

Worldradio

Year 23, Issue 5

November 1993

\$1.25

FEATURES

Boulder, CO — An RFI
Story

Cortland, NY — Do
something!

Huntsville, AL — ARRL
Convention

Juneau, AK — Welcome
to Alaska

Melbourne, Australia —
Reunion



COLUMNS

- Aerials •Amateur "Hi" •AMSAT-Oscar schedule •Awards •Construction
- Contests •County Hunter •Digital Bus •DX Prediction •DX World
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HAMFEST

Worldradio

Year 23, Issue 5

November 1993 • \$1.25



Dr. Gordon King, W4XI, enjoys a chuckle with friends.

Huntsville hosts 1993 ARRL National Convention

ARMOND NOBLE, N6WR

"If you build it, they will come." Well, the Amateur Radio operators of Huntsville, AL, put on the ARRL National Convention and there were attendees from the far corners of the country.

Over six thousand amateurs gathered at the Von Braun Civic Center over the weekend of August 14 and 15. Always pleasing to hams were the reasonably priced hotel rooms at the Huntsville Hilton (located just across the

street) and the "all the prime rib you could eat" for \$10!

There were about 70 exhibitors displaying their wares. Just a few minutes at each booth, covering the gamut from antennas to batteries to Zulu clocks, made for a good afternoon's entertainment.

Naturally there was a large flea market, thankfully indoors in air-conditioned comfort.

As far as the forums go, there was something for everyone. Here's a sample: Contest Forum; Hands on with 56k Baud Packet Station; Hubble Telescope, FCC Forum, Vacuum Tube Forum; Digital Signal Processing; MARS; Trouble Shooting your PC — those were the events that occurred between 1200 and 1300 on Saturday! There were over 50 technical or operating forums in a day and a half — DX, Contesting, VHF, Antennas, RFI, QCWA, AMSAT, ATV, Repeaters and many others.

Here, as at other conventions the banquet is a time to meet tablemates you've never known before and to see those amateurs who have taken the extra step, gone above and beyond the everyday, receive the recognition they deserve.

WR

Australia — travel/reunion

JIM and ROSE JOLLY, W6RWI and W6QPV

Have you ever considered the fun you could have holding an Australian ham license and traveling around Australia talking to the local hams on 2 meters?

Let me assure you it is fun and also quite easy to accomplish, as my wife Rose, W6QPV, and I discovered.

The Australian Merchant Navy invited persons from all Allied countries who had sailed as officers and crew members on merchant ships during WWII to come to Australia and join them in their 50th anniversary of WWII activities. The celebration started in



Rose Jolly, W6QPV, Jim Jolly, W6RWI, Elaine and Bob Clough, K6RS.

Melbourne in mid-April with a parade and an elaborate banquet. The celebration continued with similar activities following in Sydney and Brisbane.

Over 100 came from the USA. Among the ex-merchant mariners from the USA, were seven who had graduated
(Please turn to page 6)

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A visit to Lithuania

In 1971 Mark Stern, 4Z4KX, along with his entire family left Lithuania in the then Soviet Union to the state of Israel. He had been licensed as UP20E since 1966, had been in charge of a club station and was net controller of a weekly 80 meter net.

This summer he went back for a visit to the now independent and democratic country of Lithuania. Since his whole family is now in Israel, the visit was to see radio amateurs, many of them old classmates, with whom he has been in close (and during the Communist era, surreptitious) contact over the air all these years.

Mark's visit was timed to coincide with the Lithuanian International Hamfest where amateurs attended from all over Europe. LY93BDX, operated by the Baltic DX Club, was on the air there with all the latest Japanese equipment. Mark also visited LY2DZ, a club station owned by a large electronics company and occupying a two-story house, which is extremely well-equipped and wins big DX contests yearly. At other stations Mark saw much more modest, home-built equipment which was the mainstay of ham gear in the old "Red" days.

Mark was granted the callsign LY/4Z4KX while visiting, and was received with the welcome given the prodigal son. Mark says that there is no problem for any 4X/4Z ham visiting to receive a reciprocal license.

His biggest surprise was when his friends presented him with his old UP20E log books. These had been con-

fiscated from him at the border in 1971 when Mark left for Israel. Somehow his friends in the Lithuanian Radio Federation had gotten hold of the logs and saved them for him over all these years!

— HaGal Sept. '93

VK9L Lord Howe Island

Dick Norton, N6AA, reports that he and eight others will be operating from Lord Howe Island during the CQ phone contest, 30 through 31 October, UTC. They anticipate being assigned VK9LI.

The group will consist of Terry Baxter, N6CW; Philip Goetz, N6ZZ; Art Goddard, W6XD; Richard Samoian, WB6OKK; Karen Samoian, KC6PPJ; Anthony Arnold, K6MC, and N6AA.

The operation will be phone for the most part, but CW and WARC band contacts will be planned before the contest. All QSLs for the group should go to K6VNX.

Local laws preempted by FCC

On 3 September the FCC issued a preemption order (PR Docket No. 91-36). The Commission held that it is against federal interests for states or municipalities to make laws which ban Amateur Radio transceiver that can receive public service frequencies.

In part, the order states "...state or local laws, that preclude the possession in vehicles or elsewhere of amateur radio service transceivers by amateur radio operators merely on the basis that

the transceivers are capable of reception of public safety, special emergency, or other radio service frequencies, the reception of which are not prohibited by federal law, are consistent with the federal objectives of facilitating and promoting the amateur radio service frequencies. We therefore hold that such state and local laws are preempted by federal law."

For the past five years the ARRL has worked for just such a federal ruling. Since most modern transceivers are capable of wide band reception, local laws — called scanner laws by many — subject amateurs to arrest and/or seizure of their equipment. Both New Jersey and Kentucky had laws prohibiting ownership of radios that could receive police frequencies.

Appointment in San Francisco

Philip Kane, N6SP, was recently named as Engineer-in-Charge of the FCC's San Francisco field office. First licensed as K2ASP, Mr. Kane was also 4X4UQ, when he worked for the Israeli Ministry of Communications. He became San Francisco's acting Engineer-in-Charge in late 1992 after 25 years of service with the Commission.

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

Our goal is to be a valuable resource of ideas and experiences beneficial to the Amateur Radio community. We publicize and support the efforts of those who bring the flame of vitality to this avocation. You readers are participants — an alliance of active radio amateurs concerned with reality, using radio as a communications tool to develop the skill, quality and full potential of Amateur Radio.

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

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STAFF

Publisher.....Armond Noble, N6WR
Editor.....Lou Ann Keogh, KB6HP
Associate Editor.....Norm Brooks, K6FO
Associate Editor.....R. Jeanne, KD6PSF
Advertising Director.....Helen Noble
Advertising Manager.....Rosalie Hernandez
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PUBLISHER'S MICROPHONE

We present here the Amateur Radio equivalent of Mount Rushmore. The latest to receive the prominence they deserve for becoming **Worldradio** SuperBoosters (Lifetime Subscribers) are:

- Robert Drennan, KA1OA, Great Barrington, MA
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- Jim Bennett, N6PDX, Vallejo, CA
- Thomas Kent, K7OCW, Salem, OR
- Rob Worley, Jr., WA5RBX, Florence, OR

I see amateurs enjoying themselves so much at hamfests, conventions and club meetings, I actually feel sorry for those who miss out on the in-person type of communication that occurs for the lucky ones who enjoy the human element.

Robert Burchardt, KJ5FL, Hobbs, NM, (who has "Friendship Through Amateur Radio" on his QSL card) believes that DXpeditions to rare rocks would receive more donations if they would work non-split and by call area a little more.

Irving Goldstein, N1HYZ, Danbury, CT wrote saying, "In the July issue of **Worldradio** there was an outstanding article in Publisher's Microphone about America's electronics industry and what tax waste has done to it. The article was the closest to the truth I have ever seen.

"As large a problem as this is, I am sad to say that it is one of only a few articles that I have seen like this. There should be more attention given to this

country's industries and the taxes that have killed them.

"That is why I am asking that you print more articles of this nature in your magazine; we must continue the fight against tax and government corruption."

Well, on the state level, if many more businesses flee California at the rate they are leaving to escape the onerous taxation, a new ham driving across the country from the east may well believe that Utah is in the 6th call area, judging from all the license plates he will be seeing there.

Returning from the Southwestern Division convention in Ventura, CA, on Interstate 5, we saw signs every couple of miles announcing that this service club or that service club or a business was responsible for cleaning up those few miles in the "Adopt A Highway" program.

It would be nice if we could get the local radio clubs to "adopt" the radio clubs at local high schools. Many high school clubs exist in name only because of no equipment or the fact that a motivated instructor has moved on.

Certainly, sitting on a shelf, there's an NCX-5 or HW-100 that hasn't been turned on in the past ten years. Why not donate or loan it to a school station? It wouldn't bankrupt any club to pitch in to pay for QSL cards to be printed. Some

of the retired club members might enjoy being the advisors to the school radio club.

We've just taken the book "When the Big One Hits..." to the printer. It's about how to prepare for the inevitable disaster or emergency. Authored by Jerry Boyd, KG6LF, and Jay Boyd, KN6BP, the book is priced at \$7.50, \$2 postage/handling, plus sales tax to CA addresses.

Send your orders to **Worldradio Books**, P.O. Box 189490, Sacramento, CA 95818. Jerry, Police Chief of Martinez, CA, has had long experience in such matters.

At **Worldradio** we receive 350 club newsletters. Norm Brooks, K6FO, reads them all. From the bulletin of the Boulder, CO, ARC comes this gem we'd like to share with you.

Field Day

I loved Field Day. It was fun. I liked making contacts on Two Meters simplex and talking to my Grandpa on Packet. I also liked how Two Meters and Packet were run on solar power. I stayed up operating half the night.

During the night there was a big windstorm. Papers blew all over the place and one of the tarps blew down. We had to shut off the generator for a while, and the only lights we had were flashlights. We strung ropes inside the tarps so they wouldn't blow into the operating area.

One thing I will remember about Field Day is that I passed my Novice written test the next day (Monday)!

de Dan Russo

They used to say in vaudeville, never follow an animal act or a kid act. Good advice. Check in with you next month.

— Armond, N6WR

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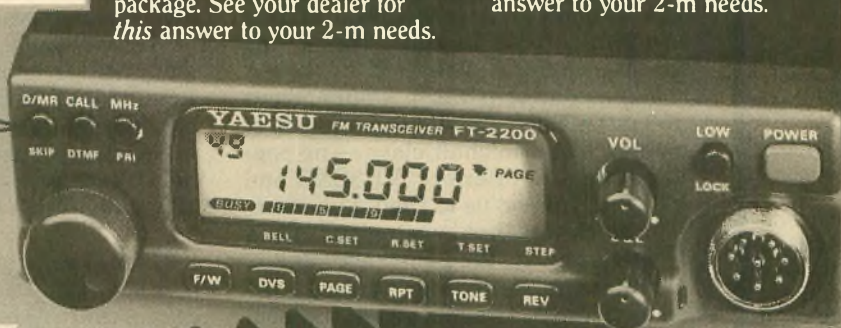
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Australia

(Continued from page 1)

from Gallups Island Maritime Radio School, which was located on Gallups Island, Boston Harbor, 1940 to 1945. More than 4,000 men graduated as radio officers during this period.

The US, Australia and many other countries have an exchange license arrangement. A simple request letter to the ARRL brought all the details, including a list of the 2 meter repeaters in Australia. I was assigned callsign VK3ERE, and Rose received VK3EYE.

Our first radio experience was in Melbourne — not the best. We were in a hotel in the center of the city on the 12th floor. Sounds good — but the Australia paging system uses a frequency just above 148 MHz. Every time the pager came on it completely blocked the Alinco DJ-560. The first ham I talked to, VK3KSE, said it was a local problem and suggested going back to the rubber duck antenna rather than using the J pole. This helped some, but the only real solution was to head for the Melbourne Botanical Gardens. We found the VK gang very helpful and fun with whom to talk. Although, at times, it was a bit difficult for us to understand their beautiful Aussie English. Thank God for international phonetics!

Our second stop was in Albury, about 150 miles East of Melbourne. The first contact was arm chair clear — no paging system to interfere. VK3CXC and VK3BAS invited us to their club meeting, which was that evening and only a few miles away. We gladly accepted.

It was a great evening. We met several other VK3s. The club met at the local high school. One of its objectives is to encourage young persons to get their tickets. They had a packet operation going on 2 meters and a Kenwood TS 520S operating on 20 meters. Lots of good conversation.

Sydney was our next stop, VK2 land. We were on the 6th floor of a hotel at Kings Cross, about one mile from downtown Sydney. The paging system wiped out the higher frequency repeaters, but we found a repeater near 146 MHz that worked through the paging system. We joined a net of a half dozen VK4s. Again lots of good conversation. Again we were invited to a club meeting, but due to a prior commitment we had to pass it up.

So it went as we headed north; more fun, more good contacts. Our last and perhaps most memorable contacts were from a cruise ship. We sailed out of Cairns on a four day cruise to see the Great Barrier Reef. The skipper of the cruise ship was very cooperative and assured us that we would not interfere with his navigation equipment. We were now VK3ERE/4 maritime mobile, as this is VK4 area.

150 miles from a repeater which is on top of a 2,400 foot mountain, we made some wonderful contacts. The four watts of the Alinco DJ-560 gave full quieting to the repeater. One VK4 with whom we talked was much nearer the repeater and was using 25 watts and an 8 element beam to reach the repeater. We were using a 1/4 wave whip on the handheld. Maritime mobile really gets the signal out.

In summary, you don't need 40 pounds of HF gear and a long wire antenna to enjoy being a ham in a foreign country. In this day of 2 meter repeaters, there is a world of fun exchanges with the local hams when you carry along a good handheld transceiver weighing in at a couple of pounds. Try it — you'll like it.

The only requirement for a VK license is a notarized document that says the copy of the license is current and valid. The ARRL supplies the telephone number that the notary must call to verify the validity of the license. Hand deliver this document to the Australian Radio Communications Branch Office and in a matter of a few minutes and payment of \$AUS 35.00 each, voila, you are a legal Australian Amateur for one year. WR

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Does it pay to advertise?

BY M.L. GIBSON, W7JIE

A good question. Some commercials sure seem to think it does, while others are run by officials who seem afraid to spend a dime to say a word.

Here in the Pacific Northwest, particularly around Puget Sound, it seems that a small annual publication has found a need and filled it. A couple of hams, K6DOW and W7JIE, have for years been putting out a small 8 1/2 x 11, 12-page booklet called "Puget Sound Amateur Radio Information". The booklet contains a listing of all public service events who have asked for Amateur Radio communications support for their activity. Requirements range all the way from walk-a-thons to off-road sports car contests. All in the name of public service for emergencies and public safety.

Also included in the booklet are all the club meetings that occur around the area, the club contact, phone number, meeting date, time, and location. We also list the known location of ham exams, who to contact and where it is held. Ham classes? Dates? Times, and locations. A listing of "who to call for information" such as the ARRL Director, Section Manager, Interference Committee, etc. With numbers and names.

The public service events cover two full sheets of paper with the other 8 pages devoted to items of interest plus repeater operating hints, some dos and don'ts, and helpful hints. Just general stuff for the ham who is more into 2-meter and above voice communication. Nothing about packet, SSTV, Fax, etc. Leave that to others.

We get the information by asking around. Some folks submit stuff without being asked. Others have to be threatened with bodily damage to get their club meeting information. Likewise the public service events of parades and the like. It takes an effort. We store things on a computer as we go along and then about the first of the year we assemble and print.

It costs about \$100.00 per thousand folded, not stapled or collated. We do that ourselves. Then we distribute to the three ham radio stores in Seattle, drop off copies to flea markets, give them away to clubs who want some to fill the needs of ham classes. All in all about five thousand are spread around the community.

Sometimes we are able to get a few bucks from a club, sometimes we are able to find a commercial vendor who chips in bucks, but generally it is a privately funded and managed endeavor.

Christie puts leukemia on the run

APRIL MOELL, WA6OPS

With HT in hand, Christie Holoubek, KØIU, (Extra class) ran through the arch of Kezar Stadium, around the track and across the finish line 4 hours and 17 minutes after starting at the Golden Gate Bridge. She got a great tour of the city and she kept in touch with "Christie's Crew" (WA6OPS, KØOV and WB6GCT) along the way via Amateur Radio. Fourteen leukemia team-in-training runners from Orange County participated in the 1993, San Francisco Marathon. Christie had the second best time on the team. It was an exciting day for all!

Almost 3000 runners from around the world participated. Leukemia teams were there from San Francisco, San Diego, Orange County and St. Louis. It was really great to see so many runners with leukemia T-shirts. Some had names of patients printed on the back. There were Leukemia Society supporters all along the 26.2 mile route. Some were mothers of children with leukemia holding up their homemade signs of "thanks" for the runners to see. Completing the run was a personal achievement,

or. Of course this lets us decide the content and that gives us the freedom of doing what "we" think is best. I can say that we get rid of all copies and usually folks are asking for more. Sorry, when they're all gone—they're all gone. Wait till next year.

The whole reason for this little blurb is to let folks know that "you can do anything you put your mind to". Especially if you "don't care who gets the credit". And we don't. C'mon—break loose and spend a few for those hams who are gracefully rotting in their own little corner of ham radio. They'll be surprised at what is happening in the hobby. And appreciate the information you supply them. **WR**

ment, but the motivation for the run is what really made it worth finishing.

Christie and "Christie's Crew" thank all of you who supported the run. Of the money collected, 54% came from the Amateur Radio community. If you would still like to contribute or were waiting to see if KØIU would really finish, you can send donations to: Leukemia Society of America, 1744 Katella #8, Orange, CA 92667. —ARA Squelch

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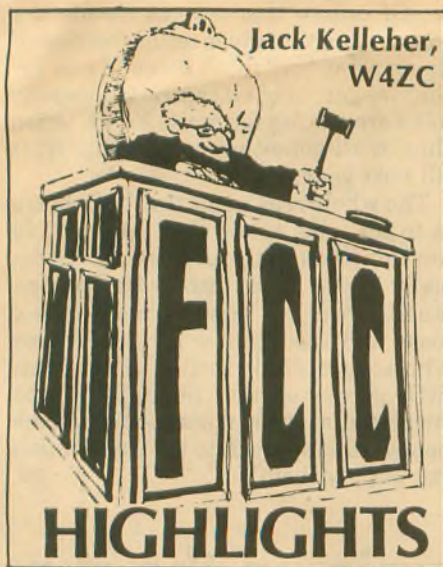
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More on radiation hazards

The FCC has extended until 13 November the deadline for comments on a proposal (ET Docket 93-62; see this column May 1993, "FCC proposes new guides on effects of radiation") that would have the Commission adopt new guidelines for evaluating the environmental effects of radio frequency radiation. The new guidelines would be those already adopted by the American National Standards Institute (ANSI) and the Institute of Electrical and Electronic Engineers (IEEE).

The FCC said that a request for an extension of the deadline made by the National Association of Broadcasters had been supported by a number of other interested parties. The NAB said it asked for the extension in order to be able to complete a study to develop non-measurement-based techniques for complying with the FCC's proposed new RF exposure guidelines.

The NAB said that its study would benefit both the FCC and those whom

the new guidelines would affect, by making it easier to evaluate compliance with the new guidelines, which the NAB said are significantly different from the old. (Thanks *ARRL Letter* 11 August).

Novice test fees

The following letter from David Sumner, EVP of ARRL, is reproduced for whatever clarification it may provide.

"Your item, 'Novice test fee controversy' in September *Worldradio* may lead to unfortunate confusion if not clarified. So, let me attempt to do so by stating the facts as clearly as possible:

"1. ARRL/VEC is not charging applicants for exam elements 1A or 2 (5 wpm Code and novice written, respectively.)

"2. ARRL/VEC has received no instructions to the contrary from the FCC.

"It is our understanding that the FCC would be concerned if one category of applicant were subsidizing another. However, that is not the case here. ARRL/VEC expenses exceed the amount that would be collected from all applicants even if we charged every applicant the maximum amount permitted. The discussion at paragraph 10 of the FCC's Report and Order in PR Docket 92-154 does not address this situation.

"Particularly in view of the growing number of schools with programs leading to a Novice license, upon which a test fee could have a chilling effect, it is

clearly in the best interests of Amateur Radio to continue the 42-year-old practice of there being no fee for Novice exams — and it is difficult to imagine on what basis the federal government could possibly object."

HF data communications

In our September column on this subject we noted a petition for rulemaking filed by the American Digital Society Inc. (RM-8280) intended to "clarify the current rules with respect to unattended semi-automatic control of RTTY and data communications in the HF amateur bands."

Responding to this petition the ARRL, in comments filed with FCC on 30 July, asked that amateur stations under automatic control be allowed to operate outside the specific subbands proposed in an earlier ARRL proposal (RM-8281).

The new ARRL proposal results from recommendations of its Committee on Amateur Radio Digital Communications, which suggested a way that semi-automatically controlled data communications could be accommodated outside of the restricted subbands. The ARRL Board of Directors approved the Committee's recommendations.

Information on RM-8218 is in August *QST*, and information on the Board's deliberations appears in September *QST* (page 48).

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 September 1993.

For more information about the call sign 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
0	AA0OR	KG0HW	N0YJG	KB0LLM
1	AA1HG	KD1QU	N1QBM	KB1BDK
2	AA2PI	KF2QV	N2WEQ	KB2QOE
3	AA3FS	KE3JR	N3QAO	KB3AYE
4	AD4JB	KR4BL		KE4FBE
5	AB5PD	KJ5PJ		KC5CNE
6	AB6VY	KN6QI		KE6AOT
7	AA7YG	KI7QS		KB7YBV
8	AA8MD	KG8DQ		KB8PKS
9	AA9ID	KF9RF	N9URQ	KB9IUZ
North Mariana Is.	AH0U	AH0AN	KH0CD	WH0AAX
Guam	NH2U	AH2CT	KH2HC	WH2ANH
Johnston Is.	AH3D	AH3AD	KH3AG	WH3AAG
Midway Is.		AH4AA	KH4AG	WH4AAH
Hawaii		AH6NC	WH6OQ	WH6CQV
Kure Is.			KH7AA	
American Samoa	AH8H	AH8AF	KH8AX	WH8ABB
Wake Wilkes Peale	AH9C	AH9AD	KH9AE	WH9AAI
Alaska		AL7PF	WL7MO	WL7CHF
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Puerto Rico		KP4VQ		WP4MJF

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FCC issues declaratory ruling on preemption of state and local laws affecting amateur transceivers

On 20 August, 1993, the Commission, by Memorandum Opinion and Order (FCC 93-410) granted in part a motion by the ARRL for a declaratory ruling requesting that the Commission preempt certain state statutes and local ordinances affecting transceivers used by Amateur Radio Service licensees.

The laws referenced by the ARRL prohibit the possession of such transceivers if they are capable of the reception of communications on certain frequencies other than amateur service frequencies. In support of its request ARRL stated that amateur service transceivers typically allow for incidental reception of adjacent frequencies in order to ensure the adequate reception of the entire amateur radio service band. ARRL contended that amateur operations have special needs for out-of-band reception, and that the marketplace has long recognized this by offering transceivers that accommodate these needs.

The commission held that state and local laws that preclude the possession in vehicles or elsewhere of amateur radio service transceivers by amateur operators merely on the basis that the transceivers are capable of the reception of public safety, special emergency, or other radio service frequencies, the reception of which is not prohibited by federal law, area inconsistent with the federal objectives of facilitating and promoting the amateur radio service and, more fundamentally, with the federal interest in amateur operators' being able to transmit and receive on authorized amateur service frequencies. Therefore, the Commission held that such state and local laws are preempted by federal law. WR

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Welcome to Alaska

KERRY HOLIDAY, WA6BJH

"Good morning, ladies and gentlemen," said the loudspeakers, "just a word from the bridge again. We've been out of Prince Rupert for a few hours now, and coming up on the starboard side, that's the right side, is Lord Rock. The boundary between Canada and the United States isn't defined here, so everyone just considers Lord Rock to be the boundary. So when Lord Rock is abeam of the ship, that's the middle of the ship, the *Matanuska* will be back in Alaska waters. Welcome to Alaska."

I held my two meter rig up to my ear and listened.

"Prince Rupert control," I heard over on the radio, "this is the m/v *Matanuska*. We're at Lord Rock. We'll be changing frequencies now. Thank you and good morning."

"Thank you, good day," replied the Canadian voice.

We weren't just back in the United States. We were in Alaska.

My wife and I had left Woodland, California a few days earlier and had driven up the coast to meet the ferry *Matanuska* in Prince Rupert, British Columbia. The Alaska Marine Highway System ferries operate along the Inside Passage between Bellingham, Washington, Prince Rupert, British Columbia, and the cities of Alaska. This was our fifth ferry ride of the trip. On all the ferries, just like on the *Matanuska*, I used the extended frequency receive on my 2-meter hand held to keep up with happenings on the ferry.

The marine band consists of channels on 25 kHz spacing between 156 and 157.425 MHz. Set your radio to scan in 25 kHz steps between those frequencies and it won't take you long to find where the ship operates. But you'll have to scan the entire band. Occasionally the ship may use different frequencies for different operations. While underway, the bridge may monitor a certain channel, but use another for docking operations, or another to talk with the shore crew. It's a small section to scan, and almost all the activity is right there for

you to find. The crew might be able to tell you what channel they're operating on, but they won't necessarily be able to convert that to megahertz.

My wife and I spent the whole day on the British Columbia Ferry *Queen of the North* sailing from Port Hardy to Prince Rupert. The *Queen* is an elegant vessel compared to the *Matanuska*. She has two dining rooms, a dance floor, on-board movies, a large gift shop, but very little deck space, so we sat at the windows and marveled at the beautiful misty green of the Inside Passage. In one channel, the green hills pushed to within one hundred yards of the ferry. The green was even more striking after the heat of California's central valley.

Once the *Queen of the North* leaves Port Hardy, there is no two meter activity until you get to Prince Rupert. So what do you do with a handheld? Listen to the marine band.

An hour before we reached Prince Rupert, we met our first cruise ship. The passengers sitting near me noticed the lights on the water. Someone asked what the lights were.

"Let's find out," I said. and I set the radio to scanning.

"*Regent Sea, Regent Sea*, this is the *Queen of the North*."

"This is the *Regent Sea*, go ahead."

"Do you want us to pass on the port?," asked the captain.

"Oh, no, we're going to move to the port. We're going slow here, so just go ahead and pass us on the starboard."

"OK," said the captain, and the *Queen* moved to the starboard. As we came abeam of the cruise ship, the captain announced over the loudspeaker that the cruise ship on the port side was the *Regent Sea*, an Alaska cruise ship, and wasn't in any hurry to get anywhere. So we passed her. My wife and I, and the nearby passengers, knew what the ship was already.

In Prince Rupert, we had a late night and an early morning. We checked into the hotel at around midnight and we had to be on the *Matanuska* at 7:30. Not much sleep. The only good part about the late-to bed and early-to-rise is that I didn't have to drive. I only had to get

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the car onto the ferry. Then the captain and the crew of the *Matanuska* took over.

Unlike the cruise ship that we had passed the night before, the *Matanuska* moved up the Inside Passage with a purpose. The captain would point out the dolphins and the humpback whales, but we wouldn't slow down. A cruise ship might take some time to let the passengers view the wildlife, but the *Matanuska* had a schedule. Ketchikan, Wrangell, and Petersburg before my wife and I could get off in Juneau. The ferry would then sail up to Haines and Skagway, where cars could connect with the Alaska and Canadian highway systems.

And, of course, when the passengers saw me listening to my handheld, they would ask about the radio. I talked alot about Amateur Radio.

"Oh, that's really interesting," says one of the passengers. "You mean you can actually listen to what the captain is saying?"

"Oh, yes," I tell them. "This is an Amateur Radio transceiver. I transmit on the Amateur bands, but I can listen on the commercial and marine frequencies."

"You know " another would say, "my neighbor is some kind of radio operator and he talks to people all over the world." And so on.

These encounters are important to the hobby. You may not persuade someone to run out and get a Technician license. But you will give them important information about ham radio: what it is, how it helps the public, what it can do. You can also show them how much fun it is.

The encounters are not only important to the hobby, but they are important to you. One encounter turned into an evening-long conversation with a retired college professor. We started out talking about radios, he owned a sailboat and had just bought a marine band hand-held, and we ended up discussing our jobs, our careers, and our dreams. At another Amateur Radio demonstration on board, my wife and I met a young couple who had left their jobs near Seattle and were moving to Fairbanks. They had both been to Alaska before, and they talked of the wonders of the last frontier.

As we approached Ketchikan, I got the chance to make my first two meter contact in Alaska I heard two hams talking on the local repeater.

I slipped into the conversation and introduced myself.

"Are you on a cruise ship?" asked one of the hams, suspicious of my WA6 call. I noticed a cruise ship in the harbor.

"I don't know. Is the *Matanuska* a cruise ship?" I responded.

"No, that's a ferry."
 "Well, then I'm not on a cruise ship."
 "Good," was his response. "What are you doing in Alaska?"

"I came up here to take a job with the Federal government."

"I just don't understand why," he said, "they have to go outside to get people to work here. I don't know why they just don't hire Alaskans."

"Outside," for those of you who don't know, is any place that is not Alaska like Mars, or Washington, D.C.

Welcome to Alaska, I thought.

The hams in Alaska welcomed me, and they will welcome you. I spent my first Field Day in years working CW for the Juneau club. Because Alaska is the biggest state, the Field Day group got the antenna formula wrong and made the biggest 80-meter dipole! They made it 240 feet long. It loaded fine on 160 meters, but the band didn't open.

But not only did the hams welcome me, but so did the State of Alaska. When I went to register my car and apply for Amateur Radio license plates, I got a pleasant surprise.

"There's two kinds of Amateur Radio license plates," the woman at the Division of Motor Vehicles told me. "For one you pay a fee, if you qualify for the other, you won't have to pay a registration fee."

"You mean the license plate is free?" I asked.

No, she told me, "If you have a General, Advanced, or Extra Class license and you keep a radio capable of operating on five bands between 160 and 10 meters in your car, the annual vehicle registration is free."

"We remember what the hams did for



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Alaska after the earthquake. For a long time, they were the only communications in Alaska. This is Alaska's way of saying thank you."

So, if you're travelling to Alaska, don't forget to bring your two meter rig. You can operate on deck of your cruise ship or ferry, or if the weather's not to your liking, you can operate from inside. Don't be afraid to talk to people who ask you questions about your radio. Demonstrate how you can listen to the marine band, and show them how you can listen to the "inside" of the ship's operation. But most important of all, don't be afraid to let the conversation drift off to something besides Amateur Radio. You'll meet some wonderful people and find out marvelous things.

If you plan to drive your car or RV around Alaska or northwestern Canada, bring your high frequency rig along. If you can't mount it in your car and use it while you drive, you can set it up outside your RV at a campsite. In most places, there are enough trees for dipole supports. Just remember to leave the trees as you found them.

