History

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World Radio History

Possum crossing

MARG FERGUSON, KE4CLV

It's nearly 7 a.m. on a Monday morning, and the sun is rising starting a new week in the city of Goldsboro, North Carolina. Other ham operators in the area and I are turning our antennas toward Clinton, North Carolina. Our 2 Meter rigs are tuned to 146.79. We're waiting for a unique net called "The Possum Trot Net" to begin.

We hams talk around the world, help with emergencies and adhere to FCC regulations. Amateur Radio operators also have the reputation of being serious and not condoning foul language. Strictly speaking, we *are* serious. We police ourselves to assure that our conversations are fit for children, family, and friends. We're very serious about our radio shacks and rigs. Those are hard-earned dollars we put into what non-hams consider just a hobby. Hobby it isn't: lifestyle it is.

This net shows a side of ham operation that non-hams don't see-or rather don't hear. It is living proof that you can enjoy life while still obeying rules.

The net control, and Possum Trotter Number One, is Ermon Godwin, Jr., WA4LZD, whom we lovingly call "the Judge." The net began January 25, 1977, on 146.91(-). Another started September 14, 1977, on 146.94(-) and a third on January 21, 1991 on 146.79(-). There are members in every state except Idaho, Iowa, New Mexico, and North and South Dakota. We have members in three Canada provinces — Nova Scotia, Ontario and Quebec. I should have stated that the Possum Trot Net is both unique and international. Besides Canada, countries which have members include Peru, Panama, Greece, Belgium, England, France, Germany, Republic of South Africa, Australia, Ireland, Liberia, Sweden and we have just added Turkey. As of 15 April, 1994, there have been 402,615 check-ins.

The 146.79(-) machine is but one of three Possum Trot Nets to be on the air Monday through Friday mornings. At 6 a.m. in Fayetteville, North Carolina, the 146.91 repeater hosts the net, and averages 45 to 50 check-ins. Also starting at the same time on 147.225 is Hillsboro, North Carolina's net, with an average of over 100 check-ins each morning. At 7 a.m., it's 146.79(-), in Clinton and Goldsboro, with 12 to 16 check-ins each morning. We are young and still growing.

The possum is a very appropriate symbol for an Amateur Radio net. I knew little about the possum before joining the net. I have since done some research on the critter and found it is one of America's oldest wild animals and our only marsupial. This slow moving, physically preposterous and ungraceful animal has roamed North America for some 70 million years. It has managed to survive evolutionary disasters that have obliterated other species. "Home" is where the possum finds it. It is tough — and its determination to survive is unequaled.

Early in Amateur Radio history (after the ban on international communications imposed during the first World War) Amateur Radio steadfastly reasserted itself. Washington found the amateur population tough, and determined to survive — just like our possum mascot.

Hillsborough has been nicknamed "Hog town two." The Judge does like his nicknames! A few of ours are "Cedar Creek Chuck," KD4FLI, "El Presidente," K4EHZ, "Mickey Mouse," KK4MM, and the youngest Possum Trotter, Jennifer, whom we call our Possumette. She is the daughter of David, KR4OE, and celebrated her first birthday May 15, 1994. Jennifer gets up with Dad and tries to take the mike from him most mornings. She's a third-party member. Rare, wouldn't you say? I am called "Bikini Lady." This brings a wide smile to the faces of all who know me. Imagine; fifty-four, (not twenty-four) more a plump than an hourglass figure, and no soft blond curls but "snow on the mountain."

I was given this nickname when I was initiated into the net. Oh yes, we have an initiation to go through. To qualify for initiation you must check into the net five consecutive times, or on ten different occasions over a period of time. The initiation (via radio) consists of 'climbing the nearest water tower,' facing south, and with hand over heart, fellow Possum Trotters give their recitation of "Away Down South In Dixie." The Judge then assigns a lifetime Possum Trot number to you.

This unique net starts each work day with a smile. Pardon me; I have muss op (possum backwards). There are several rules we follow. The word "work" isn't mentioned. It's "krow" and is pronounced "crow." Another 'don't' is use of the absence symbol 0. It is never called O, or zero, but is referred to as "naught."

To some mature individuals this probably sounds childish. But it really makes good sense. With the world as it is, we get enough of the serious side of life every day. We all need a good laugh, and one time in the day when we can let our hair down-if one has hair, of course-to relieve life's tensions.

The Possum Net does just that with its good old-fashioned, down home rag chew. I promise you will start the day with a smile on your face and in your voice. Now please don't misunderstand; we can and do have our fun, but we do handle any emergency or message traffic immediately. FCC regulations are strictly observed.

Oops. I almost forgot a very important item — our certificate. Now understand friends, that the word is pronounced "sir-tif-i-KATE." You see, it must be hung on the south wall, as it will hang crooked if displayed on any other.

So if you want good fellowship, a smile to start the day and just plain good clean fun, check in to one of the three Possum Trot Nets.

Shhh. It is 7a.m. The repeater has just identified, and here comes the Judge!

Later, at sign-off time, we are reminded. . . "that if things go wrong — don't go with them. Just hang in there, like a hair on a biscuit."

I leave you with an invitation. Join us on our local Possum Trot Nets, or contact the Judge and start one in your area.

May the sun always shine on your antenna — and look both ways before crossing the road. **WR**

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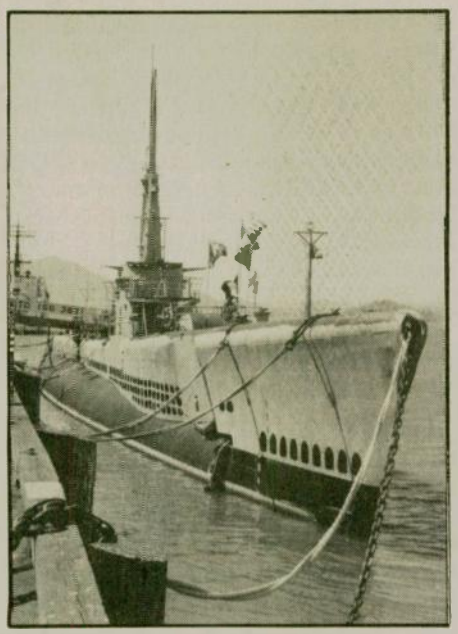

USS *Pampanito*

In commemoration of the 50th anniversary of the Allied Landings at Normandy during World War II, radio amateurs Marilyn Bagshaw, N6VAW, Eleanor Fajardo, KA6VEU, Jim Pelmutter, N6PTM, Bob Fajardo, WA6VOI, Reid Ross, W7HOP, and Joe Senft, KM6TN, put the World War II submarine, USS *Pampanito* (SS383) on the air for a special event operation.

After clearing with the Navy the use of *Pampanito*'s original call sign, NJVT, as a suffix of the operators' call signs, the group operated for a 24 hour period and were successful in logging over 500 contacts.

Pampanito is now equipped with a permanent amateur station including HF, VHF, and UHF facilities. Joe, KM6TN, and Bob, WA6VOI, are regular volunteers working to restore the boat's original electronics equipment.

Eleanor, KA6VEU, and Marilyn, N6VAW, became the first YLs to operate aboard the *Pampanito* and perhaps the first YLs to operate from any submarine. A noteworthy contact was

Marilyn, N6VAW.

one by Marilyn with a former *Pampanito* crewman who served aboard over 50 years ago.

Pampanito is now operated as a National Historic Landmark by the National Maritime Association. The boat is permanently moored at Pier 45, Fisherman's Wharf, San Francisco, California.

Pampanito, named for a South Pacific fish, was part of a group of US submarines that rescued 159 Allied POWs who were being transported to Japan for use as slave labor when the

Eleanor, KA6VEU.

ships carrying them were sunk by US submarines. The Japanese had failed to notify the Navy of the fact that they were carrying the British and Australian POWs.

The *Pampanito* is open to the public daily. Radio amateurs are usually aboard on Thursdays and, if on duty, will be pleased to show the radio room to any visiting ham. The radio room is normally off limits to the general public. **WR**

Time marches on. . .

and on, and on . . .

MARK NELSON, AA6DX

Everything is farther away than it used to be.

It's twice as far to the corner, and they've added a hill.

I've given up running for the bus, it leaves faster than it used to.

It seems to me they're making the stairs steeper than in the old days.

And have you noticed the small print they now use in the newspapers?

There is no sense in asking anyone to read aloud anymore. Everyone speaks in such a low voice, I can't hear!

Even people are changing; they are so much younger than they used to be, when I was their age.

On the other had, people my age are so much older than I am.

You know, I ran into an old classmate of mine the other day, and he didn't recognize me.

I got to thinking about that poor man while I was combing my hair this morning, and in so doing I glanced at my own reflection! Confound it! They don't make mirrors like they used to, either!

— Mohawk, ARC News, MA

(This month, we printed the *whole* story.)

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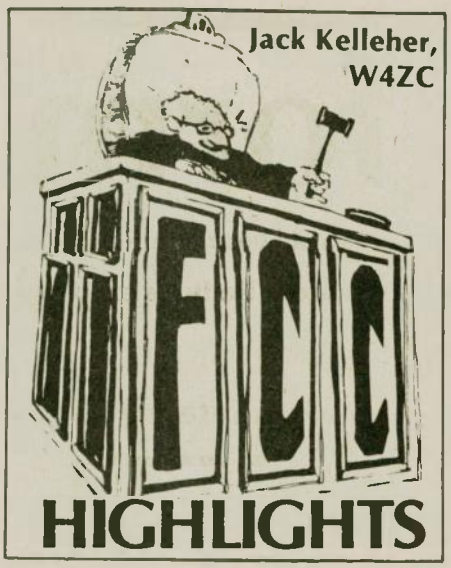

FCC Announces Organizational Changes.

On August 1st FCC Chairman Reed E. Hundt announced the Commission's intention to create a Wireless Telecommunications Bureau; create an International Bureau; create an Office of Workplace Diversity; create a Competition Division in the Office of General Counsel; and move the Office of Small Business Activities out of the Office of Managing Director and have it report directly to the Commission.

"The two biggest organizational changes we propose today are the creation of a Wireless Telecommunications Bureau and an International Bureau," Hundt said. "My initial sense that a Wireless Bureau was necessary was confirmed by last week's phenomenally successful spectrum auctions. A Bureau dedicated to the mission of wireless services will ensure that we remain on track with the licensing of PCS and with other emerging technologies. In addition, the issues facing the communications industry are almost never without international implications. Our International Bureau will better meet the challenges ahead as the FCC continues its role in international telecommunications, working with the Department of State and NTIA in the promotion of the Global Information Infrastructure."

(The Personal Radio Branch, formerly a part of the Private Radio Bureau, now comes under the Wireless Telecommunications Bureau, and Ralph Haller, formerly chief of the Private Radio Bureau, becomes a Deputy Chief of the new Wireless Telecommunications Bureau. —Also, it is interesting to note that the term "wireless," the original name for radio, is back in the limelight.) — W4ZC

Proposed new "Family Radio Service"

According to the *W5YI Report* (August 1) the Radio Shack Division of Tandy Corporation filed a Petition for Rule Making with the FCC to use UHF spectrum for a new Family Radio Service (FRS) "without the burdensome licensing and technical requirements of existing radio services."

"Parents will have an extra measure of security by using FRS to monitor their children at play." Tandy said. "Families and friends will be able to maintain close contact at sporting events, shopping malls, parks and between vehicles during trips. Impromptu groups will be able to communicate conveniently using FRS for activities such as fund raising and social events."

FRS would use 500mW radios on 16 channels in the General Mobile Radio Service (GMRS), a licensed personal radio service for individual use (FCC Part 95A). GMRS has eight "primary" frequency pairs at 462 and 467 MHz for repeater and direct (simplex) communications, seven low-power, direct-only "interstitial" frequencies at 462 MHz in between the primary frequencies, and 7 interstitial frequencies at 467 MHz in reserve for advanced systems.

GMRS was one of the earliest mobile radio services, pre-dating CB and most of the business services by many years. The licensing rate in GMRS has increased as the cost of GMRS equipment has come down and as more GMRS repeaters go on the air across the country.

Illegal scanners

The FCC has issued a Notice of Apparent Liability for $20,000 to Ace Communications of Fishers, Indiana, for marketing illegal scanner radios. Ace, the FCC said, advertised two different unauthorized scanners in magazines including *73 Amateur Radio Today, CQ,* and *Popular Electronics*. Both of the models cover cellular telephone frequencies. The FCC based the fine on Ace's apparent ignoring of warning letters from the Commission and called the violation "intentional." (Tnx ARRL Letter)

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Amateur Radio Call Signs

Amateur Radio operators often ask the FCC what call signs have been assigned lately. This list shows the last call sign in each group to be assigned for each district, as of the first of August 1994.

For more information about the call assignment in the Amateur Radio Service, see Section 97.17(f) of the FCC Rules, or write to the FCC, Consumer Assistance Branch, Gettysburg, PA 17325-7245.

Radio District	Group A Am Extra	Group B Advanced	Group C Tech./Gen.	Group D Novice
Ø	AAØRW	KGØOO		KBØOKY
1	AA1JV	KD1VZ	N1SUN	KB1BJW
2	AA2TB	KF2WQ	N2ZZY	KB2RFN
3	AA3IF	KE3NT	N3TBF	KB3BEH
4	AD4UV	KR4XT		KE4PKY
5	AB5VT	KJ5ZS		KC5IVA
6	AC6DS	KO6FG		KE6KYY
7	AB7DK	KI7BA		KC7EUY
8	AA8PM	KG8KK		KB8UIY
9	AA9LL	KF9WU	N9YCQ	KB9JAN
N. Mariana Is.	KHØI	AHØAU	KHØDL	WHØABA
Guam	WH2F	AH2CU	KH2KA	WH2ANK
Midway Is.		AH4AA	KH2AG	WH4AAH
Hawaii		AH6NN	WH6WD	WH6CRH
Amer. Samoa	AH8K	AH8AG	KH8BG	WH8ABB
Alaska		AL7PS	WL7WJ	WL7CHS
Virgin Is.	WP2O	KP2CD	NP2HQ	WP2AHU
Puerto Rico		KP4XE		WP4MRJ

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World Radio History

Watch your license expiration date

Amateurs receiving new or modified FCC licenses after June 8, 1994, should carefully note their expiration date. Only new, first licenses or specific renewals have a full ten-year term. Amateur license upgrades, changes of address, call sign, or name, are processed with the original expiration date intact. The FCC, using new computer software recently installed, is processing amateur licenses in this manner to conform to the way in which it processes all other Private Radio Service licenses.

The FCC currently recommends that amateurs submit license renewal applications 60 to 90 days before their expiration date. The Commission said it intends eventually to mail license expiration notices to amateurs. In the meantime, the ARRL is sending license expiration notices to ARRL members, along with an FCC Form 610 and a return envelope to the FCC's licensing division in Gettysburg. — *Tnx ARRL*

Comments on proposed 2.4 GHz reallocations

We have addressed this topic in several previous columns. Highlights of Reply Comments appear in the July 15 issue of *W5YI Reports*. In general, these comments bear out the fears expressed by the American Radio Relay League during the formative stages of these proposals, that sharing these frequencies with commercial users probably will be more difficult than sharing them with Government users. The actual comments are too numerous and too lengthy to include in our limited space.

More retests ordered

(Our reason for publicizing this item, which appeared in a recent Westlink Report, is as a sad commentary on abuse of a program which has been a boon for amateurs and the Commission alike. There are always a few individuals in any given community of interest who can't see beyond the end of their noses, and who end up killing the proverbial goose that lays the golden eggs. Let us hope that these episodes are the exception rather than the rule, and that the image and effectiveness of the VEC program is not endangered by such selfish goings-on. Also, such things should remind us that,, patient and understanding as the FCC may be, they can and must act on deliberate cases of fraud and deception. — W4ZC

Some 59 people previously tested by a group of suspect Southern California volunteer examiners have been ordered to be retested or face administrative sanctions. This is the latest word coming from FCC in the wake of its ongoing probe into alleged fraud and corruption in ham radio testing throughout the state.

Word of the retests was announced by FCC Personal Radio Branch Chief John B. Johnston. Speaking at the annual meeting of the nation's Volunteer-Examiner Coordinators on June 24th, Mr. Johnston said that 20 who were previously tested had their examination credits totally invalidated, in addition to the 59 who were ordered to retest. Johnston told the VECs that so far only three people had been successfully retested.

Johnston has also made public a few other pieces of evidence collected during the FCC probe. According to Johnston, one volunteer examiner allegedly administered examinations at two different locations on the same day, traveling as much as 70 miles one way between test sessions. He said that the FCC has determined beyond any doubt that one of the sessions never actually took place. Even more incriminating, the FCC appears to have evidence that only 7 people were actually examined at the second session even though the VEs proctoring the test claimed that the number tested on site was 22. . . .

"About the only thing not yet made public are the names and call signs of the suspect VEs, but this too may soon change. At least one major ham radio publication is known to have a copy of the list of VEs that are under government scrutiny. We hear that the entire list plus the names of some suspect applicants may be appearing in print within the next few weeks.

"And in a related matter, Johnston also announced that Government investigators have cracked two other licensing fraud cases. In a Texas incident, a non-ham actually assumed the identity of a deceased radio amateur to certify test results for applicants who never attended a test session! In that case, the contact VE has already surrendered his license to the FCC and the 24 applicants at the test session have had their fraudulently obtained licenses canceled.

"Finally, an unidentified Technician Class ham in Kansas has had his license suspended for one year after the FCC found that he had tried to bribe a Volunteer-Examiner Coordinator in order to obtain an upgrade. At this writing, the FCC has not yet released this ham's call sign or name." — Tnx *Westlink*. WR

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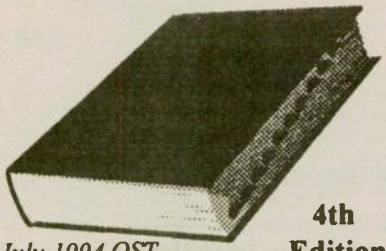

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Packet radio! Are you missing something fun?

This is the first of a 5-part series on packet radio, contributed by pioneers from TAPR (Tucson Amateur Packet Radio).

GREG JONES, WD5IVD

Packet radio has been around since the mid-1960s, but was first seen on the amateur bands in 1978, through research done by the Vancouver Amateur Digital Communication Group (VADCG). This was then followed by TAPR (Tucson Amateur Packet Radio) with the creation of the TNC-1 in 1982, and then the TNC-2 in '84-'85. Ten years ago, the packet radio revolution ignited when TAPR sold over a thousand TNC-2 kits. The TNC-2 was what was needed to make this mode that a few experimenters were playing with, into something that every amateur could enjoy. From its humble beginnings, where it was good luck to have more than three packet operators in the same city, packet radio now has thousands of amateurs using it daily, various manufacturers making and selling TNCs (Terminal Node Controllers), with over a hundred thousand TNCs having been sold to date. No other mode of Amateur Radio has seen such explosive growth!

Why Packet Radio? Like any mode in the amateur service, it provides a group of amateurs with a way of having fun and meeting one of our primary aims — "improving the radio art." Packet radio was a new mode in the early 80s that many of the outstanding amateur experimenters worked on and developed. The result, ten years later, is something that provides a lot of different operating opportunities. No longer is it just packet radio, but now there are bulletin board systems, DX Clusters, chat bridges, networking, emergency communications, satellite operations and much more. But what are these? And is one of them something that you want to do? How do you know? Let's start off with a basic question.

It's time to start thinking about Christmas presents. New Products are on pages 62 and 63.

What is packet radio?

The good thing about packet radio is that you don't really have to know a lot about how it works or find it necessary to memorize a whole new set of technical terms. Find a friend who is using packet, buy your TNC (terminal node controller), hook up your unit, and then ask for help. The nice thing these days is that almost every town has someone on packet radio who can help. A basic TNC allows your computer to use your radio to talk to another computer, thus combining two popular hobbies — computers and radios. The cost of the TNC is going to depend on what you want to do. The factors in buying a TNC are discussed in a later article. The question that you should ask before "What TNC do I want?" is "Why do I want to invest in new equipment?" Let's spend the rest of the article talking a little about the most popular uses of packet radio. After you read this, find someone locally on packet and ask for a demonstration. Since amateur packet radio is different in every fifty mile radius, then what I can do here in Austin, Texas, is going to be different from what you can do where you are. Find out what you are going to do before spending your money, unless you want to blaze a new trail of services in your area.

Bulletin Board Systems

Most cities have one or more packet Bulletin Board Systems, or BBS for short. BBSs do two main things: send and receive personal messages for their local users (like yourself) and send and receive messages or bulletins intended for people locally or around the world. Since the BBS is part of a national system of other BBSs, it has the ability to pass information or messages to any other BBS in the US or the world. This allows you to send messages to friends locally, to someone located in the next state, or to someone on the other side of the world. The second thing that BBSs do is pass local and national bulletins, which are messages intended to be read by everyone. In this way, amateurs can read the latest messages about the ARRL, AMSAT, TAPR, propagation, DX, and other bulletins on varied topics. Message passing is the primary purpose of a BBS system, but BBSs can also support *Callbook* programs, help references, Internet access, and more. Operators of BBS systems are a good place to start when you first get on the

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World Radio History

air. Because of the service they provide, they have to know how packet is working in the local area.

Keyboard-to-keyboard

Like other amateur modes (SSB, FM, etc), packet radio can be used to talk to other amateurs directly. Amateurs can talk to each other simultaneously using their keyboards when they can directly communicate with each other. With the use of networks (see a little later), amateurs can talk at a distance beyond the reach of their own stations by using the network. Keyboard-to-keyboard communications is one of the least frequent methods of packet communications, because amateurs are rarely on packet at the same time. Many packet operators send electronic mail using either personal mailboxes or a local BBS. In this way, messages are read when the amateur is on the air. Another limitation to direct keyboard-to-keyboard packet is that you can only talk to one packet station at a time — no easy way to hold round-table discussions like on a voice repeater. Some areas support chat or conference bridges, which allow for more than one amateur to talk to each other — much like a voice repeater. If a chat is supported over a network, then you can talk to someone as far away as the network reaches. As more amateurs get on packet radio, this type of packet is becoming more frequent.

DX packet cluster

Many cities have DX (foreign amateur) spotting nodes or networks. HF (High-Frequency) operators connect to their local DX packet cluster in order to receive reports on the latest DX. This type of packet came about from those interested in "chasing" DX. Many amateurs like to frequent the HF bands looking for rare international operators to contact. A DX cluster allows many HF operators to be connected over packet radio at the same time while operating HF and hunting for DX. When someone finds a DX station, they send a packet message to the DX cluster, which then sends the information to all other packet operators using the DX cluster. In this way, you have several stations monitoring the band, looking for DX. Often an amateur will "spot" (hear) a DX station and then distribute the DX report almost instantly. DX clusters allow everyone to contact many more hard to find DX stations in one evening than was possible operating by oneself. Some amateurs have been known to attain enough contacts to qualify for DXCC in a matter of weeks. One point though, if your HF station is not a "big-gun," then it is sometimes best to contact the DX station before posting your spot for others to find. There is a good chance that a pile-up will occur as soon as you make your spot to the DX cluster and then you will not be able to work the DX station that you found!

RACES/ARES/NTS and Emergency Communications

Packet radio is being used in many emergency services. Whether packet is used to pass a message accurately and in large quantities or to handle messages passed by the National Traffic System, it can provide an important function like any other amateur mode when used correctly. A new application called APRS combines GPS (Global Positioning Satellites) with packet radio to allow a master station to plot on its computer the location of all other stations in the field. The purpose is to coordinate the exact position of weather spotters or searchers, without having to waste radio time informing the control station of their locations. Recently, amateurs in Oklahoma have been distributing Doppler radar images via the packet network. The small weather image file takes but a few minutes to retrieve and display. This helps those amateurs outside of the local ATV coverage to get an accurate weather picture from the Doppler radar.

Networking

Since amateurs use radios to transmit their data, their range of communications is limited to approximately line of sight. An average packet station talks in a radius of about 10-30 miles. Packet networks allow amateurs to widen the area of communications past their line of sight, by having a series of packet stations linked by radio, that can be used to get their packet messages to where ever the network goes. Much like the telephone system, networks provide long distance service outside the local area. There are a number of amateur networks which allow amateurs to travel from one area to another. Network types include: Net/Rom, TCP/IP, TexNet, G8BPQ, ROSE, KaNodes, and many more. These networks are typically built by a local or regional group that allows packet operators to get outside of their area. Amateurs get hooked on building and maintaining such networks, just like some amateurs operate DX or handle emergency communications. The type of network you use locally will depend on your area. Much depends on the network philosophy the local group has chosen when developing their network.

Satellite communications

Many of the Amateur Radio satellites in orbit contain computer systems that provide packet capability. Most packet satellites provide BBS-like functions for messages to be passed to anywhere in the world within 24 hours. Several contain CCD (Charge Coupled Device) cameras, which allow amateurs to download images of the earth and some allow users to retrieve data from the onboard experiments. Most satellites use AX.25 with special software developed for satellite communications. DOVE, Digital Orbit Voice Encoder, can be received with any normal VHF/FM 2-meter packet station, but most of the packet satellites use SSB and require more complex equipment in order to operate them. Just something else to spend your amateur dollars on.

These are just some of the things you can do with packet radio. Once you find something that is of interest, you have a reason to purchase the equipment necessary to get on the air. A good place to start is to find a friend who uses packet and go visit. See what your local area has to offer. As already stated, packet radio changes every 50-mile radius. What is being done where I operate is probably slightly different than what you can do where you live. Finding a local Elmer is an important first step.

Next month we will cover some of the basics of packet radio equipment. By then, you should have been able to find someone on packet and made your visit to determine if you want to even purchase equipment. **WR**

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World Radio History

SPECIAL EVENTS

International Space Hall of Fame and Museum

The Alamogordo ARC will operate special event station N5SUM from the International Space Hall of Fame and Museum on 1 October during the annual induction ceremonies from 1500Z to 2300Z. SSB operation will be on 28.475, 21.375 and 14.275, +/- QRM. CW operation will be announced on the air. Operations using satellite are anticipated, and also will be announced on the air. A beautiful QSL picturing the Space Hall will be mailed to all 2-way or SWL requests received and confirmed. No SASE is required or requested, but requests must be mailed to: International Space Hall of Fame, Attn: N5SUM, Route 2001, P.O. Box 533, Alamogordo, NM 88311-0533.

Ham Radio Roundup

Many San Diego amateur radio clubs and various public service activities such as the American Red Cross and the Salvation Army will stage the third annual "Ham Radio Roundup" on 2 October from 1000Z in Missile Park, Missile Rd. and Clairemont Mesa Blvd., in San Diego. Each club, public service agency, ARRL, MARS, etc., will display the various aspects of amateur radio, ARES, RACES, and other public service operations. For more information, contact Harry A. Hodges, WA6YOO, at 619/743-4212.

Almost annual

The Warminster ARC and WA3DFU will hold the "Almost Annual Delaware DXpedition" on 16 October from 1200Z to 2100Z. Operations will be near 7.225. 14.275, and 28.440 on phone; will operate CW upon request. Send SASE to WA3DFU, P.O. Box 113, Warminster, PA 18974.

Bridge operations

The Royal Gorge ARC will operate NCØA from Royal Gorge Bridge, the world's highest suspension bridge, on 22 October from 1400Z to 2100Z. Operation will be in the lower portion of the General 40, 20, 15M, and Novice portion of the 10M subbands. For certificate, send QSL and a 9x12 SASE to Chuck Ward, NCØA, 1011 Harrison Ave., Cañon City, CO 81212.

172nd Birthday

In celebration of President Hayes' 172nd birthday, the Sandusky Valley ARC will operate W8NCK from the Rutherford B. Hayes Presidential Center on 1 October from 1600Z to 2100Z and on 2 October from 1700Z to 2100Z. Included in the festivities are a Civil War Encampment and reenactment of a skirmish between Union and Confederate troops. Operation will be in the Novice and General subbands of 10, 15, 20 and 40M; 146.91 and packet on 145.09. For certificate, send QSL and 9 x 12 SASE to SVARC, c/o Jerry Swartzlander, 120 S. Granville Blvd., Fremont, OH 43420.

Alcatraz Revisited

The Sacramento ARC will again operate from Alcatraz Prison on Alcatraz Island on Saturday, October 8. This "field day" type operation will be on the air about 10 a.m. local time (1700 UTC) and will end about 5 p.m. (0000) so the operators can catch the last boat back to San Francisco. Call sign used will be W6AK, and will be found on or about 3.865, 7.250, 14.250 or 21.350. QSL with SASE to SARC, P.O. Box 161903, Sacramento, CA 95816.

40th Anniversary

The Raritan Bay Radio Amateurs will operate /RBRA on 8 October from 0000Z to 2400Z to commemorate the 40th anniversary of their club. CW operation will be in the Novice CW subbands. Phone operation can be found in the lower portion of the General subbands on 80-15M as well as in the 10M Novice subband. For a certificate, please send a QSL and a 9x12 SASE to the *Callbook* address of the station worked.

Dedication of Titan Missile Museum

The Green Valley ARC will operate KC7MF continuously from 1600Z 14 October to 2300Z 16 October to commemorate the dedication of the Green Valley Titan Missile Museum as an historical national monument. Operation will be on SSB: 3.860, 7.230, 14.250, 21.330, and 28.450. Local 2M FM repeater operation will be on 145.29(-). For a certificate, send QSL and an 8 x 12 SASE to GVARC, 601 N. La Cañada, Green Valley, AZ 85614.

SATERN

The Salvation Army Team Emergency Radio Network (SATERN) will operate WW9E from Camp Wonderland, WI 14-16 October, during its third annual disaster services seminar. Activities will include SSB and CW in the lower portions of the General and Novice subbands. Digital operations are also planned. For commemorative QSL, send QSL and SASE to Al Shaver, NH2Z, Apt. #608, 84-265 Farrington Hwy., Waianae, HI 96792.

Westport Harvest Festival

The Wesport Hams (WHAMS) will operate K1MYL on 15-16 October from 1400Z to 2100Z to celebrate the 4th annual Westport Harvest Festival. Operation will be in the General portion of 80, 40, 20, 17 and 15M bands, and the Novice portion of 10M, as well as 147.45 simplex. For special QSL, send QSL and SASE to Leonard A. Moniz, K1MYL, 43 Kirby Rd., Westport, MA 02790.

Eagle Flight

The Fullerton Radio Club will operate W6ULI on 8 October from 1600Z to 2300Z in conjunction with the Fullerton Eagle Flight celebration. Operation will be in the General 40, 20, 15, and Novice 10M bands as well as 147.975(-) and 147.33(+) 2M repeaters. For certificate send QSL and a 9-1/2 x 12 SASE to Fullerton Radio Club, P.O. Box 545, Fullerton, CA 92632.

USS *Requin*

The Breezeshooters ARC will operate W3XX from the USS *Requin* submarine docked at the Carnegie Science Center in Pittsburgh, PA, 1-2 October from 1400Z to 2100Z. CW operations will be on the frequencies of 7.123 and 21.123. Phone operations will be on 7.250, 14.250, 21.350, 28.460, and 146.52. For certificate and QSL, send QSL and a 9 x 12 SASE to Ron Berry, WB3LHD, 326 Sunset Dr., Bethel Park, PA 15102.

Pumpkin Festival

The Teays ARC will operate WB8PPH from 1500Z 19 October through 0300Z 23 October, to celebrate the Circleville Pumpkin Fest. Phone operation will be in the 80-40-20-15-10M General subband, CW operation will be in the 80-40-20-15-10M General and Novice subbands. For QSL, send your QSL and return postage adequate for a 9 x 12 certificate to Len Campbell, WB8PPH, 8951 SR 188, Circleville, OH 43113.

Ghost of Long Valley

The Piscataway ARC will operate AA2KS from the site of "The Ghost of Long Valley" in Long Valley, NJ on 29 October for 24 hours to celebrate Halloween. Operations wil be on the General portion of 40, 20, and 15M, and Novice 10M. For special QSL, send QSL and SASE to Piscataway ARC, P.O. Box 1233, Piscataway, NJ 08854.

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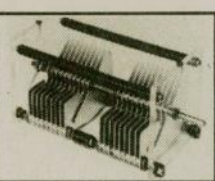
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World's most popular antenna tuner covers 1.8-30 MHz, has lighted *peak/* average Cross-Needle SWR/ wattmeter, 4:1 balun for balanced lines and *full size* 300 watt dummy load.

Versatile 8 position antenna switch lets you *pre-tune* MFJ-949E into dummy load to minimize QRM.

Custom inductor switch was carefully engineered to withstand extreme voltages and currents.

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MFJ-1270B *super* TAPR TNC clone has a world wide reputation as *the most reliable packet TNC in the world* -- many work 24 hours a day for years without a single failure!

Fully TAPR TNC-2 compatible, VHF *and* HF operation, *free* AC power supply, new *enchanced* mailbox expandable to 512K with auto/reverse mail forwarding, WeFAX mode lets you print weather maps, optional plug-in 2400/9600 baud modems, KISS interface, MFJ Host mode.

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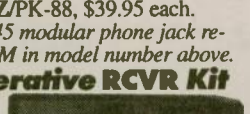

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Use this MFJ-1278B, your transceiver and computer to transmit and receive digital communications! You'll discover a whole new world of ham radio and communicate in ways you never knew existed on our ham bands.

The *world class* MFJ-1278B Multi-Mode and MultiCom™ software is packed with features *no other* multi-mode gives you.

You get *10 digital modes* . . . Packet, AMTOR, PACTOR (at no extra cost), RTTY, ASCII, Navtex, Color SSTV, 16 Gray Level FAX, CW and Memory Keyer plus an *enchanced* 32K Mailbox.

You'll have fun joining worldwide *packet* networks and exchanging *color SSTV* pictures with your buddies around the world. You'll marvel at *full color FAX* news photos as they come to life on your screen. You'll see weather changes on highy detailed *weather maps* in all 16 gray levels. You'll eavesdrop on late breaking news as it happens on *RTTY*. You'll enjoy error free HF QSOs on *PACTOR* and *AMTOR* and receiving packet mail in an *enchanced 32K mailbox*. Want to copy some *CW*? Just watch your screen.

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MFJ *halfwave vertical* Antenna

6 bands: 40, 20, 15, 10, 6, 2 Meters . . . No radials or ground needed!

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It's only 12 feet high and has a *tiny* 24 inch footprint! You can mount it anywhere from ground level to the top of a tower -- on apartments, condos, small lots, even on motorhomes. Perfect for vacations, field day, DX- pedition, camping.

Frequency selection is fully automatic -- all you do is transmit. Its *low angle of radiation* really reaches out and brings in DX. Omni-directional. 1500 watts PEP.

Efficient *end loading*, no lossy traps. *Entire length* is always radiating. *Full size* halfwave on 2 and 6 Meters. High power *air-wound* choke balun eliminates feedline radiation. Adjusting one band has minimum effect on other bands. Add $20 s/h.

Easy to assemble -- you'll have it on the air in an afternoon.

MFJ's *world famous* 3 KW Versa Tuner V

MFJ-989C **$349.95**

Here's why the MFJ-989C is the finest 3 KW antenna tuner money can buy . . .

Two *massive* 250 pf transmitting variable capacitors can handle *amps* of RF current and *6000* RF volts. Logging scales.

Precision ball bearing roller inductor, three digit turns counter and spinner knob give you exact inductance control for minimum SWR.

Lighted *peak*/average Cross-Needle SWR/Wattmeter has 200/2000 watt ranges. Super heavy duty *current* balun has two giant 2½ inch powder iron toroid cores wound with *Teflon®* wire.

Six position *ceramic* antenna switch has extra large contacts. Flip stand, dummy load, one year *unconditional* guarantee, aluminum cabinet, tough *baked-on* paint, locking compound on nuts/bolts, handles 3 KW PEP, 10⅛x4½x15 in. Meter lamp needs 12 volts. Add $13 s/h.

Super Hi-Q Loop Antenna

MFJ-1786 **$299.95**

Tiny 36 inch diameter high efficiency loop antenna covers 10-30 MHz *continuously* with low SWR. Handles 150 watts.

