Worldradio

Year 24, Issue 1

July 1994 • $1.25

FEATURES


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Goodwill hambassadors

MARY DUFFIELD, WA6KFA

International Hambassadors Al Patron, XE2VR, Mary Duffield, WA6KFA, and Carolotta Patronin the Patrons gracious garden.

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Goodwill hambassadors

MARY DUFFIELD, WA6KFA

Traveling as a ham radio operator creates a welcoming family in every port. Especially when you bring with you young "hambassadors" of international friendship from California, loaded with taped greetings from local/global students.

This last winter's trip to Mazatlan, Mexico, enriched my memory bag with classroom scenes of friendship-hungry kids soaking up the electronic enthusiasm of their peers from Cyberspace.

But *this* trip our new family included the Grand Old Man of Mazatlan, Al Patron, XE2VR. Since Al is 93 now, with a heart problem, I want to celebrate this living legend, today, while the "roses still cling" to his vine!

Californians Esther "Baby Doll" Givens, W6BDE, and Lee Eastman, W6AWI, tipped us off that Al would enhance our visit. Despite his blindness and health limitations, we spent two days with him, and found his infectious zest for life and people and ideas absolutely irresistible.

He and Carlotta, his gracious and equally high-spirited wife, opened their home and hearts to us. They live high on a hillside overlooking that heartbreakingly beautiful old Mazatlan. There we sat, begging for more of his stories. His favorite two anecdotes brag about Carlotta coming to his rescue.

The first time she was running down the hill at midnight to get an emergency prescription for his heart ailment. A drug-dealing scoundrel grabbed her purse. Knowing Al's life depended on the medicine in that purse, this frail little lady slugged that bandit so hard he passed out. Al recuperated.

The second time Carlotta was on her way at dawn to early mass at the Cathedral in Mazatlan. A motorcyclist pinned her against a wall, and reached for her purse. She flipped him off his cycle, chased him up a tree whilst yelling for a policeman, who led the rascal to jail. No wonder Al brags: his Carlotta's a "lotta" lady!

International Hambassadors Al Patron, XE2VR, Mary Duffield, WA6KFA, and Carlotta Patron in the Patron's gracious garden.

Briefly sketched, Al's life reads like a history of electronic progress. As the son of the Ambassador to Mexico from Spain, at age of 10 he had to be smuggled out of Mazatlan on an American warship to escape capture in the Mexican revolution. He wound up in San Francisco, eventually majored in engineering in college there and helped design radar improvements. During WWII he served our armed forces by fine-tuning coastal radar installations.

Finally returning to Mazatlan, he set up a marine communications firm and an elaborate home-brewed ham station. He "Elmered" many Novices, promoted technology and education to the best of his ability. But political turbulence, poverty, health problems, have held back Mexican technology and this makes XE2VR enormously sad. His blindness limits him to 2 Meter operating, and no one there is able to modify his HF equipment for Braille. Even when he offered his comprehensive bilingual library of electronics to the University, no one responded. (Anyone interested in accepting this collection, contact this generous ham via the *Callbook*™ address.)

So let's drink a toast to Al Patron, XE2VR, the kind of ham who wins affectionate respect for Amateur Radio, who serves as a role model for all the global kids locked in our electronic embrace. WR

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GA Ham tags

Georgia hams can own auto tags with their calls for no extra charge next year — but only if they wait until after July 1 to order them.

Georgia Governor, Zell Miller, signed a bill on 22 April repealing the $25 annual fee levied against owners of Amateur Radio tags.

What's more, the bill removed the fee for manufacturing the tag in the first place — which means that a ham tag now costs no more that a conventional tag.

The problem is that the bill doesn't take effect until 1 July — but applications for manufacture of ham tags will be accepted as early as 1 May. The solution, according to Georgia section manager Jim Altman, N4UCK, is to wait until after 1 July to apply.

How to apply: In Georgia, if you don't already have an amateur tag, you must request that it be manufactured the year before you need it.

Applications on form MV-9 — an original, not a photocopy — must be mailed to the state no later than 31 July in order to be considered. The tag you request this year will be sent to you by your county in 1995.

You can obtain form MV-9 from your county department of motor vehicles. For information, call the number for your home county:

Cobb	528-4020
DeKalb	371-8247
Fulton	730-6160
Gwinnett	822-8818

All metro counties, except Cobb, will mail you the form free of charge if you request it. In Cobb, you must either send an SASE or pick up the form in person at the office. — *Atlanta Ham*

More "Bigfoot"

John K. Munroe, W7KCN, reports an update to last month's "Bigfoot on 80," pg. 64.

Lee Sawkins, VE7CC, owner-builder of the array has a new design which will allow him to switch in 8 directions. "I am clearing brush and will soon have 8 verticals. . . a double square. . . hoping for another 3 dB of gain." WR

Caveat emptor

NORM BROOKS, K6FO

While looking at the new models of ham gear being offered at the Dayton Hamvention this year, I was startled to find a new, tiny, 2 Meter handheld radio that did *not* have all the usual CTCSS tones. That means that purchasers took them home and were disappointed to find they would *not* work on some of their local repeaters! The literature said "23 CTCSS tones available," but there are 32 CTCSS tones being popularly used. WR

So. Africa resumes full rights in ITU

10 May 1994 — The ITU Council adopted unanimously today a resolution authorizing the Government of National Unity of South Africa to resume its full participation in the conferences, meetings and activities of the Union with immediate effect. The Chairman of the Council, Mr. Souleymane Mbaye (Senegal) informed the entire membership of the Union the same day.

The Council is the management body which meets once a year and acts on behalf of the Plenipotentiary Conference when the latter is not in session.

The ITU Plenipotentiary Conferences had successively adopted resolutions in 1973, 1982 and 1989 which excluded the Government of the Republic of South Africa from the Plenipotentiary Conference and from all other conferences and meetings of the Union. Resolution 12 adopted in 1989 by the Nice Plenipotentiary Conference which was until today in force — had provided for the continued exclusion of the Government of the Republic of South Africa until the elimination of the apartheid policies.

The most recent developments in South Africa culminating in the holding of the first free democratic elections last week, led the Council to consider that the apartheid policies had ended and hence to decide to repeal Resolution 12. WR

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

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

There are those who wonder if anything is happening. Then we see people who watch things happen. Moving up, there is a slice of society that MAKES things happen. The latest to become ***Worldradio*** SuperBoosters (Lifetime Subscribers) are:

- Pedro Serrano, KP4PS, Rio Pedras, PR
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- William Calderwood, K1CT, San Diego, CA
- Lawrence Samp, KD6GVM, Riverside, CA
- Charles Thompson, KE6DRN, Livermore, CA
- Antonio Del Rio, N6ZGB, Vacaville, CA
- Monte Midkiff, N7TAU, Seattle, WA
- AND Ronald Henry, N9KWW, seeing the world aboard the *USS Willamette*!

The momentos of Amateur Radio, QSL cards, slides, certificates, etc., are visual.

Odd, since Amateur Radio is an aural medium. A totally blind person could make it to the top of the DX Honor Roll. A totally deaf person (except for RTTY and tactile CW) could not.

At the conventions there are great color slide shows of DXpeditions, sometimes even video. What we never come across is what did it SOUND like? Where is the audio? What is the effect (at the other end) of hundreds of stations from all over the globe calling at once?

Does any DXpedition tape record the event? That wouldn't detract from the effort as now you can get many hours on one side of a tape cassette. With CD recording it will be all on one side, with space for years more of operating from rare locations.

DXpeditions ask for donations to offset the monstrous expenses. Books and coffee cups are sold. DXers' egos being what they are, the most saleable item would most likely be a dubbed tape with a 15-minute segment of when YOU made the contact.

How many of us run a tape recorder to keep a record of our activity? Contesters might discover glitches in their technique. And, when that DX station tells you, "Not in the log," you can send them a dub of your recording of them giving your call — sweet revenge.

Possibly, if tape recording became common, a whole new facet of Amateur Radio would open up.

Operators could send tapes (anonymously or not) to the screamers, the overly speech processed, those who transmit the fan noise, the air conditioner noise and the sounds of yelling children.

There may be some foul mouths who might change their ways on the air when they actually heard how it sounded.

CW operators (some) might benefit from hearing how their sending really sounds to others.

Yes, giving the tape recorder a greater role in Amateur Radio might really open up some new avenues.

It seems there was an effort to lower the requirement from 13 wpm to 10 wpm recently.

There are at least two arguments against such a move. First is (as has been stated) if you learn the code at 13 (seems to be a magic level) you will never forget the code.

Second, let's let Amateur Radio be the last bastion against "dumbing down." We have high school graduates who absolutely can not read. It is painful to see a recent student anguishing over making change at a cash register.

There are more CW courses, and more ways of learning than ever before. This is not the time to compromise.

A few years ago, at the Pacific Division convention, a young amateur told me a very interesting story.

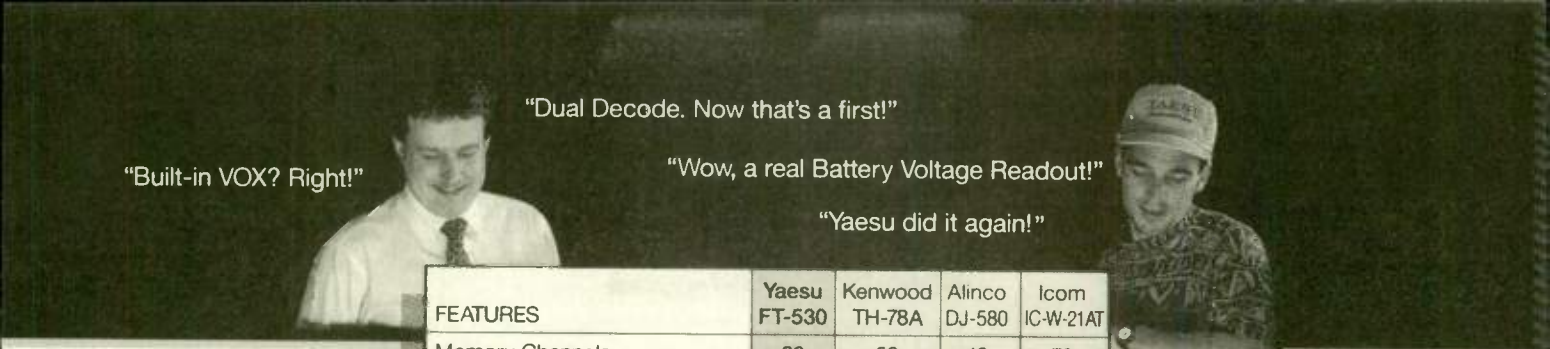
He wanted to become a ham and spotted an antenna in his neighborhood. Visiting the amateur, he relayed his wishes and was told to show up twice a week after school and he would be taught the code. He did exactly that.

When he showed up for the FCC exam the inspector turned on the tape machine. The young man sat with his pencil down on the paper. The inspector told him to get started. He replied that he would when it got up to 13 words per minute. He was told that was 13 wpm and he started writing.

His after-school instructor Katashi Nose, KH6IJ, had taught him the code right off the bat at 20 wpm. There were never any words about how difficult many found this or anything like that.

It must be that some people have a bad sense of direction. That is the only reason that I can think of why folks who look as if they belong at the bus station are winding up at banquets at Amateur Radio conventions.

Let's tell them that if they want to dress like they are heading to the south 40 to clean out the barn, that they are in the wrong place. —*Armond, N6WR*



FEATURES	Yaesu FT-530	Kenwood TH-78A	Alinco DJ-580	Icom IC-W-21AT
Memory Channels	82	50	40	70
Slide-out Lithium Battery	YES	NO	NO	NO
Dual CTCSS Decoder	YES	NO	NO	NO
Battery Voltage Readout	YES	NO	NO	NO
Automatic CTCSS Tone Search	YES	NO	NO	NO
Transmit Battery Saver (Repeater & Simplex Operation)	YES	NO	NO	NO
Built-In Vox	YES	NO	NO	NO
One Touch Reverse Button	YES	NO	NO	NO
Dual In-Band Receive (V+V, U+U)	YES	YES	NO	YES
Programmable External Speaker Audio	YES	NO	NO	NO
Optional Digital Display Mic with "S" Meter	YES	NO	NO	NO
AM Aircraft Receive	YES	YES	YES	YES

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  144-148 MHz TX
  70 cm 430-450 MHz RX/TX
- 4 TX Power levels:
  w/FNB-25: 2.0, 1.5, 1.0, 0.5W
  w/FNB-27: 5.0, 3.0, 1.5, 0.5W
- DTMF Paging and Coded Squelch
- AOT – Auto On-Timer with built-in clock and alarm functions
- IBS – Intelligent Band Select (provides automatic TX band select on scan stop)
- Backlit keypad and display with time delay
- Built-in cross-band repeat function
- APO – Automatic Power Off
- 5 Watts output w/ FNB-27 battery or 12 VDC
- 2 VFO s for each band
- **Accessories:**

NC-42	1 Hour Desk Charger
FNB-25	600 mAh Battery (2 watt)
FNB-26	1000 mAh Battery (2 watt)
FNB-27	600 mAh Battery (5 watt)
FBA-12	6 AA Cell Holder
CSC-56	Vinyl Case w/ FNB-25
CSC-58	Vinyl Case w/ FNB-26/27
E-DC-5B	12 VDC Adaptor
YH-2	Headset for VOX
MH-12A2B	Speaker Mic
MH-18A2B	Lapel Speaker Mic
MH-19A2B	Mini Earpiece Mic
MH-29A2B	LCD Display Mic with Remote Functions
MMB-54	Mobile Mounting Hanger

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JEFF REINHARDT, KM6II

Here's how to get more out of ham radio — by putting more into it. . . .

It's not on any FCC licensing test. You won't find it in any technical manual or "how to" book. Yet anyone who enjoys ham radio can make the hobby better. How?

We often hear hams saying they'd like to "give something back" to the hobby they enjoy so much. It's wonderful to hear and even better to witness. And when you think of other hobbies, you don't often recall hearing the participants say the same thing.

So what makes us different? The fact is, not all of us are, just a select few. Here's how you can join the select few, and make our hobby better. Do-something. That's not a typo. It's both a verb and a noun. Be a do-something or go out and do-something. What does a ham radio do-something do?

He or she puts into motion ideas and projects that enhance the hobby for everyone. From a picnic for your local repeater group to organizing an emergency communications unit or project. There's one common element to do-somethings: the words "can't" or "won't" aren't in their vocabularies!

Humble beginnings

Wally Foster, N6CDJ, is an electrician by trade. In the past few years he, along with Steve Ralphs, KA6LAZ, (a truck driver) have constructed a backboned packet LAN (local area network) system with user keyboard ports in six different communities, each separated from the other by distance and terrain. When they started, they had only an interest in packet radio to guide their efforts.

Neither man is considered wealthy (at least in monetary terms) so when funds were needed to add elements to the system, they laid out their plans to local packeteers on a Saturday morning at the local pancake emporium. Checkbooks and wallets opened. A little packet association was formed and now, over 1500 square miles of southern California enjoy quick, reliable packet connections, keeping friends linked and ready to serve the area in an emergency. Steve and Wally decided to do-something.

Working moms

Sue Hanson, N6OIZ; Karen Kerrigen, N6PPA; Barbara Leyton, KE6CAA and Melissa Reinhardt, KD6BIT, aren't "super hams." You won't see them on any DXCC or contest trophy list. They're busy, working mothers, who often use ham radio as the link with family activities. Yet each has logged many hours in the past year as a disaster communicator, helping others with their communication skills. Together, they organized kids' activities and a super "feed" during Field Day (not because it was "women's work" either. . . it's what they enjoy doing. . . they also worked the radios during FD.) Got a busy schedule? I'll bet it's not busier than that of four working mothers, each of whom has children in grammar school. Yet each is a do-something!

Triumph over tragedy

Shirley Clark, N6TNB, is a young widowed mother. Her husband Terry, WB6SUR passed away suddenly, leaving her with a large step van that had been converted to an emergency communications vehicle. Much of the equipment inside was outdated, and no one knew how to hook it all up to make it work. Shirley could have sold the van. Instead, she donated it to the local RACES group. In turn, they stripped it out, restored it mechanically and electrically, painted it, installed state-of-the-art equipment and dedicated the unit to the memory of her husband. Shirley made things happen (and turned her grief into a community asset) by being a do-something!

Never too old

To be a do-something, you don't have to be a rocket scientist, but Bob Osborn, N6MSO, *is* a retired rocket scientist. Now in his 70s, he is a relative latecomer to Amateur Radio. In a short few years, he has put a 2M open repeater on the air, constructed a packet cross-frequency link, raised funds for several ham radio projects, been a VE, participated in his city's emergency planning, and experimented with ATV. This, in spite of two cancer surgeries.

In the recent Southern California fires, Bob's house burned to the ground, with all his ham gear. What's Bob going to do? "I'm gonna rebuild it better than it was before." Sounds like a big job for anyone, but not for a do-something.

24 hours aren't enough

Rick Leyton, WB6WFH, is a mechanic, who works the second shift. Fascinated with computers when they were new, he combined that interest with his ham radio hobby. At his own expense, he put a packet BBS on the air that is one of the busiest user boards in the country, with trunk forwarding on non-user frequencies. When not tending to his 24-hour BBS, he often teaches daytime ham radio classes. On other occasions, he is a VE. A do-something never lacks for things to do!

Cashing in

Rob Hanson, AA6BN, is an electronic technician, not unusual for a ham operator. But he helps his group in a most unusual way, given his profession. He raises funds by selling off old, donated equipment (that he often refurbishes or repairs if needed) at swap meets. He loves "horse trading" and in 1993, he was responsible for nearly $10,000 in revenue to his club. Rob's do-something efforts allow others to do-something!

Connections without wires

Bill Edler, WB6DLI, and Tom Fakehany, N6FDR, are admittedly not the most technical hams in the world. They don't design circuits or build projects. Instead, they design organization and build teamwork. They are "people persons" who put ideas and plans into motion. Tom constantly gets the ideas, Bill has the organizational skills to see projects through. Busy? Tom is self employed, referees several high school and college sports, has two sons, one who is in college. Bill is a college professor with a son in high school. Sure, they're busy, but then again, do-somethings always are!

Stranger than fiction!

By now you must think your author has had to search far and wide to come up with stories about these ham radio do-somethings.

Hopefully, you will be shocked to find they are all part of the same group. We won't even call it a club, because it isn't that formally arranged. While the group meets quarterly, its members meet constantly, in person, on two meters, forty meters, by swapping packet messages, and yes, even using the telephone and fax machine. Like all hams, sometimes they discuss the weather. But on many occasions, they are discussing a project, or Field Day, or improving part of their communications systems. And don't think the list of do-somethings is exhausted.

These are but a few of the folks who make up the group. There are many more, who hopefully understand why brevity doesn't allow their accomplishments to be recorded here.

Are you platinum tipped?

So if just one group can do the above, what are you doing to give something back to the hobby? Very often, all any group needs, large or small, is a "spark plug." A person who looks at a project or a need and says "why not?" Someone who can step forward and breathe life into a concept that most folks agree is a good idea!

The bottom line is that *you can do it!*

Find a busy person to help you

John Deegan, KG6XT, is a telecommunications professional. A job move took him from southern California to Indiana.

But shortly after his arrival, he found another active group, where not surprisingly, good things are happening. It didn't take him long to mesh with the hams in his new community. John is a VE, active in a packet organization and part of a RACES group. In addition, he is a good Elmer, having helped and encouraged several hams in getting their licenses or upgrades. John has a wife, two daughters (one in high school, the other in college), is on 24-hour call with his company and he just retired from the military reserve.

Busy?

Yes. Too busy to be a do-something? Never.

Here's the "magic"

How do do-somethings do it? Many different ways. Some of the common traits are that they listen to others. They listen for ideas. They identify areas of need. They talk about their ideas with others, getting their input and refinement of the idea. Then they set in motion the program they want to achieve. They mark their progress along the way, and overcome setbacks.

Do-somethings are not so focused that they are completely consumed by a project. They have room in their lives for other pursuits and interests.

Remember, a "spark plug" is just one part of a larger machine. Do-somethings look to use the skills of others, winning their involvement, using their expertise and sharing the victory of achievement with them.

Your project list?

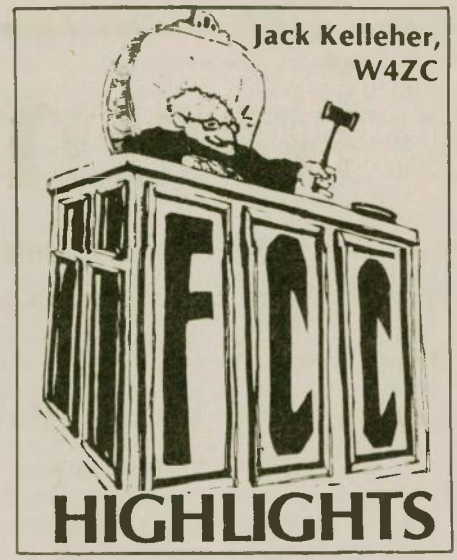
So what is it you'd like to do? Put a 1.2 GHz repeater on the air? Support your law enforcement or sponsoring RACES organization with ATV reports from an emergency location? How about a blood drive among the hams in your area? Create a "helping hams" program, repairing gear or doing antenna work for some of our older or disabled brothers and sisters? How about arranging for monitoring shuttle communications for the local school's science classes during an upcoming mission? Want something bigger? Why not make the next Field Day a family affair for all the participants? You may not score as high in points but you'll score high with the wives and kids who sometimes get left behind. . . you may be surprised at the interest they show in the hobby and how much they enjoy adding to the "feed" and other aspects of the operation.

You'll enjoy being a do-something if you have been part of the hobby for 30 years and feel as though you've explored nearly every aspect of operating. You can also enjoy the benefits of being a do-something if you just pulled your license out of an envelope that arrived yesterday.

Your involvement says that you are indeed willing to "give something back" and leave an enduring "high-water" mark in how the hams in your area enjoy the hobby.

It's your turn

I'd add more to this article, but I have to call my school district about the proposal I made to install rooftop antennas and a packet station at their headquarters. So, dear reader, I ask that you finish it for me, with your own installment on the activities of an Amateur Radio do-something! **WR**



More on RFI to telephones

Last month we recapped an FCC Report on a Telephone Interference Survey by FCC's Field Operations Bureau. Among telephones used in the survey were so-called "bullet-proof" telephones, which the FCC defines as one that is specially designed to be immune to interference. Bulletproof telephones were tested at 52 locations where the individuals were receiving interference to their telephones. The bullet-proof telephones eliminated interference at 96 percent of the locations.

This aspect of the survey has given rise to a number of inquiries about the nature of these instruments. The bullet proof telephones are identified in Attachment 5 to the FCC Survey, with a note that: "All telephones were refurbished, internally modified commercial units." The modifications were not discussed in the Report. Another source points out that these 'phones were all of the non-electronic type, and that it is not nearly as easy to "immunize" a telephone that contains lots of active devices. It can be done, it's just not as easy.

Amended packet message forwarding rules.

The FCC has selectively amended part 97 of its Rules, effective 1 June, 1994, to enable packet radio message forwarding systems to operate while retaining safeguards to prevent misuse. The action culminates more than three years of consideration as who is responsible for the content of messages transmitted to destinations via one or more intermediate forwarding stations, or "digipeaters."

The problem arose during the Persian Gulf war, when a message addressed to all U.S. Amateurs was inserted into the packet system. The message publicized a 900 number to call to register opposition to the war in Iraq. A complaint was filed with the FCC by an amateur who believed this to be a business message because part of the revenues from these numbers are paid to the sponsor, and therefore prohibited under part 97.113 of FCC Rules regulating the Amateur Radio Service.

The FCC sent violation notices not only to the originator, but also to packet repeating stations that automatically retransmitted the message. Up to that point amateurs believed that message originators were the sole accountable party for such violations.

The FCC pointed out that there is no current supervisory authority in the amateur digital network, which makes these unsupervised systems easy targets for misuse. The Commission said that it could be difficult for it to establish, after the fact, that a particular station originated a high speed digital transmission. For these reasons the Commission said there must be ongoing oversight of the system, and the control operators of the first forwarding stations are in the best position to provide such oversight.

The FCC report and order in this matter:

(1) Holds the message originator primarily accountable for its content;

(2) says that originators of messages posted for retransmission (such as to a "bulletin board") by amateur stations but not yet entered into the packet system must be known to the licensee of the first forwarding station — or the licensee of the station which enters that traffic into the network must be responsible for its content.

The Commission also clarified that the station that receives a communication directly from the originating station and introduces it into the message forwarding system is the first forwarding station.

The Commission believes that these

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 May 1994.

For more information about the callsign 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	AAØQW	KGØMQ		KBØMOH
1	AA1JB	KD1UJ	N1RTU	KB1BHH
2	AA2SA	KF2UW	N2YOM	KB2QYJ
3	AA3HS	KE3MS	N3RXO	KB3BBM
4	AD4RM	KR4RG		KE4LLJ
5	AB5TW	KJ5WY		KC5GKD
6	AC6BV	KO6AY		KE6GVP
7	AB7CA	KI7YB		KC7CBL
8	AA8OP	KG8IF		KB8SHJ
9	AA9KQ	KF9VF	N9WUM	KB9IXX
North Mariana Is.	KHØD	AHØAS	KHØCR	WHØAAY
Guam	WH2D	AH2CU	KH2JL	WH2ANK
Johnston Is.	AH3D	AH3AD	KH3AG	WH3AAG
Midway Is.		AH4AA	KH4AG	WH4AAH
Hawaii		AH6NF	WH6UD	WH6CRG
Kure Is.			KH7AA	
American Samoa	AH8J	AH8AG	KH8BF	WH8ABB
Wake Wilkes Peale	AH9C	AH9AD	KH9AE	WH9AAI
Alaska		AL7PQ	WL7SF	WL7CHN
Virgin Is.	WP2L	KP2CC	NP2HL	WP2AHU
Puerto Rico		KP4WP		WP4MOZ

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rule changes will enable contemporary high speed message forwarding systems to operate as their designers intended, while retaining the minimum safeguards necessary to prevent misuse.

(Author's note: This vignette is based on an article in W5YI Report for 1 May which includes the text of the Report and Order).

Request to eliminate 20 wpm requirement denied

The Commission has denied such a Petition for Rulemaking submitted by Edwin R. Dahl, KI7FB, of Spokane, Washington. In denying the proposal, Robert H. McNamara, Chief of the Special Services Division, wrote in part: "These matters were the subject of numerous major rule making proceedings which generated many thousands of comments from the amateur community. After considering the views expressed, the Commission adopted the (present) rules" — You have not presented sufficient evidence to justify revisiting the matter at this time — your request to change the telegraphy requirements is repetitive and is denied."

No regulatory fees for Amateurs

On 11 March the FCC adopted an NPRM (Notice of Proposed Rulemaking) concerning a proposed new Section 9 of the Communications Act of 1934, authorizing the Commission to assess and collect annual regulatory ("user") fees to recover costs incurred in carrying out its enforcement policy, rulemaking, user information services, and international activities, (Section 9 Regulatory ["user"] fees are authorized by the Omnibus Budget Reconciliation Act of 1993, the Clinton deficit reduction package).

Special Emergency Radio, Public Safety Radio Service licensees, and Amateur Radio operators are exempt from the payment of any regulatory or application fees on the basis of their non-commercial status. A provision is made, however, for the optional payment of a statutory fee for "Amateur vanity call-signs."

The NPRM on regulatory fees has this to say (in paragraph 59) about vanity callsigns.

"c. Amateur Vanity Call-Signs.

59. If Part 97 of the Rules is amended by the Commission to authorize the use of vanity call-signs, amateur radio operators would be able to request a specific call-sign. Each amateur licensee with a vanity call-sign will be assessed a regulatory fee of $7.00 per year. The total fee of $70.00 will cover the ten year license term during which the call sign will be in use. The first 10-year fee must be paid at the time a request for a vanity call-sign is made. If a requested vanity call-sign is not available or otherwise cannot be issued to the requestor, the regulatory fee will be refunded, since amateurs are expressly exempt under the statute from regulatory fees, unless they have received their vanity call-sign."

More on proposed reallocation of 2300-2450 MHz.

In our April 1994 column we reported on an NTIA preliminary plan to reallocate parts of the 2300-2450 MHz band from government to non-government use.

The *W5YI Report* for 1 May reports on a hearing on this matter in Washington, on 7 April, at which ARRL representative Paul Rinaldo, W4RI, told NTIA officials that if cognizance of the bands goes to the FCC, high density users will move into the bands, and the amount of spectrum that the Amateur Service can use will be reduced. Rinaldo also expressed concern that existing and planned "paired" use of these and other frequencies, e.g., for earth-space and space-earth communications in the amateur satellite service, might be impacted by allocation changes.

Richard Parlow, Director of NTIA's Office of Spectrum Management said: "We certainly understand these concerns. We tried to play the balancing game as best we could. You must understand that there are many tradeoffs. We also recognize that the Commission will have to, in some fashion, recognize that the amateur service does provide a service and does things for the American public, in safety, national security and emergency preparedness. They're going to have to take that into account. I expect that you and your representatives will not sit idly by and be silent in the proceeding."

NTIA officials were not optimistic that major changes would be made in the bands to be reallocated. WR

Dayton MARS Forum

NORM BROOKS, K6FO/AAR9NI

We are hiring!

The first message that Rear Admiral Lewis Felton gave us was "We are hiring." Even with budget cutbacks, the military branches ARE recruiting! Pass that message along to the young people you know. Even though they are "downsizing," the military needs young people, especially those who understand or who can be taught the modern technologies. Get the word out!

RADM Felton

Rear Admiral Lewis Felton is in charge of the U.S. Navy's Space Warfare Command. Admiral Felton is the developer, the buyer, the implementer and the installer of virtually all the Navy's communications systems. He is an aeronautical engineer, a mechanical engineer, and a naval engineer. He is proud that his technical experience all started from his Amateur Radio background. We were fortunate he was able to address the combined MARS forum at the Dayton Hamvention on Saturday, 30 April, 1994.

Here is a summary of the Admiral's remarks:

NAW communications

Naval communications have gone through a major transformation over the last few years because operations have changed dramatically. The Navy used to be a blue-water service that operated independently. Now things are different. The Navy is involved with the Army and Air Force in all military operations. The Navy had to make major changes in order to enter into that arena.

An interesting technical point is that communications used to be of limited data rates. Now we need massive data rates, because we are now passing a real time common picture of the battlefield to be useful also to the Army and Air Force. If a Tomahawk is fired, we like to see the Tomahawk fly through the window in real-time. If we can't see that, we want to see the target in just a few minutes, so that if we didn't hit [the target], we can fly another one. This requires huge amounts of data.

We have developed a lot of multiple interfaces. We have gotten rid of systems that only talk to themselves.

In past years, the military branches pushed research and development to the point where the military systems were far ahead of the commercial market. This is no longer true. Military systems are behind the commercial market. The best thing for us to do now is to stop developing and go out with green dollars and buy what we need off the marketplace. In general, that is what we are doing.

My responsibility covers all ship to shore communications, all satellite communications, all submarine communications plus another item that is the major headache in my job- all communications information security including computer security, net security and you name it. This is the area that will give a major Excedrin headache.

COTS is the acronym for Commercial Off The Shelf. That is the way we will replace the legacy of old "stovepipe" systems we had developed in the past. We have a lot of them and they are very, very expensive to maintain and operate. We need to 'up' the throughput of data and improve flexibility. We have some data paths that have high capability, yet little use, and other paths with lower capability, yet are jammed with traffic. My program managers must improve the technology and data 'throughput' to match future capabilities, with fewer dollars."

Non developmental items

That means going out to buy what the commercial market is developing without developing it ourselves. We will do this in an evolutionary manner. This means we won't change complete systems all at once — we will do a little piece at a time.

We must move to automatic management of all our communications. Modern warfare moves so quickly that we do not have time to set up circuits with patch cords. Our communications system must take care of that itself.

Security is my major concern right now. We have different levels of security. We can't afford a different network for each level of security. We must find ways for one network to sort out the different levels of security without handling everything at the highest level.

I'm limited by real estate. Unlike the Army or Air Force, I don't have the room to put a 40-foot dish antenna on an aircraft carrier. An aircraft carrier has about 200 antennas on it. Also, we can't put too many things up high on an aircraft carrier — the ship will want to roll over! The biggest antenna on an aircraft carrier is a seven foot dish on a command ship. On a ship, even though we use geo-stationary satellites, we also must worry about trackers.

Rear Admiral Lewis Felton, USN. *— photo by N6WR*

As we install new systems, we must remember that we have smaller ships, and Allies who do not have the latest capability. So our latest equipment must be compatible with them. This is called backward compatibility.

I happen to be in one of the few areas in the military that is not being killed by reduced budgets. The dollars are going down, but not as fast as in other places. I'm fortunate. In other places it's grim.

The communications system of the Navy of the future won't stop at the radio room door, it won't use mechanical patch panels or cords. In general, it will start where you happen to be on the ship. You will pick up your telephone, or turn on your computer and look at the video screen. All you need do is talk to someone to get some information. The connection will be automatically managed as far as what portion of the radio frequency spectrum is used. It will be managed as to priority. If it is low priority it gets bumped. If it's high priority it bumps other things. You will not be concerned as to how it got there. It will be like AT&T.

Admiral Felton asked us how Amateur Radio is currently faring. "CW has always been my first love," he said.

In closing, the Admiral said "I've been in this business for over 30 years and I'm still having a good time. Of course I'm opinionated on this. As you talk to the young people out there, tell them there is probably no better career they can get into than the military." WR

Grounds and grounding

ALLEN R. BREINER, W3TI

*Editor's note: **Good safety comes first.** Please read **all** of this article before trying the project. Pay close attention to the author's cautions, especially with regard to working together with another person.*

What is a good ground for those rigs in your shack? Contrary to belief, grounds or grounding systems are not all the same. Some are good, some are mediocre or average, and there are some areas that afford very poor grounding for your radio equipment.

Then we ask, why should you be so concerned about having a good ground system anyway? All too often you hear a conversation on the air that goes like this, "Everything I touch in the shack is hot with RF." Having a high SWR is not the only cause, a good ground would alleviate most of that extra RF floating around the shack, in addition to getting an acceptable SWR to boot.

Lightning, however, should be our number one reason for having a good ground system. True, a direct strike will cause damage but a good ground could help reduce the amount of destruction by bleeding off part of the lightning bolt into the ground outside. Then there are those AC power line glitches that have a habit of showing up any time, any where.

So how does one find out how good the grounding system happens to be? To begin, we are talking about an earth ground and the various types of earth or dirt exhibit a form of resistance similar to that of a carbon resistor. Carbon resistors are measured in ohms, and earth ground is also measured in ohms.

Caution — This part of the test uses the 120 volt AC house current. Be sure to disconnect the AC plug between each procedural step.

Before making any tests disconnect everything from the ground rod that is to be tested. Disconnect the shack ground, lightning arrester, and all the radials. Only the test wires are to be connected to the ground stake.

After plugging the extension cord in a suitable wall outlet, you must determine which wire of the cord is the hot or 117 volt wire. The other is known as neutral. An outdoor receptacle connected to a ground fault breaker cannot be used for this test because it will trip every time.

Set the VOM (Volt-Ohm Meter) to measure AC voltage. Connect one test lead to the ground rod. Insert the other test lead into the end of the extension cord as shown in figure 1. You should read your line voltage (around 117 volts). If you get no reading, insert the test lead into the other connection. If you don't get any reading, then check the extension cord for a break. After you determine which is the hot connection on the extension cord mark that terminal with a piece of masking tape. At the same time determine which is the terminal on the plug at the end of that ten foot zip cord. Mark it also with masking tape.

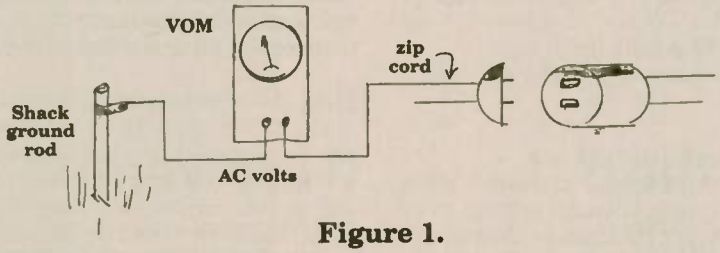

Figure 1.