If you're traveling near Alaska, check in to the Alaska Bush Net. The net meets every night at 8:00 p.m. Alaska time on 7087 kHz, or thereabouts. Stations from Vancouver, B.C., to Shishmaref, Alaska, and even Siberia check

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in. Lots of RVs along the Alaska Highway check in. The net always welcomes travelers, and the Alaskan and Canadian hams are glad to provide information and help along the way. Remember, though, the net meets on lower

sideband; Alaskan and Canadian hams are authorized voice on that frequency. If you're still stateside you'll have to check in on CW.

The Alaska Bush Net rules are easy. One of the net control stations explained

the rules for me. They apply to you as well. "We expect you to check in as often as you want," said the net control station. "And if you can't check in as often as you want, well, that's OK, too."

Welcome to Alaska.

WR

Contesting tips from an old pro

GEORGE R. LEONE, K6SG

Contesting is one aspect of amateur radio that is enjoyed by a considerable portion of the amateur fraternity evident by the variety of activities available almost every weekend. To name a few contests and contest-like activities: DX contests sponsored by the ARRL, *CQ* magazine and many other international organizations; Field Day, QSO parties sponsored by many amateur radio clubs, SPRINT, and Simulated Emergency Tests (SETs). Contest operating helps improve operating skills and generally leads to making improvements in station equipment and layout. Information presented here will be, for the most part, non-specific as to contest or activity. Tips pertaining to station layout, operating and the operator are presented. Single operator or multi-operator/single transmitter, right handed operator, and real time computer logging are assumed. Even if you log by hand, you might find these tips quite helpful. They have worked for me.

The following tips are directed mainly to the beginner or prospective contestant. The veteran may also find an idea or two that will be helpful. Read on.

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Station layout

1. Place a digital clock, video monitor, and antenna direction indicator directly in front of the operator to minimize head movement. The monitor should be at eye level and about 3 feet from the operator.

2. The keyboard should be 26 inches off the floor unless you have a variable height chair. Arm rests usually are not desirable when using a keyboard.

3. The transceiver should be to the left and tuned with the left hand. Equipment placed on the operating table should form an arc instead of a straight line.

4. The amplifier, if you use one, should be to the right and tuned with the right hand. Have a calibration chart for quick band changes.

5. Place the keyer paddle to the right and the speed control to the left if they are separate units.

6. Use a PTT foot switch for smooth and fast operation if you don't have a good VOX or break-in system.

7. Use a foot operated antenna rotation control. A heavy duty center-off single-pole double-throw switch can be found at any auto parts store.

8. Use light weight earphones with a boom microphone when operating phone.

9. Place the antenna selector switch so it is within easy reach and readable.

10. Have a good comfortable chair. Adequate padding is essential for extended operating periods.

11. Packet radio is a good adjunct if you don't mind being in the "assisted operator" category. A packet interface to your computer will put packet announcements on your screen and permit use of your computer keyboard for making announcements.

12. Generous use of ferrite cores and beads will minimize or eliminate RFI, TVI and telephone RFI. Telephone line ferrite filters with modular connectors work great.

13. Provide good lighting and avoid eye strain.

14. Check out the equipment and antenna system well ahead of the contest date and make any needed adjustments and repairs.

15. For domestic contests, consider using antenna height of 35-40 feet. Put up dipoles for the lower frequency bands,

if you don't have any antennas for those bands. Try feeding your tower for 160M.

16. Have a snack table or TV tray within reach. Don't put coffee cup or food on the operating table/desk. If you smoke, watch the ashes.

17. Have note paper, sharp pencils, and erasers readily available. If by chance you are logging by hand, have correct log forms on hand as well as a dupe sheet.

18. If a neighbor is also in the contest, try switching in transmission line quarter-wave section filters of RG174 or RG58 at the receiver input to minimize adjacent band interference.

Operating

1. Know your equipment. Thorough knowledge in the use of all the controls on your transceiver such as CW and SSB filters, audio filters, bandpass tuning, dual VFOs, noise blanker, memories, and split frequency operation will greatly enhance your operating ability.

2. Check out your computer and logging program. The *N6TR Logging Program* and *CT* by K1EA are excellent and accommodate a variety of contests. *CT* Version 8 with a digital voice processing board handles SSB as well as CW contests which makes it easy on the vocal cords.

3. Know the requirements of the contest such as the starting and ending times and dates, message exchange, scoring, multipliers, etc. which are available from the sponsor of the activity.

4. Set a goal for yourself or enter into a competition with a fellow club member or friend who is participating. Make a rate chart and monitor your progress.

5. Check propagation conditions/forecasts before the contest. Consult propagation charts in the latest *QST*, *CQ* magazine or *Worldradio*. Monitor WWV propagation reports. If you have a computer program that will draw MUF charts, plot your own just before the contest. Know at what times different bands will be open to various parts of the world. Propagation conditions on the east coast are not the same as the west coast so don't waste a lot of time trying to work the same DX. Go back periodically, say an hour or two and try again.

6. Periodically check the status of

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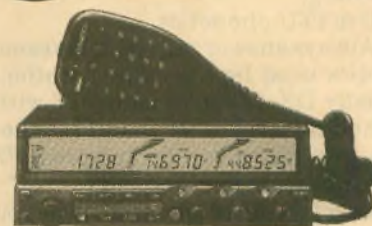
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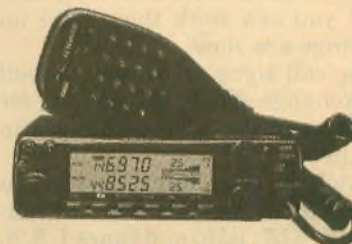
TM-742A



TS-850S



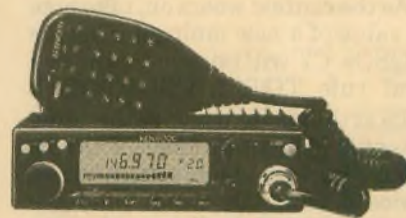
TH-78A



TM-732A



TS-450S



TM-241A



TS-50S



TH-28A



TR-751A

multipliers yet to be worked. Look for them when you think the band will be open to them.

7. Know what DXpeditions are out there. Check *QST*, *CQ* magazine, *Worldradio*, and DX bulletins to find out. Make a list of their calls, QTH and QSL information if you need it.

8. Use beam headings on the *N6TR* or *CT* programs. Use *CTYHDG.EXE* available on earlier versions of *CT* or download it from the K1EA BBS if you're a registered owner. You enter your latitude and longitude and the program will update the country list with beam headings from your QTH. Whenever you enter a call, the country prefix will appear with the correct beam heading for you. The *N6TR* program also provides an easy means for including beam headings to the countries list.

9. As a general rule, work the highest band open. Check other bands every now and then to be sure you don't miss an opening.

10. Use ITU phonetics.

11. Always answer calls with the same phonetics used by the calling station, especially DX. If you're using *CT* with *DVP* and he used other than ITU phonetics, give his call orally and press F2 (exchange) instead of INSERT.

12. Give 'big guns' only one call as you run across them. Don't wait in line to work them unless it's a new multiplier. They will be around for the entire contest and you can work them later on when things are slow.

13. Log call signs accurately as well as the exchange. There is a penalty for inaccurate call signs or exchanges in most contests.

14. Catch the easy multipliers as you run across them. Easy double multipliers (W, VE, KL7, KH6 and zones 1, 3, 4, and 5) can be found on 160, 80 and 40. These are easiest to work the first night.

15. As the contest wears on, take note of the value of a new multiplier versus more QSOs. *CT* will tell you this or as a general rule TOTAL QSOs/TOTAL MULTS at that point will give the value of one multiplier in number of QSOs. Contacts that are double multipliers are twice as valuable. Bands you have operated on the least will probably bear more double multipliers. You decide if you want to hunt multipliers or make more QSOs.

16. Use memories to store frequen-

cies of needed multipliers and band edges for quick reset instead of spinning the dial back.

17. If you don't work a station after three or four calls, you might not be in his band pass. Change your frequency slightly.

18. In a big pile-up, timing of the call is very important. Delaying your call slightly will often bear fruit.

19. If you get a run or pile-up going, work the fast operator first, the slower operator will usually hang in there for you whereas a fast one will not. If there is heavy calling and it's too difficult to pick out calls, turn down the RF gain which often helps to pick out the stronger signals. Use the filters! Consider calling for districts, prefixes or other geographical breakdown. Also consider working split frequency, listening a few kHz higher than your transmit frequency.

20. Learn to handle partial calls quickly. On CW, e.g., JF3B? 59903 or on SSB "the JF3B station, 5903" and get the complete call on the return when he will repeat his call. In regard to using partial calls, I prefer to send my complete call when calling stations and have stations calling me give their complete call. It's faster than repeating the full call on the next transmission. Unless, of course, if the station I'm calling asks for partial calls.

21. Avoid all unnecessary transmission. R (your call) or TU (your call) is shorter and just as courteous as 73, QSL or CUL.

22. CQ versus Search and Pounce. The basic idea behind CQing is that if you don't have a signal on the air, nobody knows you're there. Even with a modest station CQing can be quite productive. Try the general class portion of the band or find a clear frequency out of ear shot of a big gun. If a few CQs are not productive, go back to search and pounce or change bands.

23. To find a "hole" for CQing, search and pounce up and down the band once or twice calling a CQ where you find a spot that appears to have little or no activity. If you get an answer, stay there. Once in a while someone will come on the frequency you're listening on with a QRL? Give a fast comeback with a C or YES IT IS THANKS and start calling CQ. This is called the "fast draw".

24. Cover the entire band when searching and pouncing. Lonely multipliers and QSOs are often found in the higher regions of the band. Don't forget the Novice portion of the band, especially when the rate is down.

25. If you have a close neighbor also in the contest, arrange a modus operandum of working adjacent bands. Give the better operator/station combination the choice of band to maximize a club score, or flip a coin.

The operator(s)

1. Outstanding operators are not born, they're MADE! Best to start early. Take part in smaller contests like QSO parties, Field Day, SPRINT, etc. Even if you don't participate, practice tuning around and copying calls and exchanges as you would in a contest.

2. Even though computers and memory keyers are predominately used, practice sending to become proficient or to keep your hand in.

3. There are a few practice programs for contesting available. The *N6TR Logging Program* has a built in contest simulator which is excellent for practice. Get hold of one of these and practice, practice, practice!


4. Operators should be psyched up before the contest. Have a pre-contest club meeting to set personal/station goals, share strategy, operating techniques, set a post-contest gala celebration and enjoy the comradery of a group effort. If you don't belong to a club, get together with a fellow ham who shares your interest in contesting.

5. Don't overeat just before or during a contest. Eat sensibly, don't drink too much coffee or caffeinated drinks, and don't drink alcohol. Wait for the pizza and beer party after the contest.

6. If you are operating a multi-single, go for a walk during your break. If you're operating single op and things get too slow, go for a short walk.

7. And most important of all, HAVE FUN!

WR



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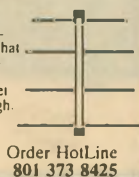
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More on antenna tuners

HOWARD LIEBMAN, W2QUV
ARRL Technical Coordinator

There has been much nonsense published in articles and books on the subject of antennas. Even antenna manufacturers publish outright lies about their products! This is the reason that the ARRL doesn't accept antenna advertisements in *QST* which include any gain claims. If the ARRL had to take this step, is it any wonder that the average ham gets confused? It would take a large book to correct much of this misinformation, so this article will only deal with a small part of it, namely antenna tuners.

Whether it's called "Antenna Tuner," "Transmatch," or "ATU" (Antenna Tuning Unit), it means the same thing. We will refer to it as "antenna tuner," or simply "tuner," for the balance of this article. Briefly, what an antenna tuner does is cancel all reactances in the antenna and transmission line (resonance), and match the resistance of the system, enabling virtual 100% transfer of power. Simply stated, even with a mismatched system, you can deliver virtually all the RF power of your transceiver to your antenna.

In published literature on the subject, some authors (who don't understand the subject at all) have written that the antenna tuner only "fools" the transceiver into thinking that it is seeing a 1:1 SWR and thus only enables the transceiver to deliver full power. Yes, it does enable the transceiver to deliver full power, but it also tunes out all mismatches in the system, including transmission line to antenna mismatch, and also any non-resonance in the antenna itself.

In the real world, a well-meaning ham puts up a simple dipole, then goes through the agonizing procedure of pruning it to resonance at a certain frequency in the band of interest. If successful, he winds up with an antenna that works fine in only a portion of the band ('phone, CW, or whatever). If he now gets a simple, inexpensive, antenna tuner, he can tune the entire band. He then realizes that he wasted much time and effort in the antenna pruning. If you have one simple antenna fed with coaxial cable, and a transceiver in the 100-watt class, get an MFJ model 945D Mobile HF Antenna Tuner. The "Mobile" in the title just indicates that there are no antenna selection switches, which are unnecessary when you only use one antenna.

Now that you know that your antenna can be tuned all across a band with an antenna tuner, try it on other bands. A lot more versatility has been given to

your antenna system. With the tuner, you can tune your rain-gutter, metal balcony fence, a random wire, the mast supporting another antenna, an indoor antenna, or whatever.

If you've read this article thus far, you have probably come to the conclusion that an antenna need not be physically resonant at any particular frequency. Bravo! You now know more about antennas than the average ham. This knowledge enables you to realize, that with the antenna tuner, you can easily put up a simple multi-band antenna without traps, coils or stubs.

Now that you don't have to concern yourself with resonant antenna lengths, you're ready to put up an excellent, simple and cheap multi-band antenna. It is a dipole look-alike fed with open-wire line. I say dipole look-alike because the legs are not cut for quarter or half-wave, and therefore not a true dipole. Perhaps "doublet" would be a better name, but call it a dipole anyway, since very few people know the difference. In my QSOs I simply refer to my antenna as a dipole, it keeps the conversations simple.

Since we're not concerned with resonant lengths, what should the dimensions be? Very simple: Make your antenna as long and as high as you can. The lowest frequency of your antenna will be the one where the total antenna length is at least a quarter wave long. All higher bands will work fine. For example, if you have room for only 70


feet, you have a very good 80 through 10 meter antenna. Longer would be better for 80M tuning, but mine is only 64 feet and I use it on 80 meters as well as all the higher HF bands. For the transmission line, I favor 450 ohm open-wire line, but heavy duty 300 ohm TV line could be used. However, in rainy weather the TV line characteristics change, so go for the 450 ohm open wire line.

Of course, with open-wire line, your antenna tuner must have a balun in order to match the line. If your tuner doesn't already have it built in, you can buy or make a suitable 4:1 balun. If you intend to buy a new tuner for this type of antenna, I suggest the MFJ Model 962C Versa Tuner III. It costs about \$120 more than the 941E but it includes a much superior balun, and if you ever go to 1.5 KW, you would already own a suitable tuner.

Even if you use beam antennas, a tuner could enable tuning the entire band. Whatever your HF antenna type, an antenna tuner will increase its bandwidth.


In the opening paragraphs, I made references to authors who should not write about antennas. On the other hand, there is excellent reading material available. For example: a) *The ARRL Antenna Book*, 16th Edition, ARRL, 1991. b) *Reflections* by M. Walter Maxwell, 1990, ARRL. c) *Aerials II* by Kurt N. Sterba (whoever he is), 1993, **WORLDRADIO BOOKS**. d) Anything by Lew McCoy, W1CP, is always worth reading. WR

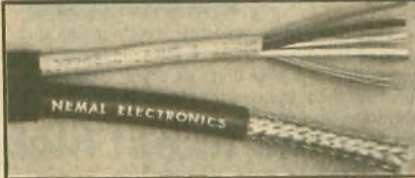
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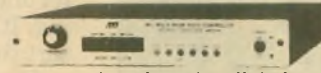
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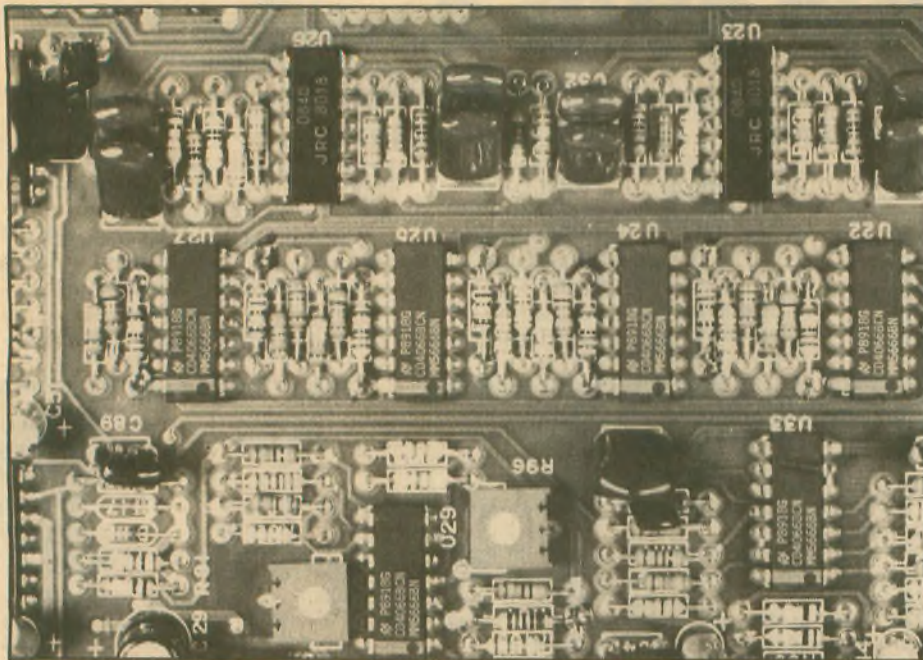
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Good front-end filtering is the key to good performance.

Taking the plunge:

Selecting a Packet-only or Multi-mode Controller

BY STUART THOMPSON

After weeks, months, or years of hearing the dissonant *braaaap!* of packet signals, you've finally decided to join the fun of exchanging digitally-encoded messages across the street or around the world using a computer. You already have most of the equipment you need: a modern HF, VHF or UHF transceiver, an antenna, a terminal communications (modem) program, and a desktop or laptop computer. All you need now is the little box that will convert those unintelligible radio signals into readable text that shows up on your computer screen.

This little TNC is called a controller, or "TNC" (terminal node controller). Choosing the right TNC is no small issue: it can make the difference between delighting in an enjoyable new facet of an old hobby and a one-way trip into frustration and dissatisfaction.

Most packet controllers fall into two categories: packet-only and multi-mode. A packet-only controller is exactly that:

a TNC that's dedicated to operating only in the packet mode. A packet-only TNC is usually limited to the VHF/UHF spectrum although some can operate on the HF bands, too. A multi-mode controller, by contrast, operates in a variety of different modes, including packet, Morse, RTTY, Baudot, FAX, PACTOR, AMTOR, SITOR, and NAVTEX. It, therefore, can be used on either HF, VHF, or UHF frequencies.

Two factors usually determine which TNC you'll choose: your station setup and your budget. In general, if you own only a VHF/UHF station, you don't need anything more than a packet-only TNC. If you own an HF station (with or without an accompanying VHF/UHF sta-

tion), however, you'll do best with a multi-mode TNC. First, you'll get more for your money because you'll be able to use all the modes available. Second, a multi-mode TNC will grow with you as your interest in the hobby increases.

Aside from differences in cosmetics and general operating functions, the most important feature to look for in a controller is which type of front-end filter circuitry it uses. The front-end filter's job is to block out unwanted noise and signals from circuits, the atmosphere, and adjacent stations and let only the wanted signal in for decoding. If a filter isn't selective enough to sort the signal from the noise, the controller will be "tone deaf," and you won't be able to carry on a QSO under less-than-favorable conditions.

Most dealers won't be too keen on your prying open a controller to determine the type of filter circuitry it has, so you'll have to settle for reading the TNC's schematics or specifications. In the schematic you'll find one of five filter setups: no filter at all, an Exar 2211 chip coupled with an audio band-pass filter, a SCAF, an 8-pole Chebyshev with threshold correction, or DSP.

Any controller without a filter is a total loss from an operational standpoint — don't even consider purchasing such a unit. Skimping on a filter is inexcusable, and without one you're guaranteed to be disappointed with the controller's performance.

The Exar 2211 IC chip was designed for use in telephone modems where noise is minimal. This chip works adequately for VHF radio contacts, but its performance on the noisy HF spectrum is anemic. During periods of selective fading, for example — when a signal's strength drifts in and out with the RF tide — the Exar's PLL (phase locked loop) circuit has no signal to lock onto, so it tries to re-lock and decode the noise. The result is garbage, or nothing, on your monitor.

In addition, the Exar's limiter circuit

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will be "captured" by adjacent signals that are only a smidgen stronger than the signal you're trying to tune to. To get around this problem, manufacturers add an audio bandpass filter. Unfortunately, this filter's bandpass is a whopping 500Hz wide — so wide that it'll let in all kinds of noise and signals. It is better to steer clear of controllers that have this filter and chip because the combination compromises performance for a lower cost.

The third filter, a SCAF (switched capacitor audio filter) doesn't suffer from the same HF problems as the Exar 2211, but it does generate undesirable circuit noise and possesses a limited dynamic range. A controller with this kind of filter will have difficulty hearing and decoding the signals it's listening to, so there's a good chance you'll get some garbage or poor deciphering performance with this filter. Dynamic range — as defined in the 1993 ARRL Handbook — is "...the decibel difference (or ratio) between the largest tolerable receiver input signal (without causing audible distortion products) and the minimum discernible signal (sensitivity)." A limited dynamic range means that the filter will have trouble with weak signals, which are the norm (and bane) of HF bands. The SCAF also has an unde-

sirably wide bandpass of about 400Hz.

The fourth filter is an 8-pole, Chebyshev filter. Any controller that has this filter is a good buy because it has a bandwidth of only 200Hz, which blocks out a lot of noise and interference. It also has a wider dynamic range than the other filters, ensuring that those weak signals get decoded properly. If you find a unit with this kind of filter, also look for a threshold correction circuit. During periods of selective fading, this will lock onto the signal and decode it long after the other types of filters have given up.

The last "filter" is DSP, or digital signal processing. Unlike the other filters, which are analog, DSPs are completely digital and work on an entirely different filtering scheme. Instead of trying to constantly separate a signal from its surrounding noise, DSPs "sample" what they hear, digitize it, then it "keeps" the digital signal and "throws away" the noise. DSP TNCs are the best you can get and their performance is unsurpassed.

That covers the filter arrangements you'll find in today's TNCs. Now that you're the wiser, you'll know what to look for; you'll avoid advertisers' "hype" and you'll make the right choice with confidence. 73, and *Bon Packet!* WR

RAGBRAI's radio setup

CHRIS CHARRON, WB0RSW

I have been the communications coordinator for RAGBRAI for the last four years and an active cyclist the last three years. Four years ago I (a non-cyclist) drove a communications van on my first RAGBRAI (see July '89 and '90 QST). I saw riders of every shape, size, age, and ability pedaling across Iowa. At some point I said to myself, "I can do this!"... Now, four years later, I have two bikes, a Burley trailer and a tandem on order. And you thought that *ham radio* was an expensive hobby!

Theory of operation

I subscribe to two philosophies with my RAGBRAI operation: 1) KISS — Keep It Simple Stupid; and 2) KICK — Keep It Changeable Kid.

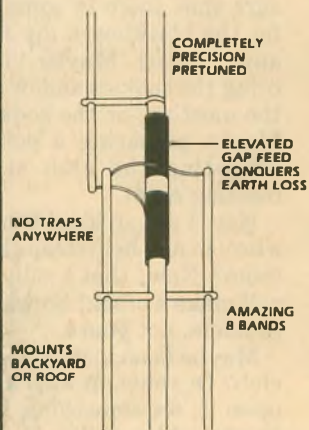
The most important thing that I stress to our ham/cyclists is *have fun!* We run a very loose net. There is no set net control and meaningless traffic is actually encouraged. Purists may think this is no way to run a net, but seven days and 500 miles make for a long week. If I tried to run this thing with an iron fist, I would have been shot a long time ago.

Our ham/cyclists can be as active or inactive as they choose. Some are hams first and cyclists second. Others concentrate on their bike riding and are only heard from when there's trouble. My primary goal is to get as many radios as possible onto the course. On average, our ham cyclists will call in three or four accidents a day. Most are minor. During the week we will have a couple major accidents and, sad to say, there have been a few deaths. So even though we might have a lot of fun, we do have a job to do. When something is cooking, we take our responsibility very seriously.

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The thing that makes this operation work is the mixture of riding abilities of our volunteer hams. We get the extremes: Some are racers and then there are guys like me who suffer from "HBS" (Ham Belly Syndrome). We also get a lot of riders who fall between the two. This mixture insures that we have radios spread over the entire 50-100 mile course each day.

Our ham network is a supplement to the police and medical network that RAGBRAI has used for several years. Normally, we have on the course eight police cars and four ambulances. We give police hand-held radios to liaison hams of varying riding abilities. This way we get almost 100 percent coverage over the entire route.

The reason we like ham cyclists so much is that every motor vehicle we place on the route becomes a hazard to the 10,000 cyclists that we average on the road each day. Between the police, medical personnel and hams we may have 60 radios active at any one time. Using this network of cooperation we have been able to do a good job of covering the route. We normally have a radio at the scene of an accident or road hazard within minutes. Our network is further supplemented by hams from the towns we pass through. These hams function as relay stations, or links to the National Weather Service or telephone systems.

My equipment

My bike-mobile installation is really quite basic, but it works well. I use an Icom 24AT into a Larsen (MHW-150) half-wave antenna that's mounted on a piece of sheet metal on my rear rack. I tie-wrap the coax along the frame to my front bag, where the radio slips nice and secure into one of the side pockets. I use either a micro hand mike or headset, depending upon my mood.

There isn't too much UHF out here, so if I need UHF, I just slip on the duck. A couple of our riders who carry dualbanders use and like the Diamond NR-770S as a dualband bike-mobile antenna. For power I run either an Icom 1000mA clip-on or a 2A gelcell. I have found that the 1000mA Icom battery will last all day even with heavy usage. The key is to have a quick charger available so it can be used daily. I can get two or three days out of a gelcell.

While my ham radio setup is pretty streamlined, the equipment that is provided for the police and medical liaison work isn't. This usually consists of an older model Motorola hand-held that resembles a brick with a rubber duck. These radios work well but are real power hogs. This means that we have to carry extra battery packs. By the time I get rolling, there could

be ten pounds of radios, mikes and batteries!

Everyone connected with RAGBRAI agrees that the ride is much safer now that we have incorporated ham/cyclists into the communications setup. Over the last four years, more than 100 different hams from 17 different states have ridden or helped in some way. We have a very interesting, diverse group that keeps growing.

RAGBRAI is held the last full week of July each year. I would like to offer this ride as a yearly get-together for fellow BMHAers and would be happy to talk with anyone wanting more information. Contact Chris Charron, WBØRSW, RAGBRAI ham radio coordinator, 3841 Amherst, Des Moines, IA 50313; 515/284-8555, work; 515/244-0770, home.

—Bicycle Mobile Hams of America

Don't just stand there. Do something!

FRED SKINNER, K2DN

It is a natural tendency for most people to come to a meeting of a social, community, civic, political or, for that matter, any club and feel that not doing anything is the best course of action. Why? Because, it is very easy to feel that if we undertake something we were not told to do, someone is going to make a negative comment about it.

Being new (or even if we have been around for a while) one sometimes has the feeling of the outsider. Maybe we shouldn't undertake anything unless we are specifically directed by "an officer or a board member" to do it. After all, they are in charge... right? Wrong! The officer or board member is NOT IN CHARGE, their function is to assume responsibility to make the member's club experience more enjoyable.

So, who's in charge? You, the mem-

ber. You are in charge!

In charge of what? In charge of participating, of taking an active role in the club, of doing anything that needs to be done. Even if you are an officer or member of the board, your most important function is that of *club member*. The club is, after all, a society of equals, no higher, no lower. The hierarchy exists only for administrative convenience and to have "... the honor to serve."

So I am standing here; what can I do? Whatever you feel is constructive! One time it may be setting up the chairs for the meeting, another may be to make sure that there is some chalk around for the blackboard (by the speaker or anyone else). Maybe volunteering to bring the cookies and/or doughnuts for the meeting, or the soda for drinking. Maybe preparing a pot of coffee, or operating the club station during meeting night.

Hey, I got an idea! Why don't I grab a broom and help clean the club station room? Naw, that's silly... someone will make a crack! So what? That's his problem, not yours.

Maybe I can make a sign to use in the club? Or come up with an idea and act upon it, for something I think should be part of the club.

Oh heck, there are 100 things that can be done to improve the club. All it takes is doing and if you think it is the right thing, go ahead. Chances are that you're right. It's better to do something, even if it doesn't turn out perfect, than to do nothing!

So, don't just stand there. Do something! And thanks for trying.

—The Communicator

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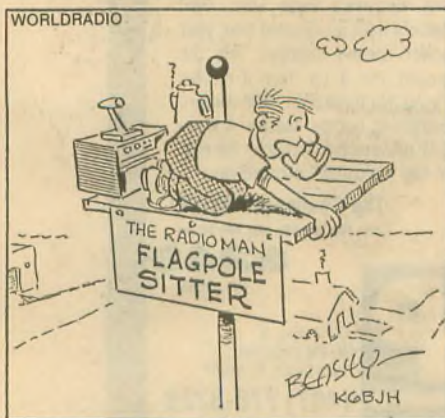


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An RFI success story

KIM ELMORE, N50P

During a recent weekend I received a call from my next door neighbor complaining about TVI. I was operating my Alinco ALR-22HT 2M FM rig at only about 5W output from a 5-element yagi up 52 ft. At first I couldn't believe it was me, but some quick tests showed otherwise. Just what I needed to hear!

A short history is in order. A couple of months after I moved into my house 2 years ago, I erected my tower and antennas, fulfilling a dream I'd had since I was first licensed 17 years ago. I told all my neighbors what I was up to and asked them to call me if they had any RFI problems. The neighbors were more than happy to have me put up a tower; some even helped! The house I bought had been a rental for some years and they preferred a 60 ft. tower to any more renters!

I only operated HF at that time and seldom used my amplifier, which can crank out about 750 to 800W on CW and about 1kW on phone.

During the first week I received very few TVI complaints. All complaints were from neighbors that were not using the cable TV service. My next door neighbor had the toughest problem; he was using an old black and white set on a pair of rabbit ears.

It took some doing, but I finally convinced him it would be better to use his attic antenna and a high pass filter. In the meantime, I installed good low pass filters on the output of my transceiver and amplifier, which helped to

some extent. Although his antenna lead consisted of 300 Ω TV twin lead, the change all but eliminated his TVI woes and we were all happy again. I could run a kW on any HF band without affecting his set.