Ideal for home installations where space is limited-- apartments, condos, small lots. Take on trips.

All welded construction.

Remote control has *Automatic Band Selection™*, Cross-Needle SWR/ Wattmeter. No control cable needed. Use batteries or 110 VAC. Add$20 s/h.

No ground or tuner needed.

MFJ-1782, $269.95, like MFJ-1786 but remote control has only slow/fast tune buttons.

Dual Band Mobile Ant.

Mobile Antenna for 144/440 MHz

MFJ-1724B **$14.95**

MFJ *dual band* magnet mount mobile antenna for 144/440 MHz has 19 inch stainless steel radiator, low SWR. For mobile rigs with SO-239 UHF connector *and* handie-talkies with *included* BNC adapter.

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Maximum Gain™ 5/8 Wave 2 Meter *magnet mount* mobile antenna has stainless steel radiator, 12 ft coax, low SWR. UHF mobile (MFJ-1728) or BNC handie-talkie (MFJ-1728B) connector.

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$19.95 gets you a 2 Meter 5/8 wave ground plane *home station* antenna! You get the highest gain of any single element antenna, shunt fed matching, ceramic insulators. **MFJ-1752, $19.95,** for 220 MHz.

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Full 1.8-30 MHz Operation

1000 volt tuning capacitors, extra heavy duty inductor switch, Teflon® insulating washers and proper L/C ratio gives you arc-free no worries operation with up to 300 watts from 1.8 to 30 MHz.

Lighted Cross-Needle Meter

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

The meter is illuminated for easy reading in dim light and has an ON/OFF lamp switch. The meter lamp uses 12 VDC or 110 VAC. A *free* AC adapter is included at no extra cost.

Tunes *any* Antenna

The MFJ-949E tunes out SWR on dipoles, verticals, inverted vees, random wires, beams, mobile whips, shortwave receiving antennas . . . nearly anything!

Use coax feed, random wire or balanced lines. Has oversized *heavy duty* 4:1 balun.

Super Antenna Switch

MFJ's 8 position *super* antenna switch lets you select two coax fed antennas, random wire/balanced line or built-in dummy load for use through your MFJ-949E or direct to your transceiver.

MFJ's Cross-Needle SWR/Wattmeter is always active for monitoring forward and reflected power and SWR.

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MFJ's *QRM-Free PreTune*™ lets you pre-tune your MFJ-949E off-the-air into a built-in dummy load without causing QRM.

Pre-tuning into a dummy load makes tuning your actual antenna faster and easier.

Why take chances?

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Full Size Dummy Load

The MFJ-949E has a *full size* non-inductive 50 ohm dummy load measuring 3/4 inch diameter by 5 inches. It *easily* handles 300 watts of abusive tune-up power.

You'll find it handy for tuning, testing and repairing your rig, setting power level, adjusting your mic gain and more.

Watchout for cheap midget size dummy loads that changes resistance as it heats up -- marginal ones could burn up your transceiver.

Custom Inductor Switch

The inductor switch is the most likely component to burn up in *any* antenna tuner.

The inductor switch in the MFJ-949E was *custom* designed to withstand the extremely high RF voltages and currents that are developed in your tuner -- it's not a flimsy *plastic* switch made for small signals and wired with *tiny* gauge wire.

Superior Cabinet

Each MFJ-949E cabinet is chemically treated and has a new tough scratch-proof *vinyl* cladding -- not paint that can scratch or chip off. You won't find a tougher, longer lasting finish anywhere.

Detailed logging scales and legends are *permanently* silk screened on a *real* aluminum front panel and back panel -- it's not merely a plastic decal or glued-on paper strip that can peel off.

Superior Materials . . . *Superior* Construction

Every MFJ-949E use Teflon® insulating washers, countersunk screws for meter bracket, wing-nut for ground post, fire-retardant epoxy glass PC board (*not* canvas based), heavy .063 inch thick aluminum chassis (*not* flimsy .050 inch), heavy gauge wire used throughout (*not* small gauge), custom cabinet (*not* multi-purpose with unused holes and internal protruding screws).

No Matter What™ Guarantee

Every MFJ-949E is backed by MFJ's famous one year *No Matter What*™ unconditional guarantee. That means we will repair or replace your MFJ-949E (at our option) *no matter what* for a full year.

Others may give you a *limited* warranty on defects in material and workmanship.

But what do you do if it burns up and they say, "Sorry, your *limited* warranty does not cover that?"

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World Radio History

Mark Malasics, KD1SN

STATION APPEARANCE

Send **Worldradio** *a picture of your shack and the staff will choose a winner to receive a free one-year subscription! Stations will be judged by neatness (wires tucked away, etc.) and accessibility of equipment. Monetary value of equipment is not a consideration.*

Winners will also receive a top quality, Laserjet-printed copy of the DXCC and WAS BeamHeadings list (a $15.95 value) compliments of Jack Hurray, W&JBU.

I have been a ham for just under three years. I started as a no-code Tech, and retained that ticket for about a year and a half. Since August of 1993, I had upgraded through the 5wpm code for Tech-plus, General and then Advanced. I have been primarily concerned with DX on the HF bands since my upgrades, but still keep fairly active on the VHF and UHF repeaters in my area.

The equipment in the photo, from left to right is: A used Kenwood TS 530-SP with an MC-50 microphone (a boom mike is in the near future). The tuner is one of the few items for the shack I purchased new. It is an MFJ-949E, which is hooked up to a G5RV antenna raised about 25 feet. The power supply (center) was also purchased used. It was homemade by a fellow amateur and supplies 30A.

The mobile rigs are (left to right) a Kenwood TW-4000A, an Alinco DR-600T (both dual banders on 2M and 70cm), and an Icom IC-37A, 220 MHz.

All the mobile radios are also used, and were obtained in part with cash and in part on trades of stereo equipment. The three mobile radios are each tuned to repeaters in the area.

The handhelds were also purchased used. They are an Alinco DJ-580T dual band, 2M and 70cm, and an Icom P3AT, 220 MHz HT.

The computer is a Compaq 286 which is used strictly for logging purposes using IBM's Professional File program custom modified for my logging purposes. (No packet yet, although I'm sure sometime soon.)

The antennas for the mobile radios are quarter-wavelength groundplanes, mono band for each band. The four frames on the wall to the right of the world map hold each grade license I held, in ascending order. The QSL card below them is a copy of my card, enlarged on a poster-making machine. A real QSL card is displayed below the far right mobile rig. Last but not least is an MFJ 24-hour analog wall clock.

As of this date I have contacted about 70 DX countries (still awaiting confirmation), and am still actively seeking out others. After only 2-1/2 years as an Amateur, I am glad I have taken the time and effort to become licensed to enjoy this exciting hobby. My only regret is that I didn't do it sooner ! **WR**

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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****!*

Phonetically speaking is David D. Block, KAØVCW.

All my friends know that I only use the proper phonetics for my call.

One day, when I returned home from work, my elderly mother said that I had a telephone call. She also said that it must be a wrong number as they asked for a fellow named Victor Charlie who drinks Whiskey. **WR**

World Radio History

Silent Keys

Darryl B. Larsen, WA6WNE

On July 20, 1994, Darryl Larsen, WA6WNE, became a silent key, having lost a 3-year battle with cancer.

Darryl's introduction to radio and electronics came at age eight when his uncle gave him a copy of the *Radio Amateur's Handbook*. His uncle told him that if he learned everything in that book, that he would always be able to make a living. It was true.

He went from neighborhood "Mr. Fixit" as a schoolboy, to independent businessman. Toward the end of his life, he was an electronics wizard for the Army, solving the problems arising in electronic devices which the government *still* doesn't talk about. WA6WNE was all that.

While Darryl was well-known in DX circles, and his tower displaying many monoband antennas for most of the Amateur frequencies was a local landmark, he could also be found voluntarily serving countless hours as "repeater doctor" for many Northern California clubs.

He leaves his wife Charlene, daughters Sheila and Cheryl, and four grandchildren. He was preceded in death by their daughter Karen. Darryl will be greatly missed by a multitude of loving friends.

WA6WNE was 55 years of age.

—submitted by KB6HP

Perry W. Esten, W6PN

On June 12,1994, pioneer Perry W. Esten, W6PN, became a silent key at age 86. His wife Ida, WA6DPF, preceded him in death the previous month.

Mr. Esten's radio career started in 1922 when at the age of 14, he began building radio receivers for himself and his neighbors in Rochester, New York.

From his first license, 8BOX, issued in 1926, the next 68 years saw him operate with a succession of calls from all over the world. In his long career as a registered professional engineer, he served for nearly twenty years with Radio Free Europe.

After retirement, the Estens settled in Santa Barbara, California, where they became active members of the SBARC.

He had numerous accomplishments to his credit in DXing. His overall country count was 355-which includes all present countries. He earned WAC in 1935; a pre-World War II DXCC from W8BOX, and post-World War II DXCC # 45. As DJPN, from 1965 to 1973, he worked 300 countries in four years and made the Honor Roll in six years.

The family requests that friends and acquaintances send QSLs and any stories about W6PN to: 1141 Summit Road, Santa Barbara, CA 93108, to help with the creation of a biography.

Enough already!

This is to reply to NH6XK's letter in the September, 1994 issue. Stop it! No code licenses are here to stay. Whine all you want, they're not going away. NC has brought new active blood into the hobby. The old ways were fine, CW is still the best way to send/receive in many emergency situations, in fact it could be the only way. CW proficiency is a great skill, one that is to be respected, but don't push it on everyone. Many people prefer packet and VHF/UHF only and have no desire to do anything with CW; that is their choice, one which should be respected.

In our club, the Antietam Radio Association of Hagerstown, Maryland, the club president is a no code licensee and doing a great job at administering his duties and putting life into the club! Sure, many of us are studying for General and above, many of us are so-called Tech Plus (I prefer to use other than CW, but it's my choice).

No-code is here to stay, and might I ask the writer, "What have you done to further the hobby?" Our NCs have provided communications for RACES/Weather Watch, community services, and real disaster services, and encouraged others to become interested in radio. Instead of whining, do something. CW is great. Encourage, not badger, others to find its fun, demonstrate its capabilities under adverse conditions, as the cliché goes, "Be part of the solution, not part of the problem." Now can we go on? Let it go. The no code license is here and is going to stay!

Tom Mooningham, N3LWJ, Maugansville, MD

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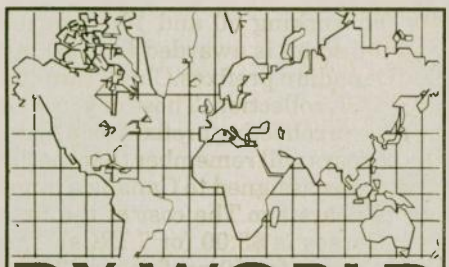

DX WORLD

John F.W. Minke III, N6JM
P.O. Box 310 Carmichael, CA 95609-0310

Congratulations to the following deserving DXer for completing the necessary requirements for ***Worldradio's*** Worked 100 Nations Award.

477. Gary Kimball N7QXQ 15 July 1994

Rules and application forms are available from ***Worldradio*** headquarters or me at the address listed above. Please include a business size envelope with two units of postage.

Monaco (3A)

There is activity from Monaco, although not very often. On 14.009 MHz 3A2LF was reported working Europeans after 1900 UTC. On 40 Meters 3A2LU was workable on 7.018 MHz around 0230 UTC on June 19th by DXers in the mid-west.

Kuwait (9K)

There continues to be much activity out of Kuwait, more so since Desert Storm. On 30 Meters 9K2MU and 9K2ZZ were found between 10.100 and 10.103 MHz. Try looking for these stations after 0130 UTC. Twenty Meters SSB is the most popular band to work Kuwait, as 9K2HN was found often between 14.178 and 14.228 MHz; 9K2MU between 14.179 and 14.190 MHz, and 9K2ZZ between 14.181 and 14.196 MHz. These stations report on the bands at various times. Try after 2100 UTC. CW activity includes the following:

9K2MU	14.018 MHz	0200 UTC
9K2WU	14.008 MHz	1930 UTC
9K2ZC	14.005 MHz	1600 UTC
9K2ZZ	14.005 MHz	2300 UTC

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9K2MU was also reported on 17 Meters SSB at 1915 UTC on 18.130 MHz working into Maine on July 6th.

West Malaysia (9M2)

Two calls have been reported from West Malaysia recently, with both on 20 Meters. On CW, 9M2FS was worked on 14.018 MHz around 0600 UTC on June 25th by a DXer in California, while 9M2HB was working Europeans on 14.243 MHz around 1600 UTC.

According to *DX News Sheet* club station 9M2MOC on Penang Island (AS-015) was possibly to have been activated the early part of July by K9MK.

East Malaysia (9M8)

Inside DX reports that Johnny, 9M8DB, located at Miri, is a frequent visitor on 20 Meters SSB. Look for him between 14.180 and 14.226 MHz after 1300 UTC. This station has also been on 75 Meters near 3.789 MHz from 2100 UTC working the Europeans. Unfortunately, that is a bad time for us. On 30 Meters, West Coast types may work 9M8FC on 10.101 MHz at 1500 UTC. Remember, this is a CW only band. The station, too, has been on 75 Meters, according to *The Low Band Monitor*. He was reported on June 26th at 1130 UTC near 3.795 MHz. At the low end of the band (80 Meters) he was worked between 3.505 and 3.507 MHz after 1300 the first couple of days in June. Interesting, as at one time activity out of eastern Malaysia was quite rare, with most of the activity from the western portion of the country.

Tajikistan (EY)

The only report for this former soviet republic was that of EY3FT worked on 14.007 MHz around 0345 UTC on June 16th, worked by an Arizona DXer.

Svalbard (JW)

During August Tom Segalstad, LA4LN, and Magne Nicolaysen, LB3RC, were to have signed JW4LN and LB3RC/JW, respectively, from the west coast of Vest-Spitsbergen (Grid Square JQ78). They were to have operated all bands, 10 through 160 Meters, CW and SSB. Refer to the QSL Routes if you worked them. Other activity from Svalbard included several reports on 20 Meters. Look for JWØC, who was found between 14.191 and 14.234 MHz after 0130 UTC, JWØE, between 14.187 and 14.263 MHz around 1600 to 1700 UTC and JW5II on 14.176 MHz at 0000 UTC. On CW, JWØH was reported between 14.008 and 14.013 MHz around 2330 UTC.

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MS-064-832	160-80-40-30-15-12M DOUBLE SLOPER	60' LONG	$79.00

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IOTA

Tony Spino, WF1N, reports that he will return to Appledore Island, one of the Isles of Shoals (NA-148) September 16 to 19. Tony will be accompanied by Lou, KA1DIG, and Sam, K1SCN. They will be signing with WF1N. Tony says the *Callbook* is not correct and cards should be sent to him via: 15 Regency Hill, Waterbury, CT 06708-1845. I hope I'll be able to activate some rare island groups this summer and not be attacked by a polar bear or a moose!

AF-045	Goree Island	
AS-053	Phuket Island	HS8EFF
EU-008	Isle of Skye	GMØNEB/M
EU-052	Kefallinia Island	SV8/OE1YCB
EU-064	Pays de la Loire region	F/DL8AAV
EU-075	Aegina Island	SV1LK/P
EU-076	Lofoten Islands	LA/DF8KF
EU-080	Tambo Island	ED1IDT
EU-095	Provence-Cote d'Azur Region	TM9RAT
EU-096	Turku-Pori District	OH1LU/P
EU-125	North Sea Coast	OZ1FKR/P
EU-129	Usedom Island	DL7UGU/P
EU-131	Veneto Region	IK3TTY
EU-132	Wolin Island	SP2CYK/1
EU-144	Calabria/Basilicata	ID8/I8KUT
EU-147	White Sea Coast	UE1NF
EU-149	Kappa Island	ES2RW/2
EU-155	Piallazza Island	IL4/IK4WMG
EU-161	Barents Sea Coast	RV3GW/1
NA-008	Ellesmere Island	VE3TUJ/VE8
NA-014	Grand Manan Island	VE3VRO/VE9
NA-038	LA Madeleine Islands	VE3VRO/VE2
NA-047	Broughton Island	KA2SJJ/VE8
NA-110	Hilton Head Island	NE8Z/1CØ
NA-130	Resolution Island	WB1CBY/VE8
NA-148	Bakers Island	N6EK/1
SA-020	Salut Island	TO9IS
SA-023	Bahia State Centre	PY6JJ
SA-070	Quiriquina Island	XR5IQ

We have decided to delete the frequency and time of the IOTA listings. The listing is to give an idea what has been on — or in some cases to alert you if you worked them and were not aware that the contact was with an island.

DXCC Desk

The number of unprocessed applications at the DXCC Desk at the end of June was 334 (40,546 QSL cards). The DXCC Desk received 704 applications (62,500 cards) for DXCC endorsements and awards during the month of June. Applications sent out at the end of June were received less than two weeks ear-

World Radio History

lier. As usual, a few applications received prior to that time were delayed while waiting for paper records to be converted. Applications and QSL cards received at the DXCC Desk continue to run ahead of last year's rate. For the first five months of 1994, applications were up by 13 percent and QSL cards were up by 25 percent compared with the same period of last year.

Maple Leaf Award

The Maple Leaf Award, sponsored by the Maple Leaf Radio Society, is available to all Amateur Radio operators for working and confirming Canadian prefixes. The award is offered in four classes as follows:

Class IV requires 10 prefixes
Class III requires 15 prefixes
Class II requires 25 prefixes
Class I requires 30 prefixes

All contacts must have been made since 15 February 1965, the date on which Canada received its official flag.There are also two plaques and a scroll available for those who work more than 30 prefixes. The two plaques are for working 50 and 100 prefixes and the scroll is awarded for working 200 Canadian prefixes.Check through your QSL collection. Those of you who have been collecting prefixes for a number of years will remember that the 3C prefix was assigned to Canada a number of years ago.The cost of the first four classes is $3.00 (or 7 IRCs). The first plaque (for 50 prefixes is $35 for Canadians and U.S. DXers (use your own currency). For foreign stations please submit $45 U.S. The second plaque is $50 and the scroll is $60 for

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IC-707 New HF	1012.95	Call $
IC-765 All-Mode HF	2913.00	Call $
IC-737A Full Featured HF	1652.00	Call $
IC-728 New, All-Band HF	1105.00	Call $
IC-729 All-Band HF Plus 6 Meters	1492.00	Call $
IC-2KL 500w, Amp	2260.00	Call $
IC-4KL 1 kW Amp	7865.00	Call $
Receiver		
IC-R1 100 khz - 1300 MHz	567.00	Call $
IC-R72 30 kHz - 30 MHz Rcvr	1145.00	Call $
VHF		
IC-V21AT 2M/220MHz HT	783.00	Call $
IC-2GXAT 2 Meter HT	359.95	Call $
IC-T21A 2 Meter HT	395.95	Call $
IC-P2AT 2 Meter HT	399.00	Call $
IC-2GAT, 7w HT	425.00	Call $
IC-2SRA, 2m, HT/Scanner	599.00	Call $
IC-281H New 2 Meter Mobile	462.00	Call $
IC-901 New Remote Mount Mobile	1119.00	Call $
UHF		
IC-T41 New, 440MHz HT	472.95	Call $
IC-P4AT New 70cm HT	492.00	Call $
IC-4SRA 70cm w/Scanner, HT	612.00	Call $
IC-W21AT Dual Band HT	625.00	Call $
IC-2340H 2M/440 Mobile w/VOX	799.00	Call $
IC-2700H 2M/440 w/Detch. Head, New	959.00	Call $
IC-Δ100H 2M/440/1.2GHz Mobile	1689.95	Call $
IC-Δ1A, 2M, 440, 1.2 GHz, HT	TBA	Call $
IC-2330, 2M/220 Mobile	865.00	Call $
IC-820H New 2M/440 All-Mode Xcvr	1999.00	Call $
220 MHz		
IC-P3AT, Mini FM HT	452.00	Call $
IC-3SAT, 2.5W, 220 HT	399.00	Call $
1.2 GHz		
IC-X2A 440 MHz/1.2 GHz HT	TBA	Call $

YAESU

HF Equipment	List	Jun's
FT-1000D Top Performer	$4919.00	Call $
FT-990 All Mode	2579.00	Call $
FT-747GX Econo Performer	909.00	Call $
FT-890 HF Base w/ Gen. Cov	1439.00	Call $
FT-9008AT HF DDS 100 memory remote	1699.00	call $
FT-840 New Compact HF	999.00	Call $
FL-7000 15m-160m Solid State Amp	2459.00	Call $
Receivers		
FRG-100B Mini Receiver	669.95	Call $
VHF		
FT-11R, New Worlds Smallest 2M HT	369.00	Call $
FT-11RH 5 Watt Version of FT-11R	389.00	Call $
FT-23 R/17 Mini HT	299/329	Call $
FT-2200 50w, 2m Mobile	449.95	Call $
FT-2500M New, Rugged 2 Meter Mobile	439.00	Call $
FT-290R/690R-6M, All Mode Portable	699/839	Call $
UHF		
FT-41R, Worlds Smallest 440MHz HT	429.00	Call $
FT-7200 35w, 440MHz Mobile	579.95	Call $
FT-7400H New, Rugged 440MHz Mobile	569.00	Call $
FT-790 R/II 70cm/25w Mobile	819.00	Call $
VHF/UHF Full Duplex		
FT-736R, All Mode, 2m/70cm	2149.00	Call $
Dual Bander		
FT-530 2m/70cm HT	569.00	Call $
FT-5100 Compact 2m/440 Mob	749.00	Call $
FT-5200 Compact 2m/440 Mob	789.00	Call $
FT-6200 Cpt 440/1.2 GHz Mob	879.00	Call $
1.2 GHz		
FT-911 Compact HT	529.00	Call $
FT-912 10w Mobile	709.00	Call $
Repeaters		
FTR-2410 2m Repeaters	1247.00	Call $
FTR-5410 70cm Repeaters	1247.00	Call $
Rotators		
G-800SDX med./hvy. Duty	439.00	Call $
G-1000SDX Heavy Duty	539.00	Call $
G400RC Light/Med. Duty II sq ft	449.95	Call $

STANDARD

HandHelds	List	Jun's
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C188A Mini 2 Meter Deluxe	489	Call $
C228A 220MHz	695	Call $
C468A Mini 440 MHz	480	Call $
C158A Affordable 2 Meter	339	Call $
C178 Mini 2 Meter	459	Call $
C228A 2M/220MHz	695	Call $
C558A 2M/440MHz	689	Call $
C628A 440MHz/1.2 GHz	727	Call $
C528A 2M/440MHz Twinbander	495	Call $

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C5718DA 2M/440
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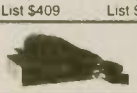
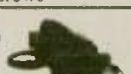
DJ-580T 2m,70cm HT List $519
DJ-F1T 2M Handheld List $339



DR-130T
2 Meter Mobile List $399
DR-430T
440MHz Mobile List $479

DR-600T
2M/440MHz Mobile, List $759
DR-1200T
2M Data Radio, List $339



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It would also be appreciated if you would include a call sign table, which gives the prefixes on the left and call areas across the top. Contact Garry for a copy or send an SASE to N6JM.

Canadian Islands Award

In our February column we discussed the Canadian Islands Award (C.IS.A.). We decided to print the list of islands that have been identified with a reference number. Be aware that this award includes all islands within the territorial limits of Canada.

Alberta Islands	
AB001	St.George
AB002	St Patrick
AB003	Princes
AB004	Kimbrook
British Columbia Islands	
BC001	Vancouver
BC002	Graham
BC003	Moresby
BC004	Green
BC005	Kaien
BC006	Quadra
BC007	Pender North
BC008	Saltspring
BC009	Savary
BC010	Thetis
BC011	Saturna
BC012	Galiano
BC013	Gabriola
BC014	Pasley
BC015	Texada
BC016	Lulu
BC017	Sea
BC018	Trutch
BC019	Malcolm
BC020	Cormorant
BC021	Lasqueti
BC022	Denman
BC023	Banks
BC024	Calvert
BC025	King
BC026	Broughton
BC027	Cracroft
BC028	Ministrel
BC029	Redonda
BC030	Scout
BC031	Gambier
BC032	Pender South
BC033	Annacis
BC034	Ridley
BC035	Mayne
BC036	Westham
BC037	McArthur
BC038	North
BC039	Prevost
BC040	Diamond
BC041	Hornby
BC042	Cortes
BC043	Thormanby
BC044	Iona
BC045	Deas
BC046	Twigg
BC047	Mitchell
BC048	Campania
BC049	Jimmys
BC050	Tilbury
BC051	Reifel
BC052	Granville
BC054	McMillan
BC055	Barnston
BC056	Nicomen
BC057	Seabird
BC058	Herrling
BC059	Derrling
BC060	Withworth
BC061	Tree
BC062	Hatzic
BC063	Discovery
Manitoba Islands	
MB001	Hecla
New Brunswick Islands	
NB001	Campobello
NB002	Miscou
NB003	Grand Manan
NB004	Lameque
NB005	Deer
NB006	Grindstone
NB007	Centennial
Newfoundland & Labrador Islands	
NF001	Newfoundland
NF002	Bell
NF003	Belle
NF004	Huntington
NF005	Fogo
NF006	Twillingate
NF007	Random
NF008	Kelly's
NF009	Little Bell
NF010	Carbonear
NF011	Change
NF012	Twillingate North
NF013	Pools'
NF014	Chapel
Nova Scotia Islands	
NS001	Cape Breton
NS002	St Paul North
NS003	St Paul South
NS004	Sable
NS005	Pictou
NS006	Cape Sable
NS007	Long
NS008	Outer Hirthe
NS009	McNutt's
NS010	Janvrin
NS011	Brier
NS012	Tancook
NS013	Henry
NS014	Caribou
NS015	Merigomish/Big
NS016	Isle Madame
NS017	Petit de Grat
NS018	Boularderie
NS019	Roy
NS020	Morris
NS021	Surettes
NS022	Roberts
NS023	Sherose
NS024	Malagash
NS025	Sober
NS026	Turner
NS027	Cheticamp
Northwest Territories Islands	
NW001	Baffin
NW002	Broughton
NW003	Brevoort
NW004	Dorset
NW005	Ellesmere
NW006	Ward Hunt
NW007	Banks
NW008	Cornwallis
NW009	Prince Patrick
NW010	Southampton
NW011	Ellef Ringnes
NW012	Victoria
NW013	Igloolik
NW014	Farmer
NW015	Sleeper
NW016	Charlton
NW017	Killinek
NW018	Resolution
NW019	Nottingham
NW020	Thompson
NW021	Couper
NW022	Bray
NW023	Jenny Lind
NW024	King William
NW025	Nicholson
NW026	King Christian
NW027	Beacon
NW028	Bathurst
NW029	Devon
NW030	Melville
NW031	Moose
NW032	Belcher
NW033	Akimiski
NW034	Cameron
NW035	Fox
NW036	Little Cornwallis
NW037	Hendrickson
Ontario Islands	
ON001	Manitoulin
ON002	Pelee
ON003	Middle
ON004	St Joseph
ON005	Flowerpot
ON006	Toronto Centre
ON007	Henley
ON008	Two Mile
ON009	Wolfe
ON010	Pilon
ON011	Thompson
ON012	Snake
ON013	Algonquin
ON014	Olympic
ON015	Barrie
ON016	Great La Cloche
ON017	Birch
ON018	Twilight
ON019	Ryerson
0N020	Scugog
0N021	Amherst
ON022	Simcoe
ON023	Howe
ON024	Georgina
ON025	Christian
ON026	South
ON027	St George
ON028	Washburn
ON029	Parry
ON030	Rama
ON031	Walpole
ON032	Squirrell
ON033	Pottowatamie
ON034	St Ann
ON035	Rattlesnake
ON036	Claire
ON037	Byng
ON038	Rhappe
ON039	Orilla
ON040	Snake
ON041	Strawberry
ON042	Cedar
ON043	Thorah
ON044	Mill
ON045	Brandy
ON046	
ON047	Picnic
ON048	Fotbergill
ON049	Horseshoe
ON050	
ON061	unassigned
ON062	Juanita
Prince Edward Island Islands	
PE001	Prince Edward
PE002	Panmure
PE003	Rustico
PE004	Lennox
Province of Quebec Islands	
PQ001	Anticosti
PQ002	Bonaventure
PQ003	Harrington
PQ004	Cap Aux Meules
PQ005	Quarry
PQ006	Grande Basque
PQ007	Orleans
PQ008	Montreal
PQ009	Ile-aux-Coudres
PQ010	Grosse
PQ011	EXPO
PQ012	Perse Rock
PQ013	Grosse I. Au Marteau
PQ014	Jesus
PQ015	Green/Verte
PQ016	Du Havre Aubert
PQ017	Havre Aux Maisons
PQ018	De La Grande Entree
PQ019	De l'Est
PQ020	La Grosse Ile
PQ021	D'Entree
PQ022	Brion
PQ023	
PQ024	Loups
PQ025	Perrot
Saskatchewan Islands	
SK001	Manitou
Yukon Territory Islands	
YT001	Herschel

There are many more islands than are listed above. There are many just sitting out there waiting for a deserving DXer to visit. The next time you are out there vacationing and have a radio with you why not activate a Canadian island. It can be in the middle of a lake somewhere. However, if we have a choice it would be an offshore island as it would count for IOTA. This list is not the latest and most likely there are several activated islands not shown in this listing.

Miscellaneous

Bert Lenny, N7SWU, writes: "Just wanted to let you know that I recently received my DXCC from ARRL, thanks in part to you for letting me know about the ruling that allows QSLs back to 1945. Otherwise, I would probably be sitting here waiting for about 15 more cards to arrive and that is about the number I am waiting for now, some of which, no doubt, will probably not appear."

Bert had dropped out of Amateur Radio for a period of several years, returning in 1991. Reentering our fine hobby he began again to chase DX. However, Bert thought he would have to begin all over again. Not so. QSL cards from previous calls count towards DXCC, provided they are not dated prior to that November, 1945 date, the post-war DXCC program began. Fortunately, for Bert, he had retained his QSL cards.

Bert also added on his earlier days of hamming: "Back in the '40s, I remember reading the DX pages in *QST* and about the 'King of DX', Don Wallace, W6AM, who was always leading the ranks in the number of countries worked. Later on in the '50s when we were living in the L.A. area, I had the pleasure of meeting him when I was in

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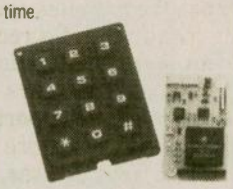

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the electronics business. He was a manufacturer's rep for several electronic parts and equipment manufacturers such as E.F. Johnson, RME, Bliley, and others. I remember him saying at that time that he was trying to get Cocos Island for a contact.

Later, when I was working for Goodyear on the blimp, and we flew over his 102 acres of antennas up on Palos Verde hills, the former site of Mackay Radio Comm. Co., and saw his antenna layout. That is what most of us only dream about."

Bill Manson, KN6RH, reports that he worked a TO2TK on 10 Meter CW back on 29 January 1994. Bill has checked with our column, *QST*, and the *Callbook*, and found no information on a QSL route. Bill and several fellow DXers have doubted that such a country exists with that prefix.If you will check the ITU allocations, (found in the rear of you ARRL logbook), you will see that this prefix is assigned to France. This prefix is often used by French territories in substitution for such prefixes as FM, FO, FY, etc.

We have no listing for a TO2TK. However, there is a TO2T, with the QSL route of F2YK. Perhaps, that is who Bill worked. The operator may have just sent the "K" too close to the call — typical of many CW operators. FO2T was operated by F2YT in the REF contest that weekend from Guadeloupe (FG).

Antique QSL Department

There is an interesting story behind this month's QSL card of H.D. Price, G6HP, of London. Yardley Beers, WØJF, who provided the antique card that confirmed a 1932 contact while he was W3AWH in Trenton, New Jersey, included the following information: "Usually there is nothing so unusual about a G QSL card to merit its receiving special notice, but associated with this one are

(1) an insight to 'antique' operating practices and

(2) a safety lesson, although one that is rarely needed.

"For background for what follows, I mention that, prior to World War II, amateurs generally did not make contact with stations on their own frequencies: in other words, contacts were generally 'split frequency' ones. There were three reasons whose relative importance changed in time:

(1) Before 1929 the frequencies assigned to foreign amateurs were different than those assigned to Americans. Amateurs operating in the American 40 Meter band (then 7.0 to 8.0 MHz) looked for foreign contacts all the way from about 6 MHz to 10 MHz.

DX Prediction — October 1994

Maximum usable frequency from West Coast, Central US and East Coast *(courtesy of Engineering Systems Incorporated, 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.

WEST COAST

UTC	AFRI	ASIA	OCEA	EURO	SO AM
10	*(10)*	10	*15	*(8)*	13
12	*(9)*	10	*13	*(8)*	*(13)*
14	*(19)*	10	13	15	23
16	*(22)*	10	*16	15	27
18	23	*(10)*	*(14)*	*(13)*	28
20	23	17	*(21)*	*(10)*	29
22	19	22	25	*(9)*	28
24	*(16)*	23	28	*(8)*	*26
2	13	20	27	8	*21
4	*11	13	23	8	*18
6	*(11)*	12	19	9	*16
8	*(10)*	*11	*17	*(8)*	*13

CENTRAL USA

UTC	AFRI	ASIA	OCEA	EURO	SO AM
8	*(12)*	8	*14	*(8)*	*13
10	*(12)*	8	13	*(8)*	13
12	24	8	12	16	22
14	27	11	*19	17	*25
16	29	*(10)*	*(16)*	16	*27
18	28	*(10)*	*(14)*	*(13)*	*28
20	23	*(17)*	*(21)*	*(10)*	*29
22	19	*(18)*	25	*(9)*	*27
24	*16	*(16)*	26	8	*23
2	*14	*(11)*	21	8	*19
4	*13	*(10)*	18	8	*17
6	*(12)*	*(9)*	*(15)*	*8	*15

EAST COAST

UTC	AFRI	ASIA	OCEA	EURO	SO AM
7	*(12)*	*(8)*	*(14)*	*8	*14
9	*(12)*	8	13	*(8)*	*13
11	24	8	12	16	20
13	28	9	*20	18	*24
15	29	*(8)*	*(17)*	17	*26
17	*30	*(8)*	*(15)*	15	*28
19	*25	*(8)*	*(18)*	*(10)*	*29
21	21	*(16)*	*(24)*	*(9)*	*28
23	*17	*(16)*	26	9	*25
1	*15	*(11)*	20	8	*20
3	*13	*(9)*	*(17)*	8	*17
5	*13	*(9)*	*(15)*	8	*15

(2) Most amateurs used receivers with regenerative detectors, which blocked on strong signals. Usually an operator did not know precisely what point on the dial corresponded to his own transmitter frequency.

(3) In the late 1930s most amateurs used crystal controlled transmitters,


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To RADIO W3AWH Thanks for QSO on 14 MC At 2352 GMT on 29-6-1932

QSA 4 R 4

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PSE QSL RSGB ARRL BERU 73's HD PRICE

whose frequencies could not be set on the frequency of a received signal.

"As a result of this split frequency operation, amateurs listened for replies from a large portion of this band. Naturally calls were long. CQs were often for five minutes, and replies were as long, except for frequent brief interruptions for listening.

"With this background in mind, I tell of my visit to G6HP in his shack later in 1932. He said 'I think we have had four contacts.' I said, 'No, I think there were only two.' Then, when he read from his log book, I learned how he operated. When he listened for replies, he logged the setting of every station he could hear, some times eight or nine in number. Then he replied to the one whom he had selected. In this process, indeed, he had logged me four times but had answered me only twice!

"This split frequency operation was very tiresome, and produced only a few contacts per hour, in contrast to the present high speed situation. However, there were no pile–ups, and a QRP station had a better chance of getting through. While many amateurs had stations with power levels of a few hundred watts, there were few that ran the full kilowatt allowed by law.