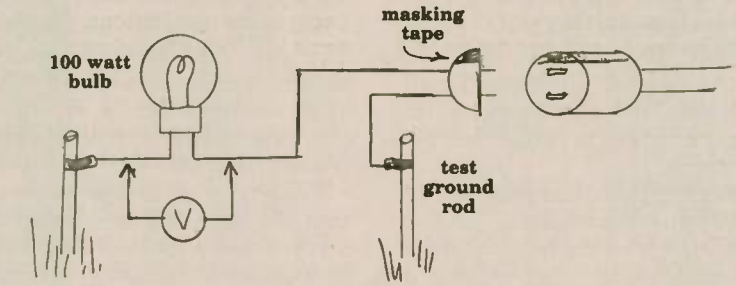

Figure 2.

Set this aside for the time being and drive the additional ground rod into the soil about ten feet from the shack ground rod. Connect the 10 watt light bulb as shown in figure 2. and connect the remaining zip cord wire to the other ground rod.

Double check your connections before proceeding.Plug the zip cord into the extension cord socket. Make certain you have it plugged in the right way or you will be replacing a fuse or resetting the breaker on the main power panel. Having passed that part of the test, connect the AC voltmeter (VOM) across the two terminals of the light bulb and record the voltage shown. For example, let us say it is 52 volts. Disconnect the zip plug from the extension socket before going on to the final step.

Set the VOM for AC amperes and connect it in series with the 100 watt lamp as shown in figure 3. Measure and record the current. For example, let us say it is 0.45 amperes. Disconnect the zip cord plug from the extension socket. This completes the measurements portion.

The steps just taken are shown in the schematic figure 4.

The line voltage in my shack seldom goes below 120 volts. Use the line voltage you recorded back in figure 1. In the examples given there was an IR drop of 52 volts across the 100 watt lamp.

Therefore, the remaining 68 volts is taken up between the two test ground rods. That voltage cannot be measured but calculated as (120 - 52 = 68 volts). By use of our famous Ohms Law we find that our ground resistance is 151.1 ohms.

$$R = \frac{E}{I}$$

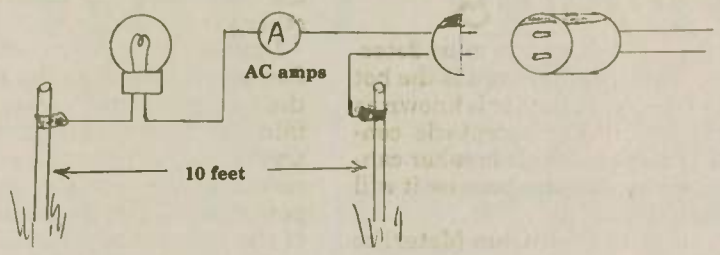

Figure 3.

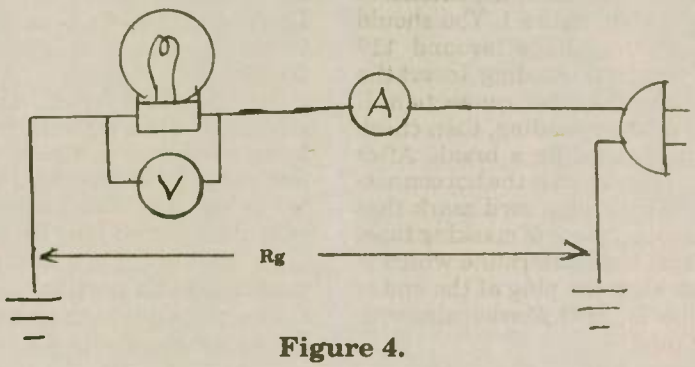

Figure 4.

We find Rg = $\frac{E}{I} = \frac{68}{0.45}$ = 151.1 ohms

To obtain a better picture of your ground system take at least three more tests by placing the test ground rod at various locations and then take the average of all three tests.

It is doubtful if you ever get a ground with zero ohms. Moisture and elements in the soil will have cause and effect on the resistance readings. Anything lower than 100 ohms can be considered good. 30 to 50 is excellent but don't pull your hair out if it is higher. While you're at it, move the test equipment around to your tower and test just how good your tower ground is.

For safety's sake, it is suggested that you do not attempt making these tests alone, always have someone with you. One does the hook-up and testing while the other observes. First aid always comes last but let's always think safety first.

The origin of this article was fostered by a presentation given at the local radio club by Bert Rex, W3ØWP. Ye editor/writer just added his own comments and put it into print.

Parts required:
VOM that will measure AC current.
ten foot piece of zip cord.
1 male AC plug
1 extension cord.
1 4 to 6 foot ground rod.
1 100 watt light bulb and socket. WR

We thought we were ready!

MELISSA AND JEFF REINHARDT, KM6II

Well we took many precautions prior to the quake. How did they work? Pretty well, we're happy to say, but we've had some adjustments to make.

We had "baby locks" on the kitchen cabinets and they did their job, keeping the dishes, etc. inside. That made a mountain of items to scale as we exited the bedrooms. They have locks now!

The good news was the flashlight was next to the bed. The bad news is that the quake rendered it unfindable by moving it way under the bed during the quake. Solution: it's stuck in place with "velcro" now.

Bad news: Eyeglasses lost from nightstand. Good news: spare pair in car came to the rescue.

Good news: Having the china cabinet wired to the wall worked, keeping it in place and intact. Bad news: dresser in bedroom nearly fell on bed. It is now also wired to screw eyes in the wall.

Mixed blessing — we had to store paint cans on high shelf in the garage. Seeing the quake danger back then, we passed a rope through their handles. It worked. The cans came off the shelf and were dangling from the rope.

The battery backup power system for the ham station worked as planned. We were able to maintain VHF voice and packet communications. We also passed some HF "health and welfare" traffic to the east coast. That felt good.

As the sun came up on 17 January, we were already making notes of the "improvements" that would help in being better prepared for the next emergency. Although many of these have already been implemented, the lesson we have learned is that no matter how well prepared you think you are, Mother Nature can still throw a good curve your way. Keep looking at ALL your preparations with the thought that you can probably improve on them.— *The Smoke Surf and Slide*

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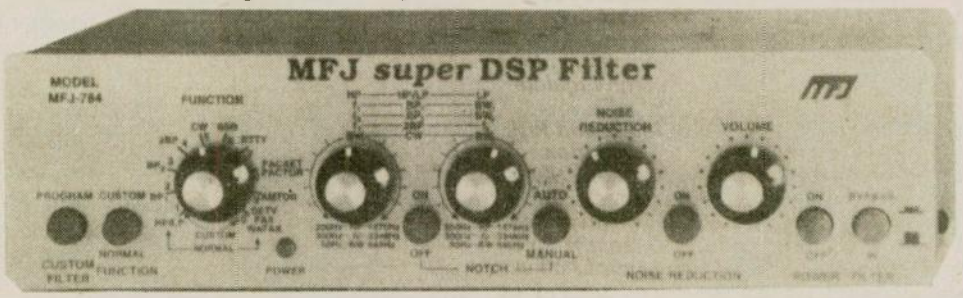

MFJ's *super* DSP filter automatically eliminates heterodynes, reduces noise and interference *simultaneously* on SSB, AM, CW, packet, AMTOR, PACTOR, RTTY, SSTV, WeFAX, FAX, weak signal VHF, EME, satellite -- nearly any mode you'll ever encounter.

You get MFJ's *tunable* FIR linear phase filters that minimize ringing, prevent data errors and have "brick wall" filter response with up to 60 dB attenuation just 75 Hz away.

Only MFJ gives you *tunable* DSP filters. You can tune each lowpass, highpass, notch and bandpass filters and *vary* bandwidth to pinpoint and eliminate interference. The last tunable filter setting is saved -- it's ready to use when you switch back to it again.

Only MFJ gives you 6 *factory pre-set* filters and 10 *programmable pre-set* filters that you can customize. Instantly remove QRM with a turn of a switch!

You get MFJ's *automatic notch filter* that searches for and eliminates *multiple* heterodynes.

You also get MFJ's advanced *adaptive noise reduction*. It silences background noise and QRN so much SSB signals sound like a local FM repeater.

The *automatic* notch filter and *adaptive* noise reduction can be used with *all* tunable and pre-set filters.

Automatic notch filter

MFJ's *automatic* notch filter searches for and eliminates *multiple* heterodynes in *all* filter modes -- it's so fast interfering CW and RTTY signals are also eliminated.

If you leave the *automatic* notch filter on during a phone contest, you'll never be worn down by the heterodynes of tuner-uppers.

Voice signals aren't degraded. The *narrow* automatic notch is silently working in the background destroying unwanted tones when they appear.

With up to 50 dB attenuation, you'll copy stations that would otherwise be masked by heterodynes. You'll miss fewer calls and be less exhausted when the contest is over.

When you need to *selectively* remove tones -- like when you're enjoying a CW ragchew and a couple of annoying CW stations appear nearby -- you can use the *two* MFJ *tunable* notch filters to completely knock them out.

Adaptive noise reduction

Pressing the "ON" button silences background noise. Some SSB signals sound like a local repeater! It makes noisy FM and AM signals readable and works with CW, Data and other signals.

It works in all filter modes and on all types of random noise including -- white noise, impulse noise, static, ignition noise, power line noise, hiss and atmospheric noise.

The LMS algorithm gives you up to 20 dB of noise reduction depending on the type of noise. You can adjust the amount of noise reduction to prevent distorting some signals.

Reducing random noise reduces fatigue and makes QSOs more fun -- especially, when the band is full of tiring noise.

Tunable highpass/lowpass filters

For Voice and Data nothing beats MFJ's exclusive *tunable* highpass/lowpass FIR linear phase "brick wall" filters.

You can *tune* the lower cutoff frequency 200 to 2200 HZ and the upper cutoff frequency 1600 to 3400 Hz.

Signals *just 75 Hz* away literally disappear -- they are reduced a *thousand* times, 60 dB!

Unlike other filters, speech clarity is not reduced by envelope distortion caused by unequal time delay.

By adjusting the highpass and lowpass filters you can create *custom* filters for Voice, Data and other modes.

When signals are weak, you can improve copy by removing high and low speech frequencies. They contain little information but are full of noise that reduce readability.

On crowded HF bands, overlapping SSB signals make copying difficult. You can improve copy by slicing off some overlap with razor sharp "brick wall" responses.

You can also highpass filter out hum, pulses, rasp and other irritating low frequency noise.

Tunable bandpass filters

Narrow band signals like CW and RTTY jump out of QRM when you switch in one of MFJ's three *tunable* FIR bandpass filters.

You can *tune* the center frequency from 300 to 3400 Hz. And *vary* the bandwidth from 50 Hz to 680 Hz -- from super tight CW filters to wide razor-sharp Data filters.

As you narrow the bandwidth, interfering signals just drop out because, just 60 Hz away, they're down by over 50 dB.

You can use *narrower* bandwidths to fight tough QRM because these linear phase filters don't distort signals with unequal time delays.

Even with the narrowest 50 Hz bandwidth, you'll never have a problem with ringing.

One position gives you *two* tunable filters you can use together on one signal. For example, on RTTY, tune one filter to mark, the other to space and set each bandwidth tight for an incredibly sharp RTTY filter.

16 *pre-set* filters -- use factory set or program your own

With a turn of a switch you can select from *sixteen* convenient *pre-set* filters. You can use them for SSB, AM, CW, packet, AMTOR, PACTOR, RTTY, SSTV, WeFAX, FAX or any other mode you can think of.

If you don't like our *pre-set* filters, you can define your own filter by programming bandpass center frequency and bandwidth, lowpass and highpass cutoffs. *An MFJ exclusive*!

Only MFJ gives you the best of both worlds -- *tunable* filters to eliminate nearly any QRM and fast convenient *pre-set* filters customized for any mode.

Plus more . . .

A push-button quickly bypasses your filter so you can hear the *entire* unfiltered signal and see if anyone is calling you.

Built-in two watt amplifier. Has volume control, input level control, speaker jack, headphone jack, accessory jack, PTT line and PTT sense and line level output. 9x2½x6 in.

It plugs between your transceiver or receiver and external speaker or headphones. Use 12 VDC or 110 VAC with MFJ-1315, $14.95.

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With a few "point and clicks" of your mouse, this powerful MFJ WINDOWS software helps you . . . find and identify on-the-air DX you need from PacketCuster networks . . . search your log to see if you've worked him before . . . automatically set up and tune your transceiver . . . and work him with pre-stored messages.

And while you're working him, you can . . . log him . . . print his QSL card . . . search and update your awards and contest files.

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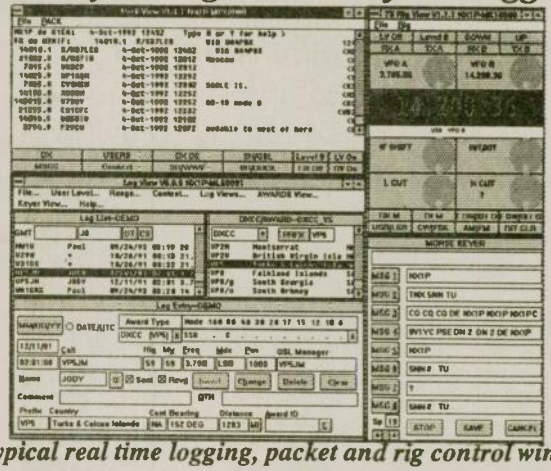
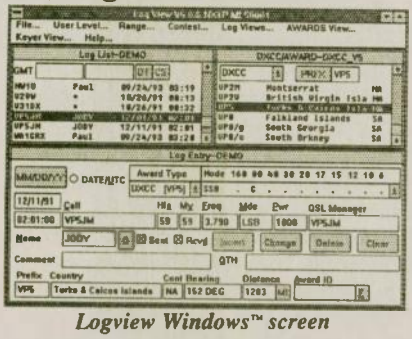


Typical real time logging, packet and rig control windows

Here's an overview of each program . . .

Logview Windows™



Logview Windows™ screen

Logview Windows™ is a live real time computerized logbook that gives you instant access to your data.

When you enter a call sign, *Logview Windows™* automatically checks to see if you've worked him . . . if you need him for DXCC or an award . . . calutates distance and bearing so you know where to point your beam . . . for contests it checks for dupes, tells you where you need to make a QSO and its score .

You can scroll through your log in familiar logbook format in either call sign order or date and time order.

For each contact you make, *Logview Windows™* lets you simultaneously update and keep up with dozens of awards such as DXCC, WAZ, OBLAST and WPX. You can attach award identifiers to QSOs for tracking awards.

The Contest Mode gives you fast dup checking and automatic time/serial number stamp. It tells you how many contacts per hour you're making, time past since your last QSO, point score, multipiler score and total score.

Even as you're making your contact, you can be printing a QSL card.

You can choose who to send QSL cards to based on QSOs not confirmed or not sent.

You can print cards or labels in standard format or customized them to suit you. You can print in time or bureau order.

Hundreds of QSO and award reports can be generated. Data from CT and other popular logging programs can be imported.

You can "click on" the built-in keyboard keyer and let *Logview Windows™* help you make QSOs with 8 pre-stored CW messages.

You can set weight and speed and adjust element, character and word spacing. You get a convenient keyboard buffer with on-screen text display for sending perfect CW.

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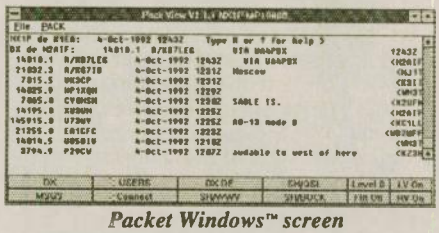
You can use beginner levels to get going quickly. When you're ready for more advanced features you can use the expert levels.

MFJ-1681 *Logview Windows™*, $69.95.

Packet Windows™



Packet Windows™ screen

Using *Packet Windows™* and your TNC to access DX PacketCluster™, you can display a list of current on-the-air DX stations.

You can scroll through these DX stations and select one with your mouse. Your rig is automatically tuned through *Rig Windows™* and your logbook is automatically set up through *Logview Windows™* to log your rare DX -- all you have to do is work'em.

You can select only the DX you need. When they occur, an alarm sounds or you can have their call sent in CW -- you'll know about band openings even if you're in the next room.

For true "hands off" operation, turn on AutoSpot™. When DX you need appears, your rig automatically tunes to his frequency and your logbook automatically sets up to log.

Operating your TNC or PacketCluster™ can be as easy as "point and click" when you use Macro buttons for commonly used commands

MFJ-1682 *Packet Windows™*, $29.95.

Rig Windows™

Rig Windows™ screen

Rig Windows™ gives you full computerized control of your transceiver. Data from *Packet Windows™* automatically tunes your transceiver to the DX station you want. Frequency and mode is sent to *Logview Windows™* for automatic logging.

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Separate *Rig Windows™* programs are available for Kenwood, Yaesu and ICOM radios. Each program is customized to make use of features unique to that manufacturer.

For *Rig Windows™*, order **MFJ-1683K** for Kenwood, **MFJ-1683Y** for Yaesu and **MFJ-1683I** for ICOM, $29.95 each.

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Just plug a pre-wired cable into your transceiver and computer serial ports and you're ready for computerized control of your rig through *Rig Windows™*.

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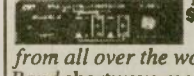

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Visalia DX convention

JOHN F.W. MINKE III, N6JM

The 1994 International DX Convention

Saturday morning, 16 April, the 1994 International DX Convention at the Holiday Inn in Visalia, California, was welcomed and kicked-off by Dave Bell, W6AQ.

The program was a good one. In addition to the usual DX and Contest forums, there was an addition this year to the annual gathering. The San Diego DX Club participated along with the hosting Southern California DX Club. The San Diego crowd introduced DX Jeopardy, patterned after the familiar TV game show.

Then there were the DXpedition presentations, accompanied with slides, of the following:

• AH1A DXpedition to Howland Island, by Burt Meyers, WØRLX.

• 5X1XT DXpedition to Uganda, by Paul Rubinfeld, WF5T.

• KH5K DXpedition to Kingman Reef, by Pete Meyer, NØAFW.

• 9G1XA DXpedition to Ghana, by Randy Martin, KØEU.

On Friday night the Cal Poly Amateur Radio Club presented highlights of their KH9/AH6MM DXpedition to Wake Island, followed by Steve Locks, W6FRZ, with the Big Gun DXers from Southern California. The 1993 Lord Howe Island VK9LI DXpedition was presented by Art Goddard, W6XD.

Following the Saturday program, there was a hosted "Attitude Adjustment Hour," followed by the usual banquet. Amateur Radio's good friend, Dave Bell, W6AQ, was master of ceremonies of the program, which was highlighted with the 1994, 3YØPI Dxpedition to Peter I Island by Terry Dubson, W6MKB.

DX forum

The DX Forum, moderated by Bob Selbrede, W9NQ, and President of the Southern California DX Club, is a major event on the International DX Convention program. Panelists included Bill Kennamer, K5FUV, Jack Troster, W6ISQ, Matts Persson, SM7PKK, Bill Mauzey, W6RT, and Chod Harris, VP2ML.

Bill Kennamer, of the DXCC Desk in Newington, led off the forum with a report on the DXCC program. He stated that there are more DXers in California than any other state. Bill's report, supported with graphs, detailed how the applications and endorsements increased and decreased since June 1993. In October, 1992, there were 4,000 applications and endorsements in the DXCC backlog. Data entry into the program is now running smoothly, as most of the active DXCC members' records have all been converted from paper records.

Bill Mauzey reported on the DX Advisory Committee. He is the Southwestern Division representative on the DXAC, while Jim Maxwell, W6CF, is the Pacific Division representative. Bill reported that recent DXAC actions included:

• Establishment of an RTTY DXCC Honor Roll. The vote on this one was 13 to 3 to establish such an Honor Roll.

• Revise the CW DXCC start date back to 1945. The DXAC voted 11 to 5 not to revise the start date and to leave the start date as is beginning in 1975. The feeling was that it would be unfair to those who are well established in the CW DXCC. There were several DXCC countries that were deleted prior to 1975.

• QSLing guidelines. The panel voted 15 to 1 to incorporate QSLing guide lines.

• Mount Athos deletion. The panel felt that the wording for the balloting was too ambiguous and this item will have to be the subject of a revote.

• Walvis Bay deletion. This one was voted 16 to 0 in favor of deletion as Namibia took possession. The same applies to the Penguin Islands.

• Create additional single-band DXCC. This was defeated 13 to 2 as the DXCC already has enough to do. This would have included the bands 30, 20, 17, 15 and 12 Meters. Also included in this vote was establishing 200 and 300 countries endorsement to the 5BDXCC.

• Ten Meter Honor Roll. The DXAC voted 15 to 1 to not recommend this one.

Pending actions before the DXAC included:

• Pratas Island. Not enough information has been received on this one. If the island belongs to the People's Republic of China, then it would not qualify. However, the petition was removed from the agenda prior to the last two operations from Pratas Island. This item, however, has been added back to DXAC agenda, according to a DXAC News Release, dated 19 April.

• Aldabra Island. This one was to be reinstated based on being a scientific and wildlife reserve. Aldabra Island is located in the Indian Ocean and is privately owned.

• Scarborough Reef. To be reinstated. Scarborough Reef is situated between China and the Philippines. There is a question regarding the reef as to how much land is above water at high tide.

Jim Neiger, N6TJ, and the group enjoy the DX forum. —*photos by N6WR*

• Minimum size of a DXCC country.

• Call area calling. What this one is directed at is when a DX station requests calls by call area and suddenly there are stations calling signing portable with the call area the DX station is listening for.

• Turkish Republic of Northern Cyprus. The original petition to establish this one as a new DXCC country has been withdrawn and they are awaiting a new petition. The petition will probably be defeated.

The DX Forum was then opened for questions and comments from the floor addressed to the panel.

Why does it take so long for the DXAC to act? All of the activities of the DXAC is done by correspondence to give members time to consider it and respond. It is just a long process.

What about that recent Malpelo Island operation? Italy has no reciprocal licensing with Colombia and the DXCC Desk is sitting on it. They do not question that the operator was there, but want to know if he had permission to operate and if the license was rescinded.

There was a question regarding the official prefix for Yemen, 7O or 4W. The 4W prefix was dropped over a year ago.

What is the status of the 3V8AS activity? Amateur Radio has been banned in Tunisia but will allow operations by certain tourists. The feeling is that the call 3V8AS could very well be an Italian operating somewhere in Italy.

What about the Reunion Island areas? Many of these islands have been declared as refuge areas and it is possible that the Germans during a recent operation were not granted permission.

A question was asked regarding the status of Snake Island. Some time ago there was talk of creating Snake Island as a new DXCC country. No petition was ever filed. At least three of the CIS countries have claims on this one.

The DXpeditions

No DX convention is complete without DXpedition coverage. There was no exception at Visalia as there were several. The Saturday program began with was the 1993 AH1A DXpedition to Howland Island, presented by Burt Meyers, WØRLX. Burt was one of the several operators in this multi-national DXpedition team that included Paul, F6EXV; Ian, G4LJF; Peter, ON6TT; Arie, PA3DUU; Bob, K4UEE; Mike, K9AJ; Randy, KØ0EU; Phil, W9IXX; and Walt, WØCP. Also included were two representatives from the U.S. Fish and Wildlife Service, Beth Flint and Dave Woodside. These representatives were necessary for the special use permit to land on the island as it is a National Wildlife Refuge.

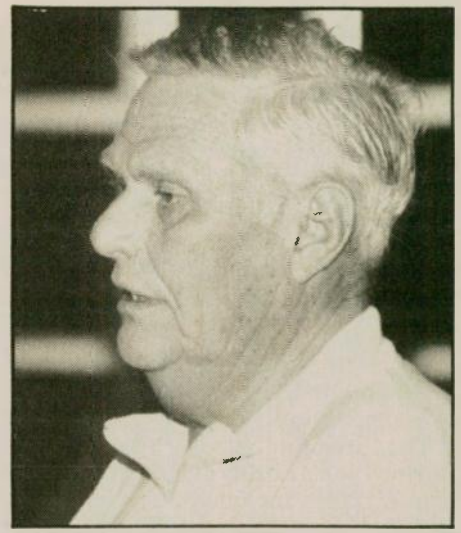
Burt said that preparations began back in 1987 except that Jim Smith, VK9NS, had also been making plans for such a DXpedition. They then diverted their efforts for a Kingman Reef DXpedition.

Finally, the DXpedition materialized and the DXpedition would concentrate the efforts on working Europe as Howland Island was high on their needed list.

The DXpedition once-a-week flight to Christmas Island was almost canceled as fuel testing was required in New Zealand and the results had not been received at the point of departure. However, the problem was resolved and the flight took off as scheduled with the 10 DXpedition operators and the two USF&W representatives. Most of the passengers on the flight were bone fisherman enroute to Christmas Island. From there it was another six days by ship to cover the 1,140 nautical miles to Howland Island. Howland Island, including the outer reef is about 0.5 by 1.5 miles in area.

The DXpedition members were informed that rainfall on Howland Island was rare with sometimes as much as a year going by without any rain. It rained hard the first night on the island. In fact, when they were about to conclude the operation and depart, the storms came in for several days, delaying the departure. Communications between the ship and the island failed and they had to communicate via flashlight. See? Here is another reason for never deleting the CW requirements for an Amateur Radio ticket! Prior to leaving the island, everything had to be removed, including garbage, before the operators could depart.

The 5X1XT DXpedition, presented by Paul Rubinfeld, WF5T, was a DXpedition to Uganda in the spring of 1993. This particular DXpedition included two other operators, Jim Henderson, KF7E, and James Archer, N3JCL, who also holds a Kenya call of 5Z4FV. There was a period when no licenses were issued in Uganda, and as soon as the ban was lifted, the team had applied for licenses. As a result, Paul received 5X1XT, Jim received 5X1XX and James received 5X1DX.



Bill Mauzey, W6RT.

Paul mentioned that there are other DXers active in Uganda, including Bruno, 5X1A, an expatriate from Switzerland. Bruno was able to beat him to applying for a license when the restriction was lifted.

During the 27 April to 13 May 1993 DXpedition, Jim took care of the low band operation, while the other two kept the DXers happy on the higher bands.

Paul said that he would be returning to Uganda in November. However, Amateur Radio will be secondary to his teaching there. Paul said that they had made 19,000 contacts.

Randy Martin, KØEU, a member of the Howland Island DXpedition, discussed his DXpedition to Ghana where he operated as 9G1XA. Randy is a mining engineer and a computer and hardware specialist, and had the opportunity to bring his radio. His first night of operation was some 300 contacts on 30 and 17 meters.

When Randy returned home his YL, Brook, was there with the sign "9G1XA Glad You're Home." Waiting for him was a big pile of QSL requests and fortunately only a small pile of bills.

DX Jeopardy

Something new was added to the Visalia convention. A DX game, called DX Jeopardy, was presented by San

Diego DX Club with member John Barcroft, WA6ZJC, as host.

In order for a DXer to qualify he or she had to take a written qualification test. The test consisted of 20 questions that had to be answered within a time of 3 minutes. An example:

#12.The former home call of W6CF.

Remember now, the time allowed was only three minutes, which averages out to nine seconds to read and answer each question.

Later in the afternoon there was another elimination round to determine three finalists.

The three finalists were announced during the Saturday evening banquet. These DXers included Jay Holladay, W6EJJ, Jim Maxwell, W6CF, (who incidentally had no problem with question 12), and Pete Meyer, NØAFW. The DX Jeopardy game would follow the Sunday morning breakfast.

Sunday morning and on with the game. Hosted by John, WA6ZJC, the DX Jeopardy followed the format of the game show — even down to the music. Six categories were given: Antennas, DXCC History, Current QSL Managers, DX Geography, CQ Zones, and First/Last Activations. Joan Sieber, N6KIM, was the card turner (not like the TV game), and picked the card chosen by the contestant. Jim Price, K6ZH, was the timer with Ken Seals, KA5Q, the scorer.

The first to go was Jim, W6CF, with Pete, NØAFW, who was quick to answer and ended with a minus score with the wrong answer. Jay, W6EJJ answered correctly and remained in the lead ever after. The remaining spots were battled out between Jim and Pete.

There were also two Daily Doubles taken by Jim and Jay. Jay missed his, but no matter, as he was in the lead. The score prior to Final Jeopardy: Jay 18, Jim 3 and Peter minus 4. The final question (or is it answer) was to name the three former DXCC countries that had Italian prefixes. As a result the standings were: Jay Holladay, W6EJJ, 23 points, Jim Maxwell, W6CF, 3 points, and Pete Meyer, NØAFW, 0 points. Jay's prize was a hand-held, Jim got the Bencher paddle and Peter received a subscription to *The DX Magazine*.

Contest forum

The convention program ended with the Contest Forum, moderated by Dick Norton, N6AA, of the Southern California DX Club.

Larry Tyree, N6TR, outlined a recent contest that has shown on the bands — the Internet Sprint. This contest is short and is something like the North American Sprint.

Bob Cox, K3EST, discussed the latest with the *CQ* contests. *CQ* magazine is publishing a handbook which should be available in June.

Marty Woll, N6VI/KH6, talked about Katashi Nose, KH6IJ, who recently became a Silent Key. Marty had attended Nose's funeral and remarked that many there had remembered him as their high school teacher — and they were retired.

The contest forum panel consisted of Larry Tyree, N6TR, Bob Cox, K3EST, Fred Laun, K3ZO, and Jim Neiger, N6TJ. Dick then presented a group of questions to the panel for their responses.

The forum was concluded with the two contest clubs, the Southern California and Northern California contest clubs announcing the winners of their awards.

The banquet and Peter I

Following the dinner portion of the program, Dave Bell, W6AQ, the Master of Ceremonies, asked for all DXers from outside of the United States to please stand up. There were about 20 visiting DXers who stood up. Then he asked for all DXers who had been on a DXpedition to places outside of the United States to please stand up. There were many!

After the usual introductions of the visiting League officials, Bob Selbrede, W9NQ, president of the Southern California DX Club, introduced the officers of his club and announced the recipients of the SCDXC annual awards. Don Bostrom, N6IC, and Charlie Spetnagel, N7QQ, received Awards of Appreciation. The Clipperton Award, went to Will Angenent, KN6DV. Will, the club secretary, worked some 200 plus DXCC countries during his first year in the club. The SCDXC DXer of the Year went to Russell Davis, K6CH.

The Lifetime Achievement Award, better known as the Spirit of DX Award, the last award that evening by the SCDXC, was to Iris Colvin, W6QL. This annual award sponsored by the Southern California DX Club is presented to an individual who has contributed much to the betterment of DX in Amateur Radio. All DXers will recognize Iris as part of the famous *Yasme* DXpeditions.

Jim Price, president of the San Diego DX Club, made the normal introductions and announced the recipient of the SDDXC DXer of the Year Award, which went to John Barcroft, WA6ZJC.

Jim Knochenhauer, K6ITL, a director of the Northern California DX Club then introduced the officers of the NCDXC. The NCDXC DXer of the Year Award went to Ted Algren, KA6W.

Dave Bell announced a new ARRL Award in honor of Lloyd Colvin, W6KG, which will benefit Amateur Radio DXing. The League was a beneficiary of a life insurance policy that Lloyd had taken out many years ago.

Joe Locascio, K5KT, announced that he now has possession of a second call, W6AM, that of the late Don Wallace. The call will be reserved for an operating station at the future Don Wallace Museum.

Then came the highlight of the evening — the 1994 Peter I Island DXpedition presented by Terry Dubson, W6MKB. The DXpedition team members included: Willy Ruesch, HB9AHL; Peter, ON6TT; Luis Chartarifsky, XE1L; Bob Wilber, N4GCK; Bob Schmieder, KK6EK; Tony Deprato, WA4JQS; Ralph Fedor, KØIR; Martin Tosseyn, the cook who was unlicensed, and Terry.

The DXpedition team traveled via Ascension Island to the Falkland Islands where they were met by a Russian ship to take them to Peter I Island. Due to the great amount of equipment and their length of stay at the island, the landing included several helicopter trips between the ship and the island. DXers who had worked 3YØPI are aware of the storms the DXpedition team encountered.

They brought everything back with them and left absolutely nothing on the island but their footprints.

Breakfast

After the Sunday morning breakfast Dr. Vince Thompson, K5VT, was introduced and presented the E31A August, 1993, DXpedition to Eritrea.

The operators with this team included Vince, Franz Langer, DJ9ZB, and Zorro, JH1AJT. The presentation was complemented with an exceptional set of slides. **WR**

Motorizing your crank-up tubular tower

THURMAN D. BEACH, W6OOX

If you are going to motorize a tower, especially U.S. Tower models MA 40 and MA 550, this will pertain to you because this is the type of tower I have motorized with winches. I used two geared motors. If your tower cranks up and down only, you'll use only one gear motor mounted on the mast. If it also tilts toward the ground like mine, you'll need a second motor mounted on the base that lowers the tower toward the ground. You can motorize one or both winches.

This is the great benefit of this project as it makes it possible for easy and safe antenna maintenance. This is actually what got me interested in motorizing the tower in the first place. My tower is so darned heavy I was having a hard time cranking it up and down by hand.

There comes a time in a ham's life when he thinks he has everything. At least he hopes he does and he's well satisfied; but my wife says I'll never be through tinkering. What happens when you get as old as I am is that you stop and look back. I had an old sixty foot crank-up with a three-element beam, and this past year something went wrong with the beam. I realized that when my usual helper didn't want to work on my tower any more, I figured that I'd better check it out myself.

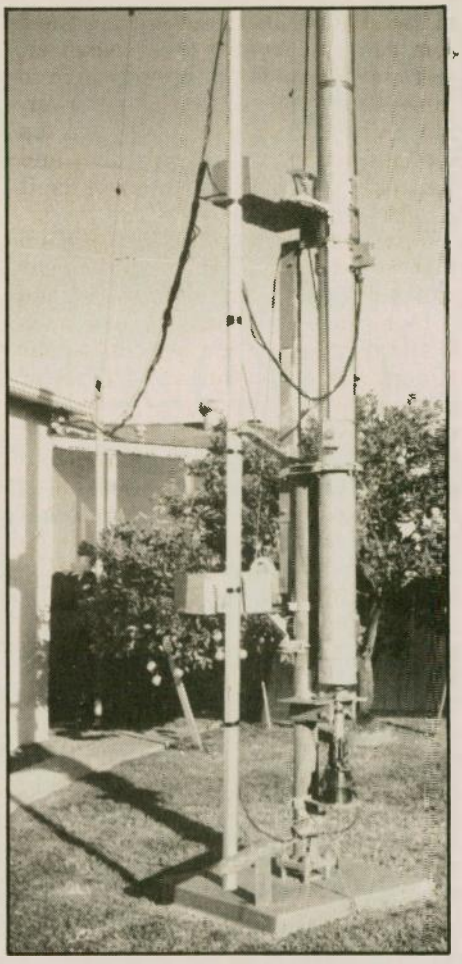
I found out that there were a couple of traps shot on the beam and that I was going to have to have somebody climb up on my tower to work on it. I have been doing this off and on, working on my antenna, for the past twenty years since I moved to San Diego, but every time the fellow came out to work on it, he kept looking at it and saying, "Mr. Beach, when are you going to get a new tower?" I asked him what was wrong and he replied that my darn crank-up tower with exterior cables was nothing but a "San Diego guillotine!" If that old cable snapped, or if you get your foot caught in that darn tower somehow, off it goes. I gave that serious thought. I had thought that I had everything, but eventually I decided to get a new tower in order to improve the safety of the situation.

I went to purchase a U.S. Tower from the local store, and boy did I get in trouble then. I had a 3x3x3 concrete base for my crank-up tower — three feet square and three feet deep — with ⅝" anchor bolts. But this new tower I ordered was a 7 inch telescoping cylindrical tower and it had one-inch bolts for anchor bolts, three feet long. I realized that I needed to have a new concrete base slab and anchor bolts put in for this tower so went ahead and had it done. Then after a little asking around, I finally got a crane over and a couple of guys to give me a hand at picking out the old doggone base slab with the crane. I had also made arrangements for an additional truck to be here at eight o'clock in the morning (along with the crane man and his crane with a 110-foot boom), to haul away the old slab when we got it out of the ground. We had a heck of a time pulling the old concrete up, and as the crane was pulling it out, I asked the operator, "Are you going to make it?" He then asked the boss, "About how much pressure have we got on it?" The boss said, "We're pulling about five thousand pounds right now. Lets give it a little bit more." So we waited a little bit and then gave it a good tug and out it popped! He then pulled that 5,000 pounds of concrete right over the house. If my wife had been there she would have fainted!