He later told me that I also got into his telephones. 0.01 μ f disc capacitors across the earpieces and mouthpieces of his telephones solved that problem. Because all of this worked as advertised, he began to believe that I knew something about all this stuff.

About a year later I received another call from him about TVI. He had also chosen to use rabbit ears and was not using any high pass filters! After some lengthy explanation I convinced him to purchase and install a good outdoor TV antenna and use good coax connections to his sets. He also purchased very good (Ameco) high pass filters for both sets, AC line filters and signal dividers. I performed most of the installations myself with his son's help, but I did not (and would not) purchase any of the components. Just as I had hoped, all RFI problems vanished! Again I could run up to a kW without fear of disrupting the Broncos, Channel 2 News or whatever, and he was delighted with the improved TV reception.

Then came his new TVI complaint. Some additional testing showed that the affected set was *tremendously* sensitive to any 145 MHz RF: his set still showed some RFI when I was running 0.5W and a rubber duck antenna on my Kenwood TH-215A HT from my ham shack! I suspected an image response because he said most of the problems were on channel 9 and 2M is almost the TV IF frequency away from the channel 9 video carrier (about 42 MHz).

While I was out gathering up some F-type connectors and assorted hardware for some $\frac{1}{4}$ λ stubs I wanted to try as notch filters, I walked into a TV store. Out of curiosity I pulled out my HT and keyed it, testing whether "expensive" TVs suffered similar problems. Lo and behold! Several sets showed extreme sensitivity to my little HT. On some sets the picture would vanish, as would the audio. Others would lose horizontal or vertical sync

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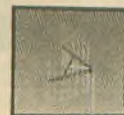


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and still others suffered extreme hum on the audio. There were also some sets that were relatively immune to RFI. All of these sets were connected into a closed cable system and fed either from a VCR in the store or CATV.

Susceptibility did not match price and some brands seemed generally more susceptible than others. Unless a test was actually performed, there was no way to know which set was worse or better regarding RFI susceptibility. Incidentally, the store manager never caught on to what I was doing.

I tried tricks with quarterwave stubs and short, tuned stubs in parallel with the transmission line and none of them helped much; some made the problem worse. Further testing showed that if I entered the room containing the offending TV with my HT on 0.5W, the picture became a total wipeout from about 10 ft. away on nearly all channels. In desperation I suggested that he wrap the TV set in aluminum foil and that I was out of further ideas.

To my surprise he did just that and later testing that day showed that it worked! The TVI was almost totally eliminated, even when I ran 45W with my Yagi pointed straight at his antenna. It is interesting to note that only one set (an Emerson) was affected. His other set (carrying the KMC moniker) was relatively bullet-proof in similar regards.

My neighbor caught on quickly, saying that if the manufacturer had spent an extra 79 cents for some aluminum foil, we would have never fought this problem!

I learned two lessons from this that I want to pass on. The first was that good engineering practices can be employed to solve HF TVI problems. It requires some cooperation from the affected neighbor, though. I personally recommend against *purchasing* filters and such for your neighbors; it can become an extremely expensive precedent. But be willing to donate your time and expertise; you may turn a potential adversary into a good friend and supporter. HF TVI problems *can* be solved.

The second lesson is next time you buy a TV, take your (or someone's) HT with you and test the candidate sets. I haven't tried it, but a 4W CB HT might be worth finding and carrying along for similar purposes. If a neighbor asks you which TV to buy, since we are all by definition "electronics experts," tell them to pick some out that they like and you will run some tests on them. Help them pick the one that is least affected; it may save you and your fellow hams, as well as your neighbor, some headaches and heated words.

— Boulder ARC, Boulder, CO



OK, WILL YOU REPEAT YOUR LAST TRANSMISSION, BILL --- I JUST PUT THE NOISE BLANKER ON

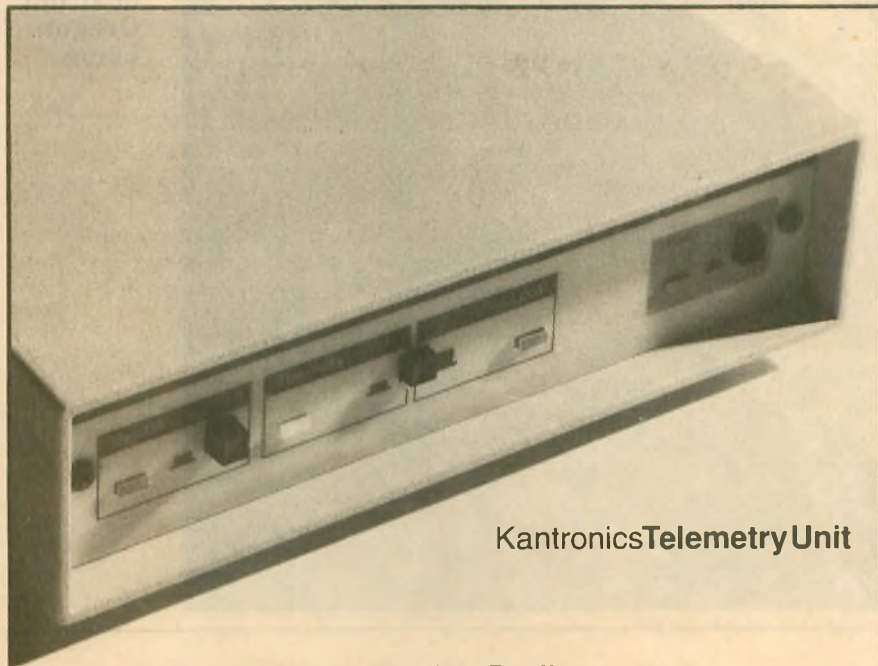
Want to solder aluminum?

Try this! Place a drop of clean motor oil on the place where the aluminum is to be soldered. Without wiping it off, take a sharp tool and scratch the area to be soldered.

Apply a hot soldering iron to the spot and use resin-core solder. The solder adheres both physically and electrically.

A good idea is to try a practice run on a piece of scrap aluminum before you try the real thing.

—TARC Bulletin



Kantronics Telemetry Unit

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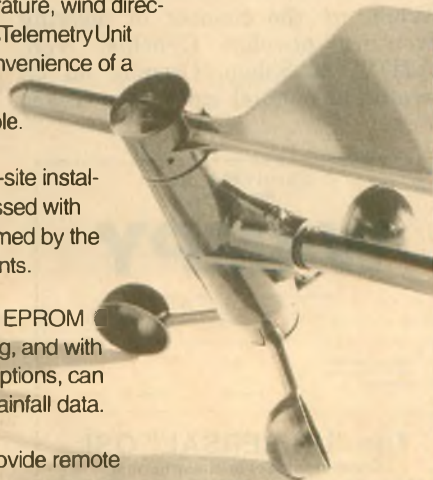
This device gathers weather data at your station and makes it available to others via an external TNC and a Local Packet Network. Members of the Packet LAN can simply ask for tables of temperature, wind direction or wind speed. The Kantronics Telemetry Unit then provides this data with the convenience of a mailbox and with the speed of the most advanced technology available.

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Author Cynthia Wall, KA7IT is equine-mobile near her Oregon home.

Center. A slim woman with short, sandy hair got on the elevator ahead of us. She was dressed in a swimsuit with shorts and an open shirt, and she looked vaguely familiar.

About the time I connected her and her picture in *QST*, she extended her hand for a handshake. Now I was staring into the friendly eyes of one of my favorite writers. Cynthia Wall's central characters, Marc and Kim, use their wits and their Amateur Radio skills to beat the bad guys or get out of difficult predicaments.

When we discovered that our rooms were on the same floor, Cynthia invited Erin and me to visit. Since becoming a published novelist, she said, she has discovered the importance of traveling light. Clothes for a three-day hamfest must fit into one bag that she can carry onto the plane. The rest of her luggage consists of boxes of books—copies of her novels to autograph and sell. "The first criteria for being an author," she later told a writing seminar audience at Ham Com, "is to be able to lift 40 pounds, because that's what a box of books weighs." She lugged three boxes from Oregon to the hamfest and sold them all.

KA7ITT's books are part of a new adventure series published by the American Radio Relay League (ARRL) in Newington, Connecticut. Cynthia said her stepmother, Lenore Jensen, W6NAZ, who recently became a Silent Key, was responsible for her decision to write the novels, which now include *Night Signals*, *Hostage in the Woods* and *Firewatch*. Lenore contacted the ARRL to propose a book of interesting stories she had collected while making more than 68,000 phone patches for American service personnel, mostly during the Vietnam War. When the League wrote back, they turned down the book idea but said that they were looking for someone to write an adventure series. Lenore contacted Cynthia, and the adventure novels that many readers describe as "hard to put down" were born.

"I've tried to put something for everyone in these books. Adventure, creative use of ham radio, romance—there's a little bit of everything," Cyn-

Facts and fiction — How a novelist blends adventure and Amateur Radio

CONNIE DUNN, KB5LES

What are the chances of meeting adventure novelist Cynthia Wall, KA7ITT, of Salem, Oregon, on an elevator in a hotel close to a Texas

ham radio convention? That happened to me recently as my going-on-six daughter, Erin, and I were heading up to our room from registering at Ham-Com in the Arlington Convention

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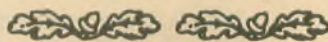
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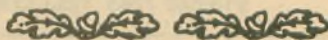
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thia said. While the ARRL's adventure series is aimed at younger readers, "half of my letters come from adults," she added.

Cynthia said she has been researching the books all of her life, because she grew up in a ham family. She didn't get her license then, because "girls didn't do technical things. I didn't think I could learn enough to get a license." But she remembers lying in bed at an early age, listening to her brother, Steve, W6RHM, work DX and "copying the code" in her head.

"My grandfather was one of the very earliest pioneers in ham radio, and my father was a broadcast engineer and a ham radio operator." So it only seemed natural that when she moved to Oregon in 1974 and faced a need to stay in touch with her family, she became licensed, too.

"My father and I probably had better conversations on the air than we did in person. And it was especially meaningful as his health deteriorated," Cynthia noted. Her father died only a few months before she began *Night Signals*.

After she became part of the ham population of western Oregon, she discovered a community rich with stories. "Everybody I talked to had stories to tell," said Cynthia, who began her writing career in college. "That's the fun part—hearing all of those stories."

One of her storytellers was the late Capt. Leon Riggs of the Marion County Sheriff's Department. "He was so good, I would just sit and listen to him," she reflected. Cynthia also turned to family and friends when she needed help in solving some of her characters' problems. For example, Marc in *Night Signals* falls down a mountain slope, breaks a leg and begins suffering from hypothermia. Also, the 12V battery for his Heathkit HW-9 QRP transceiver goes dead. How can he save himself from this desperate situation with Amateur Radio? For a plausible solution, Cynthia turned to her brother. "When I called Steve," Cynthia explained, "he was in his car on the Los Angeles Freeway. He said he'd get back to me in an hour." He did, and Steve's elementary wizardry provided Cynthia with a way to extricate Marc from

his life-threatening hiking accident. Despite his high fever, Marc manages to hook up flashlight cells to his Heathkit HW-9 QRP transceiver and send out weak but copyable signals.

Cynthia teaches her readers some of the technical side of ham radio while giving them the excitement they enjoy. She also strives to be accurate in the other aspects of her fiction. For example, when Marc begins suffering from hypothermia, "I needed him to be nearly dead, but still able to send Morse code," she explained. She went to her family pediatrician, who helped her decide just how cold he could get and still function.

Experiences from her own family also figure into her tales. For example, when Marc begins hearing his long-dead grandfather's voice bidding him to *think* and to *survive*, "That's my dad, Mister Fixit," Cynthia said.

"When my dad was in the hospital for his heart, they attached him to a machine for some tests. He had wires and tubes sticking out all over. Well, the machine didn't work. They told him he'd have to go through it all again the next day. 'Oh, no I won't!' he said. He told them to get a schematic, and he showed them how to fix it lying right there on the gurney." WR

A Peek into adventure

Night Signals is the story of a college student named Marc, who breaks his leg and his radio gear in the high Oregon Cascades. He struggles to survive as search-and-rescue agencies frantically hunt for him. He uses his flashlight battery to engineer a working radio while Kim, a girl with whom he was supposed to rendezvous on radio, helps in the rescue.

Hostage in the Woods has the heroine, Kim, taken hostage by bank robbers and held in a small cabin on the Oregon coast. The small 2M radio in her pocket saves her. All the while, Marc is working heroically with the FBI and police to locate and rescue her.

Firewatch takes place atop a fire-watch tower in the Oregon forests where Kim has taken a job for the summer. But a marijuana grower with a pit bull watchdog threatens Kim's survival as the forest is consumed in flames. Again, Marc comes to the rescue. But it is their ingenuity and their radio gear that save them both.

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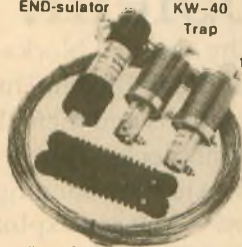
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Awards

ARNS PUBLICATION CONTEST

The Amateur Radio News Service will again conduct a publications contest aimed at recognizing superior performance in amateur radio journalism, and evaluating club newsletter with suggestions for improvement.

The contest is open to all amateur radio organizations. Membership in ARNS is not required. General circulation magazines and professional journals are not eligible.

To enter the contest, each club should submit one copy of their newsletter dated July, 1992 through December, 1993. The contest application can be obtained from Lee Knirko, W9MOL, President, ARNS, 11 S. La Salle St., Suite 2100, Chicago, IL 60603.

The deadline for receipt of entries is December 31, 1993. Early submissions are appreciated to facilitate the work of the judges. The deadline date will not be extended.

Our judges evaluate the papers by awarding points based on the following criteria:

A. General format (title, date and frequency of issue shown; identification of organization; names, addresses,

phone of editor and officers; club meeting dates, place and time; layout, spelling and grammar).

B. Appearance (overall layout and balance; pictures, cartoons, and graphics; type consistent and attractive, article and type spacing; reproduction quality; cover sheet, first page, header; easy to handle, open and read).

C. Content (member contributions; editorials; club activity coverage; training and general amateur coverage; technical or operating articles; use of humor, puzzles, entertainment; serves special needs of members).

Papers will be grouped based on total scores computed by the judges and will

be awarded a certificate falling into SUPERIOR, EXCELLENT, or GOOD categories. Along with the certificate, each club will receive copies of the judging sheets showing points awarded for each of the areas considered and each judge's summary critique of outstanding characteristics of their paper, with suggestions for improvement.

The ARNS BULLETIN will not publish scores, but will list entrants. The decisions of the judges are final.

Additional application blanks are available from the above address. Send an SASE, and please publicize the contest to others via packet, bulletin boards, on the air, etc. **WR**



Catherine Gunderson, N6OOS, receives AEA's 1993 "Ambassador of the Year" award at the ARRL National Convention in Huntsville.

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Joseph A. Sciulli Memorial Scholarship

The Joseph A. Sciulli Memorial Scholarship will be awarded to a Maryland resident entering the Engineering Department based on financial need, scholastic excellence in math and science, leadership, and work ethics. The scholarship program, including the selection process, will be administered by the University of Maryland's College of Engineering. An optional summer internship at TTC will enable the student to get hands-on experience.

Individuals interested in applying for the Joseph A. Sciulli Memorial Scholarship should contact Ms. Jane Fines, 1131 Engineering Classroom Building, University of Maryland,

College Park, Maryland 20742-3011; 301/405-3855. Individuals interested in contributing to the Joseph A. Sciulli Memorial Scholarship Fund may contact the University at 301/405-7759. Checks may be sent payable to: The University of Maryland Foundation, 3121 Lee Building, University of Maryland, College Park, Maryland 20742.

Telecommunications Techniques Corporation (TTC) has established the Joseph A. Sciulli Memorial Scholarship to be awarded to a student majoring in electrical engineering entering the University of Maryland at College Park. Working with the University, TTC is currently encouraging contributions to the Joseph A. Sciulli Memorial Scholarship Fund to provide scholarships to deserving students interested in electrical engineering. TTC established the scholarship in memory of its founder, who passed away in 1992. The first scholarship

will be awarded to a student matriculating in the fall semester, 1994.

Joseph Sciulli received the Master's of Science degree in Electrical Engineering from the University of Maryland in 1966. In 1974, he founded TTC, the successfully communications test products company headquartered in Germantown, Maryland. In announcing the scholarship, TTC's CEO and President John R. Peeler said, "Joe Sciulli would be proud of TTC's performance since his death. His ability to combine entrepreneurship and accountability inspired all those who knew him, especially engineers—both at TTC and in the community. TTC is pleased to be able to create this living memorial to his accomplishments."

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SILENT KEY

B. King Cooper, Jr., AB4QY

It's never too late to learn — or to become a ham radio operator.

When I met King Cooper for the first time he was 80 years old. He confessed to me that he had wanted to become a ham for over 50 years but did not believe he could make it.

I reminded him of Norman Vincent Pelee stressing "The Power of Positive Thinking" and of Descartes' "Cogito ergo sum" (I think, therefore I am).

I offered to prove to him that as long as he was willing to try, he could have his ham license in 60 days or less. Although it would be somewhat limited, he could be two steps up the ladder which would allow him to have a ham license.

The starting directions were simple. He would study only the material that I would specify.

He acquired a few audio cassette tapes to help learn the code and an old all-band receiver to help his code progress.

Within 60 days he had acquired his Novice and Technician licenses. His new call sign was KA4AOZ.

He bought a CW transceiver and joined an N.C. Slow Speed CW net. He promised he would stay with CW for one year while studying to upgrade to General.

About a year later, he had a General Class license. I helped to clear the fog when he ran into a problem, but he did

this mostly on his own.

At 85 years of age, he had acquired an Extra Class License, AB4QY.

Some years ago he was stricken with meningitis. His left leg required a brace. Although he could walk, he could not walk very far. This handicap made him a house-bound recluse. His health was not good.

He would sit at home and talk to people in many parts of the world where, as a young man, he had visited. As he said many times, ham radio had made his day.

Although he had only been a ham operator for a total of seven years, Amateur Radio was a whole new world for him. — Submitted by Tony Landry, W4MJG.

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Off The Air

Right time, wrong place

If you want to make a boo boo, here's how. A couple of months ago I took note of an article in our local ham publication that gave the date of a city earthquake drill. I marked my calendar and showed up at the appointed hour, hand-held in hand.

I entered a room of several uniformed firemen, but no hams. Busy, they took my deposition information from my RACES badge. They liked the information on my Amateur Radio club badge the best.

I soon found I could bring up our club repeater from the room I was in, and also one other repeater. The problem I had was getting someone to answer. Even after I demonstrated how easy it was to change a battery, no one answered. After a fruitless standoff, I put out a query to the department fellows—maybe I should go home? I received an affirmative on that one.

It turned out that the hams were in

the basement and could not get out from there, so they went outdoors and changed frequency to a third repeater, but I did not guess that. I probably need to broaden the scope of my activities a little.

LUKE WATERMAN, W6ILR
Visalia, CA

German post and other info

If you intend sending your QSL to a German ham direct, ask the station for his PLZ (Postleitzahl; German equivalent to our ZIP code). Since July 1, 1993, Germany has changed its entire mail coding system to five digits. Hence, all codes in the *Callbook* are obsolete. Mailing under old codes may cause delay. Other than "D", there is no longer additional prefix "W" (for former West Germany) and "O" (for former East Germany, or DDR) in use. If you need new ZIP codes, please drop me an SASE with city and street information.

QSL route for UC1AWZ (club station)

and UC2AKP, Serge: Via DL10Y. His new PLZ is D-47608. Via Air Mail, turn around time is fast. 2 IRCs or two green stamps required.

Has anybody received QSLs from ZA? Advised Italian, Hungarian, and Swiss QSL managers remain numb.

HELMUT K. SEIKE, AA8GQ,
Toledo, OH

7K suffix QSLs

Bernice Peterson, N7MUC, 7K suffix manager for Area 7, has notified us that her Callbook address is not correct and QSL inquiries should be directed to P.O. Box 535, Scottsburg, OR 97473. (See "All Those Cards," April issue, pg. 20.)

More slingshot advice

As per article by N3LCU, page 65, Sept. '93 *Worldradio*: I have been using the sling-shot monofilament system for temporary antennas for years, but I use an ordinary spinning rod reel mounted on a sharpened broomstick which is stuck in the ground pointed at target. I usually use full power on sling-shot so I go up 80 to 100 ft and have never had the reel foul, yet! I like the reel as it rewinds fast when you don't hit the targets you want, try again!

Thanks for a fine magazine.
BILL HAMMOND, W7OTJ
Fishtale, MI

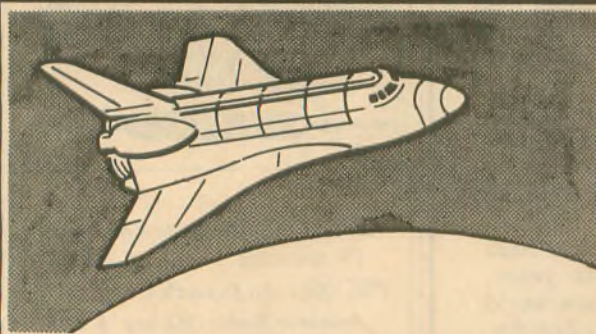
"God Bless CW"

My dear friend Howard S. Pyle, W7OE (Silent Key) once told me that he "wouldn't be caught dead with a microphone in his hand!" He further stated, "Even a baby can learn to talk but it takes a little bit of moxie to learn CW."

During his hospital stay he was unable to talk so he conversed with us old ham friends via a code practice oscillator, which astounded the nurses and doctors!

ROBERT D. JOHNSON, W7NUN
Edmonds, WA

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More on Pitcairn

Thank you for the copy of my article regarding "mail fraud" in your column "Off the air".

There have been a few developments since that article was written and I will endeavor to keep you up-to-date.

K6ICS, Mike Gauthier, who writes DX notes for a bulletin in California writes this: "VR6 Pitcairn Island Bicentennial Award. It looks like this award has vanished. Gary O'Toole, KB6ISL. Has been a long-time QSL manager and communications point for Pitcairn Island hams. Several years ago Pitcairn Island held their bicentennial celebration. The hams of Pitcairn developed an award for working VR6 hams during this time period. Approximately 1500 hams submitted applications for the award. Like their QSLs the award was handled by KB6ISL. A painting of the "Bounty" was selected as the background, but the current owners of the painting decided at the last minute not to release the painting for this use. My XYL, Margaret, WA60UD, volunteered to create a new oil painting and it was delivered a few weeks later. This was the spring of 1992. Gary stated that it would take about six months before the awards would be ready. Most of this

time was required for approvals from the Pitcairn, New Zealand and British governments. I tried to contact Gary about 6 months ago. I found he had moved and left no forwarding address. I sent him a letter requesting the post office to forward it to his new address. The letter never came back, so he must have received it. I asked him about the status of the award and if Margaret would be able to keep the painting or if it was going to the Pitcairn Island Museum. I never received an answer. I have also paid my \$5 for the certificate. I don't feel too bad about losing the \$5. But I would like to see Margaret get credit for a piece of her artwork. Anyone knowing of Gary O'Toole, KB6ISL, please contact me."

I received a letter from Art Goddard. W6XD, Vice Director, Southwestern Division, ARRL. Art saw my letter in your magazine and made some very interesting enquiries with the following results. He has located O'Toole with a new callsign and this is his address: Gary O'Toole, KI7HO, 7535 Winchester Rd. Silver Spring, NV, 89429.

Also, resulting from the article, I had a phone call from W4UW, Dick A. Genaille, 719 Quarterstaff Rd, Winston-Salem, NC 27104. Dick has proceeded through the postal services with a com-

plaint about possible mail fraud. All of the above information has been forwarded to Dick, so your readers might be interested in this new up-date.

When I receive any further information I will pass it along to you.

Yours truly,
RUSS WILSON, VE6VK
Calgary, Alberta

Editor's note: See DX World (page 35) for more on this subject.



THANKS FOR THE EXCELLENT SIGNAL REPORT, O.M.: THESE GUYS HAVE RIGGED ME A GOOD GROUND, BUT I COULD USE A LITTLE HELP!

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SPECIAL EVENTS

Festival of Lights

The Northern Panhandle ARC will operate W8ZQ on 3-5 December, 1993 from Oglebay Park's Festival of Lights, which displays hundreds of thousands of holiday lights. Operation will be in the lower 25 kHz of the General 80-15 meter subbands, and on 146.52. For a color photo QSL card of the lights, send a business sized SASE to Allan Olexa, WK8T, P.O. Box 115, Neffs, OH 43940.

UDT-Seal Museum

The Fort Pierce ARC will operate KN4RY 13 November, 1993 from 1400Z-2100Z to commemorate the 7th Anniversary of the UDT-Seal Museum.

Operation will be on the General 40, 20, and 15 Meter bands and the Novice portion of 10 Meters.

For a certificate, send QSL and SASE to Fort Pierce Amateur Radio Club, P.O. Box 0004, Fort Pierce, FL 34954.

Airways Communications

The Army Airways Communications System established 15 November, 1938 is celebrating its 55th Anniversary.

Answer or call CQ AACs on Nov 15, 1993.

The operation will be on frequency 61 KHz from low end of each band, +/- 5kHz from 1700-2200 UTC.

No logs or records necessary. Comments regarding the event would be sent to W5LK for inclusion in the next AACs Alumni Newsletter.

Laurel MD ARC

The Laurel, MD ARC will operate W3DQI from 1700Z on 13 November to 2100Z 14 November from College Park Airport.

Operation will be in the lower portions of the General bands, near 28.5 in the Novice sub-band, and on 147.54 FM.

For certificate send QSL, 9x12 SASE, and your QSO number to LARC, P.O. Box 3039, Laurel, MD 20709-0039.

Yuma Proving Ground

The Yuma Amateur Radio Club will operate a special event station on Nov 6 & 7 from the Quartermaster Depot, Yuma, AZ during the Yuma Proving Ground Golden Anniversary Celebrations.

Operations will be in the 15 through 30 Meter General, and 10 Meter, Novice, phone subbands from 1600Z-2400Z.

For certificate send QSL and 9x12 SASE (52 cents postage) to YARC, P.O. Box 7707, Yuma, AZ 85366.

Albuquerque ARC Veterans Day

The Albuquerque Amateur Radio Club will operate from 1700Z on 11 November to 1700Z on 12 November, 1993 to commemorate Veterans Day in New Mexico. This operation will take place at the Albuquerque Amateur Radio Station, WB5MII, located at the VA Medical Center, Albuquerque, NM. For a certificate, please send a QSL and a 9x12" SASE to the AARL, P.O. Box 11853, Albuquerque, NM 87192.

Plimoth Plantation

The Whitman Amateur Radio Club, Inc. will operate a special events station on 27-28 November, 1993 from the Plimoth Plantation, Plymouth, MA, for a Thanksgiving Commemoration.

Club call WA1NPO will be used on frequencies 3.970, 7.270, 14.270, 18.140, 21.370, 24.970, and 28.370 from 1400Z until 2100Z each day. For QSL send SASE to Whitman A.R.C., Inc., P.O. Box 48, Whitman, MA 02382.

Tournament of Roses

The Relay Repeater Club will operate WB6BNJ 30 December-1 January, from the Wrigley Mansion in Pasadena, CA to commemorate the 105th Anniversary of the Tournament of Roses.

Operation will be on frequency 28.460 MHz, with secondaries of 21.335 and 14.260 MHz. Amateurs in CA/NV can contact the station on 2 Meters through the 147.21 repeater on the half hour or on 220 MHz via the Condor Connection on the hour.

For certificate send a QSL, with contact number and a 9x12 SASE with 52 cents postage, to the Relay Repeater Club, P.O. Box 660081, Arcadia, CA 910066-0081.

British Columbia Anniversary

The Fraser Valley Amateur Radio Assn will be operating station VF7L from Fort Langley, B.C., Canada, on 19-21 November, 1993 to commemorate the 135th Anniversary of the proclamation creating the colony of British Columbia.

Operation will be in the General portion on 20, 15, and 10 Meter bands from 1700Z to 2300Z daily.

A special certificate is available by sending QSL and a 9x12 SASE, or \$1.00 for postage to Fraser Valley ARA, Box 50, Fort Langley, BC, V0X 1J0, Canada.

Even the slightest error has the potential to change one's destiny! Please be sure to type or print clearly, especially names, call signs and facts involving numbers, when submitting information to *Worldradio*.

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OSCAR Satellite Report twice monthly newsletter	\$ 32.00/yr.*
Satellite Operator, monthly features magazine	\$ 37.00/yr.*
Weather Satellite Report magazine (12 issues)	\$ 34.00*
OSCAR and Weather Satellite Handbooks	Call

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**A.M.
Cooper,
W8BHL**

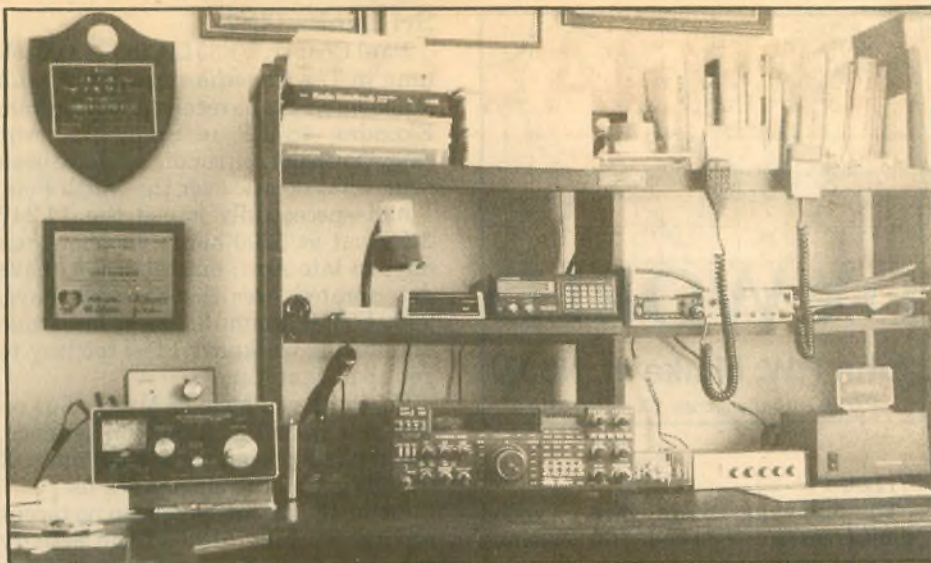
STATION APPEARANCE

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.

Beating the pack with his low-power setup, Al's, W8BHL, station is this month's winner.

I received my call, W8BHL, 26 June 1931 and have been on the air ever since. The station is quite simple. On the left in the picture is the MFJ 986



antenna tuner with a Palomar "Tuner-Tuner" on top. The rig is a Kenwood 940-S. To the right of the transceiver is a Bencher key, an MFJ 408 keyer, and the power supply for the UHF gear. On the shelf above the keyer is a Kenwood 441-A for 440 and a KDK FM-2033 for 2M. Switched between

these two rigs is a Cushcraft dualband vertical antenna.