"Professionally, G6HP was an engineer in a pioneering television station. A year or two after my visit he was electrocuted while at work by accidently making contact with both terminals of a high voltage battery. This tragedy made me properly frightened of the 700 volt battery I later used in a physics experiment. Although it is easy

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World Radio History

to turn off a high voltage AC power supply, there is no practical way to turn off a high voltage battery. One of the advantages of the present solid state equipment is that there is little danger from high voltage."

QSL Information

The DX Bulletin reports that QSL cards for Turkmenistan (EZ) should be sent to the new QSL bureau at P.O. Box 555, Ashgabat 20, TURKMENISTAN 744020. EZ8BO (formerly UH8BO) is president to the new society. Do **not** send QSL cards via the old route, P.O. Box 88, Moscow.

Jeff Herbster, KJ6QO, who operated from Somalia as T5QO in March 1993, reports that he has over 500 U.S. contacts that either don't know they could get a QSL that counts towards DXCC, or they've been sending their cards to Somalia, which is a big mistake. Jeff made over 2600 contacts during the period March 11–21, 1993. If you would like a T5QO, then include an SASE to Jeff at 11030 North 82nd Avenue, Peoria, AZ 85345.

QSL Routes

1AØKM	—IKØFVC (See Note 2)	EL2FD	—K4XG
3B8/ON4QM	—ON4QM	ES9OH3MFT	—OH3MFT
3G3R	—CE3FIP	ES9OH3LYA	—OH3LYA
4K4POL	—UA6KCL	EV5DX	—DL1OY
4K5ØØW	—DL6KVA	EX3Q/UA4FAO	—UA4FAO
4N7DW	—YU7BJ	EX7Q/RZ4FXT	—RZ4FXT
4U1ITU	—(See Note 1)	EX8DX	—F5OJO
5H3JB	—NK2T	F/DL8AAV	—DL8AAV
5N6ZHM	—WA5TUD	FP/KA1NCN	—AA1AS/ KD1FE
5X1F	—WB1DQC		
6V1A	—6W6JX	GC4MBC	—G4BWP
6Y5JA	—6Y5RA	GJ3OZF	—G3OZF
7S7CA	—SK7CA	GMØNEB/M	—GØNEB
9Q5CM	—CT1EDX	GW5LP/P	—G5LP
9U/F5OWB	—F6ITD	GX4YB	—G3SWH
AHØT	—JA6BSM	HB9FG	—HB9ALM
BS7H	—W6CF	HC8A	—WV7Y
C6ASY	—WA4WTG	HC8KU	—DK5VP
C91BX	—CT1EEX	HH2PK	—KA9RLJ
CG7G	—VE7RCN	HSØZAU	—WB6MZL
CS1CW	—CT1ZC	HZ1AB	—K8PYD
CU3AN/CU4	—CU3AN	IBØC	—IKØAZG
D2TT	—ON5NT	IM1A	—I1RBJ
D94WC	—HL2KAT	IOØC	—IØNZK
DU7/SMØCNS	—SMØCNS	J87BZ	—DL7FT
ED1IDT	—EA1EZQ	JT7FAA	—SP4BY
ED1WPX	—EA1DD	K1RX/BV	—K1RX
ELØAN/MM	—OH2BDP	KA3HMS/KH3	—KA3HMS
KD4GLC/6A	—KD4GLC	TT8OBO	—WA4OBO
LX75KGS	—LX1NO	TU4EI	—W3HCW
N1KDS/KL7	—WØGLG	TZ6FIC	—F6KEQ
NE8Z/1CØ	—K8LJG	TZ6WO	—WB6EQX
OM5XX	—OK3CQR	UE1NBZ	—RN1NF
OX3/G3ZAY	—G3ZAY	UU9JX	—UT5JAJ
OX3/WJ2O	—WJ2O	V29PE	—G3DLH
OY/SM3TLG	—SM3TLG	V31LM	—WØIIM
P4ØO	—K2TW	V63SD	—K7ZSD
P4ØW	—N2WW	VE8RAF	—GØBHA
P4ØWF	—WA6IWF	VK9IG	—JA3IG
P4ØWH	—WDØEWH	VP2E/GELDH	—G3LDH
R3ARES/5H	—RW3AH	VP2MES	—N3LKB
RK1OWZ	—WA7OBH	VP5NC	—AA4NC
RV3GW/1	—DL3ECK	WØGLG/KL7	—WØGLG
SP1KYB/1	—SP6TPM	XQ8ABF	—CE8ABF
SP2CYK/1	—SP2CYK	XR5IQ	—CE5BPE
SU1KR	—OK2EC	YP7ØØBV	—YO6EZ
SV9/G4OBK	—G4OBK	ZA1AJ	—OK2PHZ
T3ØRT/T32	—VK4CRR	ZD8OK	—N8ABW
T9/N2QBY	—DA4GR	ZF2GT	—NØTG
T91ELS	—9A2AA	ZF2JI	—KG6AR
TM9RAT	—F6KED	ZK1ALF	—AA6BB
TO9IS	—FYØEK	ZW7AB	—PS7AB
TT8/F5LGF	—F5LGF		

3B8/ON4QM —Marcel Dehonin, Everestraat 130, B–1932 St Stevens Woluwe, BELGIUM

5Z4/F5IBZ —P.O. Box 41784, Nairobi, KENYA

9G1UW —Werner Groen, P.O. Box 781, Accra, GHANA

CE1LDS —Oswaldo Diaz, P.O. Box 644, Antofagasta, CHILE

ET3BT —P.O. Box 6128, Addis Ababa, ETHIOPIA

EY8AM —Peter, US5MKO, P.O. Box 4, ZC 349670 Novopskov, UKRAINE

FO5OU Christian Ramade, F6GQK, 75 Boulevard Marechal Juni, 33510 Andernos–les–bains, FRANCE

GBØTI —P.O. Box 49, Leicester, ENGLAND (or via Bureau)

HSØAC —P.O. Box 1300 NANA, Bangkok 11112, THAILAND

JD1ALM —Kenji Suzuki, 102, 1–4 Edahigashi 3 chrome, Midori–ku, Yokohama 225, JAPAN

JR7ISY/JD1 —Mikirou Goto, 405, 3–7 Kitami 9 chrome, Setagaya–ku, Tokyo 157, JAPAN

JW4LN —Tom Victor Segalstad, LA4LN, P.O. Box 15 Kjels, N–0411 Oslo, NORWAY

LB3RC/JW —Magne Nicolaysen, LB3RC, Stgaards Gate 23 B, N–0474 Oslo, NORWAY

TJ1TN —Tom Needham, P.O. Box 2151, Bamenda, CAMEROON

VE3VRO —Fred Giles, 260 Adelaid Street, P.O. Box 72, Toronto, ON M5A 1N1, CANADA

VK8TI —Gove Amateur Radio Group, Arnhem Land, P.O. Box VK8TI, Gove, NT 0881, AUSTRALIA

XF3OZ —Augustine, P.O. Box 25, Cancun 77500, MEXICO

YWØRCV —Radio Club Venezolano, P.O. Box 2285, Caracas 1010–A, VENEZUELA

ZA/Z32KV —Vladimir Kovaceski, P.O. Box 10, 96330 Struga, MACEDONIA

NOTES:

1. Contacts made with 4U1ITU during the 1994 IARU HF Championship Contest (July 9–10) should be sent via the 1994 *Callbook* address of WA2CJT. Contacts made on June 21, 1994, go via DL3DXX.

2. This route applies for the current operation only.

Many thanks to the following contributors: TF5BW, VE3XN, WF1N, KC5ALW, KJ6QO, KN6RH, N7SWU, WØJF, Western New York DX Association (KB2NMV), Western Washington DX Club (WAØRJY), Salt City DX Association (KB2G), The Ohio/Penn DX PacketCluster (KB8NW), The *American Radio Relay League* (K5FUV), *The Low Band Monitor* (KØCS), *Inside DX* (N2AU), *DX News Sheet* (G4DYO), *QRZ DX* (W5KNE), and *The DX Bulletin* (VP2ML).

This month's column was submitted two weeks earlier than our usual date as we planned to visit the Northwest DX Convention in the Vancouver area and from there on to Alaska. Some of you will be reading this about the time we return. We hope that you all had a good summer. Good luck on the DXing, de John N6JM. WR

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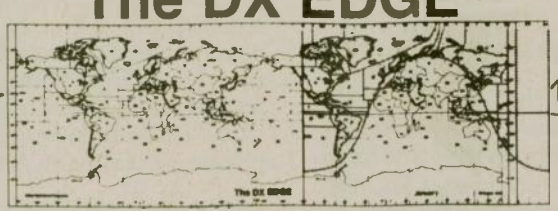

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The wonderful world of computers came into my shack in 1976 when I bought a SOL computer made by Processor Technology in the Silicon Valley of California. The SOL computer was first sold as a kit, and then later as completed and ready-to-work computers. When I first put it to work it used cassette tape recorders to hold the files. In fact it took about five minutes to boot up.

My next improvement was the addition of North Star disk drives and operating system to go with it. Then, using Basic language, I wrote my own bookkeeping and animation camera programs to use in my industrial film-making business. It all worked fine until one day the proprietary boot-up system quite working. This disaster happened long after Processor Technology had gone out of business. I turned to John Dovorak, who then had a small company selling software, for help. John put me in touch with a man named Lee Felsenstein. "If anyone knows how, it's Lee," reassured John.

"I think the boot-up system has gone out on my SOL," I said to Lee when I got him on the phone.

I had the schematic book for the SOL in front of me with the schematic drawing of the proprietary system chip circuit in full view. The EPROM chip was located on a small printed circuit board that slipped into a socket mounted slightly above the mother board.

"You can't buy the EPOM we used anymore," said Lee, "so you'll have to get a substitute." He paused a few seconds and then gave me the number of the programmable memory chip. "But you'll have to change the circuit board before you can use it." I had suffered with visions of my computer going to the trash heap because it wouldn't boot. All my company records were on the floppy disks that went into the two North Star disk machines. Panic hit me!

"I wish I had the drawings for that circuit," said Lee.

"I've got them right in front of me," I said quickly.

Then Lee talked me through the changes by naming pin numbers, traces to cut, and jumpers to install from memory. I checked them on the schematic; they all seemed right.

When he finished telling me how to do it I said, "By the way, Lee, what did you have to do with the SOL?"

"I designed it," was his answer.

I thanked Lee and set to work. I phoned an order for the EPROM to nearby Thief River Falls, Minnesota Digikey Company, and got out the soldering iron.

The code for the boot-up was in the massive manual that came with the computer, but burning the chip was a problem. So, I called the late Ernie Anderson, WØRRW, in the Electrical Engineering department of North Dakota State University and told him my problem: Ernie said simply, "Bring it out and I'll get a grad student to burn a chip for you." And so I did. The SOL was back on the line and did yeoman service for more years. Keep in mind that the SOL with North Star operating system and disks was a primitive machine. The disks held 77K, the SOL had 48K of RAM, no hard drive, and its speed was pretty slow. But it did the job!

That is the first computer technical service phone call that I ever made, but it certainly has not been the last. All it took was two simple phone calls to get the job done. By the way, I think Lee was designing the Osborne portable computer about the time he helped me with the repairs to the SOL.

But today it's a different story. You have to call the technical service department and go through a litany of "If you want the sales department press one — if you want the. . . press two," and so on.

Then you wait — and wait and wait. Every two minutes a nice female voice comes on and says, "All of our agents are busy. . . etc." And then you wait some more. I know all this because I have spent many hours on the phone to computer and software companies, etc.

In the past 15 years I've had to go through the phone game of trying to get help for a dead-on-arrival printer, a ditto scanner, the replacement of a disk drive, PC boards for printer enhancement unit that didn't fit the printer, and many upgraded software replacements. And I ain't done either.

So, recently I thought that instead of wasting a lot of time and running up a phone bill while listening to Musak, I would write a letter to Microsoft and see if the technical support people could help me with a problem I have discovered with an old CD-ROM "Bookshelf" program that the mighty Bill Gates' multi-billion dollar company sold me back in 1987.

I can't get the 1987 version to work in my 486-66 computer, although the 1991 disk works fine as a TSR program. The 1987 version had the *Chicago Manual of Style* book in it, a valuable book for anyone in the publishing area; the 1991 version (or later) does not. So, I spelled out my problem very carefully in a letter, put a 29 cent stamp on the envelope and mailed it to Microsoft. I thought Bill Gates might have someone who could read the letter, figure out my problem and if it needs a new driver, mail same to me.

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But no, I get three double-sided sheets of phone numbers that might answer my questions and fix my problems — that is, if I can figure out which one of the many phone numbers will have somebody skilled enough to work on my specific problem. I thought the hundreds of tech reps would sooner or later funnel my problem to the one guy or gal that could fix it, but no, I can see their solution, "Send that old goat the form letter 5/94 GL1012."

So, after reading the three sheets of numbers, I tried the letter writing business again, only this time I wrote a new and, what I thought at the time, more compelling missive (I just looked up in the Bookshelf 1991 dictionary the word "missive" — it only took a few seconds — but I can't get into the *Chicago Manual of Style* locked upon the 1987 CD-ROM disk. Years ago I gave my printed *Chicago Manual* to my daughter who lives 250 miles from here). When I finished, I tossed the letter into the mailbox and waited for results.

A couple weeks later the same three sheets arrived in a big envelope. No luck, again. And in the very same mail was an advertising packet from Microsoft trying to sell me one of their new multi-program jobs. Sorry, Bill, I'm trying to keep you from getting all my money, but, alas, you'll get more because I use programs that only come in a Windows version — and you have a monopoly on that beast.

Link failure

Chip Purchase, N5NPR, and I have been swapping messages on packet for a long time. In the course of our swapping, I've received well over 125 from Chip in Houston, Texas. Rarely do they come in sequence, but we have had fairly good percentage of deliveries in Chip's messages tome. But my messages going back is another story. For a long time they went zipping down to the Texas city with speed and dispatch, but recently I have been getting my messages returned to me with a notation that they could not be forwarded because of a link problem. So, what do I do about that?

The style used in the return message is to include the whole text along with a note about the link failure. So, to get my stuff to Chip, I have been printing out the "returned" messages on paper, bundling them in an envelope and mailing it to Chip. Packet message goes radio one way; answer rides the U.S. Postal service. Seems sort of silly, doesn't it? But it saved a bunch of "lost" messages. At least they didn't die in the "Bit Bucket Network" out there in radio land.

EAVESDROPPINGS

PLEASE QUOTE ME IF I'M WRONG. . . WENT TO MY HIGH SCHOOL CLASS REUNION THIS SUMMER AND THE PLACE WAS SO FILLED WITH OLD PEOPLE THAT I LEFT. . .I STAYED AT A MOTEL SIX ONCE AND FROM NOW ON THEY DON'T HAVE TO KEEP THE LIGHT ON FOR ME. . .I WORKED A CAT WHO WAS MOBILE FROM SANDBOX, OKLAHOMA. . . MY WIFE KEEPS TELLING ME SHE'S A HARM RADIO WIDOW. . . WITH DX SO POOR THE KILOCYCLE COPS HAVEN'T HAD MUCH TO DO THESE DAYS. . . RTTY SEEMS TO HAVE LESS SOAPBOX OPERATORS THESE DAYS... I THINK THE ONLY WAY TO SHUT RUSH LIMBAUGH UP IS TO ELECT HIM VICE PRESIDENT. . .WHAT EVER HAPPENED TO THE ALL THOSE C-64 COMPUTERS THAT WERE ON THE HAM BANDS A BIT AGO? . . .THE BEST WAY TO WORK THE DIGITAL MODES ON HF IS TO LOAD THE TYPE-AHEAD BUFFERS WITH EVERYTHING IMAGINABLE AND THEN YOU'LL SOUND LIKE A FIRST-CLASS TYPIST WHEN YOU REALLY ONLY TYPE WITH TWO FINGERS.. . . REMEMBER WHEN WE CALLED IT STEAM RTTY? THEM WERE THE DAYS. . .RADIO HAS SURE COME A LONG WAY FROM SPARK DAYS, WHATEVER THAT WAS... OUR WEATHER BURO IS GOING TO GET A DOPPLER RADAR TO POKE HOLES IN THE THUNDERSTORMS. . . WORKED THE SHUTTLE BUT WAS SO EXCITED I FORGOT TO PUT IT IN THE LOG... WHATEVER HAPPENED TO THE BEACON STATIONS ON 14.100, MAYBE I SHOULD LISTEN THERE ONCE IN A WHILE. . . HEARD A COUPLE OF OLD TIMERS TALKING ABOUT USING CP\M ON A COMPUTER — WHAT IN THE WORLD IS THAT? . . .AT MY HIGH SCHOOL REUNION I KISSED MY OLD COLLEGE GIRL FRIEND TWICE!

Thanks to K1FLD, N5NPR, W7VFR, and others for help with this column. Write me: Bill Snyder, WØLHS, 1514 South 12th St., Fargo, ND 58103. My packet address is WØLHS @ WØLHS. #SEND.ND.USA.NA. 73 and DIT DIT>

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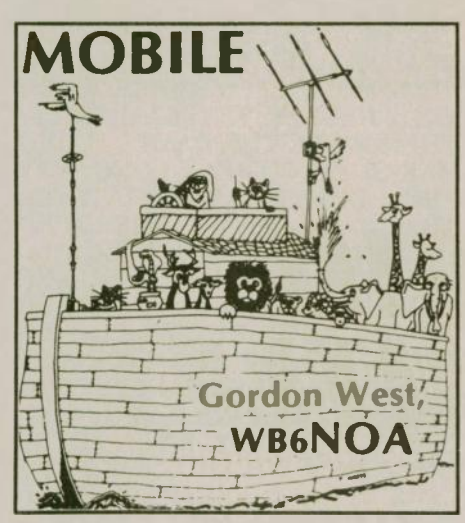
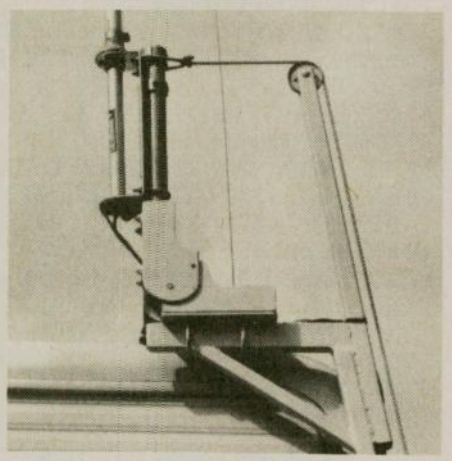
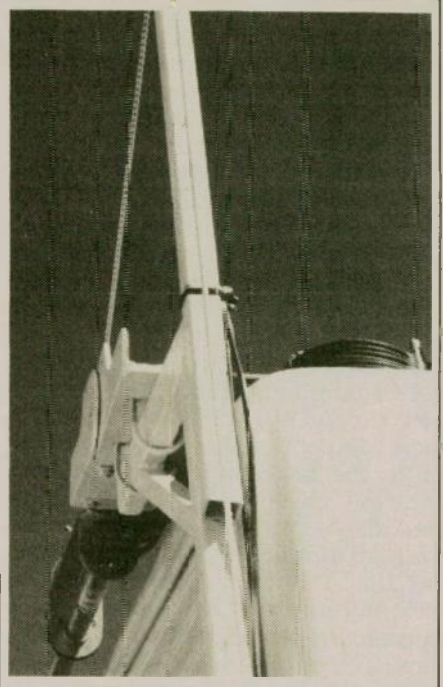




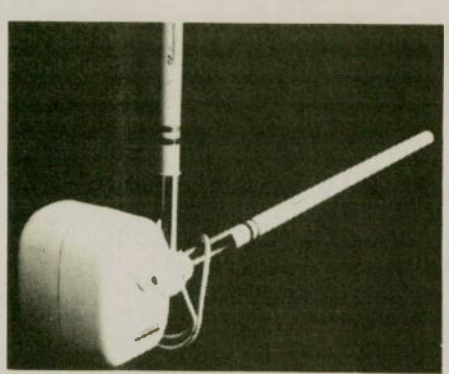


From 2 angles, KG6ON, Bill Lacy's homebrew, up-down, heavy duty mounting system.

"Lay-down mobile antenna mounts"

Vehicles, vans, and big motorhomes each require unique lay-down mounting hardware for both VHF/UHF antennas as well as bigger high-frequency antennas. On small cars, laying the antenna down before you back into the garage is as simple as getting out and adjusting the base for a nested horizontal position. And good news for RV and motorhome hams — remote-controlled electric lay-down mounts may be just the answer to eliminate the hassle of climbing the ladder and manually dropping the antenna every time you want to clear a low bridge or overhanging limbs.

Both Comet and Diamond dual-band and tri-band tall mobile antennas feature built-in lay-down capabilities for those vehicle installations where you can easily reach the base of the antenna. Pull up on the antenna, and the internal spring assembly then allows you to lay it down horizontally. There is absolutely no loss of performance, and I have never experienced any continuity problems with this unique "lift and lay" feature.



Shakespeare motor-driven mount.

Both Comet and Diamond also offer adjustable mounts which don't require any special tool to quickly swing from vertical to horizontal. The Diamond K-300M can support antennas as large as Outbackers with finger-action, lay-down ease. Comet offers the RS80 and RS81 mounts that can hang onto a trunk lid or hatch cover. You can select pre-fabricated coax kits that VHF/UHF antennas will screw into, or develop your own 3/8 x 24 hardware to support larger high frequency whips. Although most of these small lay-down mounts are not specifically designed for bigger whips, you can usually get them to work very well if you enjoy playing around with the right adapters that will fit into the mount's hole to accept the bigger antennas. Many hams use monofilament fishing line to keep the bigger whips straight up at highway speeds.

RVs and motorhomes will enjoy the ultimate of great range on VHF and UHF frequencies by mounting the vertical antenna at the tip-top of their vehicle. A new power lay-down mount may now eliminate the constant trek up and down the ladder to reposition the antenna. Maldol USA (Seattle, WA; 206/524-7826) offers the RVers their MK-30 power mount, best described by Maldol President Jim Smith as "a 12-volt DC remote-controlled mount to raise and lower your antenna system while seated in your RV." Smith indicates that this antenna mount is specifically designed for VHF/UHF antennas up to 65 inches long, but says he has seen some lightweight fiberglass, high frequency mobile whips that his new mount easily raises and lowers. I personally tried some ASA and Ham Sticks on this electric mount, and it works great. Maldol also makes several varieties of manual lay-down mounts, too.

For major sized mobile home antennas, like a 5-band trap vertical, there are bigger motor-raising systems available, specifically "geared" for bigger marine antennas aboard boats. Shakespeare Electronics has a 12-volt DC antenna raiser that I have seen successfully lift lightweight home-style, multi-band vertical antennas, less the heavy 80-meter resonator. (Info: Phone 708/662-9070)

And for very large home antennas that need a lift on a motorhome, Bill Lacy, KG6ON, offers photos on how to develop a winch system to quickly raise major antenna systems to their vertical plane. WATCH OUT FOR WIRES — YOU COULD BE KILLED if any antenna comes in contact with overhead voltage-carrying conductors. "I have a 6-band vertical on my mounting system, and I can get it up and running within 2 minutes," comments Lacy, KG6ON.

Lay-down mounts are available in so many models that you are bound to find the right type of mount for your VHF/UHF mobile antenna, or even for a lightweight HF mobile whip. WR

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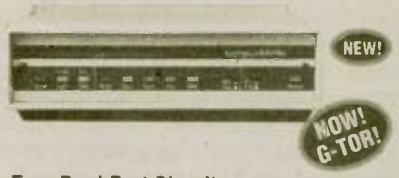

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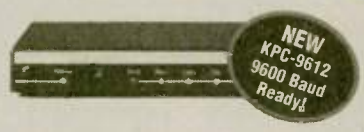

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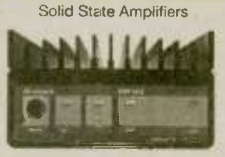

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BASIC Safety

Some years ago I read what I though was a great idea. The writer suggested that if you were going to put up an antenna mast, then you might find it worthwhile to put it on a tilt-over base and lean the top half against your house roof where you could work on it.

It made sense. So when it came my time to put up a more-or-less permanent tower I put the idea to work. First, I planned it out on paper — drawing all the views and double checking calculations, etc. What I ended up with was about 40 feet of Rohn tower hinged to a base about 25-feet out from the house so that the top few feet extended above the apex of my roof.

Then I committed myself to proceed with the actual work. After positioning the base plate and while the concrete was curing I assembled the tower on the ground, hoisted one end up to the roof and aligned the base with the hinge plate. Everything pretty much matched the plan.

Next I proceeded to mount the rotator, thrust bearing assembly, mast pipe, four-element tribander and all the control wiring and coax. Everything worked as advertised. The roof made a great platform to lay out components and tools and offered the freedom move around during the assembly process. From here on out all I had to do was push or pull the tower to vertical, guy the thing, and give my antenna the smoke test.

That's when I ran into trouble. I found it impossible to push the darn thing off the roof! My crew and I could push and pull all day, and still the thing wouldn't move.

We finally solved the problem by using a block and tackle to pull the tower to vertical. It wasn't until the tower was upright and guyed that I got rid of that helpless feeling — the one you get when you know you've done everything right yet things still come out wrong.

I am calling this article "BASIC Safety" because it may save you some problems, and possible personal injury, if you ever decide to "walk up" your own tower or mast. The generic BASIC program will give you some idea of the forces involved with raising towers from horizontal to vertical.

The biggest trap is that it seems like an easy chore when you first lift one end and start walking it up. Since half the tower is resting on the ground, the half you're holding seems to weigh only half the total weight. But the closer you get to pushing it upright, the harder it seems to get. At some point along the way you will begin to wonder if you're some kind of nut walking into the business end of a giant nutcracker.

With that in mind, this month's program solves some of the physics you'll find yourself dealing with when putting up hinged towers. The program asks for tower length, weight, and shoulder height, then it calculates and prints the equivalent force (weight) of the tower you can expect to experience for each foot as you walk closer to the base. You can then see if the forces are something you can handle, or if you need to consider other alternatives. (See Figure 1.)

```
 0 REM: WALKUP.BAS, BY KD5DL, WORLDRADIO 10/94
10 INPUT "TOWER LENGTH, FT";L
20 INPUT "TOWER WEIGHT, LB";W
30 INPUT "SHOULDER HEIGHT, FT";H
40 PRINT: PRINT "FEET TO BASE  LIFTING FORCE": PRINT
50 FOR X=L TO 1 STEP -1
60 PRINT X, L*W*COS(ATN(H/X))*SIN(ATN(H/X))/(2*H)
70 NEXT X
80 END
```

Figure 1.

To try the program for accuracy, try loading a 40-foot of Rohn RG-25 tower. Each section weighs 40 pounds, so the four sections total 160 pounds. Assume your shoulder height is an even 5-feet. The program should show you that the forces you encounter at 30, 20 and 10 feet from the base are 103.78 pounds, 150.59 pounds and 256 pounds.

But look at the maximum weight — 320 pounds! That's twice the actual weight of the tower, and that's what it will feel like you're lifting when you're a mere five feet from getting the tower vertical! The question you have to answer is: can you handle it?

Of course, you'll run into heavier loads with longer or heavier towers and on towers with rotator and antenna loads already in place. In my case, I figure I was trying to push up a tower that was pushing back with around 500 pounds of force, or more. No wonder I couldn't get it to budge.

Directions revisited

Remember our SUNTRACK.BAS program in last October's issue? I just happened to notice that Irwin "Mac" McNally, K6WX, has another program