They then put the old slab in the truck sitting right out front of my house. When the new U.S. Tower arrived shortly thereafter, I had the crane unload it right off the truck and lift it over the house into the backyard, so we could set it on the bolts in the new slab. That was how we started.

Another man and I cranked the tower over to install the antenna. It was so heavy we almost broke our backs. After we finished, I thought that if I could just electrify the winches, it certainly would be a help in the future. So that's what I did.

I found out that Grainger Company in Chicago was making two new geared motors (very low speed) which they hadn't made before. One was fiv rpm and the other was twelve rpm, and I bought one of each. The tower has three twenty-foot sections that telescope down into one twenty-foot piece. That piece bends at the base over to the ground. It all weighs around 600 pounds. One winch is used to tilt the tower over to the ground and back up again, and the other to raise the tower



Detail of the base of MA4Ø base and rotor. *— photos by W6EBX*

to its full sixty-foot height. I use the 5 rpm slow speed winch to tilt the tower, and the 12 rpm faster speed winch to raise the top two sections of the tower. Since you're only raising the two top sections with the faster winch, and they only weigh about 400 pounds, it all works out pretty well.

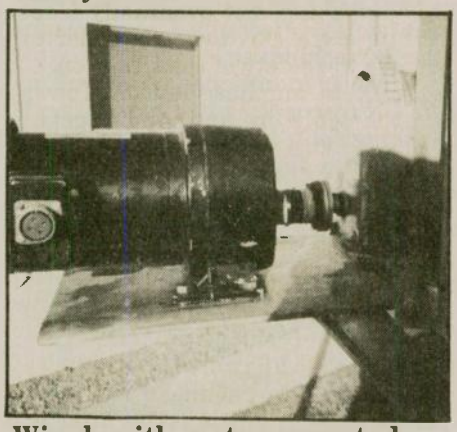
I anticipated a potential problem that would occur when you put a gear motor on a winch: there's a lot of torque — in this case, about a thousand pounds of torque per gear motor. These gear motors are only quarter-horsepower motors, but when you start the gear-motor it all starts with a big jerk, and there's nothing to stop it — it's going to go right on pulling up the cable if something should break or give. So if you have a small winch you better be sure that you've got a nice strong fitting on it in order to raise it up safely.

I also made an adapter to go from the gear motor's ¾ inch shaft to the ½ inch shaft on the winch. I bought extra parts that I modified, and then put them back on the winch. It's really very simple. There are several plates inside the winch. They are about 2" to 2½" plates and I was able to take these and have them modified to make a wonderful coupling, connecting the winch and gear motor.

Now, just to throw in a little criticism, the end of the shaft (that the crank is not on) sticks through the case of the winch about a quarter inch. What I did there was drill a hole in the end of the shaft through its center, to a depth of one inch. Then I took a bolt about 2 inches long with a slightly smaller diameter and pushed it in the end of the shaft until it bottomed out. Then I drilled a small hole through both the shaft and bolt and secured them together with a pin and a light weld. Now I had about an inch worth of threaded shaft sticking off the opposite end of the winch on which I could connect another hand crank with a bolt, to use when and if the power ever goes out on my motor-driven winch.

In addition, this allowed me to add an extra crank-handle to create a double hand crank; because before you put the motor on your winch there is a place for an extra crank. Get a second crank, slip it over and put a nut back on both sides of the winch to secure the handles, and while you turn one side, your friend cranks the other side. If you have two people cranking that winch, it makes it a heck of a lot easier for a couple of old men, that's for sure!

I found out that there is a clamp on the bottom that holds the mast's rotor. Your rotor is on the bottom and the whole mast can turn around and around. Well, there's a base or shelf sticking out off of the clamp that the rotor sits on. I saw that clamp and realized that by taking it and turning it around on the pipe tower, I can take that same clamp and use it as a support, because it would fit right underneath my winch where the gear motor needed to go. I ordered another clamp just like that one, so I'd have it to work with for my second gear motor. I looked up above and saw that there is a clamp up higher on the mast that holds a pulley, which lowers the tower to the ground. I thought that I might as well get another clamp, weld a plate for a base onto it just like the lower one and set my gear motor on that so it is even with the winch. I could then use that one to support the gear motor up there. That is what I did and it works well. All you have to do is get two extra brackets, have base plates welded to them, mount your gear motors on them and there you are.



Winch with motor mounted.

To weather-proof the winches and gear motors, I went to a sheet metal shop and bought a half sheet of 26 gauge sheet metal. I brought it home and laid out two pieces. I made two half dome boxes long enough to cover up the gear motors and the coupling. They were about eight inches high, nine inches wide, and about sixteen inches long. Then I gave them a good coat of paint — Rust-Oleum. It was galvanized steel, but I didn't care — I still painted it. Then I took two 7 inch stainless steel hose clamps and hooked them together to make one 14 inch clamp. Then I clamped this around the gear motor, sheet metal cover I had made for it, tightened it all up around the base plate, and it was weather-proofed. I then used some plastic adhesive cement and filled the cracks in around the edges. I did the same thing for the one on top. Plastic pipe was run from the gear motor over to the mast, down the mast to about the four or five foot level and ran my electric wiring through it and put an outlet box there. I got some surplus plugs and receptacles and put one on there for a remote control to operate my equipment. Now all I do to operate it is take my remote control, plug it in, tie my extension cord on the remote for power, and operate it. It either goes up or down; there's nothing to it. That makes it very easy and a nice way to operate everything.

It is important that when you get a switch for your remote control operation, be sure to get a decent quality switch. I use a plastic reversible switch. Some are all metal and some are plastic. Plastic is better if you think you might get it damp or leave it outside, because it won't rust. I decided later on that I was going to make mine detachable and keep it in a drawer in the garage, so mine won't rust! By the way, this switch is made by Bremes. It is a water-tight, corrosion resistant motor

reversing switch. Dayton also makes such a switch but with an all-metal enclosure. It does the same job, has a center control, is real nice and very good looking, too.

After reading this article, I imagine that some of my fellow hams will want to motorize their own towers. They will need to buy extra clamps, and either one or two gear motors so that they can do what I have done. The clamps are not available from the manufacturer, so you will have to make them or have them made. You can make two clamps, complete, for around $20 at any welding shop.

I've spent my entire life in construction, and so it's easy for me to sit down and look up at the tower and visualize things that can be improved and what's wrong with them and so forth. I hope that the information included here will help you do the same.

Motorizing your tower requires a little time and energy, not to mention a little money, but the result certainly is convenient. I can push my remote switch and my tower will telescope down inside itself. I turn the switch the other way and that tower will tilt over and go all the way down to the ground so I can work on the beam. There are no problems. I feel that this tower made by U.S. Tower is one of the best towers I've ever owned or that I've ever seen, as far as ham radio is concerned. I wouldn't hesitate to recommend a cylindrical tower to anybody because it is fantastic. It is very well made. It's fully galvanized. As far as the tower goes, it's one of the tops in the business today.

But I must add, mine is going to work a lot better than anybody else's because it has two motorized winches attached to it which let you do away with the difficult-to-use hand cranks. Also, the tower is equipped with Fulton safety winches, which I feel are the best. With those two winches, you can do anything you want to do to that tower with ease, and that's something you don't have on any other tubular towers.

If you have any questions regarding setting up a motorized tower like mine, please write your questions down and send them along with a #10 SASE to: Thurman D. Beach, W6OOX, 6973 Amherst St., San Diego, CA 92115; 619/469-6721. **WR**

Eight tips for good pileup technique

These are not original ideas and have been printed in many radio and other publications over the years. They are worth printing and remembering in a pileup or contest situation.

1. Be on at the right times. Use propagation software or magazine charts to tell you when signals to your area will peak.

2. Use your full call unless requested otherwise. "Last two letters" can frequently slow down a well run DXpedition or contest operator. Follow the other operators lead, if he is using the last two letter technique, by all means use the technique.

3. Never intentionally transmit on the DX frequency when the station is working split. NEVER!

4. If you find yourself getting annoyed by the antics on the frequency, take a break away from the rig and cool off.

5. When the DX is going by call areas, portables should call with the call area in which they are resident. Do not fabricate a portable callsign.

6. When the DX goes back to a partial or complete call, standby. Don't rush in and confuse things.

7. There are operators who can handle frequency pileups. Most cannot, bear with them and make the best of things.

8. Above all else listen! Listen! LISTEN!

A general rule on CW is to call at least one kHz away from the DX frequency. The DX will tell you where he is listening by sending up or down so many kcs. If all else fails, listen for the station the DX is working and zero beat his frequency. Make your next call on that frequency. Listen for technique; some stations tune their receiver up 1 kHz after every QSO etc.

Remember working DX and pileups is 95% receiving and 5% transmitting. Your success rate will increase if you know the DXs operating technique. For instance, I know ZL1AMO will usually listen 1 kHz down when the pileup gets large. I tune my transmitter accordingly and get a jump on others trying to break through.

— Watts News, Ogden ARC

The buddy system

CHET RICE, WA6PAC

How often have you heard someone berating the old adage that only a few old timers do all the work in the club? It is a common theme. What is often repeated is that we need young innovative blood to replace the wise old owls who always seem to hang around too long.

I remember quite a few years ago, Jan Harvey, WA6MGK, asked me if I wanted to go along with him to Cardiac Arrest Hill to help him monitor the Dipsea Race. I went along as an assistant and discovered all the tricks for finding that spot from the Pantoll Ranger Station — even where to get water if necessary. The next year, Jan was busy and someone in the club asked for a volunteer. I said yes, I could do it. This is because I knew what was involved and where to set up, from my previous year's experience. I probably asked someone else to go along to help. This is a perfect example of what I call the buddy system.

It is a natural outgrowth from the Elmer who helped you get your first ham ticket. By sharing your assignments with another ham, you widen the group of qualified volunteers who can work for the club.

To ask another ham to go along may not seem necessary at the time, but it is essential for the long haul. Let everyone adopt the buddy system and ask someone else to help as S.O.P. for all club activities. *— Marin ARC*

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Special Events

Centennial Anniversary

The Livermore Amateur Radio Klub will operate N6FQQ from 4 July 1700 UTC to 5 July 0100 UTC to commemorate the centennial anniversary of the City of Pleasanton. The station will operate from the Alameda County Fairgrounds on CW 7.125, phone 14.250 and 28.485. For QSL, send QSL and SASE to Eliot Ross, WA6PYH/AG, 7005 Corinth Ct., Dublin, CA 94568.

St. Louis Gateway to the Gold

The Monsanto Amateur Radio Association will operate WBØBBN on 9-10 July from 1300 to 0300 UTC to commemorate the St. Louis Gateway to the Gold 1994 Olympic festival closing. Operation will be in the General portion of 40, 20 and 15 Meters and the Novice portion of 10 Meters and on 147.36(+), 224.98(-) and 443.55(+). For a special QSL please send 9x12 SASE to Monsanto ARA, P.O. Box 1596, Maryland Heights, MO 63043.

Firecracker fly-in

The Lainerland ARC of Georgia will operate W4IKR on 4 July to celebrate the 27th Air Show at the Lee Gilmer Memorial Airport in Gainsville, GA. Frequencies will be on the lower end of the 10, 15, 20 and 40 Meter bands. For a certificate, send QSL and a 9x10 SASE to the Lainerland ARC, P.O. Box 2182, Gainesville, GA 30503.

Pro Football Hall of Fame

The Canton ARC will operate a special event station, W8AL, to celebrate the Pro Football Hall of Fame 25-31 July from 1400 to 0200 UTC. Operation will be on the following frequencies: SSB — 28.350, 24.950, 21.350, 18.150, 14.270, 7.270 and 3.870 MHz; CW — 28.125, 24.910, 21.125, 18.080, 14.050, 10.120, 7.125 and 3.700 (+/-) QRM. There will also be RTTY, packet, AMTOR, satellite, 2 Meter and 6 Meter FM/SSB. SWLs are welcome. For an unfolded certificate, send your QSL with contact number and a 9x12 SASE, with two units of first-class postage. For a QSL or a folded certificate, send your QSL with contact number and a #10 (business size) SASE to Randy Phelps, KD8JN, 1226 Delverne Ave. SW, Canton, OH 44710-1306.

Cape Cod Airport

The Barnstable ARC will operate K1PBO on 9 July from 1300Z-2200Z to celebrate the 50th anniversary of WWII flight training at the Cape Cod Airport and the formal declaration of the Cape Cod Airport as a national historic site. Operation will be on SSB: 21.330, 14.300 and 7.247. QSL via CBA KQ3S.

Yacht race

The Eastern Michigan ARC will operate K8EPV from 1400Z 16 July to 0200Z 17 July and 1400Z 17 July to 0200Z 18 July to commemorate the 69th running of the Port Huron to Mackinac Island Yacht Race. Frequencies being used will be the following: CW — 3.710, 7.110, 21.110; SSB — 3.910, 7.272, 14.272, 21.312, 28.393. For a certificate, send QSL and 9x12 SASE to K8EPV, 1640 Henry St., Port Huron, MI 48060.

Apollo 11 25th Anniversary

The various NASA Centers' Amateur Radio Clubs will operate special event stations from their respective locations around the country to celebrate the 25th anniversary of man's first steps on the moon. Operations begin 19 June 1700Z (time Apollo 11 began orbiting the moon) and end 22 July 0500 (time Apollo 11 left lunar obit to return to earth). The stations can be found 11+ kHz up from the bottom of the General Class bands (28.411+ MHz on 10 M) on all modes. Send a 9x12 SASE (52 cent stamp or IRC) for a certificate to the station worked (*Callbook*™ address).

Hot Air Balloon Festival

The Oswego County Amateur Radio Emergency Service, OCARES, will operate KY2F 9-10 July from 1200-2100Z each day from the Spirit of Central New York Hot Air Balloon Festival and Air Show at the Oswego County Airport. Operation will be in the middle of the General, 80, 40, 20, 15 and 10 Meter phone bands; the Novice portion of 10 Meters and 147.15(+) MHz. For certificate, send your QSL card and a large SASE to Fred Swiatlowski, KY2F, P.O. Box 5227, Oswego, NY 13126.

Mahlon Loomis, wireless pioneer

The Fulton County Mahlon Loomis Committee will operate W2ZZJ on 23-24 July from 1300-2000Z to celebrate the 168th anniversary of the birth of Dr. Mahlon Loomis at Oppenheim, New York. Operation will be on the General phone portion of 40, 20 and 15 Meters; and on the Novice 10 Meter phone band. For a certificate and literature on Dr. Loomis send QSL, contact number and a #10 (only) SASE to W2ZZJ, 5738 STHWY 29A, Stratford, NY 13470.

Fly-In

The Fox Cities Amateur Radio Club will operate W9ZL from the Experimental Aircraft Association Fly-In and Convention in Oshkosh, WI on 29-31 July. They will be operating from Pioneer Airport adjacent to the EAA Aviation Museum. Operations will be on the General phone portions of the HF bands, as well as RTTY and CW as conditions and operators permit. The club also will be giving "on grounds" convention information (no QSLs please) on 146.520 simplex. The W9ZL Fly-In station will handle messages into and out of the EAA Convention through the Wisconsin Sideband Net (3985) daily. Proper QSL and SASE only to Wayne Pennings, WD9FLJ, 913 N. Mason, Appleton, WI 54914 for special 8x10 picture certificate. WR

If you would like to have your special event published, send it to ***Worldradio****, 2120 28th St., Sacramento, CA 95818. Remember, we need material two months prior to the issue date.*

Silent Keys

David Fraser, KH6BIH

I want to report that my good friend, David Fraser, KH6BIH, of Captain Cook, Hawaii, became a silent key on 28 March, 1994. Dave will be genuinely missed by his many ham friends who have kept daily/weekly skeds with him over the years.

Rheumatoid arthritis had claimed almost all of Dave's body and he was blind and deaf in his final years

Dave was able to copy incoming signals by placing his hand on an external speaker and feeling the vibrations with just his fingertips. Dave held an Advanced Class license and could copy up to 30 WPM in his head. A close ham friend on the Big Island assisted Dave in being able to receive news of the world via a computer converted to CW, a tool Dave looked forward to using each week. Dave had a sharp mind and a terrific sense of humor. He was 58.

— information submitted by Kyle Thompson, W6BNJ

L. F. Heithecker, W5EJ

Ted Heithecker, W5EJ, was born on 7 April, 1914, in McPherson, Kansas. His childhood was spent on a wheat farm in central Kansas. Primary schooling took place in a one room country school, one teacher for seven grades. In 1925 he obtained the job of "printers devil" working in the shop of a small town weekly newspaper office. He learned to sweep, set and distribute type, and to appreciate the effort of publishing a newspaper.

In 1927, he moved back to McPherson and got a job after school sweeping and cleaning an electrical repair shop. His spare time was spent learning to service radios.

In 1928 he began working as an electrician's apprentice, wiring houses in a large oil-field development. He learned Morse code and obtained an amateur license in November, 1929, and received the callsign, W9BEB. He learned to service and maintain early-day electrical refrigerators. He left high school in May, 1931 and started driving a truck for Swift & Company purchasing livestock from farmers.

In 1931 he began cutting quartz and manufacturing frequency control crystals. In 1933 he passed the examination for the Commercial license and went to work installing a new 100 watt radio station being built by Herb Hollister, W9DRD. He was hired because he could copy code and the station news came from Transradio Press at 35 wpm schedules.

In 1934 he met and married A.C. Richards. They had two boys, born in 1937 and 1943. His sons graduated from Rice University with Masters degrees in computer science.

Heithecker took an ICS course in electrical engineering to get basic math needed to design and install directional antenna systems for broadcast stations. He began that work in 1939 in Tulsa, Oklahoma.

With the beginning of WWII, Mr. Heithecker became associated with Herbert Hollister in a crystal plant in Boulder, Colorado producing frequency control units for the war effort. They manufactured several hundreds of thousands of those units. W5EJ designed special equipment, permitting accurate orientation of quartz crystal blanks having high frequency stability.

He was also associated with the University of Colorado as a special instructor to equip non-technical citizens to take war plant jobs in electronics. With the end of the war, Mr. Heithecker returned to broadcast engineering and antenna design. He also maintained a frequency measuring service for broadcast stations.

In 1952 he became manager of a quartz crystal plant in Wichita, Kansas fabricating frequency control units for the Signal Corps in connection with the Korean War. In 1955, he became an associate engineer with the firm of A. Earl Cullum, Jr., & Associates, of Dallas. He then spent the next 31 years as a design and field engineer for dozens of broadcast directional antenna systems, two to twelve tower arrays, coast to coast, and in Puerto Rico and Mexico. He was involved in extensive field work and analysis carried out in an effort to provide a basis for predicting VHF signal propagation.

In 1976 he was asked to take on the management of QCWA. This work was done simultaneously with regular engineering duties for the next nine years, until the engineering firm was dissolved by the death of the owners.

In 1992, Ted Heithecker wrote the following biographical remarks.

"Through QCWA and engineering work travels I was able to make friends and establish hundreds of close personal relationships that enlarged my life and which could have come no other way.

"My formal engineering work ended in 1986. At that time, most of my efforts were spent on QCWA and general Amateur Radio matters. A Life member of ARRL, I have served as SCM for the North Texas Section of the ARRL, and have headed a group who sponsored an annual ham convention in Southeast Oklahoma for 10 years. I was President of OOTC for 6 years and presently Executive Secretary of that organization.

"My greatest interest is in statistical analyses and encouraging young people to enter into Amateur Radio activities. By personal observation I know that it does expose them to the beauty and order of the scientific and engineering world. It does encourage them to take advantage of educational opportunity that can equip them to take part in challenging, and important, careers. Without the opportunities that came to me through the Amateur Radio doorway many years ago, I would very likely still be planting and harvesting wheat. Certainly that is a necessary and worthwhile occupation, but without the excitement and breath-taking thrills given me as a result of a lifetime in the electronics and communications field."

Ted suffered a stroke on 3 December, 1993, and passed away 25 December. W5EJ will be sadly missed.

— information provided by Ralph Cabanillas, W6IL. WR

Joseph W. Newman, KG6DG

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, W8JBU.

I have been a ham and an ARRL member since 1968. I am also a member of AFMARS/AFA6QO. My previous call was WB6YRC.

I formerly used a 1974 VW "Thing" for mobile communications. I used it for our local Labor Day weekend "Pinedorado" parade and festivals, and ARES emergency exercises.

The interesting part of using a Volkswagen "Thing" in Amateur Radio is its versatility. The vehicle can be modified at any time to accommodate any type of installation. If drilling a new hole in the body of the vehicle becomes necessary, it is of little consequence.

The base station

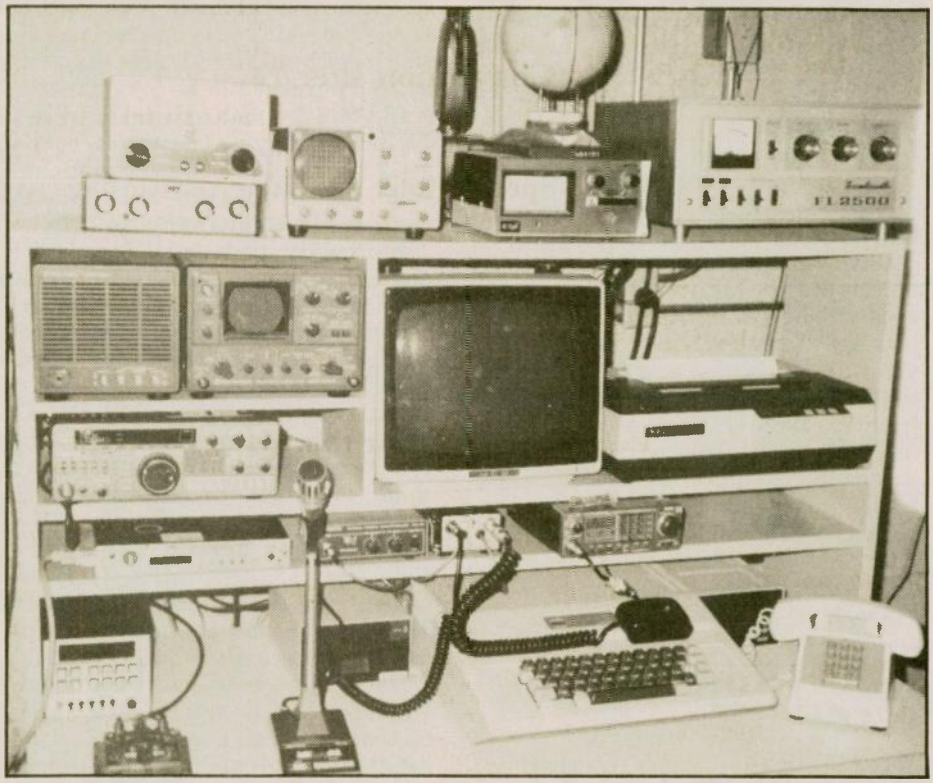
The operating position is homemade with a Formica table top. Underneath is a shelf supporting an Astron 28A power supply and bulk paper for the computer printer.

The antennas (not shown) are a KLM KT-34A triband beam a Butternut HF6V plus 17 & 12M, and a Cushcraft Ringo Ranger 2M vertical.

All the antennas are at rooftop about 35 feet above ground.

Shelf #2 contains a Kenwood TS-430S all band transceiver and above it a Kenwood SP-820 dual speaker and SM-220 station monitor, a JCS Monochrome computer monitor and a NEC PC-8023A-C parallel printer.

The top shelf holds a Heathkit SWR bridge, a MFJ Versa Tuner II model MFJ-941C, a Heathkit model HO-10 monitor scope, a CDE Ham II antenna control, one Globe-beam director and a Yaesu FL 2500 linear amplifier.



On the operating table is the following equipment:

WB4VVF Accu-memory II keyer with a 24 hour digital clock; a homebrew keyer (solid brass on a lead base), (paddle); an Apple II+ computer with dual disk drives; a Western Electric touch-tone telephone, and a Kenwood MC-60A microphone with a homebrew mic stand extension.

Shelf #1 contains a MFJ-1278 multimode data controller, a Kenwood PC-1A phone patch, a (homebrew) HF/VHF packet interface box including HF/VHF microphone inputs and a Kenwood TR-7958 2M FM transceiver.

The mobile station

The mobile station, KG6DG-1, was used mostly on weekends or for emergencies as required. The radios were operated from an auxiliary 12V DC deep cycle battery located in the front trunk, which incidentally, was isolated from the main auto electrical system with a relay when the engine is not running.

The HF antenna system consisted of a Hustler mast with interchangeable resonators on the left side of the front bumper. The VHF antenna was a 2M Hustler 5/8 whip installed in the right front fender.

The mobile station operated independently of my base station except for the TS-4385 transceiver which was readily transferable.

A four plug panel below the dashboard provided easy access to 12V DC to all the equipment with exception of the HF transceiver. It was wired directly to the battery. **WR**

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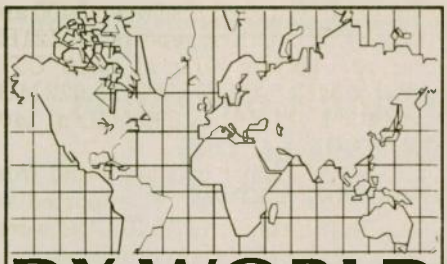


DX WORLD

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

W-100-N

The following DXer completed the requirements for ***Worldradio***'s Worked 100 Nations Award.

473. WA7GQC Kenneth C. Carpenter (all CW) 31 Mar 94

Northern Cyprus (1B)

We commented on the Turkish Republic of Northern Cyprus in our May issue. Igor Zdorov, KUØJ, responded to our remarks, and says, "As much as I do appreciate humor, I think the readers are entitled to know what is really going on first." Igor sent two pages of information supporting the existence of this country and the justification as why it should be a DXCC country. We will summarize his comments.

The Turkish Republic of Northern Cyprus (TRNC) celebrated its tenth anniversary in 1993. In 1992 after authorizing Amateur Radio, the Telecommunication Administration issued the first license to 1B1NCC, the Northern Cyprus Club.

Igor, upon learning that Cliff Watson, KR4M, had tabled his petition for establishing TRNC as a DXCC country, filed his own petition, which was received by the DXAC on 22 February 1994 as indicated by return receipt.

After declaring its independence, the Turkish Republic of Northern Cyprus was without ITU assigned prefixes, since the Republic of Cyprus (southern Cyprus) retained full control of their usage. The Telecommunications Administration, to avoid any problems, adopted the 1B prefix as it was not assigned to any other country.

The low level of diplomatic recognition is the result of failure of the United Nations' attempts to resolve the Cyprus problem and should not be held against the Turkish Republic of Northern Cyprus. Despite the official diplomatic recognition by Turkey only, acting as a responsible member of the international community, the TRNC supports representations in ten countries, which includes the United States, where it has two consulates.

Continued negotiations conducted through the United Nations have not brought any progress since 1975, and nothing is expected in the future. Negotiations are basically deadlocked as the United Nations recognizes that the TRNC exists, but also recognizes the Republic of Cyprus government as the sole government of the island.

During the DX Forum at the International DX Convention in Visalia this past April the mention of the petition for DXCC status was that it had been withdrawn and they were awaiting for a new petition. As the only country to recognize this one the petition will probably do down in defeat. Nothing was said about Igor's petition which he claimed was received by the DXAC in February.

Peter I Island (3YØPI)

For those who have been to a recent DX gathering most likely have seen the excellent presentation the team has given. No doubt you will appreciate what the DXpedition members went through to give you a brand new one, and in some cases, your final DXCC country needed. At Visalia we purchased one of those black coffee mugs, that proceeds from which support of the enormous financial strain of the operation. The coffee mugs are only $20 and will fit well into your DX collection. If you would like to purchase one, please contact Robert W. Schmieder, KK6EK, 4295 Walnut Blvd., Walnut Creek, CA 94596; 510/934-3735.

The first DXpedition to Peter I Island was by 3Y1EE and 3Y2GV back in 1987, with the present 3YØPI DXpedition some seven years later. With the effort of this trip we seriously doubt that a third DXpedition will go within the next seven years. If you didn't work them you probably will have to wait a long time for another Peter I Island DXpedition. There has been no final figure yet. We have seen one at $140,000 and another that the cost per contact was running about three to four dollars. Those of you who requested cards, and some without even an SASE, think about it!

In April Joan Branson, KA6V, was hospitalized with cancer. As most DXers are aware she was the other half of the QSL manager team of the 3YØPI DXpedition. At the Southwest Ohio DX Association DX Dinner, Tony DePrato, WA4JQS, announced that Joanie had become a Silent Key. She died in her sleep Thursday, 28 April, at 4:04 in the morning. One of the last concerns was for Jerry to please tell Tony to announce to the DXers that the cards would be out on time.

It was five weeks from the time it was discovered that Joanie had cancer until her death. Our thoughts and prayers are with Jerry, AA6BB.

Senegal (6W)

Jean-Louis Pipien, 6W6JX, has been very active on 30 Meters from Senegal. Look for him between 10.108 and 10.121 MHz from 2100 to 0600 UTC. Check 18.070 MHz after 0015 for a CW contact on 17 Meters. Other spots 6W6JX has been found includes 1.837 MHz at 0245 UTC, 3.501 MHz at 0130 UTC, 21.305 MHz at 1715 UTC and 28.470 MHz at 1430 UTC. From the last two reports it is obvious that Jean-Louis wanders away from CW once in a while.

Two other calls were reported recently, 6W1HM, on 21.304 MHz at 1930 UTC and 6W7OG, on 21.254 MHz at 1900 UTC.

Guyana (8R)

The Guyana Amateur Radio Association has become active once again with the dynamic leadership of Cleo Quashie, 8R1CJ, according to David Larsen, KK4WW, the Foundation for Amateur International Radio Service (FAIRS) Director. David and Gaynell, KD4GMV, Larsen were visiting the GARA club meeting in January when the new constitution was approved. Currently, there are about six active amateurs in the country.

The GARA is applying for reinstatement of their membership in the IARU as they had been inactive for many years. FAIRS is providing training, equipment and other technical assistance to the group. Larry Vogt, N4VA, was there recently operating as 8R1/N4VA, and to the delight of the IOTA types, operated as 8R/N4VA from Laguan Island (SA-068).

Taiwan (BV)

There was once a time when in order to work Taiwan you had to work Tim Chen, BV2A, of Taipei. That was it. Other than special occasions such as the BVØW operation in 1984 by the

South Florida DX Association, which claimed to be the first American DXpedition to Taipei, there wasn't anyone else to work. You worked BV2A, or Tim's second call, BV2B. Not any more.

Here is a selection of what has been reported during in March and April:

BV2A	7.006 MHz	1400 UTC
BV2AF	7.060 MHz	0415 UTC
BV2B	21.288 MHz	2345 UTC
BV2BI	7.003 MHz	1300 UTC
BV2FR	21.360 MHz	0000 UTC
BV2OL	7.006 MHz	1345 UTC
BV2TA	7.003 MHz	1645 UTC
BV6ES	7.011 MHz	1330 UTC
BV6FG	14.188 MHz	1330 UTC
BV7FC	7.004 MHz	1430 UTC
BV7GA	14.282 MHz	1800 UTC
BV7GC	7.009 MHz	1800 UTC

If you worked BV9P, that was the Pratas Island DXpedition. From the reports we have seen they all appeared to be Europeans, and Japanese.

Notice that Tim, BV2A/BV2B, still operates.

Cuba (CO)

If you need some DX right in your back yard take a look at the selection of Cuban calls that have been reported:

CL6TO	1.836 MHz	1045 UTC
CM2CK	7.008 MHz	2300 UTC
CM2DD	3.789 MHz	0930 UTC
CM3ET	7.004 MHz	0300 UTC
CM3II	7.024 MHz	0345 UTC
CM3JY	3.790 MHz	0100 UTC
CM6DE	7.014 MHz	0330 UTC
CM6RJ	3.790 MHz	0300 UTC
CM8TT	7.026 MHz	1130 UTC
CO1FL	7.004 MHz	0400 UTC
CO1HA	10.106 MHz	1230 UTC
CO1HJ	18.079 MHz	2330 UTC
CO1RG	21.301 MHz	2130 UTC
CO2HA	10.105 MHz	0230 UTC
CO2MA	7.002 MHz	0730 UTC
CO2VG	3.513 MHz	0330 UTC
CO2VS	14.015 MHz	1715 UTC
CO4QH	14.267 MHz	2200 UTC
CO6CG	3.515 MHz	1000 UTC
CO7EH	7.011 MHz	2330 UTC
CO7RM	1.828 MHz	0130 UTC
CO8OH	14.004 MHz	2200 UTC

Ceuta & Melilla (EA9)

Seventy-five Meters is a good band to find stations from Ceuta and Melilla. Listen between 3.788 and 3.799 MHz after 0300 for such calls as EA9IE, EA9KQ, EA9LQ and EA9LZ. Now, if you are a well-rounded DXer, check 80 Meters for EA9AI, who was reported on 3.505 MHz at 0130 UTC, EA9CN on 3.507 MHz at 0300 UTC and EA9UG on 3.510 MHz at 2315 UTC.

The summer static crashes will probably drive you to 40 Meters. EA9UG seems to hang out there. He has been found between 7.001 and 7.008 MHz after 2300 UTC.

On 30 Meters we found the following calls reported:

EA9AI	10.107 MHz	0330 UTC
EA9TY	10.101 MHz	1930 UTC
EA9UG	10.101 MHz	2100 UTC
EA9UK	10.103 MHz	2100 UTC

Seventeen Meters was represented only by EA9PB on 18.152 MHz at 1700 UTC.

Hong Kong (VR2)

Activity this month included that of both the old and newer calls such as the following:

VR2GC	14.019 MHz	1300 UTC
VR2GO	14.195 MHz	1330 UTC
VR2IH	14.005 MHz	1500 UTC
VS6BG	18.069 MHz	0030 UTC
VS6WO	14.156 MHz	1530 UTC

It really wasn't that long ago that the VR2 prefix was assigned to Amateur Radio stations in the Fiji Islands.

Chagos (VQ9)

Very active from Chagos is VQ9SS, where much of his activity has been at the low end of 40 Meters. Check near 7.004 MHz between 1200 and 1400 UTC.

Twenty Meters produced the following reports:

VQ9FM	14.247 MHz	2100 UTC
VQ9KC	14.078 MHz	0200 UTC
VQ9LV	14.005 MHz	1945 UTC
VQ9SS	14.069 MHz	1830 UTC

Then for 15 Meters we have the following:

VQ9LV	21.045 MHz	1530 UTC
VQ9WL	21.136 MHz	1545 UTC

American stations might want to be careful with that last one as you may be contacted by the FCC.

The only other call we found was that of VQ9QM on 1.826 MHz at 2330 UTC on March 19th as reported in *The Low Band Monitor*.

Macao (XX9)

XX9AS has been reported often from Macao. Look for this one between 14.190 and 14.226 MHz after 1200 UTC. Also on 20 Meters was XX9AW, who was reported on 14.192 MHz at 1200 UTC working into Europe.

A third station, XX9GD, was reported on 3.800 MHz at 1015 UTC working into the southern region of the United States on April 10 and on 7.055 MHz at 1215 UTC working the west coast on the 3rd of April.

XX9TZ was the Taipa Island IOTA DXpedition. There were several reports of contacts made with Europeans, but none with North America.

Zimbabwe (Z2)

If you need Zimbabwe try Z21HS on 40 Meters. This station hangs out on 7.004 MHz, usually between 0400 and 0500 UTC. Other reports of Z21HS include 10.102 MHz at 0515 UTC, 18.070 MHz at 1530 UTC, 21.022 MHz at 1400 UTC and 24.899 MHz at 1400 UTC.

The only other call we found from Zimbabwe was Z21JE, reported on 14.226 MHz around 1930 UTC working into the Maritime provinces.