To the right of the clock is a Radio Shack VHF-UHF scanner. My Kenwood 940-S uses a center-fed dipole antenna about 40 feet high on one end and about eight feet high on the other end.

Sorry, no beam antennas, no linear amplifiers and no computer. Just a lot of low power fun for the past 62 years.

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!

This month's winner is Paul Grazi-ani, WD5BIV. He sends us this illuminating story.

In the very early morning hours of Field Day 1980, I was assisting a new novice at our club's Novice Field Day station. The Metropolitan Amateur Radio Club Field Day operation was deep in the woods at Camp Robinson, Arkansas. Needless to say, the area outside the immediate station lighting was pitch black. The Novice needed something that required the use of a flashlight. The flashlight was located on the other side of the compound.

Since I am totally blind, I offered to

help the fellow to his flashlight. I believe the fellow had been tipped off to my sense of humor and he seemed a bit reluctant to let me lead him so I went after the flashlight for him.

On the way back, an idea struck me and I turned on the flashlight. Holding the light in my left hand and my white cane in my right, I proceeded through the middle of the camp as though I was using the flashlight to find my way.

I don't know how many contacts we lost during the ensuing laughter, but to this day whenever I am looking for something, someone who was at FD-80 asks me if I need a flashlight.

WR

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DX WORLD
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W-100-N

The following DXers were awarded *Worldradio's* Worked 100 Nations during the period 12 August through 7 September 1993:

- 460. KA1VHK Allen E. Bestwick
12 August 1993.
- 461. W8ZNH William H. Eckels
12 August 1993.
- 462. AA6U Scott A. Richardson 07
September 1993.
- 463. NØFGH Daniel R. Rivera 07
September 1993.
- 464. YC8EMH Eka Martahadi
07 September 1993.

Allen, KA1VHK, made the required contacts all on 20 meter SSB beginning in October 1990. We normally do not endorse the W100N for the SSB mode, unless it was on a single band.

Bill, W8ZNH, spent several years collecting contacts for W100N, some dating back to 1978. His list of contacts included most of the nations valid for the award, far above the minimum 100 required.

Scott, AA6U, made his required contacts since 1991 while Eka, YC8EMH, made his required contacts since April 1992. Dan, NØFGH, used all bands with most of his contacts on CW.

Equatorial Guinea (3C1)

Very active from Equatorial Guinea was Gordon "Ed" Ward, 3C1TR, who was scheduled for reassignment to Europe in September. Charlie Bennett, KE7N, who was his QSL manager for part of the time, says that Gordon had to pay some \$400 for a license to operate from 3C1. QSL requests should now be sent via Joe Pontek, K8JP.

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Sri Lanka (4S7)

Paul Cooper, VE3JLP, in his DX column in *The Canadian Amateur Radio Magazine*, says he received a letter from Ekendra, 4S7EF, in Sri Lanka, who says: "Propagation conditions have been somewhat erratic over the North Pole. I had successfully joined the 14.247 MHz net at 2300 hours for about ten days in late April but conditions have deteriorated over the past few days. 2300 UTC is around 3:30 a.m. local time and during weekdays I feel too lazy to get up at that time."

So, there you have it! Many of us on this side work DX at our convenience, not realizing what local time our DX friends get on the air to work us.

As for 4S7EF, we have seen no recent reports for him. Most of the activity reported from Sri Lanka have been European reports. However, listen around anyway. On 20M CW, 4S7WP has been regular between 14.007 and 14.048 MHz from 1100 to 1600 UTC, and again at 0000 UTC.

On the 17 meter WARC band we have 4S7EA on 18.148 MHz at 1600 UTC, and 4S7WN near 18.140 MHz at 1600 UTC.

Lesotho (7P8)

Ray, 7P8SR, has handed out many contacts to the deserving DXer. Look for Ray on these frequencies: 7.012 to 7.022 MHz from 0200 to 0500 UTC, 10.100 to 10.107 MHz at 2100 UTC, 14.024 MHz at 1500 UTC, 18.073 MHz at 1600 UTC, and 21.013 to 21.025 MHz from 1130 to 1800 UTC. According to *DX News Sheet* Ray used the special callsign of 7P27LI 20 September to 11 October to commemorate 27 years of Lesotho independence.

Also reported on from Lesotho was 7P8CI who was found working into Maryland in August on 21.260 MHz around 1645 UTC.

China (BA)

John Allaway, G3FKM, reports in his DX column in *Radio Communication*

that the Chinese authorities have issued personal licenses to individual operators in four classes. The prefixes are BA, BB, BC and BD, for First, Second, Third and Fourth Class, respectively. Tom Tang, BA4AC, informs him that there are now 10 personal calls in Shanghai, that include BA4AB, BA4AC, BA4AD, BA4AE, BA4AF, BA4AG, BA4AH, BA4CA, BA4CH and BD4AA, (who is a YL). In Beijing, the calls include BA1BA, BA1CO, BA1CR, BA1CT, BA1CY, BA1GYS, BA1KS, BA1RA and BA1ST. Personal calls in Kwangchou are BA7KA, BA7KC, BA7KE, and BA7KQ. From this list it appears that the suffix is issued only once.

Grenada (J3)

Harry Flasher, W8KKF, informs us that he will be on Grenada 29 through 31 October, with most of his activity in the upcoming *CQ Worldwide DX Contest*. He will try to be on both 80 and 160 meters during the early hours of 29 October (UTC). Harry will be signing with the call J37K.

Egypt (SU)

There has been a station that has been active for several months signing with the call SU5OS. This is the work of Slim who says to QSL via JR1PFO. Save your postage!

However, there are genuine reports from SU, all of the activity on 20 meters. Look for SU1CS between 14.190 and 14.247 MHz between 1700 and 2300 UTC, SU1ER between 14.195 and 14.226 MHz after 2130 UTC, SU1SK down on CW near 14.026 MHz at 2245 UTC or SU2MT on 14.243 MHz at 1600 UTC. SU2MT was also on 40 meters near 7.075 MHz around 2000 UTC working Europeans one Friday evening in early September.

Ivory Coast (TU)

Several stations have been active from this one. TU2JL has been on 15 and 20 meters SSB regularly. Look for him between 14.196 and 14.200 MHz from 2230 to 0100 UTC, and 21.246 to 21.308 MHz between 1500 and 1700 UTC. He has also been found on the WARC bands, being reported on 18.146 MHz at 1415 UTC at the end of August.

TU5DX has also been active and has been reported on at least three bands. Try 3.797 MHz after 2230 UTC, 18.120 to 18.145 MHz around 2300 UTC, or 28.475 MHz at 1800 UTC.

A third active station is TU2XZ, whose activity is mostly CW. Look for this one 14.005 to 14.026 MHz 1900 to 2300 UTC.

Other calls include the following:

TU2MA	14.024 MHz	0100 UTC
TU2PL	21.297 MHz	1645 UTC



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TU2QW	21.244 MHz	1530 UTC
TU2VC	28.469 MHz	1400 UTC
TU2VZ	21.241 MHz	1500 UTC
TU2XK	14.180 MHz	2145 UTC
TU2XP	14.034 MHz	2130 UTC
TU2XR	18.110 MHz	2000 UTC
TU2ZR	18.124 MHz	1500 UTC

Mellish Reef (VK9)

As of mid-September the DXpedition is still on with the expected operational dates 19 to 28 September. Of the eight operators, CW will be handled by all of the operators except P29DX and WA4DAN, and CW will be handled by all except K5VT, VK2BJL and G3WGV. RTTY will be handled by VK2BEX and V73C. Most likely, this DXpedition will be history by the time you read this. If you have been keeping up with the events in *Worldradio* on the DXpedition you should have found and worked them.

Iraq (YI)

A station signing YI9CW has been very active recently, which many of the reports on this one for 17 meters. Look for him between 18.071 and 18.074 MHz between 1800 and 1900 UTC. Activity of YI9CW on other bands includes 7.004 MHz at 1900 UTC, 14.036 MHz at 0445 UTC, and 21.024 MHz at 1300 UTC.

The *Canadian Amateur Radio Magazine* reports of YI1DZ on 14.247 MHz between 0130 and 0330 UTC, and a YI1OMR on 14.013 MHz around 0415 UTC.

Other calls reported from Iraq include:

YI1BGD	21.244 MHz	1700 UTC
YI1CW	14.015 MHz	1830 UTC
YI1MH	21.260 MHz	1400 UTC
YI1OM	21.247 MHz	1400 UTC.

Albania (ZA)

This one is no longer rare and no doubt the DX newsletters will no longer list such activity as it is becoming garden variety DX. Those still needing this one should take a listen on 20 meters CW for the following stations:

ZA1H	14.009 MHz	2300 UTC
ZA1J	14.021 MHz	0200 UTC
ZA1N	14.023 MHz	2200 UTC
ZA1R	14.015 MHz	2230 UTC
ZA1W	14.024 MHz	2130 UTC
ZA1Z	14.022 MHz	2230 UTC

And, try these on SSB:

ZA1B	14.190 MHz	2000 UTC
ZA1E	14.185 MHz	1700 UTC
ZA1N	14.217 MHz	2345 UTC

Forty meters is another good choice for picking up a contact with Albania, as shown in the following reports:

ZA1E	7.003 MHz	2100 UTC
ZA1J	7.006 MHz	0200 UTC
ZA1W	7.005 MHz	0230 UTC

Other band activity includes ZA1B on 28.445 MHz at 1100 UTC one Sunday working Europeans, ZA1E on 21.025 MHz at 2100 UTC, and ZA1W on the 30-

meter WARC band near 10.102 MHz at 0215 UTC.

Operating under a reciprocal agreement in early August was ZA/AA5DX. He was reported on at least three bands. Anyone working this one who requested a QSL card should have received one in return by now.

Pacific Islands

Mike Parker, G4IUF, will be in the Pacific this November operating from several island groups. His schedule will include all bands and in particular sunrise and sunset of the lower bands. Look for Mike from the following:

Belau	KC6	5 to 10 November
Guam	KH2	10 to 15 November
Micronesia	V63	15 to 22 November
Marshall Islands	V73	22 to 28 November

From the above schedule it appears that Mike will have very good transportation arrangements to be able to operate from two groups the same day.

Mike also requests the cooperation of the west coast U.S. stations in order to get the most contacts possible from DXers worldwide needing these countries. We are not sure what that statement means. Does he want west coast DXers to relay for him or just shut up and QSY? If it is the latter, then he should know how the west coast DXer

feels trying to work the Africans through the east coast DXers.

IOTA

Here are several more islands or island groups that have been reported during August and into early September:

AS-018	Sakhalin Island	UV0EX
	14.260 MHz	0500 UTC
AS-103	Pescadores Island	BV7BQ
	21.260 MHz	0845 UTC
EU-010	Isle of Lewis	GM0HSU
	14.260 MHz	1100 UTC
EU-034	Hiiu-maa Island	ES2RW/0
	14.265 MHz	1700 UTC
EU-048	Hoedic Island	TM1H
	14.260 MHz	0015 UTC
NA-007	Southampton Island	WT20/VE8
	7.005 MHz	0400 UTC
NA-010	Cape Breton Island	VE1CWH
	14.259 MHz	0015 UTC
NA-041	Alexander Archipelago	N6IV/KL7
	14.260 MHz	0030 UTC
NA-044	Labrador South group	VO2/F5JYD
	18.140 MHz	1745 UTC
NA-077	Anticosti Island	VE2/F5JYD
	14.260 MHz	0100 UTC
NA-156	Cape Dorset Island	NU2L/VE8
	14.260 MHz	0015 UTC
NA-174	Bray Island	
	(Foxe Basin group)	WB1CBY/VE8
	14.258 MHz	1830 UTC
NA-176	Mingan Archipelago	VE2/F5JYD
	14.260 MHz	1600 UTC
NA-185	Thompson Island	
	(Keewatin Region)	NU2L/VE8
	14.260 MHz	1615 UTC
NA-186	Fox Island	WT20/VE8
	14.255 MHz	1630 UTC
OC-095	Walangi Island	3D2CK/P
	21.260 MHz	0800 UTC
OC-189	Ringgold Isles	3D2CK
	21.260 MHz	2145 UTC

DX News Sheet carried a statement from IK7SUE, active from the July IOTA contest. He says, "We are deeply sorry to inform you that our activity of 23-25 July took place from an island which does not qualify for IOTA. We misunderstood the IOTA Directory entry at reference number EU-091 and operated from Sant'Andrea Island near Brindisi. Sant'Andrea Island (near Pedagne group) mentioned in the Directory lies off Lecce and the island we operated from fails to meet the qualification criteria for IOTA." The operators of IL7/IK7SUE sincerely apologize for the disappointment of island chasers. Therefore, if you worked that station it does not qualify for EU-091. We worked them and it was fun anyway.

DX News Sheet also reports that

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IK2GNW/KH6 may be active from French Frigate Shoals (OC-055) soon. This group used to contain a Coast Guard LORAN station a few years back with an active call on the bands. It is located between Midway and Hawaii.

With Franco, I4LCK, operating from the Ringgold Isles (OC-189), in the Fiji Islands, all seven IOTA island groups have now been assigned reference numbers.

Obviously, with the increased interest in the IOTA program more and more DXpeditions are being made to activate islands or island groups that have yet to have had any known Amateur Radio activity. What we mean by known, is that there may have been activity in the past, but for some reason the activity was never recorded with the IOTA manager.

If you haven't already ordered your IOTA Directory, do so now. DXers in the U.S. and Canada may order theirs for \$8.00 from Dewitt L. Jones, W4BAA, P.O. Box 379, Glen Arbor, MI 49636. It will be a well-spent 8 bucks!

Tom Cotton, N6NAJ, writes us concerning an incident on the IOTA frequency on 20 meters. Tom says, "Last week I was listening on 20 meters and I heard this one operator telling another to get off 14.260 MHz as it was an IOTA official frequency. And if he continued he would bring about 'severe' Government action. The frequency was being monitored 24 hours a day, and was only reserved for IOTA members. The other station seemed to doubt the claims. I do not think any amateur frequency is reserved for any one group."

We too have heard a certain IOTA member telling others to move off the IOTA frequency, when there presently was no IOTA activity. However, if we recall, this IOTA member was in Europe. That's right, no one can claim it is their own frequency. That is not the policy of the IOTA program. Perhaps the administrators of the IOTA program should have a talk with the gentleman and explain to him that his actions are detrimental to the IOTA program. The real problem is that the 20 meter IOTA frequency of 14.260 MHz is where many rag chewers gather and should be relocated further down in the band.

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or please call (808) 332-7984

IOTA Checkpoints

Due to the rapid rate of increase in the IOTA program here in North America the checking of QSL cards has become too large of a job for Dewitt, W4BAA, to handle alone. Therefore, effective immediately, the check points for the U.S. call areas and Canada are as follows:

- 1 to 3 Tom Webster, WT2O, 72 Thornley Road, Eatontown, NJ 07724.
- 4 to 6 Don Chamberlain, W9DC, 2 Coxswain, Salem, SC 29676.
- 7 to 0 Dewitt Jones, W4BAA, P.O. Box 379, Glen Arbor, MI 49636.

Dewitt will continue to handle the Canadian applications.

DXCC desk

The DXCC desk has received documentation for the following operations beginning on the following dates:

5R8DC	13 Oct 1992
5R8DD	14 Oct 1992
5R8DE	04 Sep 1992
5R8DF	04 Sep 1992
5R8DH	04 Nov 1992
5R8DI	04 Nov 1992
5R8DL	09 Nov 1992
5R8DM	05 Nov 1992
KP1/W5IJU	23 Mar 1993
T5THW	01 Mar 1993
T5/DF5UX	01 Mar 1993
T5/DL1VJ	01 Mar 1993
T5/DL8YR	20 Apr 1993
T5/KJ6QO	11 Mar 1993
TT8AKX	16 Jan 1993

DXCC backlog

The DXCC backlog of unprocessed applications at the end of August was 411 (35,855 QSL cards). Applications being sent out at the end of August were received 1.2 weeks earlier. Ten applications were received prior to that time.

DXAC matters

The DXAC voted unanimously to recommend that Eritrea be reinstated to the DXCC Countries List. This country was deleted from the list 15 November 1962 when it was annexed by Ethiopia. The DXAC members were convinced that Eritrea has reemerged as a sovereign nation.

The DXAC was split on a recommended effective date, with nine members voting for 24 May 1993, six members for 24 May 1991 and one member for 27 April 1993. The majority voted in favor of the official Independence Day. The date of liberation was 1991.

This recommendation now goes to the Awards Committee in Newington for consideration. Please do not send QSL cards to the DXCC Desk for Eritrea until it has been officially added to the list, and a date for accepting cards has been announced.

Low band DXing

Interested in DXing on 40, 80 and 160 meters? Perhaps you should subscribe to *The Low Band Monitor* edited monthly by Lance Johnson. Each twelve-page issue contains activity reports on the low bands, articles on antennas, QSL routes, personality profiles and product reviews. As an example, the July 1993 issue contained such articles as "Just An Average Low Band Station", by Mike Crabtree, ABØX, and "A Simple Beverage Control Box", by KØCS, for less than \$50.

Yearly subscriptions are \$24.00 (\$36.00 outside the U.S.) available from Lance Johnson Digital Graphics, P.O. Box 1047, Elizabeth, CO 80107, telephone (303) 646-4630. VISA and MasterCard are accepted. Samples are available at \$2.00.

Northern Lighthouse Award

Unfortunately, information for this was received too late. During the week-end of August 28-29, stations were active from eleven lighthouses in Scotland and the Isle of Man. If you happened to work at least four of these stations you are eligible for a special award. Send a log extract and a fee of \$3.00 to Northern Lighthouse Weekend, P.O. Box 36, Prestwick KA9 1AL, SCOTLAND. The call signs of these eleven stations were as follows:

GB2LA	Ardnamurchan
GB2LB	Buchan Ness
GB2LD	Dunnet Head
GB2LG	Mull of Galloway

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GB2LH Tiumpam Head
 GB2LK St Abbs Head
 GB2LL Lismore
 GB2LM Muckle Flugga
 GB2LO Brough of Birsay
 GB2LT Turnberry
 GD3FLH Point of Ayre

We checked our *National Geographic Atlas* and found several of them, almost all of them on the mainland part of Scotland. GB2LM is the northern tip of the Shetland Islands EU-012). GB2LH at Tiumpam Head is located on the Isle of Lewis (EU-010). We could not identify the location of GB2LL or GB2LO. We would have liked to have worked some of these, but we were at the DX convention in New Orleans.

Pitcairn Award

In our September column we listed a new address for Gary O'Toole, who now has the call of KI7HO. Ralph Cabanillas, W6IL, informs us that he has heard that mail to O'Toole's address in Nevada is being return marked "Unknown".

We are beating this one to death and there is nothing more we or *Worldradio* can do. It is strongly suggested that those affected by this to contact your postal authorities.

Dave Miller, NZ9E, informs us that he is now the QSL manager for Irma Christian, VR6ID. Anyone who sent a card in the last few months to her former manager, the infamous KB6ISL/KI7HO, and has received no reply should resubmit another request via Dave, NZ9E. And, please don't jump all over Dave about the Pitcairn Award. He has nothing to do with it.

Logging program

Also in our September column we discussed a logging program that we had purchased in Dayton. We should have also added that some of the files being created get too big to be copied to a backup disk? Therefore, what does one do? Your hard disk crashes and you have lost all the data. Or, if a new system is purchased, one has to figure how to get the information off the hard disk. Dr. Salvadori should have suggested that a floppy drive be that of the 1.2 MB (the maximum available at this time). And even that has limits. Therefore, we no longer use the program. Save your money, do not purchase this program.

A few readers responded to our requests regarding satisfactory logging programs which include the following:

John Pelham, W1JA, says "Try *DXbase*, a great logging program, with emphasis on DXCC and other DX-related pursuits. It supports the various DXCC awards, plus WAS, WAC, WAZ, and oblasts. It doesn't come with an IOTA database. For *DXbase*, or a demo, contact Scientific Solutions at (404) 924-

DX Prediction — November 1993

Maximum useable 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 useable frequencies (MUF) in MHz for contacting five major areas of the world centered on Africa-Kenya/Nairobi, Asia-Japan/Tokyo, Oceania-Australia/Melbourne, Europe-Germany/Frankfurt, and South America-Brazil/Rio De Janeiro. Chance of contact as determined by path loss is indicated as bold *MUF for good, plain MUF for fair, and in parentheses for poor. UTC in hours.

CENTRAL USA

UTC	AFRI	ASIA	OCEA	EURO	SO AM
8	(14)	9	*14	(9)	*14
10	(13)	9	14	(9)	14
12	24	9	14	(16)	*26
14	30	*12	*23	18	*30
16	32	(12)	19	16	*32
18	*31	(11)	(18)	(11)	*33
20	26	(14)	24	(10)	*33
22	*22	19	28	10	*28
24	*18	(16)	27	9	*20
2	*16	(12)	18	9	*18
4	*15	(11)	(16)	9	*16
6	(14)	(10)	(15)	9	*15

WEST COAST

UTC	AFRI	ASIA	OCEA	EURO	SO AM
10	(11)	12	*15	(9)	14
12	(11)	11	*14	(9)	(14)
14	(19)	11	*14	(16)	27
16	(23)	12	*19	(15)	32
18	25	(11)	(17)	(11)	*33
20	25	(15)	23	(10)	*33
22	21	23	28	(10)	*32
24	*18	25	31	9	*28
2	14	21	28	9	*19
4	*13	15	20	9	*17
6	(12)	13	17	9	*16
8	(11)	*12	*16	(9)	*15

EAST COAST

UTC	AFRI	ASIA	OCEA	EURO	SO AM
7	(14)	9	(14)	*9	*14
9	(13)	9	14	(9)	*14
11	25	9	14	16	24
13	30	10	*25	19	*28
15	32	(9)	21	18	*31
17	*32	(9)	(17)	15	*33
19	*29	(9)	(21)	(11)	*33
21	*24	(16)	(26)	10	*29
23	*18	(16)	27	10	*21
1	*16	(11)	(18)	9	*18
3	*15	(10)	(16)	9	*17
5	*14	(10)	(15)	9	*15

2210 or (404) 932-1018.

Bob Branggigan, W2EJG, writes that he is quite pleased by a logging program called *TotalHam*, which is available on most bulletin boards. According to Bob, *TotalHam* keeps track of QSL managers real time, does country listings by band and mode, and state and county worked records. It does not handle IOTA. Bob says that *TotalHam* is available from

Dick Miller, WD4AZG, P.O. Box 1566, Manassas, VA 22110.

Jack Matthews, W4OWJ, writes, "The best I have found is KD7P's *LOGPLUS V2*. Bob Winters is the creator of this. You can write him at P.O. Box 1565, Snohomish, WA 98291. Tell him I recommended it.

I didn't have to contact Bob, as he just sent me a disk. I will have to copy it to my medium density larger sized disks for my slow computer, (the XYL says we can't afford a new one — yet). Bob says that he was informed by N7AVK and NX7K. We say thanks to you readers for looking out for us. And, as for the program I have, I have received no comments from anyone regarding *GemRadio* — not even the author!

In time

We received details of a gathering in the midwest recently, a week prior to the event! Please remember we need a lead time of two months before the event for inclusion in the column.

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 JAPAN: JL1DRX, 1933-26 Hirata, Takanezawa, Shinya, Tochigi 329-12

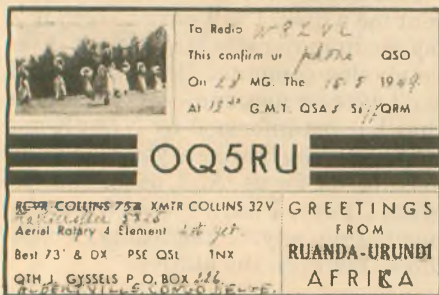
Pileups

Alan Margot, N6BXU, writes concerning the CW pileups and wonders if they are getting worse. Alan writes, "On CW, how many times have you had a rare one come back to N6J?, and been subsequently smothered by others calling and had no contact? This happens to me a lot, since I have a relatively small signal due to apartment antenna restrictions.

"I have heard a DX station diligently trying four or five times to get a call correct through the QRM, and frequently say 'QRX' or 'W2 — only' when he could have made three QSOs had everybody stayed off the air when he was trying to complete the contact. The practice of calling during a QSO costs us all time, serves no productive purpose, and must be exasperating to the DX operator.

"One answer, of course, is to go to 10KW! There is another answer, though. Last winter I heard a skillful DX operator tell a particularly disruptive caller, 'W2 —, no QSO'. Although this is extreme, it really did the trick. Except for the inevitable few who were doubling with the DX station, the pileup was quite well mannered after that."

We have no answer for this. It seems to be the general attitude today and is not just isolated to Amateur Radio. It seems to be a "me first and the heck with you" way of life. This must be frustrating to DXers like Alan, who is not new to the game. He was signing with W6FZA from Porterville about 60 years ago who had weekly contacts a YL in Japan signing J2IX on 40 meters. He also used to work Dr. Yagi, J2GX!



Antique QSL department

Our first old-time QSL card this month comes from the collection of Ray Balch, K6VX, of northern California.

Ray worked OQ5RU of Albertville, Belgian Congo, back in 1949 on 10 meter phone. Ray was residing in Detroit at the time and was signing with W8ZVL. The card was sent via the W8-K8 QSL Bureau, which was managed by Norman Aiken, W8LIS, of Euclid, Ohio.

Our second card comes from Harold Mahlke, W8QG, of Lansing, Michigan, with a QSL from 1934. Prior to World War II Amateur Radio in Italy was suppressed by Mussolini. Thus, we have the "Italian Pirate Station", I1TKM. Harold, who was signing with W8DOI from Ann Arbor in those days did not provide us with any additional information. The return side of the card indicated that it was routed via the ARI in Milano, and forwarded from the W8 bureau via W8GER of Dayton.

QSL Bureau

The following is from the ARRL W/K/N 4th Call Area QSL Bureau Manager, Roger Burt, N4ZC. Although Roger's comments pertain to his bureau, the points taken apply to all the bureaus. We have condensed much of his information for this column.

"Operation of the ARRL W/K/N-4 QSL Bureau is under the management of the Mecklenburg Amateur Radio Society, Charlotte, NC, and is a volunteer ARRL service for all Amateur Radio operators. You need not be an ARRL member to use the incoming bureau.

"We handle incoming DX QSL cards only for stations whose call signs have one letter in front of the numeral 4, such as K4, N4, W4. Stations with two letters in their prefix such as WA4-WZ4, AA4-AL4, KA4-KZ4, and NA4-NZ4 use the other 4th District ARRL Bureau. The 4th call area is the only call area with two bureaus. See QST for the correct address of other bureaus.

"Do not send your outgoing DX QSL cards to us. We cannot process them, and they will be held awaiting sufficient postage so they can be returned to you. Likewise, do not send us domestic

QSL cards. We will send them back to you via the bureau system. You may use the bureau for DX stations that have a U.S. QSL manager.

"BE PATIENT! Rarely are cards received by the bureau for contacts less than four months old. Most cards are for contacts over a year old. Many foreign DX bureaus send cards out of their countries only once or twice a year. Most come by slow surface mail. Many people relatively new to DXing tend to work big gun, loud stations. These stations work many U.S. stations and in most cases wait for your QSL before sending you one. Cards will come to you years after the contact in some cases.

"The mail averages 100 pounds of cards and envelopes per week. You can visualize this by thinking of a 20-foot high stack of QSL cards. That's two-and-a-half tons or 1,040 feet of cards per year.

"The goal of the bureau is to send out cards approximately every two months.

"Some people put far too much postage on their envelopes and say not to mail until full. In some cases this would take years. The policy of this bureau is to mail cards at least once per year, even if it is only one QSL and you have a great deal of postage on the envelope.

"Do not expect special services such as 'No SWL cards'. The bureau is currently taking over 300 man-hours per month.

"QSL cards are retained on file for a minimum of one year from the time of your last envelope. It is your responsibility to keep SASEs on file if you want your cards.

"If you are operating 'portable', your cards are handled by the bureau of your primary call sign. W2XYZ/4 will receive his cards from the W2 Bureau, not from us. If you are operating portable under a reciprocal license, your cards will be handled by this bureau; e.g., JY8M/Q/W4 can receive his cards via this bureau.

"We prefer that you send us SASEs, but if you cannot find 5x7½ envelopes, we will sell them under one condition only. You must send address labels along with your order. We will provide four 5x7½ envelopes with one 29-cent stamp on each for two dollars.

"Good cooperation between the DXer and the bureau is important to ensure a smooth flow of cards. Remember that the people who work in the bureau are volunteers. We handle over two tons of cards per year in this valuable service. With that in mind please pay close attention to the following DOs and DON'Ts:

* DO keep self-addressed 5x7½ envelopes on file with your call in the upper left corner, and affix at least one unit of postage.

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Amateur Radio Specialties

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* DO send the bureau enough postage to cover envelopes on file and enough to take care of possible postage rate increases.

* DO respond quickly to any bureau request for envelopes, stamps or money. Unclaimed cards are the bureau's biggest problem.

* DO include an SASE with any information request to the bureau.

* DO notify the bureau in writing if you don't want your cards.

* DON'T expect DX cards to arrive for several months after the QSOs. Overseas delivery is very slow. Many cards are over a year old.

* DON'T send your outgoing cards to this bureau."