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```
355 IF UTC=12 THEN GOSUB 500
500 ET=UTC+LO/15+.99727*(R/15-KB)
510 PRINT "LOCAL NOON=";100*INT(ET)+INT((ET-INT(ET))*
60+.5);" UTC"
520 RETURN
```

Figure 2.

for finding the direction of true north. His IBM BASIC program, which he calls NSHADOW.BAS, is on the ARRL BBS and on the Internet file pub/hamradio/arrl/infoserver/qst at oak.oakland.edu.

McNally says his program computes the "equation of time," which, in turn, determines the time of local noon. Local noon is seldom 12:00 local, but rather it's the time when the sun is at its highest point in the sky. Shadows cast at high (local) noon will fall directly on a true north/south line.

I have a few problems with finding directions at high noon. One problem is that at noon the sun's shadow will be at its shortest length of anytime else during the day — possibly too short to use. On certain days, for locations in the tropics, the sun can be directly overhead at high noon, where it doesn't cast shadows at all! Another problem I have is that the sun seems to transit the sky most rapidly during meridian passage at high noon. Unless you time your local noon very accurately, your direction-finding abilities will suffer.

Awhile back I received a letter from Jack Sproat, YB1ARW. Jack lives in Jawa Barat in Indonesia. In his letter he stated that he had some degree of success in finding true north by noting the sun's shadow during the Islamic call to noon prayer in this country. He also pointed out that old ARRL Antenna Books (eg. the 1980 edition) provide tables for finding local noon times for any location on earth. I found that the addition of four lines to the SUNTRACK.BAS program will do the same thing (see Figure 2).

Now, whenever you run the program with 1200 as the UTC input, your computer will also provide that date's time for local noon. Just remember that the azimuth and elevation for the sun will still be given for the 1200 UTC time. If you want the find azimuth and elevation for local noon you must answer "YES" to "DO ANOTHER?" and input the local noon UTC just given you.

Back to Mac: He sent me a nice letter a few years ago and mentioned his interest in antennas. He included in his letter a program for loaded vertical antennas. The program was originally written for Hewlett-Packard HP-97 calculators, but Mac translated it to BASIC and said he had versions for IBM, TRS-80 and C-64 computers.

If you're interested, write Irvin L. McNally, K6WX, 26119 Fairlane Drive, Sun City, CA 92381. Don't forget to mention which version of the program you want, and include a self-addressed stamped envelope for the listing. WR

Daffynitions

ALEX COULTER, WB6ZWG

Notch Filter: A device used by the Federal Government to filter "notch babies" through the bureaucratic cracks.

Gray Line: A company that provides bus tours to various points of interest in the United States and Canada

Spectrum Analyzer: A specialized medical instrument designed to detect kidney stones by a photoconductive process.

Truth Table: A specialized table used exclusively for polygraph testing.

Ion Trap: A miniature trap designed to catch rebel ion strays that would otherwise form gangs and meet at a CRT (Center for Rebel Terrorizing).

Ripple: a flavor of ice cream that is basically vanilla with swirls of chocolate, plus marshmallows and nuts.

Signal tracer: The name assigned to a committee of qualified Amateurs who are responsible for tracking and destroying any spurious radio signals.

Clipping: An offensive act, or foul, that occurs in professional sports and usually results in a penalty or fine.

Popcorn noise: A familiar sound associated with the snack bar in discount department stores, or in the theater.

Intercept point: A precise location where the posse will plan to "head them off at the pass."

—*Communicator,* Kern County Central Valley ARC.

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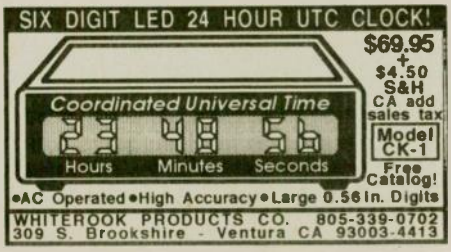

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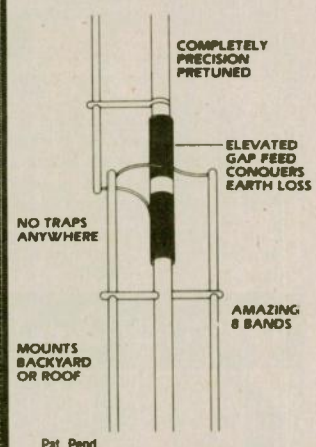

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World Radio History

John G. Troster, W6ISQ

Now Hear This

QCWA President Emeritus and Board member Leland (tench hut) Smith, W5KL, has been elected President of the OOTC. For you young squirts, that's the Old Old Timers Club which you too may join if you have been an amateur for 40 years. As you read from the above appellation, Leland is a Past President of QCWA and a lot of other organizations, too. When you find anyone as capable as Leland as busy as Leland, you just naturally want to give him another job which he will perform with distinction. Good luck at the new post Leland. Semper Fi!

National Convention. Way To Go!

Where are you going to be the weekend of September 30-October 1? Well, if you are not off on that once-in-a-lifetime vacation to the Antarctic or Lhasa why don't you load up the old RV with the YF and rig, head for El Paso, Texas, and join the other Old Goats for a weekend of fun, frivolity, and searing Southwest hot sauce. Chef Luigi McCoy, W1ICP, will be there to judge "how hot?" Robert Carroll, K5IE, is the President of QCWA Chapter 64 which is putting on the blast, who writes to point out just a few of the high points. A few technical papers, a Forum of course, tours of Juarez (for shopping), old Spanish missions, Indian Cliffs Ranch for steak, trimmings and dancing. Wah Hoo. Add to all that the fact that Carlsbad caverns and White Sands National monument, are an easy drive.

There's another plus for those who drive. You can talk your way into El Paso via the repeater on North Mount Franklin on 146.88 which is good up to 100 miles from the city. A back up is available on 146.62 (100 Hz tone).

Our hosts at Chapter 64 need to know who's coming. Make a promise. Act at once. After you finish reading this *WR* article, sign up! If you haven't already, send in your reservation. Write or phone Treasurer Manuel Gonzalez, W2BFI, 6369 Monarch, El Paso 79912; phone 915/584-2326. Please join us. Pleasant weather is promised.

Just on the slimmest of chances that you are not already a QCWA member, but would like to be and go to the Convention, you can join by writing Big Jim Walsh, W7LVN, 159 E. 16th Ave., Eugene, OR, 97401-4017. Tell BJ you are in a hurry to join up so you can go to the Big Barbie. He'll fix ya right up. See ya there.

QNB Chip Margelli, K7JA

Everyone should be familiar with the latest Q signal, QNB, signifying the QCWA "New Breed," young member with lots of get-up-and-do-it. The first QCWA-elected QNBer was Chip Margelli, K7JA, who gets up and streaks like a VHF Fox Hunter specialist. You've probably seen the article in August *CQ* by Joe Lynch, N6CL, VHF editor of that magazine and also editor of the *QCWA Journal*. It covered a trip to Cuba by K7JA and N6CL, and others, to participate as a joint American/Cuban team in the ARRL VHF contest operation. It's also covered in Chip's monthly "CQ DX" column in QCWA. Chip's been doing interesting things like this for many years.

He was born in Carbondale, Illinois, and grew up in Tacoma, Washington. He was a serious type young fella with an early interest in classical music which led to the French horn and a seat in the classical symphony concert band in high school. His interest in radios surfaced at an early age too, and with the help of a friend's father, Mel Pruitt, K7ATF, Chip got his Novice ticket at age 10. He was an excellent science student with a particular interest in math, astronomy, and quickly upgraded his his amateur license to General at age 13, then entered the realm of 6 Meters and fox hunting. There was no particular reason at that time to go for Extra Class, but when incentive licensing came along, Chip hove into the texts for three weeks and passed the Extra, at age 16.

The University of Washington (rah) a major in Political Science with emphasis on Asian Political Systems, graduation in 1974, and an MBA in International Business, all followed. During those college years, Chip became active at the famous multi-operator contest station at W7RM, owned by contest guru Rush Drake, a leader in the contest world. With that tough training, Chip has become a world-class contest operator, winning many major world contests. Chip and his partner Mike Wetzel, W9RE, won the silver medal at the World Radiosport Team Championship held at the Goodwill Games in Seattle in 1989.

In the world of DX, Chip was a member of the International team that went to Albania in 1991 to re-establish Amateur Radio in that country after decades of radio silence.

What do you do if you are a French horn-playing, Poly Sci major with an MBA? Naturally, you go to Saipan to compete in the All-Asia DX Contest! And since he was already half way across the Pacific, Chip then went to Japan for a look-see and a polish-up in his language skills. He liked what he saw and when he got home, he wrote to the president of Yaesu Corporation saying he was available for a position

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in the product development department or the technical support group where he would be valuable in communicating the western philosophy to the manufacturer. The reply advised him to go to California for an interview and stand by to get a visa. While awaiting that, he took off for the Caribbean to work the ARRL Sweepstakes contest from the Virgin Islands — just to keep up his skills in the pile ups, ya know.

In '77,the job with Yaesu came through and Chip moved to Tokyo. He was put in the Service Department to translate equipment operating manuals into English. The wealth of amateur experience he brought with him was a valuable asset, allowing him to confer with engineers in the company on concepts and features of the next generation of radios.

In'78 Chip married Janet, WA7WMB, whom he had known since his days at the Tacoma Radio Club. She was a radio broadcast engineer with a couple of commercial tickets and a good DX operator. They lived in Tokyo until December '79, when it was Soyonara JA, Hello Yaesu USA, Los Angeles, where they still reside.

May '93 found Chip leading a group of about 100 hams on a cruise tour to a half dozen Caribbean islands. At each island when the ship docked, they would hastily set up antennas and transmitters at a pre-arranged hotel or open spot. Each amateur on the tour had his/her own assigned call for each island and each would get a chance to work the pile-ups on one of three or four rigs. In toto, there were 270 calls assigned to the travellers! With 30-40 wishing to operate each time, there were some good pile-ups on the equipment too. At each stop, local amateurs were invited to join the group for a catered lunch or other soiree. At sea, in international waters, the rigs were always ready for operation by anyone who wished to stay awake all night. There were also evening lectures delivered by distinguished guest lecturers. Oh by the way, what equipment do you suppose they used?

Subscribe to *Worldradio* —for all the latest QCWA news and MORE!
See page 9

Chip travels around to conventions as a speaker on various subjects. His current favorite talk is "International Goodwill Through Amateur Radio," a subject he's well qualified to offer. His motto — "Send Ticket, Will Travel." You may find him at some of the ARRL Division Conventions or DX/Contest where speaks and hands out QCWA membership forms as his QNB appointment allows. As a matter of fact, when you see Chip at any convention, step right up and say "73 plus 25 OM. Ahhhh. . . do you have a QCWA for my old friend here?"

YF Janet is active in these activities too, accompanying Chip on the island cruise and to Cuba. In everyday life, she is the store manager of the Ham Radio Outlet store in Anaheim. When family control is necessary, she reminds Chip that he does not have any commercial licenses!

Chip advises that he's in need of help in the QNB department. Therefore, he has convened a conclave of the QNB Society to search for a suitable candidate who will share the mighty load and responsibility of QNB service. Don't know yet what he has planned, but we'll QSP when we find out.

We'll depart this month with Chip's admonition, "keep your final dipped." Until then. . . 73 and 25 Jack, W6ISQ **WR**

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YLs on the Air

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Coming Events

Sep 24-25	JLRS Party Contest (Phone)
Oct 1-2	JLRS Party Contest (CW)
Oct 12-14	YLRL YL Anniversary Party (CW)
Oct 26-28	YLRL YL Anniversary Party (SSB)
Nov 12	ALARA Contest

The 6th of each month is YL Activity Day.

YL Contests

Julie Bouskill, VE3YHO, won the trophy in CLARA's annual contest, held in March. Margaret Armstrong, GØBMQ, was the top-scoring DX YL, and Kevin Bouskill, VE3UHB, was the winner in the OM section. Marcia Rast, K6DLL, won the SSB portion of YLRL's DX-YL to North American YL Contest, held April 27–29, 1994. Congratulations to all.

The Japanese Ladies Radio Society will sponsor the 23rd JLRS Party Contest in September and October. This contest is open to all licensed Amateur Radio operators throughout the world, and the phone and CW sections are scored separately. Logs must be postmarked by October 20, 1994, and go to Aiko Suzuki, JE2QEX. All participants will receive a certificate of contest participation, with a list of the contest results in January, 1995. Then stickers will be added to the certificate for future contest participation for ten years from the issue of the certificate.

YLRL's largest and most popular contest, celebrating the founding of YLRL in 1939, will be held in October. This one is for YLs only, and only YLRL members are eligible to win the first place cups. The CW and SSB sections are scored as separate contests, and the logs go to Carla Watson, WO6X, and must be postmarked not later than 30 days after each contest ends.

The Australian Ladies' Amateur Radio Association (ALARA) Contest will be held in November and is open to all licensed operators and SWLs throughout the world. (see *Contests,* page 58, for details). I'll be happy to furnish you with complete rules for all these contests.

CQ-YL, 4th Edition

Louisa Sando, W5RZJ, wrote a wonderful book about the early YLs in radio communications and the history of YLRL, called *CQ-YL*. There are eighteen chapters, including Long Time YLs — 1915–1925, the Pre-War Licensees — 1936–1941, War Service, YL Marine Operators, Public Service, and just about everything that was known about YLs when the book was first published in 1953.

The book has been out of print for a few months now, but the 4th edition has just come off the press, with over 600 photos and YLRL officer updates and convention coverage through 1994. Page size will be 6" x 9½" and pages will be punched to fit 3-ring binders, either 11" or 9½," so that future updates can be added easily. To keep the cost of the book and shipping as low as possible, binders or hard covers will not be provided. *CQ-YL* costs $12.00 and can be ordered from YLRL Supplies Chairman, Flo Reitzel, KU7F, 29633 – 235th Avenue S. E., Kent, WA 98042.

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YL Meetings

Berlin '96, the big YL meeting in Europe, will be held June 19–22, 1996, in Berlin. The organizers have selected these dates so that participants can also attend the meeting in Friedrichshafen, Germany, on the following weekend.

Each year at Friedrichshafen the YL clubs from across Europe have a stand or booth, with hand-outs and literature about their organizations, and there is a general meeting of YLs, which usually has more than 300 YLs in attendance.

This year the Italian YL Club was celebrating their 25th anniversary and had a special display.

Kurt Bindschedler, HB9MX, has attended every meeting in Friedrichshafen, except one when he was visiting the U.S., and I asked him to describe it. He wrote that it differs from the Dayton Hamvention in one aspect that is easily noticed. As you're walking around, you will hear more than 40 languages being spoken and see amateurs from over 80 countries. Each year there seem to be more attendees from the Middle East, with prefixes of OD, 4X, SU, 9K2, TA, 7Z1 and A4. Many come from Russia, Ukraine and the Baltic countries. In June, 1994, three ARRL representatives were present, and Kurt saw six other Americans, including K3JA, W6TC and NK6F.

On the exhibition grounds, which cover about 20,000 square meters, there are four halls where most of the activities take place. Hall 1 holds the exhibitions, with all kinds of equipment, test instruments, antennas, and accessories. In Hall 2 are forty-three information stands from the IARU countries and various Amateur Radio organizations. Hall 7/8 has the electronics, electrical technology, computer hardware and software, and publishers, and Hall 9 is the flea market. There is also a large camping area, a restaurant and several fast food vendors.

Usually held on the last weekend of June, the festivities begin on Friday and last through Sunday. Most of the meetings for contesters, award fans, DXers, YLs, QCWA and packet cluster, repeater, and digital enthusiasts take place on Saturday and Sunday, and the total attendance is around 20,000.

Friedrichshafen is famous for being the birthplace of the airship Zeppelin and can best be reached from Zurich, Switzerland, where a rapid train and ferry run to Friedrichshafen every hour. You could also drive from Frankfurt, Stuttgart, or Munich in about two hours. If you're planning a trip to Europe next summer, you might want to try visiting this event. Early room reservations are a must. For more information, write Stadt. Verkehrsamt, Tourist Information, D-88046 Friedrichshafen, Germany; phone 49 7541 203291.

YL Updates

Millie Clark, 9K2YE, has taken a leave from her work for a year and has returned to Canada from Kuwait. QSL to her home call, VE3OMG.

Iris Hayes, ZS2AA, was guest of honor at the South Africa Radio League's annual general meeting in April. She was given a standing ovation and SARL members sang, "For she's a jolly good fellow." Iris has been a member of SARL for 57 years and is South Africa's oldest YL, at age 90.

Toni Bull, N2CYL, is the new QSL Manager for Monica Maconi, EL2PP. It has been taking six months for mail to reach Monica so this will speed up the QSLs.

Remember when Darleen Soligny, WA6FSC, was traveling around the world on the ultimate DXpedition in 1971? Amateurs in almost every country were tracking her progress, as she eventually covered more than 50,000 miles and operated from many exotic locations. During the trip, Darleen met Joe Magen, HC2OM, in Ecuador, and they were married in May, 1972. DXers around the world rejoiced with Joe and Darleen, then HC2YL, especially when their daughter Diane was born in 1973.

And now Diane, KG5CS, has graduated with honors from the University of North Dakota at Grand Forks, where she was a regular on the Dean's List and a member of the senior honor society, the Mortar Board. She majored in Aeronautical Studies and holds a Commercial Pilot license, with Instrument Rating, as well as an Extra class license. In July, Diane married Rob Nelson, KBØLZM, in a beautiful ceremony in North Dakota. Sadly, her father Joe, WD5HIL, became a Silent Key in December, 1993, but Darleen, WD5FQX, continues to be active on the bands and it was a special pleasure to hear her describe the wedding on the YL Open House and Tangle Net recently. If you hear Darleen, WD5FQX, on the air, be sure to ask her for the full report! WR

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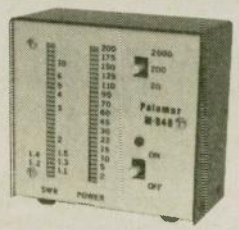

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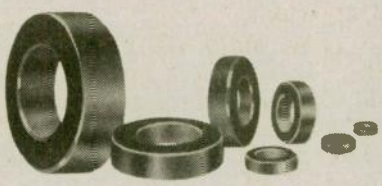

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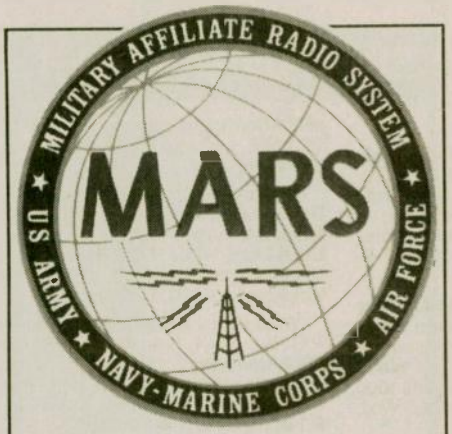

Lorraine S. Matthew, N4ZCF
MARS call AAA9PR

Army MARS — the New Army MARS — has placed increased emphasis on its primary mission of emergency communications support. Part of the Department of the Army mission, as set forth in Field Manual FM 100-19, calls for the use of Army communications assets in times of emergencies. Army MARS is a part of those assets and Chief, Army MARS, Bob Sutton has identified a specific mission that superbly fits the abilities of Army MARS. The unique qualities of our volunteer membership give Army MARS the capability of being the first to transmit critical Essential Elements of Information (EEI) from disaster areas. The EEIs provide vital early information to the decision-making managers within the Department of Defense (DOD) or other Federal agencies.

The Director of Military Support (DOMS) is one of the primary recipients of the EEI reports being provided by Army MARS. The value of Army MARS' capability to transmit such data first manifested itself during the California earthquakes early this year. Prior to this time, DOMS depended upon such commercial sources as CNN. They had long realized that this type of information only flowed one way. Often the commercial agencies were not available for the coverage they needed. CNN just happened to be in the heart of the earthquake area at that time.

DOMS needed some mechanism through which they could seek specific information and receive it in a near real-time basis. Army MARS proved itself capable of responding to that need. Through the use of several modes of operation, DOMS had a flow of two-way information set up to and from California. Through VHF (voice and digital) to HF (voice and digital) to E-Mail to FAX, and vice versa, the much needed information flowed. New technologies blended with the traditional technologies is one of the characteristics of the new Army MARS in 1994 and beyond.

July, 1994 brought many additional opportunities to use the EEI reports for coverage of actual incidents. Tropical Storm Alberto stormed into the Northwest Florida Gulf Coast during July 4th weekend, traveled into Alabama and Georgia, stalled, turned around and came back south. The effects of all this weather included high winds and torrential rains. The floods which followed devastated much of the area of southwest Alabama, southeast Georgia, and northwest Florida. I was fortunate enough to be in a position to serve with ARES for Walton County and, at the same time, to gather the badly needed data for the EEI reports. These reports were forwarded to the Area Director's Office for immediate distribution to DOMS. I was very concerned because I started to send the series on a weekend during which time area offices are closed. In fact, my Eastern Area Director, Fred Neff, was on vacation in Texas! Apparently, wherever he is, he does receive his E-Mail and my messages were at the DOMS office very quickly. At one point, DOMS asked me to get specific information. Judging from the time of the question compared to the time that I had sent the related report, DOMS had my report within minutes of transmission. I couldn't be more pleased with that kind of support from my Area Director. DOMS has sent several comments that that office is very pleased with the reports that they are getting and have requested more from different incidents that are happening all over the country. It is significant that DOMS has such confidence is the ability of Army MARS to meet the challenges of this mission that they requested information about the hurricanes approaching Hawaii through the office of the Eastern Area Army MARS Director — half a globe away from the activity in question.

Forest fires continue to plague the Southwest. EEI reports are helping the supporting Federal agencies through DOMS to know what type of support is needed and whether any Federal land or structures are involved. Midwest and Rocky Mountain states have had their emergencies as well — all reported with skill and speed. This, then, is another of the new looks of Army MARS in 1994 and beyond.

I mentioned that, like thousands of MARS members everywhere, I wore two hats during the flood emergencies. MARS members are being encouraged to serve with ARES since there is absolutely NO conflict between the two services. There has been, for too long a time, a misconception that their roles in times of emergency are competitive. Since we serve different roles and different agencies, there can be no such rivalry. If one can visualize the two agencies on a geometric plane, a plus sign would be formed...a plus for all the people we both serve. The horizontal arm of the plus represents ARES whose services and information flows from local situation to county to state and back again. Army MARS is represented by the vertical arm since our services and information flow to the Federal level and back again. The two agencies meet at one point — a dimensionless point — at which information and expressions of support are exchanged. Should ARES need additional operators or other support, Army MARS members are ready to volunteer to help — if, indeed, they are not already serving as ARES or non-aligned operators. Encouragement to serve in this manner is still another of the new looks for Army MARS in 1994 and beyond.

It was my pleasure to work with some very fine ARES and Amateur radio operators during the flood emergency. Their skill and professionalism were outstanding. I was proud to know that many of our Army MARS operators were also deeply involved. Certain net and traffic techniques might be different, but all parties adapted quite readily to those differences. The response from operators all over the State of Florida as well as the quality of work that I observed in action represented the best ideals of Amateur radio. Army MARS salutes all of those operators in the Southeast, in the Southwest and wherever else such operators are serving.

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ALABAMA

Montgomery Amateur Radio Club, (W4AP). P.O. Box 3141, Montgomery, AL 36109. Meets 3rd Mon./monthly, 7 p.m., State Trooper Dist. Office, Coliseum Blvd. & Federal Dr. Nets Sun. 8:30 p.m. 146.84(-) & Thurs. 8:15 p.m. 147.18(+). Info: Fred, K8AJX, (205) 270-0909.

ALASKA

North Pole Hamsters ARC. Meets 1st Mon./monthly, 7 p.m., VFW Bldg., Old Rich Hwy. & VFW St., P.O. Box 56424, North Pole, AK 99705.

South Central Radio Club. 8023 E. 11th Ct., Anchorage, AK. Meets 2nd Fri./monthly, 7 p.m., UAA Business Ed. Bldg., Rm. 220. KL7CC, (907) 338-0662 for info. Club rptr: KL7CC/R 146.97(-) PL 103.5 Hz.

ARIZONA

Arizona Repeater Association. P.O. Box 35758, Phoenix, AZ 85069-5758. Operates 15 VHF & UHF rptrs. in AZ. Meets 4th Thurs./monthly, 7:30 p.m., 1515 E. Osborne, Phoenix. Info: (602) 631-4879.

Central Arizona DX Assoc., (CADXA). Meets 1st Thurs./monthly, 7 p.m., Salt River Project Pera Club, 1/2 mi. West of 68th & Continental Dr., Scottsdale, AZ. Rptr. K5VT 147.32(+). Packet Cluster nodes (S): 145.09, 144.93, 145.03. Info: (800) 283-4319 or (602) 876-2718.

Cochise Amateur Radio Assn., (CARA). Meets 1st Mon./monthly, 7:30 p.m. at club facility on Moson Rd., Sierra Vista, AZ. WA7KYT/R 146.76(-) rptr.

Scottsdale Amateur Club. Meets 1st Wed./monthly, 7:00 p.m., Scottsdale Sr. Cntr., 7375 E. 2nd St., Scottsdale, AZ. Net Tues., 7 p.m., 147.18(+) rptr. Info: Barbara Myers, KB7UKD, (602) 837-6492.

Tucson Repeater Assoc., P.O. Box 40371, Tucson, AZ 85717-0371. Meets 2nd Sat./monthly, 7:15 p.m., Pima Co. Sheriff Bldg., 1750 E. Benson Hwy. Net Thurs. 7:30 p.m. 146.82(-), 146.88(-), 147.08(-), 448.550(-) & 145.15 Packet.

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(-).

Amateur Radio Club of El Cajon, WA6BGS. P.O. Box 50, El Cajon, CA 92022. Meets 2nd Thurs./monthly, 7 p.m., La Mesa Church of Christ, 5150 Jackson Dr., La Mesa, CA. 224.08(-). PL 107.2. Nets 147.570 Wed./Sat., 7 p.m. Info: (619) 697-2700.

Calveras Amateur Radio Society, (CARS), WA6YGA. P.O. Box 391, Angels Camp, CA 95222. Meets 3rd Thurs./monthly, 7:30 p.m., Fire Dept., 1404 Hwy 4, Angels Camp, CA. Net each Mon., 7:30 p.m., WB6MFV/R, 145.170(-), PL 100 Hz. Contact N6EL, Lloyd, (209) 754-3714.

Contra Costa Communications Club, Inc., WD6EZC/R. P.O. Box 20661, El Sobrante, CA 94803-0661. Meets 2nd Sun./monthly (except May & Dec.), 7 a.m., Baker's Square Restaurant in Richmond, CA. Info: Ed Caine, KA6OFR, (707) 996-0962.

East Bay Amateur Radio Club, Inc. Meets 2nd Fri./monthly, 8 p.m.-10 p.m., West Co Times Bldg., 4301 Lakeside Dr., Richmond, CA 94806. Info: Rachel Lewellen KB6LHR, (510) 233-5034.

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.

Gabilan Amateur Radio Club, (GARC). P.O. Box 2178, Gilroy, CA 95021-2178. Meets odd months, 2nd Thurs., 7:30 p.m., First Interstate Bank, First St., Gilroy and even months for brkfst., 3rd Sat., 8:30 a.m. (408) 623-2462.

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. 110B, Chico.

Golden Triangle ARC, (GTARC). Meets 4th Mon./monthly, 7:30 p.m., Sharp Health Care Activities Rm., 25500 Med. Ctr. Dr., Murrieta, CA 92562.

Lake County Amateur Radio Society, (LCARS). Meets last Thurs./monthly at either Red Cross HQ, Clearlake, or the Nice Community Clubhouse, Nice, CA, 7 p.m. Net Mon., 7 p.m. 146.775(-) for info.

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) 447-3815.

Manteca Amateur Radio Club (MARC). P.O. Box 545, Manteca, CA 95336. Meets 1st Thurs./monthly, #1 Firehouse, 7 p.m. Talk-in on club rptr. 146.985(-) PL 100Hz. Info: (209) 823-3611.

Marin Amateur Radio Club (MARC). W6SG. Box 151231, San Rafael, CA 94915-1231. Meets 1st Fri./8 p.m.; MARC Clubhouse Bldg. 549, HAFB, Novato, CA. (415) 883-9789 (Summer exceptions; contact Pete N6IYU, 924-1578). Sun. AM Club at Red Cross, San Rafael.

Motorcycling Amateur Radio Club. Meets 2nd Sat./monthly, 8 a.m., Denny's Restaurant, 2314 17th St., Santa Ana, CA, (100 yds. west of the 55 Fwy.) Info: Ray Davis, KD6FHN, (714) 551-2010 or (714) 551-1036.

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(+) 100Hz PL. Info: George, KI6YK, (510) 837-9316.

North Hills Radio Club. Meets 3rd Tue./monthly, 7:30 p.m., Elks Lodge, on Cypress at Hackberry in Carmichael, CA. (PL 162.2) Net K61S Thurs., 8 p.m. 145.190. 220 Net, Tue. 8 p.m. 224.40(-).

North Shores ARC. Meets 1st Tues./monthly, 7:30 p.m., So. Clairemont Rec. Cntr., 3605 Clairemont Dr., San Diego, CA. Info: (619) 224-1294.

Palos Verdes ARC. Meets 3rd Wed./monthly, 7:30 p.m., Community Rm., "Shops at Palos Verdes," 550 Deep Valley Dr., Rolling Hills Estates, CA. Info. Ms. Marti Brutcher, N6XDS, (310) 376-1861 or (310) 377-6342. Rptr. 145.38(-) PL 100.

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.

Sacramento Amateur Radio Club. Meets 2nd Wed./monthly, 7 p.m. Sac. Blood Ctr., 32nd St. & Stockton Blvd., Sacramento, CA. Info net every noon on rptr. W6AK/R 146.91(-). Steve Cates, KC6TEV, (916) 391-7341 or Gary E. Bryant KB6KZZ, (916) 646-1171.

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.

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., United Way, 1922 The Alameda, San Jose. Net all other Mon., 7:30 p.m. W6UU/R 146.385(+), 442.425(+) PL 107.2

Santa Clara Valley Rptr. Society, (SCVRS). P.O. Box 2085, Sunnyvale, CA 94087. (408) 247-2877. 146.76(-), 224.26(-), 444.60(+). 2 meter/220 net Mon. 9 p.m. Mtgs./3rd Fri.

Shasta Cascade Amateur Radio Society, (SCARS). 2955 Shasta St., Redding, CA 96001. 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.

Sierra Foothills ARC. P.O. 3262, Auburn, CA 95604. Meets 2nd Fri./monthly, 7:30 p.m., Firehouse, 226 Sacramento St. Auburn. 10m, Wed. 7:30 p.m., 28.415, 2/220m, Thurs. 7:30 p.m., 145.430(-) (PL 94.8) & 223.86(-).

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.

Southern California Six Meter Club. P.O. Box 10441, Fullerton, CA 92635. USB Net Tue., 8 p.m., 50.150. FM Rpt. Net Thurs., 8 p.m., 52.86/52.36 tx. FM Smplx, call freq. 50.300.

Stanislaus Amateur Radio Assoc., Inc. (SARA). Meets 3rd Tues./monthly, 7:30 p.m., Stanislaus County Admin. Bldg. (lower level conf. rm.), 11th & H St., Modesto, CA.

Stockton-Delta ARC. Meets 2nd Thurs./monthy, 7:30 p.m., Red Cross Bldg., 747 N. Pershing Ave., Stockton, CA Rptr. 147.165(+). Net Wed., 8 p.m. 146.655.

Tri-County Amateur Radio Assoc. P.O. Box 142, Pomona, CA 91769. Meets: 2nd Mon./monthly, 7:30 p.m., Covenant United Methodist Church, corner of Towne Ave. & San Bernardino Rd. in Pomona, CA.

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.

Vaca Valley Radio Club. Meets 2nd Wed./monthly, 7 p.m., Vaca Fire Dist. Stn. on Vine St. in Vacaville, CA. Rptr.: WD6BUS 145.47(-) PL 127.3. Dan Bissell (707) 446-7411.

Victor Valley Amateur Radio Club. P.O. Box 869, Victorville, CA 92392. Meets 2nd Tues./monthly, 7:30 p.m., Victor Valley Museum, 11873 Apple Valley Rd., Apple Valley, CA. Talk-in 146.94(-), info net Sun. 7 p.m. 146.94(-).

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. 145.440(-) PL 136.5. For info: Joe, KA6LPZ, (714) 963-4426.

Westside Amateur Radio Club. P.O. Box 11092, Marina del Rey, CA 90295. Meets 3rd Thurs./monthly, 7:30 p.m., Red Cross Bldg., 1450 11th St., Santa Monica, CA. Net every Tues., 8 p.m., 146.67(-). Voice mail: (310) 917-1100.

West Valley Amateur Radio Assoc. P.O. Box 6544, San Jose, CA 95150-6544. Meets: 3rd Wed./monthly, 7:30 p.m. (except Dec.) Cambrian Sch. Dist. Office, 4115 Jacksol Dr., San Jose, CA. W6PIY/R. Net Tue., 8:30 p.m. 147.39(+), 223.96(-).

Willits Amateur Radio Society, (WARS). P.O. Box 73, Willits, CA 95490. Meets 4th Mon./monthly, 7 p.m., Brooktrails Fire Dept. (northwest of Willits). Talk-in: 145.13(-), PL 103.5.

Yuba-Sutter Amateur Radio Club, (YSARC). P.O. Box 1169, Yuba City, CA 95991. Meets 2nd Tue./monthly, 7:30 p.m., Yuba City Police Bldg., 1545 Poole Blvd., Yuba City.

FLORIDA

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

Indian River ARC, Inc., (IRARC). 597 Capri Rd., Cocoa Beach, FL 32931-3011. Meets 1st Thurs./monthly, 7:30 p.m., Community Church of the Nazarene, 400 Crockett Blvd., Merritt Island, FL.

Orlando Amateur Radio Club. P.O. Box 3262, Orlando, FL 32802. Meets 1st Wed./monthly, Beardall Center, Gore St. & Orange Ave., Orlando. 146.76(-), 145.11(-), 146.82(-), 147.015(+), 443.275. CTCSS 103.5 Hz on all except 146.76.

Port St. Lucie ARA. Meets 1st Fri./monthly, 7:30 p.m., St. Andrews Church, Prima Vista Blvd., Port St. Lucie, FL. Contact: Wes Sammis, W2YRW, (407) 878-4739. Call in 146.955(-).

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.

Suncoast Amateur Radio Club. P.O. Box 1992, New Port Richey, FL 34656-1992. Meets 2nd Mon./monthly, 7:30 p.m., First Lutheran Church, corner of Polk & Delaware, New Port Richey, FL. Sponsor of WC2G/rptr. on 145.35(-), serving west Pasco County.

GEORGIA

Dalton Amateur Radio Club, Inc., (DARC). Meets 4th Mon./monthly, 7:30 p.m., Magistrate Court Bldg., corner of Waugh St. & Thornton Ave., Dalton, GA. Info: Bill Jourdain, N4XOG, (404) 226-3793.

HAWAII

Big Island Amateur Radio Club. P.O. Box 1938, Hilo, HI 96721-1938. Meets: 2nd Tue./monthly, 7 p.m., HELCO Auditorium, 1200 Kilauea Ave., Hilo. Talk-in on 146.68(-), 146.76(-), 146.88(-), 147.02(+) & 147.04(+).

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(-), 146.96(-) 146.94(-). Info: (808) 595-6245.

World Radio History

IDAHO

Idaho Society Radio Amateurs. Boise Chapter 146.94. Meets 3rd Tues./monthly, Borah H.S., 7 p.m. Rptr. at 8000. Membership welcome. 146.94(-).

ILLINOIS

Chicago FM Club Inc., (CFMC). 146.76 (PL 107.2)/224.10/224.18/443.75 (PL 114.8). P.O. Box 1532, Evanston, IL 60204. Ham help line: (312) 262-6773. Info net Tues., 9 p.m. on 146.76(-). Meets 3rd Wed./monthly, 8 p.m.

Chicago Suburban Radio Assn., (CSRA). P.O. Box 88, Lyons, IL 60534. Meets 3rd Tues./monthly, 7 p.m., Mid City Nat'l Bank, 7222 W. Cermak Rd., N. Riverside, IL.

Dupage Amateur Radio Club. (DARC). P.O. Box 71, Clarendon Hills, IL 60514. Meets 4th Mon./monthly, 7:30 p.m., Holy Trinity Church, SE corner of Cass & Richmond, Westmont, IL. Net Sun., 9 p.m. on 145.25. W9DUP repeaters 145.25(-) (107.2PL), 442.55(+) (114.8PL), 224.68(-).

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.

Hamfesters Radio Club, W9AA. P.O. Box 42792, Chicago, IL 60642. 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 145.07. Info: (312) 974-3291.

Peoria Area Amateur Radio Club, (PAARC). Meets 2nd Fri./monthly, 7 p.m., 1401 N. Knoxville Ave. Info: (309) 685-6698. Rptrs: 146.25(-) & 147.675(+).

Schaumburg ARC, (SARC). Meets: 3rd Thurs./monthly, 7:30 p.m., Schaumburg Park Dist. Community Rec. Ctr. at Bode & Springinsguth Rds. Schaumburg, IL. Net 145.23(-), 9 p.m. Thurs. Info: (708) 213-0910.

Six Meter Club of Chicago, Inc., K9ONA. Meets 2nd Fri./monthly, 7:30 p.m., St. John's Lutheran Church, 47th St. & Brainard Ave., La Grange Pk., IL. Info net every Tue., 9 p.m. K9ONA/R 146.970(-), 443.300(+), 107.2 Hz PL.

The Starved Rock Radio Club, W9MKS. P.O. Box 22, Tabor St., Leonore, IL 61332. Meets 1st Mon./monthly, 7:30 p.m. Rptr. net 7 p.m. Wed./wkly., 147.12(+).

Wheaton Community Radio Amateurs, (WCRA). P.O. Box QSL, Wheaton, IL 60189. Meets 7:30 p.m., 1st Fri./monthly, College of DuPage, Glen Ellyn, IL. Nets Sun. & Tue. 8 p.m., 145.39(+) MHz. 440 MHz net on Tues., 8:30 p.m. on 444.475(+) MHz. RTTY Net Sun. 9:30 p.m. 145.31(-).

York Radio Club. Meets 3rd Fri./monthly, 8 p.m., Elmhurst College (Science Bldg.) Elmhurst, IL. Net Mon., 8 p.m. W9PCS/147.42 simplex. Rptr. 442.875(+).

MICHIGAN

Chelsea Amateur Radio Club, Inc. Meets 4th Tue./monthly, 7 p.m., Society Bank, 1478 Chelsea-Manchester Rd., Chelsea, MI 48118.