Macedonia (Z3)

Checking through the DX newsletters we have come up a few calls from Macedonia that may be of interest:

Z31ET	7.001 MHz	0045 UTC
Z31GB	18.143 MHz	1300 UTC
Z31GX	7.003 MHz	0430 UTC
Z31PK	3.797 MHz	0345 UTC
Z31VJ	14.012 MHz	2030 UTC
Z31VP	14.195 MHz	1530 UTC
Z32JA	7.005 MHz	2230 UTC
Z32ZM	14.169 MHz	2000 UTC

IOTA

Here is a sampling of the IOTA activity that has been on the bands in March:

AS-042	Severnaya Zemlya	RW3TT/0
	14.196 MHz	0800 UTC
AS-075	Taipa Island	XX9TZ
	14.025 MHz	1200 UTC
AS-102	Kinmen Island	BOØK
	10.101 MHz	1100 UTC

AS-110	Pratas Island	BV9P
	14.195 MHz	1800 UTC
NA-057	Bahia State group	HR1RMG/HR6
	3.798 MHz	0645 UTC
NA-191	Guanacasta Prov	DK6AO/TI7
	21.257 MHz	1800 UTC
NA-192	Hendrickson Island	VE8YEV
	14.260 MHz	0400 UTC
OC-194	Solitary Island	VK4CRR/2
	21.260 MHz	0130 UTC
SA-035	Los Roques Island	YV5IVB/P
	14.259 MHz	1945 UTC
SA-037	La Blanquilla Island	4M5I
	14.260 MHz	1100 UTC
SA-068	Laguan Island	8R/N4VA
	14.040 MHz	2015 UTC

Also reported was GM4SXU/P from Rockall (EU-164) reported to be the first ever Amateur Radio operation. During the 4.5 hours of operation on 30 March, some 243 contacts were made according to the *DX News Sheet*. The XX9TZ DXpedition to Taipa Island evidently was workable only into Europe as the only reports we have seen were that in the *DX News Sheet* published by the RSGB.

IOTA Honour Roll

Since this is a British thing we shall spell it as honour. As of April here are the North American standings in the IOTA Honour Roll.

VE3XN	750	W5BOS	548
W9DWQ	740	K5MK	540
VE7IG	738	KE4I	538
W9DC	738	KA5W	533
W4BAA	738	WØMLY	523
K9PPY	716	N3CWP	515
K2VV	664	VE6PW	512
KD7SO	658	N7BZI	506
KC8PG	636	KB8O	461
W9NZM	626	VE7IU	459
K2EYJ	607	K5FNR	442
WD8MGQ	603	KA5TQF	437
K8DYZ	601	W2FXA	431
VE6VK	594	N6JM	428
WT2O	592	WF1N	420
WB9EEE	587	K3FN	412
K6DT	578	N6PYN	410
W3KH	569	AA9DX	405
W1ENE	566	KM4RX	404
N6BOI	554	K8LJG	403

On top of the IOTA Honour Roll is F9RM with 775 islands of the world worked, followed by I1ZL with 770. That sure is a lot of islands!

Northwest DX Convention

The British Columbia DX Club announces the Annual Northwest DX Convention, to be held at the Richmond Inn, 22 to 24 July. Your DX editor plans to be there and hasn't missed any of the conventions there since 1982. The cost is $45.00 for the full cost of the convention, including the banquet and the Sunday morning breakfast. If you are from Canada it will cost you $50. In other words, its either $45 U.S. or $50 Canadian. Ken Thompson, VE7BXG, announced at the Visalia convention that the present exchange rate is that $1 U.S. is worth $1.40 Canadian, which is a good deal for those traveling north this summer.

The program has not been worked out yet, but we can be sure it will be a good one. Send your check payable to BC DX Club, P.O. Box 3048, Blaine, WA 98230. Canadian readers please send your checks to 16969 20th Avenue, South Surrey, BC V4B 5A8. Be sure to indicate if you prefer salmon or prime rib for the banquet.

For room reservations you should contact the Richmond Inn directly at 7551 Westminster Highway, Richmond, BC V6X 1A3. Telephone 604/273-7878. Reservations must be made by 22 June or the rooms will be released.

W9DXCC Convention

This year the W9DXCC convention will be held at the Rolling Meadows Holiday Inn, a northwestern suburb of Chicago, 9-11 September. In addition to the program, which has already been established, there will be tours of the Motorola Museum.

Some of the program includes: the 3YØPI Peter I Island DXpedition by Terry Dubson, W6MKB; IOTA by DeWitt Jones, W4BAA; DX Contesting by Mike Wetzel, W9RE, and others.

The full convention, which includes the banquet and prizes, costs $33.50 if paid by 15 August. After that date the cost is $38.00. Make your checks payable to W9DXCC and send to Gordon Bazsali, WB9EEE, 255 Hillcrest Avenue, Hampshire, IL 60140-9429. Please indicate your choice at the banquet, roast sirloin of beef, or chicken cordon bleu. You may obtain additional information by contacting the convention chairman, Bill McConnell, N9US, at 708/397-9593.

The hotel has quoted a rate of $65 per room. You should contact them directly at 3405 Algonquin Road, Rollling Meadows, IL 60008;708/259-5000.

DXAC matters

The ARRL DX Advisory Committee Chairman, Robert Beatty, W4VQ, has announced that the question of new country status for Pratus Island (BV9) is back on the DXAC agenda.

Dr. Bolon Lin, BV5AF, of the Chinese Taipei Amateur Radio League (CTARL) is now in contact with the DXAC. Dr. Lin is providing answers to committee questions. A vote on the question of DXCC country status for Pratas has not been scheduled at this time.

Recent items voted on by the DXAC were the recommendation of the deletion of Walvis Bay (ZS9) and Penguin Islands (ZSØ,1). The DXAC decided that these entities no longer meet the DXCC criteria following their turnover to Namibia by the Republic of South Africa. The recommendation was sent to the Awards Committee with a suggested effective date of 1 March 1994.

In another ballot the DXAC voted down a proposal to additional single band awards to the DXCC program. The committee also voted down a proposal to add a 10 Meter Honor Roll. The DXAC, however, expressed support for the mode-specific Honor Rolls that now exist, that include Mixed, Phone, CW and RTTY. For further information of the recent DXAC actions please see our coverage of the DX Forum at the last Visalia bash.

DXCC Desk

At the end of March the number of unprocessed applications for DXCC was 620 (61,937 QSL cards). The DXCC Desk received 1,127 applications (84,275 QSL cards) for endorsements and new awards during the month of March.

Applications and QSL cards received continue to run ahead of that of last year. For the first three months of this year applications were up by 18 percent and QSL cards with the applications were up by 48 percent.

Zone 40 Award

The Icelandic Radio Amateurs (IRA) offer an award for working the five DXCC countries within zone 40. These countries include Iceland (TF), Greenland (OX), Jan Mayen (JX), Svalbard (JW) and Franz Josef Land

(R1F). There are no band limitations or time restrictions and all contacts must be in the same mode, CW, SSB or RTTY. Single band endorsements are available upon request.

Europeans, in addition to working the five DXCC countries, must work two additional Icelandic stations. Icelandic stations must work 14 additional home country stations for a total of 19 contacts.

All contacts must be made with permanent stations, no visitors signing with calls such as TF/K6FO or OX/N6WR will count for this award.

To apply, prepare a list of confirmed contacts including all the contact information, which includes call, date, time, band, report and mode. Have your application certified by two licensed radio amateurs and submit with a fee of 15 IRCs to the IRA Awards Manager: Brynjólfur Jónsson, P.O. Box 121, IS-602 Akureyri, ICELAND.

Personally, we think the fee of 15 IRCs is rather high. It would be more realistic if a dollar value was given, which we assume would not be more than $10.00. But, if you have a source of inexpensive IRCs then that is another story.

Clubs

The Central Arizona DX Association announces their officers for the 1994 term: Ned Stearns, AA7A, President; Jack Reed, WA7LNW, Vice President; Bill Franklin, W7DOZ, Secretary, and Dina Capek, N7ZZC, Treasurer. Also elected as Board Members: Jim McDonald, N7US, and Mike Fulcher, KC7V. Frank Smith, AHØW/OH2LVG, Public Relations Director, reports that the Central Arizona DX Association has over 130 members, supports one DX repeater (147.320 MHz), and three DX packet-cluster nodes. Their meetings are held the first Thursday of each month at the Pera Club in Scottsdale.

Miscellaneous

Sometime ago we mentioned that Monk Apollo on Mount Athos would not work anyone until the League discredited a certain DXer's operation from Mount Athos. Bill Snyder, WØLHS, sends us information that this is not true as GWØANA told Bill that he had worked SV2ASP/A on 80 Meters on 27 February 1994 and received his QSL card on 2 April.

Bill King, KB6DSX, advises us that he will be operating from Russia and Poland during the period 21 May through 15 June of this year, using the calls UA3/KB6DSX and SO8DSX.

Regarding my comments as what sectors meant in the Worked Sectors Award (see our column in the May issue), Kenn Carpenter, WA7GQC, sets us straight. Sectors are the same as the fields on the World Grid system. Obviously, N6JM doesn't work VHF, or we would have known what the sectors AA-AR through RA-RR meant. Evidently, for this award working grid squares isn't restricted to VHF.

DX Prediction — July 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	*(16)*	*18	*16	*(12)*	*17
12	*(15)*	*14	*14	*(13)*	*(16)*
14	*(19)*	*17	*13	16	21
16	*(22)*	17	*(13)*	19	25
18	24	*(14)*	*(12)*	19	28
20	25	18	*(18)*	17	29
22	21	22	27	15	27
24	*(18)*	24	30	12	*24
2	*(16)*	*25	31	*(11)*	*20
4	*16	*26	30	*(15)*	*17
6	22	24	27	18	*15
8	19	*22	*20	16	*14

CENTRAL USA

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

EAST COAST

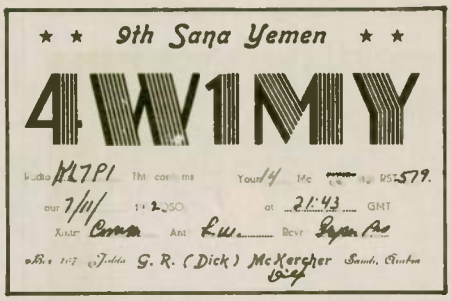
UTC	AFRI	ASIA	OCEA	EURO	SO AM
7	*(17)*	15	*19	*(12)*	*14
9	*(19)*	*(12)*	16	14	*15
11	24	*(15)*	14	17	18
13	27	18	*(13)*	*19	23
15	29	15	*(13)*	*20	*26
17	30	*(12)*	*(12)*	*20	*28
19	*27	*(14)*	*(17)*	*19	*30
21	22	*(17)*	26	17	*28
23	19	19	29	*16	*26
1	*17	20	30	*13	*21
3	*13	*(19)*	30	*13	*18
5	20	18	25	*15	*16

Antique QSL department

If you noticed something was strange regarding the Antique QSL Department on page 33 in the May issue, it was. We described a J8CD QSL card but there was no card. Then there was the 9K3TL/NZ card with no text. Well, here is the text that should have been included with that card:

Our third card comes from the collection of Joshua Logan, WX7K, who was formerly AA6IT and K2MMS. When Joshua worked 9K3TL/NZ back on 13 June 1961 he was QSO number 942 during the middle of the DXpedition to the Kuwait/Saudi Arabia Neutral Zone. Calls of the team included

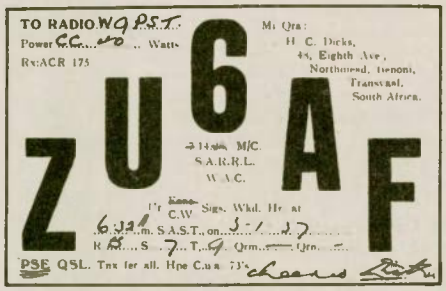
HB9TL, OD5CT, W1TYQ and G3OFI. The operator for this particular contact was given as Rundy, who was Lyman Rundlett, OD5CT, whose stateside call was W3ZA. Rundy has appeared in Antique QSLs previously under the calls XV5A (May 1987) and MP4QAQ (December 1987). Rundy was a long-time member of QCWA and became active in USA county hunting



as K4ZA. He became a Silent Key on 13 March, 1986. This DXCC country was added to the deleted DXCC Countries List for all contacts made after 14 December 1969.

We hope you haven't lost many nights sleep over this.

Here is another card of that famous DXer, Dick McKercher, WØMLY. Back in 1952 Dick was signing 4W1MY from Yemen. On that date Dick worked Joe Pacquette, KL7PI, who was with the FAA in Alaska. Joe later retired and moved to Bellingham, Washington. Joe was strictly a CW operator and is now a Silent Key. This card was submitted by John Munroe, W7KCN.



Our second card was submitted by Bob Truhlar, W9LNQ, which was from the estate of Roy Weisbach, W9UX. Back in 1937 Roy, then signing with W9PST, worked ZU6AF, operated by H.C. Dicks in Transvaal, South Africa. The contact took place on 20 Meters CW. Readers with good memories will remember that we used a ZU6AF card before. That was in our April 1982 column.

QSL information

Robert Capers, KA3NIL, is looking for a QSL route of the following calls: D2DXC, D3FSN, DS5DAS, J2AS, J52UAE, T31KY and T32IO. No dates were given as to when he worked them.

QSL routes

The following QSL routes come from many sources, including *QRZ DX, The DX Bulletin, DX News Sheet*, club bulletins, and our readers. At times errors happen. We would appreciate being informed if that happens. Routes given as "Bureau" suggests that the DX station prefers to receive his cards via the bureau rather than direct. Thanks.

Also note that some of the former Yugoslav republics have the route as a Yugoslav call, which would be listed in the *Callbook*. In that case, do not add Yugoslavia to the address. Use the new republic name. The same applies to former Soviet republics. Some of the routes list OKDXA, the Oklahoma DX Association at P.O. Box 88, Wellston, OK 74881.

QSL routes

1B/DJ6SI	--DJ6SI
3A/I1YRL	--I1YRL
3A/I1ZB	--I1YRL
3A/I1QOD	--I1YRL
3D2KR	--JH1GZV
3D2RW	--ZL1AMO
3G4B	--CE4ETZ
3ZØBEM	--SP9ZPC
3ZØMTP	--SP3SLA
3ZØZDA	--SP6ZDA
4K2BY	--DL6ZFG
4K4POL/A	--UAØKCL
4K7FA	--OE3SGU
4K9C	--UD6DC
4M5I	--I2CBM
4N70AT	--YU1SZ
4S7/ON4IPA	--ON4IPA
4U1ITU	--(See Note 1)
4U9ITU	--(See Note 2)
4X/OK1FGC	--OK1AJN
4X46ID	--4X6MU
5B0A	--9A2AJ
5NØASW	--W3HCW
5NØSKO	--W3HCW
5NØSVL	--WA4WTG
5N8NDP	--IK5JAN
5U7K	--7N1PFQ
5Z4FO	--KB4EKY
6D2X	--K5TSQ
6E2T	--KD6QK
6W7OG	--F2YT
6Y5/W7WY	--W7WY
7Q7CW	--PA3CXC
7S7CA	--SK7CA
7Z1AB	--KN4F
841/N4VA	--N4VA
8P9GQ	--DL7VOG
8P9NX	--WØSA
8Q7DX	--HB9DCO
9A4D	--9A4DD
9G1PW	--WB2YQH
9G1RZ	--K8JP
9G2FR	--I2ZZU
9L1CF	--W5TXV
9N1JM	--JM1LAW
9Q5TR	--IKØPHY
9X5DX	--F2VX
AHØT	--JA6BSM
AH6MM/KP4	--KC6CEX
BVØRI	--Bureau
BV5AF	--Bureau
BZ1QL	--BY1QH
C4YY	--5B4YY
C53HG	--W3HCW
CG1B	--VE1AL
CM1GG	--CO1RG
CP1OZ	--JO1MEE
CQ5M	--CT1EOX
CQ6P	--WA3HUP
CQ7CBI	--CT1CBI
CQ8C	--CT1EGW
CQ9M	--G3PFS
CR5A	--CT1AHU
CR6EDX	--CT1EDX
CR7A	--CT1ELP
CS1D	--CT1AHU
CS7WT	--CT1EHT
CT1EPJ	--CT1ALF
CT1EVN	--CT1ALF
CT8T	--CT1DVV
CU9/CU3AV	--CU3AV
D3C	--F6FNU
D73DX	--HL5BUV
DL4SCQ/TK	--DL6DK
E28DX	--JA1UT
EA8/DL1AQI	--DL1AQI
ED0IB	--EA6IB
ED1WWE	--EA1EPB
ED2BFM	--EA2BFM
ED3RKG	--EA3BOX
ED4RCT	--EA4RCT
ED8BWW	--EA8BWW
EE5WPX	--EA5YJ
EI7M	--EI5FT
EK4JJ	--GW3CDP
EK7DX	--DL1VJ
EL2LE	--K4ZLE
EMØF	--RB5FF (See Note 3)
EN6Q	--RB5QF
EO5U	--PA3BUD
ER5DX	--I8YGZ
ER5OK	--I8YGZ
ES1J	--ES1WW
ET3VZ	--OH2VZ
EU7SA	--RC2SA
EVØA	--F6AML
EXØA	--DF8WS
EY8JA	--UJ8JA
FK8GM	--WB2RAJ
FM5DS	--F6FNU
FOØHAR	--WD5N
FOØSST	--KA6V
FP8DK	--W7WY
FR5ZQ/E	--FR5ZQ
FR5ZU/J	--FR5ZU
FT5XJ	--F5NLL
FY5GJ	--F2YT
GM4SXU/P	--G4SXU
GX6YB	--G3SWH
HBØ/DJ2XS	--DJ2XS
HC8A	--WV7Y
HG275BCS	--HA8PO
HP2CWB	--N4YWY
IA5/I4ALU	--I4ALU
IBØC	--IKØAZG
IB4M	--I4ABF
ID9/IT9AZS	--IT9AZS
ID9/IT9ORA	--IT9ORA
ID9/IT9FYS	--IT9FYS
ID9/IT9JPK	--IT9JPK
II1L	--IK1LBL
II4M	--I4MES
II7I	--IK7RWD
II7M	--IK2SGC
II9E	--IT9JOF
IO2A	--IK2RZP
IO4IB	--IK4QIB
IO8V	--IK8ETA
IP1/I4VJC/P	--I4VJC
IP1/IK4IDW/P	--IK4IDW
IP1/IK4CIE/P	--IK4CIE
IQ2A	--I2UIY
IQ2H	--IK2ILH
IQ8X	--IK8UGM
IQ9K	--IT9JOF
IR1A	--IK1GPG
IR2W	--I2EOW
IR3DX	--IK3STG
IR3O	--IK3ORD
IR4G	--I4GHW
IR6L	--I6FLD
IR8A	--IØWDX
IU1R	--I1ZQD
IU2X	--IK2GSN
IU4U	--I4AUM
IU6F	--IK6BOB
IU9A	--IT9BCC
IU9S	--IT9BLB
J31K	--W8KKF
J52AK	--IV3TIQ
JY9ZK	--KA5ZMK
K1EFI/VP9	--K1EFI
KBØJSU/ZL	--NØOFR
KC4USV	--KG5GH
KC6KT	--JR6IQI
KH2GR/KH0	--JF2BCC
KH6M/C6A	--WA4WTG
KP2A	--W3HNK
L20A	--LU4AA
L6ETB	--LU6ETB
LP4H	--LU4HH
LRØA	--LU1ARL
LR1I	--IØWDX
LT1V	--LU1VV
LT2A	--LU2ATR
LT5F	--LU1FC
LT5H	--LU1HOO
LU/G4SMC	--G4SMC
LW2DFH	--LU1DKX
LX/PA3FUE	--PA3FUE
LX4A	--LX1NO
LY7A	--LY2ZO
LZ6C	--LZ2KLI
NØRHL/ZL	--NØOFR
N4FD/C6A	--WB4FLB
OA4EI	--OA4ANR
OC4EI	--OA4ANR
OD5/SP7LSE	--SP7LSE
OHØ/SK4BX	--SM4GVR
OHØMB	--OHØRJ
OHØMYF	--OH6YF
OI3AY	--OH3GZ
OJØ/OH1VR	--OH1VR
OJØ/OH2BBF	--OH2BBF
OJØ/AC6T	--AC6T
OK9TBM	--OK2PLH
OL5A	--OK1FYA
OL5PLZ	--OK1DRQ
OMØW	--OM3CGN
OM8A	--OM3RM
OT4A	--ON7LR
OT4V	--ON4AWK
OZ/DJ8UV/P	--DJ8UV
P39P	--5B4ES
P40W	--N2MM
PA6WPX	--PA3CAL
PJ5/K3UOC	--W1AF
PJ7/WB2CHO	--K1RH
PJ7/OH2LVG	--KE7LZ
PJ8H	--W1AF
PJ8NA	--K1NA
PJ8X	--KE7LZ
PQØMM	--PP5JR
PQØZ	--PY1NEZ
PR2R	--PY2KP
PT5W	--PY5LY
PYØB	--PP1CZ
PYØTUP	--PY1UP
PY2ZDF	--DL1EIS
R1FJV	--RW3GW
RA1ABR	--DL5MHQ
RO4OB	--SP7LZD
RU1A	--KC1WY
RU3HD	--UV3HD
RU3R	--RA3RQT
RU6L	--RK6LWZ
RW3TT/Ø	--DL8AAM
RX3DF	--UV3DF
SØ1M	--EA7EL
SØØC	--S53CAB
SØØK	--S57EK
S79CK/D	--I4LCK
S79CK/C	--I4LCK
SN1I	--SP1PEA
SN1T	--SP1PEA
SN7I	--SP7PGK
SN7L	--SP7PGK
T32WP	--JA1WPX
T33CS	--G4WFZ
T33KK	--SM7PKK
T91ENS	--DJØJV
T93M	--DL8OBC
T97T	--SM5AQD
TA1BM	--Bureau
TA2ZI	--WB6EQX
TG/JH1ROJ	--JH1ROJ
TJ1GL	--I2EOW
TK7I	--F5JYD
TMØK	--F5MYH
TM2P	--F6CYV
TM5COL	--F2VX
TM5FB	--F5XL
TU2PM	--IK2NNI
TU2ZR	--SM3DMP
TU5DPR	--YU4DPR
UE9WAB	--RV9WB
UH5E/RA3QJ	--LZ2ZF
UNØG	--N8LYM
UN7FW	--KD7H (See Note 4)
UU2JQ	--KZ1L
UXØUN	--RT5UN
UX1IM	--UB5IMD
UX2HO	--I2PJA (See Note 5)
V31JU	--WA2NHA
V44KBO	--V44K
V47MSF	--WA8MSF
V47WC	--KB8WC
V47WK	--AB4JI
V47XS	--N8LXS
V63AD	--OKDXA
V63BC	--OKDXA
V63FC	--OKDXA
V63KW	--OKDXA
V63NI	--JR7OEF
V63SB	--OKDXA
V63VA	--OKDXA
V63YH	--JR7JLU
V73XP	--JR3PUG
VD2SP	--VE2SP
VE8DJ	--VE6VK
VE8YEV	--VE8NC
VE9ST	--VE1ANJ
VK4CCR/2	--VK4CRR
VK6CHI	--VK6LC
VO1XA/VE8	--WB2YQH
VP2E/N2TPH	--N4CD
VP2E/N4CD	--N4CD
VP2EC	--N5AU
VP2EOH	--K8BL
VP2MCO	--AA6MV
VP2MCP	--AA6MV
VP8CLC	--G4CML
VP8GAV	--GMØLVI
VQ9BB	--KO4A
VQ9FM	--N4BPO
VQ9LV	--KY3V
VR2GC	--G5JJ
VR2GG	--G5JJ
VS6WO	--K9EC
VU2MOP	--VU2PTT
WB2CHO/PJ7	--K1RH
WB2ZWO/TZ	--WB6EQX
X5BYZ	--YU7KMN
X6ZP	--YU1FW
XB2I	--XE2GV
XE0DX	--K5TSQ
XE2G	--XE2GV
XE2XA	--K5TSQ
XF4C	--XE1BEF
XX9TZ	--KU9C
YB3AQE	--PAØGIN
YC5NM	--YB5NOC
YI2HH	--JY5DK
YI9CW	--SP5AUC
YP6F	--YO6KAF
YS1X	--DJ9ZB
YS1XS	--WD4PDZ
YT9C	--YU1PJ
YU7ØAU	--YU7AU
YU7ØF	--YU1FJK
Z30B	--YU5CEF
Z31VP	--DJØLZ
Z32ZM	--YU5CXY
ZD8AF	--N2AU
ZD8Z	--VE3HO
ZF1CQ	--W8BLA
ZF2PV	--W7WY
ZF2VW	--W7WY
ZK1NAR	--WD5N
ZK1NC	--VK4CRR
ZPØY	--LU5DPM
ZW4Y	--PY4OY
ZXØF	--PY5EG
ZY5RY	--PY5RY
ZY5WKS	--PU5WKS
ZZØLL	--PP5LL

Guyana amateurs recently installed officers in the new Guyana Amateur Radio Association during the meeting of 10 March 1994. From left to right (front): Larry Vogt, N4VA, of FAIRS; Shiroxley Goodman, 8R1SG, Treasurer; George Richmond, 8R1AR, Secretary; Cleophas Quashile, 8R1CJ, President; Lennox Smith, 8R1Z, Vice President; David Larsen, KK4WW, of FAIRS, and Roland Bewwster, Assistant Secretary/Treasurer. Those in the rear are not identified. *— photo courtesy of David Larsen, KK4WW.*

7O1AA --P.O. Box 485, Aden, YEMEN
9G1RQ --Ralph Quist, Box 3936, Accra, GHANA
CP5VW --Mike Burke, U.S. Embassy La Paz, Consular Agency Cochabamba, APO AA 34032
CP8XA --Peter Kapraun, Casilla 337, Guayaramerin-Beni, BOLIVIA
EY1ZA --P.O. Box 126, Dushanbe 734025, TAJIKISTAN
EY8AB --Lev N. Rubston, P.O. Box 1047, Dushanbe 734036, TAJIKISTAN
EY8CQ --Alex L. Rubston, P.O. Box 1102, Dushanbe 734032, TAJIKISTAN
FY9IS --B.P. 450, 97310 Kourou, FRENCH GUIANA
H70O --P.O. Box 4636, Managua, NICARAGUA
J85M --Claude Anthony, P.O. Box 1163, Fort Charlotte, ST VINCENT
J87BZ --P.O. DL7FT, 14004 Berlin, GERMANY
JX7DFA --Per-Einar Dahlen, 8099 Jan Mayen, NORWAY
SV2ASP/A --Fr Apollo, Mt Athos Monastary, GR 63087, GREECE
TG9AQ --Carlos, P.O. Box 439, Guatemala City, GUATEMALA
TI3USV --Jose, P.O. Box 692, Cartago, COSTA RICA
V29NR --P.O. Box 145, KG 34001, YUGOSLAVIA
V85AA --P.O. Box 1711, BSB, BRUNEI
YM94KK --P.O. Box 93, Istanbul, TURKEY

1. CW contacts made with 4U1ITU made during the period 30 April through 02 May only go to I1YRL. For SSB contacts during that period please QSL via K6BTT. Are you confused? Then read note 2.

2. The route for contacts made with 4U9ITU during the WPX contest of March 1994 go via DK7UY. Contacts made early May go via I1YRL. Contacts made May 24-28 go via DJ2XS.

3. Use *Callbook* address.

4. You may also QSL direct to Vadim Mikhin, uL Lenina 47-27, Ekibastz 838710, Pavlodarskaya Oblast, KAZAKSTAN.

5. This route applies only for contacts made since 1 January, 1994.

Many thanks to the following contributors: TF5BW, VE7BXG, AHØW, KA3NIL, N4SU, KK4WW, KC5ALW, KB6DSX, WA7GQC, W7KCN, KI7NL, N7NZ, W8ZCQ, W9LNQ, N9US, KUØJ, WØLHS, Salt City DX Association (KB2G), Western New York DX Association (KB2NMV), Northern Arizona DX Association (W7YS), Western Washington DX Club (WAØRJY), HamNet SysOp (W3VS), The American Radio Relay League (K5FUV), *The Low Band Monitor*, *Long Skip* (VA3JS), *Inside DX* (N2AU), *The Long Island DX Bulletin* (W2IYX), *DX News Sheet* (G4DYO), *QRZ DX* (W5KNE), and *The DX Bulletin* (VP2ML).

Long time editor of *The Long Island DX Bulletin*, Harvey McCoy, W2IYX, is a Silent Key. Harvey took over as Editor and Publisher of the newsletter back in the 1970s from the Long Island DX Association and has since published the bulletin every two weeks. *The DX News Sheet* says Harvey, who died 17 April, was an engineer and traveled the world with Dr. Beverage, the inventor of the Beverage antenna, trying to improve communications with submarines. He was later head of communications with Pan American Airways. He was an RTTY pioneer and held the patent for AFSK.

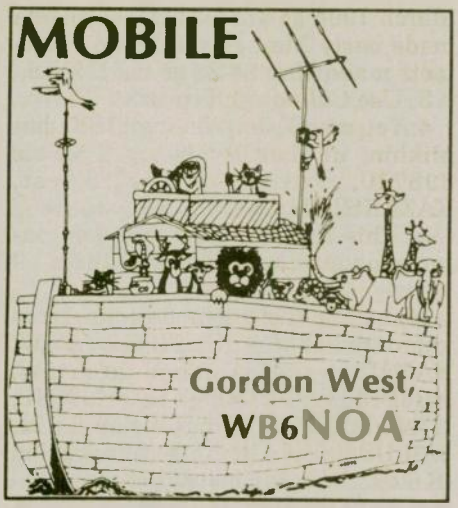
Several years back prior to the opening up of Amateur Radio in Red China, Harvey was one of the DXers invited as part of a delegation to visit that country. If we remember correctly Harvey became ill and could not attend. Harvey's last bulletin was issue 5-94 dated 6 April 1994. 76 W2IYX. GL DX es 73, de John N6JM. **WR**

Crimea bureau

UU2JQ has informed me that since no QSLs have been received from Box 88 since 1992, a new bureau for the Crimea has been set up. All cards for the Crimea (callsigns beginning with UU) should go to: QSL Bureau of the Crimean Republic, P.O. Box 38, Simferopol, 333000, Republic of Crimea, UKRAINE.

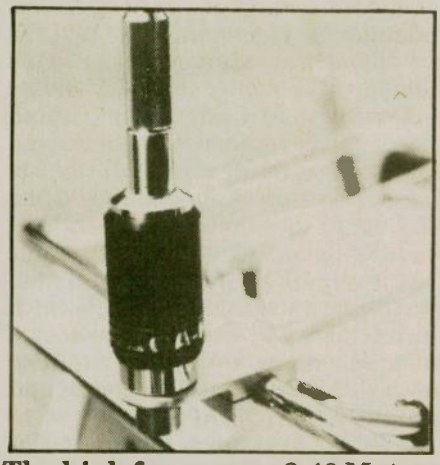
Rusty adds "Don't send $, please only IRCs."

Andrew Morrison, KZ1L
Morgan Hill, CA



All band motorcycle mobile

"The most important consideration of running ham radio from your motorcycle is safety," comments Ray Davis, KD6FHN, President of MARC, Motorcycling Amateur Radio Club. "Motorcycle safety means a heads-up display, hands-free PTT, and sanitary wiring," adds Davis.

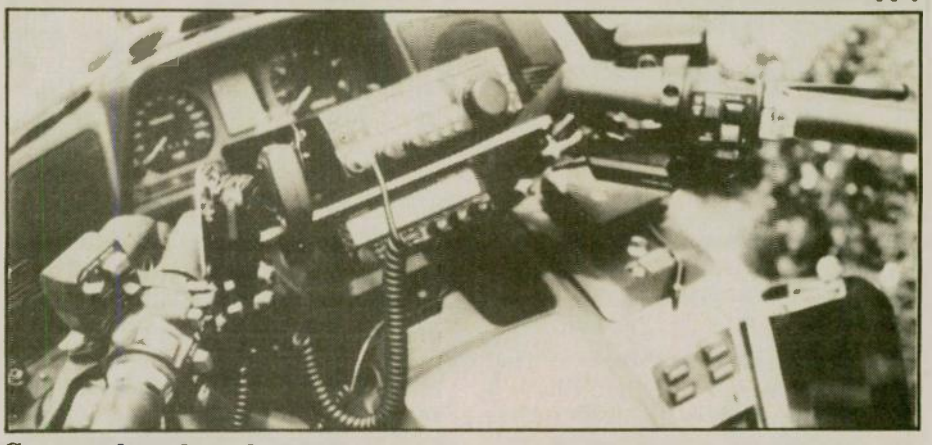


The high frequency 6-40 Meters antenna uses the stainless steel rail as the ground plane.

Neatly installed on Davis' Gold Wing Honda is a 100-watt Kenwood TS-50 HF SSB transceiver, a 50-watt tri-band Kenwood VHF/UHF transceiver, a 40-channel CB radio, plus the stock intercom system, plus AM/FM stereo.

The tri-band Kenwood uses the detachable remote head that is securely held in place on a custom mounting bracket. The body of the transceiver is in the rear storage compartment, and a short DC power run gives it plenty of voltage for up to 50 watts of output. The remote Kenwood head is mounted up high to provide driver safety.

For HF operation, the Kenwood TS-50 was chosen because of its incredibly small size. "It's so small, you don't even need to figure out how to remote the head," adds Davis. But mounting the Kenwood TS-50 became a unique challenge for Michael Marcado, KM6NP, owner of Electronic Times in Fountain Valley, CA; 714/375-0388. His company specializes in motorcycle mobile accessories, and they offer custom-mounting brackets specifically for all types of motorcycles which securely affix the equipment between the handlebars, yet allow the operator to quickly remove some or all of the mount and equipment for safe storage.



Custom brackets hold the two Kenwood rigs firmly in place.

"Our mounting brackets are custom fabricated specifically for motorcycle users BY an avid motorcyclist who is also a precision machinist," comments Marcado. "Once we know what type of bike it's going on, we come up with a bracket that can hold both an HF transceiver as well as a VHF/UHF rig, or any other two-way radio type of equipment," adds Marcado.

But you don't need to start out motorcycle mobile with a big 50 watt or 100 watt set-up. Brackets are also available specifically for any type of motorcycle set-up and any type of handheld Amateur Radio transceiver. In less than two minutes, you can safely mount your handheld, and have everything hooked up ready to go on the air to rear-mounted antennas.

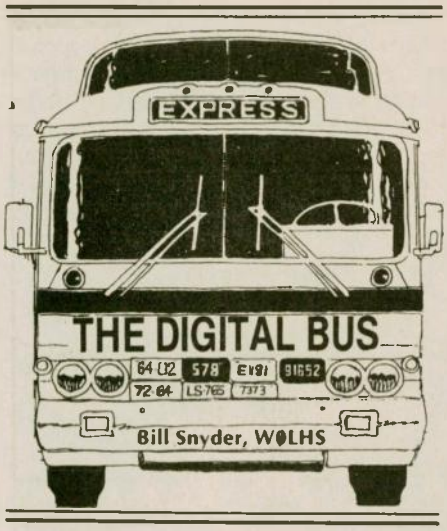
For the high frequency antenna system, the MARC organization has found the best results with the Comet CA/HV multi-band antenna system which covers 6 Meters through 40M with the right resonators. A tri-band Comet works well on a motorcycle for tri-band operation.

The accessory boom microphone and speaker system that can be ordered through motorcycle accessory dealers may work well for intercom, CB radio, and AM/FM use, but not necessarily adaptable for all ham radio microphone inputs. Every ham radio has a different type of mic input circuit, and there is no one "stock" motorcycle helmet headset that may work for all.

One easy solution is to parallel the speaker circuit for easy audio to the inside of the helmet's internal speakers, and to piggyback a tiny microphone system onto the existing boom microphone set. This way, the motorcycle stock microphone circuit is not compromised by the ham mic, and most Amateur Radio manufacturers supply accessory microphone elements that could be easily piggybacked onto the boom microphone circuit.

"While I have seen and installed elaborate switching boxes, the piggyback mic system reduces the complexity of the headset circuit, and the factory mic from the manufacturer perfectly matches the specific transceiver," comments Davis.

"The Motorcycling Amateur Radio Club is the only one of its kind throughout the country" comments Davis. Ray Davis suggests a newsletter exchange among the different clubs in order to gain new ideas on how to better install simple Amateur Radio communications gear without compromising the most important ingredient of motorcycle mobile, and that is simplicity, function, and reliability. For more information, contact Ray Davis, KD6FHN, 3 Lindberg, Irvine, CA 92720; 714/551-2010 or fax 714/551-1036. **WR**



The "ten message test" that I started in February is now over and I have a pile of printout paper about six inches high to pore over to figure out what it was all about. To begin with, I didn't have a good ribbon in the old printer that I have on my packet BBS computer, so reading the prints is a little hard. I guess I'm like everyone else with 24 pin printers, I say to myself, "I'll buy a new ribbon" every time I run the printer — and then promptly forget the pledge until the next time I need a printout. But about half way through the test I did get a new one and the pages after that are easier to read.