QSL Routes

3C1TR	--K8JP	9A/PA0IRM	--PA0IRM	C25CW	--JA2NQG	D2SA	--F6FNU
3D2CK/P	--I4LCK	9A/DJ8QP	--DJ8QP	C25DX	--JA2NVY	D68CA	--I4ALU
3D2VY	--JR2KDN	9D8UW	--DF8WS	C25FM	--J12UAY	DF5UL/6Y5	--DF5UL
4F2IR	--DU3DO	9E2A	--JH1AJT	C31ND	--EA5ND	DL8YR/T5	--DL8YR
4J7GWO	--DL1VJ	9G1XA	--K0EU	C53HG	--WA1JBB	DP0GVN	--DL1JCW
4K3/UA9XBE	--UA9XC	9H3DN	--LA2TO	C56V	--KD7E	DU7AF	--AB6BX
4K3/RN8A	--DL5DSM	9H3PC	--DL8EAU	C6A/DL7VOG	--DL7VOG	DU8AOK	--I2YDX
4K3/UA9XLZ	--UA9XC	9H3RU	--JP5WA	C91AI	--CT1DGZ	E31A	--JH1AJT
4K3/UA9XCM	--UA9XC	9J2MT	--JP2BMM	C91S	--W8GIO	E35A	--N5FW
4K3/UA9XLN	--UA9XC	9K2DI	--RA9YN	C93AH	--N6ABE	EA6/F6GIN	--F6GIN
4K3WQ	--I1HYW	9L3GB	--W3HCW	C9LCK	--I4LCK	EA6ABN	--W3HCW
4K9C	--UD6DC	9N1AP (SSB)	--DJ6SI	C9NAF	--NV1U	EA8AS/P	--EA8AKN
4L1AA	--CT1CJJ	9N1BD (CW)	--DJ6SI	CE3MCC	--W3HCW	EA9UK	--EA9LZ
4L4MM	--RF6FFT		(See Note 6)	CO2AL	--W3HCW	ED0BOD	--W3HCW
4O1V	--YU1DX	9N1HL	--DJ6JC	CO2CL	--W3HCW	ED1EK	--EA1EK
4O9W	--YU1EXY	9Q5JO	--ON6KM	CO2OM	--W3HCW	ED2EPA	--EA2CBY
5N0ASW	--W3HCW	9V1WE	--JH1FNS	CPIXJ	--JA6GIJ	ED2SNI	--EA2CMW
5N0GDE	--VE6EEE	9X5DF	--FE1LBM	CQ1B	--DJ0MW	ED3BI	--EA3GBW
5N0SKO	--W3HCE	A22KY	--LA9KY	CQ9GU	--CT3YW	ED3IM	--EA3CCN
5R8DL	--JH1CLU	A35HX	--DJ9HX	CR8A	--WA1ECA	EG1RJ	--EA1MC
6T2MG	--W3HCW	A45ZP	--K1SE	CS2B	--CT1EGW	EI9FN	--G3YOG
6W1QB	--DF2WO	AA4HU/D2	--W3HCW	CS8B	--W1ECA	EM93L	--RB5LF
7X5VRK	--W3HCW	AA7VB/TI3	--AG7U	CU0MB	--CU3AN	EO5U	--PA3BUD
	(See Note 4)	AH6DR/KH7	--KH6JEB	CU1AC	--W2FXA	EP2ASZ	--W3HCW
8Q7AA	--JG2XYV	AR5N	--F2CW	CU2DX	--KB5RA	EP2DL	--W3HCW
	(See Note 8)	BY5JP	--BY5DA	CX2BP	--JA3GY	EP2HSA	--W3HCW
9A/OH6XY	--OH3GZ	C21/KC6DX	--JA2NVY	CY9R	--VE3MRN	EP2HZ	--W3HCW
				D2BZU	--F6FBU		(See Note 5)

QSL managers

Roger also has a few words of wisdom to prospective QSL managers.

"Don't volunteer unless you are truly willing to make the extended commitment. Find out how the expenses you will incur will be paid. It is impossible for us to know and keep track of the managers for every DX station. We often receive cards that simply say 'via W4 QSL Bureau'. If you are the manager for W4XYZ/ST2, you can not assume that everyone in the world knows this fact. You or W4XYZ must keep envelopes on file under his call because many hams don't get the word and send via the bureau to W4XYZ. Don't think you will only handle direct cards. Many hams around the world do not have a sufficient income to QSL direct with IRCs and 'green stamps'. They will QSL via the bureau. They are not being 'cheap'. Via the bureau is the only way they can afford to QSL. You must supply envelopes to take care of these cards. If you turn your QSL manager duties over to another person, you or that new person must keep a supply of envelopes on file under your call for a number of years because cards will continue to come in via your call for years. Don't volunteer to do half a job when others are willing to do a complete job."

QSL information

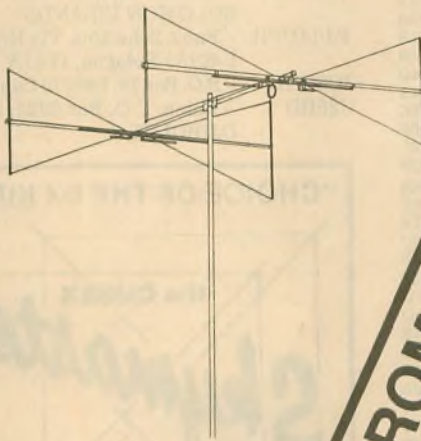
Dave Gillooly, AA6RE, is looking for a good address for VE7DSU. This station was busy in June signing VE7DSU/7 from Trutch Island (NA-181). Dave says that the address of 618 Kerry Street, Prince George, is no longer valid. We worked this one also. Perhaps some of the other IOTA hunters can help with this one?

QRZ DX notes that 5V7WT QSLs are still available from F9GL, who has the logs for the period June 3, 1970, through September 27, 1977.

Mac, W3HCW, who handles QSL cards for several DX stations, requests that no stateside cards be sent via the bureau as it costs him money to return them.

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ES1/OH2BAH	--OH2BAH	OL5PLZ	--OK1DRQ
ES5DE	--EA9LZ	OM3CBU	--OK3CBU
ES5ETV	--ES6JH	OM3LA	--OK3LA
ET3BH	--SM3EVR	OM3PC	--OK3PC
ET3JR	--F6OYK	OM6AAG	--WB6ZUC
ET3RP	--F6GZA	ON4USA	--ON5PL
ET3VT	--K5VT		(See Note 3)
EU00	--DL1GWS	ON6USA	--ON6CL
EV5DX	--DL5BAC		(See Note 3)
EV5WZ	--DL5BAC	ON7USA	--ON4RAT
EX0A/EP	--DF8WS		(See Note 3)
EX0M/EP	--DF8WS	OO6TT	--ON6TT
EX0V	--DF8WS	OX3GX	--WA3KSN
EX8F	--DL6ZFG	OX3MZ	--OZ1KHZ
FG5FC	--F6DZU	P29AJ	--V63DJ
FK8CR	--F6EWK	P29JA	--JH7MSB
FK8FU	--NA5U	P29KH	--WD9DZV
FK8GM	--WB2RAJ	P29VMS	--DL2GAC
FM/JA6VZB	--JA6VZB	P29VTL	--HB9TL
FM5FE	--FD1NCZ	P39WN	--5B4WN
FP4EK	--K1RH	P40P	--NX1L
FR5ZQJ	--FR5ZQ	P43A	--PA43ARC
FR5ZU	--JA8FCG	PJ4/WA3LRO	--K28B
FS/F2YT	--F2YT	PJ8DD	--N4XO
FT4WD	--F6AXX	PJ8X	--KE7LZ
FT5YE	--F1AAS	PY0TM	--PY1RO
G4SMC/9M6	--G4SMC	PZ5RZ	--PA0NAT
G4VXE/TF	--G4VXE	R100N	--UA90BA
GB0SEG	--GM2TW	ROAL	--W3HCW
GB10TA	--G3PMR	RC2CR	--NF2K
GB6RH	--G0GDU	RI2B/UW9CX	--UW9CX
GC4TTA/P	--DH0LQU	RM5Q/UA9MAA	--UA9MAA
GM0HSD/P	--G3ZAY	RN8A	--DL5DSM
GM0PCE/P	--G3ZAY	RX3EWD	--UZ3EWD
GM3ZAY/P	--G3ZAY	RX3EWD	--UZ3EWD
H44/VK3COL	--VK3COL	RX4AM	--UZ4AYN
HC2FN	--W3HCW	S21ZN	--JA3ULS
HG32FC	--HA1UD	S21ZP	--JA3ULS
HG3CW	--HA3KNA	S21ZR	--JA3ULS
HL9AX	--W3HCW	S21ZS	--JA3ULS
HL900	--W3HCW	S21ZT	--JA3ULS
HP1XBH	--W4YC	S21ZU	--JA3ULS
HR1LW	--JA1LW	SUICS	--9K2CS
HR2IQC	--JH1NZW	SUIER	--OE6EEG
HS0AIT	--W3HCW	SV1NA/SV5	--SV1NA
HS0F	--HS1HSJ	SV8/GOIXC	--GOIXC
HS0ZAA	--KM1R	SV9/OE1NBW	--OE1NBW
HS0ZBI	--NW3Y	T20AA	--N4FJL
HS4BV	--W3HCW	T24JJ	--JA2FJP
HS8AS	--HS1ASJ	T30DP	--VK4CRR
HV4NAC	--IK0FVC	T30GV	--W60TC
I2WSK/1G9	--I2WSK	T30IH	--JK2FIH
IB0/W7SW	--KC7EY	T30RA	--KN6J
IC8/TK8HJC	--IK8HJC	T30RS	--N60XR
IC8/TK8JSV	--IK6JSV	T32BE	--WC5P
	(See Note 7)	T32BI	--KH6DFW
II0ICO	--IK0AZG	T32RA	--KN6J
II2A	--I2UIY	T32RS	--N60XR
II8A	--IK8HII	T5/N3HQW	--WD4NGB
IM0DMG	--IS0CDS	T5/OZ1FJB	--OZ1FJB
IO2UIY	--I2UIY	T5/OZ1FJB	--OZ1FJB
IO4ABF	--I4ABF	TA4A	--W3HCW
IQ2A	--I2UIY	TR8JH	--W3HCW
IR2ITU	--I2UIY	TT8A	--OK1TIR
IY0GA	--IS0JMA	TT8OBO	--WA4OBO
IY2A	--I2UIY	TU2PA	--KE0LS
J3/CT3FN	--HB9CRV	TU2QW	--F6EXQ
J37K	--W8KCF	TU4XR	--KE0LS
J42EDE	--SV2EDE	TY2VZ	--IK3HAT
J49GI	--SV1AFN	TZ6PIC	--F6KEQ
JT1/JE7RJZ	--JA7FWR	UA9UDX	--JH4RUM
JT1V	--JT1BV	UB2JZ	--W2FXA
JT3DX	--JR9CGJ	UB3JWW	--W2FXA
JU70K/6	--JT1BG	UB5JX	--W2FXA
JW1CIA	--LA1CIA	UH0E/RA3QJ	--LZ2ZF
JX3EX	--LA5NM	UI0A	--G3LZK
K1EF1/VP9	--K1EF1	UL7EZ	--KE9RY
KC6WP	--JA1WPX	UN5J	--UL7JW
KC6YS	--JA3HRV	UN7FW	--KD7H
KH6M/C6A	--WA4WTFG	UR8J	--W2FXA
KH8JA1/WPX	--JA1WPX	US77BL	--UB4BYU
KS0ZAK	--N4TMW	US77DL	--UB4BYU
LX4A/P	--LX1NO	UY9TI	--RB5HT
LX4B	--LX1TI	V31BR	--N5FTR
LY17R	--LY1BD	V31DE	--G8DLF
N3KEG/KH6	--KB3TS	V31J	--KB4VHW
N4PMC/WV7	--I2UIY	V31JW	--KB4VHW
N4PMC/WV6	--I2UIY	V47KJ	--WB2TSL
N7PMC/WV4	--I2UIY	V85XF	--G3TXF
N90QS/T6	--WN2R	VE0MBJ	--VE1LAW
NH2/KE2PF	--KE2PF	VE2/F5JYD	--F5XL
NU2L/VE8	--WT2O	VK6AJV	--W3HCW
OD5/SP7LSE	--SP7EJS	VK6VS	--W3HCW
OD5RAK	--WARMEM	VP2EBN	--KA3DBN
OD5RF	--FE1NCK	VP2EFF	--JH41FF
OH0/G0CEO	--JH1PNS	VP2MBM	--N5DXD
OH0/DL5FF	--DL5FF	VP5M	--WT1S
OH0MAM	--OH2MAM	VP8CEH	--G0NWW
OH0MEP	--OH3MEP	VP9MM	--WB2YQH
OH1EH/OH0	--OH1EH	VQ9KC	--AA7AN

VR2BH	--KA6V	Z31PK	--YU5XVD
VR6ID	--N29E	ZA/AA5DX	--AA5DX
X51W	--YU1FW	ZB2/SM4DHF	--SM4DHF
XE10H	--OH1NW	ZB2JL	--N5OKR
XJ1NWD	--VE1AL	ZD99XW	--G3SXW
XQ3CJ	--JA3GIY	ZF2VA	--K6URI
XQ8ABF	--LU8DPM	ZK19HX	--DJ9HX
XT2DK	--OE3DKS	ZK1AAH	--KN6AH
XU2UN	--SP5AAS	ZK1XR	--N7NKG
XU5WW	--LZ3WW		(See Note 2)
XU6WV	--ON6CL	ZK2XH	--DJ9HX
XX9AS	--KU9C	ZK3DM	--ON4QM
YE3C	--YB3OSE	ZS0PI	--DJ4LK
YJ8AS	--XE1MD	ZS6ACW	--W3HCW
	(See Note 1)	ZS9/OZ1EYE	--OZ1ACB
YJ8AS	--XE1MD	ZS9/DJ0WQ	--DJ0WQ
YP7SYD	--YU7KFX	ZS7LN	--PR7AE
YU3FW/6	--YU3FW	ZZ5FU	--PP5UF
YZ7UN	--YU7GMN	ZZ5WY	--PP5WY
Z30B	--YU5CEF	ZZ8SA	--PW8NG

5X1F -- Sam, P.O. Box 7047, Kampala, UGANDA

9K2JC -- c/o Canadian Embassy, P.O. Box 25281, Kuwait City, KUWAIT

A71A -- P.O. Box 22122, Doha, QATAR

A71BR -- P.O. Box 11267, Doha, QATAR

A92FF -- P.O. Box 5645, Manama, SAUDI ARABIA

BA4AD -- P.O. Box 085-277, Shanghai, PEOPLE'S REPUBLIC OF CHINA

CH8MNP -- CARA, P.O. Box 592 Stn M, Calgary, AB T2E 5J6, CANADA

EA9AI -- P.O. Box 2065, Ceuta 11702, SPAIN

ET3YU -- P.O. Box 60349, Addis Ababa, ETHIOPIA

H44MM -- Masa, P.O. Box 760, Honiara, SOLOMON ISLANDS

FJ/14UFH -- Fabio Schettino, Via Brodolini 4, I-40133 Bologna, ITALY

IC8BNK -- P.O. Box 18, I-80073 Capri, ITALY

J28RD -- Robin, P.O. Box 3321, Djibouti, DJIBOUTI

J47AMT -- P.O. Box 1304, Kavalla, GREECE

KG4CW -- S/Sgt Christian S. Watson, PSC 1005, Box 47, FPO AE 09593-0146

KG4HG -- Humes A. Grossman, Jr., PSC 1005, Box 47, FPO AE 09593-0146

OD5YZ -- Bernard Toumie, Dalgangen 2, 17540 Jerfella, SWEDEN

P39ADA -- P.O. Box 1642, Nicosia, CYPRUS

T92X -- Mlle Vlatka-Interprete, c/o ACO-T92X, SP 71076, 00886 ARMEES, via France

TF3GB -- Bjarni Sverrisson, P.O. Box 1058, 121 Reykjavik, ICELAND

UA9QCP -- Vasilij, P.O. Box 88, Shadrinsk 641800, RUSSIA

VE8KM -- Ken Marianix, P.O. Box 110, Cambridge Bay, NWT X0E 0C0, CANADA

VR2UW -- Raymond Lee, P.O. Box 62316, Kwun Tong, HONG KONG

XT2DK -- Dr. Detlef Kroker, P.O. Box 2937, Bobo-Dioulasso 01, BURKINA-FASO

YB8BJU -- Yus, P.O. Box 103, Palopo 91923, INDONESIA

ZA2VB -- Veri, PTT, Berat, ALBANIA

1. This route applies for all contacts through 17 July, 1993.

2. This route applies for operation by N7NKG only.

3. For these stations you may also QSL via P.O. Box 11, B-4800 Verviers 1, BELGIUM. Do not include any names or call signs on the envelope.

4. Mac is not really the QSL manager for this one, but can help in getting a QSL card.

5. This route applies for contacts up to 1990.

6. This manager requests to QSL direct only within six months of the contact, only cards of the same call in the same envelope and a minimum of \$2.00 with each envelope.

7. That's the route we got - IC8/TK8JSV via IK6JSV!

8. This manager is not in the *Callbook*. For a direct route try: P.O. Box 2007, Mali, MALDIVES.

Many thanks to the following contributors: KO1F, W1JA, W2EJG, W3HCW, W4BAA, WA4DAN, W4OWJ, N4ZC, N6BXU, W6IL, N6NAJ, AA6RE, KE7N, KD7P, W8KKF, KA8RAM, NZ9E, W9EVI, KD0JL, Western New York DX Association (KB2NMV), Western Washington DX Club (WA0RJJ), American Radio Relay League (K5FUV), Radio Communication (RSGB), The Canadian Amateur Radio Magazine, The DX Magazine (VP2ML), The W6GO/K6HHD List, The Long Island DX Bulletin (W2IYX), DX News Sheet (G4DYO), QRZ DX (W5KNE), and The DX Bulletin (VP2ML).

After preparing the column for this issue it seems a bit longer than usual. I had included material in advance as I was to attend the DX convention in New Orleans with my travel via Amtrak. That was three days of travel from Sacramento to get there. The entire trip amounts to some 5,840 miles for only \$178. The trip should take care of my trains for a while. I used to really be nuts about trains until 1954 when I got bitten badly by another interest - Amateur Radio! DXing followed right on the heels and I have never regretted it. Good DX to you, 73 John N6JM. WR

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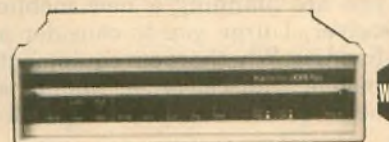
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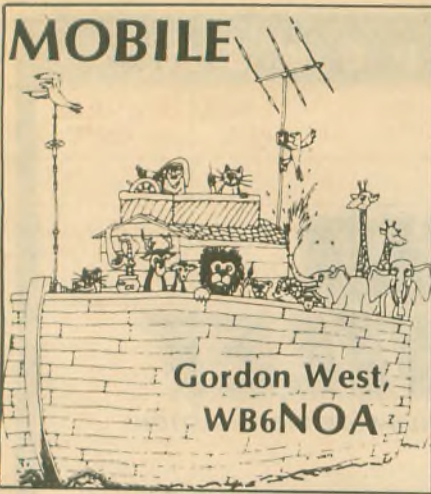
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Dual-band, twice the fun

If you are planning a new mobile transceiver, I urge you to consider a dual-band rig. Whether your equipment is a mobile transceiver, or simply a handheld, go for dual-band capabilities.

The popular two bands would be 2 meters and the 440 MHz 70cm bands. Yes, there are other models that might give you 2 meters and 220 MHz, or 440 MHz and 1270 MHz, but the majority of dual-band interest is in the 2 meters and 440 MHz bands.

Why consider 440 MHz in addition to 2 meter capabilities? Good question, with two answers. For one reason, the 440 MHz band is where many hams are turning to beat the congestion in big cities on 2 meters. Up on 440 MHz, there are plenty of repeater pairs that may be active and are looking for new operators. Even in big cities like Los Angeles, Seattle, Chicago, and New York, there are open repeaters with little traffic just waiting for activity on 440 MHz. Many of these repeaters also boast exotic autopatch and voice mail systems, low-band linking, remote base operation, and a host of other features not found on the 2 meter band.

The second reason for considering 440 MHz capabilities in a dual-band set is the fascinating world of LEGAL (as in perfectly acceptable) scanning of land mobile radio frequencies beyond the 450 MHz ham band edge. The Electronics Communications Privacy Act does not preclude you from using your dual-band ham radio as a powerful scanner

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- Shopping mall security agencies
- Business radio repeaters
- Taxi cab and delivery trucks
- U.S. Weather Service intercom channels
- Marine band for ships

Down on the 2 meter side of your dual-band transceiver, tuning above the ham band edge at 148 may pull in some important VHF frequencies to scan:

- 24-hour National Weather Service
- Police, fire and ambulance
- U.S. Coast Guard and marine radio reports
- Business radio service
- Hospital emergency nets
- Rural police
- Sheriff department frequencies



Three types of antenna connectors for dual-band radios (left to right) BNC, PL-259 or UHF and type "N"

So what's the big deal about the mobile monitoring of radio services outside of normal ham band limits? IT



Standard C628A dual-band 440/220 handheld

PROMOTES DRIVING SAFETY! In big cities, you can avoid traffic hang-ups by listening to traffic reports and freeway/expressway radio calls. You can scan the weather service for tornado warnings. If you live along the coast, tune in to marine radio to find out offshore weather reports. And if it's late at night, tuning in to all of the other calls above your ham band edges will keep you on the edge of your car seat! You will certainly drive more alertly listening to all the action when the ham bands have already gone to bed.

Some mobile and portable dual-banders have extended receive capabilities straight out of the box. On other radios, read over the instruction manual and perform the key steps to open up the extended receive capabilities of the equipment. Some models may require a simple snip of a red wire, or the removal of a diode in the receiver section to unlock extended receive capabilities.

WARNING: NEVER UNLOCK TRANSMIT CAPABILITIES. Recent Federal Communications Commission

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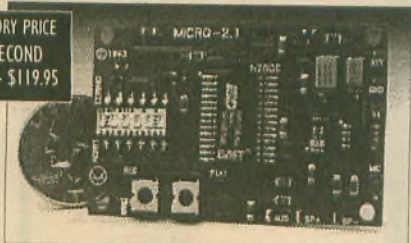
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enforcement action targets Amateur radios operated on *transmit* outside of authorized ham band limits. Expanded *receive* on those services not covered by the Electronic Communications Privacy Act is fine — expanded transmit is absolutely illegal.

When shopping for your new dual-band, make sure it has extended receive capabilities.

Your dual-band mobile may also require an external duplexer that will split a single dual-band mobile antenna into separate VHF and UHF "pig-tails" that screw into your two antenna jacks on your dual-band mobile rig. Be sure you order the right duplexer with the right connectors. Some manufacturers terminate their UHF antenna jack with an "N" connector, yet others may use the more common "VHF" connector. Check this out ahead of time before you spend your money on the duplexer. Also take a look and see what type of connector is on your dual-band mobile antenna lead-in cable, too. Will it match the duplexer properly? On dual-band handhelds, you have one handheld jack that serves both bands, so no duplexer is required. However, you will need the SO-239/BNC adapter that takes your antenna cable and converts it down to a jack that will plug

Features	Alinco DJ-580	Kenwood TH-78A	ICOM IC-W21AT	YAESU FT-530
Receive coverage	138-174MHz 430-450MHz	118-170MHz 430-450MHz	138-174MHz 440-450MHz	130-174MHz 430-450MHz
Memory channels	40	50	70	82
CTCSS Encode/Decode	Decode/encode	Decode/encode	Decode/encode	Twin decode/encode
Battery voltage readout	No	No	No	Yes
Automatic tone search	No	No	No	Yes
Built-in VOX	No	No	No	Yes
AM aircraft receive	Yes	Yes	Yes	Yes
Dual in-band receive	No	Yes	Yes	Yes
Back-lit DTMF keypad and display	Yes	Yes	Yes	Yes
One touch reverse button	Yes	No	No	Yes

into the top of your handheld.

Be sure not to strain your handheld antenna connector—it's fragile, and if you pull, twist, or flex it too hard, it pops a trace off of the circuit board on the inside of your dual-band set. Be careful with the fragile handheld antenna jack whenever you hook an outside coax cable to it.

Finally, do not abuse our privilege of

still being able to scan most radio services above our ham radio band limits. Do not tune in to mobile telephone calls, nor eavesdrop on secret radio frequencies covered by the ECPA.

To learn more about scanning beyond ham band edges, consider a subscription to the following publications:

Monitoring Times; 704/837-9200

RCMA Journal; 714/434-0666 WR

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DISCOVER



Canada NTS, will it survive?

For as long as I've been enjoying traffic handling, the NTS has been the USA/CANADA NTS. Look at any traffic routing map and you will see that the lines which separate the PAN/CAN/EAN run through Canadian provinces. Canadian traffic operators are presently teetering on a political cliff. We're probably all aware that the Canadians recently merged two radio associations. This has led to major problems for traffic handlers. CRRL emerged from what was formerly the Canadian division, via an agreement about 1921, with the ARRL. A vociferous group in Canada, who always opposed this agreement, finally organized and called themselves the 'Canadian Amateur Radio Federation' (CARF). It's sole purpose in life is to oppose their 'domination' by an American Headquarters. (That's always a great platform on which to run.) They steadfastly refused to acknowledge that the Canadian NTS was a fully autonomous division of the ARRL with their own elected directors. All of the Canadian operators with whom I've spoken, say that their field organization was never dominated by HQ in Newington. Rather, they felt that they were supported with certificates, materials, etc.

About three years ago, the Canadian division officially became the Canadian Radio Relay League (CRRL). It's headquarters was situated in London, Ontario. Some of its leaders felt a merge of the two associations would be helpful for all Canadian Amateurs. Negotiations were pursued and both associations became the RAC (Radio Amateur of/du Canada). All assets of CRRL were turned over to the new organization. Canadian traffic handlers say that secrecy seems to be the pass word. They remark that everything was kept quite quiet prior to the merger and that even greater secrecy exists today. . . no financial reports. . . no word on Director elections. . . nothing. Rumors abound.

Now, here's the problem. Traffic handlers need support. Canadians are not getting it. ARRL can not support a group which does not contribute to this

support through membership. Certificates, pins, plaques, forms, educational material, personnel, meetings, newsletters, magazines, mailing expenses, etc., take money. So, CRRL was handed over to RAC, and RAC seems to have dropped the ball. There doesn't appear to be anyone at home in the RAC Field Service Department. How long will it take for Canadian traffic handlers to just give up with no support? While handling traffic is rewarding in its own right, the time will come when this exceptional group of people will become too frustrated to continue. Any ideas?

ARRL

And, speaking of leagues. . . ARRL sends its ORS (Official Relay Stations — those who send the Section Traffic Manager a monthly activity report) a nice monthly newsletter called 'Field Forum'. It includes pictures, articles and stats on what's happening in the field. One received recently showed (by section — generally a state) just how many hams have joined ARRL. Some interesting stats on ARRL members as a percentage of the ham population are: Least ARRL members — Puerto Rico (5%); Most ARRL members, though fewest hams — American Virgin Islands (43%); Most hams — Ohio (remember CA, FL and other states have more than one section). Highest percentage of ARRL members — Northern New Jersey (35%); My state of Virginia was about average. 4393 ARRL members from 14148 hams. That's 31 percent membership. One can't help wondering why the other 2/3 of the operators in Virginia didn't join. Perhaps a primary reason is financial. Why pay 30 dollars a year when others will support this organization for you? The other reason may even be more deprecating but actually tie in with the first. Do we perceive

the League is being helpful to us in our hobby? Some operators have told me that they were members and quit when they became totally frustrated with the League. Few will pay \$30.00 a year for a magazine. They need to know that their League is there for them. But, we need to tell them our feelings. How long has it been since you've written Field Services a letter?

How do you copy traffic?

K8WNO, Jack, in Coalton, WV, recently made an interest survey. As he tells it: "Copying code in the navy was usually done on a mill (all capitals typewriter) unless the radioman was operating on an aircraft or in a similar place where this was not practical. When I started hamming, I used a pencil to copy code, since I had no mill, and my standard typewriter just didn't work right for me."

"Years went by and I kept my eyes open hoping to find a mill, but never found one — until a few months ago, when a man said he had one I could have. After a while, I began to wonder how many traffic handlers were using mills to copy code, since the machines seemed to be so scarce. That question plus the ever-present need for traffic on the CW nets, gave me the idea of taking a survey to find out.

"For the survey, I sent messages to almost all those traffic handlers I had handled traffic with on EAN, CAN, HBN, 8RN and other nets I've taken a part in the past eight or so years, and whom I'm rather sure are still active in this respect. Most are old hands at handling traffic, although a few are relatively new.

"Writing instruments used by respondents varies quite a bit, from pencils to braille writers. Over 215 traffic survey messages were sent. The response was over 65% so us traffic people shows more interest than voters!

"Broken down into four categories, the percentage results are as follows: pencil 39 percent, pen 30 percent, typewriter/computer 28 percent, and Braille writer 3½ percent. Simplifying this a bit further, about 69 percent of traffic is copied with one's hand while the remaining 31 percent use keyboards of one kind or another. I wouldn't have suspected that high a percentage of keyboard users. One operator said there wasn't enough traffic anymore to justify the space a mill took on his desk and another said he had gone back to hand copy as 50 years of taking traffic had worn out his mill."

I wouldn't have thought anyone would use a pencil. Some dull quickly and all break easily. I'm a pen person myself. I've tried to convert to a computer but find you can really do more with a pen

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and paper. 'What?', you ask. 'Add marks', I say. Underline, circle, colors, notations aside. And then, as I copy a message on paper (old, used, cut, back-sided), I can shuffle them into piles for sending.

Independent nets

We have an excellent net on the east coast called the Hit and Bounce Net. If you've ever heard someone sign off with ARF, you just worked a member. It meets at 8:30 am EST on 7039. They also put out an excellent newsletter called "Traffic Call". Many of the members are NTS operators. Some just can't get enough of a good thing. Their net manager, NJ4L, is one of the finest operators I have ever worked. And there is even a slow HBN earlier in the day. Are there any comparable nets in the Central and/or Pacific areas?

Colorado

WT0G, Jack Patterson, STM, Colorado reports that Colorado traffic utilizes CW, SSB, VHF, and packet. He would like to encourage some HF packet and HF RTTY. As one would imagine, in a state with as many mountains as Colorado, VHF does well. As Jack says: "Numerous 2M repeaters up and down the front range of the Rockies as well as east and west from border to border are tied together in what is known as the Colorad Colorado Connection. Stations in Cheyenne, WY, as well as those in Sterling, Burlington and La Junta, CO, over to Grand Junction may join these nets as desired."

"On HF, SSB, the Columbine Net covers about 15 states all the way from California and Washington eastward into Missouri and other states along the Mississippi River. On HF, CW nets include the Colorado Wyoming Net (3715 kHz at 0130Z) and Twelfth Region Net (3750/7063 kHz at 0230Z). Both nets are getting by, but people are not falling all over each other to establish attendance or traffic records.

"Colorado has a number of Severe Weather Nets along the front range of the Rocky Mountains. Those nets are coordinated with the National Weather Service in Denver. Members of the Boulder Country ARES have developed a highly specialized team with portable packet stations, portable fast-scan TVs, with a close working relationship with the County Sheriff and Emergency Coordinator. This system allows the local officials to view the emergency direct and to correspond with people on the scene by means of almost instantaneous written instructions via packet.

"As far as NTS goes, a major overhaul is long overdue. By establishing a few APLINK stations over each state, traffic could be ready for phone delivery

within minutes after being transmitted rather than waiting for the next level of traffic net to handle it. Such a reorganization might put a number of CW/SSB operators out of business"

Jack seems to be a big believer in and promoter of digital modes. There are implications to consider when relying on digital alone. Would there be anyone left on the local level to deliver this faster message? APLINK stations re-send to local PBBSs. Can we train local packet people to deliver? Isn't a goal of NTS to utilize as many people as possible so that they are in place when needed? Isn't this a hobby that we encourage everyone to enjoy using as many people and modes as possible to handle messages? A priority should be to establish someone in our Field Services Department who would be a point person to really try and help digital integration. Each section, region, and area has its own needs.