Oak Park Amateur Radio Club. Oak Park Comm. Ctr., 14300 Oak Park Blvd., (same as 9 1/2 Mile Rd., west of Coolidge) Oak Park, MI 48237. Meets 2nd Mon./monthly, 7:45 p.m. Talk-in on our 224.36(-) MHz or 146.64(-) MHz.

Utica Shelby Emergency Communications Assoc., (USECA). P.O. Box 1222, Sterling Hgts., MI 48311-1222. Meets 2nd Tue./monthly, (Sept.-June), Donald Bemis Jr. High Sch., 12500 Nineteen Mile Rd., Sterling Hgts, MI (between Schoennher & Clinton River Rds.) Talk-in on 147.18(+) 100Hz PL. 24-hr. hot line: (313) 268-6730.

MISSISSIPPI

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

MISSOURI

Central Missouri Radio Assoc. P.O. Box 283, Columbia, MO 65202. Meets 2nd Tues./monthly, 7 p.m., Boone Electric Coop, 1413 Rangeline Rd., Columbia, MO. Talk-in 146.76(-).

PHD Amateur Radio Assn., Inc. P.O. Box 11, Liberty, MO 64068. Meets last Tue./monthly, 7 p.m., Gladstone Comm. Bldg. (816) 781-7313, Volunteer Examiner Coordinator.

NEVADA

Frontier Amateur Radio Society, (FARS). Meets: 3rd Mon./monthly, 7 p.m., Denny's Restaurant across from Nevada Palace, 5318 Boulder Hwy, Las Vegas, NV. Net Mon. 7:30 p.m., 145.39(-) Rptr. on Black Mountain. Club info: Jim Frye, NW70, 456-5396.

Wide Area Data Group, Inc. P.O. Box 3132, Sparks, NV 89432. Meets 1st Sat./monthly, 9 a.m., Bailey's Cafe, 4124 Kietzke Ln., Reno. Info: (702) 356-8200. Call in on 147.30(+) MHz.

NEW HAMPSHIRE

Great Bay Radio Assn., WB1CAG. P.O. Box 911, Dover, NH 03820. (603) 755-2600/335-6643. Meets 2nd Sun./monthly, 7 p.m., Rochester Fire Dept. Training Rm. Talk-in: 147.57.

NEW JERSEY

10-70 Repeater Assn., Inc. 235 Van Emburgh Ave., Ridgewood, NJ 07450, Fax: (201) 445-5172. Meets 1st Wed./monthly (except July & Aug.), 8 p.m., VFW, Valley Rd., Clifton, NJ. Rptrs.: 146.70(-), 224.84(-), 444.15(+).

Bergen Amateur Radio Assoc., (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., 144.40 9 p.m. Wed.

South Jersey Radio Assoc., (SJRA). Pennsauken Sr. Hi Sch. at Hylton Rd. & Remmington Ave., Pennsauken, NJ 08109. Meets Jan.-Oct., 4th Wed./monthly, 7:30 p.m. (Nov.-Dec. 3rd Wed.). Talk-in: 145.29(-) rptr. Club call K2AA.

NEW YORK

Amateur Radio Assoc. 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.

Hall of Science Amateur Radio Club. P.O. Box 131, Jamaica, NY 11415. HOSARC, 2nd Tue./monthly, Hall of Science Bldg., 47-01 111 St., Flushing Meadow Park, 7:30 p.m. Info: Charlie, WA2JUJ, (518) 420-0046.

Orleans County Amateur Radio Club, (WA2DQL). Meets at Emergency Management Office, West County House Rd., Albion, NY 14411, 2nd Mon./monthly, 7:30 p.m. 145.27(-) — WA2DQL.

PROS, Pioneer Radio Operators Society. Meets 1st Wed./monthly (except July/Aug.), 7 p.m., Sardinia Town Hall, Savage Rd., Sardinia, NY. Net 9 a.m. Thurs. 3853 kHz.

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!

Suffolk County Radio Club, (SCRC). Meets 3rd Tues./monthly, 8 p.m., Bohemia Rec. Ctr., Ruzicka Way, Bohemia, NY. Talk-in: 145.21(-) rpt. Morten Eriksen, KA2UIU, (516) 929-6911.

Westchester Amateur Radio Assoc., (WARA). Meets 1st Thurs./monthly, 7:30 p.m., Scarsdale Town Hall, Scarsdale, NY 10583. All invited. Info: Dan Grabel, N2FLR, Pres. (914) 723-8625.

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) 963-8995. 146.865(-), 440.15(+).

NORTH CAROLINA

North Carolina Alligator Group, (NAGs). Meets Mondays, 28.35 on the air, 8:30 p.m. local time, Sat. 10 a.m. on 7240. "The Alligators" — all mouth, no ears.

Stanly County Amateur Radio Club. P.O. Box 188, Stanfield, N.C. 28163. Meets 4th Thurs./monthly, 7 p.m. at Stanly Community College, Albemarle, N.C.

OHIO

Ashtabula County ARC. Ken Stenback, AI8S (964-7316). County Justice Ctr, Jefferson, OH. Meets 3rd Tue./monthly, 7:30 p.m. County rptr., 146.715(-).

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.

Firelands Area Rptr. Assn., (FARA). Meets 4th Tue./monthly, 7 p.m., Ohio Veterans Home, Sandusky, OH. WB8LLY rptr. 146.805(-). Net Sundays, 8 p.m. Info: Rob Harshbarger, N5XRB.

Greater Cincinnati Amateur Radio Assn., (GCARA). Meets 4th Wed./monthly, 7:45 p.m., Cincinnati Museum of Nat. History, 1720 Gilbert Ave. Amateur Radio Station W8DZ. Info: WA8STX or (513) 563-7373.

Lancaster & Fairfield County ARC. Meets 1st Thurs./monthly, 7:30 p.m., American Red Cross, 121 W. Mulberry St., Lancaster, OH 43130. Info net Mondays, 8 p.m., K8QIK/R 147.63(-) rptr.

Sandusky Valley Amateur Radio Club. Meets 1st Sat./monthly, 9 a.m., Sheriffs Bldg. in the D.S.A. office, 2323 Country Side Dr., Fremont, OH.

Toledo Mobile Radio Association. P.O. Box 273, Toledo, OH 43697. Meets 2nd Wed./monthly, 7:30 p.m., Luke's Barn, Lucas County Rec. Ctr., 2901 Key St., Maumee, OH. Contact: Brian, WD8MXR, 385-5624.

Triple States Radio Amateur Club. Meets Wed./weekly on 28.48 at 8:30 p.m., 7260 at 9 p.m. and Sat. 6 p.m. on 7240. Rptrs. 146.91(-), 146.715(-). P.O. Box 240, Rd. #1, Adena, OH 43901. (614) 546-3930.

Van Wert Amateur Radio Club, Inc. 1220 E. Ridge Rd., Van Wert, OH 45891. Call-in: 146.85(-). Meets 1st & 3rd Sat./monthly, 8 p.m.

OREGON

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. Net Sun. 7:30 p.m. 147.06(+) MHz. Info: (503) 385-1156.

Keno Amateur Radio Club. P.O. Box 653, Keno, OR 97627. Meets 3rd Thurs./monthly, 7 p.m., Keno Fire Stn. Rptr. 147.32(+) W7UFM. Info: Tom Hamilton, WD6EAW, (503) 883-2736.

Oregon Coast Emergency Rptr., Inc. P.O. Box 254, Florence, OR 97439. Meets 3rd Sat./monthly, 9 a.m. for brkfst. Net, Wed. 7 p.m., 146.80(-). Info: 997-2323 or 997-3081.

Umpqua Valley Amateur Radio Club, Inc. P.O. Box 925, Roseburg, OR 97470. Meets 3rd Thurs./monthly, 7:30 p.m., Douglas County Courthouse, Rm. 311, Douglas St., Roseburg, OR. Info: W5PII/R 146.90(-) or (503) 673-1310.

PENNSYLVANIA

Butler County Amateur Radio Assn. P.O. Box 1787, Butler, PA 16001-1787. Meets 1st Tues./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.

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.

TEXAS

Brazos Valley Amateur Radio Club, (B-VARC). P.O. Box 1630, Missouri City, TX 77459. Meets 2nd Thurs./monthly, 7:30 p.m., Sugar Land Community Ctr., 226 Matlage Way., 3 blks SW of Imperial Sugar Co. at HWY US-90A & Brooks St. (HWY 58) in Sugar Land, TX. Talk-in: 145.47(-), 442.5(+) rptrs.

VIRGINIA

Southern Peninsula Amateur Radio Klub, (SPARK). Meets 1st & 3rd Tue., Salvation Army Community Bldg., Hampton, VA. Repeaters 146.73(-), 449.55(-). VE Exam Info: (804) 898-8031, W4RTZ

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

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(-) rptr. Doors open at 9:30 a.m.

WEST VIRGINIA

Jackson County Amateur Radio Club. Clark Stewart, W8TN, Pres., 104 Henrietta St. Ravenswood, WV 26164. Meets 1st Thurs./monthly, 7:30 p.m., United Nat'l Bank of Ripley. Net Mon. 9 p.m. on 146.67(-) WD8JNU/R.

Tri-State Amateur Radio Assn. Meets 3rd Tues./monthly, 7 p.m., Green Valley Fire Dept., 16th & Norwood Rd., Huntington, WV. Monthly breakfast 1st Sat., 9:15 a.m., Bonanza.

WYOMING

Sheridan Radio Amateur League, 146.82. 926 La Clede, Sheridan, WY 82801. Meets 4th Thurs./monthly, 7 p.m., location varies; Saturdays, 8 a.m. at J.B.'s. Info: (307) 674-6666, WA7B.

MEXICO

Lake Chipala Amateur Radio Group. Meets Fri./weekly, 10 a.m., St. Andrew's Episcopal Church, Chipala, Jalisco, Mexico (30 mi. so. of Guadalajara). Simplex 146.49. Info: W4AFW/XE1. Charles C. Leonard, APDO 381 Ajijic, Jalisco, Mexico.

World Radio History

OLD-TIME RADIO

Scenic route to ham radio

ROLAND ARLTON, KCØAE, ex WØZHE, W9ZHE

A homemade crystal set, inspired by a picture and explanation in a 1924 book on radio from my father's library, worked so far beyond expectations, that my brother and I, in our early teens, thought that there might possibly be a small bit of talent for radio in us.

When the neighbors learned that we were interested in radio, they began giving us their retired receivers, until we had a collection of a dozen or so. Some of these were magnificent, massive sets, and in most of them the individual components were either bolted or riveted to the chassis, making it possible to remove them for recycling.

Some place we found a diagram for a two-tube transmitter. From parts we had removed from the old sets, we built a reasonable facsimile of that transmitter, using a triode 27 tube for the oscillator and a triode 45 for the RF amplifier. The 180 volts for the plates was supplied by an old B-battery eliminator, which was originally designed to take the place of 45-volt B-batteries used with early radios. From what little theory we could find and understand, we later calculated that we were putting about 7 watts into the transmitter final.

Somehow we figured out how to modulate the rig with the audio section out of one of the old receivers. For a microphone we used the inner mechanism of one of those papier maché horn speakers which look like a question mark. There was some concern about its fidelity, but we were in no financial position to be fussy. The one regret we had in the making of the transmitter was that we spent ten cents for a piece of pressed wood to make the front panel, which was the only expenditure and could possibly have been avoided and would have made the effort completely cost-free.

The antenna was not much to brag about. It was what remained of a phone system between four of us fairly separated neighbor boys which we had rigged up, using primary wire salvaged from old auto ignition coils and spliced end to end. The remaining portion of that wire stretched only along the underside of our house roof.

Since we had used parts from AM receivers, the frequency of the transmitter naturally ended up on the AM broadcast band, which suggested some attractive possibilities. Despite the frequency question, it couldn't be denied that the transmitter worked. And it was a very practical consideration that if we had created a piece of equipment that worked, we really ought to find a use for it.

We thought maybe it would be a good idea to have our own radio program. We didn't know that it was illegal to transmit on the broadcast band without a license, so we put together a program. We made up news and advertising - most of it humorous. Our twelve-year-old brother was a creative story teller, so he readily consented to be part of the programming. One of our friends, a banker's son, offered us the use of his record player and a stack of records, at that time something quite rare for a teenager to own.

So then, on Sunday afternoons, we had a fairly regular program, which usually lasted about an hour, and featured music, news, stories and commercials. We say "fairly regular" because there were circumstances which could prevent even an exciting activity from taking place on schedule. If we didn't show up on the air, adults in this town of 10,000 would phone and ask, "Aren't you coming on the air today?"

Occasionally there would be a party in the home of one of the high school kids; someone would call from there and ask what spot on the dial they could tune us in, and request us to make up some news about kids at the party, which we were very willing to do.

One of the old receivers we were given had shortwave on it, and could pick up Spanish-speaking stations. It occurred to us that it might be quite interesting to put that to some use, so we re-broadcast Spanish programs onto the standard AM band. I would guess that some of those who heard this on their house radios might brag about the exceptional reception they were getting.

It wasn't in our makeup to stop with this; there had to be progress, so we came up with another idea. We picked up a standard AM station on one end of the dial and re-transmitted it on the other end of the dial, with a signal which was louder in our area than the original, so that that station came in on two places on the dial. That could have been a bit perplexing for those who try to find explanations for things which defy explanation.

About that time we found out that these activities were not what the law regarded as appropriate. Soon after, we heard about Amateur Radio, and in time got ham licenses. We trimmed turns off the two coils of the transmitter and did the same thing with the three coils in an old Atwater Kent broadcast receiver, until we got ourselves down into the 160 Meter band.

For two years that same conglomeration of recycled parts was our total ham equipment and provided us with countless hours of most enjoyable communication. We have to say, however, that our pleasure with ham radio has by no means caused us to forget the pleasant memories we have of our experiences on the broadcast band. And we are thankful that this roundabout route led us into Amateur Radio. WR

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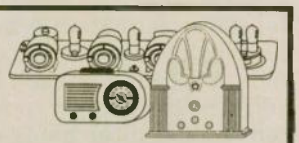

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World Radio History

FM & REPEATERS REPEATERS REPEATERS

BILL PASTERNAK, WA6ITF

It has happened again!

In what's believed to be only the third case of its kind, the trustee of an Amateur Radio repeater has ordered another ham off of his frequencies. When we first started this column last spring we told you about this happening in Southern California. Now, a similar case has surfaced in Alabama. That's where the owner of a 2 Meter repeater accuses one user of allegedly transmitting harassing and racially offensive communications. The user says he's the victim of politics. The following is an excerpt from a story written by journalist David Black, KB4KCH, and reported on *Newsline* in early July:

"On February 1, 1994, an important interpretation of rule 97.205 (e) came from FCC Personal Radio Branch Chief John B. Johnston, W3BE. Johnston issued the definition to attorney Sid Radus, N6OMS, as part of the legal fight that the Claremont Amateur Repeater Association was waging at the time against Tim Seawolf, KJ5KE. Johnston says rule 97.205 E — without qualification — permits a repeater licensee to limit use of the system to certain user stations, and to exclude anyone else." Now Alabama repeater owner Lester Crane, WA4CYA, used 97.205 (e) to take action against Jeff Campbell, WA4ZVG. Crane says that Campbell's actions were driving other users off the repeater."He has been very belligerent; very critical. He has spoken disparagingly of the no-code Techs. He has made detrimental comments to blacks; hurt people's feelings and instigated trouble," said Crane. The repeater owner adds that Campbell has been spoken to by the control operators and has been warned about his on-air actions, adding: "I have sent word to him myself and warned him face to face about some of his actions. All of this went unheeded."

In a June 13th certified letter, Crane quotes FCC Rule section 97.205(e). That rule says limiting the use of a repeater to only certain user stations is permissible. "I don't really care to use his repeater. I think its a political thing," says Campbell. In responding to Crane's charges, Campbell says that they are unfounded: "That is not true whatsoever. I did get over on the repeater and express my opinion about no-code Technicians, which is my opinion."Campbell told *Newsline* he won't be using Crane's repeater any more: "It's not because he's telling me not to, it's because I choose not to." But Crane calls Campbell's actions unbecoming of an Amateur Radio operator. "This is something I have really hated to do; something that I never had to do; I have put this off for four or five months. I was hoping that. . . he would do an about face. . . . But even with warnings and having been spoken to, still, it was to no avail." Campbell is believed to be the fourth Amateur Radio operator ordered off a ham repeater by a trustee using FCC rule 97.205 (e). You may recall earlier reports involving the Claremont Amateur Repeater Association in southern California. In two separate cases, CLARA and its legal counsel Sid Radus, N6OMS, successfully took similar action against three hams it accused of harassment. It is too early to say whether or not a trend is developing to ban unwanted users from repeaters. But one thing is certain. The Johnston letter and the court findings in California are having a definite impact on FM and repeater operation in Alabama, and probably nationwide. Crane has forwarded a copy of his letter to Campbell to the FCC."

Novice Repeater Owners

Most hams never thought they would see the day when it would be proposed that Novice class entry level operators would be permitted to own and hold license to repeater stations. To be quite candid, I figured that this would always remain the preview of Technician class or higher licensees. The very concept of an entry level license has been to 'whet the appetite' for more: to instill a sense of purpose that would lead the newcomer to advance to higher and higher goals.

But technology has replaced the need to explore uncharted waters. Sadly, few hams build very much of their station gear any longer; repeaters included. 'Parts houses' are a thing of the past, surplus receivers and transmitters are scarce as hen's teeth and even Radio Shack is stocking fewer individual components. Even the land-mobile two-way radios that were for many years the mainstay of amateur FM repeaters are hard to find. Once located, they command a rather lofty price. For the ham who wants to continue the old tradition of 'rolling his own' the future is indeed bleak. These days, the right to own and operate a repeater station is inherent to every amateur license of Technician class and above issued by the FCC — no-code entry level Techs included. A ham need not even have the ability to copy the Morse code identifier on his own repeater to legally own and hold license to that machine! In fact, as this is written, I know of several hams who are making ready to petition the FCC to make voice call sign identification mandatory for all amateur relay systems!

In reality, there is little difference in the level of technical skill possessed by today's Novice versus the no-code Technician. In my mind, I really cannot see any reason for having both classes other than tradition for the 'purists' who want keep what amounts to a rather unnecessary license class on the books! So, if we are going to have it, why not give the Novice license a little more value? I believe this. So does Dr. Michael C. Trahos, KB4PCG, of Falls Church, Virginia. Over the years, Mike has come up with some splendid ideas for advancing the overall cause of Amateur Radio. Being in the news business, I have seen many of his peti-

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tions and comments long before they were known to the general Amateur Radio populace. He is a very forward-thinking ham who seems to have the best interest of the service at heart.

About two years ago Trahos presented another of his concepts to the FCC. This one would have permitted Novices to become repeater owners. Specifically, KB4PCG requested that Novice class operators be authorized to be licensees and control operators of repeaters in the 222-225 MHz band and in the 1270-1295 MHz Novice subband of the 1240-1300 MHz band. He argued that the amateur service should follow the General Mobile Radio Service and the Private Land Mobile Radio Services where licensees are authorized to be licensees of repeaters without even being required to pass an examination in proper repeater operation. Simple, but very effective reasoning on his part. And Mike could not have picked a better time to file his rule making request.

At almost the same instant, the American Radio Relay League was filing one of its own. In it, the ARRL requested expansion of the operating frequency privileges for Novice class operators to encompass the entire 222-225 MHz band. The League said that it believed that Novice class operators would benefit from such expansion because they would be exposed to routine types of amateur station operation other than repeater operation only. There was also another ARRL request that indirectly affected both Novice class operators and repeaters. More the latter than the former. Acting on the direction of its Board of Directors, the ARRL filed for the creation of a so-called 'repeater no-mans-land' from 222.00 - 222.150 MHz. This subband was being promoted to protect non-relay operations from encroachment by repeaters, remote bases, simplex autopatches and the like. Of the three, this last one was the 'political hot potato.'

Many FMers felt that this non-relay subband will never get much use by the vast majority of hams. At the same time, most frequency coordinators appeared to favor it. In fact, of all the nations coordinators only one (here it comes) Southern California's 220 MHz Spectrum Management Association sided with user groups against its creation.

At the end of November 1992, all three were packaged together and released as FCC Private Radio (PR) Docket 92-289, with a now-past commentary cutoff date. Then the big wait began. It lasted almost a year and a half. The 222.00 - 222.150 MHz non-repeater subband and giving access by Novices to the entire 1.25 cm. band were shoo-ins, but the Trahos proposal was another matter. From what I saw on packet, Mike's idea immediately began to generate negative reaction. This was especially true among the diehards who still believe that the only place for a Novice is operating 40 Meter CW with a Hallicrafters S-38D receiver and a crystal controlled 5 watt home-made transmitter. These thowbacks to the stone-age of radio are few in number, but very loud in their stand against giving Novices this new found responsibility.

What killed the Trahos proposal was not so much the blow-hards on packet. Rather it was the comments and reply comments filed by the American Radio Relay League. The ARRL did exactly what it was supposed to do. That is, representing the views of its members to the FCC. And the members of the ARRL strongly believed that Novice class radio amateurs did not possess the requisite technological skill to hold license to and operate a repeater. Note that the same ARRL members do apparently feel that a no-code Tech may know far less on a technical level (many no-code Techs are graduates of weekend 'learn and forget' cram courses) than a Novice does.

To this writer, such reasoning makes no sense what so ever. It causes me to ask: "Why have a Novice license at all?" To this day I cannot understand the ARRL membership's thinking on this. It had to have taken this position purely to placate the anti-Novice diehards discussed earlier. No other answer makes any sense.

There is also this to consider. Today, putting up a repeater means little more than signing a check to buy the gear, signing another check to rent a site, and, if you do not know how to put it all together, writing a third check to a professional installer who will do the job for you. There are even amateur service repeaters that are under service contract to commercial Land Mobile Two-Way Radio shops! I know of several.

One might even go so far as to say that the 'repeater' as an entity has become the 'public utility' of Amateur Radio. Most hams want to 'use' a repeater, not 'own' one. So, even with a total of 96,713 Novice class license holders out there in our new world of

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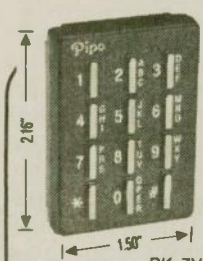

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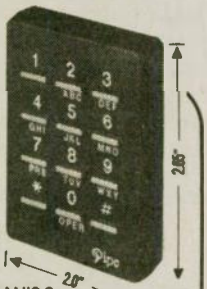

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Amateur Radio, it is doubtful that more than a small percent will want to take on the responsibility of system ownership. Or put another way; right now there are about a half-million hams using repeaters, but only about 10,000 hams actually own and operate them.

Projecting those figures to the number of licensed Novice class operators means you could expect no more than about 2000 Novices ever wanting to be repeater licensees. And I believe that number is really stretching it. What would have been accomplished by letting Novices own and operate repeater stations in Novice voice subbands? Most assuredly a lessening of some of the "license class tension" that openly exists between Novices and codeless Techs versus higher class licensees. More important, it would give those with the technical know-how a chance to develop it further. And who knows where that might lead a person? Possibly even to upgrading! Lastly, the service will have an addition to its reservoir of talented "voice communicators" and additional relay systems to handle emergency and priority operations. It was a win-win idea that KN4PCG tried to sell to the nations ham community. It may well come up again. Well, maybe some day.

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Trolley Car QRM

Now here is a rather novel RFI story. It comes from Seattle, Washington, where hams are once again suffering from trolley car induced RFI. No, I'm not kidding. Trolley cars are actually interfering with ham radio communications, and other services as well.

The story actually goes back a number of years when Seattle added a number of new electric trolleys to their fleet. According to Clay Freinwald, K7CR, of the Western Washington Amateur Relay Association, (the Western Washington State ham radio repeater coordinator) the presence of these new trolleys was instantly noted. It seems that their new electronic control system radiated like an all-band transceiver on all frequencies at one time. Complicating matters, the overhead catenary system of power wires became their gigantic antenna.

Enter Marty Hadfield, a broadcast engineer at KMTT. K7CR says that Marty jumped into the matter. Operating through the Western Washington Cooperative Interference Committee, Marty was able to get the Metropolitan Transit System to install filters on the vehicles to help minimize the problem. Note that the buzzword here is "minimize." Clay says that the filters were not a cure-all and you can still hear some of the interference on any AM radio.

Now, the problem has gotten worse. It seems that the Seattle transit authority recently purchased some new dual powered vehicles. These trolleys run on diesel engines in outlining areas and then connect to the overhead catenary wiring when inside Seattle.

Marty Hadfield says that these new vehicles are not much different than the old ones. They, too, radiate like crazy, and this time the interference is not limited to the AM broadcast band. He says that almost any radio on any band in the downtown area can hear what sounds like a "cats meow." This includes commercial two-way land mobile gear as well as VHF and UHF radios used by hams. K7CR says that Marty Hadfield is once again trying to solve the interference problem, but it looks as if its going to be an uphill road until all of the "cats meowing" is gone from the Seattle radio airwaves.

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The story of an old friend

Finally, here is the $64 question. Can you name the first Japanese supplier of VHF Amateur Radio equipment intended for the United States market? If you said Icom you would almost be correct. Back in 1964, Icom was known as Inoue Communications and their first radio for the U.S. ham community was the FDFM-2. It was about the size of a small cigar box, had three crystal-controlled, independently switched, transmit and receive channels, and worked better than anything else available to hams. The radio was a marvel for its era of the mid 1960s, and set the stage for what was to follow.

By 1968, Inoue had replaced the FDFM-2 with a six channel radio known as the IC-2F. Now this puppy should not be confused with the IC-2A handheld that followed a decade later. About the only thing the two radios had in common was their similar parentage and nomenclature.

The IC-2F had the aforementioned six transmit and receive channels, but by this time some standardization had come to the ham bands so there was but a single common channel selector switch. The transmitter put out a "cool" 10 watts of great sounding audio and the receiver was so "hot" that it ran rings around most of the tube-type commercial equipment that many FMers were running. It was not long before the IC-2F was the "radio of choice" for the FMer of the late 1960s. Mine got me all the way from New York City to Los Angeles when we relocated in 1971. In 1973, it was stolen out of my car near Van Nuys. The thief probably thought it was a cheapo CB set and it has not surfaced since. But the IC-2A and its companion, American-made Varitronics 20-watt amplifier, was a radio combination that I enjoyed on both sides of the continent for almost half a decade.

Coming next month

Is it time to survey the two Meter band to see how many repeaters really are on the air? One repeater coordination council is doing just that. The details next month.

de WA6ITF

(FM and Repeater column author Bill Pasternak WA6ITF receives mail at 28197 Robin Avenue, Saugus Ca. 91350. His 24 hour/day voice and fax line is (805) 296-7180. He can also be reached by electronic mail on the following services to the mailboxes: (GEnie) B.Pasternak; (Internet) b.pasternak@genie.geis.com; (America Online) BILLWA6ITF; (MCI Electronic Mail) 324-1437. WR

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Chuck Imsande, W6YLJ
10-10 19636

10-10 Board of Directors Meeting

The 10-10 Board of Directors held their annual meeting in St. Louis, MO, on July 23, 1994. All officers and nine of the ten directors were present. The missing director, Elaine Nickoloff, N8CBE #30409, was excused due to serious illness of her mother. Although not an officer, the new 10-10 treasurer was present at the invitation of the board. The board heard reports from the officers and committees during a intensive meeting lasting almost 9 hours.

President Norm Lefcourt, W6IRT #14981, summarized his report by stating 10-10 appears to be on a good track with the committee system generally working well and with inter-committee cooperation. Treasurer Keith Schlottman, KI7RK #63324, presented his report with extensive documentation. He proposed a budget for April, 1994, through March, 1995, which indicates it will be difficult to maintain the organization in a positive cash flow situation with the ever increasing costs of doing business today. Although the cash position of 10-10 is solid, there are certain areas of predictable cost increases that should be seriously considered, some of which are printing costs for the *10-10 News*, increased postage costs scheduled for early 1995, insurance, etc.

Considerable discussion was held with regard to the new *10-10 Operations Manual*, which after some modifications and additions was approved for publication. This new *Ops Manual*, which has been in preparation for well over a year, will be the basis for the conduct and operation of 10-10 in the future. A report from the scholarship manager, Morrie Goldman, W6EHM #4189 indicated that for the first time since its inception, the membership has provided contributions in excess of the amount that 10-10 funds for the scholarships it provides each year. The board acknowledged the scholarship volunteers by authorizing a certificate of appreciation which will be sent by the scholarship manager to each member who made a contribution during the year 1994. The board adopted a plan to authorize certain 10-10 members, and others, to sell certain items of interest to the membership. These would include, but not be limited to, official QSL cards, 10-10 name badges, 10-10 caps, 10-10 patches, "T" shirts, etc. Director Chuck Imsande, W6YLJ #19636, member of the finance committee, was authorized to finalize this program and announce details in the *10-10 News*.

Several new awards and new contests were discussed in an effort to provide the membership with additional incentives to remain as active 10-10 members. Planning now will have these new awards and contests in place at the time the sun spot cycle again favors 10 Meters.

The board discussed two related fiscal matters: a) increased service to members through first class mailing of ballots and the *10-10 News* to US members and air mailing to DX members, improvements in the operating programs, including both contests and awards; and the creation of improved materials for members; and b) the increased costs of services, including the rising printing costs (including paper costs) and mailing costs (both at present levels and with anticipated further increases); lower interest rates on cash reserves; and numerous other rising costs of doing business. In consequence of these discussions, the board unanimously approved a new dues schedule effective 1 January, 1995, as follows:

Yearly memberships: US $10.00 per year. Family members $3.00 per year, DX $13.00 per year. Life memberships were adjusted as follows: US Life $225.00, Senior US Life $85.00, DX Life $325.00 and DX Senior Life $100.00. The board noted that between now and 31 December, 1994, members would have the opportunity to renew their membership for any number of years at the current rate. It was reported that the new dues schedule will adequately support the new policy of first class mailing of the *10-10 News* to US members and air mailing to DX members. This new policy, to be effective with the mailing of the October issue of the *10-10 News* will solve the serious problem of late delivery to both US and DX members. It will also provide for the forwarding to US members who move and had not as yet notified 10-10 of their new address at the time of mailing.

The 1995 10-10 National Convention site of Tuscaloosa, AL was selected and the dates of 17-18 June 1995, were established. An extensive program of forums and activities is being planned along with a banquet with gifts, prizes and entertainment. Unlike recent 10-10 conventions, the 1995 10-10 convention will be devoted exclusively to 10-10 and 10-10 activities. Director Tom Henderson, K4CIH #33233, is the convention chairman and will be providing additional detail information in future issues of *Worldradio* and the *10-10 News*.

Dates required for all 10-10 awards

Somehow the requirement for submitting dates of contacts for 10-10 Bars and Awards was removed from Bar and Award applications. It was never the intent that this requirement be deleted, and the board has directed that this requirement be reinstated immediately. All future submittals for 10-10 awards including BAR awards must include the date of the contact being claimed.

Information about 10-10?

If you are not now a 10-10 member and would like to learn more about the 10-10 organization, send a green stamp ($1.00) to help cover the cost of printing and postage, along with two first class stamps and an address label for the return of the 10-10 information package. Please no SASE as the 10-10 information package requires a 9 x 12 envelope. You will receive a copy of the 36 page informational manual along with a copy of the latest issue of the 32 page *10-10 International News*. Send to: Mike Elliott, KF7ZQ #54625, 9832 Gurdon Court, Boise, ID 83704.

Finally.....

If you have let your 10-10 membership dues expire, or have lost your 10-10 number, the same as above ($1.00 + 2 stamps + address label) to Mike will get you the info package along with your lost 10-10 number. With the new dues schedule effective 1 January, 1995, now is the time to renew. 10-10 is still the best bargain in Amateur Radio! WR

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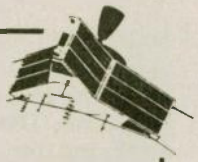

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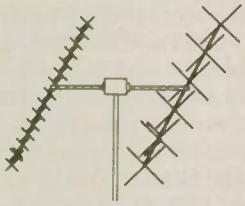

K7YHA
Rich Arland

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The Wyoming Valley QRP Commandos and Field Day 1994

FD '93 found the WVQRPC (all four of us!) in the woods at a local state park working a 2A-Battery all QRP effort. Our efforts yielded a massive 2K points (or thereabouts). We all vowed that FD '94 would be better. Little did I know exactly how much better!

Several of the group started talking FD '94 up just after the first of the year on our local 2 Meter simplex frequency. By April, we had a total of 14 people interested in doing an all QRP event! This is an increase of over 350%! I was stunned.

The WVQRPC FD '94 crew consisted of Fran, KA3WTF, Paul, KA3JZS, Jim, N3DCG, Lou, KA3ICD, and myself (K7YHA), all long-time QRPers. Add to this: Walt, KB3QW, Joe, WA3WMI, Tom, WB3FYU, Mike, KA1RIX, Jenny, KB3ATG, and her husband, Dave, N3PBV and you have quite a little group of people. Several others came by our FD site including: Alice KA3KMH, Ed, WB3HRU, and Joe, N3IKP.

Our location was provided by the U.S. Navy (courtesy of KA1RIX). We set up at the Naval Reserve Training Center adjacent to the Avoca International Airport. This year we again tried a 2A-Battery entry (ail QRP). The CW station consisted of a Ten-Tec Argonaut 509 with an Index Labs QRP Plus transceiver as back up rig. The HF SSB/CW swing station consisted of a Kenwood TS-130V with a Ten Tec Argonaut 515 transceiver as back up rig. The satellite/packet/VHF FM station consisted of a Yaesu FT-726R (Mode-A). Antennas were procured from Jim Thompson, W4THU, and the Radio Works, P.O. Box 6159, Portsmouth, VA 23703 (804) 484-0140. We erected the *new* Super-Loop for 80-10 Meters, a Carolina Windom 160 for 160-10 Meters, a 40 Meter Big-Sig Loop and a 40 Meter Vertical Radiating Dipole (VRD). A Cushcraft R-7 vertical furnished an additional HF antenna as well as the RS-10 Mode-A downlink antenna. A Diamond dual-band V/UHF vertical for 2 Meters and 70 cms was the Mode-A uplink antenna and doubled as primary antenna for the VHF FM/packet station. Logging was done on three laptop computers running Dave Pruett's (K8CC) outstanding NA Contest Software, available from LTA, P.O. Box 77, New Bedford, PA 16140 (216) 565-9950.