The best part of the whole project was the new ham radio friends that I made as a result. Out of the 33 operators that I received message strings from, only three of them actually got all ten of them to me. Sara Lyon, KB7RRY, in Olympia, Washington was the last one to luck out and get all ten safely into my computer. Since then, I've had other messages from Sara, and a genuine QSL card. To give you an idea how it went, here's the scenario. First of all, because KB7RRY was a late starter in the test, Sara sent a message and asked for permission to send me the 10. I replied and received all ten in 11 days and in this sequence: 3, 2, 1, 5, 6, 7, 4, 9, 8, and 10. As you can see, the system does mix them up a bit because of the random path choices the computer BBS makes.

All during this test I have been packeting messages back and forth with Chip Purchase, N5NPR, in Houston, Texas. Chip has been numbering all his messages to me and, although there are a few missing, I have been getting most of the nearly 100 he has sent to me in the period. In one of my columns, I mentioned Chip's name, but somehow his call sign was deleted. Computers do strange things like dropping call signs, don't they? Chip works in the live theater business and we have a lot of common things like audio reinforcement and stage lighting to talk about, so the our hobby messages are fun to receive. He has also contributed a few "Eavesdroppings" for this column.

Most of the participants in the test were from far distant areas — the east and west coasts. I think the close-in packeteers didn't think it would be much of a test to see if ten messages could make it in a row, therefore I was glad to hear from Steven Hutchinson, KNØL, in Omaha, Nebraska. Steven nearly got all ten in my BBS, but number two is still missing. I got his mail in this order: 1, 3, 4, 5, 7, 6, 9, 10, and 8. I was away during the weekend that the first six all arrived in my board in sequence. The last three all arrived in a batch, too.

Speaking of close-in stations, I just interrupted the writing of this column to check my BBS. I found three messages from Bob Bingham, K9WMP, located in Elgin, Illinois. Bob, in his first message, said he was only going to send me eight instead of the usual ten. I got them in this order: 1, 2, 3, 4, 8, 7, and 6. I'm still looking for number five. Bob said one delay was in his home BBS. He noted that when he typed in message seven, six was still in this home BBS from the previous day. It's hard to say why that happens. It could be caused by lots of things, but I would guess it might be due to the overload of junk mail that has to be forwarded by various stations. Once the messages got going, most only took one day and 12 relays to get to North Dakota via Wisconsin and Minnesota.

Over my packet years I have noticed a lot of people hit the letter "O" instead of the zero when sending call signs to the zero district. I know, I do it with my fat fingers quite often. It is an easy mistake to do, but it stops the traffic flow in the BBS system when it happens. Sharp-eyed SYSOPs will catch the mistake, make the correction, and send the message on its way. Art Martin, N2QAE, of Long Valley, New Jersey must have done that because when I got his 10 day string of messages they arrived in this sequence: 1, 2, 4, 5, 6, 3, 8, 9, and 10. Number 7 never did show up, and Art said it is in the "bit bucket network," a goner for sure. I also got a message from a relaying SYSOP who discovered Art's zero/letter mistake and forwarded the number 3 message along with his comments on fixing it. I made a note of that at the time, but I can't find the service message in the big pile of printout from that period of time. If he or she reads this, please accept my thanks for the forwarding. Other SYSOPs have done that for me in the past, and I appreciat. their efforts, too.

Here is a comment on the mail in the packet system from Byron Engen, WV8B, of Newark, Ohio (I agree with him 100%): "I wish we could get rid of all the trash messages on our BBS. It is very irritating to watch the JUNK scroll by. I can't understand the mentality of the originators. We get prob-

ably 100 or more junk messages a day in here."

Hamfests and flea markets

Our local club has changed dramatically in the past few years. The influx of new hams with the no-code license and the yearly club Novice training programs have really made a difference. This fact has brought a lot of new faces to our club meetings and it's nice to see the enthusiasm that new hams bring to the club.

In our geographical area we have a plethora of hamfests each year. Every club seems to sponsor a hamfest, but the hamfests have disintegrated into a license-testing session and a flea market. My local club sponsors a spring gathering which this year was held in a new place, the local fair grounds main building. When the vice director from the ARRL tried to hold a buzz session on what is new with ham radio, there was no place to really get away from the noise of the prize-drawing announcements over an over-powered PA system and the conversational buzz of the flea market peddlers selling their wares.

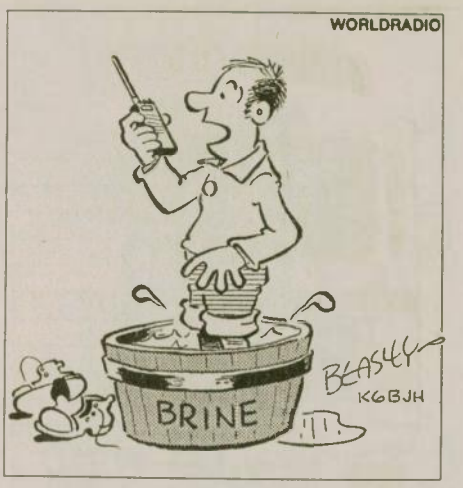
At first the VD tried to hold his seminar right in the main barn-like building with a very high reverberation time, but because of the verbal QRM, he moved it out into the lobby of the building. The in and out traffic of the vendors and buyers was very distracting. But the ARRL rep did manage to pass on his thoughts and observations despite the problems.

Years ago a hamfest was a place to learn something about our hobby and the day usually wound up with a banquet. The informational programs were always well worth attending. Today, the flea market is the thing and it is over at three in the afternoon so everyone can drive home. Where once we held hidden transmitter hunts, informational seminars, and equipment demonstrations in a formally structured program, today our hamfest means a gabfest in a flea market room. Where once I attended every hamfest in the area, today I don't go to many.

Every club sponsors a flea market to raise money, but they certainly could do something for the educational program of the hobby. I notice that the managers of the flea markets are flea market traders of note, too. That's fine, but the convention should be more than just that.

EAVESDRROPPINGS

I'D HAVE TO LIE TO TELL YOU THE TRUTH ABOUT THAT ONE!... BEING A TRUE AMATEUR RADIO OPERATOR I WILL SAY SOMETHING WHEN I HAVE NOTHING TO SAY.... TECHNICALLY I UNDERSTAND HOW A NODE WORKS, BUT REALLY UNDERSTANDING IT IS NOT THE SAME... AN ELECTRICAL PLUG-IN BURNED OUT AND LEFT US SHORT ONE CIRCUIT, OR "SHORT CIRCUITED" SO TO SPEAK. ... TELEPHONES ALWAYS RING WHEN YOU DON'T WANT THEM TO RING, AND NEVER WHEN YOU WANT THEM TO.... WE HAVE TROUBLE WITH FLEAS THIS TIME OF YEAR AND WE HAVE THREE DOGS FOR THEM TO PARTY ON... THE ONLY THING I HAVE LEARNED FROM THOSE AUDIO MAGAZINES IS HOW TO PRONOUNCE THE NAME OF THE VARIOUS MICROPHONES NOBODY CAN AFFORD... THE PACKET SYSTEM IS GREAT BUT IT WON'T WORK UNLESS IT IS COMMERCIAL AS VOLUNTEERS NEVER MAKE IT WORK AND HAVE A NICE DAY.... YOUR SIGNAL SEEMS TO BE FOLDING, BUT DON'T ASK ME WHY... I HAVE A BIG POWER LINE LEAK NEARBY THAT CERTAINLY DOESN'T BRIGHTEN MY DAY IN



AM I HITTING THE REPEATER ANY BETTER? I THINK I GOT A BETTER GROUND

THE SHACK... I HAVE SPACE HERE FOR A VERTICAL ANTENNA ABOUT A MILE HIGH, BUT ONLY A FIFTY FOOT LOT FOR A HORIZONTAL SKYWIRE.... FAST MOVING SATELLITE HAM RADIO IS UPLINK, DOWN-LINK AND MOST OF THE TIME NO-LINK.... THEY CALL ME RRONG KEY CORRIGAN WHEN I GET ON THE QEYBOARD... I GO BACK TO THE DAYS WHEN HAM RADIO WAS ALL CW AND A M SIDEBAND SPLATTER AND THEM WERE THE DAYS, BELIEVE ME—I SPLATTERED WITH THE BEST OF THEM ..... MY FIRST COMMERCIAL HAM RECEIVER WAS A NATIONAL FB-7 WHICH COST, I THINK, 27 BUCKS WITH COILS FOR ONE HAM BAND.

Thanks to N4XIG, K9WMP, N5NPR, W6KMI, and WØML for help with the 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. WR

The Youth Forum

Sammy Garrett, AAØCR
#8 Willow Ct., Florissant, MO 63031

Dayton Hamvention

It's every ham's dream — thousands of pieces of gear for sale, new products to see, over thirty-thousand other hams from all around the world, famed DXers spinning tales about their latest exploits, several parking lots full of cars which can barely support the antenna arrays precariously strapped to their roofs, and much much more. You guessed it, I'm referring to the notorious Dayton Hamventon.

Every year for over four decades, amateurs from around the world have made the annual April pilgrimage to Dayton for this most sacred of all rituals, and 1994 was no different. Thousands of dollars exchanged hands, new friends were made and old friendships were rekindled, and hams packed into over forty forums to learn what's new on the Amateur Radio horizon.

One of those forums was the youth forum, which was held on Saturday, 30 April. As usual, hams of all ages, from every corner of the United States and even a few from foreign countries were in attendance for this exciting event. The youth forum included a panel of 12 enthusiastic and articulate amateurs ranging from nine to eighteen years old. Several other notable amateurs, such as Roy Neal, K6DUE; Gordon West, WB6NOA; and Chris Lougee, N7TJM, of Icom were also in attendance. There was one important person missing from this year's Dayton youth forum, however. Amateur Radio educator and forum moderator, Carole Perry, WB2MGP, was stuck at home on Long Island due to some recent surgery. Not to worry, though. WB2MGP did address the forum for a few moments via telephone before turning the show over to guest moderator, Noel McKeown, WB8QQC. Panel members included: Seth Wilson, NØURQ, 14; Lee De Shield, KD4QBW, 16, Cathy Gilliland, KBØFDU, 17; Shawn Pattison, KD4WXY, 13; Cody Haley, KB5WYJ, 11; Casey Haley, AB5RJ, 9; Chris Rismiller, N8PEM, 18; Laura Sobon, AD4PU, 10; Ray Glazer, AA8MR, 16; Toby Metz, KB7UIM, 14; Kevin Sill, N9RPL, 15; Danel Savio, AA2GM, 13; and 18 year-old Jeremy Berger, N8PPY.

All of the presentations were informative and very well done. Unfortunately, there simply isn't enough space to provide details about each panelist's presentation. However, I'll do my best to share some of the highlights with you.

Ray Glazer, AA8MR, was one of the first young amateurs to address the forum. Ray shared some of his recent amateur televison and radio balloon launch experiences with the audience. He also had an interesting philosophy regarding amateurs with which I would definitely agree: "If hams have one thing in common it is the realization that nothing is too ridiculous for hams to try!" Judging from all the antennas sticking up from the thousands of call-sign embossed baseball caps I saw on the area floor, I think Ray had a very good point!

For all those who had the idea that Amateur Radio was an exclusively male hobby, Cathy Gilliland, KBØFDU, of Hiawatha, Kansas was at the forum to give them her side of the story. Cathy is a seventeen year-old high school junior who has spent a lot of time promoting Amateur Radio in her community over the last several years. Cathy explained some of her radio demonstration techniques and talked about some of her work with an elementary school in her area. Cathy also had a suggestion about learning Morse code to which most young amateurs can probably relate: "If you can remember 26 phone numbers, and I can, then you can remember Morse code."

"I hope that none of you have to do any disaster relief (communications) very soon, but if you do, remember that you're always needed." That's how Jeremy Berger, N8PPY, ended his presentation about disaster communications. Jeremy captivated the audience with his memories of providing emergency communications after a tornado ripped through the town of Arkana, Ohio in November of 1992.

If you've ever wondered about forming a young amateur's radio club, you would have enjoyed fourteen year-old Seth Wilson, NØURQ, and his presentation to the forum. Seth told the story of the Boulder Amateur Radio Club Jr., or BARC Jr., of which he is the vice president. BARC Jr. is a club which caters to the interests of young amateurs near Denver, Colorado. According to Seth, BARC Jr. holds monthly club meetings and sponsors a local youth net and regular Amateur Radio classes.

The 1994 Dayton youth forum also

hosted a pair of brothers from Houston, Texas.

Cody Haley, KB5WYJ, shared some of his experiences about getting started in Amateur Radio with the audience. Cody, who is a Webelos Scout, also described what it was like to be involved with last year's Jamboree-On-The-Air (JOTA) at a local camporee. Incidentally, this fifth grader also credited his involvement with Amateur Radio to helping him win his school's geography bee recently.

Cody's brother, nine year-old Casey Haley, AB5RG, certainly had some interesting stories of his own to share. Casey was first licensed as a Novice at age seven. Since then, he has been very active on the HF bands, which has earned him a great deal of praise from his fellow operators and several awards. In fact, AB5RG recently received his DXCC award. According the ARRL, Casey is the youngest known recipient of that award.

Casey also described one of his DX contacts with famous DXer, Jim Neiger, ZD8Z, on Ascension Island to the audience. At this time, Jim announced that he would listen for only young amateurs for a few hours during his next trip to Ascension. (By the time this issue goes to press, this schedule will have already taken place. Keep listening, though. ZD8Z is very active.)

Youth forum attendees were also in for a treat with Laura Sobon, AB4PU, from Raleigh, North Carolina. Although Laura is only ten years old, she has already earned her Extra Class license! Laura shared some of her Amateur Radio experiences and explained how her father got her interested in the hobby.

Daniel Savio, AA2GM, talked about some of his radio Scouting experiences and offered his fellow young amateurs some suggestions about interesting other young people in Amateur Radio. Daniel also shared his proposal for the formation of Amateur Radio summer camps with the audience. If you would like more details about Daniel's proposal, contact him via his *Callbook*™ address.

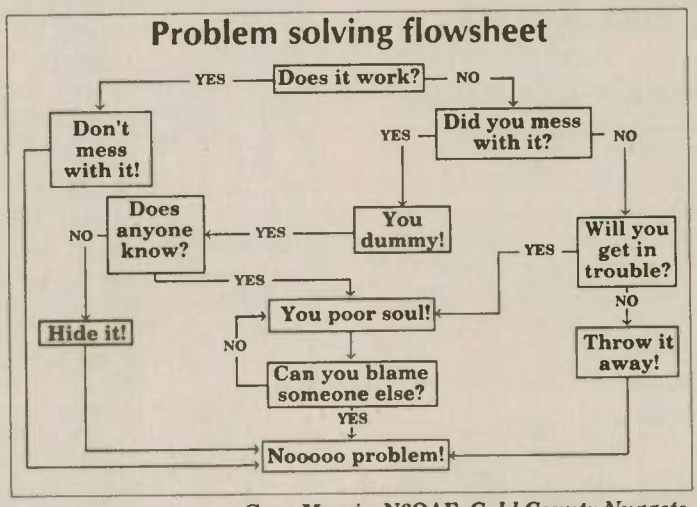
One of the last, and most interesting presentations was given by fourteen year-old Toby Metz, KB7UIM, from Meridian, Idaho. Toby explained what it was like to be involved with the Shuttle Amateur Radio Experiment (SAREX). Toby had the unique opportunity to be a net control operator at his school, which was used as a command center, during SAREX. KB7UIM recently upgraded to become a General Class licensee.

At the end of the youth forum, a lucky young amateur was chosen at random to receive at 2 Meter handheld transceiver which was presented by Chris Lougee, N7TJM, of Icom.

The 1994 Dayton youth forum was definitely a huge success! All of the participants did an outstanding job and represented the great accomplishments of young amateurs extremely well. On a personal note, I have attended and participated in many youth forums over the last several years. However I must admit that the Dayton youth forum was one of the best I have ever seen! Congratulations to all who participated; see you next year!

Summer is here!

With summer comes Amateur Radio! So, don't forget, I'm always looking for story ideas and/or pictures for the "Youth Forum." At Dayton, I was very flattered by the compliments and questions I received regarding the column. Thank you all very much and please keep those letters and story ideas coming! 73 — AAØCR. WR



— Gary Morris, N6QAF, *Gold County Nuggets.*

Search And Rescue Communications

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

Last weekend I was helping a Civil Air Patrol friend put the finishing touches on a copper pipe J-pole antenna when he asked a couple of basic questions. First he wanted to know why the lengths were critical and then he wondered about the meaning of SWR.

This got me to thinking. There are a lot of things we do either as SAR people or radio people that someone once taught us about. Whether it is calculating antenna length, installing a coax connector or using an SWR meter, the new among us don't understand the magic boxes or strange incantations we mutter in the process.

Some of what we do is simple, such as putting on a connector, and other undertakings are complex, such as setting up a field communications center.

One of the traps I fall into is thinking each of you has carefully followed each column for the past four years and that we're moving along the same path. But that's faulty reasoning. It's good to look back and see just who is following — and recent letters indicate some new converts.

Let's review some SAR/communications basics. Our first need is to know what is expected of us. If we are a mission search pilot or the radio operator, a briefing is in order — and the briefing must be a complete one! We need to know what the mission objectives are and what part we are playing in accomplishing these objectives.

We should know the command structure and who is responsible for each particular function. There is a difference between a planning message and an operations message — delays in the emergency arena could impact lives. If you're unclear on what's happening, you may be part of the problem and not contribute to the solution. In whatever role you undertake, you must know who the players are.

It's nice to know the expectations. I've talked with some rescuers who felt they were underused or perhaps misused. There was no clear understanding of what they could accomplish and what they were expected to accomplish. If you have unique talents, make them known when you arrive at the incident base. You may not be assigned to where YOU think you should be used, but with clear expectations you can still contribute to the mission.

Many flavors

Realize that SAR incident commanders come in a variety of flavors. Some welcome your thoughts and observations and others seek privacy to ponder and make decisions. It's not a matter of right or wrong for both types save a lot of lives. I've observed that an incident commander (or the ops or plans chief) is selected for a variety of reasons, but usually because they're good at what they do.

Sometimes change comes from the bottom, but more likely it happens as you gain experience and move into leadership roles — then you can effect changes. The SAR effort is one of saving lives, not giving every volunteer searcher a warm fuzzy feeling. With experience you begin to understand how things work and why they're done in a particular way. There is always room for improvement and your input is welcome, just learn the accepted suggestion route for your group.

From a communications perspective, a most important basic is the buddy system. Not only from a safety point of view but from a learning view. A great many classes are held yearly for many new operators. We may teach some of the basics but until they are practiced and used, the skills won't be there.

The buddy system

I always like to identify communicators who are good teachers (even if they don't realize they are) and pair them with the less experienced. The "teacher" guides and allows the other to gain expertise. That's the only way it works.

From a safety perspective I've seen tragedy averted when two people refuel a generator or when two people erect an antenna. Sometimes we think it

silly to send two where one experienced person will do. Some think it an affront to their ability. I would rather have my friends come home alive and safe than visit them in a hospital or a casket.

Much of what SAR is all about is inherently dangerous. We need to keep that perspective as we teach the new in our ranks. The reason people are in need of rescue should be cause for thought so we don't join them, also in need of rescue. Be careful!

A final thought for volunteers is to be aware of society's trends and be observant. How many EMTs arrive on-scene without protective gloves and infection control measures? Not many. I watched a traffic investigator pause to don rubber gloves before she began checking out a vehicle's interior. It was something we never thought about ten years ago and now it's the first thing we do.

Your life is valuable. Your skills are valuable. Be aware of what's happening so you can continue to contribute to the SAR effort! It's a rewarding area of endeavor as long as you live to enjoy it.

Managing the team

Years ago I would have argued that skills were the important part of a search mission. You needed the best search pilots, the best operators and the best plotter and planners.

I found a 16mm film called the "SAR Coordinator." It's an Air Force film and it was made 20 or 25 years ago. It was interesting to identify many components of the incident command system taught in the film. I pulled out some old issues of *Search and Rescue Magazine* and also found examples of ICS and good management.

In recent years I have come to the theory that management skills are critical for SAR teams. Where search pilot or communications skills were once rare and highly respected we can now find a number of those specialty skills. What we lack are the management and planning skills. These are now the people in demand — those who can lead and effectively motivate SAR teams.

It should be no surprise for Peter Drucker and W. Edwards Demming have been trying to teach us valid management principles for decades. I'm not sure we had as much need then as now, but do think management skills are critical for the future.

Give some thought to management skills. Sometimes the reading is pretty dry so it takes patience. As with any learning, the key is to put the principles into practice. What I'm hinting toward is all you folk that are pretty savvy communicators or have specific SAR skills might consider the management process. It's an excellent way to take your search expertise and apply it through management skills.

Learning from others

Keeping with the educational theme of this column, there's a place in Colorado that is a wealth of information. You request a list of publications from: Natural Hazards Research and Applications Information Center, Institute of Behavioral Science #6, Campus Box 482, University of Colorado, Boulder, Colorado 80309-0482.

The title is somewhat misleading as they cover a broad spectrum of emergency study including search and rescue. They do cost you money but the charge is not prohibitive. There are many topics concerning emergency response to a variety of events.

See you next month. Be safe! **WR**

Do you take your handheld to work?

On 21 June, 1993, when a fire broke out at the Union Hospital in Moose Jaw, Saskatchewan, Rob, VE5ROB, an employee of the hospital crawled on his stomach to better locate the source of the fire and then, using his handheld, used the VE5VHF autopatch to call the fire department. He reported the exact location of the fire and information on which doors the fire department could use for access.

Joan Lloyd, VE5JML, reporting in the Saskatchewan Amateur Radio League bulletin, commends Rob for remaining calm under great pressure and showing presence of mind using Amateur Radio to alleviate what could have escalated quickly into a major emergency. Rob's prompt action and specific directions eliminated the need of evacuation when the fire was brought under quick control by the fire department.

— *as reported in Discharge*, a publication of Arrowhead ARC, Duluth, MN

FM & REPEATERS REPEATERS REPEATERS

BILL PASTERNAK, WA6ITF

Writing at 37,000' heading east

This month's column is again being written at altitude. This time in the wee hours of the morning, on board a Delta Airlines L-1011 headed toward a sunrise landing at Hartsfield International Airport in Atlanta, Georgia. It's very quiet on board. No babies crying. No loud snoring. In short is a very comfortable ride. Its also a good time to think and to write.

A celebration of the future

A long time ago, in an era far away, California in general and Southern California in particular were the undisputed technical and political leaders in FM and repeaters. But times have changed and now there is no one state or area that can say with impunity that it sets the standard that all others must follow. Rather, the "California FM Revolution" of the 50s, 60s and early 70s has given way to what can best be described as a "national evolution" where regions and the hams in them have come to learn that only through cooperative co-existence can all survive.

Sure, there are still a few renegades here and there. In fact, there seems to be a growing number hams who take pride in making VHF/UHF "FM life" miserable for as many others as they can. In some places, there are even repeaters set aside for the specific purpose of attracting all of he area's 'trash operators' to one in order to keep them corralled and away from everyone else's "machine." But by and large, these problems are isolated to the big cities and on VHF at least they are few and far in-between.

Now though, there are new horizons for FMers to conquer. We have to remember that it was 2 Meter FM that was the first mode to be operated by an Astronaut in space. Back in 1983, Owen Garriott, W5LFL, took the Motorola built SAREX hand-held into orbit on the spaceship Columbia. From that lofty perch, W5LFL made the first-ever "live from space" contact with Lance Collister, WA1JXN, in Frenchtown, Montana. That was the STS-9 mission and FM ham radio has flown into space on may shuttle rides ever since.

Ironically, in 1994 we celebrate the 10th anniversary of the SAREX program (and AMSAT's 25th anniversary). And while most ham satellites are limited to SSB, CW and other low duty modes, it is the very nature of the capture effect of FM that made the overwhelming success of the Shuttle Amateur Radio Experiment (SAREX) possible!

As I understand it from my friends in the SAREX Working Group, 2M FM — both voice and packet modulated FM will remain the mainstay of SAREX well into the next century and on to the permanent station being planned for the United States space station Freedom (or whatever new name it is given it by President Clinton).

And, the Cosmonauts on board the Russian MIR space station are also regular users of 2M FM as those of us who have worked them well know. While other modes fly in space from time to time, it is FM, and primarily 2M FM that is the backbone of the United States and Russian manned ham radio from space operations.

So, unlike "Looking West," this column will be devoted to both the "dawn of FM and repeaters" along with new ideas, new concepts and their application to every day ham radio.

Bad news for the repeater bad guys

If you happen to know one of those "bad guys" (and gals) who jam, harass or in other ways make life on your favorite repeater difficult, then you might want to call him/her on the phone and let that person know that his or her "harassing career" is fast drawing to a close.

One of the reasons we have already covered in depth. That of the new and highly narrow interpretation of FCC rule number 97.205 (e). But there is now something to help that new reading of the rules work. The promise of anonymity for those in the ARRL's Amateur Auxiliary who are our front line of defense against the small but noisy minority of hams (and non-hams with bootleg radios) that are a blot on the service.

Not long ago, the American Radio Relay League issued an announcement that the they have updated and renewed the Amateur Auxiliary working agreement with the FCC. One of the changes that was negotiated between the League and the Commission is the anonymity clause. In effect, that puts the jammer hunter on an even par with the ham radio criminal he is gathering evidence on. The text of that announcement reads as follows:

"The ARRL and the Field Operations Bureau (FOB) of the Federal Communications Commission have signed a new agreement concerning the use of amateur volunteers.

"The agreement is a revised and expanded version of one entered into in 1984, and spells out the roles of amateurs, as trained and registered official observers, as well as the role of the FOB. The volunteers continue to be known as the ARRL Amateur Auxiliary to the Field Operations Bureau ("AA").

"While the new agreement continues to place initial information gathering at the local level; i.e. in conjunction with regional FOB offices, it specifies a more centralized system for presenting information to the FOB in cases where enforcement is requested. This will be done between the Office of the Chief, FOB, and the League's Washington office.

"The new agreement also adds an FOB agreement to protect the identities of Amateur Auxiliary members, to the extent allowed by law, when the FCC institutes an enforcement proceeding involving information provided by the AA. The FOB also agrees to assist the ARRL in the training of volunteers and in publicizing the objectives and accomplishments of the program."

The new agreement became effective 26 February, and it is expected that a statement of policy by the ARRL regarding the mission and scope of the activities of each individual members of the Official Observer program will be forthcoming from the ARRL shortly. It is believed that the statement will place severe limitations on the activities of radio amateurs involved in the program to prevent them from acting as "private investigators" and severely limiting the scope of their authority to handling *only* interference problems between amateur stations.

Investigations outside of this realm, including those dealing with non-amateurs operating on amateur frequencies, amateurs accused of out-of-band operations, pirate broadcasters and watchdog activities over the all-volunteer Amateur Radio testing will be

specifically banned. These activities will be reserved for direct federal investigation only. In simpler terms, if you are an ARRL Official Observer and you have reason to believe that there is a VE selling ham radio licenses, then you report the situation to your superiors at ARRL Headquarters and/or to the FCC and do nothing more. Playing "Perry Mason" could put you in legal jeopardy without any recourse for assistance from either the ARRL or the FCC.

The long oppressed righteous and legal hams now have two weapons with which to go after the "bad guys." A new interpretation of 97.205 (e) that lets the "good guys" kick the "bad guys" off their repeaters and a jammer fighting task force whose identities will be protected by the agency that they have volunteered to serve. Let's hope both get used; used wisely and expeditiously while keeping regulatory enforcement in the federal domain.

Running on a repeater

One of my close friends is a ham named Keith Glispie, WA6TFD. I first met Keith on the old Palisades Amateur Radio Club 146.01/.61 repeater when he was still a high school student who was never without his trusty Motorola "luggie talkie." As fate would have it, we both wound up working for KTTV television in Los Angeles where he heads up video post production. But back when he was still in school he recognized the value of ham radio as an educational tool and was eventually successful in setting up a repeater aimed primarily at youngsters in the various schools that make up the Los Angeles Unified School District. And as time went on, Keith and several others built an entire public service organization around the WA6TFD repeaters. Over the years the Baldwin Hills Amateur Radio Club and its repeaters have come to signify the very best in what ham radio has to offer to the community. A group of dedicated hams who are always there when they are needed.

And so it was when marathon runner Fred Doob, AA8FQ, decided to traverse the Los Angeles Marathon as a charity run to raise money for cancer research, he also approached the Baldwin Hills club to assist him in setting up the ham radio aspect of the event. AA8FQ's on-air operation was coordinated by the Baldwin Hills Amateur Radio Club and organized by its President Ed Walker, WA6MDJ with Fred's principal net control being Keith Glispie, WA6TFD. The club used its own repeater on 146.825 MHz and numerous other wide area coverage systems to permit Fred unlimited exposure to the ham radio community of Los Angeles and Orange counties — an area of several hundred square miles.

And thanks to the cooperative effort between Doob, the Baldwin Hills ARC, its repeaters and Fred's corporate sponsor Icom America Corporation, pleased to tell you that Fred raised more than $2,000 for the Childrens Cancer Research Fund while running the 26 mile event. AA8FQ made more than 400 contacts on 144 and 440 MHz using an Icom dual band hand-held transceiver. Icom donated $5 to the research fund for each contact made.

In fact, Doob, 47, even topped his run last November in the New York City Marathon by 100 contacts and bettered his time by 15 minutes. He says that he averages about 3.5 hours in a marathon without radio, but the same run takes about five hours when he operates.

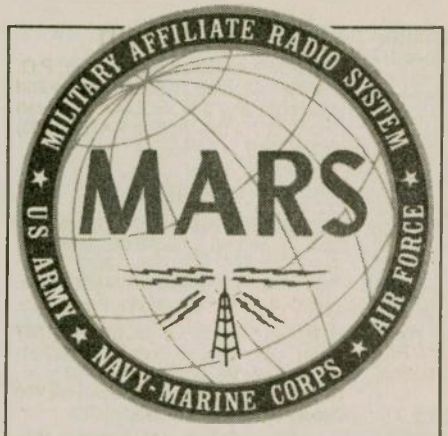
The race was televised in Los Angeles by Chris-Craft station KCOP television channel 13. KCOP news also did a profile of AA8FQ's run for charity the evening of the marathon that included tape of him, at the finish line, and inside the Amateur Radio communications tent that's used to run several nets in support of the annual event.

Yes folks, there is a lot more you can do with a repeater than just chat mindlessly for hours. In this case, repeaters were the key to the success of a fund raising campaign that may eventually end human suffering and save lives. And isn't that a nice thought to close on this month.

de WA6ITF WR

(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.)

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



Lorraine S. Matthew, N4ZCF
MARS call AAA9PR

4 July, 1776 — A spirit of independence and freedom burst forth upon this continent as never was seen before anywhere on the face of the earth. The Declaration of Independence, adopted as a resolution on July 2, 1776, was signed by the Continental Congress delegates on the 4th. They were prepared to sacrifice everything including their lives for the independence of the United States of America.

"...we mutually pledge to each other our lives, our Fortunes, and our sacred Honor."

The men and women in the services that we in the MARS programs support are equally prepared to make the same sacrifice today. MARS members everywhere salute them all.

While some operators might look at the MARS program as being confining because of the regulatory atmosphere in which we work, those of us who participate like the ordered format of our work. Rather than being confining, MARS offers the operator expanded frontiers to enter and to explore. We have the freedom to learn and use several modes of operation with new technologies developing rapidly. MARS members are not limited by license class to any particular role. All MARS members are equal.

Walter Morris, AAT4LM from Tennessee has a most interesting station log. Walt, with whom I have personally spoken on the Army MARS nets, has worked Army MARS stations in every state — all fifty of them. It took him just over four years to complete the project. In his log, the earliest date is 2 February, 1990, on which date he made contact with AAAØOR, the State Army MARS Director of the state of Oregon. He has spoken with 17 State Army MARS Directors and 1 Area Director (Western Area in July, 1991). The majority of his log contact dates are in the years 1990 and 1991. California, Nevada, and Utah continued to elude him. 1 April, 1992, was no April Fool's Day when he managed to reach California. Nevada and Utah forced him to wait until 1994! The last piece in this challenge was contact with Nevada on 14 March, 1994. Yes, the log includes Alaska and Hawaii. These long skip band conditions do serve a purpose. We are all familiar with long distance relays being needed when long skip sets in. His contact with a New York MARS operator was made via a Kansas Army MARS net using CW!

Neither Walt nor I know if his personal accomplishment is unique or not. If there are any other MARS members out there with similar logs, please share your experience with us.

Walt has been an Army MARS member since 1948. He served Army MARS as an Army operator in MARS stations in Germany at AEM1USA (several times), in Korea at the ABM4US stations, and at bases all around this country. He was the chief operator at MARS station WAR in 1960.

We discussed the many changes that he has seen in the programs and in the equipment used then and now. Army radio operators might remember the BC610 transmitter and the BC348 receiver. Both pieces of equipment were huge and heavy — very heavy. I am told those tubes could light and heat the room in which the radios were placed. Civilian radio names included Hammarlund and Hallicrafters (SX28 was mentioned as the modern rig of the day). AM transmissions were the modern mode of communication with SSB being resisted (just like changes meet resistance today). He remembers being one of those who thought the squeaky quality of the SSB would never become a viable mode of operation.

These days, Walt has an up-to-date MARS station at home and is very active in Army MARS activities in Tennessee. Walt has also served in Florida nets when he lives there as a "snow bird." As a Florida Net Control Station, I always welcome Walt's entry into my nets whether from Florida or from Tennessee.

For newer members, Walt, AAT4LM can serve as a genuine example of what an Army MARS member is — a man dedicated to the service of his country and his community.

This column has highlighted one outstanding member of Army MARS. There are thousands of MARS members all over the world who do outstanding jobs. Highlighting one of these members serves to call attention to all MARS members.

MARS members stand ready to serve. Accomplishing personal goals or developing individual interests within the MARS spectrum while serving MARS is to be commended. Walt has done this well and we salute him.

We enjoy a freedom of communication that bears with it responsibilities as well. MARS members meet those responsibilities.

The publisher of this magazine in the May, 1994, issue wrote, "The U.S. certainly had its overwhelming share of natural disasters in the very recent past. Amateur Radio always rises to the forefront of assistance. It is no accident that the stations that seem to be best prepared both in equipment and operating ability, are those that have MARS training."

Continuing with the words of our founding fathers, "We, therefore, the Representatives of the United States of America, in General Congress assembled,. . . do, in the Name, and by the Authority of the good People of these Colonies, solemnly Publish and Declare, That these United Colonies are, and of Right ought to be, Free and Independent States; . . . " This first reference to the United States of America gave us our name and declared our right to freedom. MARS members are dedicated to the ideals set forth by the founders of our great nation.

MARS. . . Proud. . . Professional. . . Ready. WR

Dayton MARS forum report is on page 11.

Visit Your Local RADIO CLUB

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

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 146.37/146.97 PL 103.5 Hz.

ARIZONA

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 147.32/92. 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 146.16/76 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. 146.22/82 (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. Rptrs. 147.675(-), 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 (-600). Info: Bob Hastings, K6PHE (714) 990-9203.

Golden Empire Amateur Radio Society, (VEC). P.O. Box 508, Chico, CA 95927. Club call W6RHC, rptr. 146.25/85. 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.

Kern River Valley Amateur Radio Club. P.O. Box 2611, Lake Isabella, CA 93240. Meets 4th Sat./monthly, 4 p.m. with potluck supper following. Talk-in on 144.450 Simplex.

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 100 Hz. 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. (P.L. 162.2) Net K61S Thurs., 8 p.m. 145.190. 220 Net, Tue. 8 p.m. 224.40(-).

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 146.910. Jim L. White, N6UGO, (916) 773-5890.

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 2065, 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 145.470- 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(-).

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.

CONNECTICUT

Tri-City Amateur Radio Club. P.O. Box 686, Groton, CT 06340. Meets 2nd Tue./monthly, 7 p.m., St. Lukes Lutheran Church on Rt. 12. Info: Bob, KA1BB, (203) 739-8016.

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.

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) 621-5916.

IDAHO

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

Kootenai Amateur Radio Society, (KARS). P.O. Box 5222, Coeur d' Alene, ID 83814. Meets 2nd Mon./monthly, 7:30 p.m., Sheprock Bldg., Coeur d'Alene Airport.