Books

In my last column I asked for NCSs to send their thoughts on the listing of books on nets. I was delighted to get a response from the Manager of the New Jersey morning CW Net; even though he disagrees with me. Jerome, W2RRX, is also an NCS on 3 of the 4 section nets. He says, "We are quite comfortable with the new system of listing book messages (one for one). Since the NCS is never sure any group of addressees in a book is within the no-toll calling range of a net member, he lists all the towns in the book. However, the traffic is sent in the usual book form once the receiving stations are identified."

That sounds like section traffic. Section traffic is certainly listed by city (book or no), and thus my point on book traffic is moot. The only section level book traffic which would be affected is traffic leaving the section to a region.

Do you list a book of three as 3 through or 1 through? Book traffic often has to be split apart in order to go in different

directions. No problem. My most recent example of why book traffic should be listed 3 for 1 is: I checked into EAN (Eastern Area Net) one night as the receive station for traffic heading west (PAN). Only one person had traffic for PAN. He also had traffic for 3 or 4 regions. Each of the region traffic was listed as 3 or 4 pieces. The PAN traffic was listed as 7. Thus, I sat a full half hour waiting to collect these 7 pieces of PAN traffic. My turn came and I got a book of 6 plus 1. Had this traffic been listed in the old way, it would have been listed as 3 (the book of 6 being counted as 2 messages). Hopefully the NCS would have thus allowed me to receive this traffic a little sooner. It's not that my life is so important that wasting 30 minutes is a devastation to humanity. It's that we should always try to improve our hobby. I have timed sending books. Each time I discover that those who invented the system (counting 3 for 1) knew what they were doing. The change (counting 1 for 1 on nets), allows net managers to be able to count more points at the expense of having a well run net (knowing how long listed traffic will take to send). It takes less time to send a book. The whole purpose of the new way of counting was to give the operators handling the traffic more points. Not wanting to complicate the change, nets were not excluded. As with most changes, many are still confused about it. I've heard everything from, "we aren't supposed to use books any more", to, "how do we count this?" A few well placed article by our Field Services Department, in periodicals, or perhaps a note to all STMs could make the change clear. It could even make an addition to the change clear (list traffic on nets the old way). We need books in SSB and CW. Let the radio operators have points for each message in a book. But, let the nets be run as efficiently as possible.

As Lil Abner said, "Put it back the way it was." WR

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Professionalism

How can you expect to have a public service agency take you seriously when you sound goofy on the radio? Seriously folks, listen to how you sound during an exercise or public service event.

In between all the "QSLs" we hear the strange phonetics (Killed Seven Big Fat Toads). What really got to me was the argument over "73" and "73s." One fellow was calling the other a "LID" and the other (who didn't know what a lid was) responding with something about "Channel 19."

After some serious contemplation I would propose that it is correct to use "73" and it's neat to have catchy phonetics — just DON'T use them. (Except for CW where the "Q" signals and abbreviations were developed to expedite things.

Case in point. Dig out your scanner and listen to some air traffic control frequencies, especially the local approach control, departure and tower frequencies. Because folk in the control facility seldom know each pilot, they

gauge experience by how the pilot's voice and on-the-air conduct. (Like standard phonetics.)

When the pilot knows the procedure and sounds professional on the air (and there is a significant difference) they get treated better — there seems to be a higher understanding. One professional communicating with another. Then you get some joker who is "peddling fast" or keeps asking for repeats because he/she dropped his/her pencil, it's a totally different level of communication.

The same held true when I was a cub reporter covering the police and fire assignments. The battalion chiefs and police officers who sounded professional were (almost to a person) more professional in their conduct than those who joked around and made "funnies" on the air.

Time and place

Do not construe my comments to the point you ban a light comment to help you get through a 24-hour shift. There is a time and place for everything. A professional knows the time and place!

One good way to improve is to run a tape recorder and then listen to how you sounded. I use a voice activated device and a quarter-speed recorder — this way I can get a whole lot of hours compressed into a single tape. When I

have a few moments or when I'm puttering around the shack, I play one of the tapes and evaluate myself. You'll be surprised at some of the things you did on the air.

One suggestion — keep these tapes to yourself! No one likes being embarrassed in public when you (as team leader) play all the bad examples during a training net. Remember: Praise in public (a whole lot) and correct in private (when needed). Build your members by reinforcing the positive.

Management exercise

The purpose of training exercises is to prepare your people for expected tasks. If your job is communications, you don't need lots of training on field kitchens. Each training session should have a purpose and focus on simple learning elements.

Here's a simple exercise to conduct. The focus is management of people and resources. A secondary focus is response and preparedness. Just after your mid-week training net begins, have your alerting person break in and announce a no-notice response.

Your net immediately becomes a "resource net" and the NCS begins RANDOMLY assigning stations to one of TWO alternate frequencies (red net and blue net). Your group's commander assigns someone from the management team to head up each group. (Don't just pick someone to be in charge — use people who are team leaders and help them improve.) Each group is then assigned to set up a field station with as much communications capability as possible within the next hour.

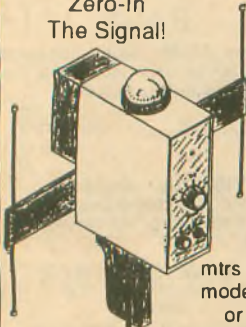
The only rules are: No speeding. No fake messages will be passed. Just get on the air with as many modes as possible (CW, RTTY, packet, voice, UHF, VHF, HF, AMTOR, CB, GMRS, public safety, marine, aviation, etc. — make sure you're licensed and legal on all modes!). However — and this is the exercise goal — the red leader and the blue leader MUST use everyone who is available.

Use everyone!

Some people cannot respond to the station site. Some will have disabilities. Some will be good as NCS. Others can function as resource people (no rule against making phone calls to get additional help!). Someone could keep track of what resources are responding and who is doing what.

What you're going to teach is one quality of management: Knowing what your resources are and using them to your best advantage. Remember, this is no-notice. Keep it short and simple. Then, the second part of the exercise is during next week's net when you have EVERYONE who partici-

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pated give critical feedback.

Stations should be asked to "advise" their leader as to how they could have been used better or how resources could have been better managed. Managers should learn that front-line people often have a much better idea concerning resource placement and use. The best managers ask for input before assigning people (i.e. they listen and learn).

Give it a try and send me a note on how it worked.

Another exercise

I've always liked night exercises. You might consider a midnight DF scramble to find a practice ELT (emergency locator transmitter). You could do this in cooperation with your local Civil Air Patrol squadron who should have access to a practice ELT and some direction finding gear. Your communications team could set up a mission base and provide communications (and learn how to DF ELTs).

Another fun scenario is to meet at 9 p.m. for a map and compass class and then leave after the class to locate some landmarks using compasses and pre-planned course directions. It's amazing how many people cannot find the zoo, a shopping mall, the airport or significant structures at night using mileage

and directions. It's fun and points out a need to learn how to navigate.

Public relations

I hope you saw the Sept. 12, 1993 edition of *Parade* magazine (in most major Sunday newspapers). The cover story was about Caroline Hebard and her rescue dog. It's good reading and I won't repeat the story here.

There are two points I wish to make. First, there are TV shows and a significant upswing in published stories about search and rescue efforts. As public service people we do not operate in a vacuum. In past years the media looked at SAR only during major missions where now even a small effort may get big headlines.

Second, more and more SAR volunteers have media links. Many are reporters or behind-the-scenes media people (editors, systems people, technicians, clerks, etc.) to whom you need to pay attention. They're going to know about your dirty laundry and will tell the inside story to people where they work. This is good!

This is the best "good old boy club" remedy there is — fear of public embarrassment. Team leaders take note! If you operate openly and communicate with all your people you will avoid most

problems. If the "inner circle" people get all the flying time or all the best stuff, you're going to risk some unpleasant media scrutiny — tipped off by someone WITHIN your group (maybe someone's spouse is a reporter and you didn't know!). Good leaders operate openly and with open communication lines within the organization. You don't have to please everyone all the time but you should explain what's happening and why the decisions were made. Don't assume people are not interested just because they aren't asking questions. Become proactive — communicate!

Know your people

Good leaders know their people. They know their names, something about their skills and hobbies, their profession, maybe something about their families or even when their birthdays are. Good leaders demonstrate this by talking to members often and letting members know they care. Good leaders are not the ones at NCS every time. Good leaders delegate and praise (a lot). Good leaders help their people improve and encourage them. Good leaders do not hold their people back so they (the leader) can keep the spotlight.

Remember that discouraged members simply quit, become disgruntled and shoot down morale because they were well liked and you (the leader) treated them badly. If you're in charge, your PEOPLE are your best asset. Contrary to what you may believe (and often demonstrate by your actions) YOU are not the team's best asset! (Think about it!).

Winter is coming — get your gear checked, the coax winterized and the supplies readied. One final hint: Standardized connectors for microphones, power and packet make setup quick and efficient. Don't worry about a "national" standard — the only people that matter are those with whom you work. Coordinate between other response teams and don't feel guilty because you live in New York and have different connectors than someone in Oregon claims as the national standard.

Best wishes from Salt Lake City! WR

Beams have to be rotated; use verticals and let the world rotate!
—AA3G

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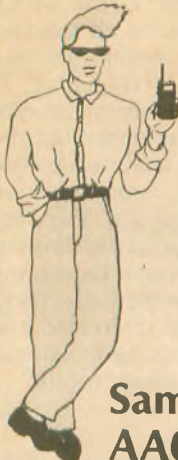
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The Youth Forum

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In the news

Hello again and welcome to another edition of the "Youth Forum."

Fall is always a busy time for Amateur Radio and young hams in particular. So, in this edition of the "Youth Forum" I've included several short pieces which I hope will help get you up to date on what's going on that is of interest to young amateurs.

1993 Westlink Report Young Ham of the Year

In late August at the '93 ARRL National Convention and Huntsville Hamfest, Kevin Boudreaux, N5XMH, was presented with the 1993 *Westlink Report* Young Ham of the Year Award.

The fifteen year old from Louisiana was honored for many reasons, especially his heroic emergency communications work during Hurricane Andrew. N5XMH worked tirelessly for more than twelve hours providing communications and assisting in other ways at a New Orleans Red Cross shelter during the disaster.

The young amateur's courageous efforts brought him praise from many many individuals, including the Louisiana Emergency coordinator, Gordon McCraw, KA5YDJ. "One of the volunteers was a young man 14 years old. He worked from early that evening until late the next morning. His performance was outstanding, even faced with new and sometimes stressful situations," wrote McCraw.

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After Hurricane Andrew, Boudreaux and other young hams, N5STM and KB5QCI, founded the "Young Amateur Radio Club of New Orleans" which promotes youth involvement in Amateur Radio.

Kevin Boudreaux, N5XMH, is now a freshman at Brother Martin High School in New Orleans, Louisiana.

For more information about the Young Ham of the Year Award contact the *Westlink Report* at the following address: The *Westlink Report*, Young Ham of the Year Information, 28221 Stanley Court, Canyon Country, CA 91351

(Thanks to the *Westlink Report* for information assisting in the preparation of this story.)

1992 Hiram Percy Maxim Award

Also making recent Amateur Radio headlines was Chris Anziano, KD1OX. Anziano was presented with the ARRL's 1992 Hiram Percy Maxim Award for his outstanding achievements and contributions to Amateur Radio.

KD1OX, of Bethel, Connecticut, was honored at a ceremony during the recent New England Division Convention in New Hampshire.

Anziano is involved in many facets of the Amateur Radio Service, including emergency communications work and antenna experimentation, among other things. He is also a member of the Bethel Educational Amateur Radio Society (BEARS) and has written articles for the *Bacon Bits*, an amateur radio publication for students.

The high school junior recently had the honor of meeting astronaut-ham Ken Cameron because of his active involvement in the Shuttle Amateur Radio Experiment (SAREX).

A couple of years ago this noteworthy young amateur spent a big part of his

summer repairing and rebuilding the amateur radio station at Bethel Middle school, where he was a student.

Anziano has won much praise for his contributions to the service. He is involved in many radio related organizations and is looking forward to becoming a volunteer examiner.

Chris Anziano, KD1OX, is a junior at Bethel High School. He is also a member of the National Honor Society and is involved in sports.

For more information about the Hiram Percy Maxim Award contact the American Radio Relay League at the following address: ARRL, 225 Main Street, Newington, CT 06111.

(Thanks to the ARRL for information assisting in the preparation of this story.)

JOTA

The Jamboree on the Air (JOTA) is an on-air gathering of Boy Scouts and Girl Scouts from around the world. Here in the United States, listen for K2BSA, the official station of the Boy Scouts of America. Other stations from around the world will also be operating. This year JOTA begins at 0000 hours local time on Saturday, 15 October, and continues through 2400 hours local time on 16 October.


ARRL Foundation

The ARRL Foundation awards scholarships annually to deserving young amateurs. Due to the death of Paul Grauer, WØFIR, Bill McGrannahan, KØORB, has filled the vacancy of Foundation Director.


HELP!

Please keep your story ideas, comments, questions, and suggestions coming. This is your column. I'm always glad to have readers' input. Thanks for reading and 73!

WR






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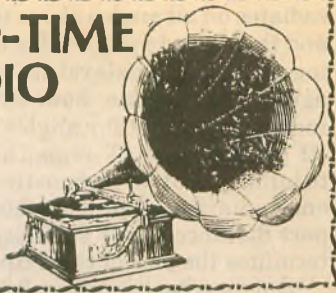
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OLD-TIME RADIO



Remembering

MERLE B. PARTEN, K6DC
ex W8BWC, W6ULS

I am sure you old timers and some of you new timers remember building crystal sets.

Starting about 1924 at age 12, I developed an interest in things mechanical and electrical. In a Hugo Gernsbeck magazine I read how to build a crystal set radio. The radio used an oatmeal box form to wind the coil. A crystal of galena with a tiny wire "cat-whisker" was bought at Woolworth's, the only source of radio parts in those days. The object was to probe the galena surface with the "cat-whisker" until you found a hot spot, and maybe you might hear the local broadcast station. With my short antenna wire running around the curtains in my bedroom the station was not very loud.

One of the books suggested using one side of the power line to act as a long-wire antenna to improve reception. So I rigged up a plug, connected one terminal to the end of my antenna wire that went around the room. I unscrewed the light bulb, screwed in my plug with my single wire attached, and listened in the headphones. It wasn't a bit louder! Hmmmm. Maybe the wall switch should be on. Shall I go on? Yes. . . one side of my radio went to a water pipe ground. You know what? The side of the line I randomly chose for my antenna was the "hot" side of the power line. To my knowledge this was my first experience with Murphy's Law. In case of fire, yell "FIRE," and I did! The wire around the room, on the curtain rods, became red hot and the curtains started to burn. My step-father dashed into the room, yanked down the wire along with the curtains, burned his hands, and I was angrily told to never, never, EVER fool with this radio nonsense again.

This must have kindled a spark of another kind though, because soon afterward he bought a Bremmer-Tully radio kit and built us a radio. Remember those?

After a lot of years of forbidden radio projects, learning the code, getting a Boy Scout radio merit badge, passing

amateur and Commercial Radiotelegraph 2nd Class licenses at age 17, then police radio, and WWII, R&D in wire/radio photo (now known as FAX) in Cleveland, Ohio, after WWII, we finally come to the interesting conclusion of the crystal radio story. The years between contained many, many stories that I cherish remembering.

The work in Cleveland after WWII was with ACME NEWSPICTURES, owned by Scripps-Howard. United Press, ACME, and NEA News Service were sister companies. Sometimes one of us would be required to go to some remote corner of the world to install a network of radio-photo equipment at newspapers, enabling current news pictures to be passed by Press Wireless radio in New York City to the newspaper in whatever country. We were required to install a suitable antenna, set up all the radio and facsimile equipment, then to train an operator, a radio man to service the equipment, and to train a photographer in the photo procedures.

In 1950 I was called on to make such a trip to several countries in South America. One place was an installation in Lima Peru at the El Comercio newspaper. Pictures were sent at a scheduled time out of New York City. While awaiting the schedule I passed a closed door in a hallway and heard code coming from behind the door. I listened, and it was press news out of New York City. Behind the door was an operator copying the news on a typewriter. He was not aware of my presence. On a table nearby he had a radio project under construction. It looked just like my old crystal set that I had built a thousand years ago. I went out to my tool kit where my equipment was set up and found a 1N34 diode, and went back to his room and waited for him to get a rest break.

After a few minutes I asked him "Do you speak English?" "No Senior. Yo no hablo inglés," he replied. Oh boy! Now the sign language. I pointed to his galena crystal and cat-whisker setup and shook my finger. "Malo, malo." I said in my fluent, perfect Spanish. I then showed him the 1N34 diode and said "bueno," and with gestures indicated that he should replace his crystal with the 1N34. His face lit up with understanding and I left. There was no way to say more with my limited vocabulary in Spanish.

The next day the U.P. bureau manager came in and asked me how much that thing cost that I had given the operator. "About 90 cents." I told him. "Oh," he said, "Then he couldn't afford to buy another one if they cost that much. Ninety cents (US) would be too large a part of his daily salary." "It worked so

well," he said, "that he wanted another one for his brother."

True or not, brother or not, I gave him another one "for brother."

I trained Luis Garcia Miro (Lucho), the nephew of the owner of El Comercio how to operate and service the equipment. He was an electrical engineer, educated in Georgia or one of the southern states. His English was almost perfect. He asked me once if he had an accent. When I said "Yes," he asked "northern or southern?" It was SPANISH!!!

On this trip were three papers in Bogotá, Colombia, wanting our service. The plane landed, and at the bottom of the ramp were many reporters and photographers. I was asked "Are you Mr. Parten?" Then I was asked to go back to the top of the ramp and wave to the reporters. As the flashbulbs fired I was asking myself what is going on here? I felt like Errol Flynn or some big celebrity. It seemed the three newspapers, all rivals and all getting our picture service didn't want to be outdone.

I was told about headlines the next day telling about the engineer from the USA coming to Bogotá to give radio photo service to *their* paper. And I was even too busy to get a copy of a paper for myself. WR

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As a DXer and student of matters related to propagation, I've been known to subscribe to various DX newsletters. I think it all started years ago with a simple one out of Canada, now out of business. Then I followed the prognostications of KH6BZF. They were more or less to the point and rather amusing as well. After that, I went more for domestic material, W5KNE's *QRZ DX* and VP2ML's *DX Bulletin*. I know there are others with more local constituencies, say the *Long Island DX Bulletin*, but I've stayed away from them.

But I am interested in what any and all bulletins have to say about DX, say past, present or off in the future. There are still a good number of DXCC countries I'd like to add to my lists, both QRP and QRO, so upcoming DXpeditions are of interest as well as remarks about propagation. But if the latter are forecasts, they're usually not much help to me, being "canned" predictions which are based on conditions 27 or 54 days earlier. I can do as well all by myself, especially since I subscribe to the *NOAA/SESC Weekly Solar Geophysical Report*.

Every so often I do see something in one of the DX newsletters which catches my eye, say a pronouncement about how conditions will be changing with the season or how the level of geomagnetic activity has gone thus far into the solar cycle. Generally speaking, they're sound and serve the DX audience well. But I saw one a while ago that just stopped me right in my tracks! It was in the Propagation section of VP2ML's *DX Bulletin* and it was the closing sentence, just before the usual sign-off, "Good Hunting!"

Let me quote the sentence to you; maybe you'll see why it caught my attention: "Look for longer and stronger openings on the higher bands by listening for shortening skip on the next

lower band." Now that statement struck me as being either a truism or a divine insight from Zeus high atop Mt. Olympus (SV). But being of an analytical turn of mind, I felt compelled to reduce that statement to basic physical terms to get its full meaning.

I say that as the key word, skip, is like what one encounters when talking about the glass of water that's half-full, you have to know it's half-full before you can call it half-empty. So it is with skip, you have to know the skip distance before you can speak of skip, or hop lengths for that matter, shortening or otherwise. So I've "crunched" a few numbers to get a numerical handle on the matter. That's my usual approach to a problem. Others may just say "Of course!" and go on about their business, comfortable with their intuition or past experience. We're both dealing with the same thing so perhaps my discussion may add to their understanding.

As I implied, the dominant word in that sentence is "skip;" its change has to be where it all would hinge and the key to what was meant. After that comes "the next lower band," that helps a lot. But which pair of bands, when in the year or in which solar cycle? Zeus' declaration was not clear on those points.

At the moment we're on the down-slope of Cycle 22 so one might think of the 30 and 40 meter bands. But being sentimental at heart, I prefer to think of better times, when BIG DX was really pouring in, so in my analysis I settled on a smoothed sunspot number of 100, when the 15 and 20 meter bands were of interest to all DXers. And since all of this came to the fore in a US publication, I had to think of ionospheric conditions over America's heartland, the Midwest.

The search for DX always takes place in the course of a day so any analysis of the original statement really means that one has to find the skip distance from a transmitter as a function of time. Just to remind you, hops can be longer than the skip distance but is the distance or region surrounding a transmitter within which its signals simply cannot be heard. Put another way, that's a region around your QTH from which other stations cannot be heard. That's like the empty glass, nothing in it.

In order to work out the size of a skip zone, one assumes that a transmitter

radiates on all angles above the horizon and then goes to the trouble of calculating where the signals return to the earth again. This is done, hour by hour and increasing radiation angles, until the RF penetrates the F-region and goes off to infinity. But for a given time, there is one radiation angle for which the impact distance is the smallest, that determines the size of the skip zone.

"But for what conditions?," you might ask. Well, I've set my sights on the winter season; after all, that's when the "winter anomaly" of the F-region gives the highest critical frequencies and the raises the greatest hopes of propagation leading to DX contacts. But, of course, you remember that from my article in the July '93 issue of *Worldradio*, right? So I've settled on the middle of winter, taken the SSN to be 100 and used IONCAP's Method 1 to give a model ionosphere over the Midwest to use in analyzing what Zeus had to say.

Before getting too far along, let me just give a quick run-down on the ionosphere used in the analysis. During the winter over the Midwest (39 N, 97W) the critical frequency FoF2 rises from about 3.4 MHz around dawn to 11.5 MHz at midday (1900 UTC) and then drops back to around 7.2 MHz in early evening. The asymmetry in FoF2 values, 3.4 MHz at dawn vs 7.2 MHz at dusk, has to do with the slow recombination of electrons and positive ions at F-region heights after sunset.

There are other details of the ionosphere that IONCAP comes up with, a fairly constant height of the ionization peak in the F-region and a thickening of the F-region below the peak as the sun rises. After that, it's followed by a thinning after the sun goes beyond its highest angle in the sky. Of course, all those features are put in computer programs to work out the skip as a function of time.

The computer programs were of two types, one doing step-by-step ray-tracing and the other using MathCAD to grind out numbers in an analytical expression for the skip distance at each radiation angle. Both gave essentially the same answers, only differing a bit on a given band because of differences in approximations made in the calculations. When it comes to comparing skip distances between adjacent bands, the numerical values are so different that the small differences within a band are really unimportant. To show you what I mean, look at Figure 1.

In that figure one sees the skip distance on 14 MHz and 21 MHz in the course of a winter day. Since there are no points at the start or end of the plot for 21 MHz, you know the skip distance is very large, essentially, infinity. That's another way of saying the critical fre-

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quency at those times is just too low and there's no propagation possible on the band. I have to think that's compatible with your experience on that band. It certainly is with mine.

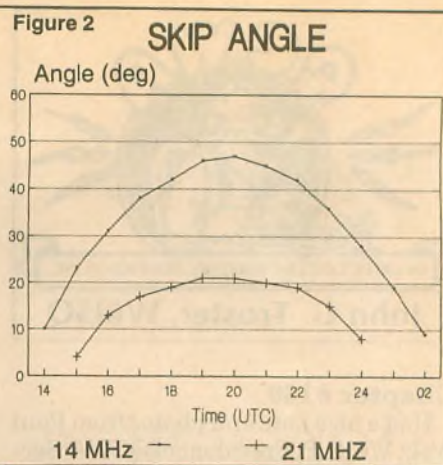
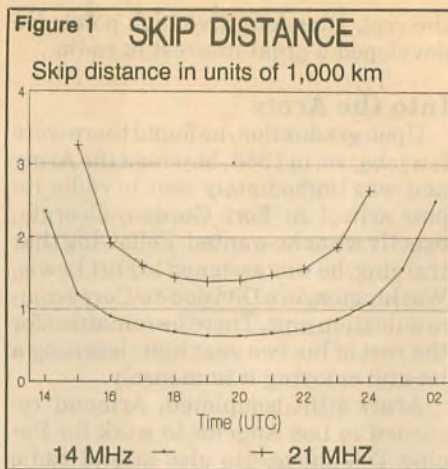
But once propagation begins on both bands, one notes that the skip distance is always less on the lower frequency. That's no big deal. You know that and so do I. Looking at Figure 1, you see that the skip distance is getting smaller, "shortening" in terms used by Zeus, as the sun rises. Again, that's no big deal. But now we have a problem as the shortening of skip is the natural result of sunrise and increasing the critical frequency FoF2 in the F-region. Thus, with greater values of FoF2, the ionosphere returns radiation at higher radiation angles and the skip distance decreases.

So what was Zeus really talking about? Surely not just the rising and setting of the sun, that's trivial. While he didn't say it in so many words, most likely he meant increases in FoF2 or unusually short skip distances. If that's the case, "shortening" would apply for a rising sun, the first instance; and "shorter" might be a better term for day-to-day changes, in the second.

Given that FoF2 increases with sunrise and then decreases somewhat more slowly with sunset, one can see that a sudden increase in FoF2, say over an hour or so, might have an effect, a shortening of skip distance that one could discern by listening to signals on the lower of the adjacent bands. Okay, that was a qualitative statement but we live by the numbers when it comes to HF propagation so what's the story for our mid-winter day? Going to extremes of the day, the change in FoF2 for an hour's advance in time amounts to 25% around dawn, about 3% around noon local time and 17% around dusk.

If such changes in FoF2 took place, one can see something of the magnitude of the change in skip distance by looking at Figure 1. In the morning and evening, changes the order of 20-25% in FoF2 would change the skip distance on 14 MHz by about 1,000 to 1,200 km while a separate calculation shows that the same change in FoF2 around midday would produce a much smaller change in skip, just a couple hundred km.

Whether one could discern those changes, especially around noon, is a good question. DXers have an ear for DX signals and unless looking carefully into the matter, they would probably not pay much attention to local signals nor any change in skip taking place in a given hour or so. More likely, at the hour a DXer goes into the shack and turns on the rig, a quick scan of band conditions might lead to the idea "the



skip seems shorter today!"

So there's another clue, an increase in FoF2 due to a change in solar activity, and if true, it would be ample grounds for our DXer to switch to the next higher band. If the change were large enough, that would have the effect of increasing MUF's on DX paths, making for longer and stronger openings on the next higher band. But I would suggest that other terms should be included, "earlier" or "later," as an increase in the critical frequency FoF2 would bring DX sooner on the bands in the morning hours and keep DX pouring in later in the evening hours. Okay?

Now our intuitive DXer knows that the skip distance decreases when the ionosphere enjoys greater levels of ionization, i.e., higher values of FoF2 return radiation at higher radiation angles. But refraction by the ionosphere is frequency sensitive so it's worthwhile to compare the radiation angles for minimum skip on the two bands. So turn to Figure 2 now and see how those angles differ between the 14 and 21 MHz bands.

In that figure you see that the radiation angle on 14 MHz is always twice as large as the one for 21 MHz. Similarly, the skip distance on 21 MHz is always twice as large as the one for 14 MHz.

But when one talks of radiation angles, antenna patterns come to mind at once. To me, that means that one would be more able to note skip changes, say on 14 MHz, when hearing another station whose antenna pattern has significant lobes at higher radiation angles, i.e., one which is relatively low to the ground. Since DXers prefer antennas at heights which give patterns with low radiation angles, the best place to check on skip is not in "DX Alley" but above where the rag-chewers hang out.

All the above discussion dealt with the winter months, when the critical frequencies are on the high side. If you look at my July '93 article, you'll see that peak critical frequency is almost a factor of two lower in the summer. In addition, FoF2 shows only a small change in the course of a day. As a result, the skip distance doesn't show the same strong variation as it does in winter and because the F-region peak is higher in summer, it's about the same in magnitude on 14 MHz as during winter.

On 21 MHz, the lower critical frequency makes propagation less certain, largely influenced by changes in solar activity, particularly in the east — west direction. Skip will be long in the late afternoon and early evening hours, when transequatorial propagation is most favorable. As a result, it's common to hear a pileup on a southern hemisphere station, say a CEØ, and not be able to hear the US stations making the contacts. That can be quite frustrating if you like to "tail-end" on a DX contact. But you knew that.

Going back to Zeus' statement, I hope I've shed some light on it, giving a quantitative explanation in physical terms. When it comes to words, I think I'd phrase it differently: "If skip seems shorter than usual, check out propagation on the next highest band." You see that I'm quibbling about a present participle, shortening, and substituting an adjective, shorter. That's the kind of person I am.

WR

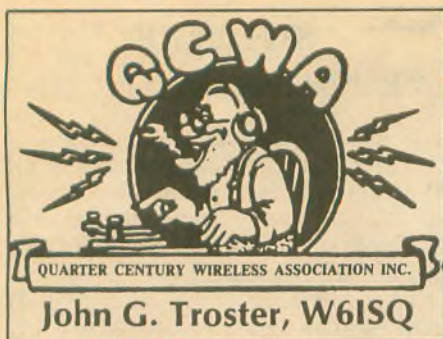
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Chapter #169

Had a nice note and photos from Paul Wolf, W6RLP, President of QCWA Sacramento Valley Chapter #169. Looked like a very alert, attentive, inventive group. They were honoring their own member, Don Johnson, W6AAQ, who has authored the popular book *40 plus 5 Years of HF Mobileering* published by *Worldradio*. It just happened that QCWA General Manager Jim Walsh, W7LVN, was in town to visit his old Navy Buddy, W6AAQ, (I'll re-phrase that, his good buddy from the Old Navy), so Jim got in on the award presentation. Actually Jim drove there to have Don install one of his automatically tuned mobile antennas. Jim reports fantastic results. Read about them in Don's book. Just so you will get a look at these two handsome Old Swab Jockeys, we'll include their photograph, courtesy of W6RLP.

Armond Noble, N6WR #17463, One Of Us

Armond, publisher of this magazine, was one of the founders of Chapter #169. He wasn't at that meeting, so I called him wondering why. Other *Worldradio*-ites, QCWAer Norm Brooks, K6FO, and John Minke, N6JM, also were not present. Armond explained, "John and I were working and Norm was still asleep. He worked all night." Happens.

The telephone call to Armond was on my nickel, so naturally he kept talking. After a series of "You did whaaaat? "When were you there? How did you learn to. . ." reactions from me, I realized that here was an unusually interesting guy, QCWA member, whose colorful life and enterprising ventures underlie the conservative masthead persona. Herewith, herewith, "This is your life, QCWA #17463."