Our site was 940 feet ASL (yeah, you Zuni-Loopers laugh, go ahead...) providing an unrestricted view of the entire valley, horizon to horizon. This was ideal for the SATCOM station and later packet and VHF FM QSOs.

Field Day kick-off found the QRP Commandos still erecting antennas. What's that adage about "Proper Prior Planning..."? Mike, KA1RIX and Fran, KA3WTF started off on the SSB and CW stations respectively. Paul, KA3JZS and Tom, WB3FYU fired up the Novice/Technician station as soon as they got their loop antenna erected!

Twenty-six minutes into FD '94 found me in front of the FT- 726 trying to grab a quick SATCOM QSO for our 100 bonus points. Having learned a bitter lesson last year about waiting until the last pass of FD before trying to net a SATCOM QSO, I had vowed that I would be in front of the SATCOM rig on each pass until I had bagged the obligatory QSO. It had been decided that our best bet was to snag a QSO on RS-10 and then reallocate the R-7 vertical back to the HF stations. This would provide the HF operators with more versatility in their antennas.

On the first pass, I heard the RS-10 beacon at 29.357 about 45 seconds prior to the time REALTRAK ™ said the bird should break horizon. This is not all that unusual, given the propagation characteristics of 10 Meters. As soon as RS-10 broke local horizon, I started calling "CQ FD"! Interestingly, with the bird only one or two degrees above local horizon, I was getting into the transponder reasonably well running only 5 watts output from the FT-726. Obviously the extremely low angle of radiation on the Diamond omni antenna worked to my advantage. As RS-10 climbed above 25 degrees, I found that the 2 Meter omni was not putting a good signal into the transponder. Above 35 degrees I was not getting into the transponder at all. Needless to say, the first pass was a bust. So was the second! As I entered the room and sat down at the FT-726R in preparation to try again on the second pass of RS-10, I immediately noticed that someone had stolen my keyer and paddles! After frantically searching the immediate area and not finding them, I resigned myself to try an SSB contact. Using only 5 watts on the 2 Meter uplink in SSB mode was a true waste of time. The transponder was extremely crowded and I was unable to get into it reliably.

The next pass found me ironing out problems in one of the HF stations. Finally, about Oh-Dark Thirty on Sunday morning, I made a CW QSO with K1BG on a very low pass (only about 9 degrees maximum elevation). Here the low angle of radiation of the Diamond omni antenna coupled with a similar radiation angle on the R-7, allowed me to snag the necessary SATCOM QSO to ensure our 100 bonus points! My thanks to the SATOPs at K1BG for the privilege of the contact!

With the SATCOM QSO in the bag, I was free to get the packet station on the air for a couple of the other ops. Then it was time for my stint on the CW station, spelling Fran and Joe, WB3WMI, for a while. This was followed by a stretch on the SSB station, slugging it out on 75 Meter phone. It is truly amazing what 5 watts of RF will do during Field Day. True, we had our hands full going head-to-head with the QRO types, but all of us enjoyed the time spent in front of the radio honing operating skills and bagging QSOs using flea power. BOTH local Wilkes-Barre (PA) papers came out to get stories. We made headlines two consecutive days in the local papers! Not bad for PR, huh? Score a BIG PR coup for the low power dudes!

How did we do? Well, all things being equal, not bad. Our score of 5100 points was over twice that posted in 1993. To make things interesting we collected money for coax and food, and

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found that we had some money left over. This money was used to buy a NorCal-40 QRP transceiver mini-kit from Doug Hendricks, KI6DS, Head Honcho of the Northern California QRP Club, and memberships in the QRP ARCI and the NorCal QRP clubs. After we took down the antennas and packed up the gear, we drew names for the "prizes." Lou, KA3ICD won the NorCal-40 kit. Since Lou just completed his own home brew 80/40/10 Meter SSB/CW QRP rig (designed and built up from scratch!), the NorCal-40 went to a "good home." Jim, N3DCG won the 500 feet of coax we had purchased. Tom, WB3FYU and Joe, WA3WMI won the one year memberships to the NorCal QRP and QRP ARCI clubs respectively.

Did we have fun? Absolutely! Will we do it again next year? Without a doubt.

LEO SATCOM antennas - another look

Being a long-time low power communicator (starting in 1965), I am always experimenting with antennas. This has carried over into my SATCOM work. Until recently the majority of my antenna experimentation has been the old "cut and try" method. Not so any more. Enter Roy Lewallen, W7EL, and ELNEC.

Antennas are magic things. Take a piece of #14 copper wire, excite it with a small RF current and, magically, you can talk all over the world and out into space! Antennas are truly magic.

One gentleman and true QRPer has undertaken the noble task of demystifying antennas for the rest of us mere mortals. Roy Lewallen, W7EL, has written a very exciting piece of computer software called ELNEC. This software is designed for modeling antennas, all types of antennas, to allow the inquisitive radio amateur to predict how a certain antenna will perform prior to building and installing it.

Roy provided me with a copy of ELNEC ver. 3, just prior to Christmas, 1993. After reading the installation instructions I became utterly captivated by this program. The 111 page instruction manual guides you through the basic and advanced antenna modeling simulations with ease. ELNEC is one fine antenna modeling program. Over the Christmas holidays I became one with my little laptop computer, never venturing far from the keyboard, even to eat and sleep! ELNEC is far more addictive than Tetris™.

I am a dipole freak. Personally, I feel that full-size monoband dipoles are far better all around performers than most other HF antennas. They are simple to build, erect and have less overall environmental impact (this keeps the neighbors happy!). My Mode-K antennas for RS-12 consist of dual dipoles (and one converted CB vertical). I have recently erected four new monoband dipoles for 80, 40, 30 and 20 Meters. In each case, I used ELNEC to model the antenna at various heights above ground to get an idea of the vertical and horizontal radiation patterns prior to erecting the antenna. They perform well and, thanks to ELNEC I was able to see how these antennas would theoretically perform prior to actually doing any work.

ELNEC is not just relegated to modeling dipole antennas. Oh, no, ELNEC is very well suited to modeling full sized loop antennas, quad loops, verticals, end-fed wires and yagis. If you can think it up, ELNEC can model it ahead of time.

The real beauty of ELNEC is its simplicity. You don't need an engineering degree to put this software through its paces. I invited Dave Carey, N3PBV, my next door neighbor, to use ELNEC for a couple of days. He came back several days later with a very large grin on his face and told me that he thought this antenna modeling software was one of the finest engineering tools he'd ever used! Oh, I forgot to mention, Dave is a design engineer working for the U.S. Army at the Tobyhanna Army Depot in Pennsylvania.

If you need to do some serious antenna work on your HF or SATCOM station and want to see the results of your efforts before going to all the trouble to build and erect the finished product, Roy Lewallen's ELNEC is the program for you. Much easier to use than other modeling software currently on the market, ELNEC can sort out problems on the CRT prior to hanging the antenna in the air. It is fun, very user friendly and, at $49.00 (plus $3.00 S&H) it is an inexpensive solution to your antenna modeling problems. Contact Roy Lewallen, W7EL, at P.O. Box 6658, Beaverton, OR 97007.

NOTE: Copies of my second book, *Low Power Communications Vol-II, Advanced QRP Operating* (which features an excellent chapter on QRP SATCOM by Rick Rinehimer, KA3QKI) are available directly from Tiare Publications, P.O. Box 493, Lake Geneva, WI 53147. 73 Rich, K7YHA. **WR**

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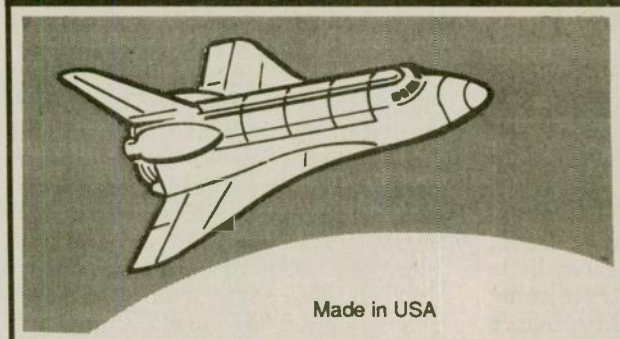

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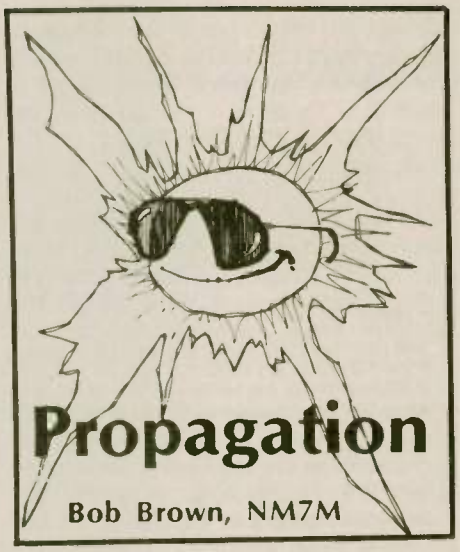

Radio Science, that's what it's all about here. Right? Looking at HF propagation and the factors which affect it. But just how well organized or prepared are you to use the scientific side of radio in your quest for a good set of conditions? That's a fair question since you do benefit from it and it's not unreasonable to ask just what you can contribute to the whole affair, observations and insights.

When it comes to propagation, a whole host of variables are involved. For starters, you know the date and time and hopefully, your latitude and longitude. That's what the computer folks say is given "by default." When you turn on your rig, spin the dial and hear some signals, the number of variables that you're dealing with goes up by two: frequency and signal strength. If you have a beam antenna, the number of variables can go up by another two: azimuth and range (from the call sign of the station heard).

That's eight variables and enough to enter in your station log, day by day, in an effort to get a feeling how propagation has gone, as well as how it's going now and will be off in the future. Most operators who chase DX monitor that many variables; what they do with them is another question. My experience in listening to DXers chatter tells me that they're not very good record keepers, at least when it comes to propagation. But DXCC stations worked; that's another matter.

Keeping that kind of a station log really amounts to a record of the results of ionospheric refraction, as controlled by the levels of solar and geomagnetic activity. Additional variables are involved but there are not many Amateur Radio operators make their own observations in those areas. When it comes to solar activity, however, there are some faithful observers counting sunspots, particularly around the time of solar maximum. That brings them up to nine variables and generally speaking, they belong to AAVSO, the American Association of Variable Star Observers. You can tell them by the fact that they're usually clutching a copy of Sky and Telescope.

Observers of geomagnetic activity are fewer and farther between. Recording magnetometers are not items that most amateur operators can build or afford to buy. Those devices record three "elements" of the geomagnetic field, two elements of the horizontal component and the vertical component of the field and their variations. While sunspot counters are looking for conditions which would enhance HF propagation, observers of magnetic activity are looking at the other side of the coin, conditions under which propagation deteriorates.

I can't leave the question of recording geomagnetic activity without pointing out some ways by which simple recording can be made. The first is in connection with "earth currents," the flow of charge along the earth's surface which is induced by time-variations of the geomagnetic field. The sensor used in these measurements is extremely simple, just two metal electrodes buried in the ground about 100 yards apart and a sensitive amplifier to measure the voltage fluctuations across the two lines from the electrodes.

Some type of op-amp is usually involved in earth-current systems, driving a slowly moving chart recorder. One important point, however; the input to the recording system must be heavily filtered to avoid hum on the record due to the ubiquitous signal at 60 Hz. When that is done, the recorder will show essentially a steady potential difference between the electrodes during calm magnetic conditions but then when magnetic activity increases, oscillations show up and can reach large amplitudes during auroral activity or magnetic storm conditions.

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Another way of detecting magnetic activity is by recording micropulsations in the horizontal component of the geomagnetic field. For that, a large-area, multi-turn loop antenna is constructed and a recorder devised to measure the signals induced in the loop by Faraday induction. This would appeal to "home brew" enthusiasts as it involves straightforward design problems, calculating signals due to the time-varying magnetic flux through the loop and designing an amplifier system with the appropriate band-pass properties.

Okay, that brings us up to ten variables, four by default and the other six variables within the reach of those who putter around with radio circuits and such. If you keep track of them, then a quick glance at your log will give you an idea of overall conditions at a given time, on a given day. "Overall conditions" means sunspot number and magnetic activity as well as recent experience on the bands, whatever that may have been.

So where do you go from there? I'd suggest two ways, one using your computer and the other your HF rig. As for the computer, you could go to a program like MINIPROP and use its DX compass. You just enter the date, time and sunspot number and it will calculate the MUFs for the first hop on paths going off every thirty degrees of azimuth from your QTH. For the directions where the MUFs are above your QTH, you could point your beam along those bearings and have some degree of expectation that signals will be coming toward you. For the other directions, the question would be "has the band closed or will it be opening shortly?" For that answer, you have run the program again but for a different time.

I've been known to putter with propagation programs and I had one called "SNAPSHOT" that's a bit different. In that program, I worked out MUFs and signals strengths for complete paths for a given SSN, date and time of day. The program used Fricker's MICROMUF 2+ F-layer algorithm and included the effects of E-layer screening. The DX paths used in the calculations were seventeen in number, the ones you'll find in the back of the ARRL Operating Manual, starting with Alaska and ending with the South Pacific.

Both those computer calculations are "in the abstract;" a "reality check" would be obtained by listening to the IARU Beacon Network on 14.1 MHz. That network consists of nine 100-watt beacon transmitters distributed around the world: 4U1UN/B, W6WX/B, KH6O/B, JA2IGY/BJARL, 4X6TU/B,

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OH2B, CT3B, ZS6DN/B and LU4AA/BRCA.

Every ten minutes, the beacons start a sequence with each one transmitting signals for one minute, in the order given above. Thus, 4U1UN/B starts on the hour, say 0000 UTC, gives its call and then sends four nine-second dashes at decreasing power levels: 100, 10, 1, and 0.1 watt, gives its call again and stops. Then the next station, W6WX/B, starts its cycle at 0001 UTC and so it goes through the entire order.

The idea of beacons like those listed above was to provide DXers, contesters and SWLs with an idea of propagation conditions. Right at the moment, the problem is that the 14.1 MHz beacons are surrounded with HF packet stations, making their use very difficult here in the USA. While the beacons operate on a "guarded frequency," you'd never know it from all the QRM they're immersed in.

There are other beacons for Amateur Radio purposes but they're all up on the 10 Meter band around 28.200 MHz. You will find them listed as "Propagation Beacons" in the chapter of the ARRL Operating Manual which deals with the Amateur Radio spectrum. But you won't find them shown in the Index so you'll just have to paw your way through the chapter until you find them, roughly 18 pages from the beginning.

From where I sit, these propagation beacons would seem to be limited in their effectiveness, the 14.1 MHz beacons suffering from the HF packet QRM and the 28 MHz beacons the victims of the downturn in solar activity. It should be noted, however, that the IARU is now discussing an expanded five-band HF beacon operation, 14, 17, 21, 24 and 28 MHz. With more frequencies and beacon sites, Amateur Radio will be better served.

The observation of beacon signals may also be turned toward more scientific purposes. A case in point is the "Auroral-E Propagation Experiment" being conducted in Alaska. In this case, a simple, 960 km path between Cape Prince of Wales and Fairbanks was used to study auroral E-layer propagation on 25.545 MHz. Normally, the E-layer is transparent to radiation at that frequency but with auroral activity, there may be intense ionization which returns the signals to ground on a short E-hop and thus screening out the F-region.

By making continuous observations, it has been possible to obtain measurements on the occurence times of auroral E-region returns as well as the duration of the events and their association with geomagnetic activity, given by the Kp Index. Those observations showed that the occurrence peaked at 0000 hours local time with an average event duration of 11 minutes and occurred most frequently when Kp was 4.

The transmitter at Cape Prince of Wales has now been modified and under the call sign NAF, it transmits CW, FSK and spread spectrum on three frequencies: 5604 kHz, 11004 kHz and 16804 kHz. This experiment goes beyond just the one-hop path to Fairbanks, now involving multi-hop paths reaching into the USA and has been expanded to include signal-strength observations. The purpose of the beacon operation involves efforts to verify field-strength models in HF propagation programs such as IONCAP. As such, it not only give current information but also contributes to a better understanding of modes of propagation.

And, going back to the beginning of this article, the observations involve all ten variables, four by default, and the other six under solar control, directly or indirectly. So there you go, using HF radio propagation to understand our Universe just a bit better It makes me feel good and I hope it does the same for you. **WR**

The deadline for news releases and special announcements is the 1st of the month, two months prior to issue date. Example: Deadline for the November issue, which is mailed in early October, is 1 September.

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World Radio History

Richard Fisher, KI6SN

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The Jade-Pole for QRPers

With band conditions suffering miserably in these days of waning sunspots, it's not uncommon to hear about HF spectrum QRPers retreating to VHF for the challenge of a shorter wavelength.

The popularity of 2 Meter FM makes activity on 144 MHz a low power operator's dream — especially when no-fuss portable operation is requisite.

It's a great band and mode of operation regardless of solar conditions.

Tiny handheld FM transceivers running a watt or less can yield some spectacular results on simplex when mated with a well designed antenna in a good location.

By and large, the "rubber duckie" antennas that come as standard equipment on most HTs will get you onto the airwaves. But for serious FM QRPing, a larger antenna will yield much better results.

Bigger, however, need not translate into cumbersome. An inexpensive, extremely light and very durable J-pole manufactured by the East Hampstead, New Hampshire-based Jade Products, Inc., is a marvelous example of how to stretch an HT's capabilities while giving up little ground to the compactness and tidiness of the "rubber duck."

Fundamentally, the time-tested J-pole is an end-fed half wave antenna in concert with a quarter wave tuning stub. The stub's job is to match the high impedance half-wave element to the coaxial feedline.

Physically, if you envision a railroad track with one rail ending while the other continues on, you've got the picture of the J-pole. The non-radiating stub is the shorter of the two rails. The long rail is the radiator.

The feedpoint is a short distance up the track from where the rails begin. The rails are shorted together at the start.

In the case of Jade Products' "Jade-Pole," the antenna is made of a 58-inch piece of twin-lead ladder line fitted near one end with a standard PL-259 coaxial connector. At the other end a dog bone insulator is afixed to hang the antenna during field operations.

The Jade-Pole can be purchased from Jade Products either as a ready-to-use antenna ($14.95), or as a kit ($8.95). Either way, the operator gets a very portable, beautifully designed and quite inexpensive antenna that's just great for QRP FM mountaintopping.

On a ski trip to Colorado last spring, I carried an ICOM 2AT handheld and 2 Meter "Jade-Pole" to Copper Mountain about 75 miles west of Denver. The HT fit nicely into the breast pocket of my ski parka. The "Jade-Pole" and a six-foot piece of 50-ohm coaxial feedline were coiled into a plastic bag slipped quite comfortably into the front of the jacket before zipping up.

On each lift ride up the mountain, I pulled out the HT and antenna baggie, unfurled the "Jade-Pole" and operated for seven or eight minutes at a watt or less, signing "Ski Lift Mobile."

With the antenna dangling clear of the chair, simplex contacts — some spanning about 50 miles — filled a log sheet by vacation's end.

There are lots of great repeaters across Colorado, too. But for me, the real challenge of 2 Meter FM QRP is working point-to-point on simplex.

The ski lift I most frequented was about a 10 minute ascent — a testimony to the ease of unpacking, operating and repacking this neat little antenna before the chair ride was over.

The antenna is rugged, too. The "Jade-Pole" nicely withstood more than a few of my face-first falls into the snow while traversing down the slopes. And operating in weather conditions which included driving snowstorms and well below-freezing temperatures had no ill effect on the antenna.

In its plastic carrying bag, the "Jade-Pole" takes up less space than a folded knit shirt in a suitcase. And stowed, with its six-foot coaxial feedline, weighs less than a pound.

Simplex and repeater contacts with the antenna in Southern California have yielded similar gratifying results.

One caution is worth noting when operating 2 Meter simplex: while your first stop for contacts should be the nationally-recognized calling frequency 146.52 MHz, after initial contact is made, move to another mutually-agreed-upon simplex frequency to continue the QSO. That will allow others to "meet" on the calling frequency without tying it up.

The ready-to-use "Jade-Pole" comes complete with a four-page set of operating instructions, tips and theory of operation.

The manual accompanying the kit version is 10 pages in length. Simple handtools, a soldering iron and a little time are the only things needed for assembly. The instructions are clear and concise, even for the first time builder. The "Jade-Pole" kit comes with directions for making either 2 Meter or 220 MHz configurations.

For more information, to order, or for a complete list of the company's Amateur Radio line, write Jade Products, Inc., P.O. Box 368, East Hampstead, NH 03826. By phone, it's 603-329-6995. By FAX: 603-329-4499.

General information about J-pole antennas is widely available in radio amateur handbooks and antenna books. Numerous articles about the antenna have appeared in magazines and periodicals as well.

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World Radio History

NE-QRP "40-40" update

The "40-40" single band QRP CW transceiver reviewed in the July 1994 edition of ***Worldradio's*** QRP column and initially offered by the QRP Club of New England is now being distributed solely by the rig's designer, Dave Benson, NN1G.

However, "the club will benefit through a royalty for each additional sale," he says.

The rig is now available in three versions: the "40-40" for 40 Meters, the "30-40" for 30 Meters, and the "80-40" for 80 Meters.

There is also a 160 Meter version — presumably to be called the "160-40" — on the drawing board.

At $43, there's nothing comparable in simplicity and performance to these 1.5 watt superhet transceiver kits.

Each rig is contained on a single circuit board, has smooth QSK, is varicap-tuned and comes complete except for an enclosure, connectors, knobs, and two potentiometers — all easily obtained from Radio Shack and other parts houses.

The "-40" series also comes with an excellent manual. "Typical construction time is about four hours," Benson says.

For information or to order, write: Dave Benson, NN1G, 80 E. Robbins Ave., Newington, CT 06111.

'NorCal-40' update

The Northern California QRP Club is offering "mini-kits" of the organization's destined-to-be-classic "NorCal-40" 40 Meter superhet QRP transceiver.

The kit was reviewed in the Feb. '94 QRP column.

The original run of kits came with a complete set of parts and sold for about $90. To the disappointment of many QRPers, they sold out all too quickly.

Now the club is selling "mini-kit" packages for $25 that include the printed circuit board, case with special screws, stand-offs, MV108 varactor diode and the manual.

"The manual lists sources for all parts not included," according to a June 1994 item in the club's quarterly periodical "QRPp."

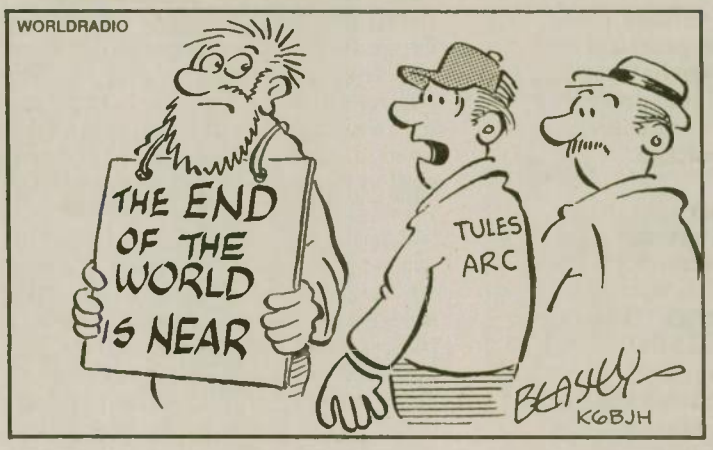
"It will be the builder's responsibility to chase the rest of the parts, but they are readily available. We have included the hard-to-find parts that are not generally available," the item says.

To order, sent $25 to: Jim Cates, WA6GER, 3241 Eastwood Rd., Sacramento, CA 95821.

Checks should be made out to Jim Cates. Foreign orders add $5 for shipping and handling, and California residents should add $1.94 sales tax.

If you're interested in joining the Northern California QRP Club, Cates is also the source for membership information.

The "NorCal-40" was designed by Wayne Burdick, N6KR.



QRP Organization Survey

Regular readers of this column no doubt will recall January's edition which carried the '93-'94 ***Worldradio*** QRP Organization Survey, featuring information on more than a dozen QRP groups around the United States and the world.

The survey is being done on an annual basis, to be published each January — in part to update developments in existing clubs, but also to showcase new clubs that have popped up since the last survey. And indeed, there seem to be more and more QRP groups forming with each passing month.

If you're in a club that did not appear in the last January's survey, please contact me at the address listed at the head of this column. I'll get a survey questionnaire to you right away.

If your group was featured in the '93-'94 survey, it will be contacted directly for the '94-'95 update.

Because of advanced deadlines, survey information must be ready for compilation a couple of months before publication. So don't delay. Help us to make this year's roundup the most comprehensive ever. WR

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World Radio History

Search And Rescue Communications

Jerry Wellman, WB7ULH
P.O. Box 11445
Salt Lake City, UT 84147

If I were going to start a business, I would contemplate getting into public storage. Have you noticed how much "stuff" people (me included) collect! A couple of years ago I built a storage barn in the back yard. The idea was to store bicycles, camping gear and electronics parts. The shed quickly filled up but I don't notice any additional space in the house — it seems that too remained full of "stuff."

I'm operating under the premise that my life is too cluttered with "stuff." I cannot believe how much has accumulated. My theory is that "stuff" will expand to fill all available storage space and then spill into living space. The net result is we have to look at and contemplate all the potential time needed to complete projects represented by the bits and pieces of stuff we've collected.

And it's not just electronic parts! It's our response gear, our radios, the gear we might need sometime for some emergency event. I was looking at a pair of snow shoes that came my way about 20 years ago. The thought is still clear in my mind that at some point I might need them to do search and rescue or get radios into a remote site.

These snow shoes have never been used. The possibility of their use is very small — yet there they hang, in the shed, ready for that possible mission to arise. With an eye toward uncluttering my living space, I have identified books, magazines, parts, "response" gear and other items that simply are not going to get used. When I get home and contemplate all the pending projects, all of this "stuff" competes for potential time.

Breathing room

So what's my message? UNCLUTTER! Free your mind so you can complete what's important. Give yourself some breathing room!

In the past week the local thrift store has gained snow shoes, books, magazines and several large boxes of power supply and other electronic parts. They will soon be the recipient of other materials as I unclutter.

How do I feel? Almost free. What's left are some parts for projects that might get completed (if not in the next three months, that stuff goes too). I have space to work and sit and think without looking at all these possible projects. I find I'm more focused on what is productive and rewarding. My response gear is cleaned up and lightened up to where I feel better prepared than before.

I'm now able to read the articles that affect my emergency skills and focus on keeping current in my specialties — the distractions are fewer. I would sure recommend it to all of you active and dedicated volunteers.

Complete response

Our culture might be described as "on line." We are connected and when we want something, we want it now. If we call the pizza place, a two-hour delivery is too late. When we need to see the doctor, we don't want to come in later in the week. We are a "right now" people (remember many columns ago when I talked about NIRTS — Need It Right This Second).

Well, when an agency needs your communications or SAR team, they need it right now. You are expected to function within your stated capabilities. Excuses are about as acceptable as what the pizza delivery person tells you on the doorstep with a two-hour late and very cold pizza.

If you have stated you will arrive at a search base with your search teams, a field coordinator and communications, it isn't acceptable to arrive without your comm team. A recent search caused me some concern when all was in place to respond — except the communications people.

No comm gear

In fact, there was no comm gear ready to roll. The search was some miles away and the demands were not complex, but the team simply could not communicate. There were no communicators, no antennas, no radios, no supplies and little chance of getting it on scene when the search began at first light.

My dismay was compounded when, following the search, the issue of "no communications" did not surface. There were slapped backs, tales of service, discussion of why the victim got lost — but the comm issue was avoided.

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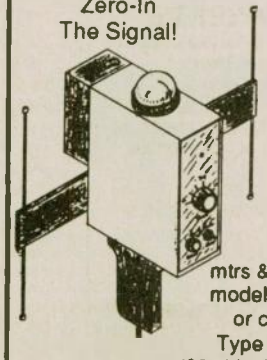

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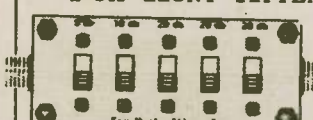

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World Radio History

Communications is *not* one of those technical functions done by strange looking folks in rooms filled with glowing boxes and blinking lights. This is a function that is critical to emergency response and should involve the whole team. It is also one of your team's safety nets. Communication planning and preparation involves your team leadership, the searchers (or end-users) AND the comm people. You cannot just ignore it and hope it happens.

Meet together

There is nothing wrong for team leaders and searchers to sit with comm people and develop expectations and plan your communications system. In fact, if you're not doing this, you are possibly in the lower ranks of emergency response efficiency anyway.

If you are a communications team (such as an ARES group) don't take communications for granted. Just because you have a bunch of radios (which the above SAR team had) and maybe a repeater or two doesn't mean you have communications when you respond. You must prepare and have equipment in place that is ready. You must have people that are identified as available and trained to provide communications when you respond.

Get your group together. Discuss your communications needs. Write down your capabilities. Write down what you need to be ready on the next response. List what needs to be done. Make assignments. Most important—follow up and find out who is dropping the ball. I've been in many planning meetings where all the above has happened, except the follow up.

It's great to have a plan and make assignments but if nothing gets done, NOTHING GETS DONE! Hold people accountable if they accept the job. If one person repeatedly fails to get things done, don't let him/her agree to do things. You need results, not promises.

Response time

There is a wonderful article in the July/August 1994 issue of *9-1-1 Magazine* dealing with response time. The article explores how agencies define an adequate response time and how one measures response time.

The author discusses perceptions from both the provider side and the customer side. "For the customer in a crisis, who is expecting the 'average' response time, 10+ minutes can literally be a lifetime."

If you can find this article it offers some keen advice to emergency response agencies. (Contact the magazine at 18201 Weston Place, Tustin, California 92680.) If you don't find the article, spend a little planning time discussing your group's response time. It's important that your "time" matches your user expectations. They might think you agreed to a 30 minute volunteer response while your understanding was one or two hours.

Remember that response time is the difference between the initial call and when you're on scene. It's not the time when you get home to gather gear or get the radio hooked up in your car, or finally get on the road. Many groups are not clear on the issue that responding is not the same as arrival on scene. "Good" response time may differ between provider and customer. Work with the agencies you serve and discuss response time issues. Common perceptions and expectations make for smooth operations.

Until next month, keep your gear ready. You never know when the next emergency call will come. Best wishes from Salt Lake City. **WR**

If your club is involved in any emergency situations, send the story and pictures to ***Worldradio***.

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World Radio History

October! October! October!

This is "the" month of the year for SSB DX contesters — because it has "the weekend" of the year, the weekend of the *CQ* Worldwide DX Phone Contest which falls this year on October 29-30. See the September issue of *CQ* Magazine for full details. This is the one contest which a SSB DX Contester will not miss. (It is rumored that more marriages have dissolved over the *CQ* Worldwide Phone Contest than over any other DX Contest.) It is popular among DXers because it provides the greatest concentration of countries and zones to add to their award totals.

However, while the *CQ* Contest is this month's feature, the dedicated DX contester will find action on four of the five weekends of the month as shown on the following DX Contest Calendar for October:

1, 2 October:
VK-ZL-Oceania DX Contest SSB Section, 1000 UTC Saturday to 1000 UTC Sunday
R.S.G.B. 21/28 MHz SSB Contest, 0700-1900 UTC Sunday

8, 9 October:
VK-ZL Oceania DX Contest CW Section, 1000 UTC Saturday to 1000 UTC Sunday

15, 16 October:
Worked all Germany Contest, 1500 UTC Saturday to 1500 UTC Sunday
R.S.G.B. 21/28 MHz CW Contest, 0700-1900 UTC Sunday

29, 30 October:
CQ Worldwide SSB Contest, 0000 UTC Saturday to 2400 UTC Sunday

Rule summaries for October contests

These brief summaries are for the casual contester or DXer who wishes to make a few contest contacts. For complete rules of any of the overseas contests send an SASE to K4IIF, P.O. Box 205, Winter Haven, FL 33882, or check the contest columns in *CQ* or *QST*.

VK-ZL-Oceania DX Contests: The object of these events is for stations throughout the world to contact as many VK, ZL or other Oceania stations as possible on 1.8-30 MHz (no WARC Bands), either phone or CW. The WAC definition of Oceania is used. The exchange is RS(T) plus 3 digit number beginning 001. The multiplier is prefixes worked, and a prefix can be worked on each band. ZL1AAS is Contest Manager for 1994.

R.S.G.B. 21/28 MHz Contests: W/K/VE amateurs work only UK stations. The exchange is RS(T) and serial number beginning 001, with UK stations adding their county abbreviation. Your multiplier will be the number of counties worked.