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 145.250. W9DUP repeaters 145.250(-) (107.2PL), 442.550(+) 114.8PL , 224.680(-).

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, 28.41 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., 147.72/.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.

NEBRASKA

The Ak-Sar-Ben ARC of Omaha, NE. Meets 2nd Fri./monthly, 7:30 p.m., Omaha Red Cross near 38th & Dewey St. 146.94(-). Contact Jim Miller (NØORV), (402) 253-8272.

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. Meets 1st Wed./monthly (except July & Aug.), 8 p.m., VFW, Valley Rd., Clifton, NJ. Rptrs.: 146.10(-), 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.

Westchester Emergency Comm. Assoc., (WECA). Meets 2nd Mon./monthly, 7:30 p.m., Westchester County Ctr., White Plains. Contact WB2VUK or call WECA INFORLINE (914) 962-9666 or WECA landline BBS (914) 738-6857 for details. Talk-in WB2ZII/R 147.06(+) MHz.

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 Chapter TSRAC. Meets Mondays, 28.35 on the air, 8:30 p.m. local time, Sat. 10 a.m. on 7240 and Wed. 9 p.m. on 7259. "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 (613) 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.

Northern Ohio Amateur Radio Society, (NOARS). Meets 3rd Mon./monthly, 7:30 p.m., Gargus Hall, Rt. 254, Lorain, OH. Info: rptr. K8KRG 146.70, DX alert rptr. 145.15.

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. 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.

Salem Amateur Radio Club, (SARC). Meets 4th Tues./monthly, after school, McKay High School Auditorium, 2440 Lancaster Dr., NE, Salem, OR. Talk-in 146.86. Info: (503) 393-9604.

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.

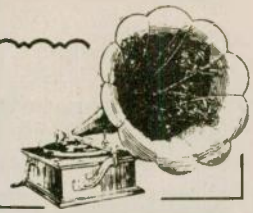
WYOMING

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.

OLD-TIME RADIO



Radio Amateurs during WWII

NORMAN M. WEED, W6CE. (EX-W9JKW, W6JKWJ)

We lost our operating privileges and our frequencies. Some "loaned" their equipment to the military. But we were active! My story is intended to show the high regard in which the military held the Radio Amateur, and to give credit to those members of our great fraternity who contributed.

Early in 1941 I was among those who were singing, "Goodbye dear, I'll be back in a year." Pearl Harbor changed all that. As a "buck sergeant" in the 757th Tank Battalion at Fort Ord, California, I saw a notice on the bulletin board which read, "The Army Air Corps needs Communications Officers. Applications will be accepted from: 1. Electrical engineers with experience, 2. Graduate electrical engineers, and 3. College graduates with an Amateur Radio License." My Mom sent out my license, and in January 1942, W9JKW was on his way to Scott Field, Illinois.

In my opinion, the curriculum required little of the formal education of an electrical engineer. My 25 words per minute gave me an "A" in Morse Code. The instructor in the radio courses was a ham named Farrell Buckley, (current callsign, AK7N.) I found the study of telephone equipment; lines, switch-boards, etc. "a piece of cake." W9JKW was graduated at the head of Class #8, and was commissioned 2nd Lt., Army Air Corps, 16 May, 1942.

As a reward for this effort, I was among those selected for further training at Harvard and M.I.T. There we learned about "radar," a subject that was classified "secret" at that time. Some engineering courses would have been helpful to me there. However, I struggled through those six months, and graduated with my class.

A number of us were interviewed by a Lt. Hugh Winter, W5HD, for still further training. This time it was a top secret subject, "Radar Counter-Measures." About a dozen of us were chosen for Class #2 at Boca Raton, Florida. We were mostly hams, "for our ability to improvise," the lieutenant said. Our instructors were from class #1, both hams, Ed Tietz, W5OSH, and Bill Praun, W6MEV. These officers were the radar observers on the first "Ferret," a B-24, specially equipped with electronic intercept equipment. They located two Japanese radars on the Aleutians.

Ferrets 3, 4, and 5 were B-17s. In addition to the normal combat crew, each carried two RCM observers and a civilian scientist. Matt Slavin, W6LDF, was aboard #3. Harrison Lehman, a W5, I think, and Jim Magnuson, post-war K7RWQ, were the observers on #4. John Kemp Pheley, a ham out of Fresno, California (callsign forgotten) and I were aboard #5. These Ferrets flew many reconnaissance missions out of Africa, at night, 500 feet above the water. All enemy early-warning radars along the coasts of Italy and Southern France were logged, their location and technical characteristics were recorded. These were subsequently destroyed and/or jammed to render them ineffective.

Following the invasion, I transferred to the 97th Bomb Group, B-17s. at Foggia, Italy. This Group was the first in the 15th Air Force to use "chaff," thin strips of aluminum foil which would screen the aircraft above from the enemy radar. Later, active jammers, "carpet," were installed in the B-17s. These returned hundreds of echoes, making it impossible for the radar slaved to the anti-aircraft batteries to obtain our range.

With the war in Europe about over, I was returned to the States and assigned to the R&D labs at Wright Field, Ohio. The orders for my return were prepared by Jerry Wright, W9WGL, whom I had met as a cadet back at Scott Field. Among my projects at Wright Field was the preparation of a P-61, "Black Widow," for Ferret duty in the Pacific.

Family pressures prevailed, and I obtained an "early out" from the military. In 1945, armed with a letter of recommendation from Colonel Ed Post, W9ISV, a high school buddy, I obtained employment with United Air Lines. Among my assignments there was the installation of their first electronic auto-pilot. (Previous equipment was hydraulic.) The engineer sent out by Sperry was Gaylord Buchanan, W8IFB, (post-war W7UG.) His own story, and his "ability to improvise" is incredible. As a POW, he built a receiver, installed and operated in his wooden leg!

The war ended with the drop of the atomic bombs on Japan. My account should end here, but I have one story left. A few years later, Sylvania was to open their Electronic Defense Laboratory at Mountain View, California. Following my interview, I wished to write and thank the man, but couldn't remember his name. I found him in my Radio Amateur *Callbook*, Walter Serniuk, a W2 at that time, later K6HQE. Of course I got the job! WR

I WONDERED WHY OL' HARRY'S RHOMBIC ALWAYS WINDS UP IN GRANNY KNOTS --- SO THAT'S YOU, EH?

QUARTER CENTURY WIRELESS ASSOCIATION INC.

John G. Troster, W6ISQ

Welcome aboard

"Yes, your ad (2") in ***Worldradio*** did it again. I've known of QCWA since I was a kid, but I didn't have an address to write for membership. I was first licensed in 1964 (WN9NAH). This year will be 30 years in ham radio." Michael Reed, NH2Y. "Your QCWA notice in the April, 1994, of ***Worldradio*** reminded me that I had been a Novice ham in 1954 or 1955 under the California call sign of KN6BLT. I would be interested in belonging to QCWA so please send information." Thanks, Peter Tribby, N9SMF.

"Saw your info (in) ***Worldradio*** magazine. I've been a ham for a long time. Am interested in QCWA and being you are in Eugene makes it much nicer and quicker." Wm. Emmons, K7NNJ.

Thanks to these far-seeing gentlemen and all you others who wrote in and want to become members of the Amateur Radio Honor Society, QCWA. Welcome; it's nice to have you all be One of Us, the Elite, the Proud, the Experienced, the Young In Heart , the QCWA, and All That Jazz!

For the rest of you who always wanted to join but didn't know where to write, try: QCWA HQ, Old Jim ("OJ") Walsh, W7LVN, General Manager, 159 E. 16th Ave., Eugene, OR 97401-4017.

QCWA Journal

Last month we mentioned a couple of articles appearing in the Spring edition of the *QCWA Journal* which I found to be of particular interest. Here are a couple of others. The good series "Ham's Health" by Dr. Dub George, WA5BFF, features a subject all you OMs should know about. The column by QCWA QNB (New Breed) Chip Margelli, K7JA, on "CQ DX" is especially interesting also. If you're old enough to be QCWA, you're old enough to be on the DXCC Honor Roll. What have you been doing all these years? Let Chip get you excited about the wonderful world of DXing! Don't need a kW, just a desire! And don't worry that the sunspots are at their nadir. There's always something out there to chase.

Al Kahn, W4FW, One Of Us

I almost met Al Khan at the annual QCWA convention banquet in St. Petersburg last October. We missed because Al was sitting up at the front corner of the hall strategically positioned to step forward to receive the QCWA "Roll of Honor" Award, given periodically to a "QCWA member who has made substantial contribution to QCWA, Amateur Radio or the general public in the area of communications." Several hundred attendees made it clear that they concurred with this presentation.

Al Kahn, K4FW. Knute Rockne "named" his company.

— Photo courtesy of K4FW

I was seated in the diametrically opposite corner across the large banquet hall from Al. By the time the meeting was over, I had a crate of Florida oranges in tow because YF Marguerite, KC6NFE, had won. I wrestled it across the hall as "double quickly" as possible without decking anyone in the lingering crowd, but alack and alas, Al beat me out the door and I never did meet him. So I had to resort to AT&T to get acquainted and garner some first-hand info and history about him.

Al is the founder of Ten-Tec along with his long time partner, Jack Birchfield, K4JU. Ten-Tec stands for Tennessee Technology, but Al's YF said that "was too fancy a name for a Mickey Mouse outfit, so shorten it." So out came "Ten-Tec" which by any measure, is not a Mickey Mouse outfit! Indeed it's one of the top manufacturers of Amateur Radio equipment.

It was Boy Scouts which got Al interested in radio. He received the call 9BBI in 1921 and went on the air with a Ford spark coil. One of his early contacts was with QCWA member Bob Baird U9CCL, now W9NN, and they have kept in touch all these years. Later, Al had the calls W9KYM and W8DUS.

During the '20s and on into the depression years in his home town of South Bend, Indiana, Al went into radio repairing and eventually into sound and sound servicing. One of the problems in those days was that sound equipment was not reliable and had problems. So Al began making his own sound equipment, which led to the manufacturing of microphones, wherein he developed and patented the technical breakthrough, noise cancelling Electro-Voice microphone. Later he moved the plant to Buchanan, Michigan and picked up the amateur call W8DUS.

The story about how Electro-Voice got its name will stir the juices of football buffs. The football coach at Notre Dame in those days was the legendary Knute Rockne. As the South Bend *Tribune* wrote the story in its 21 October, 1990 issue, "in the late 20s, Rockne's health was not good and the coach had a difficult time making himself heard at football practices. Kahn's company set up a loudspeaker system that allowed Rockne to stand or sit on a platform surrounded by four practice fields. He had loudspeakers directed at each field and could select a field for special attention by flipping a switch. Rockne called this device his "electric-voice," which Kahn changed somewhat to Electro-Voice."

Before WWII, the FAA ruled that all airlines had to use the Electro-Voice noise cancelling microphone. During the war, they were in great demand especially in tanks. Al's company went from a dozen employees to over 500 within a three-month period with everyone making microphones. Some years after WWII, Al got an offer he couldn't refuse to sell Electro-Voice. Thus he sold.

Al's been hooked on mobile operation ever since Collins built their first KWM-2. In fact, he was the County Hunter's Net's friend. He drove a lot and always checked into the CHN to give out counties to others, although he didn't himself collect counties. He calls himself the "huntee!"

This interest in mobiling, plus his idea that kids would be interested in low power rigs at prices they could afford, gave Al the idea that a QRP "entry level" rig would be of great value to young Amateur Radio operators. So about 25 years ago, he and K4JU, his Senior Engineer at Electro-Voice, moved to Tennessee and started the present company, Ten-Tec. Their first product was the mighty Power Mite two-watter. Al was both right and wrong about QRP rigs being of interest. Right because there was great demand for his QRP rigs, and wrong because it was not the kids who bought the little rigs, it was the two-letter call OMs! From there Ten-Tech moved into the popular QRP Argonaut series and on into a full line of equipment for amateurs. The line goes from state-of-the-art receivers and the five-watters to the full bore 1500 watt Hercules.

Ten-Tec's latest creation on the market is the S555, a small rig aimed at his old friends the mobilers and low power fellas. But did you catch his wink and nod to the old days of changing bands by changing coils? That's right. Al used to do that 65 years ago with wire wrapped on bakelite forms. To change bands on the S555 you pull out one module and plug in another.

Where is Amateur Radio equipment going? Al thinks it might be toward the increasing use of DSP (Digital Signal Processing). He does not expect radical changes, but the equipment will probably become more effective because chips are getting better. Signal to noise factors should become better as will the dynamic range of the units.

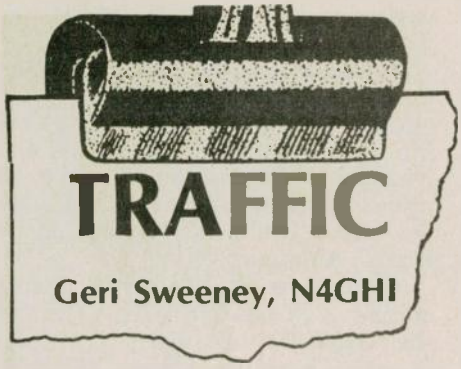
Al joined QCWA the same way so many of us did: somebody asked him! Let that be an encouragement. Just ask. Al likes QCWA because it is a good way to keep in touch with contemporaries who have his same interests. Also it gives him a chance to know amateurs he might not otherwise know. And he does like the social aspect of QCWA.

Al still mobiles regularly between Tennessee and Michigan, still giving out counties. He also has a long time interest in good CW operations and was one of the first Americans to be asked to join the rolls of the First Class Operators Club (FOC), founded by British Amateurs.

Al wrote an article for the Spring edition of *FOCUS* magazine entitled the "Great Contest Rescue." In it he described how the popular CW World-Wide DX contest was about to be dropped by *CQ* magazine in the early 1950s. However, Electro-Voice VP for Marketing, Larry LeKashman, W9IOP, who had dreamed up the contest while editor of *CQ*, suggested to Al that THEY run the contest! Al agreed it was too good a contest to die and so the contest went off as usual but the logs were sent to Electro-Voice in Buchnan, MI, and scored by the Potomac Valley Radio Club. A few years later a new editor at *CQ* asked to "get their contest back" and Al was happy to oblige.

QCWA is indeed proud to claim Al Kahn, W4FW as One Of Us, The Proud, The Elite, The Many, The QCWA!

Until then 73 + 25, Jack W6ISQ WR



Look for traffic from the Canadian National Exhibition (CNE in the text) during August.

Traffic radio

In the last article I mentioned that my radio had been repaired 20 times in 10 years. Each repair took an average of four weeks. The Kenwood Corp. in California often took six weeks to eight weeks. The authorized repair store in Virginia Beach took less than two weeks. Reliability has been a major source of annoyance. Thus, I am looking, as many of you must be, for a good radio which is reliable; and, if it does need repair, good, timely service. Since traffic handlers use their radios more than the normal amateur radio operator, we do find out quicker if a radio can endure.

I was amazed at the initial response to my question as to what radio traffic handlers recommended. Replies were immediately received from all over the USA from Ten-Tec owners boasting that their radio was. . . well let me quote from a few: "Ten-Tec way to go ten years old Corsair made only one trip to factory service was excellent" (N2XJ) "My transceiver for traffic has been Ten-Tec Omni since 1982 x only repaired twice" (W2RRX) "Had Ten-Tec Omni 14 years x only problem on/off switch at 12 years" (WD4DSS) "I've been running Ten-Tec for 14 years and they seem pretty reliable. Factory service is very good. I run a Paragon with the Giehi enhancement chip and have no plans of parting with it. Besides the Paragon I have a Ten-Tec Scout and Ten-Tec Delta." (W7GB) And, "I have heard several similar accounts like yours. I use a Ten-Tec Corsair II. It does everything I ask. . . One thing is for sure, my Corsair has the best receiver I have ever heard — quiet and sensitive." (N4UE)

After a flood of Ten-Tec endorsements from fellow traffic handlers, a few replies mentioning a particular radio were received. K6QS recommended the Icom 761. "I've had an Icom 735 in a vehicle for about 9 years for mobile CW QSOs. While it hasn't had a heavy traffic load, it has been agitated for over 90 thousand miles. (One vehicle was a diesel which vibrated badly)." The other particular radio mentioned was from W4DWN who said the Kenwood 930 is an excellent radio but that they all run hot and need a fan placed behind the heat sink to keep the parts from burning up. (I've heard this before.) He mentioned that his Drake (tubes) lasted 20 years and always ran cold. Thanks to all of you who sent a radiogram or letter. The next time my radio stops, I believe I know which radio I'll buy.

Book traffic

It takes on the order of half to a third the time to send a book. Just how much faster depends on all the variables. The text could be three words or 30 words. Addresses and signatures are short and long. A book of two won't create the comparison a book of three or more makes. To test the timing, I wrote a book of three with a check of 23 words. I used three addresses comprising a complete name, address (with zip), and phone number with area code. I added up the characters (letters count as one and numbers count as 2).

The results: The book of three had 480 characters. Divide by five (agreed count for a word) and get 96 words. Sending the same traffic as three individual messages results in 800 characters, or 160 words. It's now 96 words versus 160 words. Plug in 20 wpm (CW), and it takes 4 minutes and 20 seconds to send the book versus eight minutes to send the same traffic as individual messages. As with any stats, you can skew them. A one word message could have been used for a book of 2, sending at 50 wpm. Little difference would have been noted. Checking my pile of traffic from last night, I found three books. Their checks were ARL 10, ARL 23 and ARL 25. 20 wpm is about the middle of speeds heard on nets.

Consider all the relays messages must endure. A message beginning on a 2 Meter net in California and delivered in Virginia, may well be passed on five to 10 times. Aside from saving time; saying or keying the same message over and over is really boring. Book your traffic whenever possible.

Eastern Canada traffic

The acting STM of Ontario, Denis Garrod, VE3CYR, reports that nets meet on VHF, SSB (80 and 40 Meters), CW on 80 Meters, and a CW training net. While digital modes are used, Den

reports that "most traffic handlers seem to favor either voice operation or CW, and few would call themselves true multi-mode operators." Den feels that traffic activity seems to be declining on a year to year basis and more originations are needed. A major event for Eastern Canada is the CNE (Canadian National Exhibition) in August.

Canada/NTS

The Eastern Area Staff (Regions 1, 2, 3, 4, and 8) has a representative from Eastern Canada (ECN) on it. And, yet, the CAN (Central Area) and PAN (Pacific Area) do not have reps from Central and Western Canada on their staffs. Does anyone know why they don't? There must have been a reason for this when the NTS was established. To my mind, the NTS has always been represented as a USA/Canadian traffic system. The only way we could improve this system is to invite Mexico to play. The Mexico Radio Association's current position is that they only wish to be involved in emergency traffic.

Scholarships

FAR (Foundation For Amateur Radio) administers 51 scholarships for young people in Amateur Radio. Several are worth $1,000. Young traffic handlers who wish to apply should write Joseph Seasely, KA3USI, Secretary of FAR, 2817 Roselawn, Baltimore, MD 21214, for more information.

Packet

Bill Snyder, WØLHS, writer of the 'Digital Bus' column in ***Worldradio***, invites anyone to send him ten messages on packet. He's still waiting to receive all ten. Being a lucky person, I thought I might be the first. Over a couple of weeks time, I sent off my ten messages. He acknowledged each message when it was received and then sent me a summary. They arrived in the following order: 3, 2, 1, 6, 5, 8, 10, 9, and 7. I guess he's still waiting. I wonder if ARRL has asked Bill if he has any input for their new digital policy? We must have a lot of bright, talented, conscientious PBBS ops in the NTS whose comments would be helpful.

Traffic originations

The following idea was received from KE4DXA. Danny says, "This is a case of a little advertising paying off. I taped a green and yellow ARRL radiogram form to my office door, with a sign that said, 'What's this, you ask? Ask me.' It worked. I got all of my originated messages this month that way. When I explained to people what the Traffic System was all about, why we do it, and especially that it was a free public service, folks couldn't wait to send a message. One person even called a couple of friends in Florida, to take messages over the phone to another friend in Michigan. . . I'm pleased, what can I say?'

Easy street

Has been spotted in Ocala, Florida.

WR

Product Review

MFJ-9420 20 Meter SSB travel radio

JEFF M. GOLD, AC4HF

Every once in a while a new product comes along that is just different enough to put some spark back in the hobby. When I saw the advertisement for the new MFJ Twenty Meter travel radio I couldn't wait to get my hands on one. Twenty Meters is my favorite band and I have had a great deal of success using low power on this band with CW and SSB. The MFJ CW QRP rigs got me started using low power. My hopes that this new product would get me more excited about working SSB.

The first thing the receiver must be able to do is hear the signal (sensitivity). The MFJ-9420 uses a single conversion superhet design. The transceiver employs audioderived AGC. I found that the radio had a crisp pleasant sounding audio and was able to hear anything my main station transceiver could hear. The rig covers 14.150-14.350 without the optional CW module. The CW modules adds 14.000-14.100.

The second important receiver function is to be able to separate out the desired signal from other signals and noise (selectivity). The MFJ employs a tight eight pole IF ladder filter that is quite effective. Under normal conditions the rig has no problems at all. Under contest conditions it did well but is not really designed for this type of activity.

A minor complaint about the MFJ CW rigs was their weak audio. MFJ used a Phillips BTL audio chip and a 3" speaker in this new SSB transceiver. The audio is rated at greater than 1 watt output into an eight ohm load. I found the audio to be more than enough. Under most conditions I found I only had the audio level up to about 1/6th. The receiver draws about 50-100 mA which doesn't put much of a drain on a battery.

The transmitter needs to be able to get your signal out and have the audio sound as natural as possible. The manual explains that the radio has a constant current speech processor. The manual explains "your MFJ-9420 features a very potent speech processor. Please resist the natural temptation to shout or close-talk the microphone in order to be heard! Instead, hold the mic about 2" away and speak normally." On my first contact looking at the small rig on top of a number of much larger rigs, I found myself with the microphone up close and talking louder than normal so that my small signal would become bigger. The ham on the other end said "you're plenty strong, but it sounds like your are swallowing your mic; back away from your mic and don't shout." I was somewhat embarrassed, but did as he suggested. He came back and said "good quality audio and a nice signal." The transmitter draws about 2.2 amps peak at 13.8 volts. The rig I tested put out 12 watts on my audio peaks. The rig will tolerate VSWRs of 3: 1 or less.

The front of the transceiver houses the VFO which has an 8:1 reduction-drive with ball bearings. It is smooth and I had no problem adjusting the rig to bring in stations even under crowded conditions. The rig comes with a lighted analog meter. The meter acts as an S-meter in receive. I checked it against my commercial rig and found the readings to be very reasonable. In the transmit position the meter monitors the processor. It is a good idea to keep an eye on this until you get use to the rig. It is very useful. I found in every case that I was in the designated range on the meter, I received glowing audio reports. The rig has an a push button on/off switch, a push button tune switch which is useful with an antenna tuner, and both power and transmit lights as well as a volume control. The mic jack is a 5-pin din for connection with a dynamic microphone. The jack will accept a standard Radio Shack 274-003 plug.

The rear panel has a standard SO-239 jack for the antenna. The power jack is a 5.5mm OD, 2.1 mm ID which accepts standard plugs that can be purchased at Radio Shack. There is also a mic gain adjustment. The manual explains that you may have to turn down the mic gain if you are operating in noisy conditions that would require you to reduce the background noise (Field Day would definitely qualify). I did not need to adjust this under any of the more normal conditions under which I operated it. There are two additional holes left for the plug-in CW adapter. One of them is for the push button switch and the other for the key. This module wasn't available at the time I tested the rig, but I am

looking forward to testing it out. I like 20 Meters a lot and having both CW and SSB capabilities in a small portable rig would be a big plus to me.

The rig is very small and light. It is the same size as their CW QRP rigs and operates easily off a gel cell. I used a 4Ah gel cell for a long period of time without any difficulty. If you are planning on operating from hotel rooms or other places where power is available there is an optional AC portable power supply available. This rig and accessories can easily pack into a small airplane carryon bag. I plan on packing the rig, a small gel cell, battery charger and a 20 Meter dipole in a carryon bag for a trip to Arizona this summer.

I first plugged the rig on my station test bench in my ham shack. I like to test rigs out under conditions where I can easily make side by side comparisons. I currently have nine separate transceivers hooked up and can easily switch between them. I find that although the specifications on receiver and transmitter performance are nice for comparisons, I prefer on-the-air testing. It is important to me that a rig perform well under many different conditions. I typically spend time ragchewing, contesting and portable before I form an opinion about a given radio. I tested the MFJ-9420 with the matching microphone. I strongly recommend the combination. I was very pleased with the nice feel of the matching microphone. On the air audio reports consistently confirmed the combination does a great job.

I don't think I ever had as much fun testing a new piece of equipment as I did with this rig. I didn't set any expectations about how the rig would perform. The rig doesn't have a lot of bells and whistles, such as memories, but this makes it the easiest to use SSB rig I have come across. My first contact was with Frank W6AIY. He reported that the audio was solid and very good quality. Mike, KD1QR, said "Read about that rig and more impressed now that I hear the audio."

I started to get excited about what the rig could do. I made up a cigarette lighter power cable and stuck my 20 Meter ham stick on the back of my convertible which was still in my carport. I heard someone calling CQ. Lou, KC2LL, told me that the rig had great audio, good solid signal and stated "can't believe how well you are doing with low power and a Ham Stick antenna"

My next phase of testing was to see if I could get anyone to hear me during the CQ WPX. I find the big contests are a tough test of any rig. I managed to make quite a few contacts. At one point I heard a big pileup on TM1C. I gave him a call. We exchanged contest information and I sneaked in the comment that I was working low power on a new MFJ rig. He cam back and ask me if I really said I was using low power. When I affirmed that I was he said "unbelievable, you are stronger than the rest." I have to admit I am using a good 5 band quad which helps a lot, but during these contests most of the other stations are using bigger antennas and a lot more power.

The other evening I had a friend over working on a beta version of a CW QRP rig. I always turn one of my rigs on as background music. It was late in the evening and I decided to see if 20 Meters had any life at all. We heard a big pileup on V73C. I tried to get him a number of times with one of my older rigs and about 50 watts. I was not successful. I decided to play around and turned on my Kenwood 850S. I was able to get through after a couple of calls. On a whim, I turned on the MFJ to the same frequency and gave the mic to Conard, WS4S. He called and was able to get through on the first call. It could have been his experience as a ham operator, but we where both standing around with shocked looks for a while after he made the contact.

I have operated the rig from my shack, and with a portable vertical made from PVC as well as using my Ham Stick in my car (not mobile). The rig has been used for long rag chew sessions as well as just playing around the band. During the testing period I gathered a number of quotes from people commenting on how good the audio quality is.

The transceiver was designed as a small, portable travel rig that would be rugged enough to take on camping trips and other portable use. The rig was not meant to be a replacement for your main station rig. It doesn't have RIT (I didn't need it during my testing). There is no jack for headphones and not an easy way to put in additional filtering. The rig does do a great job at what it was designed to do. The radio lists for $219.95 without the microphone and $229.95 with the mic. The AC portable power supply lists for $39.95. If you have not had your hands on one, you might want to try one of these on the air. WR

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1940 Wetherly St.
Riverside, CA 92506

"The 40-40" in review

The QRP Club of New England seems to place a premium on symbolism in telling the story of what it's all about.

The club logo, for example, includes a drawing of a radio amateur in silhouette, soldering iron in hand, dutifully hunched over a building project at the bench. What more fitting illustration would there be for a group long priding itself upon homebrewing and QRP experimentation?

It's not too surprising, then, that the club's choice of a name for its latest project — a fully functional single band superhet QRP transceiver that can easily be constructed small enough to fit into your hip pocket — was carried out with the same care and precision as the design of this fantastic little rig.

For about $40 you get a 40 Meter transceiver kit — thus "The 40-40" — with a near-minimum parts count on a printed circuit board measuring just 2.8 inches by 4 inches.

For the price and the product, you just can't do much better.

"When you get right down to it," the manual asserts, "a workable superhet transceiver needn't be more complex than a good DC (direct conversion) transceiver!"

QRP-NE's "40-40" proves it.

The best part is, the transceiver is available through the QRP-NE Club, and should the organization choose at some point to discontinue production of "The 40-40," designer Dave Benson, NN1G, of Newington, CT, promises it will be readily available either through him or a licensed distributor.

The rig is now available for 30 Meter operation, too, if you'd care to venture into the world of 10 MHz.

I received the 40 Meter kit on a Friday evening, and by noon Sunday was basking in the afterglow of some excellent signal reports from stations around Southern California and up the coast. In the following week, most western states and Canada have been snagged casually on a sometimes less-than-optimum 7 MHz.

Built in a metal cabinet I had on hand measuring 3 inches wide, 5 inches deep and 1.25 inches high, it is a perfect size for backpacking or portable use.

The transceiver is contained on a single high quality PC board that is tailor-made for the true home builder. For example, there's no silk screen outline of parts on the component side. And there are a handful of toroids to wind and mount. No question that this rig meets the "homebrew" criteria.

With the aid of an excellent 18-page manual, however, it's not too difficult to successfully tackle and complete this project.

A large pictorial provides a visual backup to the schematic, showing the placement and orientation of every component.

"The 40-40" comes complete with all board-mounted parts. The builder provides two potentiometers, an enclosure, knobs, and jacks for the +12VDC, key, antenna, and headphones — all widely available. The club even provides Radio Shack parts numbers for each of these off-board items.

The rig completed at KI6SN covers about 33 kHz of 40 Meters, is capable of a watt and a half output, and can deliver more than enough audio to give you a good headache.

Keeping things simple, the rig is varicap-tuned, compliments of a MV1662 diode.

"The 40-40's" front end, product detector/BFO and transmit mixer feature NE602s, with audio amplification provided by an NE5532. The final transistor is an RCA4013 which has kept its cool — to the touch — even after long-winded transmissions at one watt.

On air reports have been stellar, both in regard to frequency stability and tone quality.

This 40 Meter rig has a 4 MHz intermediate frequency. The receiver is quite sensitive, and with a bandwidth of about 500 Hz, "The 40-40" delivers nicely-sculpted CW with enough audio power to drive a small speaker.

A filter between the receive mixer and product detector/BFO has only two crystals, which works well in concert with a 4 MHz IF. The club has measured filter loss at less than 2 dB.

The AF output stage internally limits overcurrenting on very strong signals, functioning much like an automatic gain control (AGC). Now, that's a sure-fire way to keep the parts count under control.

Current drain on receive is about 21 milliamperes, and is 150 to 200 milliamperes on key down, according to Benson. That's great news for battery users.

A 12 volt, 2.5 amp hour battery has served well here for more than two weeks of almost daily use without any appreciable degradation in the cell.

"The 40-40" features full, relayless QSK and receive muting, and for those radio amateurs who just can't live without receiver incremental tuning (RIT), there's an outboard design in the works at QRP-NE that can be added later.

The transmitter's buffer stage includes a drive control for those who would like the option of adjusting the rig's power. After confirming "The 40-40's" advertised watt-and-a-half output, I scaled mine back to one watt and have worked virtually everything I can

hear on 40 Meters through a G5RV antenna only about 20 feet high.

All parts provided in the kit were top quality and fit perfectly on the PC board.

QRP-NE promises technical support to anyone building the kit, so homebrewers are all but assured they're going to get on the air with "The 40-40."

While this project is believed to be within the capability of most homebrewers, QRP-NE does not recommend it for first-time builders.

For ordering information about "The 40-40," write QRP-NE's Paul Kranz, W1CFI, 26 Mettacomett Path, Harvard, MA 01451.

Membership information about QRP-NE can be obtained through Jack Frake, NG1G, P.O. Box 1153, Barnard, VT 05031.

Luke Dodds, W5HKA, SK

Luke Dodds, W5HKA, perhaps most widely known as a longtime secretary/treasurer of QRP Amateur Radio Club International, and the United States representative for Great Britain's G QRP Club, became a Silent Key earlier this year, leaving a great void in the world of QRP.

A familiar face at the Dayton Hamvention and mini-conventions spanning to Rochdale, England, Luke was also known for the hospitality he showed QRPers visiting Texas.

An editorial appearing in the Spring 1994 edition of "SPRAT," the G QRP Club journal, described Luke as "more than a faithful and hard working club representative. He was a gentleman in every sense of that word: courteous, dedicated and caring in everyday life and in his hobby. . . . We do well to mourn the passing of a lovely man and a fine radio amateur."

Catalog of the month

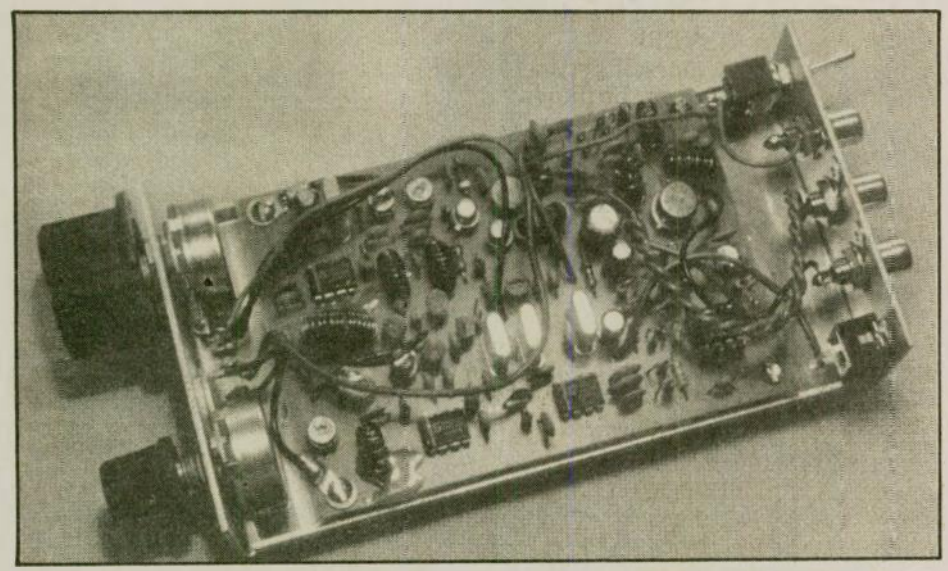
For more than a year, the ***Worldradio*** QRP column has regularly been featuring sources for catalogs listing electronic parts and gear for the QRPer. It's all part of an ongoing effort to continually expand and update the kind of "library" every good homebrewer needs to survive.

This month consider obtaining the catalog from DC Electronics, a parts house based in Scottsdale, AZ.

DC's 50 page catalog offers a wide variety of parts ranging from ICs and transistors to capacitors, resistors, transformers, potentiometers and switches.

Orders can be placed by toll-free telephone. There is no minimum order.

For DC's free 1994 catalog, either write to P.O. Box 3203, Scottsdale, AZ 85271-3203, or call 800/467-7736 or 800/423-0070. WR



"The 40-40" transceiver, built into a hip-pocket sized enclosure.

County Hunter

Ace Jansen, N3AHA

51 Kenbrook Circle, San Jose, CA 95111

Over the past three years I've received some mail from readers requesting answers to their questions. I'll go on record saying I haven't done a very good job of responding to their requests. Some answers were provided in columns, but others got thrown into a pile of unanswered correspondence, with QSL requests, etc. . . and unfortunately was mistaken for another pile that my wife ripped up as trash. I had to put all my correspondence and QSLs back together like a puzzle. Now we're moving across town and I think I better respond now or I may never find this stuff again. So, I'm finally emptying. . .

The mail bag

From Dave Allard, KD1PW:

Would you please send information on the different awards a county hunter may achieve? I know what the award is on 10 Meters but I'm not sure who gives out awards for 20 Meter county contacts.

Dear Dave;

The main county hunter award is offered by *CQ* magazine — the USA County Award (USA-CA). If you look at QSL cards you might see USA- CA followed by a number. The number usually indicates that individual has confirmed contacts with all 3076 counties. However, some put their USA-CA number on the card even if they only have the basic award for 500 counties. The County Hunters are fortunate to have an organized club called the Mobile Amateur Radio Awards Club (MARAC) to offer additional awards. The club offers awards for mobile achievement and awards for stations making contacts with mobiles. For a county hunter information packet, send an SASE to MARAC, P.O. Box 64, Newport, MN 55055.

• • •

From Syd Lawson, KQ4OT:

I am a new ham and have upgraded to Advanced and am studying for Extra. I'm interested in the County Hunter award. Where can I purchase a county hunter's map and all the format or procedures on HF?