Native New Yorker

At age four, Armond realized there was no future for him in his native New York City, so he up and moved his mother and himself to Los Angeles, where he felt destiny lay. He polished off school playing an excellent game of baseball and basketball, and tolerating

the rest. One definitive high point: He developed a great interest in radio.

Into the Army

Upon graduation, he found there were few jobs, so, in 1953, he joined the Army and was immediately sent to radio repair school in Fort Gordon, Georgia, exactly what he wanted. Following that training, he was assigned to Fort Lewis, Washington, in a Division-to-Corps communication unit. There he remained for the rest of his two year tour, learning a lot and enjoying it immensely.

Army stint completed, Armond returned to Los Angeles to work for Pacific Telephone. He also attend radio broadcasting school, where he obtained his FCC First Class Phone license and later, his first amateur license, WA6ADS, "Another Dumb Student." Not hardly.

Into Radio/TV Broadcasting

In 1959, with communications skills and broadcasting degree in hand, he got a job as an announcer in Casper, Wyoming, with TV station KTWO and Radio Station KATI. He also received the call K7MFA. In 1961 he moved his announcing abilities on to Billings, Montana, TV station KOOK. It was in all this he began to develop proficiency creating and reporting on-the-spot news stories as features for his nightly 11 o'clock news reporting.

Viet-Nam

In 1963 he moved to KTVB-TV, Boise, Idaho, and in 1964 he moved again to KERO-TV, Bakersfield, California, owned by TIME-LIFE. On 4 July, 1966,

Armond departed for Vietnam as an independent reporter-photographer with ties to TIME-LIFE, the Milwaukee Journal and other dailies in the US. He sent stories and dispatches from Viet-Nam as a combat correspondent for a year then returned stateside to Grand Rapids, Michigan to TV station WOOD. While at WOOD-TV he was sent back to Viet-Nam for a month, to produce a documentary about a local doctor and then back to producing other documentaries for the news broadcasts. Further good things happened in Grand Rapids, he met YF Helen and received amateur call W8IXO!

You may get the impression Armond moved around a lot! Right, and the last move was prompted by the fact that it was cold in the mid-west in the winter. On to the TIME-LIFE news bureau in Sacramento, California, and a new call, WB6AUH. Notice that no matter where he went, an amateur call followed.

One day on twenty meters Armond met Fred Hargesheimer, WØEBG, in Minnesota. Fred had been shot down over New Guinea during WWII and rescued by natives. Ever since that rescue, he was determined to return to do whatever he could to help the villagers. Armond thought that was great, and decided he wanted to make a story out of it. Unfortunately, TIME-LIFE was not interested. Armond resigned and he and Fred went off to New Guinea and made a TV adventure documentary of the events and results.

Begins *Worldradio*

Back home, the documentary was hard to sell. Armond went back to work for radio station KCRA in Sacramento, an all-news station. In 1971, while still reporting, the idea for *Worldradio* began to take shape in his mind. He bought a \$100 used IBM typewriter and began. Coincidentally, and you might even say fortuitously, the next day he went to work to find he and four others were laid off in a big cutback of station employees. Armond, now with ample incentive, pressed forward with his publication of *Worldradio*.

From his experience as a news reporter and broadcaster, he felt there was room to focus on the public service and human interest aspects of Amateur Radio, the "what is happening now" side of the amateur service. The other essential facets of Amateur Radio would be covered by features and specific columnists.

The first edition of *Worldradio* rolled off the presses 2000 copies strong. By going through amateur magazines, and pulling out names of those who were involved in amateur service activities, Armond garnered a mailing list and sent out all 2000 as complimentary copies.



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Tough times

This was 1971 and it was hard going for the new publication. Advertisers were not breaking down the door to get into the new publication. Subscriptions were coming in, but slowly. And the publisher/writer was broke. However, two events occurred that were the turning points in those beginning days. At one point, a whole issue was printed and labeled, but Armond had reached the point where he didn't have a cent, no money, to buy stamps for mailing! Out of the blue, that next day, he opened the mail to find a \$50 life membership subscription, plus five \$10 subscriptions for five of that reader's friends. That \$100 was enough to buy the needed five cent stamps, and the issue got mailed. The second dramatic turn came soon after. The IBM broke and there were no funds to repair it. Next day Armond received a letter from Lee Shaklee, W6BH, (one of the founders of the Northern California DX Foundation) who liked *Worldradio's* humanitarian and service approach to Amateur Radio and enclosed \$500 to show his approval and help out! It did, and today *Worldradio's* print run is 32,000 copies.

In 1976 Armond started *International Travel News* followed in 1984 by *Military*. Both publications are unique in their field and well received with print runs of 40,000 and 15,000 respectively. You can write him for a free copy of either or both of these. You'll enjoy them.

Learning by doing

Armond was forced to learn to write in the radio/TV business. He also had to learn to take photographs because in his early TV newscasts, he took his own 35mm still photo negatives which were projected on TV as positives for his nightly broadcasts. Later he began using 16 mm movie cameras and also to develop his own film in the studio.

Today his time is spent mainly on the business end of the publishing, leaving the editorial work to his experienced



Armond Noble, N6WR, QCWA #17463. Nice looking fella, huh?

— photo by W6ISQ

editors. Helen is listed as the Advertising Director of *Worldradio* but it's likely that title tells only part of her story!

Armond says his hobbies and his work are all the same because he works all the time. However, he did take the time to teach Amateur Radio classes for a while, and he did help start Chapter #169 of QCWA. Under the responsibilities of publisher, he is able to indulge his love of international travel, needing to check out various international tours and new adventure packages in connection with his travel publication.

There He Is

Next time you're at one of the big conventions, watch for a husky fella walking around with face covered by a camera and shoulders hung with more. You might even venture a greeting. "Say, OM, you must be N6WR, QCWA #17463. Glad you are One Of Us." He'll probably take your picture and maybe you'll be on candid camera.

P.S. Any readers happen to have seen or heard Armond when he was a broadcaster? Or read his dispatches from Viet-Nam?

Until next time, be sure to listen to the 14.1 MHz beacons!
73 + 25, Jack, W6ISQ. WR

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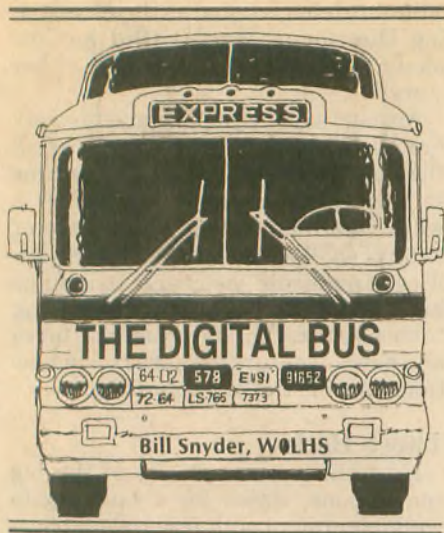
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HE KEEPS TELLING ME HE CAN HEAR SOMETHING CALLED OSCAR!



I'm not sure I speak for everyone, but when you reach the golden age years you tend to dabble more in personal history, and some little bits of history become treasures to savor and hold. I often wish I had kept a diary of my life. It would probably be very dull reading for the most part, but there would be high points that would be fun to recall in retrospect. If, for example, I had only written down my exploits in gorilla country in Africa, I could bring back a few interesting moments of sheer fun more clearly.

I often look through my flying log books, and right away memories start to read out in my mind about people and places I had completely forgotten about. So, this old man suggests that you young ones keep a diary and fill in those log books, and, also, make a hard copy of the fantasies that run through your mind. It'll be worth the effort in your old age!

My father was a telegrapher and later a wire chief for the Northern Pacific Railway. He was hired in 1904 as a telegrapher for the main line station at Sanborn, North Dakota. Later he was a night telegrapher at Dickinson, North Dakota and finally the wire chief at Fargo until his death in 1949.

In looking through his memoirs, I discovered a few notes he had written (in 1908) about the early days of the railroad telegraph system. The completed northern transcontinental N.P.

was only about 25 years old at that time, so the communications system was rather primitive. Here are excerpts from father's notes — with parenthetical comments by me, his son Bill: "A generation ago, the Northern Pacific had only one through telegraph circuit, St Paul (Minnesota) to Tacoma (Washington), and it was a copper wire. Helena (Montana) was a large relay office, employing 20 operators. Everything there had to be relayed (by manual operators copying a message and then retransmitting it by a telegraph key) to the west coast.

"Helena was also a large and important relay office for the Western Union. The W.U. had only two copper wires from St. Paul to the west coast on the N.P. (The railroad had their telegraph lines up on cross-armed poles along side the railroad tracks. The company leased space on the poles to the Western Union and other telegraph companies for the transmission of private messages).

"I remember distinctly when the first Chicago-Seattle circuit was put in operation. It was a polar side of a quad between St. Paul and Helena. (Technical jargon I don't understand, but old time brass pounders on the N.P., like Murray Fisher, W7NSU, will probably straighten me out.)

"During the San Francisco earthquake, all the telegraph facilities on this northern route were in continuous operation, day and night for two whole weeks. The N.P. loaned one side of their only quad (a system to put more circuits on one wire and ground return line) to alleviate the conditions. Messages transmitted were brief, but they quieted many aching and anxious hearts.

"Shortly after the Seattle Exposition began, the Western Union business increased immensely. Two fine copper wires were strung from Chicago to Seattle on the N.P. right-of-way, and shortly after that, the N.P. was compelled to string one copper wire from St. Paul to

Seattle. After the wire completion, 20 operators were dispensed with in the Helena office. It gave the St. Paul headquarters (of the railway) a direct communication with the important divisional offices like: Glendive, Billings, Livingston, Missoula, Spokane and Tacoma.

It shows that an exposition (called a world's fair in later days) has a healthy influence upon a city and country.

"When Mr. Gaunt (a former N.P. man) was General Manger of the Chicago district, two iron wires, 6 gauge, were strung from Chicago to the coast on our northern route. I consider this one of the great feats that I have witnessed. The wires are sturdy and always the last to go down in an ice storm.

"With the construction of additional wires, the Wheatstones (jargon of the day for a circuit type) were put in operation. They were succeeded by direct point and bridge duplex sets (more jargon). Then the Athearn quads came to be installed and finally the Multiplex came into reality and to stay with us for a while.

"The railroads have not adopted any of the automatic devices, but have elaborated on the telephones, fitting them so as to be practical for train dispatching. Selectors on the telephone circuits make it possible for the proper handling of trains and other important rush business.

"When the telephone use made its first appearance in train dispatching in 1907, many of the old-time telegraphers were of the opinion that wrecks would be numerous, and the money expended in the layout would be a waste; however, their guess was wrong. Since the advent of telephone dispatching the accidents have been reduced considerably. I venture to say that railroad travel nowadays is the safest and most dependable in the history of transportation.

"The use of telephones has cut down the railroad telegraph talent, therefore it requires an experienced and tactful Morse operator in the commercial office to work with some of these beginners. Still the telegraph is an absolute necessity on the railroad, particularly for handling commercial business. People do not like to have their telegrams phoned within earshot of other people.

"The telegraph message is quite essential in railroading for speeding important diversions, like fruit, automobiles, etc. It is rapid, dependable, and a record is obtained of every transaction."

Telegraph circuits in my father's time were ground return, only one wire was required to make it work. Because the resistance of the overhead wire increased with every mile traveled, each Morse code circuit had to be regenerat-

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ed every so often. It was done by relays that retransmitted the key pulses at regular distances along the system. Copper wires had less resistance than the iron, so they didn't require relaying as often, but the iron wires took the sleet storms better.

Across the prairies of North Dakota sleet storms were a menace to communication lines. The ice would build up on the wires, the wind would cause the wires to swing and break. The heavy ice load on a number of wires would even cause poles to break and the domino effect would take down miles of lines. The railroad used doubly guyed "H" fixtures at about half mile intervals to try and keep the domino effect from going too far.

When railroad and telephone company lines went down in an ice storm, ham radio would be called on to dispatch the trains. As my father noted above, train dispatching was by telephone conversations, not Morse code. Right after the World War II, I twice hauled my Collins 32-V transmitter and Hammarlund receiver up to the railroad dispatcher's office after an ice storm. Our local ham club members helped run the railroad for three days. The ham club in Jamestown, North Dakota, which was about 100 miles away, operated the other end of the radio circuit.

My father used to complain about the northern lights, aurora borealis. Every time the northern sky would light up with the visual display, "earth currents," as dad called them, would wreck havoc with the telegraph system. The various multiplexing systems used to put more than one circuit on a telegraph wire were highly susceptible to the effects of the aurora. All kinds of strange things would cause the relays to garble and no wire traffic would move. And my father's hair would be pulled, believe me.

The aurora phenomena in the higher latitudes can be quite colorful. I recall making a night flight from Bozeman,

Montana to Fargo at 9,000 feet. I left Bozeman just after dark and by the time I passed over Billings the northern sky was lit up with ever-changing sheets of aurora display. I turned the cockpit lights down very low and we watched the colors change along with the dynamic motion patterns in the northern sky. It was beautiful.

117 miles later, over Miles City where the airport is up on a table land, I made contact with the FAA Flight Service Station. "Can you see the aurora?" I asked the operator because it was a cloudless night.

"I'll walk outside and look," he said. In a moment or two he came back and said, "Nope, can't see it." The display was especially bright at that time.

Over Dickinson, North Dakota, 135 miles further, I did the same thing. There the FAA station is south of town and the lights of the city probably dilute the view of the northern sky, so when the operator said he couldn't see it, I reasoned that might be the cause.

We had the aurora display in view until we descended to land at Fargo. That was one of the best displays I ever witnessed while flying, and I was sorry the ground people couldn't enjoy it. I'll bet hamming by aurora bounce was mighty good that night.

EAVESDROPPINGS

WHEN MY WIFE AND I GOT A DIVORCE WE SPLIT EVERYTHING RIGHT DOWN THE MIDDLE — SHE TOOK ONE BOOKEND AND I TOOK THE OTHER. . . IT'LL BE NICE TO HAVE THE SOLAR FLUX DO ITS UP THING AGAIN ONE DAY. . . BANDS HAVE BEEN SPOTTY LATELY, GUESS WE'LL HAVE TO GET SOME SPOT REMOVER. . . I WORKED 35 STATIONS IN THE S.A.R.T.G. CONTEST AND NOT ONE SCANDINAVIAN. . . I HOPE THE RAINY SEASON IS OVER AND THE SNOWY ONE ON ITS WAY, IT'S EASIER TO SHOW-

EL THAN TO BAIL. . . MY COMPUTER IS A 486 WITH MORE MEMORY THAN I HAVE IN MY AGING HEAD. . . TROUBLE WITH ME IS I HAVE FORGOTTEN MORE THINGS THAN I REMEMBER. . . MY WIFE IS CALLING ME TO BREAKFAST FOR THE FOURTH TIME. . . I NEVER COULD FIGURE OUT HOW TO PLAY TIDDLY-WINKS OVER THE RADIO LIKE THEY DO WITH CHESS. . . I'M TOO MUCH OF A DEMOCRAT TO LISTEN TO THAT REPUBLICAN COMEDIAN SLUSH LIMBAUGH ON THE BOOB TUBE— HE TURNS MY

BILE JUICES ON. . . I'LL BE GLAD WHEN HUNTING SEASON IS OVER, I HAVE TO CLEAN THE BIRDS MY KIDS SHOOT. . . I'M GOING TO DO MY CHRISTMAS SHOPPING EARLY THIS YEAR — TWO DAYS BEFORE CHRISTMAS NOT ON THE EVE AS USUAL. . . HAM RADIO CONTESTING IS FOR HAMS WITH NOTHING TO DO BUT STAY AWAKE.

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
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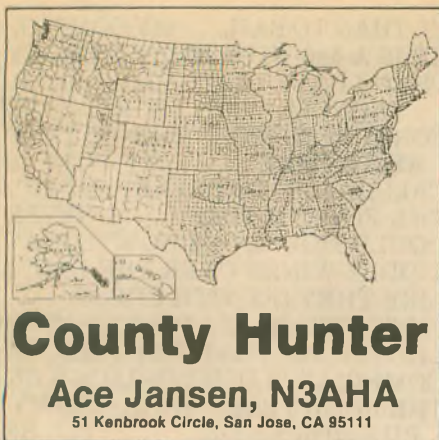
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WARNING!

Last time, in September, I was zipping along telling you all the great features of the ZIP software and how entering a ZIP code would identify the associated county. This was a great way to discover counties when they weren't written on the card, so I said. This was a great way to not have to look up ZIP codes in the National ZIP Code Directory, the old fashioned way, so I said. Well, one thing I forgot to say was ZIP Codes are not a fool-proof method of determining counties. I knew this. . . but I forgot. Yeh, that's the ticket! ZIP codes do sometimes give you a correct county; however, some times a rural address is serviced by a post office located in a different county or in some cases, different state. Yikes! So, when considering using this method of determining a county, caveat emptor. Kudos to Stu Casper, W2PDM, a long-time county hunter friend who pointed out my blunder. Stu wrote me a letter and pointed out that ZIP codes can be used as a guide, but are not fail-safe. Stu noticed this several years ago and informed the *CQ Magazine* awards administrator and *CQ* changed the award rules. Now, the postal ZIP codes are referred to as a guide, rather than the defining data for determining the county. Thanks Stu! Making a mistake keeps me honest and quickly lets me know my column is being read.

County hunter info

I thought I'd take the rest of this column to identify places to go for additional information, county hunter awards, supplies, etc. There is a wealth of information out there to assist county hunters, from record books to detailed software logging programs.

Awards

There are many organizations offering county awards:

CQ Magazine: 76 North Broadway Hicksville, NY 11801-2953. *CQ* offers the USA-CA award and has record books

for \$2. Write to them for a record book which includes the rules and room to record radio contacts.

MARAC: Van Peterson, K4QFK, P.O. Box 48307, Cumberland, NC 28331. MARAC is the Mobile Amateur Radio Awards Club. With a name like that they must offer some awards, right? They sure do! Many of the awards recognize mobile achievements for operating from different counties and states and contacting DX while operating mobile. They also offer the USA Counties Award, Worked All USA Counties Second Time Award, YL Mobile Award, and the Five Band County Award.

B&B Shop: P.O. Box 83403, Phoenix, AZ 85071.

The B&B Shop sponsors the Fourth Time Around Award, the Fifth Time Around Award, and the Five Star Award. The B&B shop also offers record books for *CQ's* USA-CA award.

Mobile QSL Bureau: Rt 3, Box 400 Timmonsville, SC 29161. The Mobile QSL Bureau sponsors the Master County Hunter Award (Bingo) and the Third Time Around award.

10-10 County Hunting: Alice Jenkins, NR4R, One Mitchell Lane Rossville, GA 30741.

Ten-Ten International offers an award for working 10-10 members from different counties. The basic certificate is \$2.00 and there is no fee for the seals or plaque. A 10-10 County Hunter Record Book is available from the 10-10 County Award manager for \$5.00 post paid in the U.S., and \$7.00 for foreign members. To receive more information, an award application, or to get a record book, write to Alice.

These are the major county hunting awards available; however, there are awards available for contacting counties in a specific state offered by amateur radio clubs and awards for contacting individuals in specific counties offered by the individual. A good source for these type of awards is the County Hunter Handbook, available from the B&B Shop.

Supplies

Both the B&B Shop and the Mobile QSL Bureau print mobile reply cards

(MRCs) used for confirming many mobile contacts on one card. In addition, the Mobile QSL Bureau prints QSL cards. Each offers county hunter record books with coloring maps. The Mobile QSL Bureau has 17 1/2" x 22 1/2" poster-sized wall maps with all counties identified. Write to each of them at their above addresses for a product and price list.

Software

CHUBS: Ed Empey, WA7ETH 11912 47th Dr. NE, Marysville, WA 98270-8514.

CHUBS version 3 is brand new and supports all of the *CQ*, MARAC, B&B Shop, Mobile QSL Bureau and 10-10 county hunter awards. It's available for \$59.95; however, if you perform two hundred net control hours or operate from two hundred counties you qualify for a discount — \$39.95. The latest release includes MRC printing.

CHERRIES: Sherwood Engineering 1268 South Oregon St., Denver, CO 80210.

CHERRIES is a complete county logging and reporting data base for the beginning or advanced County Hunter. It's \$74.00 but includes many features; prints serialized MRCs and reports, instant lookup for Bingo, YL, Basic awards, and five band status. Write to Sherwood for more information.

County Hunter's Log: Larry Allen, K1ZIT, 14 Sargents Lane, Eliot, ME 03903. The County Hunter's Log program is a full function database program used to store contacts for the USA-CA. The program will print MRCs and reports. Each MRC is given a number to quickly confirm contacts when a mobile returns the card. It costs \$29.95.

VE1AIT Software: Comp 9, Site 20, RR 3 Fredericton, NB, Canada E3B 4X4.

Lin Titus, VE1AIT, has also developed county hunter software. This program also prints MRCs for any award specified and a list of overdue MRCs which have been sent but not received. It also works in concert with the B&B program PEACH. The best part, it's free; just send enough disks to hold approximately 830Kb and your latitude and longitude (for beam headings) to Lin.

1010CH: Hardy Data Systems PO Box 7304 Tifton, GA, 31793. For those of you who collect 10-10 counties only, HDS's 1010CH is the best program available. It will also keep track of other 10-10 awards like the bar awards, WAS, and VP awards. It is available at the above address for \$25.00.

ZIP: Hardy Data Systems: ZIP provides a county if a ZIP code is entered. This helps you know an operator's coun-



ty if it's not on the QSL card; however, heed the above warning about using ZIP codes to determine a county. It's not 100% accurate, but close to it. This program is \$25.00 from the above address.

CAP: C.A. Willis, KJ4EJ 5819 Peacefull Pass Groveland, FL 34736.

CAP, the County Awards Program, is a program written to maintain a local record of last county wards received from MARAC while operating mobile. CAP is a sub-program of Willis' logging program KWIKLOG, version 4.01, which is still in field testing. CAP is free and KWIKLOG will be released as shareware in the near future.

HAMBASE: j-Com, P.O. Box 194 Ben Lomond, CA 95005.

Hambase is a database much like the Callbook; basically a Callbook on-line. This program also gives the county for an address, again based on the zip code. The basic program and database cost \$49.95 for PC (1.2 MB disks) and \$59.95 for PC (1.44 MB disks) and Macintosh (800K disks). There are four Hambase optional programs available, all \$19.95 each: 1) WHamBase, Hambase for Microsoft Windows; 2) HBPopUp, a TSR version pops up using a hotkey combination; and 3) Hambase supplement 1994, a semi-annual update of FCC database changes.

PEACHES: B&B Shop, PEACHES, the computerized Print and Edit Addresses for County Hunters is available for \$5. This program provides county hunter names and addresses by call and can be used to print mailing labels. This product can also be ordered along with the hard-copy County Hunter Directory for \$10.

Assistance

MARAC: P.O. Box 64 Newport, MN 55055.

The Mobile Amateur Radio Awards Club assists the active county hunter by providing a newsletter (the "Roadrunner") with information about mobile operation, upcoming county trips, and net operating procedures. It also recognizes accomplishments of county hunters. For the beginner county hunter, MARAC provides an information packet on county hunting and MARAC if you send an SASE.

QSL Bureau

Although I've mentioned the awards and supplies offered by the Mobile QSL Bureau, I haven't mentioned their main business processing MRCs. The bureau sends MRCs to mobile operators for signature and then returns the cards to their owners, all for 25 cents each (much cheaper than if you mailed them yourself with an SASE).

Antennas

Although there are commercial mobile antenna manufactures like Hustler, Outbacker, Spider, and Lakewood, here are a couple of county hunters who manufacture mobile antennas.

KM4W Mobile Antenna: RR #8, Box 8690A, Unit #11 Manchester, TN 37355.

Bill Bell manufactures four single-band antennas whips for 15, 20, 40 and 75 meters. Each of the resonators sell for \$40. Bill also custom makes masts to any length.


Custom Enterprises: Rt. 6, Box 748A Harlingen, TX 78552.

Barry Boothe, W9UCW, manufactures antennas for all the low bands (160 through 10 meters), mounts, brackets, and hardware. They have mast sections in all lengths from one to eight feet. They also offer single or multi-band antennas. They advertise "the most efficient design on the market — guaranteed."

This isn't everything that's available to the active county hunter, but it's a start. If there's something I left out that you need, please write and I'll include it in a future column.

Until January, happy hunting! WR

No photos? Before submitting a plain text story to *Worldradio*, see if other local amateurs or club members happen to have photos available.



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The ARK 40, in review

Editor's note: Veteran QRP operator and builder Cam Hartford, N6GA, of Claremont, California recently had an opportunity to operate and assess one of the newest QRP rigs on the commercial market. Here is his review.

I have been intrigued in recent months by a small advertisement for a synthesized 40 meter rig called the ARK 40.

S&S Engineering is the manufacturer, and as luck would have it, the owner, Dick Szakonyi, KA3ZOW, showed up in Dallas for HAMCOM. We were able to take a good look at the rig there, and operate it in the QRP hospitality room.

A quick glance at the schematic revealed a complex and well-engineered radio, the kind that needed further testing in a more rigorous environment, such as Field Day. Dick kindly agreed to lend us one to run through its paces at the Zuni Loop Mountain Expeditionary Force Field Day site at 7,000 feet in the mountains north of Los Angeles. Here are some observations from that test:

I must say that one's first impression is that this rig is a quality piece of gear. It is solid and heavy, and very rigid. The circuit boards are first rate. The controls operate smoothly, and it has the look and feel of a commercial rig.

A view inside reveals two circuit boards. First is the synthesizer and the second is the transceiver board, containing the receiver and transmitter

circuitry. I scanned the synthesizer circuit diagram to see what it looked like, but for me it might as well have had a "No User-servicable Parts" sign.

The transceiver board diagram is a different matter, however, and its diagram caught my eye in the first place. The front end of the receiver means business — a low-pass filter, followed by a bandpass filter, then into a diode-riding balanced mixer. This is not your garden variety NE602 radio, and it proved itself thus in the heat of Field Day battle. The rest of the receiver includes a four pole crystal ladder filter, a switchable audio filter, AGC and sidetone.

The transmitter circuitry is fairly straightforward. It employs an MRF476 to put out about four watts. QSK keying is through a relay, but the keyed waveform is clean and pleasant sounding. There is a small amount of phase noise created by the synthesizer, but it is evident only to a receiving station which is very close in proximity and frequency.

On-the-air results were gratifying. Forty meters at night during a contest is a crowded place, but this rig was able to separate the signals with the crystal IF filter and audio filter in line.

The receiver stood up to Field Day conditions, which in our case meant transmitters operating simultaneously on four or five other bands. In one case, a Ten-Tec Triton IV was experiencing cross-talk from a station on 80 meter phone, but the ARK 40 had no such problem. It was clean.

The one unanimous criticism of the rig is its frequency selection scheme. It uses what look like thumb-wheel switches, but what in reality are push-button switches. Each digit has a small button above and below it. The upper button raises the digit with each poke, the

lower button doing the opposite. Each digit operates independently, so when you poke the 100 Hz button up from 9 to 0, the 1 kHz button does not automatically increment one digit — as does your odometer. The result is that it is terribly difficult to scan the band. You have to go up or down 1 kHz at a time, and after each 10 pokes of the 1 kHz button, you need to remember to give the 10 kHz button a push, or you are just going over old territory. For casual QSOs and net



operations, this scheme works fine. You dial in the frequency you want, and you are there — no drift, no question. And you can keep track of the other stations with the generous RIT control. But for contesting, where you need to travel up and down the band (except for those who can command a frequency with five watts) it proves almost impossible.

A review of this rig would not be complete without a mention of its manual. At 180 pages, it is one of the most

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complete I have seen. Of course it contains lucid step-by-step instructions for assembling and aligning the kit, but this amounts to only 28 pages. Included are descriptions of operations of the transceiver and synthesizer, a troubleshooting guide, and appendices covering such topics as theory of PLLs and transmission line transformers. If you haven't learned something by the time you finish building this kit, then you just haven't been paying attention.

You can order this rig with an optional internal keyer, which makes it a truly portable station. In such a configuration, the keyer speed control and paddle jack are on the back. Unfortunately, with the keyer installed, you cannot use an external keying device, such as a straight key, bug, or programmable contest keyer. A helpful addition to this rig would be an additional key input, to bypass the internal keyer when one so desires.

I sure would like a tuning knob in exchange for that cumbersome thumb wheel frequency selection scheme. How about a knob driving an encoder and an LCD readout? Or maybe UP-DOWN toggle switches that would make the synthesizer scan continuously one way or the other, simulating manual tuning?

My thanks to Dick for fearlessly lending us the rig for a tryout in the field. A 20 meter version is now available, which should result in a great swelling of the QRP DXCC rolls.

The ARK 40 and ARK 20 are \$269.95 each. The optional adjustable speed keyer is \$39.95, and there is a \$5.50 shipping and handling charge.

For more information about the ARK 40 or ARK 20, contact S&S Engineering at 14102 Brown Grd., Smithburg, MD 21783. Telephone (301) 416-0661. Fax (301) 416-0963.—*Cam Hartford, N6GA*

Sweepstakes QRP-style

Working the ARRL's November Sweepstakes is a lot like diving into a lake for the first time. You know it's likely to be a little cold and uncomfortable at first. But before long you're used to it and having a great time.

This year's Sweepstakes runs from 2100 UTC Saturday, 6 November, to 0300 UTC Monday, 8 November.

Complete rules appear in October's *QST* magazine. You'll find "SS" is an excellent contest for low power operation.

There's a category for QRPers, and operators at all power levels seem eager to pick even the smallest of signals from the crowd.

Contestants exchange five pieces of information to score points: a consecutive QSO number, precedence (power category), your call, check (the year you were licensed) and ARRL section. For example, if N6GA were my 20th contact in the contest, I'd send him: NR20 Q

KI6SN 65 ORG. He's Number 20. My precedence is Q for QRP. My call is KI6SN. I was first licensed in 1965. My ARRL section is Orange or ORG. After confirming I'd received his information, I'd start looking for contact Number 21. Simple!

And believe me, you actually stand a chance to win something in this contest. I took first place in the QRP category in my section in the '92 Sweepstakes. Of course, the fact that I was the only RQRP entrant in ORG might have had something to do with it! With a simple homebrew transceiver and drooping dipole I made 95 contacts in 50 sections on 40 meters. Nothing fancy here.

True, there's bedlam on the bands, but "SS" is a real test of a QRP station's mettle — from the antenna, to the rig, to the operator sitting at the key. Stick this one out, live to tell about it, and you've really accomplished something!

So why not take the plunge into November Sweepstakes? Let me know how you do. I suspect you'll find the water's just fine.