Worked All Germany Contest: W/K/VE operators work only German stations on SSB or CW using the 3.5, 7, 14, 21 and 28 MHz bands. According to I.A.R.U. Region I regulations, contest operation is not allowed on 3560-3860 and 14060-14350 CW, or 3650-3700, 14100-14125 and 14300-14340 SSB. The exchange is RS(T) and serial number. The multiplier for W/K/VE and other non-German stations is the number of German districts worked on each band.

Results of 1993 Contests

VK-ZL-Oceania Contest

Congratulations to Peter Nesbit, VK3APN, new contest coordinator for WIA who compiled the following results of the 1993 contest:

Top Single Operator Scores By Continent:

	Phone	CW
N. America	K3ZO	N6AA
S. America	LU2DKN	No entry
Oceania	VK3EW	VK8AV
Asia	RK9C	RW9AV
Europe	G3NAS	RB4IXQ
Africa	No entry	No entry

Top VK and ZL Phone Scores

VK3EW	1,445,860	VK2APK	984,390
VK5GN	684,956	VK6WOG	370,111
VK2ARJ	315,596	VK2IVK	279,112
VK4ICU	273,000	VK8AV	186,984
ZL1AAS	589,410	ZL3TX	253,130

Top VK and ZL CW Scores

VK8AV	832,397	ZL3GQ	785,601
VK6ZH	259,532	ZL1AIZ	721,897
VK6BGV	115,804	ZL2AGY	597,312
VK4XA	110,080	ZL1BN	336,174
VK2QF	84,840	ZL1VD	101,412
VK6HG	76,500		

The CQ-M Contest

The following results were sent to us by Victor Bondarenko, UV3BW. Trophy winners were:

Single Operator Multiband (SOMB), CW, UA9OA

Single Operator Multiband, SSB, UT5DK

Single Operator Multiband, Mixed, UY7E

Multi-Operator Multiband (MOMB), UB3JWW

Most SOMB entries were on CW, with these winners by continent:

North America	WD4AHZ
South America	PY2OW
Africa	EC8AXM
Asia	UA9OA
Europe	HA8EK
Oceania	VK2APK

Other U.S. entries included K6XO, N6IC and KZ2I.

1994 Bermuda Amateur Radio Contest:

The Radio Society of Bermuda (R.S.B.) is pleased to announce the following winners of the 1994 Contest.

Worldwide Winner and Top Score

Daniel Gravereux, N1ZZ, 11,121,880 points.

Country Awards

U.S.A., Fred Lucas, K1EFI 4,034,880 points

Great Britain, Andrew Williamson, GIØNWG 44,400 points

Bermuda Top Score, Glen Cuoco, VP9ID 740,500 points

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Top YL, Edna Hall, VP9IX 91,065 points

Top CW Only, Larry Koolkin, VP9MZ 64,350 points

Prizes, including an engraved trophy for N1ZZ, will be presented at the R.S.B. Annual Banquet on October 20, 1994. Thanks to Rose Spershot, VP9LP.

Contesting from overseas — West Africa

Jay, K4ZLE/EL2LE writes with this interesting information about Liberia and Sierra Leone.

"I received your letter recently inquiring about operating from Africa. I don't think I can provide much substantive assistance. However, I will provide you with what little information I have. I recently traveled to Sierra Leone (9L) and Liberia (EL) and was fortunate to operate from both countries. My business in both countries was church mission related and I had contacts there prior to my visit.

"I was not individually licensed in Sierra Leone. Instead, I was "guest op" at 9L1JN and 9L2SH. Prior to my visit, I sent copies of my U.S. license to my primary host, hoping to get a 9L call. Cassandra Davies is the licensing contact there in Freetown. However, she can not issue instant licenses. Since the last coup, about 2 years ago, even amateur licensing requires a police check and high level approval. I was informed that it would take several months to get approval, if I could get it.

Since I plan to make periodic visits to Sierra Leone, I asked that they proceed, but have heard nothing so far. I was not dealing directly with Cassandra, so I don't know anything about costs, exact address or if one could be licensed more readily as 9L#/U.S. call sign or not. In Liberia the licensing authority is Mr. G. Alfred Tow, Sr., Director, Radio Regulatory & Licensing Bureau, Ministry of Posts & Telecommunications, Monrovia, Liberia.

"The cost is US$75 annually, good from January to December. $35 is for mandatory membership in the Liberian Radio Club. The remainder is the actual license fee. The entire sum is paid to the licensing authority. I recommend writing ahead of time, but don't expect a quick reply.

"Upon arrival, we went directly from the airport to the main post office where the Ministry of Posts and Telecommunications is located. Mr. Tow had recently received my application a few weeks prior to my visit and gave me verbal permission to operate. Do not expect to receive an EL call unless you are going to establish "residency" of some sort. I was issued one mainly because my host was chief engineer of ratio station ELWA. Mr. Tow and his staff are very friendly and accommodating.

"You will be expected to pay your licensing fee in US dollars and in cash. When I was there the official exchange rate, as published in the Wall Street Journal, was 1:1. In reality it was $40+L:$1US.

"I did not have to pay a deposit in either country, but could have been asked to pay approximately 17% duty according to their existing regulations. My host was concerned that I could have been required to pay a fee in order to take my rig out of Liberia. One needs to be prepared to pay, probably in a hard currency.

"Relative to power, hotels, etc. The official power is 220 V AC at 50 cycles in both countries, if you have power. Don't expect any, especially if you venture out of the capital. In Freetown, Sierra Leone, power is spotty. Those with power did not know when it would be provided or for how long. In Monrovia, there are large sections permanently without power. The infrastructure was heavily damaged in the war. Power lines were still dangling from distribution poles along the roadside when I visited in March, 1994. I am told some hotels have their own generators, especially in Freetown. However, since I did not stay in hotels, I can not attest to which ones and how reliable their power is. There are restaurants in both capital cities, but I would be careful where I ate. I did enjoy some tasty and exotic dishes while there though; like barracuda, wart hog, antelope, cassava, plantain, rock badger, sweet potato leaf soup, ground nut soup, sweet potato stew, etc. As in most third world countries, rice is a main staple. I also enjoyed picking cashew fruit, oranges and grapefruit directly off the trees in upcountry Sierra Leone.

"Casual travel to either country is not generally recommended, especially for the faint of heart. If the sight of young soldiers with AK-47s, armed peace keeping forces, frequent security check points and frequent rumors of guerrilla activities upset you, don't go. If you can't deal with poverty, don't go. On the other hand, the people as a whole are very friendly and helpful, especially if you get away from airports, hotels, and beaches. If you enjoy an adventure, have a mission, like to haggle in third world market places, want to learn about how other people live or are just plain crazy like I am, it is very enjoyable. As one of my hosts told me over the air when I asked him how it was over there prior to my trip, "The situation is improving daily!" He was right. If you spend a little time finding out about the local customs and mores and treat people with respect, you seldom encounter insurmountable problems. I'm going back! Look for EL2LE on CW, WARC and possibly RTTY the last two weeks of August. A side trip to Sierra Leone is in the making. I will probably guest op with the same two calls, depending upon whether I'm in Freetown, 9L1JN, or up in the bush, 9L2SH. (I also handle QSLs for both Judy, 9L1JN, and Steve, 9L2SH). Who knows; maybe I'll have my own call by then.

"I hope this has been of some help in your endeavor to prepare meaningful, interesting columns for ***Worldradio***." WR

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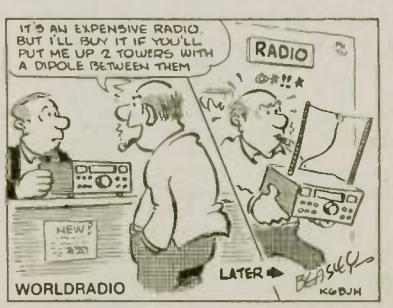


World Radio History

CONSTRUCTION

The WB2WIK Multiband Doublet:

A real, working 160-80-40 Meter antenna that will fit in your yard!

STEVE KATZ, WB2WIK/6

The problem

The lack of local activity on 160 Meters is due primarily to the simple fact that antennas for "top band" are usually enormous and ones that work well just won't fit within an average residential lot. Compromise antennas that will fit don't work particularly well, and everyone seems to know it. A top-loaded vertical can perform some magic on 160, but typically requires an "image plane" (counterpoise system) that is too large for or very intrusive to an average lot.

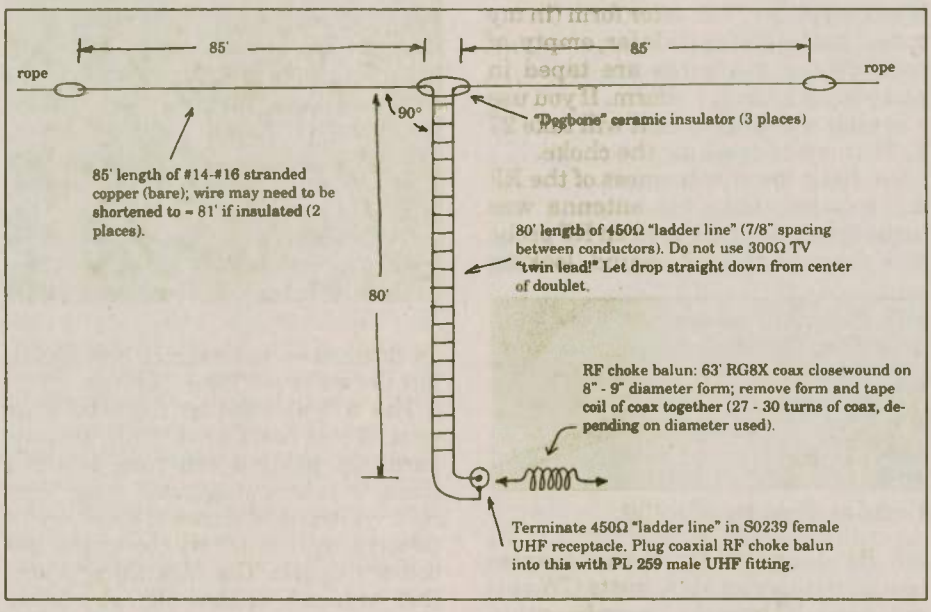
So, most of us dabbling in 160M work settle for shunt-fed towers which are top loaded by our HF beams; or "inverted-L" antennas with a simple counterpoise (like a ground rod); or too-low dipoles that are bent around lots of corners to accommodate the space available; or whatever "sort of" works. A resonant, current-fed dipole for 160 is 253 feet long and will only work on odd harmonics, none of which happen to fall in another amateur band. If you add a set of traps to such a dipole to make it resonant on 80M as well, irritating by-products occur: The antenna becomes very heavy and difficult to support without considerable sagging; the antenna becomes physically shorter, reducing its aperture and efficiency; and its "Q" on 80 might be too high to cover much of the band. Thus, 160/80M trap dipoles aren't too popular, either.

There has to be a solution, although in looking through all the amateur textbooks I could find, there didn't seem to be. Wait! What about a non-resonant antenna fed with a transmission line transformer so that it will present a reasonable load on even harmonically related bands? If this were possible, then a 160M antenna could be used on 80 and 40M, and in a pinch, even on 30 and 20M, since all these bands are even harmonics of 160. Wow! Why wasn't something like this tried before?

Well, it probably has been. But if so, it's never been written up in any of the books or magazines I've seen. Because this is a unique design that, as far as I know, is previously unpublished, I call it the WB2WIK Multi-Band Doublet. Maybe it will become as famous as the "G5RV" someday.

A little bit of theory

The antenna described here is a 120 degree radiator on 160, and using the transmission line transformer shown appears slightly capacitive, while it is a 245 degree radiator on 80, and appears slightly inductive. The resistive component is about 35 ohms on 160 and about 70 ohms on 80. The complex impedance presented at the base of the transmission line transformer (450 ohm ladder-line) is easily matched without a tuning network and can be fed directly with 50 ohm coaxial cable.



Standing waves are present on both the coaxial transmission line and the ladder line transformer, but losses at these frequencies are so low, the standing waves are of little consequence and will not compromise efficiency. However, because standing waves are present on the 450 ohm line section, electromagnetic field containment, normally an attribute of balanced line, is not perfect. This adds some vertical component to the radiated signal, and it is important that the 450 ohm ladder line drops straight away from its connection point to the horizontal doublet and remains perpendicular to the "flat-top" radiating element as much as possible to avoid field cancellation and pattern distortion.

Because the doublet itself contains no traps, and the ladder line is extremely lightweight, the antenna can be pulled fairly taut with little effort and exhibits almost no sag over its 170-foot length. I used a conventional "dogbone" type molded insulator at the center of the doublet for the ladder line connection and this has proven plenty strong enough, even on very gusty days. My doublet wire is #14 stranded copper (not copperweld) and hasn't stretched at all in six months of service.

To help minimize radiation from the coaxial transmission line, I used an "RF choke" balun at the point where

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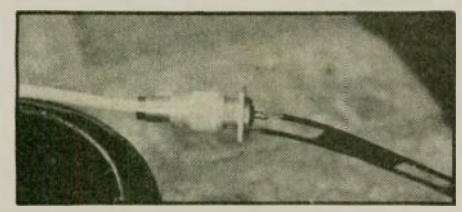
World Radio History

the coax connects to the 450 ohm ladder line. This choke is made of 63 feet of RG8X coaxial cable (often called "mini-8"), the good stuff — "marine grade" with a tough PVC jacket that is non-contaminating and resistant to salt spray, UV radiation and other weathering. (If you, too, use "mini-8" type cable, avoid the cheap junk. It will deteriorate in no time.) The choke balun is wound on a 9" diameter form (in my case, I used a glass pickle jar, empty, of course!) and the turns are taped in place to keep them uniform. If you use a similar winding form, it will take 27 to 30 turns of cable for the choke.

To check the effectiveness of the RF choke balun, once the antenna was installed as shown, I used an RF probe as a detector to sniff around, looking

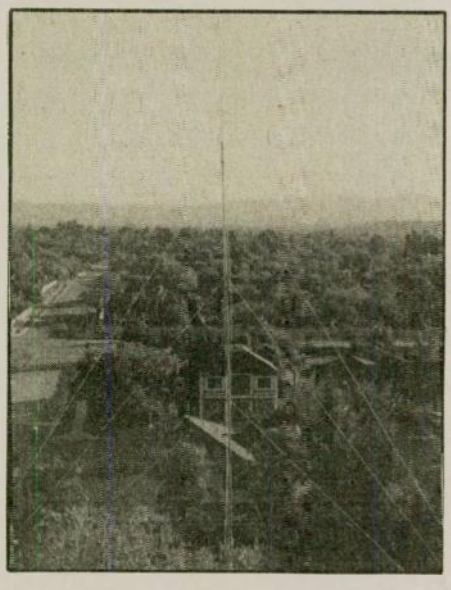


Ladder line to SO-239.

for RF leakage from the coaxial feedline. Running 1000 watts CW output power, if I brought the probe within six inches of the ladder line, I could "full-scale" the detector's meter (1 Vrms full-scale); but running the probe along the coaxial feedline, right against its jacket, I could get no indication at all, even using the meter's most sensitive scale (10 mVrms). Proof enough for me that the choke works.

Installation

As with any low-frequency horizontal antenna, the higher you install it, the better it will work. In my case, I wanted the 80 feet of ladder line to drop as vertically as possible to the ground to keep it out of the field of the horizontal radiator. Not having a pair of 80-foot towers placed 170+ feet apart, I had to come up with another solution to getting the doublet's center reasonably high. I used a 50-foot "slip-up" telescoping mast, its base anchored in concrete, installed atop a small hill in my backyard. This got one end of the doublet about 90 feet above my house. The other end of the doublet is supported by 16 feet of 2" diameter EMT conduit which protrudes from a ventpipe out of the highest part of my roof, putting the top of the conduit about 41 feet above true ground. Obviously, the doublet "slopes" a bit, with one end being almost 50 feet higher than the other. But the distance between the two support points is 200 feet, making the slope angle only about



14 degrees — not exactly horizontal, but not quite a "sloper," either.

The height solution must be your own. If you don't have a hill in your yard, try using a tall tree; two tall trees; a telescoping mast atop your roof; a tower and a tree; a tower and a telescoping mast; or whatever you can come up with. The nice thing about this antenna is that it's physically shorter than a full-sized 160 Meter dipole and really will fit on most suburban lots, while its performance is not lacking when compared with full-sized antennas. Using no traps or other weighty materials, it does indeed load up very well on even harmonics of 160, and has proven an absolutely stellar performer on 80M. Comparing it with a full-sized ¼-wave (33' tall) vertical over an excellent counterpoise system on 40M that I have installed on the same lot and very much "in the clear" of obstructions, the WB2WIK Multi-Band Doublet holds its own very well. It becomes a bit directional, with some gain off the ends of the doublet and

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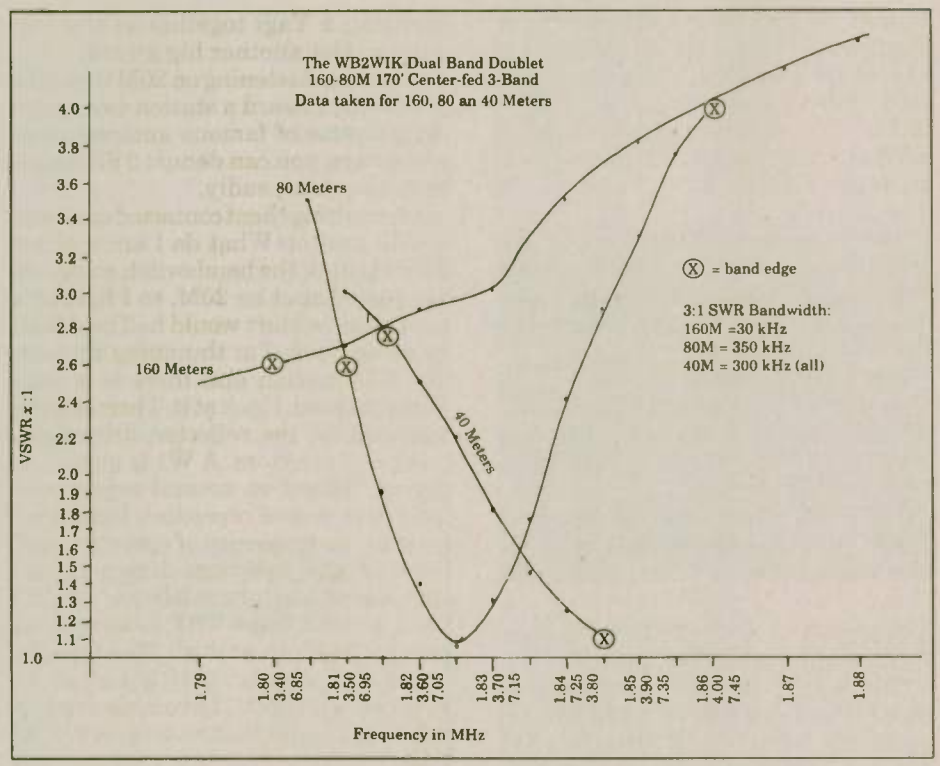

some nulls off the broadsides, but even works well (especially in its favored directions) on 30M.

As with any antenna, **avoid electric power lines during installation!** Don't let the antenna wires cross over or under any utility lines, and preferably don't run them parallel with any, either, for a long distance. (It sure helps to have underground utilities!) Avoiding power-line crossings is for safety, obviously, but avoiding parallelism can be important in noise and RFI reduction and will help eliminate antenna detuning. A half-wave on 160 is 266 feet, and utility wiring in parallel to the doublet elements even 266 feet away will closely couple that wiring directly to your antenna, making the power wiring an undesirable parasitic element.

SWR will undoubtedly vary with installation, but should be pretty typical if you can get that feedpoint fairly high above ground.

Short shaggy dog story

How does it work? It's amazing for its size. On 160, I have absolutely no trouble working the east coast with 100 watts and have made a dozen contacts into Europe, no small feat from California. KH6/KL7 and other Pacific contacts come quite easily, and I've worked a lot of Oceania besides KH6. No, I don't compete with the full-sized delta loop hanging from a 200-foot tower, but I didn't expect to. In the 1993 ARRL 160 Meter Contest last December, I seemed to be doing as well as anyone around these parts regardless of what they were running (admittedly not many 160M "big guns" near me) and made 195 QSOs in 42 multipliers in just a few hours' operating time on Saturday night. No, I didn't win the contest — but in the limited time I had to operate, I didn't hope to. On 80M, this antenna has worked a lot of DX, including an early-morning contest "run" during the CW-DX contest (February 1994) where QSOs with 17 amateurs were all completed in less than one hour. In some cases, I couldn't even hear these stations on my "other" antennas.

In all, I'd say this antenna is a winner. It's surely not the ultimate, but is quite satisfactory for working 160-80-40M and has DX capabilities if installed high enough above ground. And it can be fed directly with 50 ohm coax, providing a reasonable match on all three bands without the need for an antenna tuner. If you have a "fussy" rig that won't load up into anything but a resistor, you may still need a tuner to cover above 1.82 MHz on 160, above 3.80 MHz on 80, and below 7.05 MHz on 40, but that's the way it goes. Of course, the doublet or the 450 ohm ladder line can be trimmed to favor your favorite portion of the band you work most, but I didn't bother doing that. With the dimensions shown, the antenna "dips" to an almost perfect SWR at 3650 kHz on 80, which was almost exactly in the center of the part of the band I work (midway between CW and low-end phone), so I did not trim it at all.

Will this antenna work as an inverted vee? It probably will, but I haven't tried that configuration, which might require a single support about 80 feet tall. If you try it and support the center with an 80 foot tower, I'd recommend you stand the feedpoint at least a few feet away from the tower and use a few non-conductive (insulating) supports, each a few feet long, to hold the ladder line away from the tower as it drops to the ground. The ladder line is not self-shielding and will couple to the tower, so the farther away it is spaced, the better. I have tried the standard "G5RV" design (using a 102' doublet center-fed with a tuned section of ladder line spliced to coaxial cable) as an inverted vee and it was unsatisfactory compared with installing the same antenna as a well-elevated flat-top dipole. Of course, a problem with the "G5RV" is that its impedance goes through some wild swings within the amateur bands and will nearly always require a good tuner to work bands other than 20M. In case you're interested, the standard 102' long "G5RV" is not a very effective antenna on 160, even when used with an excellent tuner. I tried it more than once and was disappointed. That is how the WB2WIK Multi-Band Doublet evolved, and lots of analysis and field testing yielded the final design with its 170' radiator length and 80' transmission line transformer length.

One last note: Because this antenna does not have quarter-wave "legs" on any band, the voltage at each end is much lower than it would be for a half-wave dipole. As such, it may be installed reasonably close to conductive end supports — much closer than you could get away with if it were a half-wave doublet. This is another real "plus" for the design, and makes installation less critical than many others.

Good luck and let me know how you make out with your version of the WB2WIK Multi-Band Doublet. WR

World Radio History

AERIALS

I'm looking at an advertisement. The company involved would certainly be granted equal space should they wish to debate my remarks.

For about $900 you get a tuner and a vertical antenna. The tuner is to be mounted on the outside of the vehicle (the vertical fits into the tuner) because this "eliminates power-draining antenna wire-runs between the antenna and tuner."

It's that "power draining" that is interesting. "How much power draining?" you may be asking. Let's take a look at 50-ohm RG-213 cable. If you run 100 feet of it from the output of your transceiver to a 50-ohm antenna, the loss (on 20M) will be 0.8 (4/5) of a dB. How long is the run of cable in the typical mobile installation? About 10 ft. So the loss would be 0.08, that is 8/100 (1/12) dB.

So, you say, that is the perfect case. What if you move off the frequency on which that antenna is resonant? OK. Remember that it takes an SWR of about 4 to 1 to equal the loss the perfectly matched cable gives you normally. So, in this ten foot run of cable, with an SWR of 4 to 1 the total feedline loss now comes to 0.16 (1/6) dB. One sixth of "You can't tell the difference" is pretty tiny indeed.

"How about on 10M?" you may ask. OK. Instead of 0.8 dB loss per 100 ft. you would see 1.13 dB loss per 100 ft., which after being cut to one-tenth is truly insignificantly insignificant.

Since most HF mobile seems to be on 40 and 75, let's take a look at those frequencies. Loss at 40M (100 ft.) is a whole 0.56 dB and on 75M we see 0.4 of a dB. Now, to place this in perspective: In the 75M situation above, with an SWR of 4 to 1, the total line loss is 0.8 of one dB. That's in 100 ft. What would it be in 10 ft.?

"Power-draining?" I'll let you be the judge. By, the way, Fred Snell, who is in the zone of people who really know this subject, says RG-213 is as far as you really need to go.

The advertisement also says that with this $900 tuner and whip combination you will "blast holes through major mountain ranges and probably some laws of physics."

Pray tell, which laws of physics? Kindly name the appropriate ones. Do you mean, (Great Scot!) Maxwell's equations? Yea, they've been around a long time. Due for an update you say? Oersted? Biot? Savart? (Lil says don't forget Newton or Kirchoff.) Ampere's Law is being replaced with Burke's?

I'll just be short of breath the whole time waiting for the rebuttal from that hotbed of scientific inquiry, Bellevue, Washington.

And then, in a nationally circulated magazine, an article by a two-by-one callsign and with three letters after his name said, "When an antenna and its feedline are matched, then only about half the power in a signal received by the antenna is transferred down the feedline toward the receiver."

I do look forward to a reference to a recognized textbook that contains the explanation of that one, or a description of the personal research that obtained such results. The same guy said a three-element Yagi had a gain of 9 dB.

I think it's getting weirder and weirder out there. Thank goodness there are some cool cats like Joe Salemi, KR4CZ, and Al Girard, VE6OA.

Amusing. A big contester got a big award and said he couldn't have done it without his "Dinah and Her Dozen" antenna. A year later he was at a different location and was essentially picking parts out of a junkyard and throwing a Yagi together at the last minute. Got another big award.

Amusing. Listening on 20M the night of 18 July, I heard a station say: "Anything (name of famous antenna company) says, you can deduct 3 dB from." How very true, sadly.

A consulting client contacted me about a VHF project. What do I know about VHF? I think the bandswitch on my rig has rusted shut on 20M, so I figured a good place to start would be The *ARRL Antenna Book*. I'm thumbing through the VHF section and there is a four-element Quad. I look at it. There are the formulas for the reflector, driven element and directors. A W1 is quoted as saying, "Based on several experimentally determined correction factors related to the frequency of operation and the wire size, optimum design dimensions were found to be as follows:" (WOW! I had no idea these VHF folks were so precise! Just look at this!) "The formula for the reflector is: 1046.8 divided by Frequency in MHz. Driven element is 985.5/fMHz and the directors are 937.3/f MHz."

Those must have really been SOME experiments! What equipment they must have had. Ho, you sure don't do work like that with an $11.95 Lafayette SWR bridge. Do you realize that if they

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had inferior equipment the measurement might have come out as the reflector reading being 1046.9 instead of 1046.8 and they would have been off by .00009, or about 1/10,000?

Together, let's work that out and see what the difference in wire length would have been at exactly 146.000 MHz.

1046.9/146=7.170547945 ft., times 12=86.04657534 inches.

1046.8/146=7.169863013 ft., times 12=86.03835615 inches. Subtracting that from the results above we see this.

86.04657534
-86.03835615
.00821919

That is, 8/1000 of an inch. Or we could look at it as 1/125 of an inch or about 1/8 of 1/16 of an inch. Those New Englanders must build their antennas under the electron microscope. I would have a hard time resolving that on my ruler.

I think there would be more contraction or expansion than that in the wire whether it was put together on a cool New England day or a hot Texas one here.

So, let's look at the driven element dimensions. The book calls for 985.5. But, what is the difference if I make it just 985.0 instead? Answer: 1/25 of an inch. One-twenty-fifth of an inch! (One millimeter!) We are supposed to work on our antennas with a jeweler's loupe?

My associate, Jose, says don't eat anything with garlic at lunch before you work on this antenna or you will affect its length.

What is the difference in resonance if I use 985.0 instead of 985.5? Less than two kiloHertz.

And all of this is at 146 MHz, where the frequency excursion up to 148 is less than 1.4%, and the swing down to 144 is the same. This antenna has a high SWR of 1:5 on the low end and 1:3 on the high end and we are worrying about 1/25 of an inch?

Height above ground, nearby objects, magnetic declination, barometric pressure, changes in gravity, the way the wind is blowing or impure thoughts will affect the antenna more than that.

Who is kidding whom??? Maybe the writer of the original article was playing a secret joke????

Have I been missing something all these years? People have an antenna, that by its very nature is broadband, and they are "conducting experiments" to learn the "correction factors" on a band that is less than 3% frequency range from bottom to top.

They are worrying about unrepeatable antenna lengths. Gadfry, don't cut any lengths with dull cutters, the results will be different than with sharp ones.

Maybe these folks have spent too much time on VHF listening for those messages from outer space.

"Call—ing Earth, Call—ing Earth. Thanks for sending us the wrestling matches. But quick, tell me who won the 1947 World Series, Yankees or Dodgers, so I can place some bets and win big."

(Kurt goes by his secret codeword name so that the switchboard at his employer, The Grace L. Ferguson Aluminium Storm Door and Antenna Company, can be kept free for real business calls.) **WR**

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World Radio History

CONTESTS

YL Anniversary Party (YL–AP)

CW: 1400 UTC Wednesday 12 October,1994 – 0200 UTC Friday 14 October,1994

SSB: 1400 UTC Wednesday 26 October,1994 – 0200 UTC Friday 29 October,1994.

Operating breaks must be shown in your log.

Eligibility: All licensed women operators worldwide are invited to participate. Only YLRL members are eligible for the cup and plaque awards. Non–YLRL members will receive certificates.

Procedure: Call "CQ–YL"

Operation: All bands may be used. No crossband, net or repeater operation. On CW or SSB, only one contact is permitted with each station on each band.

Exchange: Station calls; QSO numbers; RS(T); and U.S. ARRL section/Canadian province/country. Log entries must show time; band; and transmitter power.

Scoring: (A) CW and SSB are scored as separate contests. SUBMIT SEPARATE LOGS.

(B) YLs located in a U.S. ARRL section or Canadian province are defined as NA–YL. All others are defined as DX–YL.

(C) All NA–YLs score one point for each QSO with another NA–YL; one point for a QSO with a DX–YL on the same continent, and two points for a QSO with a DX–YL on a different continent.

(D) All DX–YLs score one point for each QSO on the same continent and two points for each QSO on a different continent.

(E) Each contestant multiply the score claimed under (C) or (D) by the sum of each U.S. ARRL section, Canadian province or country worked.

(F) Each contestant using power output (at all times) of 100 watts or less on CW or 200 watts PEP on SSB multiply the score claimed in (E) by 1.5, the low power multiplier. Those not entitled to the low power multiplier are limited to 750 watts on CW and 1500 watts PEP on SSB.

Logs: To qualify for awards all logs must show the operator's call; U.S. section/Canadian province/or country; claimed score; and YLRL membership status (member or non–member) For each QSO logs must show: QSO number sent and received; date; time; call of station worked; RS(T) sent and received; U.S. ARRL section/Canadian province/country of station worked and power output used. If you work 200 or more QSOs submit separate logs for each band and submit a dupe sheet. File separate logs for each contest and sign each log. Please print or type logs and submit no carbon copies (photocopies are OK). No logs will be returned.

All logs must be postmarked no later than 30 November, 1994.

Send all logs to: Carla Watson, WO6X, 473 Palo Verde Dr., Sunnyvale, CA 94086

Awards: In each contest (CW and SSB) the highest scoring NA–YL will be declared the NA–YL winner and the highest scoring DX–YL will be declared the DX winner. Those winners who are YLRL members will receive a YL–AP cup. Those who are not YLRL members will receive a first place certificate. NA and DX second and third place winners will be awarded certificates regardless of YLRL membership. A certificate will be awarded to the highest CW and SSB winner in each U.S. call district, Canadian province, and country. The Corcoran award plaque will be awarded to the YLRL member earning the highest combined SSB and CW score within a U.S. state or Canadian province. The Hager award plaque will be awarded to the YLRL member earning the highest combined CW and SSB score at any DX location.

Suggested frequencies: CW — 80 Meters: 3.540–3.725 MHz; 40 Meters: 7.040–7.070 MHz; 20 Meters: 14.040–14.070; 15 Meters: 21.120–21.150 MHz; 10 Meters: 28.150–28.200 MHz.

SSB — 80 Meters: 3.940–3.970 MHz; 40 Meters: 7.240–7.270 MHz; 20 Meters: 14.250–14.280 MHz; 15 Meters: 21.380–21.410 MHz; 10 Meters: 28.300–28.610 MHz.

Note: Since band allocations in other countries are often different than in the U.S.A., NA–YLs should look for DX–YLs in other parts of the bands.

1994 California QSO Party

Sponsored by the Northern California Contest Club, the contest begins 1600 UTC - 1 October 1994 The object is for stations outside of California to work as many California stations in as many CA counties as possible. Stations in California work anyone. Contest ends 2200 UTC - 2 October 1994.

Exchange: California stations send QSO number and county. Stations outside of CA send QSO number and state, province or country.

QSO points: Each complete non-duplicate phone contact is worth 2 points. Each complete non-duplicate CW contact is worth 3 points. No partial contact credit. Duplicate contacts must be clearly identified in log.

Multipliers: California stations count states (50) and Canadian Provinces (VO/VEI-7 and YVI/VE8) for a possible total of 58. All others use California counties for a maximum of 58. CA stations on a county line may be claimed as a multiplier for any or all of the counties they give in their exchange. Number each multiplier as worked.

Score: The total score is the total number of QSO points multiplied by the total number of multipliers (58 Maximum).

Frequencies: 160, 80, 40, 20, 15, 10, 6, and 2 Meters. WARC band contacts do not count. Suggest CW on 1.805 and 40 kHz up from band edge. Phone on 1.815, 3.850, 7.230, 14.250, 21.300, and 28.450 kHz. Novices 10 kHz up from band edge and 28.450. Try CW on the half hour. Try 160 Meters at 0500 UTC; 80/75 Meters at 0300 and 0700 UTC. Try 147.54 MHz at 2000, 0000, and 0400 UTC.

Class Entry: Single operator, multi-single, multi-multi, California county expedition, mobile, and Novice/Tech.

Entries: Single operator entries limited to 24 hours maximum; off times must be clearly marked in the log and be a minimum of 15 minutes. Multi-operator entries may operate the full 30 hours. Stations may be worked once on CW and once on phone per band. Single operator and multi-single entries are allowed only one transmitting signal. All CW contacts must be made in the CW subband except for 160 Meters. MCW is not permitted. All contacts must be simplex. California stations that change counties are considered to be a new station and may be contacted again for point and multiplier credit. California stations operating on a county line may be counted only as one QSO.

All logs and signed summary sheets must be submitted to: NCCC, c/o Ken Anderson, K6PU, Box 853, Pine Grove, CA 95665. Entries may be submitted in CT Version 8 format with .BIN, . SUM, and .ALL files on 5¼ or 3½ diskettes (no 2.88M diskettes) with a signed hard copy summary sheet. Label each diskette with call, entry category, and state/county/prov-

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ince/country. All entries must be postmarked no later than 15 November, 1994. Please include $1.00 for results if desired. Entries with 100 or more QSOs qualify for the special CQP T-shirt; please include your size (L/XL) and $8 if you qualify and would like this special award. Entries of 200 or more QSOs must include duplicate check lists. For a CQP paperwork package containing log and summary sheets, county abbreviations, and contest records, send a business size SASE to the above address.

Awards: Certificates — To top single op entry in each CA county, state, province, country, and stations with 100 or more QSOs. Trophies — To top three non CA single op entries, top three CA single op, top CA multi single, top CA multi-multi, top single and multi op CA County expeditions, the mobile (multi-county) single op and multi op with the most QSOs. Special CQP Wine Award — The top 20 CA and top 20 non-CA single op operators will receive a personalized bottle of NCCC Private Reserve California Wine. Winners under the age of 21 will receive a non-alcoholic personalized award. Special Awards — To the CA and non-CA single ops with the most QSOs, the most CW QSOs, the most phone QSOs, to the top CA and non-CA single op low power entries (200 watts or less output), to the top CA and nonCA single op Novice/Technician entries, to the top scorer outside of the USA and Canada, and to the top club in California (5 entries minimum — NCCC and SCCC are ineligible).

Australian Ladies' Amateur Radio Association

ALARA Contest

Saturday 12 November 1994, at 0001 UTC, through 2359 UTC.

Eligibility: All licensed operators throughout the world are invited to participate. Also open to SWLs. OBJECT: Participation: YL works everyone, OMs and Clubs work YLs only. One contest (combined phone and CW) run over 24 hours.

Suggested Frequencies: Bands to be used are 3.5, 7, 14, 21, and 28 MHz only. The following are suggested frequencies for easier location of contacts: 28.380 to 28.410; 21.170 to 21.200 and 21.380 to 21.410; 14.250 to 14.280; 7.070 to 7.100;and 3.560 to 3.590.

Operation: Phone and CW operation. Each station may be counted twice on each band for credit - once on phone and once on CW. All contacts must be made in accordance with operator and station licence regulations. No net or list operation, no crossmode.

Procedure: Phone: call "CQ ALARA contest." CW: YLs call "CQ TEST ALARA." OMs call "CQ YL."

Exchanges: ALARA member: RS or RST, serial no. starting at 001, ALARA member, name. YL non-member, OM or club: RS or RST, serial number starting at 001, name, and whether club station.

Scoring: Phone: 5 points for ALARA member contacted; 4 points for YL non-member contacted; 3 points for OM or club station contacted. CW: Contacts where at least one operator is Novice Class count double points, otherwise same as phone. SWL: 5 points for ALARA member logged, 4 points for YL non-member logged.

Logs: Single log entry (but Australian YL Novices entering for the Mrs. Florence McKenzie CW trophy should indicate their CW score separately). Logs must show date/time UTC, band, mode, callsign worked, report and serial number sent, report and serial number received, name of operator of station worked, whether it is a club station, and points claimed. LOGS MUST BE SIGNED. Logs also must show full name, callsign and address of operator, and show final score (points claimed). Logs must be legible. No carbon copies. No logs will be returned. Decision of the Contest Manager will be final, and no correspondence will be entered into. Logs must be received by the Contest Manager by: 31 December, 1994.

Contest Manager: Mrs. Marilyn Syme, VK3DMS, PO Box 91, IRYMPLE, 3498 VICTORIA, AUSTRALIA