Dear Syd;

The Mobile QSL Bureau (Rt. 3, Box 400, Timonsville, SC 29161) has 17½ x 22½ inch maps with all counties identified available for $5 and laminated maps for $7.50. They also print a county hunter coloring book for $10. This book provides a page for adding contact information and a state map for coloring worked counties. The B&B Shop, 13212 North 37th Ave., Phoenix, AZ 85029, offers a County Hunter Handbook for around $5 with information on net procedures, award information, MARAC member lists, USA-CA holder lists, etc. It's *the* source. It will answer any questions you have about county hunting.

• • •

From Richard Dickins, KYØQ:

I am the Program Chairman for the Schaumburg Amateur Radio Club whose members generally come from the Northwest suburbs of Chicago. I wonder if you know of any county hunters who live in the Chicago area who might be willing to give a talk at one of our club meetings. I think it would make for an interesting program and county hunting might gain some new participants.

Dear Richard;

Great idea! Maybe I should try and develop a national County Hunter Speaker's Bureau to give county hunter talks to clubs across the country. I've often considered developing a road show presentation that I could take all over the Northern California area. . . and you may have motivated me to finally 'Just Do It!' There are several well-known county hunters in the Chicago area, but my recommendation would be Tim, N9DEH. Tim has contacted all counties four times, but is more known for giving out counties. He was a truck driver and spent almost every day of the year on the road, giving out counties on the net. If he can't help you, maybe he can recommend someone who can.

• • •

From Bill Weed, KB5TZJ:

We just bought a triband beam, have HF equipment and live in an area that has few hams which would allow us to give "assistance" to county hunters. The beam was bought and the portable masts made for quick set-up with roving in mind. I know what it feels like to receive a rare DX station but it must give even greater satisfaction to be able to give that contact to someone who desires it so much. For what ever the reasons we want to do it, we are coming to you for advice. How do we get started? How do people know we are here?

Dear Bill;

Yes, it's a great feeling to help someone in need and giving a fellow amateur a much needed county is no exception. Your best bet is to operate mobile on the County Hunter's net on 14.336 MHz. If you really want to operate portable, you might announce your trip with MARAC's Road Runner, the Mobile QSL Bureau's Bureau Drawer, or B&B Shop's Weekly Hunter (13212 North 37th Ave., Phoenix, AZ 85029). Although the net gives priority to mobile stations, you could at least let them know where you are and move off frequency. Many county hunters are interested in making a new county contact, regardless if the station is mobile, portable or fixed.

• • •

From Butch Mason, W6KAG,

The Kalawao County Amateur Radio Club of Molokai has, in the past, operated from Kalawao county. . . on

the little island of Molokai. This is probably the most difficult county to work because no General or higher class hams are resident there. I have come up with a bright idea that maybe the use of a bit a technology might save a lot of work. It would be possible for our club to "Gateway" the repeater on to the HF bands. The big question is — do the County Hunter rules allow for such an operation?

Dear Butch:

Great idea! You're really thinking, BUT it's not legal with the county hunters. Unfortunately, cross band contacts, repeater contacts, and remote operation is not allowed. This kind of activity is also not allowed for DXCC. Too bad we can't use technology to beat the system and make things easier, eh?

• • •

From Dave Cretty, K3ZXP,

Where can a new county hunter get information on how and where to work counties? I can never find the net on other bands other than 20 Meters. Are there any other newsletters which provide more info on county hunting, mobile set ups, county hunters themselves, trips, etc. besides MARAC's Road Runner.

Dear Dave;

The County Hunter Handbook (available from the B&B Shop) is a great source for information. It should answer all your questions about how and where to work counties. The net does not operate regularly on other bands besides 20 Meters (14.336 and 14.056 MHz). On occasion, mobile operators on 20 Meters will announce they will QSY to other bands to provide 5 band county seekers with a new one. Other than that, the 75 Meter net operates semi-regularly during the winter months in the evening.

Your three choices for information are the Road Runner, Bureau Drawer, and Weekly Hunter. A good source for mobile setup is *40+5 Years of HF Mobileering*, by Don Johnson, W6AAQ, available from **WORLDRADIO BOOKS** ($14.95 + $2.00 S/H), P.O. Box 189490, Sacramento, CA 95818.

This just in

ACES, the Amateur Confirmation Exchange Service, announces the start-up of a new service for county hunters — exchange of mobile reply cards (MRCs) and first county hunter net contact QSLs. The timely and accurate movement of MRCs and QSLs to and from Amateur Radio operators is their only business. Confirmations are mailed to either mobile or fixed stations as soon as a full ounce of cards (12-15) is available. If a full ounce is not reached at the end of an approximately 30 day cycle, what they do have will be sent.

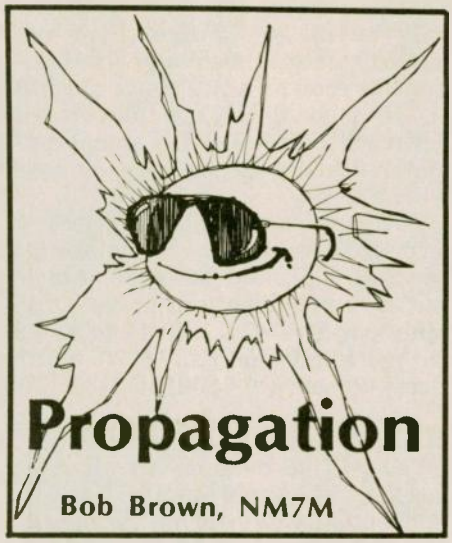
There are no membership fees or forms to fill out and the cost is 20 cents per MRC/QSL. Batches of 30 or more cards, at one time, are priced at 18 cents per MRC/QSL. Write to ACES for more information: 15020 N 7th Drive, Phoenix, AZ 85023-5214.

MARAC National Convention

You will be reading this after the fact, but the annual MARAC National Convention was held in Springfield, MO this year from 21-25 June. The annual awards banquet on Saturday is when the Operators of the Year are announced for Best Mobile and Best Net Control for both the SSB and CW nets.

See you next time

That's enough for now. If you need a USA-CA record book, send $2 to *CQ* Communications, 76 North Broadway, Hicksville, NY, 11801. Until September, see you on 14.336 or 14.056 MHz and happy hunting! WR



All aboard

When it comes to hobbies, you'll find that they often radiate out from a single theme. Take railroads, for example. Now that they're essentially gone from the contemporary scene, at least here in the USA, sentimentality drives people in wondrous ways. Thus, there are "collectors" of every stripe and color. Some concentrate on the various physical plants, seeking out rail stations, switch-yards or round-houses, and can show you photographs that span the Continent. There are those who collect dishes and silverware from dining cars. Others are devoted to more heroic efforts, perhaps the building of railroad bridges across raging rivers, that take you back not just years but decades.

Some will travel almost anywhere to ride a train, whether it's just a miniature in a public amusement park, a short trip on the track of a once proud line or one of the present AMTRAK routes. And there are other opportunities abroad, starting with Canada. Myself, I was in New Zealand about 30 years ago and had my young son with me. He'd never been on a train before so we rode one, belching ugly smoke, from Dunedin to Christchurch. He cherishes the memory of that ride while all I recall is the headache I got from inhaling all those foul fumes.

Live steamers

All that deals with the "real thing" or what is left of it now. But there are other hobbies which are centered on railroads. Back at the Big U in California, we had some very skilled machinists in our department who built apparatus for us. I won't say there was any form of selective hiring involved but I was amazed at the number of "live steamers" in the machine shop, people who built and operated scale models of the steam engines from the past. Maybe it was contagious with that part of the population. In any event, once a year they'd put on a show for all the other railroad buffs in the area. That even surpassed any of the Lionel electric railroads we admired as children.

Sentiment and propogation

So what does all this sentimentality have to do with the propagation, you ask? Well, as you may have noticed, I have something of a sentimental attachment to the ionosphere but I like to express it in different ways, sometimes on the air and other times on my computer. On the air, I've shared the experiences of others which go right to the fundamental aspects of ionospheric propagation, be it DXing, fading or skip to mention just a few.

When it comes to the computer side of ionospheric matters, I have to say that I enjoy re-creating some of the classic calculations done decades ago by the pioneers in the field. I won't say that those calculations were "heroic" when they were first carried out but if you think about of the crude "calculating machines" available about fifty years ago, you can appreciate the difficulties and tedium which must have been involved. Those were dedicated people.

Skip

Skip is an excellent example, something that became apparent very early in the history of radio, and had a jargon of its own: ground-and sky-waves. Somewhere in between, there was a "never-never land" where signals were not heard. That was a theoretical challenge and answers emerged as ionosondes began probing overhead. So let's use that as our theme and see how theory came to grips with the reality of skip.

For starters, from ionospheric sounding, the idea of "layers" or "regions" soon came to the fore, RF pulses sent vertically upward first reflecting off of one or then penetrating it to go on to another as the frequency was increased. The critical frequencies where RF was last reflected back to earth came to be known as FoFE, FoF1 and FoF2 after the regions involved and those frequencies were converted over to electron densities, so many electrons per unit volume at the various heights. We've talked about all this before so there's nothing new or earth-shaking in those ideas.

Models

But at that point something new began, model-building, and that was not on a small-scale like the models by the railroad buffs; it was real science and meant that serious efforts were made with ionospheric models to understand the observational material. To place it in time, it goes back to before WWII when work was undertaken in the USA and the UK to find the relationship between properties of the ionosphere overhead and the oblique transmission of sky-waves by the E-and F- regions. From the observational material alone, the idea of a

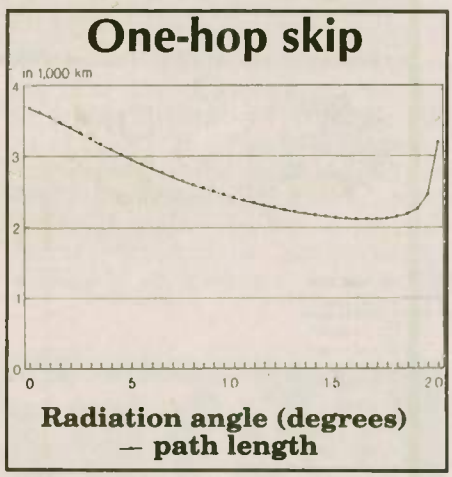


Figure 1.

"maximum useable frequency" (MUF) emerged in '37.

When it came to theoretical model-building, math and all that, you can well imagine that it started with stark simplicity, an ionosphere above a flat earth and without the geomagnetic field, and developed from there to a curved ionosphere and included the earth's field. But to even begin simply, a major idea had to be accepted: the ionosphere is not made up of separate layers with nothing in between, perhaps like the separate layers of a cake. Instead, the electron density profile had to vary continuously with altitude, from the ground up to the highest levels reached, and have within it ledges at the heights of the E-, F1 and F2 regions. We know all that now, thanks to rocket and satellite studies, but the idea was "news" back in the 30s.

Parabolic shapes

At the outset, ionosonde data suggested the regions over-lapped, each higher and with greater electron densities than the previous one. Various

shapes and connections were tried by theorists but the main thrust finally settled on using a parabolic shape for the E- and F2- regions.

So what's a parabolic region, you ask. Take the E-region, present when the sun is up in the sky. A parabolic E-region has a smooth, round electron density profile which peaks around 110 km altitude and has its electron density drop toward zero like a parabola, reaching vanishingly small levels at heights about 20 km above or below the peak. Okay, that tells you what a parabolic E-region is like. But let's save the idea of a parabolic shape for our model and keep it simple by not worrying about the E-region itself; instead, let's just deal with whatever ionosphere is still present during night-time hours.

As you know, the F1-region is above the E-region and like it, it's only present during daylight hours. So we're left with the F2- region at night and there, experience with signal transmission on the HF bands tells us that RF stays below the F2-region peak. On that basis, only the lower half of a parabola will be needed for our modelling purposes. As for its extent, the early work with ionosondes showed that the lower part of the night-time ionosphere started a couple of hundred kilometers above ground-level and the F2 peak was about 100-150 km higher. So that's what was known about the night-time F2-region in the 30s. And it was modelled by using the lower half of a parabola with a peak electron density to match the critical frequency, FoF2.

Of course, the parabolic shape was

an approximation, something better than a profile arrived at "by-guess and by-golly," but still an approximate representation of the shape of the F2-region obtained from ionosonde data. The question then becomes how to use it in treating the practical problem, the oblique transmission of RF signals by ionospheric refraction.

Snell's Law

In principle, two different approaches were possible. The first was to solve the problem mathematically by using the model with Snell's Law from optics to derive an equation for the distance covered by RF waves for a given launch angle. In essence, with a parabolic electron distribution, the calculation gave the total effect of refraction on RF waves by the ionosphere. Just put in the radiation angle, the height and thickness of the F-region parabola and out pops the answer.

Well, not quite. Nowadays, with computers on the scene, we talk glibly about "number crunching." In those days, it was really "NUMBER CRUNCHING" and with that analytical approach, none of the intermediate details of the path are obtained, only the final answer of so many kilometers distance between the transmitter and ground contact. That was the method used before WWII by the group in the UK under Sir Edward Appleton.

As indicated at the outset, I enjoy re-creating such calculations and have worked out the case of 14 MHz signals in a night-time F-region having a 7 MHz critical frequency and the electron density peaking at 350 km. While Appleton and Beynon must have taken weeks or months to literally grind out results using mechanical calculating machines, I did all my calculations in one morning, thanks to a 386 computer and the MathCAD program. Take a look at Figure 1; that shows how the ground range varies with the RF launch angle from a transmitter.

In that figure, you see that as the launch angle is increased, the distance that 14 MHz RF reaches by F-region refraction decreases until the launch angle is about 17 degrees; after that, the distance increases rapidly and the RF actually penetrates the F-region at an angle of 20 degrees. That figure shows the reality of "skip," signals never reaching locations in the first 2,100 km from the transmitter. That was for 14 MHz signals; if one uses the same ionosphere to workout the problem for 10 MHz signals, the skip distance is down to 1,050 km at a launch angle of about 35 degrees and penetration occurs at about 40 degrees.

There are two interesting aspects to the result shown in Figure 1, the first being that radiation penetrates the F-region for launch angles greater than 20 degrees. That point bears on the fraction of an antenna radiation pattern which is effective, particularly for DXing. For example, an often quoted result is that the radiation pattern of a dipole peaks at 30 degrees above the horizon, at least when over a good surface like salt water.

What works?

Figure 1 shows that only the first 20 degrees of the vertical lobe of an antenna would be effective, radiation at higher angles not being returned by the F-region. Moreover, for a distance like 3,000 km, two different radiation angles are effective but for a dipole at a half- wave above a good ground, the intensity of signals from the lower one prove to be 12 dB less than the those from the higher one.

The idea that two different angles of radiation may reach the same distance brings us to the second method of dealing with the skip problem, ray-tracing. In that approach, Snell's Law from optics is used to take an RF wave, step-by-step, through its refraction in a model ionosphere, say 1 km at a time, and the ray path traced out in a vertical plane. That reveals the details of the RF path not shown by the earlier approach. And in numerical terms, that type of model- building is much more flexible but the computing time that's required is another matter, making it almost beyond reach in the early days of propagation studies. But nowadays, computers provide ray-traces in a second or so.

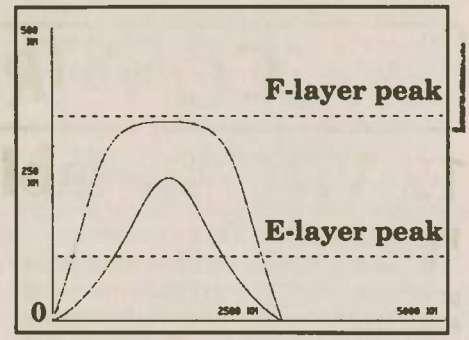


Figure 2.

Ray-tracing shows that the RF range decreases as the radiation angle increases, just as in Figure 1. But it also shows how the RF steadily penetrates further into the ionization in the F-region. At the minimum range, or skip distance, the range begins to increase as the RF penetrates more rapidly into the F-region. Finally, the RF penetrates beyond the F-region peak and the return of signals ceases.

All the angles

Figure 2 shows two ray-traces for the case at hand, both the low- and high-angle rays that reach about 3,100 km from the transmitter. The calculations were done for a curved earth but are displayed in a rectangular format for convenience. The high-angle ray is called the Pedersen Ray and on its horizontal portion, it comes close to the peak of the F-region before finally being refracted downward.

Such high-angle ray paths have some reality but their actual effectiveness depends on the spatial and temporal stability of the ionosphere around the F-region peak. Thus, the slightest "jiggle" in the electron density, in space or time, near the peak will shift the ray onto a path which goes off toward infinity or back to the ground. While that "fragility" makes a Pedersen Ray somewhat uncertain for DXing, if the higher angle comes close to the peak of the antenna pattern, the gain in signal strength could be to one's advantage.

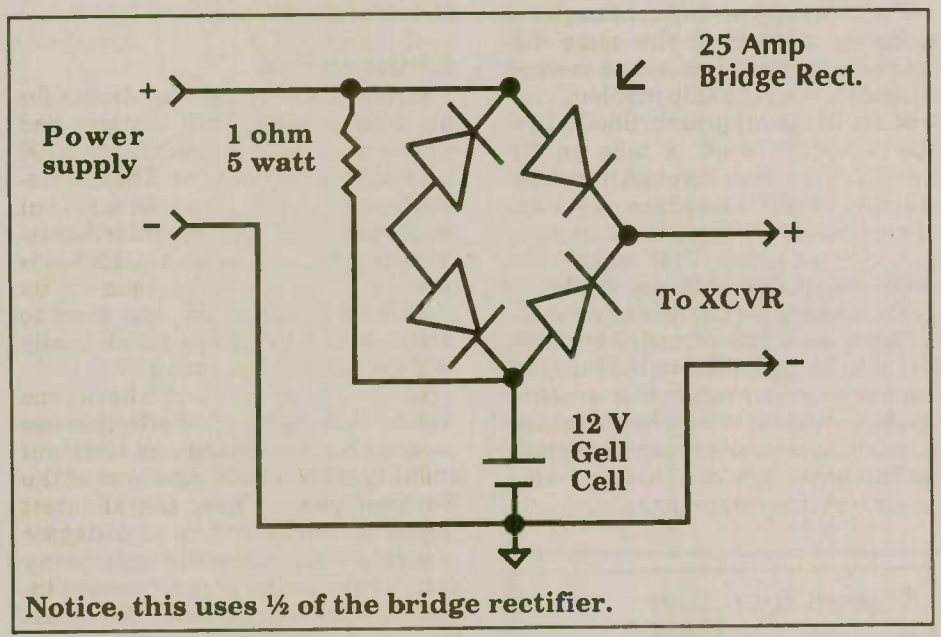
Let me conclude by saying those two approaches opened up the entire field of ionospheric modelling, many other aspects of the observational material then coming out of the methods. From that, I think you can appreciate the pleasure and satisfaction that comes from re-creating some of the classic calculations. In a funny, abstract way, it fills the bill for me but I'd be the last to suggest that it compares with the joy that must come from actually building a real model, say a "live steamer." That takes talent, no doubt about it. I wish I could do it but I seem to be all thumbs when it comes to making things mechanical. WR

CONSTRUCTION

12 VDC portable power supply

PHIL SALAS, AD5X

How about a small, low cost portable power supply for your favorite solid state rig? I wanted to carry portable power around for my TS-50S and I didn't want to lug around my Astron 20 amp power supply (the Astron supply is several times larger than the TS-50S). I did have a small 3 amp regulated power supply and a 12 volt, 6 amp-hour gell cell so I thought I'd see what I could do with these. The circuit I came up with is shown below. I effectively "diode-or'd" the power supply and gell cell as shown with a Radio Shack 25 amp diode bridge. A 1 ohm 5 watt resistor (also Radio Shack) permits charging the gell-cell with some current limiting.



Notice, this uses ½ of the bridge rectifier.

This set-up works great. The gell-cell charges quite rapidly from the power supply, but the charging current drops off as the gell-cell voltage approaches the power supply voltage so you won't overcharge the battery. Under normal receive conditions, my TS-50S draws about 900 milliamps and this is supplied easily by the power supply. During high current requirements, the power supply voltage drops enough that the gell-cell supplies the necessary current (sort of like a BIG capacitor).

Believe it or not, I can run the TS-50S at 100 watts output for short periods of time using this set-up. At the 10 watt output level, this set-up should power your rig almost indefinitely. Just leave the power supply on all the time to keep the battery charged. To keep from overcharging your battery, you must use a REGULATED power supply set at 13.8 volts (the float voltage of a gell-cell). If your power supply puts out much more than this, you will overcharge your battery.

With careful shopping, everything should cost you no more than about $30. Not bad for a small, high current power supply.

DX contest calendar for July

1 July	Canada Day contest
2,3 July	Venezuelan Independence Day Contest, SSB Weekend
9, 10 July	9th IARU HF World Championship
16 July	Colombian Independence Day Contest
16, 17 July	SEANET Contest, CW Weekend
23, 24 July	2nd Annual Islands on the Air Contest (IOTA)
23, 24 July	Venezuelan Independence Day Contest, CW Weekend

July provides a smorgasbord for DX contesters, both CW and SSB aficionados, who can tear themselves away from the beach, the mountains or other vacation delights. The Canada Day, IARU, and Columbian Contests can be entered on either CW or SSB, while the Venezuela Contest offers separate SSB and CW weekends, both in July. The SEANET Contest has its CW weekend this month, with the SSB weekend in August. The IOTA Contest is SSB only. Complete rules for these contests may be obtained by sending an SASE to K4IIF, except for the IARU Contest. Complete rules for that event appear on pg. 122 of the April, 1994, issue of *QST*. K4IIF will operate during the IARU Contest as ZF2JI.

For the casual contester interested in exchanging reports and working toward an appropriate award certificate, the exchange for each contest is as follows:

Columbian, Seanet and Venezuelan Contests — Send and receive RS(T) and progressive serial number beginning 001.

IARU Contest — Send and receive RS(T) and ITU zone.

IOTA Contest — Send RS and serial number plus IOTA reference number if applicable.

Results of the 1993 All Asian DX Contest — CW Weekend

There were 629 entries in the 1993 event so complete scores of all stations cannot be presented, but Continental leaders in the single operator, multiband category and top U.S. scores were as follows:

Continental Leaders

continent	callsign	points
Africa	7Q7XX	354,660
Europe	OH1NSJ	284,282
Oceania	VR2APK	205,418
N. America	W7RM	327,085
S. America	OA4CWR	27,030
Asia	UI9ACP	264,828

Top USA scores

A tip of the *Worldradio* hat to Rush Drake, W7RM, who made 1,045 contacts and 313 multipliers for 327,085 points, tops in North America and second worldwide only to 7Q7XX in the multiband category. Other competitive U.S. Scores in this category were posted by K6XT, K6XO/7, N6IP, K3ZO, K6NA and W7HS. Outstanding single band scores were reported by KI6FE/7, K6OY, K7JYE and KN6M/5 on 40 Meters.

Top scores from Japan were:

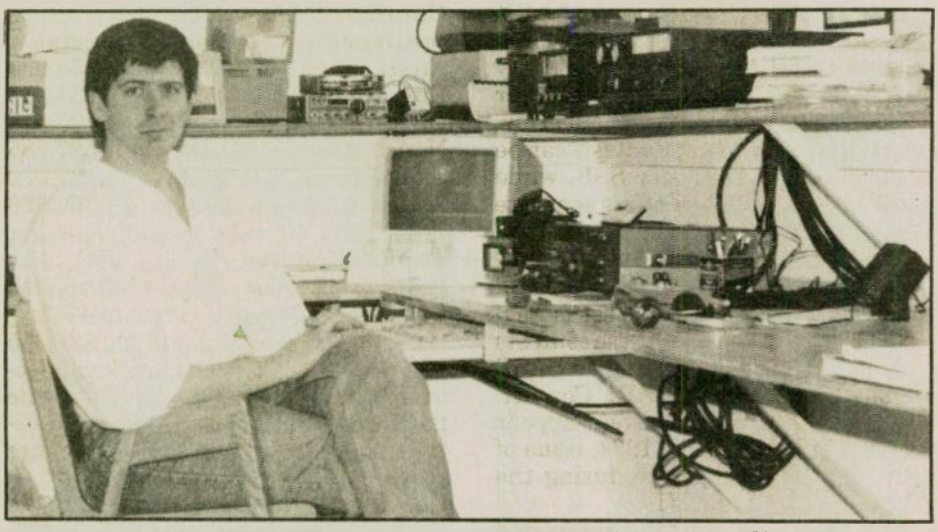
multiple op multiband	callsign
3.5 MHz	JA2TFU
7 MHz	JH7XGN
14 MHz	JH7QXJ
21 MHz	JH7AUL
28 MHz	JH6WHN
single op multiband	**callsign**
SOMB	JH1AEP
MOMB	JAØYAK

And in Canada, the high scoring station was VE7UF with 979 contacts, 257 multipliers for a total of 251,603.

What is a good contestpedition — a great contestpedition?

The definition of a good contest operation is, to me, very personal, very subjective. I am not a perfectionist, possibly not sufficiently competitive, but my definition is very simple, and answered by these two questions: Did you have a good time with friends? Did you hand out a lot of multipliers to the stations back home? If you can answer "yes" to both questions, your trip was a success.

Being at "the other end" in a major contest is a lot of fun, and quite honestly a bit of an ego trip. It's nice to be in control of the pileup instead of under the control of the pileup, to hear a voice in the melee plead "John, aren't you going to work any 4s?" I started back in 1965 in the *CQ* Worldwide Phone at VP2VD, and over the years from the Bahamas three times, the Virgin Islands four times, Iceland twice, 4U1ITU four times, plus the Turks and Caicos Islands once, Finland once and Grand Cayman nine or ten times, and to me there has never been an unenjoyable contest, it never grows old. You can have fun with a 100



Dave Goodwin, VE2ZP, is Contest Manager for the Radio Amateurs of Canada, (RAC). Dave also writes a column on contesting for *The Canadian Amateur*, the monthly publication of the RAC.

— Photo courtesy of K4IIF

watts and a few wire antennas, or with a 7-element beam at 90 feet, it's outlook and attitude.

There are those who want more, and expect more, and they are the great competitors who will make record scores and win the major trophies. Contests would not be complete without them. I hesitate to mention call signs as so many are deserving of recognition, but over a long period of years names such as Fred Laun, K3ZO; Martii Laine, OH2BH; Ville Hiilesmaa, OH2MM; Jim Neiger, N6TJ; Dick Norton, N6AA and Katashi Nose, KH6IJ, just to name a few, have stood out above the crowd.

To the great ones, success in the *CQ* Worldwide means working 38-40 zones and 250+ countries, and they will frequently attain it through skill and a superbly engineered station. It takes both, though I have at times been amazed by the scores attained by some operators even with modest equipment.

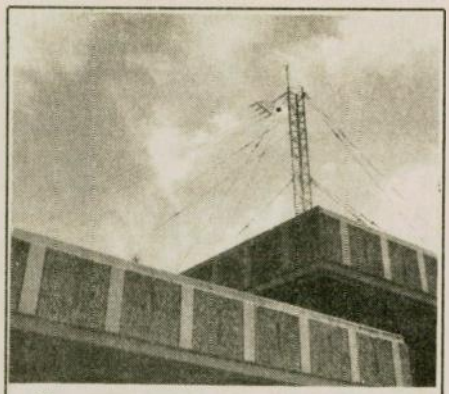
The big contests are definitely not complete without the major group efforts. The Finland group, organized by Martti, OH2BH, and originally called the OH DX Ring is legendary. Their operations from EA8, CT3, and P4Ø have set the standard for over 20 years.

Many U.S. and European groups have made high scores from the islands such as Trinidad, Aruba, Bonaire, Curaçao, and the Cape Verde and Madeira Islands. These are called the 3-point islands, because contacts with both the U.S. and Europe count 3 points, whereas contacts between the U.S. and most of the Caribbean islands count only 2 points, putting operations from VP5, C6A, ZF and others at a competitive disadvantage.

However, I would like to cite one U.S. group, from right here in W4-land, who are much less heralded, but who arguably organize and conduct the best contestpedition operations in the entire world. This is the North Florida DX Association group from the Jacksonville area who have organized contest expeditions for over 20 years and who run up high totals even from two point islands such as VP5. Look no further than the 1993 *CQ* Worldwide Phone Contest when the NFPXA expedition made 13,223 contacts and approximately 21.7 million points operating from Providençiales Island in the Turks and Caicos chain. Top band was 15 Meters with 3,656 QSOs followed by 20 Meters with 3,393. There were five transmitters averaging 285 contacts per hour.

This expedition was a superb example of how an operation aimed at a top score should be conducted. They used 17 operators picked not only for proven ability, but also for their knowledge of individual bands. For example, a 15 Meter operator was usually a person who "lived on 15 Meters" and knew every quirk of the band. An advance group arrived a week early to set up the antennas and see that they were properly tuned. The entire group was in place by Tuesday before the contest so that everyone was fully rested and comfortable with their surroundings. The results speak for themselves.

Operators included WB4EYX, N4KE, W4FDA, KQ4GC, N5RR, AB4XA, AC4ET, NO4J, KC4FWS, WR4K, AB4UF, NU4Y, W4SME, WA4DRU, WB4KSP and NF4L with QSLs handled by K4UTE. WR



AERIALS

KURT N. STERBA

Anything a dipole can do, a loop will do better. It can be the salvation for those who are height challenged.

Let's say you can only (for a variety of possible reasons) get your dipole up about 20 feet. Not too good. Now, let's look at that dipole which is about 33 ft. long. Let's replace it with a loop which has a total of about 71 ft. Divided into the four sides, each is about 17½ feet. This is indeed a square. The impedance will depend on many factors, the main one being the height above ground and proximity to other objects.

You can feed the loop at a corner, or really anywhere you choose because no matter where you feed it, that's in the middle of it all. The loop may have impedance of about 100 ohms. But you say, "That's a 2 to 1 SWR!" If you have a tuner, use it and don't give it another thought.

You could, if a purist, use RG-62 which is 92 ohms. There would be but a very slight mismatch at the feedpoint. The 92 at the output of the tuner would then see a perfect match there.

Another solution is the perfectly rectangular loop. For example, at 14.200 MHz: the long side (horizontal) is 23.5915 feet long (.5915 ft. = 7⅛ inches). The short side is 11.7957 feet long (9½ inches). Feed the loop in the exact middle of one of the short sides. The impedance should be around 50 ohms. The radiation angle will be lower than with a dipole. The reception will be less noisy and some state that the chance for TVI is lessened.

A couple of twelve foot poles supporting the loop would do. Of course, higher would be better. The 20M loop would also work well on 10M. Should you make a 40M loop, it will work well on 20M and 10M.

For 15M cut another loop, using the formula 1005 divided by the frequency in MHz. For example: 1005 divided by 21.3 equals 48.1830 feet (2$^{3}/_{16}$ in.). You could interlace it with the other loop using light cord to support it.

The loop, square, rectangular or whatever, will outperform a dipole at the same height or even somewhat higher.

My research assistant came in my office saying I had received a nasty letter from CEO TACO. Now, I wondered why the Chief Executive Officer of the taco restaurant we eat lunch would be upset. I turned out that the letter was really was from an entity that we here call the "Cutting Edge Of Technology Antenna Company." Same old stuff.

I've heard that some, in an effort to sneak one past the community communists (who would like nothing better than to send to Siberia any antenna erector in the neighborhood) are painting the GAP vertical green to make it blend in with a treesy back yard. Yes, a coat of primer first would do well.

Another version of the loop is the triangle, called a delta loop by many. It can be erected with but one support, just like an inverted V which is half of a delta loop. Looking at one that is Apex (pointy end) Up, you could feed it, as I saw in a recent book right smack dab in the middle of the horizontal wire. You could feed it that way, the book's author could feed it that way.

However, you (and I) will feed it differently. If that loop is perfectly one-third wavelength on a side, then right at the lower corner would be the way to go. Even better is 0.08 of a WL up from the corner bend. Or put another way, 0.25 WL from the apex point.

I was just looking at a new antenna book that kept using the term "W/L." Gee why did the author invent an entirely new term? I've always found WL (for wavelength) perfectly usable.

This book, in talking about adding elements to a beam, told us that you get a narrower pattern and more dB gain. The way it was written, it was like these were two completely separate benefits! In fact, they are as intertwined as anything could be. It is from the pattern becoming narrower that more gain is accomplished. This is due to less power going off into the unwanted directions.

I have offered to look at antenna books, at no charge, so as to assist authors in avoiding embarrassment. No one has accepted my magnanimous (thanks Lil) offer. And, such is the pity.

To all who read this column: Please do not write in disagreeing with your letter starting off like "I graduated from Slippery Rock U. in 1940 with a degree in Electrical Engineering and YOU are WRONG!!!" All that does is show that you didn't learn much then or since.

Now let's set up a case study. We'll specify for this instance that the antenna is about 300 ohms. The feedline is about 70 ohms. In this particular case the SWR is an even 4 to 1. The feed line type and length is such that the loss is (a made up) three dB.

OK, you run this feedline to your tuner. On the other side of the tuner, (xcvr side) you place your SWR meter. Twist knobs. Right, you get a perfect match. On that side of the tuner. For an eye-opener (for some) put another SWR meter on the antenna side of the tuner. Twist knobs all you like. There is nothing you can do with that tuner to change the existing feedline condition on the antenna side of the tuner.

Yes, true, there now exists a match between whatever impedance the tuner sees and the 50 ohms of the rig. True, power is transferred and radiated EXCEPT for the portion that is lost in the feedline due to the SWR.

But I digress. Back to the delta loop. With this triangle antenna, to have

he bottom horizontal wire two feet off he ground, you'll need a pole about 28 eet tall.

Should that prove impossible, here s a solution that works great and is ıardly ever seen. That is, the delta oop upside-down. Possibly you have wo trees with 24 (or more) feet beween them. Or a two story house and ı tree, etc. Here's the picture. The riangle is turned over, now with the ointy end down. The horizontal wire s now on the top. Different than you night think, the SHIELD side of the oax goes to the horizontal wire and he center conductor to the vertical. Which is also the case when the triıngle is Apex Up.)

The take-off angle will be far lower rom this antenna than from a dipole ıt the same height.

How about those who find even this ımount of space beyond their situaion? OK, you see how the two vertical vires look like a "V?" Pull up on the owest extremity of the wire, pull it up naking a "W" out of it. Takes up less pace. True, it will have less gain, the mpedance will change, there will be ome cancellation. BUT, it beats not eing on the air at all. Since we have crunched up the loop size and there is ess AREA, there will be less field leveloped but don't worry about it.

And, yes, you can turn these loops, deltas) into parasitic arrays with reflector elements and director elements t the proper spacing and lengths. And, ou get these benefits without having o be way up in the air.

On another matter. There is a book ut now by a well known amateur. In ne place he calls a gain of 1.5 dB worthwhile." In another place he calls he same improvement a "mere" 1.5 B. Some call 1.5 dB barely discernole. Others say that every dB counts nd 1.5 dB makes a real difference. What do you say?

I've just started working with a new roduct from Autek Research. It is heir RF Analyst. Measuring but .5x2.5x1.5 inches (7 ounces) it meaures SWR and can display impedance t the frequency you dial in from the ıternal oscillator. It also reads inducance and capacitance. This is a handy ttle gadget. You can adjust it to the npedance that you want something) be and then press a button and see hat frequency is at that impedance. ial in the lowest SWR. Then press a utton and you see what the resonant equency is.

Autek is located at 4143 W. Waters ve., #120, Tampa, FL 33614; 813/ 71-3805. I would imagine that they ould send you a poop sheet on the nit. An SASE would probably be most appreciated. I do think this is going to be a very helpful unit to many antenna experimenters.

I've got a ton of good antenna stuff coming in the next few columns. And, I think it's really tacky that in the year that our book *Aerials II* has been out that three hammy mags have not chosen to review it. Maybe my pointing out the drek in their articles and ads made them pout.

The latest issue of the tiresome *Radio Fungus* has a construction article for a five-element, Two Meter Yagi. The claim is for 13 dB gain. Do they really expect that there is a single, solitary soul who will believe that?

(Kaptain Kourageous, sharpened sword at the ready, goes by his codeword name so he can speak his mind about the knaves and be free of fuming phone calls. Also, he can praise and being unknown can hobble into a ham gathering and not have a hundred dollar bill be slyly put into his blazer pocket.)