Mrs. Florence McKenzie CW Trophy: This will be awarded to the Australian YL Novice operator with the highest CW score (not necessarily an ALARA member). Minimum score 50 points. The actual trophy, because of the size and weight, will not be forwarded to the winner, but a certificate bearing a photo depicting the trophy will be sent to the winner each year.

Certificates will be awarded for the following: Top score overall; Top score phone only; Top score Australian YL CW; Top score Australian YL Novice CW (Florence McKenzie certificate); Top score ALARA member in each country and VK call area; Top score YL non-member in each continent; Top score OM in each continent, Top score SWL in each continent; Top score VK Novice; Top score overseas YL CW; Top score VK Club station. Trophies will be awarded to the following: Top scoring Australian YL; Top scoring DX YL.

Club Stations: Operators of club stations must use the club call only for contacts, and MUST identify each contact as with a club station. Use of personal callsigns while operating as a club member is not permitted.

Hambrew fall festival

The *Hambrew* Fall Festival, sponsored by *Hambrew* Magazine, will run from 2000Z 8 October, to 2000Z 9 October, 1994 CW only, on QRP operating frequencies +/- 5 kHz on 80, 40, 20, 15, and 10 Meter amateur bands; single operator, single or multi-band.

Multi-band entries may use different equipment for each band, but only one band may be used at a time. Logs must show times operation began and ended on each band. Once contact is made on any band, contester must remain on that band for a minimum of 10 minutes.

Call "CQHB Contest." Exchange RST, state/province/country, output power, and homebrew (H), kit (K) or commercial (C). Count 3 points for each US and Canadian contact, 4 points for each DX contact. Commercial stations count 1 point for each US and Canadian contact, 3 points for each DX contact.

All stations score 5 points for each *Hambrew* editor/author worked. A list of *Hambrew* editors/authors appears in each issue. States and Canadian provinces count 1 multiplier point each per band. DX countries count 3 points each per band.

Total score is QSO points times total of multiplier points, multi-band stations total single-band scores for grand total. Valid logs must include date and time of each contest QSO, frequency, call, exchange and start/stop times for each band. Check logs welcome and will be credited.

First, second and third place certificates will be awarded for high scoring single- and multi-band station by equipment category.

Mail logs within 30 days from end of contest to Bruce Muscolino, *Hambrew* Contest Manager, PO Box 9333, Silver Spring, MD 20916-9333. WR

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World Radio History

hamfests October

Alabama

The MOBILE ARC will hold its Ham and Computer Fest 29 October from 8 a.m. to 4 p.m. at the ABBA Shrine Temple, 7700 Hitt Rd. VE testing will start at 9 a.m. Talk-in on 146.82(-), or ragchew on 146.94(-). For details, contact Richard Ireland, KD4TTD, 205/824-2749; or write MARC, P.O. Box 81791, Mobile, AL 36689.

Arizona

The OLD PUEBLO RADIO CLUB will hold its Hamfest 16 October from 7 a.m. to 1 p.m. at the DeAnza Drive-In, 22nd Street & Alvernon Way. Talk-in on 146.82(-), 146.88(-), 146.52(S). For details, contact A.J. Pawlowski, KB7KZ, 3418 W. Green Trees Dr., Tucson, AZ 85741; 602/742-2605.

California

The LIVERMORE ARK is sponsoring an Amateur Radio/Electronic/Computer Swap Meet on 2 October from 7 a.m. to 12 noon at Las Positas College. Features include refreshments, free parking and covered spaces in the event of rain. Admission is free. Sellers pay $10 space fee. Talk-in on 147.045(+) from the west and 145.35(-) PL 100Hz from the east. Contact Noel Anklam, KC6QAK, at 510/447-3857 eves. or leave message days at 510/783-2803.

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The STUDENT ARC of California State University, Sacramento, is sponsoring a swapmeet 9 October from 7 a.m. until noon on the campus, located at U.S. Highway 50 and Howe Ave. Buyers will be admitted free, vendor cost is $10. Vendor set-up and refreshments available at 6 a.m. Parking is free. Talk-in on 145.23(-), PL 162.2. Contact Gary Webbenhurst, KC6URB, 916/381-6602 (evenings).

Connecticut

The TRI CITY ARC will hold its annual fall auction 29 October from 10 a.m. until sold out at the Senior Citizen's Center, Waterford Municipal Complex. Bring your equipment to be auctioned. Food will be available, and the location is handicapped accessible. Auction setup is at 9 a.m. Talk-in on 146.67(-). Contact Bob Dargel, KA1BB, 8 Willow Ln., E. Lyme, CT 06333-1526; 203/739-8016.

Florida

The ST. PETERSBURG ARC will sponsor an autumn hamfest 8 October from 8 a.m. to 1 p.m. in the air-conditioned, handicapped-accessible First Unity Church on 45th Ave. North. Delicious homemade refreshments will be available. Admission is $2. Inside vendor tables are $3. Talk-in on 147.06(+). Contact Caddie Wilmshurst, KE4EME, 813/527-3426.

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The ARC, BRADFORD AREA presents the 4th annual Starke Hamfest and computer show, 14 October from 4 p.m. to 11 p.m., and 15 October from 8 a.m. to 4 p.m. at the Bradford County Fairgrounds north of Starke. Refreshments available. All activities under cover, so family fun is guaranteed, even if it rains. Admission for families is $3, tailgaters $4. Vendor tables are $5. Talk-in 145.15(-), 146.82(-), or 146.52(S). Contact Dan Phillips, K4RVD, 8214 Carl Brook Rd., Keystone Hts., FL 32656; 904/475-2695.

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The PORT ST. LUCIE AMATEUR RADIO ASSOCIATION's "PSLFEST94" will be held 29 October from 8 a.m. to 1 p.m. at St. Andrew Lutheran Church on Prima Vista Blvd just west of Sportsman's Park. The PSLARA is a new club, just organized in January, 1994. Their first 'Fest is a free, outdoor event for tailgaters and vendors of ham, computer and related equipment, and will be held rain or shine. Talk-in is on 146.955(-), 146.52(S). Contact Bob Blackwell, W3HVS, 407/335-1341, or Wes Sammis, W2YRW, 407/878-4739.

Indiana

The CASS COUNTY ARC and the MIAMI COUNTY ARC are sponsoring the North Central Indiana Hamfest, 1 October from 8 a.m. at the Miami County Fairgrounds on County Road 200 North. Large indoor vendor display, plenty of free parking, and free tailgate space (with ticket purchase). Admission is $5, but ARRL members or any viable radio club members receive a 20% discount. Vendor space indoors is $5 per 8' table. Vendor set up is Friday night. Talk-in on 147.345(+), and 147.18(+). Contact

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SPECIAL EVENTS AND FORUMS:

Friday: Electromagnetic fields and your health, Personal safety, Working with public safety agencies, Predicting earthquakes. C.E. accredited class-Computerized antenna design (Fee required).

Saturday: New ham forum, APRS, Station computer control, Beginning HF , Volunteer exams (A.M. Sat. and Sun. only), GIANT Swap Meet, T-Hunt, Foot & Fanny Contest, Banquet, WOUFF-HONG.

Sunday: ARRL Forum, Radio control, Antennas-theory and practice, SQUIRT-a new concept in satellites, Visual basic-an introduction, Global positioning system, QRP technology.

ROOM RESERVATIONS-ASK FOR SPECIAL RATE: Hilton Hotel 1-800-826-2644

Advance Registration Form - Send S.A.S.E. or tickets will be waiting at door.

Name_____ **Call** _____
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City_____ **State**____ **ZIP**____
Phone ( )_____

Pre-Registration	____	@ $3.00	* ____
Banquet entree			
Beef	____	@ $29.00	____
Chicken	____	@ $29.00	____
Vegetarian	____	@ $29.00	____
		Total	____

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World Radio History

Cass ARC, P.O. Box 1092, Logansport, IN 46947.

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The HUNTINGTON COUNTY ARS, Inc. is sponsoring its 6th annual hamfest, 2 October from 8 a.m. to 1 p.m. at the Police Athletic League Club. Features include an indoor flea market, free parking, handicapped accessibility, and VE testing. Admission is $4. Eight-foot vendor tables are $5, first-come, first-served. Vendor setup time is 6 a.m. Talk-in on 146.685(-), and 443.975(+). Contact Chris Richardson, P.O. Box 284, Huntington, IN 46750; 219/356-0319.

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The WABASH VALLEY ARA presents the WVARA 60th anniversary hamfest, 15 October from 7 a.m. at the Clay County 4-H Fairgrounds in Brazil, IN. Hourly prizes, indoor flea market, breakfast and lunch served, all in a spacious indoor facility. VE testing at 10 a.m. Admission is $5 at the gate, $4 advance thru 1 October. Vendor tables are $5, set-up time is 6 a.m. Talk-in, call W9UUU, 146.85(-) or 444.35(+). Contact Kevin Berlen, c/o WVARA, P.O. Box 81, Terre Haute, IN 47808; 812/939-3110.

•

The BOONE COUNTY and CLINTON COUNTY ARCs are sponsoring a hamfest 30 October from 8 a.m. to 4 p.m. at the Boone County 4-H Fairgrounds, in the warm and dry Community Bldg. Features include dealers, flea market, free parking, free tailgating, great food available, and nearby VE testing. Admission is $3. Vendor tables, $5. Talk-in on 147.105(+), and 443.15(+). Contact Sam Paul, WA9YZE, or P.O. Box 186, Lebanon, IN 46052.

Kentucky

The GREATER LOUISVILLE HAMFEST/ARRL Kentucky State Convention will be held 1-2 October at the Commonwealth Convention Center. 80,000 sq. ft., all indoors. Advance tickets are $6 with SASE, $8 at the door. Contact the Greater Louisville Hamfest Association, P.O. Box 34444-Q, Louisville, KY 40232-4444. Information for commercial spaces call 812/948-0037; flea market spaces 812/282-4898.

Michigan

The UTICA SHELBY EMERGENCY COMMUNICATIONS ASSOCIATION will hold a USECA Swap 23 October from 8 a.m. in the Student Community Center (K-Bldg.) of the Macomb Community College in Warren. Swap your ham gear, electronic parts, computer hardware and software, etc. Food service by the Culinary Arts Dept. VE testing is pre-registered; contact Bill, N8CVC, 810/468-8345. Admission is $4. Eight-foot vendor tables are $15. Talk-in on 147.18(+), or 146.42(S). Contact Virginia Przekaza, N8NLS, 34473 Coachwood Dr., Sterling Hts., MI 48312; 810/268-0691.

Minnesota

The TWIN CITIES FM CLUB is sponsoring the 10th annual Hamfest Minnesota and Computer Expo!, 29 October from 8 a.m. to 4 p.m. at the St. Paul Civic Center in St. Paul. Features include a huge flea market, educational and fun seminars, retailers, manufacturers, fabulous prizes, food and easy access to indoor parking. VE testing will take place. Admission is $5 in advance, $7 at the door. Vendor tables are $18 in advance, and $20 at the door. Talk-in on 146.76(-). Contact The Big One, P.O. Box 5598, Hopkins, MN 55343; or call the information line at 612/535-0637.

Missouri

The GATEWAY TO HAM RADIO CLUB is sponsoring a hamfest 29 October from 8:30 a.m. to 2 p.m. at the West County Tech School in St. Louis. Talk-in 146.94(-). Contact Joe, NØSJR, 314/230-9402, or the club at 10 Ann Ave., Valley Park, MO 63088.

Nebraska

The AK-SAR-BEN ARC, Inc. is sponsoring the 1994 ARRL Midwest Division Convention - Supervention '94, 14-16 October at the Holiday Inn Convention Center, 72nd and Grover St. in Omaha. Contact AARC/ARRL Midwest Convention, P.O. Box 24551, Omaha, NE 68124-0551; FAX 402/399-0848

New Jersey

The BERGEN ARA will hold its annual Fall Hamfest 8 October from 8 a.m. to 2 p.m. at Fairleigh Dickinson University in Teaneck. VE testing will be available. Admission is $3; XYL and harmonics admitted free. Vendor parking spaces are $10; $20 with power. Talk-in on 146.79(-). Contact Jim Joyce, K2ZO, 201/664-6725, before 10 p.m.

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The SHORE AREA HAM and COMPUTER-FEST, sponsored jointly by the Jersey Shore ARA, Neptune ARC, Ocean-Monmouth ARC, Garden State ARA, and the Brookdale ARC, will take place 9 October, from 8 a.m. at the Brookdale Community College in Lincroft, NJ. 14,000 sq. ft. of heated/cooled indoor selling space, unlimited tailgating, cafeteria for snacks or full meals, dealers, educational and fun forums, and plenty of free parking, handicapped accessible. VE testing at 9 a.m., one CW test session at 9:30. Admission is $5 in advance, $6 at the gate; XYLs and kids under 12 free. Eight-foot vendor tables, $25. Vendor setup time 6 a.m. Talk-in on 145.485(-). Contact Al Allen, K2LG, P.O. Box 635, Eatontown, NJ 07724-0635; 908/495-3246.

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The TRI-COUNTY RADIO ASSOCIATION is holding the TCRA Hamputer Fest 15 October from 8 a.m. to 1 p.m. at the Union Catholic Regional High School in Scotch Plains. Handicapped accessible, lots of free parking, plenty of indoor tables, and tailgating spaces. VE testing at 9:30 SHARP. Admission donation is $5, children under 12 accompanied by a paying adult admitted free. Indoor vendor tables $10, $12 with AC; tailgate spaces $8, must be reserved by 7 October. Vendor set-up is at 7 a.m. Talk-in 147.255(+), 449.975(-), 146.52(S). Contact Dick Franklin, W2EUF, 310 Indian Trail, Mountainside, NJ 07092; 908/654-4943.

New York

The HALL OF SCIENCE ARC Hamfest will be held 2 October from 9 a.m. at the New York Hall of Science parking lot, Flushing Meadow Park in Queens. Free parking, door prizes, food and refreshments. Admission is by donation, $5 for buyers, $10 for sellers. Vendor setup is at 7:30 a.m. Talk-in on 444.20(+), or 146.52(S). Contact Charles Becker, WA2JUJ, 516/694-3955 (eves); or Arnie Schiffman, WB2YXB, 718/343-0172 (eves).

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The RADIO AMATEURS OF GREATER SYRACUSE will hold their 39th Hamfest, 15 October from 8 a.m. to 3 p.m. at an all new location: The Academy Green American Legion Hall in Syracuse. Many commercial vendors will be present, tech talks, ARRL, and computers. Other features include handicapped accessibility, and professionally-catered meals. VE tests on-site at 12:30 p.m., pre-register by 10/7. Admission is $5; children 16 and under free. Outdoor tailgating spaces are $3 per 10' front. Vendor setup is at 7 a.m. Talk-in on 147.30(+). Contact RAGS Hamfest, Box 88, Liverpool, NY 13088; 315/469-0590.

North Carolina

The MAYSVILLE HAMFEST will be held 9 October from 8:30 a.m. in Maysville. Outside tailgating and limited inside space are free. Catered lunch will be available. VE testing is at 9 a.m. sharp; contact Andy Griffith, 919/726-5924. Admission is free, but tickets will be sold to participate in the drawings. Talk-in on 146.685(-). Contact Jo Ann Taylor, WD4JYR, 220 Anita Forte Dr., Swansboro, NC 28584.

North Dakota

The FORX ARC is sponsoring a Hamfest/Computer Fair, 8 October from 8 a.m. at the Grand Forks Civic Auditorium. Flea market, forums, auction and banquet. VE testing is at 10 a.m., walk-ins welcome. Admission is $5, families $7.50. Vendor setup is at 7 a.m. Talk-in on 146.94(-). Contact Bob Smith, ND1H, 1203 Shakespeare Rd., Grand Forks, ND 701/746-9498.

Ohio

The ASHLAND AREA ARC will sponsor a hamfest on 2 October from 8 a.m. to 3 p.m. at the Ashland County Fairgrounds. Admission is $3 in advance, $4 at the door. Vendor tables are $7, and 10' flea market spaces are $3. Talk-in on 147.105(+). Contact Wallis Green, W3YXS, 3 E. Liberty St., Ashland OH 44805; 419/281-3903.

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The MARION ARC presents its 20th Annual Hamfiesta and Computer Show on 30 October from 8 a.m. to 3 p.m. at the Marion County fairgrounds coliseum. Prizes refreshments and ample free parking available. Admission is $4 in advance, $5 at the door. Vendor tables are

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World Radio History

$10. Talk-in on 147.30(+), repeater. Contact Karen Eckard, N8JDH, 6583 South St., Meeker, OH 43302; 614/499-3565; or Betty Krist, N8UDT, 132 N. Seffner Ave., Marion OH 43302; 614/387-3533 (after 5 p.m.).

Oregon

The ROGUE VALLEY ARC is holding their annual SwapMeet (*The* ham event for southern Oregon) 8 October from 9 a.m. to 4 p.m. at North Medford High School in Medford. Overnight SC/RVs are welcome (sorry - no services), free parking, refreshments and catered food service. VE exams are pre-register only; contact Dale Trautman, N7IXS, 418 N. Ross Ln., Medford OR 97501. Admission is $5 per person, pre-registered, $6 at the door. Vendor tables are $10 (does not include entrance fee). Vendor setup is at 7:30 a.m. North of Medford talk-in on 146.94(-), south of Medford talk-in on 147.16(+). Contact RVARC, 1707 E. Main, Medford, OR 97504.

Pennsylvania

The FORT VENANGO MIKE & KEY CLUB will hold a ham radio auction and flea market 22 October from 8 a.m. at the Venango County 4-H Fairgrounds on Rte. 62 between Polk and Franklin, PA. Auction begins at 10 a.m. (please limit items to ham radio, electronic or computer equipment), and all activities will be in a heated auditorium. Outdoor tailgating is free. Food will be available. Admission is $2, children 12 and under free. Flea market space is $3 (includes table). Talk-in on 147.12(+), 145.23(-), and 145.19(-). Contact Doug Smith, N3BDJ, 814/677-6523, Bruno Wolozyn, 814/377-8694, or the Club, RD #1, P.O. Box 591, Cranberry, PA 16319.

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The RF HILL ARC is sponsoring a hamfest 23 October at the Sellersville National Guard Armory on Rt. 152 between Quakertown and Montgomeryville. See the hot new Icom HF rig. VE session starts at 9 a.m., all classes. Admission is $5, XYLs and kids free. Indoor vendor spaces are $18 (table included), outdoor, $6 (bring tables). Talk-in on 145.31(-), Contact Linda Erdman, KA3TJZ, 215/679-5764; or the club at P.O. Box 29, Colmar, PA 18915.

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The FOOTHILLS ARC, Inc. is sponsoring a hamfest 23 October from 8 a.m. to 2 p.m. at the Greensburg Hose Company #1, north of Greensburg. Large vendor and flea market area. Admission is $2. Inside vendor tables are $10. Talk-in on 147.18(+). Contact Larry Gaebel, WA3TLT, 412/834-7137; or the club at P.O. Box 236, Greensburg, PA 15601.

South Carolina

The YORK COUNTY ARS is sponsoring a hamfest, 1 October from 6 a.m. at the Knights Stadium in Fort Mill, 15 minutes south of Charlotte. Inside commercial vendors, flea market, tailgating area, food and refreshments. VE testing will be held. Admission is $5 in advance, $6 at the door. Vendor tables are $10. Talk-in on 147.03(-). Contact YCARS Hamfest, 2129 Squire Rd., Rock Hill, SC 29730; or George Trunk, AB4BG, 803/327-4344.

Tennessee

MEMFEST '94, the Greater Memphis Amateur Radio and Computer Show will take place 8 October from 8:30 a.m. to 4 p.m. and 9 October form 8:30 a.m. to 2 p.m. at the Shelby Farms Show Place Arena in Germantown. Features include RV camping on-site, non-ham activities, convention, forums. VE testing both days from 9 a.m. to 12 noon. Admission is $5 at the door. Vendor space is $22 per 8' table for the weekend, contact Lee Bowers, KA4KVW, 901/864-3461 (after 6 p.m.). Talk-in on 145.21(-), 442.00(+) and 1292.00(-). Contact MemFest '94, P.O. Box 751841, Memphis, TN 38175-1841.

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The 14th annual TRI-CITIES HAMFEST, sponsored by the Kingsport, Bristol, and Johnson City Radio Clubs, will be held on 15 October at the Appalachian Fairgrounds, off I-181 in Gray. Large drive-in indoor and outdoor flea market space is available, as are RV hookups. Admission is $5. Contact P.O. Box 3682 CRS, Johnson City, TN 37602.

•

The CHATTANOOGA ARC, Inc. is sponsoring Hamfest Chattanooga, 22 October from 9 a.m. to 5 p.m. an 23 October from 9 a.m. to 3 p.m. at the Convention Center. Features include large dealer area-all indoors, giant flea market, indoor parking, and a free shuttle bus to Tennessee Aquarium, Chattanooga Choo Choo, and many other places of interest. Admission is $5. Talk-in on 146.79(-), 444.10(+). Contact Hamfest Chair, Charles Curle, AD4F, 8719 Snowhill Rd., Ooltewah, TN 37363-9628; 615/344-8447 (eves).

Washington

The NORTH KITSAP ARC will hold its 3rd annual Hamfest and Electronics Swapmeet, 1 October from 9 a.m. to 4 p.m. at the Kitsap County Fairground in Bremerton. Admission is $4 at the door. Talk-in on 145.31(-). Contact NKARC, P.O. Box 2268, Silverdale, WA 98383-2268 for flier and registration form.

Wisconsin

The KETTLE MORAINE RAC, Inc. will hold its 16th annual Ham Radio and Computer Swapfest 23 October from 8 a.m. to 1 p.m. at the Waukesha County Exposition Center. Hamfest will be indoors, so it will be held rain or shine. VE exams will be available. Admission is $4 in advance, and $5 at the door. Reserved vendor tables are $5 per 4', reservations accepted until 10/14. Vendor setup time is 6 a.m. Contact KMRA Swapfest, P.O. Box 411, Waukesha, WI 53187-0411.

Inadvertent DX

(continued from page 1)

CQ, mentioning it was from Cedros Island. A couple of stations came back immediately, sounding very excited. Explaining to our first contact just where Cedros Island was located, I was informed that it was designated as N.A. 17, and we should mention that to any further contacts who were interested in working us. This classification has been set up by the IOTA (Islands On The Air, an organization formed by Great Britain's RSGB). We had unknowingly landed on the IOTA calling frequency! After the first couple of contacts, mayhem broke out, and before we knew it, it seemed that half the world's IOTA members were trying to contact us. The pileup became so thick it sounded like white noise. As best I could, I shifted into what I thought was proper DX station mode, and proceeded to work some 40 stations in the next hour. Puerto Rico to Columbia, Canada, New Zealand, and Australia with a large number of stateside contacts as well. We had become rare DX! After an hour or so, with failing voice, we begged off, indicating that we would return after dinner.

Assembling the trapped dipole.

The call we used was XE2/KD6JWF, with QSL via the latest *Callbook*™.

Kent and I handled the DX calling and logging, and in between had some good laughs over the conflagration we had inadvertently caused. Dix, KD6JWF, has been warned to expect a substantial increase in mail consisting of QSL cards from far and wide. Kent and I suggested he get some QSL cards printed-fast.

On Sunday, our last full day on the island, Dix and I occupied much of our time by fishing and scuba diving, while later making contacts up and down the 40 M band. It was a great success and adventure in the life of an antenna Elmer. **WR**

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World Radio History

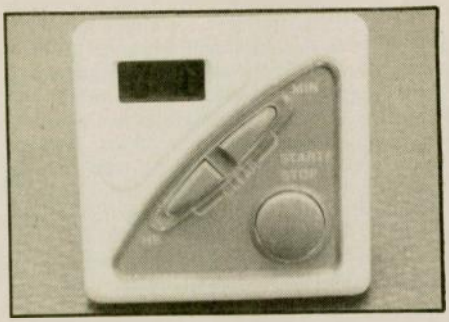
Information in "New Products" is supplied by the manufacturers to acquaint *Worldradio* readers with new products on the market.

Hamtime

The KB4WUB ID timer is now available from Ham Time. The timer has auto reset and auto restart for no-touch operation. The countdown alarm is battery powered and has a liquid crystal display showing time remaining on countdown.

The timer is 2½" x 2½" x ½" and has a magnetic clip for dash board or visor mounting for mobile operation and a swing out bail converts the clip to an easel stand for base operation. Although the timer is normally turned off after the ham is through operating for the day, burn in tests have averaged a gain of three seconds after a week's operation. Intra day usage had no appreciable effect on accuracy.

Although most hams will use 10 minutes for the countdown time, the timer can be programmed to countdown anywhere from 16 hours down to one minute. The timer is programmed for the desired amount of time in the count down (again most hams use the required 10 minutes) and the timer is started. When the count



down reaches 0:00, the timer automatically and simultaneously resets back to the programmed time, restarts the countdown, and sounds the alarm for the ham to ID his or her station without having to do anything to the timer.

The timer is available direct for $35 each shipped UPS. Club discounts are available. Inquiries or orders to: Curtis Epps, KB4WUB, 1553 Mackrell Ave., Sarasota, FL 34237.

The big DK-DX 3.5 — 30 MHz mobile antenna

Don Johnson, W6AAQ, of Esparto, CA, has developed what probably is the best mobile antenna of our time. As described by him in "40+5 Years of HF Mobileering" and in separately published and distributed plans and instructions sheets, it is one of a kind. Low SWR and efficient radiation, from top of the 10 Meter band to the bottom of 80 Meters. Anywhere in that range — and without touching the antenna!

Several people manufacture W6AAQ's antenna. We all use the principal features, and some of us have put icing on the cake.

We believe the H. Stewart Designs version has more, and better, icing than any of the others.

It includes strong, light-weight aluminum masts, either 3' or 4' long, to suit your needs. Precisely turned, grooved, wound and firmly fastened tuning coil, driven up or down through the finger stock for tuning to resonance.

The coil is driven by a DC motor, fed from self-aligning DC contacts in the base and mast. Stainless steel 1/4"-28 coil-drive rod in a low friction drive nut.

Beryllium-copper finger stock, fitted and soldered into a machined brass protective sleeve is attached to the mast top.

There is a clear Lexan tubing weather shield over the coil.

A sturdy, quick-attach and detach, mast base/mount consisting of a 2" I.D. machined brass tapered mast-bottom sleeve, supported by a solid, machined, Nylatron insert in the mast and a mast base with impedance matching transformer and a bronze cone, with Nylatron-armored steel stud support, to match and hold the brass sleeve on the mast.

The base is ready to mount on a vehicle (pickup) bumper, or on a frame attachment to be furnished by you.

The mast-base assembly is complete with an RF and DC connect/disconnect system so that setting the mast on the base makes all connections and removing the mast breaks all connections and leaves no "hot" DC exposed.

Also included are coaxial cable and DC lines connected to the antenna base; a pre-wired up/down antenna tuning switch box controlling the DC lines; an unobtrusive cover to keep mast base clean when not in use; and comprehensive, easy to read instructions, containing suggestions for installation, grounding, marking the coil for rough visual tuning, etc.

For more information and order form contact H. Stewart Designs, PO Box 643, Oregon City, OR 97045; phone 503/654-3350.

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(800) 854-6046

Ham Radio Outlet
5375 Kearny Villa Rd.
San Diego, CA 92123
(619) 560-4900
(800) 854-6046

Ham Radio Outlet
6265 Sepulveda Blvd.
Van Nuys, CA 91411
(818) 988-2212
(800) 854-6046

Henry Radio
2050 S. Bundy Dr.
Los Angeles, CA 90025
(213) 820-1234

Jun's Electronics
5563 Sepulveda Blvd.
Culver City, CA 90230
(213) 390-8003
(800) 882-1343

The Radio Place
5675A Power Inn Rd.
Sacramento, CA 95824
(916) 387-0730

COLORADO
Ham Radio Outlet
8400 E. Iliff Ave. #9
Denver, CO 80231
(303) 745-7373
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1509 N. Dupont Hwy.
New Castle, DE 19720
(302) 322-7092
(800) 644-4476

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(800) 444-7927

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R&L Electronics
1315 Maple Ave.
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(800) 221-7735

OREGON
Ham Radio Outlet
11705 S.W. Pacific Hwy.
Portland, OR 97223
(503) 598-0555
(800) 854-6046

VIRGINIA
Electronic Equipment Bank
323 Mill Street, N.E.
Vienna, VA 22180
(703) 938-3350
(800) 368-3270

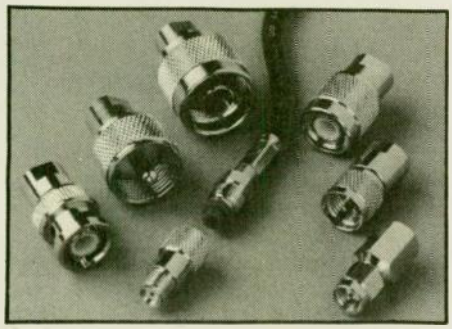
Ham Radio Outlet
14803 Build America Dr.
Woodbridge, VA 22191
(703) 643-1063
(800) 444-4799

World Radio History

Larsen introduces the HyPer-Connect System

Larsen Electronics introduces the new HyPer Connect System, a universal master connector system for all major radio bands.

The HyPer Connect System (high performance universal connector) removes the burden of installing and stocking a wide variety of connector types by preinstalling a universal connector on the coax and providing a wide variety of adapter connectors. Adapter connectors are: PL, N, TNC, BNC, Mini-UHF and SMA. The adapters thread on the universal connector in seconds. The combined loss is nearly invisible to the radio, 0.1 dB.



The HyPer Connect is factory pre-installed for greater reliability, reduced installer time, fewer connector failures and faster service response. The small body also allows for easy cable runs. The wide variety of HyPer Connect adapters reduce cable kit and connector inventory.

Larsen Electronics is a world class manufacturer of mobile antennas for the radio and cellular industry. With plants in Vancouver, Washington and Vancouver, British Columbia, the company serves a growing worldwide market for wireless communications.

For information contact Larsen, 3611 NE 112th Ave., Vancouver, WA 98682; phone 206/944-7551 or 800/426-1656.

Solar battery controller

Jade Products, Inc. announces its newest product to its Fun-Kit line, the Solar Battery Controller for lead-acid/gel-cell batteries. Charge your batteries when the power is off!

The Jade Products solar battery controller is a sophisticated system that controls and maintains the battery continuously. This series of products is based on the unitrode UC3906 battery charger chip. This "smart chip" is specifically designed to sense the condition of the battery and control the charging requirements accordingly. The controller can be left connected indefinitely to the battery, prolonging the life of the battery by protecting it from overcharge-undercharge damage.

The solar controller is "smart" enough to go into a "sleep" mode when the light source is inadequate for charging. Once sufficient light is available the controller senses the battery condition and continues its charging duties.

The controller kit comes with two current programming resistors to select 0.5A or 1A; any current up to 1A can be chosen using other value resistors. For those who wish to program the board for other voltages and currents the IBM compatible software supplied will assist in programming resistor values to set the current and voltage. The software includes source code for those that wish to customize it.

Many solar charging systems cannot charge gel-cel batteries because the charger is basically a bulk charging system. The Jade Products Inc. battery controller is specifically designed to charge the entire range of Lead-Acid batteries, from small gel-cels to large, deep-cycle marine duty batteries. Practically any combination of cells can be charged. The solar panel need only supply approximately 4 volts more than the battery voltage needed.

The battery controller has reverse battery protection, trickle start up, and provisions for an external current selection switch. The board can be configured as a dual level float voltage charger, or as a dual step current charger.

Model	Cells	Voltage	Solar panel voltage
SC06	3	6.0V	12 V
SC08	4	8.0V	14 V
SC12	6	12.0V	18 V
SC14	7	14.0V	20 V
SC16	8	16.0V	23 V
SC20	10	20.0V	28 V

The kits are easy to assemble and include a step by step manual, schematics, and trouble shooting information. Assembly requires screwdriver, pliers and soldering equipment.

All this for only $44.95. Call Jade Pro at 1-800/523-3776 for more information.

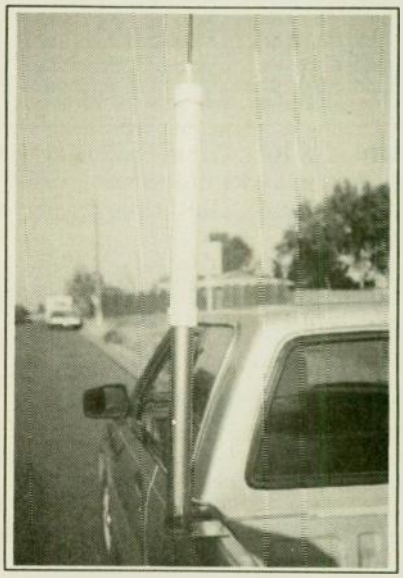
Interference-free telephone

This phone has been developed to solve the problem when radio signals generated by Amateur Radio stations, AM/FM broadcast stations, two-way radio users and other RF sources interfere with nearby telephones.

We adapt special models of AT&T Touchtone phones by retrofitting them to stop all types of interference. They are RFI "bullet-proof." Available in desk or wall models, in ivory or white, our phones are 100% guaranteed. If they don't stop the RFI, the unit may be returned for a complete refund. Rated as 96% effective in the recent FCC RFI study.

Priced at $79.95 each. Please specify wall or desk model. We accept Visa, Mastercard, or UPS COD. Free RFI information packet included with each phone. Pro Distributors, 2811 74th Street, Ste. B, Lubbock, TX 79423; phone 800/658-2027. WR

On The Road



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Irrigon, OR 97844

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(503) 922-5109
(tech. help)

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World Radio History

VE exam schedules

As a service to our readers, ***Worldradio*** presents a feature listing those VE exams, times and locations which are sent to us.

Please remember that our deadline for publication is three months in advance. For example, if your VE group is scheduling an exam for September, please have the information to us by mid June.

p/r = pre-register

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

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

w/i = walk-in

Date	City	Contact	Notes
Alaska			
11/12/94	Anchorage	Jim, KL7CC 907/338-0662	p/r; w/i
Arizona			
11/12/94	Tucson	Joe, K7OPX 602/886-7217	w/i
11/19/94	Tucson	Micki, AA7RR 602/883-8305	p/r
California			
11/2/94	Sacramento	Jim, AB6OP 393-8839 or Earl, AB6CN 331-1115	p/r pref.; w/i OK
11/12/94	Adelanto	619/244-1396 or 619/247-5433	w/i only
11/12/94	Glen Ellen	Jim, 707/996-6461	p/r pref
11/12/94	Jackson	WZ6Y 209/295-7947	w/i
11/12/94	San Pedro	N6DYZ 310/325-2965	p/r pref.; w/i ltd.
11/12/94	S. Barbara	Darryl, KF6DI 805/969-2326	w/i
11/17/94	Fountain Vly	Tom, N6XKY 714/778-1542	p/r
11/17/94	Long Beach	W6LRF 714/847-6370; N6LUH 310/596-1023	w/i OK
11/19/94	Long Beach	Don Boyce, NN6Q 310/420-9480	p/r pref
11/19/94	Sacramento	Lyle, AA6DJ 916/483-3293	
11/19/94	Stockton	Mark, W6DKI 209/465-7496	w/i
11/26/94	Culver City	Scott, K6PYP 310/459-0337 or Dave, N3BKV 818/559-2572	w/i
11/26/94	Fairfield	Jerry, AA6NO 916/662-0801	w/i OK
11/26/94	V'ville/Elmira	Barbara, KM6AC 707/429-4878	w/i only
Colorado			
11/1/94	All	Exam hotline, 24-hour recording gives info on all VE exams in Colorado, 303/360-7293	
11/12/94	Denver	Glenn,WØIJR 303/360-7293, 24-hr. message	w/i OK
11/19/94	Westminster	Phil, NP2X 303/421-2795	p/r or w/i
Connecticut			
11/6/94	Milford	NB1M 203/933-5125; WA1YQE 203/874-1014	w/i
11/8/94	Thomaston	WJ1T 203/283-1044	w/i pref.
Florida			
11/5/94	Orlando	Lou, AC4GB 407/898-0429	p/r pref
11/19/94	Melbourne	WB9IVR 407/724-6183	w/i OK
Georgia			
11/25/94	Lilburn	Howie, W4NVF 404/921-8363	w/i OK
Idaho			
11/12/94	Boise	W7JMH 208/343-9153	w/i
Illinois			
11/5/94	Belleville	John, KN9G 618/235-2475	p/r only
11/6/94	Paris	WO8X 217/463-2213	p/r; w/i
11/12/94	Fairview Hgts	John, WAØLIS 618/397-7235	
11/12/94	Oak Forest	David, NF9N 708/448-0580	w/i
11/19/94	Bolingbrook	Ralph, WB9RGZ 708/964-3417	w/i
11/19/94	Loves Park	Dennis, W9SS 815/877-6768	p/r; w/i
Maine			
11/25/94	Alfred	N1KMZ 207/985-4825	w/i OK
Maryland			
11/19/94	Laurel	WB3GXW 301/572-5124 after 6 p.m.	p/r pref.; w/i OK
11/23/94	Glen Burnie	Jerry, NU3D 410/761-1423	p/r pref; w/i ltd.
Massachusetts			
11/12/94	Braintree	Phil, K1UPY 617/326-6446	
11/7/94	Cambridge	Bob, N1KDA 617/593-1955	
Michigan			
11/5/94	Iron Mt.	F.D. Lequia, WD9HDP 906/246-3641	
11/5/94	Mt. Clemens	Bill, N8CVC 810/468-8345, 4-9p.m.	w/i OK
Missouri			
11/5/94	Kimberling City	NQØG 417/739-2888	w/i OK
11/10/94	Deaconess Hospital West	Gregg, KAØVWC, 314/567-8777	p/r only
11/12/94	Sullivan	NØGLN 314/764-2777	p/r only
11/16/94	Deaconess Hospital West	Gregg, KAØVWC, 314/567-8777	p/r only
11/19/94	Creve Coeur	Ron, KBØDIY 314/647-3223	p/r
11/19/94	Godfrey	Richard, KF9F 618/466-2306	
11/26/94	HighRidge	James, WAØFQK 314/942-2268	p/r
New Jersey			
11/9/94	Ft Monmouth	MARS 908/532-5354	w/i
11/12/94	Cranford	24-hr. hotline: 201/377-4790	
11/12/94	Pennington	AA2F 609/737-1723	p/r pref; w/i OK
11/17/94	Bellmawr	WA2VQG 609/933-1500	w/i
11/19/94	Bayonne	Bob, N2IYY 201/435-5953	w/i OK
New York			
11/6/94	Yonkers	AC2V 914/237-5589	w/i OK
11/8/94	Hicksville	Bob, W2ILP 516/499-2214	w/i
11/19/94	Long Island	Les, AA2FJ 516/364-0030	w/i OK
11/19/94	Medina	Bob, WA2QDV 716/798-0976	w/i
North Carolina			
11/29/94	Jacksonville	Dick, KD4YOT 910/455-8834	w/i
Ohio			
11/1/94	Bellevue	John, N8RFK 419/684-7822	w/i OK
11/5/94	Cincinnati	Herb, WA8PBW 513/ 891-7556	w/i OK
11/17/94	Youngstown	James, N8IRL 216/534-1394	p/r only
Oregon			
11/9/94	Roseburg	KB7CMB 503/672-5997 or AA7GD 503/672-7564	w/i OK
11/16/94	Florence	Hal, N7NNA 503/997-2323 or Bob, AA7MG 503/997-6448	p/r pref; w/i ltd.
Pennsylvania			
11/4/94	Nazareth	Robin, WA3T 610/820-9110	w/i
11/5/94	Erie	W3CG 814/665-9124	w/i OK
Rhode Island			
11/10/94	Providence	Judy, KC1RI 401/231-9156 or Al, NN1U 401/454-6848	w/i OK
11/26/94	Slatersville	Bob, W1YRC 401/333-2129	w/i OK
South Carolina			
11/19/94	N. Charleston	Ed, KC4OOZ 803/871-4368	
Texas			
11/8/94	Houston	Harold, ND5F 713/464-9044	p/r pref.; w/i OK
11/12/94	Houston	Jim, KB5AWM 713/488-4426	w/i only
11/12/94	McGregor	AB5BA 817/859-5374	w/i OK
11/19/94	Austin	Jim, AB5EK, 512/327-6184	w/i
Virginia			
11/5/94	Portsmouth	AA4AT 804/484-2857	
11/12/94	Culpeper	Bill, AC4KP 703/547-3089	p/r; w/i
Wisconsin			
11/6/94	Kaukauna	W9MDP 414/832-6279	w/i

World Radio History

THE MART

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World Radio History

The MART (cont.)

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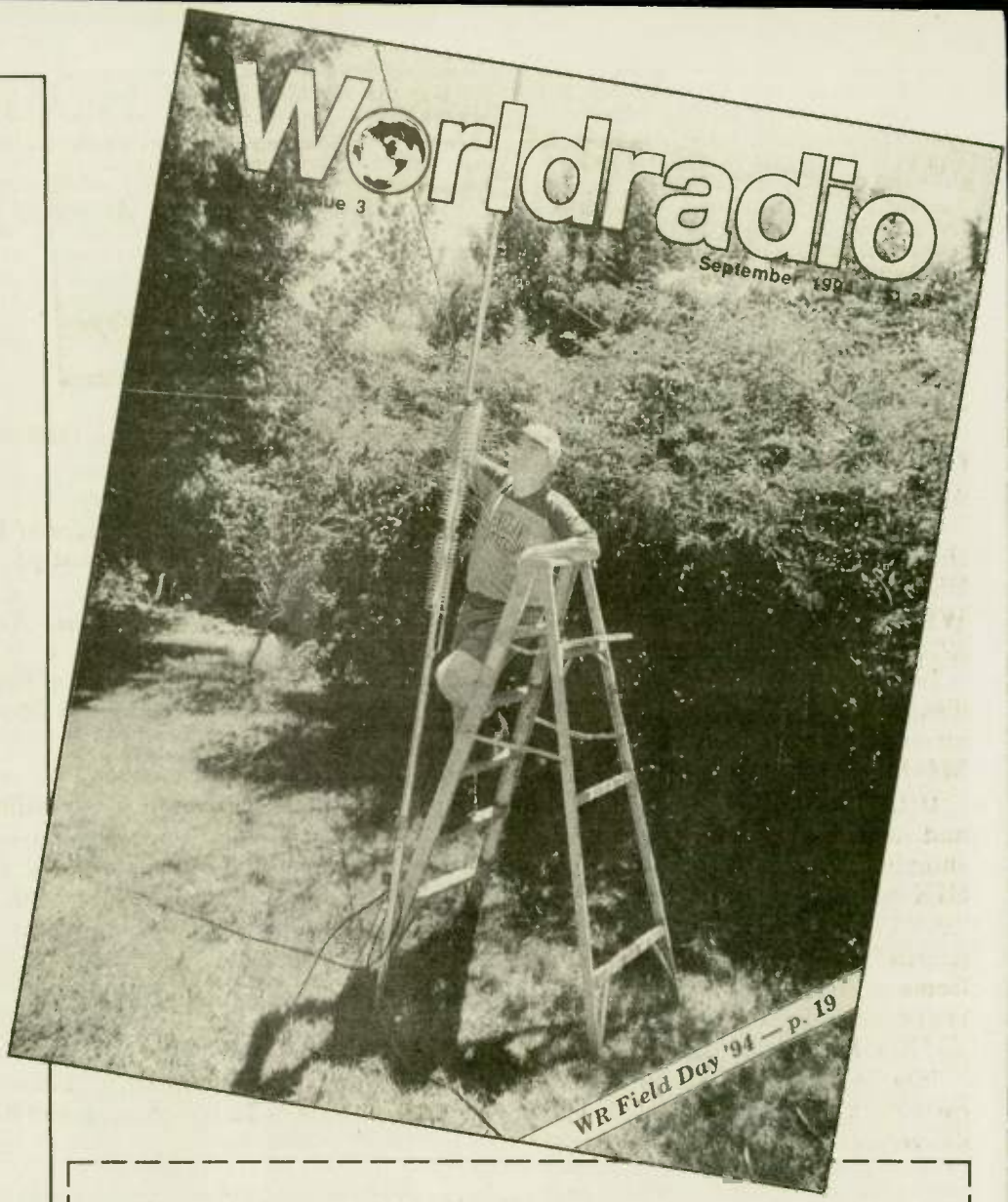

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