WR

Arizona

The Amateur Radio Council of Arizona will sponsor a hamfest on 22-24 July at Fort Tuthill, located at the Flagstaff Airport Exit #337, three miles south of I-40 on I-17. Features include ARRL forum, club booths, Ham of the Year award, repeater owners meeting, T-hunt, VE exams and ladies programs. Admission is free. Vendors cost is $10 for tailgating. Camping is $5 per night. Talk-in on 146.980(-) and 442.125(+), both require 100Hz PL. For more information contact ARCA, P.O. Box 32756, Phoenix, AZ 85064. Questions should be directed to the following: Tim 477-2748, Chris 843-0960, and Cliff 744-9095.

California

THE LIVERMORE ARK will sponsor an Amateur Radio/Electronic/Computer swap meet on 3 July from 7 a.m. to 12 noon at Los 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 145.350(-) PL 100Hz from the east. Contact Noel Anklam, KC6QAK, at 510/447-3857 eves. or leave message days at 510/783-2803.

Colorado

The COLORADO BIGHORN MUSEUM OF AMATEUR RADIO will hold their annual Open House on 3 July. At 10 a.m. there will be VE testing. The museum will open at noon, free admission. There will be a pot luck barbecue at 2 p.m. At dusk, enjoy a fireworks display put on by the City of Byers. Talk-in on 145.655 simplex which is permanently linked to 448.125 repeater. Back-up will be on the 146.67(-) repeater. For more information contact Don Zielinski, KØPVI, P.O. Box 229, Byers, CO 80103; 303/822-9868.

The MOUNTAIN ARC will hold their 13th annual swapfest/campout on 16-17 July at Red Rocks Campground, Pike National Forest. Advance reservations for camping is essential. Gates open for overnight campers Friday evening. Fee for camping and/or selling is $10 per day. Bring tables or tailgate. Potluck dinner is Saturday at 5 p.m. Refreshments available. Talk-in on 146.82(-) repeater. For information contact Fred, NØPKA or Patty, NØPSD, at 719/687-9727; or Bob, NØFCR, at 719/687-9025; or write MARC, P.O. Box 1012, Woodland Park, CO 80866-1012.

Illinois

The AMATEUR CROSS LINK REPEATER ASSOCIATION will sponsor a hamfest on 17 July beginning at 8 a.m. at Devry Institute of Technology in Chicago. Admission is $3 in advance or $4 at the door. Free spaces available to vendors. Talk-in 147.225(+) PL 107.2. For more information call 312/714-5411.

The DUPAGE AMATEUR RADIO CLUB will have a hamfest on 24 July at the Hawthorne Race Course in Stickney. Features include 30,000 sq. ft. indoor exhibit area, fully air-conditioned building, free parking, food and drink available. VE testing will be 9 a.m. to 12 noon. For more information, send SASE to DARC Hamfest '94, 7511 Walnut Ave., Woodridge, IL 60517; or call Edwin, KB2GGA, 708/985-0527 (evenings).

The FOX RIVER RADIO LEAGUE will hold a hamfest on 31 July at Waubonsee Community College in Sugar Grove. Setup is Saturday, 7 p.m. and Sunday 6-8 a.m. Gates open to the public at 8 a.m. Features include commercial dealers, flea market, computer vendors, refreshments, free paved parking, and camping nearby. VE sessions at 10 a.m. Talk-in on 145.470(-). Admission is $4 advance, $5 at the door. Indoor tables are $10. Contact Fox River Radio League, P.O. Box 573, Batavia, IL 60510-0573; or Bill Schaben, WA9AUW, 708/208-4870; or Mark Hougaard, KB9FCC, 708/979-1717.

Maine

The MAINE COUNCIL OF AMATEUR RADIO CLUBS will sponsor a hamfest on 16 July at the Union Fairgrounds in Union. Features include commercial vendors, sheltered space available for net meetings, tailgating, mystery shopper, food will be available. Camping available for both Friday and Saturday nights. Musical hams, bring acoustic instruments! For more information, contact Tom, N1HWN.

Maryland

The BALTIMORE RADIO AMATEUR TELEVISION SOCIETY will sponsor a ham and computer fest on 10 July beginning at 8 a.m. at Timonium Fairgrounds. Features include flea market, computers, tailgating, indoor/outdoor exhibit areas, food and refreshments available. VE exams at 10 a.m. only, pre-registration required. Accessible to the handicapped. Admission is $5, children under 12 free. Tailgating spaces are $7 each. Talk-in will be on the 147.03(+) and 224.96(-) repeaters. For information contact BRATS Hamfest, P.O. Box 5915, Baltimore, MD 21208; 410/467-4634.

Michigan

The STRAITS AREA ARC will hold a swap and shop on 9 July from 8 a.m. to 1 p.m. at Emmet County Fairgrounds in Petoskey. Features include commercial displays and refreshments will be available. Admission is $3. Tables are $5 (splits allowed). Talk-in 146.68(-). Harry Leiber, N8OIV, 616/347-6610.

The AUSABLE VALLEY ARC will sponsor a swap-n-shop on 23 July beginning at 8 a.m. at Mio Ausable High School. Admission is $3. Talk-in on 145.35(-) or 146.52 simplex. For more information send an SASE to Ausable Valley ARC, P.O. Box 1, Mio, MI 48647; 517/848-5996 or 826-6454.

The EASTERN MICHIGAN ARC will sponsor "Swap '94" on 31 July from 8 a.m. to 2 p.m. at St. Clair County Community College Student Center in Port Huron. Features include VE session, DX and packet forums. Admission is $3 in advance or $4 at the door. Tables are $12 each (reserve before 18 July). Trunk sales are $6 per space. Talk-in on 147.30(+) MHz and 146.52 MHz. For information contact Hank Kohl, K8DD, 1640 Henry St., Port Huron, MI 48060; 810/982-7088.

Missouri

The ZERO-BEATER AMATEUR RADIO CLUB will hold its 32nd annual hamfest on 17 July, from 6 a.m. to 3 p.m. at the Bernie H. Hillerman Park in Washington Fairgrounds. Features include dealer displays, electronics, flea market space, and VE exams. Admission and parking are free. For more information contact Dave Randolph, NØGLN, or Bob Goza at 314/764-2777 or 314/484-3718 or fax at 314/484-3840.

Montana

The Glacier/Waterton International Hamfest is scheduled for 15-17 July beginning at 8 a.m. in Three Forks Campground near East Glacier, MT. This is

their 60th annual event and this year's ARRL state convention. Admission is $10 in advance or $12 at the door and includes breakfast on Sunday. VE exams will be at 1 p.m. on Saturday on a walk-in basis. Talk-in will be on 146.52 simplex. For more information, contact Darrell Thomas, N7KOR, 743 33 Ave. NE, Great Falls, MT 59404; 406/453-8574.

New Jersey

The SUSSEX COUNTY AMATEUR RADIO CLUB will hold its 16th annual hamfest on 17 July beginning at 8 a.m. at the Sussex County Fairgrounds in Augusta. Registration is $5 (XYLs and harmonics are free). Vendor costs will be $10 for indoor space, limited table supply available; outdoor area is $8 per vendor. Talk-in will be on 147.30(+) and 224.50(-) repeaters and 146.52 simplex. For more information contact Dan Carter, N2ERH, 8 Carter Ln., Branchville, NJ 07826; 201/948-6999.

New York

The GENESEE RADIO AMATEURS will sponsor the Batavia Hamfest on 10 July from 6 a.m. to 4 p.m. at the Alexander Firemen's Grounds. Features include commercial vendors, flea market and overnight camping. Refreshments will be available: breakfast from 6:30 a.m. to 10 a.m., lunch at 10:30 a.m. and chicken barbecue at 11 a.m. Talk-in on 145.31(-) MHz. Admission is $3 in advance or $5 at the door (children under 12 free). Vendors costs are $15 per 8 ft. table, flea market space is $1 or $2 to be under cover. For more information send a large SASE to GRAM, P.O. Box 572, Batavia, NY 14020.

The UTICA AMATEUR RADIO CLUB will sponsor a hamfest and computer fair on 23 July from 8 a.m. to 2 p.m. at the Herkimer County Fair Grounds. VE testing check-in time is 9 a.m., pre-register with Len, WF2V, 315/853-8974. Admission is $3. For more information contact Bob Decker, AA2CU, P.O. Box 71, Utica, NY 13502; 315/797-6614.

The HALL OF SCIENCE AMATEUR RADIO CLUB will sponsor a hamfest on 24 July beginning at 9 a.m. at the New York Hall of Science parking lot, Flushing Meadow Park. Features include ham equipment, computers and parts, ARRL information, tune-up clinic, commercial dealers, free parking, food and refreshments available. Admission by donation, buyers $5 (women and children free) and sellers $10 per space. Talk-in on 444.200(+) repeater and 146.52 simplex. For more information call evenings only: Charles, WA2JUJ, 516/694-3955 or Arnie, WB2YXB, 718/343-0172.

North Carolina

The WESTERN CAROLINA AMATEUR RADIO SOCIETY presents its annual hamfest on 30 July from 8 a.m. to 4 p.m. at the Haywood County Fairgrounds. VE exams will be held, walk-ins only. Admission is $4 in advance or $5 at the gate. Talk-in on 146.76(-) or 146.91(-) MHz. For information send an SASE to WCARS, P.O. Box 1488, Asheville, NC 28802; or call Dick, KY2Y at 704/299-7856.

Ohio

The WOOD COUNTY AMATEUR RADIO CLUB will be celebrating their 29th annual hamfest and computer show on 10 July from 8 a.m. to 1 p.m. at the Wood County Fairgrounds in Bowling Green. Features include free admission, free parking and VE exams. Vendors costs are: inside tables $10 each, outside trunk sales $5. For more information contact WCARC, P.O. Box 534, Bowling Green, OH 43402; 419/372-2936.

The VAN WERT AMATEUR RADIO CLUB will sponsor a hamfest on 17 July from 8 a.m. to 4 p.m. at the Van Wert County Fairgrounds. Features include indoor facilities, outside trunk sales, fox hunt, free parking and refreshments will be available. VE exams will be given with pre-registration by 10 July; send an SASE or call Bob High, KA8IAF, 12838 Tomlinson Rd., Rockford, OH 45882; 419/795-5763. Admission is $4. Vendors costs are: space only $6; tables $8; trunk sales $6. For more information send SASE to Van Wert ARC, P.O. Box 602, Van Wert, OH 45891-0602; 419/795-5763 before 5 p.m., 419/238-1877 after 5 p.m.

The CUYAHOGA AMATEUR RADIO SOCIETY will sponsor a hamfest and computer show on 19 June from 8 a.m. to 2 p.m. at Nordonia High School in Macedonia. There will be 125,000 sq. ft. indoor space and an outdoor area. Admission is $2 in advance or $3 at the door. Vendor cost will be: indoor space $13 (includes space, 8 ft. table and one admission ticket), outdoor space $5 each. Vendor set-up time is 6 a.m. Cuyahoga ARS, 7620 Crestwood Ln., Northfield Ctr., OH 44067. For complete details contact Rich James, N8FIL at 216/468-2035.

The ASHTABULA COUNTY AMATEUR RADIO CLUB will hold a hamfest and computer show on 31 July from 8 a.m. to 2 p.m. at Nappi's Party Center, 2255 West Ave. in Ashtabula. Features include indoor air-conditioned building, large paved outside flea market, food services and overnight parking available. Admission is $4 and children under 12 are admitted free. Vendors cost: indoor tables are $8 for the first one, $6 thereafter; outdoor spaces are $4. Vendor set-up time is 7 a.m. Talk-in on 146.715(-). For more information contact Ken Stenback, AI8S, 722 Lyndon Ave., Ashtabula, OH 44004; 216/964-7316 evening before 9 p.m. and weekends.

Pennsylvania

The HARRISBURG RAC will hold a hamfest on 4 July from 8 a.m. to 2 p.m. at Bressler Picnic Grounds. Admission is $4, XYL and children free. Vendors cost: tables $15 in advance with registration, tailgating $5. For more information contact Steve Gobat, KA3PDQ, 1600 Old Trail Rd., Etters, PA 17319; 717/938-6943.

The NORTH HILLS ARC is sponsoring a hamfest on 10 July from 8 a.m. to 3 p.m. at the Northland Public Library. Features include free admission, free parking, seminars, outdoor paved flea market, silent key estate sale; handicap accessible and refreshments will be available. One free car sized space per tailgater (each additional space is $5). For more information contact Don Jackson, N3LAZ, 915 Dale Ave., Bradford Woods, PA 15015; 412/935-3343.

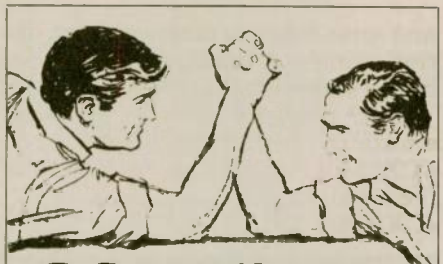
The RED ROSE REPEATER ASSOCIATION will sponsor an electronics show on 16 July from 9 a.m to 3 p.m. at McCaskey High School in Lancaster. Features include air-conditioned indoor exhibit area, outside tailgating, handicapped access, free parking and home cooked food will be available. Admission is $5 per person, children under 14 are admitted free if accompanied by a paying adult. Vendor costs: inside tables $20 each, outside tailgate area $5 each space plus admission. Contact Larry 717/656-0129. Vendor set-up time is 7 a.m. Talk-in on 147.015(+). Contact Red Rose Repeater Association, P.O. Box 8316, Lancaster, PA 17604.

The INDIANA COUNTY ARC will sponsor a hamfest and computer show on 24 July from 8 a.m. to 4:30 p.m. at the Red Barn Sportsman Club. Admission is $2, children under 12 admitted free. Vendor costs are: inside table: $15, 2 for $25, 5 for $50; outside tables: $10, 3 for $25; tailgate: $5 designated area. For more information and table reservations, contact Merle Henry, W3MMY@KA3JSD.#WPA.USA.NA or phone 412/465-6518 or Ken, W3AEN, 412/349-1825.

Mexico

The ASSOCIATION OF RADIO AMATEURS OF THE REPUBLIC OF MEXICO announces their annual convention on 21-23 July in Puebla (one hour from Mexico City, bus service available). The convention will feature seminars, cultural programs, tours culminating with a Gala Fiesta Mexicana for hams and their families.

For more information contact: Frank R. Smith, AHØW/XE2FIN, Consulate of Finland, 5933 West Grovers Ave., Glendale, AZ 85308, 800/876-9999 ex: 2718 or 602/876-2718; Sergio Valdes Sada, XE2RJ, 011-528-335-7113. **WR**



CONTESTS

Connecticut QSO party

Operating rules: Connecticut QSO party, sponsored by the Candlewood ARA, 2000Z 30 July until 2000Z 31 July, with a rest period 0400Z- 1200Z. Phone and CW.

Work stations once per band and mode, mobiles as they cross county lines. No repeater QSOs.

Single operator, fixed/mobile, Novice, QRP(5W), Multi-single Multi-multi classes plus Connecticut club competition.

Connecticut stations may contact other Connecticut stations for QSO/multiplier credit.

Connecticut stations exchange report and county; others exchange report and state/province/DXCC country.

CW — 40 kHz up from lower band edges; Novices 25 kHz up from low end.

Phone — 1.860, 3.915, 7.280, 14.280, 21.380 28.380.

VHF — 50.150, 144.200, 146.580.

Scoring: Score one point per phone QSO and two points per CW QSO. QSOs with club station W1QI and ARRL HQ station W1AW count 5 points.

Connecticut stations multiply QSO points by states/ provinces/Connecticut counties worked (DX only one multiplier); others multiply by Connecticut counties worked,

Plaques and certificates (100 point minimum). Special certificate for working all eight Connecticut counties.

Send entry and SASE for results by 6 September to CARA, P.O. Box 3441, Danbury CT 06813-3441. **WR**

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!

Crossing the line with this story is Marian Eddy, KM7B.

While a Novice, I worked a ham in Arkansas; of course, I certainly will not disclose his call sign.

In the course of our QSO, I mentioned that Asia apples, grown in Washington state were a cross between a pear and an apple.

The ham in Arkansas came back in CW "that ain't nothing, here we cross owls with goats and raise Hootenannies."

I had to QRT to regain composure. **WR**

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

Svetlana power tube

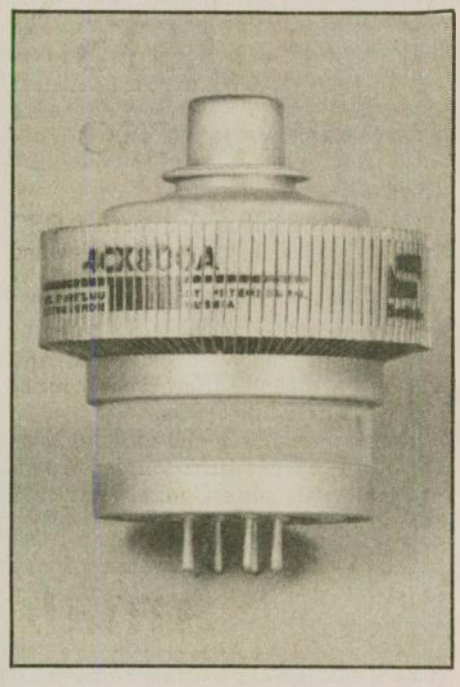
The Svetlana 4CX800A is a rugged high-performance air cooled ceramic/metal tetrode with a plate dissipation rating of 800 watts. The performance characteristics of the 4CX800A allow its use as a high gain linear amplifier in grounded cathode or grounded grid service. A recommended mode of operation is grounded cathode service with a passive (resistive) 51 ohm untuned input circuit. This eliminates the need for multiple input tuned circuits and neutralization. In this mode, you can design an exceptionally simple, stable, low-cost amplifier with good intermodulation performance.

As a linear power amplifier, the 4CX800A will conservatively produce 750 watts PEP SSB, and 750 watts CW in any of the three modes: grounded cathode, grounded cathode passive input, or grounded grid. A pair will deliver a very conservative 1.5 kW CW key-down or PEP SSB. Because of the high performance characteristics of the 4CX800A, the tube will operate efficiently with good linearity at low plate voltage.

The 4CX800A is used in the new ETO 91ß linear amplifier. The low cost of the 4CX800A with its performance features for simple amplifier design, contribute to the significant low cost no compromise features of the heavy-duty ETO 91ß. Svetlana also offers the SK1A socket which includes a built-in screen by-pass capacitor for clean performance up to 250 MHz.

The Svetlana 4CX800A is manufactured in the Svetlana power tube complex in St. Petersburg, Russia. The 4CX800A is widely used in Russia and other independent commonwealth states where it carries the type number GU74b. Svetlana's product line features power tubes at levels up to and exceeding one megawatt, and includes high-performance triodes, tetrodes and pentodes.

Other Svetlana tubes for the radio amateur include the 4X150A, 4CX250B, 4CX350A, 4CX1600B (equivalent to two 4CX800A), 4CX1500A, 5CX1500B and 8560AS.



Popular tubes for amateurs planned for the future include the 811A, 572B and 813. Svetlana also manufactures plug-compatible replacement types for high power commercial broadcast transmitters. Svetlana quality is backed by the most generous warranty in the industry.

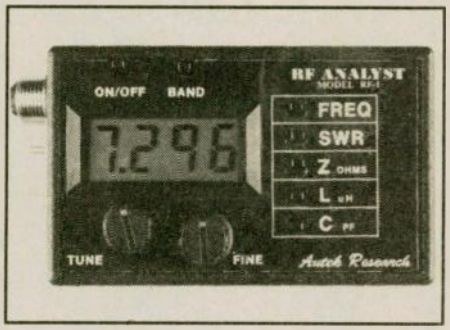
For 4CX800A technical data and an article from Communication Quarterly on the use of the 4CX800A in the grounded cathode passive grid configuration, write to George Badger W6TC, Svetlana Electron Devices, Inc., 3000 Alpine Road, Portola Valley, CA 94028.

Autek digital RF analyst

The pocket-sized RF Analyst™ is designed to check and adjust antennas, feedlines and RF networks. It includes a microprocessor, A/D converters and a low-distortion, leveled, sine-wave generator with a 4 digit frequency readout, continuously adjustable from 1.2 to 35 MHz in 5 bands. It measures RF values of impedance, (0-2000 ohms), SWR (1 to 15:1), C (0-9999 pf) and L (<.04 to 300 uH). Its digital readout of all parameters is unique in its price range.

The instrument connects to any an-

tenna or feedline and instantly reads out impedance and SWR at any frequency in its range. Antennas are easily trimmed after noting their resonant frequencies with its miniature "transmitter", minimizing trips to the antenna. Feedline loss and phasing, Q, tuned-circuit resonance and many other antenna and tuner parameters can be accurately measured and adjusted for best performance, even by inexperienced users.



L and C are measured at the RF frequency of interest, not a 1 kHz or 100 kHz as with other L/C meters. This is necessary to see the true RF values of these components.

Basic accuracy is 2.5% to 5% over most of its range. The unit fits in a shirt pocket, and runs on a standard 9V battery. An illustrated instruction manual is included.

Price $129.95 plus $6 s/h (U.S.) Contact Autek Research, 4143 W. Waters Ave. #120, Tampa, FL 33614; 813/871-3805.

S&S Engineering's ARK4

The newest member of our product line, the ARK4, is the ultimate in a low cost, synthesized Amateur Radio rig. It's small and portable, easy to build, with top quality components and it's guaranteed to work. This model is available in several versions, so you buy as little or as much as you need. Kit prices start at only $99.95 for the synthesized transmitter, with a full transceiver (including case) for $199.95. The ARK4 transceiver including all options and case is also available assembled for $269.95.

The ARK4 is one board, no wiring. It tunes in 1 kHz steps synthesized, and finer steps are crystal controlled. No drift! You can accurately tune the entire 40 Meter CW band. Power out is 3 - 4 watts at +12V. The kit contains a MIL quality, glass-epoxy, fully silkscreened PCB and all component parts to assemble whichever version of the ARK4 you desire. Once again, all coils and transformers are prewound.

The ARK4 transmitter is synthesized using a PLL design and has a built in TR switch. The receiver is a superhet single signal design. The transceiver features full QSK, sine wave sidetone and immediate recovery AGC. The fine tune is crystal controlled and the control has detents so frequencies are repeatable.

The RIT option tunes + 600 Hz. The case is steel and extruded aluminum with silkscreened front & rear panels. Case dimensions are 5.5"x1.5"x7.5" (WxHxD). The keyer uses the Curtis chip and is designed right into the PCB. Dimensions of the PCB are 5.26"x7.18". A fully built unit (all possible options), including the case, weighs only 25 ounces.

Skywave analysis package

At last, a professional-quality IONCAP package that allows anyone to use the most advanced propagation routine interfacing with the ELNEC and MININEC antenna analysis gain patterns.

CAPMAN is the versatile menu driven skywave analysis package developed by Kangaroo Tabor Software and the prime author of IONCAP. CAPMAN delivers IONCAP input file construction and management, two integrated execute functions, the ability to view and manipulate huge output files and graphical display of output parameters for multiple target locations and time periods. The package allows you to customize it for your own station — painlessly. A full-featured location database, indexed on both country name and call prefix, provides access to over 490 prefixes. Each database entry establishes associated information such as prefix, continent, country, city, geographic coordinates, *CQ* zone, ITU zone, a 900 character note pad, forward and reverse azimuths and distances, and the current local sunrise and sunset times. CAPMAN provides management of "input records" with libraries. Input records may be created, revised, renamed, copied, deleted and combined into "input files" for performing custom predictions. An extensive on-line help system provides context-sensitive help and includes documentation from the IONCAP user's manual. Sunset and sunrise times, for any day, are accessible with a calendar that also displays the current Local Mean, Local Civil and Greenwich Mean times.

Historical Smoothed Sunspot Number data for 1940 through March 1993, and predicted data through 1997 is automatically loaded for the date entered; this SSN data may be used to configure for any 12 month period, providing quick one-step predictions. Alternately solar flux may be used; an optional k-index value may be applied with either SSN or solar flux. Many more features are provided in a friendly yet powerful analysis package at a fraction of the commercial price.

CAPMAN is completely fool-proof for the most advanced or beginning user. Your contacts and friends may be added to the library and run any time with a few keystrokes. A wide choice of antenna routines is available, to be configured for your station, or use the antenna analysis computed using ELNEC or MININEC. Numerous output methods, including a "Long distance" model for the DXer, are easily accessible.

The choices of output include MUF, FOT, S/N, Reliability, Service Probability, angles of take-off and arrival at receiver, S-meter units, field strength and modes of propagation — many more — using the Es, E, F 1 and F2-layers for the HF bands. Graphs of the predicted vertical ionogram, MUF, FOT and LUF are available.

This menu driven package features the newest "updated" full commercial version (LU9402) of IONCAP used by over 450 government agencies and commercial communications departments in the USA and more than 100 other countries.

The IONCAP+ program is provided with the purchase of CAPMAN. This CAPMAN package is a 32 bit version and requires an IBM compatible 80386 or above.

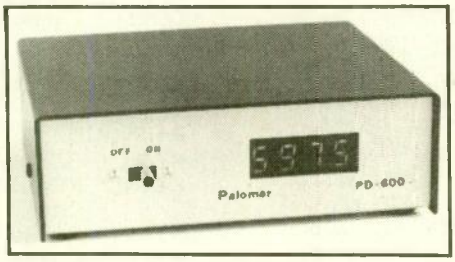
The CAPMAN package is $89.00 shipped in the USA postage paid. Overseas add $3.50 s/h. Send letter paid by check or money order; telephone or fax requests with MC or VISA card to: LUCAS Radio/Kangaroo Tabor Software, 2900 Valmont Rd., Ste. H, Boulder, CO 80301; 303/494-4647 or fax 303/494-0937.

Digital frequency readout

Palomar Engineers announces a new digital frequency readout for classic receivers. It works with Hallicrafters, Hammarlund, National, RCA, RME and most other older radios.

Many of these receivers are still in use. They have good audio quality and work fine for shortwave listening. However, they have one drawback — poor dial accuracy. It's hard to find the station you want.

Palomar's new PD-600 adds frequency readout accurate to 1 kHz on a four digit bright red display. No modification of the radio is needed; just wrap a wire around an oscillator lead. The readout is adjustable for any receiver intermediate frequency. The price is $199.95.



For further information, contact Palomar Engineers, P.O. Box 462222, Escondido, CA 92029; 619/747-3343, or fax 619/747-3346. WR

HamCall CD-ROM

The new HamCall CD-ROM became available 29 April, 1994.

Still just $50.00! Over one million listings! Over 100 international countries and more currently being added. A new "MENU" now accesses programs and data files with ease. Over 100,000 cross referenced U.S. call signs (old to new). APPLE call sign access to U.S./International call sign data! Using third party software called SoftPC, MAC users can run any PC program.

This updated disc has thousands of new amateur call signs, and address changes issued by the FCC and hundreds of the latest ham-related shareware programs. New and more powerful retrieval capabilities with the Folio Views HAM application. Do exact searches on first name, last name, city, state, ZIP, call prefix, area, and suffix. A new PRINTLAB program allows you to print labels from data extracted from the HAM program. LOOKUP & ICALL are now up to 50% faster, and ICALL now easily prints labels. New and improved HAMFILES program now allows tagging multiple files for downloading to your hard drive/floppy drive. New text file directories contain megabytes of information on a wide range of ham-related subjects.

In addition to the new HamCall CD-ROM we have a New Software CD called the Electronics Software Compendium. This is a collection of programs and data files that pertain to electronics, broadcasting, amateur radio and SWL activity. Over 15,000 files in total, with automatic unzipping to your hard drive. The disc is updated in April and October. Over 200 megabytes of material is resident on this CD-ROM, for PC (MAC 20 MB). The price for the Electronics Software Compendium is $25.00. You won't want to miss the new HamCall (with International) CD-ROM or the Electronics Software Compendium! Order information is listed below:

HamCall CD-ROM $50.00 plus shipping and Electronic Software Compendium $25.00 plus shipping. $5.00 shipping price per order. Checks accepted. Satisfaction guaranteed or your money back! Buckmaster Publishing, Rt. 4, Box 1630, Mineral, VA 23117; 703/894-5777, 800/282-5628, or fax 703/894-9141. Internet: info@buck.com.

The whole of science is nothing more than a refinement of everyday thinking.
— Albert Einstein, Physics and Reality [1931]

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.

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.

p/r=pre-register w/i=walk-in

Date	City	Contact	Notes
Alaska			
8/13/94	Anchorage	Jim, KL7CC 907/338-0662	p/r; w/i
Arizona			
8/13/94	Tucson	Joe, K7OPX 602/886-7217	w/i
8/20/94	Tucson	Micki, AA7RR 602/883-8305	p/r
California			
8/3/94	Sacramento	Jim, AB6OP 393-8839 or Earl, AB6CN 331-1115	p/r pref.; w/i OK
8/7/94	Chico	W6YKU 916/342-1180	p/r pref.
8/13/94	Berkeley	Gary, N6YBD 510/530-0544	w/i only
8/13/94	Glen Ellen	Jim, 707/996-6461	p/r pref
8/13/94	San Pedro	N6DYZ 310/325-2965	p/r pref.; w/i ltd.
8/13/94	Torrance	Joe, WB6MYD 310/328-0817	w/i
8/18/94	Fountain Valley	Tom, N6XKY 714/778-1542	p/r
8/20/94	Stockton	Mark, W6DKI 209/465-7496	w/i
8/20/94	Long Beach	Ken, KN6EC 310/431-8998	p/r pref
8/25/94	Long Beach	W6LRF 714/847-6370; N6LUH 310/592-1713	w/i OK
8/27/94	Culver City	Scott, K6PYP 310/459-0337 or Dave, N3BKV 818/559-2572	w/i
8/27/94	Fairfield	Jerry, AA6NO 916/662-0801	w/i OK
8/27/94	Vacaville/ Elmira	Barbara, KM6AC 707/429-4878	w/i only
Colorado			
8/6/94	Sterling	Blaine, WAØJTB 303/522-5787	w/i OK
8/20/94	Westminster	Phil, NP2X 303/421-2795	p/r or w/i
8/30/94	Denver	Glenn,WØIJR 303/360-7293, 24-hr. message	w/i OK
Connecticut			
8/7/94	Milford	NB1M 203/933-5125; WA1YQE 203/874-1014	w/i
8/9/94	Thomaston	WJ1T 203/283-1044	w/i pref.
Florida			
8/6/94	Orlando	Lou, AC4GB 407/898-0429	p/r pref
8/20/94	Melbourne	WB9IVR 407/724-6183	w/i OK
Georgia			
8/25/94	Lilburn	Howie, W4NVF 404/921-8363	w/i OK
Idaho			
8/13/94	Boise	W7JMH 208/343-9153	w/i
Illinois			
8/6/94	Belleville	John, KN9G 618/235-2475	p/r only
8/13/94	Fairview Heights	John, WAØLIS 618/397-7235	
8/13/94	Oak Forest	David, NF9N 708/448-0580	w/i
8/20/94	Loves Park	Dennis, W9SS 815/877-6768	p/r; w/i
Indiana			
8/7/94	Terre Haute	K9EBK 812/466-2122	w/i OK
Iowa			
8/27/94	Council Bluffs	Lorraine, AAØBS 712/322-1454	w/i OK
Maryland			
8/20/94	Laurel	WB3GXW 301/572-5124 after 6 p.m.	p/r pref. w/i OK
8/30/94	Annapolis	Lois, KA3VVQ 410/647-4178	p/r pref; w/i ltd.
Massachusetts			
8/13/94	Braintree	Phil, K1UPY 617/326-6446	
8/24/94	Cambridge	Bob, N1KDA 617/593-1955	
Michigan			
8/6/94	Iron Mt.	F.D. Lequia, WD9HDP 906/246-3641	
Missouri			
8/6/94	Belleville	Ken Davis, KF9IA	p/r
8/6/94	Kimberling City	NQØG 417/739-2888	w/i OK
8/11/94	Granite City	Larry, NZØP 314/524-3254	p/r pref.
8/27/94	Creve Coeur	Ron Lemons, KBØDIY 314/647-3223	p/r
8/27/94	HighRidge	James Berger, WAØFQK 314/942-2268	p/r
8/28/94	St. Charles	Larry, NZØP 314/524-3254	p/r pref.; w/i OK
New Jersey			
8/10/94	Fort Monmouth	MARS 908/532-5354	w/i
8/13/94	Cranford	24-hr. hotline: 201/377-4790	
8/18/94	Bellmawr	WA2VQG 609/933-1500	w/i
New York			
8/7/94	Yonkers	AC2V 914/237-5589	w/i OK
8/9/94	Hicksville	Bob, W2ILP 516/499-2214	w/i
8/20/94	Long Island	Les, AA2FJ 516/364-0030	w/i OK
Ohio			
8/6/94	Cincinnati	Herb, WA8PBW 513/ 891-7556	w/i OK
Oregon			
8/9/94	Pendleton	Mike, AA7SL 503/566-3597	w/i OK
8/10/94	Roseburg	KB7CMB 503/672-5997 or AA7GD 503/672-7564	w/i OK
Pennsylvania			
8/5/94	Nazareth	John, WX3C 215/767-4778	w/i
8/6/94	Erie	W3CG 814/665-9124	w/i OK
8/14/94	Nazareth	John, WX3C 215/767-4778	w/i
8/20/94	Elco	Lou, KA3FLU 412/938-8125	p/r pref; w/i OK
8/20/94	Hermitage	WM3H 412/347-5960	w/i
Rhode Island			
8/6/94	Middletown	Jack, N1HYA 401/683-2250 or Jim, KC1SD 401/847-5239	w/i
8/11/94	Providence	Judy, KC1RI 401/231-9156 or Al, NN1W 401/454-6848	w/i OK
South Carolina			
8/20/94	North Charleston	Ed, KC4OOZ 803/871-4368	
Texas			
8/9/94	Houston	Harold, ND5F 713/464-9044	p/r pref.; w/i OK
8/13/94	Houston	Jim, KB5AWM 713/488-4426	w/i only
8/13/94	McGregor	AB5BA 817/859-5374	w/i OK
8/20/94	Austin	Jim, AB5EK, 512/327-6184	w/i
Virginia			
8/13/94	Virginia Beach	Judy, KD4JMA 804/468-9166	w/i OK

THE MART

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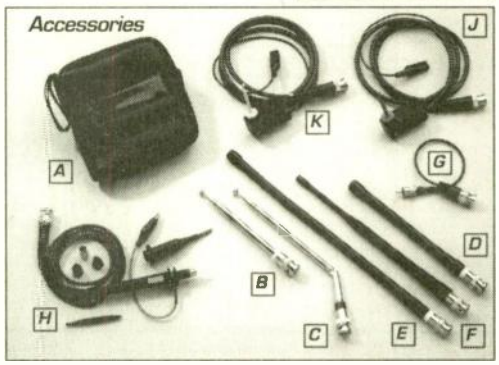

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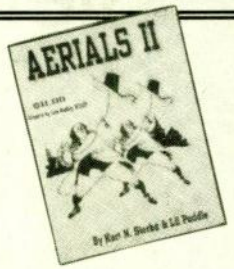

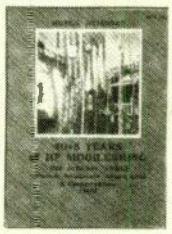
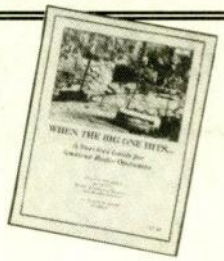

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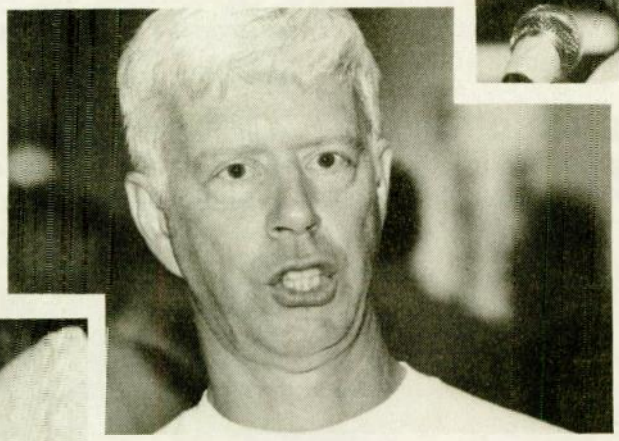

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