Catalog of the month

If antennas or solar power are among your interests, the AntennasWest catalog called "Radio Adventure" is worth looking into. Published by longtime QRPer Jim Stevens, KK7C, from Provo, Utah, its 56 pages are packed with a wide range of antenna and solar station designs. There are accessories listed too: baluns, feedlines, tuners, launch and support gear. Going solar? There are a range of panels and charge controllers to consider.

To get "Radio Adventure," send \$1 to Stevens at AntennasWest, P.O. Box 50062, 1500 North 150 West, Provo, UT 84605. Telephone (801) 373-8425. Fax: (801) 375-4664. **WR**

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Calendar for November

- 6 Nov. — ARRL Sweepstakes, CW
- 12-14 Nov. — Japan International SSB DX Contest
- 13-14 Nov. — OK DX Contest, CW Only
- 20 Nov. — ARRL Sweepstakes, SSB
- 27-28 Nov. — CQ Worldwide DX Contest, CW Weekend

For the CW contester and DXer, November is New Year's Day, the 4th of July and Christmas all rolled into one because the CQ Worldwide CW DX Contest falls on the last weekend of that month every year. The '93 test begins at 0000Z, 27 November and runs the full 48 hours to 2400Z, 28 November. For complete rules see the September issue of CQ, or send an SASE to John, K1AR. Code testers will also find the annual OK-DX-Contest, 1200Z, 13 November to 1200Z, 14 November, to be a worthwhile challenge. It is a purely CW event. The exchange is signal report

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and serial number, e.g. 599001. The multipliers are calculated by adding the sum of DXCC/WAE countries plus OK districts worked on each band. An SASE to K4IIF will get you a copy of the 1992 rules and log sheets as the 1993 forms have not been received at the time of this writing. This may be the result of the division of OK into Slovakia and the Czech Republic. We are standing by for the new material and will send it in your SASE if it arrives in time.

Don't despair SSB contesters, November has something for you also, the Japan International DX Phone contest sponsored by Japan's *5/9 Magazine*. This one begins at 2300Z, 12 November and continues to 2300Z, 14 November. JA stations may work the full 48 hour contest period, but others are restricted to only 30 hours. This is a great time to work prefectures as the contest multipliers are the JA prefectures plus Ogasawari Island (JD1), Minami-Torishima Island (JD1) and Okino-Torishima Island. For W/K/VE and other non-Japanese stations, the exchange is RS plus QSO number beginning 001. JA stations will send RS and prefecture number from No. 01 to No. 50. The top scoring station in each category on each continent will receive a plaque, and entrants who work all JA prefectures during the contest period can request a special contest award. For complete rules send SASE to K4IIF.

1992 RSGB results

SSB contest 21/28 MHz

Conditions for the 1992 contest were down from the previous year resulting

in lower scores. The top scorer from the U.K. in the single operator section (Whitworth Trophy winner) was G3NLY with 392,041 points. He was followed closely by G3NAS with 384,150 and G4BWP with 364,150. The Lichfield A.R.S. (G3WAS) was U.K. high in the multioperator section.

High scoring stations for each continent in the single operator section included North America — N4UH (91,800), Europe — UT5JBZ (41,400), Africa — ZD8LII (57,018), South America — PT1Z (29,592), Oceania — ZL1AAS (2,754) and Asia — 4X4UF (9,360). The Ukrainian Contest Club, RY0Q, won the overseas multioperator category. Other North American entries in order of score were K25X/1, K9KAU, K2FE, W4YDD, KN0C, N8FU, W2OAE, KD4FUE, NI8V, KA2VAE, N2KYP and VE7CCN.

CW contest 21 MHz

World high in the overseas transmitting, single operator category was ZD8LII with 31,122 points. The U.S. and North American high was N2KW with 18,048 points. Other North American entries in order of score were K9BG, K2FE, K3ZO, W4YDD, N8FU, VE3HX, VE3ORN, WB4UBD, W9HE, WIEND, NI8V and VE6BF. WB8OWM was top for the QRP section.

Overseas contesting

Belau — KC6

What a terrific QTH for an operation during the ARRL DX contests in February or March or the CQ WPX Contests next spring. Belau, commonly referred to by the modern name of Palau, is a U.S. Trust Territory in the Pacific located about 470 miles east of the Philippines. Jim, WV5S/KC6SS, of the Oklahoma DX Association (OKDXA) describes Belau as "a beautiful, friendly and safe place to visit, where both vacationing and operating are spectacular." He indicates that the OKDXA has operated twice, most recently during the 1992 AARRL SSB contest, with great success, from the New Koror Hotel in the capital city of Koror. The owner, Mr. Fumio Rengil, not only cooperates with DXers, but actually encourages operation from the hotel. The flat concrete roof is perfect for antenna installation and discarded pipe was available at the hotel for supports. In addition, there is a well-equipped hardware store nearby. Power at the hotel is 110 volts and handled small amplifiers even with the air conditioners in operation.

Jim describes the accommodations as "basic and inexpensive" with a good restaurant on site. The food is basically Japanese, quite good and at reasonable prices. The hotel address is P.O. Box

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As the U.S. post office serves Koror, OKDXA found that shipping antennas and equipment was relatively easy. Their cost was about \$1.00/pound for air shipment, with no difficulty entering or leaving. However, they warn that U.S. Customs can be tough when reentering the U.S. Jim recommends that equipment taken out of the U.S. should be registered with Customs before leaving the country.

At the present time, licensing is not required for U.S. citizens because the Western Carolines are a Trust Territory. However, if you want a KC6 call sign, they can be obtained "after significant effort" from the Division of Transportation and Communications, Bureau of Commerce, in Koror. The residents plan to become independent, but no timetable has been set for this to occur.

Jet air service is available via Continental Air Micronesia from Guam or the Philippines. Car rental is not needed since taxis are inexpensive. However, transportation from the airport to Koror is costly so Jim advises that one should make arrangements with the hotel to meet you at the airport.

From contesting to the mundane, Jim advises that the lifestyle and beauty of the islands make for a great vacation spot. The Carolines are one of the best scuba diving areas in the world and Mike, KC6ZZ, runs a diving service. The New Koror Hotel can arrange inexpensive land and water tours.

Most Belau residents are educated in English, but communicate with each other in native Palauan. The lifestyle is pleasant, slow and low key. Crime is

practically non-existent, but U.S. safety rules and laws such as OSHA do not exist.

Aruba — P4

Eddie, G0AZT/P40RY, advises that the correct licensing authority and address for Aruba is: Directie, Telecommunicatie Zaken (DTZ), Windstraat 21, Oranjestad, Aruba; telephone 011-297-8-26069. Fax: 011-297-8-25037. Mrs. Hernandez in that office is most helpful. A contest call, usually of your own choice, can be easily obtained for an additional fee. The ARRL has the required forms available.

Uganda — 5X

Will anyone be in East Africa at contest time? A note from James, N3JCL/5X1DX/V47FV, advises that the Penine Hotel in Kampala is a good location on a hill facing the northeast. This gives a good shot to both Europe and North America. The owners OKed putting up monobanders and they have the most reliable electricity in town.

From The Mailbag

de N2ALE/6. Thank you for forwarding the rules and log forms for the All Asian DX Contest. I am a member of the Northern California Contest Club so I copied the material and passed it around at the club meeting. (This is a great idea. *Worldradio* has information on many DX contests and can provide it to your club. Just send SASE to K4IIF)

de N2LQQ. Contesting is an excellent means to collect new DXCC countries, CQ zones and I.O.T.A.s. Your column is very helpful to beginners like me.

de WB80WM. The late, great Gus Browning downed his Cokes, many EU's and other DX stations do Pepsi, but I'm hooked on Florida Orange Juice and your great column in *Worldradio*. (You made my day! — K4IIF)

Books reviewed

Ham Radio Contesting by Bob Halprin, K1XA, is a 70 page compilation of hints and information on the sport of radio contesting. Chapters include pre-contest preparation, goals and objectives, operating procedures, propagation and band openings, antennas and radios, computer contest logging, post contest QSLing and a summary of major HF contests. There is something for everyone here, beginner and veteran contesters alike. Contact Tiare Publications, Box 493, Lake Geneva, WI 53147.

DXpeditioners Worldwide Licensing Guide by Craig Maxey, KH8AL, is a blockbuster of a reference book in the tradition of his earlier *Caribbean Licensing Guide*. It will be a very valuable guide for contesters, DXers and just plain traveling amateurs, as it gives a variety of valuable information including detailed directions for applying for a license in some 300+ countries

For each country, the book provides the following: capital city, ITU zone, CQ zone, international prefix allocation, hours from GMT, electric current (voltage and cycles), documents required including visas, passports, vaccinations, instructions for dialing the country by telephone, consulate offices in North America, addresses for tourist information and, of course, instructions for filing an Amateur Radio license application. Actual application forms are included with the book.

To purchase a copy, contact Craig at 9820 S.W. Dapplegrey Loop, Beaverton, OR 97005. WR

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Homebrew-it needn't be ugly

BY GARY E. MEYERS KY0B

You finally decide to build that QRP rig featured in *Worldradio*, or perhaps a station accessory you've been hankering for. Now you need to find the right cabinet for it. Since plans for an enclosure usually aren't included with the article, you might dig up an old metal box riddled with holes from a previous project. Or maybe it gets put into one of those drab looking mini-boxes. Admit it, we're all guilty! After making sure our circuit performs as it should, we give it a less than desirable home. Since the price of a commercial cabinet often exceeds the cost of the circuit, resorting to the "uglies" seems an acceptable solution to an economic predicament. . . until now.

The enclosure featured in this article was built for a home-brewed CW-SSB filter. It's good-looking, and you can build it for a fraction of the cost of its commercial big brother. Duplication is easy, or the dimensions can be modified to make it fit almost any project you have on the bench. It's fun to build, and even beginners should find it easy going. I hope you'll give it a try.

The main body

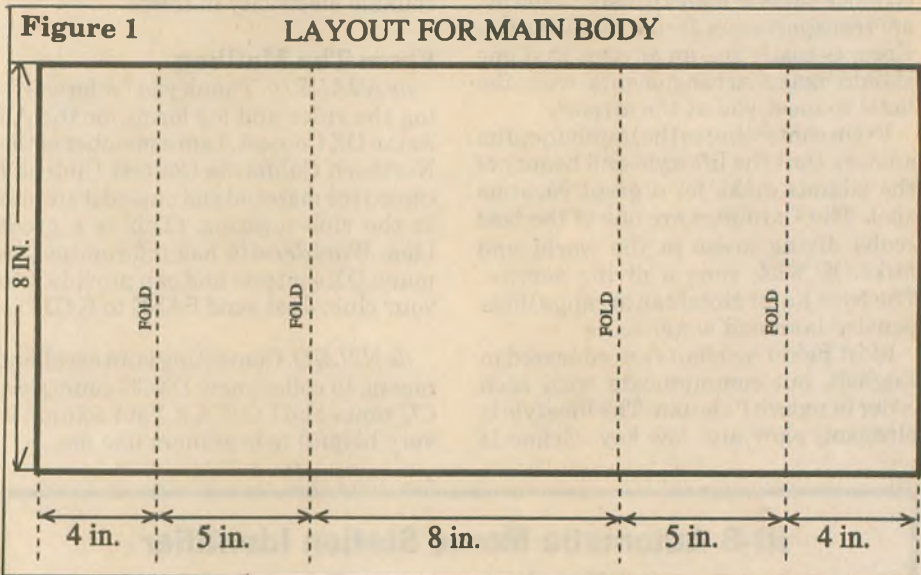
Start building the cabinet by forming the main body section. The cabinet pictured measures 5 inches high, 8 inches wide, and 8 inches deep. It is made from 1/16 inch sheet aluminum. My dimensions resulted from an 8 x 26 inch sheet of aluminum that happened to be on hand.

A sheet metal brake is recommended for making the required bends. The one used by the author was purchased from J.C. Whitney & Co.¹ If you are willing to put forth the effort, a do-it-yourself book is available from the Gingery Tool Co.² that takes you step by step through building a quality sheet metal brake. It's inexpensive to build and would make a worthwhile addition to any shop. Be sure to position the work carefully in the brake before making any bends. Failure to do so will result in a piece of sheet metal that most likely is no longer usable.

If you don't have a brake or can't get one, don't count yourself out. Making a brake from two straight 2x4s can produce acceptable results. It won't give as

sharp a bend, but you can make some very presentable cabinets using this method. Clamp the sheet metal between the 2x4s and tap it with a rubber mallet at the point you wish to bend. Be sure to apply downward pressure to the metal while tapping it. Strive for a smooth bend which is straight and square with the other sides of the section you are forming.

Figure 1 gives the layout for the main body. Now is the time to make changes if your cabinet is to be a different size.



Once you have the layout marked on your sheet metal, clamp it securely in the brake and form four bends, each at a 90° angle. It is easier if you start at the inside marks, then make your bends on the outside marks. When finished, you will have a rectangular box with both ends missing. There will be a gap where


the two edges of the sheet metal come together. The width of this gap will depend on the type of sheet metal brake used and the accuracy taken in setting up your work. For most projects, including this one, it will be located on the bottom side and thus presents no problem.

1/2 inch aluminum angles are used to hold the bottom side rigid. This material is sold in four or five foot lengths at most hardware stores. The angle also provides a flat surface on which to mount the front and rear panels. Cut the angle about an inch shorter than the width of the cabinet to allow some adjustment during assembly (see figure 2). Using a center punch, mark the locations and drill the holes with a drill bit which

matches the size rivets you will be using. Be sure to install the angles with the flat side toward the outer edges allowing the panels to set against the surface. Also, mounting them a short distance inside the cabinet allows the panels to be recessed. Fasten the angles to the body section using rivets or small nuts and bolts. Repeat the same steps for the rear section, making sure the gap spacing is the same at both ends. In order to mount the panels, you will also need angles on the inside of the top.

The front panel

The front panel is also made from a piece of 1/16 inch aluminum. Stand the body section on end and trace around its outside perimeter. Then cut it out carefully with a sabre saw, keeping the blade to the outside of the line. The



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panel should be slightly larger than the opening and will require some filing for a good fit.

Give some thought as to how you want your panel to look. After you know what controls are needed, it should be a simple matter to lay it out and drill the proper size holes for the components. The panel mounting holes should be drilled last with the panels set in place. Select a drill bit just large enough to start the sheet metal screws you are using.

The material used for the speaker grille could be perf board left over from wiring the circuit. If your project includes a speaker you may want to use a cloth grille instead. Using what you have on hand is the mark of a true craftsman!

The back panel

Cut and mount the back panel in the same way as the front. I used a piece of heavy metal mesh material because it was handy. If you prefer not to include a back panel, the top rear angle can be eliminated too.

Painting

Before painting the metal surface, it must be clean and free of oil. Most household cleansers can be used, but be sure it is thoroughly rinsed and dried before painting. I chose slate gray for the main body and speaker grille. The front and back panels were painted platinum. There are other color combinations that make attractive finishes. Pick colors you like and follow the manufacturer's instructions.

Always start with a good coat of primer, followed by one or two coats of gloss enamel. Light sanding between coats with a fine grit sandpaper will help give a smoother finish. Occasionally I noticed a small blob of paint fall onto the surface being painted. This was due to my finger resting a little too far over the top of the spray nozzle. Using a pistol grip handle purchased from an auto supply store provided the solution. It attaches to the top of the spray can, and as the trigger is pulled a lever pushes the nozzle down. It's inexpensive and could save having to repaint the project. Work carefully. Several light coats of paint produces a nicer result than one heavy one.

Lettering

Once the paint has dried, you can letter the front panel. This is not as difficult a task as you might think. Ideally, silk screen printing would be the best method, but the cost is prohibitive for a one-of-a-kind project. The next best choice is to use rub-on letters. They are available from office supply companies. Using them gives an advan-

tage of being able to choose different size letters while maintaining the same style lettering throughout. In this area, Bizmart office center sells a brand called "Geotype," with sixteen styles to choose from. I usually use three different sizes (in points) on my projects. Bold lettering is done in 24pt., subtitles in 18pt., while switches, connectors and other controls are labeled using 8 or 10pt. Once you know the different styles and sizes available in your area, you will be able to choose the ones you like best. You'll find enough letters on a sheet to do several projects, making them reasonably affordable while giving a professional touch to the homemade cabinet.

Start by taping the front panel to a blank sheet of paper using double-sided tape on the back side of the panel. With a ruler, make a mark on the paper every 1/4 inch down both sides of the panel from top to bottom. A second sheet of paper is now placed across the panel. Align the edge of this sheet with the marks made on the first paper using the marks as a gauge will ensure equal spacing between different lines of lettering.

To center the lettering for the controls, place the middle letter of the word directly above or below the appropriate hole and work in both directions until the desired word is spelled. In some cases it may be necessary to abbreviate or use a shorter word in order to make everything fit. For instance, "spkr" for speaker, "pwr" for power, or the word "gain" may be used instead of volume. Another method would be to select a smaller letter size, but this isn't always desirable.

Use care when applying rub-on letters, ensuring that correct spacing is used between the letters and the words

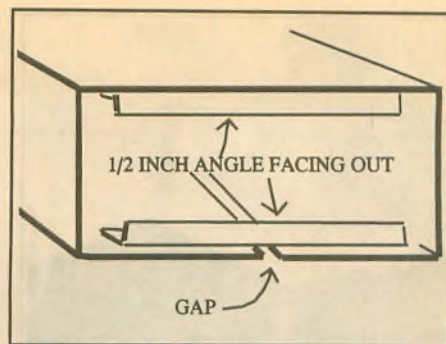


Figure 2

are centered properly around the controls they represent. While some letter positions are dictated by virtue of the location of the holes, size of knobs, etc., the rest of the positioning is left to the discretion of the builder. It's well to emphasize again the importance of planning your layout accurately, making sure it all fits before you begin. Having a word end up improperly spelled or the letters spaced wrong might provoke one to speaking evil words.

A final word about the use of rub-on letters. Each set comes with a protective sheet to prevent letters from rubbing off the carrier sheet during packaging. Once a line of lettering has been placed onto the panel, lay this protective sheet over the letters. With a blunt instrument, such as the flat side of a pen, burnish the letters. This will help to stick the letters to the panel, holding them in place if accidentally touched during the remainder of the lettering process. Once the lettering is completed, give the entire panel a light coating of clear acrylic.

Closing thoughts

After mounting some rubber feet to the bottom of your cabinet, you're ready to install your circuit, speaker, switches, etc. Remember to mount the printed circuit board away from metal surfaces using stand-off spacing material. It is also recommended that any wires going to the panels be long enough to allow easy access to the circuitry.

There you have it! For a few evenings at the bench you've completed your circuit and have a custom cabinet to put it in. Your friends will envy it, and — well you'll have to handle the compliments yourself! WR

1. *J.C. Whitney & Co.*, catalog no. 556J, page 144. 1917-19 Archer Ave., Chicago, IL 60680. Sheet metal bending brake, part no. 14XX9226W (\$26.99).

2. *The Gingery Tool Co.*, "Designing and Building the Sheet Metal Brake" by David Gingery, 2045 Boonville., Springfield, MO 65803. (\$6.95 plus \$1.50 s&h).

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KURT N. STERBA

I'm looking at some literature from two antenna companies. The well known GAP (located in Vero Beach, FL) now has a 3-element Yagi for 10 Meters (.29 WL boom) for which they claim a forward gain of 6 dB.

Across the country in Poway, CA, Swiech Communications Systems has a 3L Yagi for the 2M band with as they say "measured gain 6.1 dBd." Also, this new company headed by WB9COY, has a 3L Yagi for 427-441 MHz which states "measured gain 6 dBd."

Well, it seems obvious that these two guys have really missed out on modern marketing. Why, to keep up with their competitors they should be proclaiming "Stronger Than a Rhombic." Aren't they aware that other manufacturers have antennas of similar size that are 10dB better than a quad?

Just how do GAP and Swiech expect to put food on the table for their children when there are other companies that proclaim their antennas work better than theory would expect you to believe?

Yes, for you see the other antennas work better because they have truly discovered element lengths and spacings that are beyond the ken of those at

MIT or Stanford. The scientists of Tokyo or Stuttgart have been left in the dust. Because, even with their calibrated field strength meters and network analyzers, they missed the mark. "Better than ideal" was the handiwork of Garage Louie.

What made the difference? Was it WD-40? Platformate? Flouristan? Chicken fat? There must be some secret ingredient that these Mensa (or even higher?) "genyi" were the only ones who could figure it out.

In a recent issue of a hammy mag there is an article about a vertical and radials. The author advocates using a 1:1 balanced to unbalanced balun while feeding it with coax. I have high hopes that someone will write in and explain the necessity for that one.

Another magazine article informs us all that 3 dB is one-fifth of an S-unit.

Ho-hum, must be the full moon is out. Letter to *Worldradio* offices about the Maxcom. . . odd, never get letters from the 8,000+ radio operators who have one — just from those who don't have one.

Hmmm, wonder if letters go to another magazine (published by the Green Mountain Boys) about one of their ads that talks about an antenna that gives 20dB gain (over a dipole) on all bands from 10 to 160. The complete plans are \$20. Since

an antenna that would give 20dB on 160M would take up a back yard approximately the size of Rhode Island I have decided to keep the \$20 in my pocket.

But if I think about the fact that Barnum was probably right, maybe I could sell the DX Hogs material that would give them 20dB gain on 20 Meters. I'd only charge \$10. That's because I'm a really nice guy. I'd just send them a picture of a VOA installation. I've done my part. All the 400 foot towers are their worry.

Back to reality. Letters coming in about the HF Discone. Here are dimensions that worked for me. The flat top on one side of the center connection was 19' 1". On the other side it was 21' 6". Remember, it must be one continuous unbroken wire. The two "V" (upside down) wires were: 11' 7" and 12' 4." The "V" is not broken, either. The center conductor goes to the flat top and the shield to the "V".

Why the strange dimensions, for the moment, baffles me, too. But SWR curves and all that, show those dimensions to be right on. Due to differences in locale, your dimensions are likely to be different. My figures put me on 14.200. Also worth trying would be a flat top of (total length) 11' 6" but I haven't got to that yet.

Worthy of more work is the "T" in which the flat top is a quarter-wave of 300 or 450 Ohm line (folded dipole, center fed) and a proper length of 300 or 450 Ohm feedline acts as a matching section so you can feed it with coax. Those restricted to small places may find the time spent worthwhile.

There's a big stack of unanswered mail here. Apologies. Will get to them all eventually.

Have a book in hand. No wish to embarrass the publisher so will disguise the name by calling them Radio Shuck. Talks about transmitters getting red hot from SWR and the possibility of melt down.

One statement was "You should strive for maximum forward power and minimum reflected power. This will give you a perfect match." Chee, I always thought that the *perfect match* gave you these measurements.

And then there was this: "Hopefully, your reflected power will always be less than a watt."

Well, while that may be some sort of Utopian hope, unrealistic at any real power level. If you see perfection, at let's say, the 150 watt level, start suspecting the measuring gear and/or the loss in the feedline. Assuming you actually lost 30 watts (from 150) the loss in dB would be 1 (one) which is the absolute minimum change one can hear, maybe.

No antenna is perfect, really. If you see more than a watt coming back don't

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jump overboard. If ten percent of your power (15 watts) was lost, you would be down a half a dB.

What if you are running a legal limit amplifier (DX Hog) and 150 watts is lost in SWR (1:1.93)??? Hey, 150 watts, you've lost what others are working the world with. The loss is a half (1/2) of a dB.

"Any watts reflected back to the transmitter by a poor antenna are considered lost. They go up in transmitter heat." (according to the book.)

Well, that will certainly come as a surprise to many! Considering what is being written today maybe I should embark on an original book. (Lil says only after I answer all my letters!)

A letter from Rich Martens, KA6UOE, related that the writer had bought so many Budwig connectors he wondered if that made him a "Kurthead" — a play on the "dittohead" used by enthusiasts of Rush Limbaugh. Ah, Rush — the poster child for free speech. Gigadittos.

(K.N.S. goes by his nom de Bd so as to avoid the switchboard at his employer being tied up all day. Could it be that he is really R.F. Byrnes, Chief Engineer at Mongo Antennas, Clint, TX? There are rumors that their next product will be a 4 ft. high vertical for 20 Meters [no radials needed] that will have the gain in all directions that a 10WL [on a leg] V-beam has in its favored direction. Look for Mongo's marketing blitz in 23 Skidoo and Radio Fungus.) WR



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IC-737 New HF	1652	Call \$
IC-735 Gen. Cvg. Xcvr	1239	Call \$
IC-751A Gen. Cvg. Xcvr	N/A	Call \$
IC-728 New, All-Band HF	1105	Call \$
IC-729 All-Band HF Plus 6 Meters	1492	Call \$
IC-2KL 500W. Amp	2260	Call \$
IC-4KL 1kW Amp	7865	Call \$
Receivers		
IC-R9000 100 kHz to 1999.8 MHz	6265	Call \$
IC-R7100 25 MHz - 2 GHz	1585	Call \$
IC-R71A 100 kHz - 30 MHz Rcvr	1279	Call \$
IC-R1 100 kHz - 1300 MHz	567	Call \$
IC-R72 30 kHz - 30 MHz Rcvr	1145	Call \$
IC-R100 100 kHz- 1856 MHz Rcvr	772	Call \$
VHF		
IC-2IA, 2 Meter HT	372	Call \$
IC-P2AT New 2 Meter HT	399	Call \$
IC-2GAT, New 7W HT	425	Call \$
IC-2SAT Micro Sized HT	372	Call \$
IC-2SRA, 2M, HT/Scanner	599	Call \$
IC-229A/H, 25/50W, 2M Mob.	452/465	Call \$
IC-901 New Remote Mount Mobile	1119	Call \$
UHF		
IC-4IA, 440 MHz, HT	452	Call \$
IC-P4AT New 70cm HT	492	Call \$
IC-4SRA 70cm w/Scanner, HT	612	Call \$
IC-W2A, 2M/70cm NEW HT	599	Call \$
IC-W21AT New Dual Band HT	625	Call \$
IC-24AT New 2M/440 Mini HT	465	Call \$
IC-D1A, 2M, 440.1 2 GHz, HT	1199	Call \$
IC-2330, 2M/220 Mobile	865	Call \$
IC-2410H, 2M/70cm, Mobile	865	Call \$
220 MHz		
IC-3SAT Micro Sized HT	385	Call \$
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1.2 GHz		
IC-X2A 440 MHz/1.2 GHz HT	772	Call \$
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HF Equipment	List	Jun's
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TS-850S New, All Mode, All Band	1949.95	Call \$
TS-450S/AT New HF Xcvr	1639.95	Call \$
TS-450S New HF Xcvr	1439.95	Call \$
TS-140S Compact, Gen. Cvg. Xcvr	1079.95	Call \$
TS-690S HF Plus 6M Xcvr	1699.95	Call \$
TS-50S New HF Mobile	1279.95	Call \$
TL-922A HF Amplifier	2099.95	Call \$
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R-2000 150 kHz - 30 MHz	849.95	Call \$
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TH-28A New 2 Meter HT	399.95	Call \$
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TM-641A 2M/220 Triple Receiver	929.95	Call \$
TM-241A 50W Mobile FM	459.95	Call \$
TR-751A All Mode Mobile 25W	769.95	Call \$
UHF		
TH-48A New 70cm HT	449.95	Call \$
TM-441A Compact 35W Mobile	529.95	Call \$
TM-541A Compact 1.2 GHz Mobile	649.95	Call \$
TM-941A 2M/440/1.2 GHz	N/A	Call \$
TM-732A 2M/440 Mobile	769.95	Call \$
TM-942A, New 2M/440 MHz, 1200 MHz	1279.95	Call \$
220 MHz		
TM-331A Compact Mobile	519.95	Call \$

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FT-990 All Mode "NEW"	2579	Call \$
FT-747GX Economical Performer	909	Call \$
FT-890 HF Base w/1-30 MHz Rec	1439	Call \$
FT-767 4 GX Model	2299	Call \$
FL-7000 Model	2459	Call \$
Receivers		
FRG-100B New Mini Receiver	669	Call \$
VHF		
FT-416/25B New 2 Meter HT	415	Call \$
FT-411 New 2M Loaded HT	369	Call \$
FT-26 Mini 2 Meter HT	309	Call \$
FT-23 R/17 Mini HT	299	Call \$
FT-2400 50 Watt Mobile	439	Call \$
FT-290R/690R-6M All Mode Portable	699	Call \$
UHF		
FT-816/25 New 440 MHz HT	469	Call \$
FT-76 Mini 440 MHz HT	329	Call \$
FT-815 70cm HT	N/A	Call \$
FT-911 Compact 1.2 GHz HT	529	Call \$
FT-790 R/II 70cm/25W Mobile	819	Call \$
FT-912 1.2 GHz 10w Mobile	709	Call \$
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FT-736R New All Mode 2M/70cm	2149	Call \$
Dual Bander		
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FT-530 2M/70cm HT	569	Call \$
FT-5100 Ultra Compact 2M/440 Mob.	749	Call \$
FT-5200 Ultra Compact 2M/440 Mob.	789	Call \$
FT-6200 Ultra Comp. 440/1.2 GHz Mob	879	Call \$
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FTR-5410 70cm Repeaters	1247	Call \$
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DJ-F1T, 2W, 2M, HT
DJ-180T, 2W, 2M, HT
DJ-580T 2.5W, 2M/440HT

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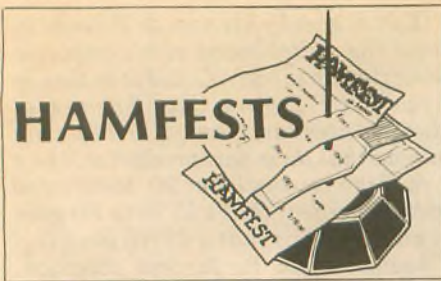
C168A 2M, Mini HT
C188A 2M, Mini Deluxe HT
C228A 2M/220 HT
C558A 2M/440 HT
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Alabama

The WIREGRASS ARC is holding a hamfest 3-4 December. For details contact Walter Haymon, WA6MWS, 1046 Ashley Circle, Dothan, AL 36301.

The MONTGOMERY AMATEUR RADIO CLUB will host the 16th annual Montgomery Hamfest and Computer Show on 12 Nov. from 8 a.m. to 3 p.m. CST in the Garrett Coliseum at the South Alabama State Fair Grounds. FCC exams beginning at 8 a.m., bring original and a copy of your current license, picture I.D. and \$4.00. Admission is \$3.00, free parking, all indoors. Flea Market set up 3 to 8 p.m. on 12 Nov. and 6 to 8 a.m. Nov 13. Talk-in on 146.84(-), call W4AP. Ragchew 146.92(-), 147.18(+), 449.50/444.50. For more information write to Hamfest Committee, c/o 111 Diane Dr., Prattville, AL 36066, or phone Jiggs at 205/365-0380 or FAX 205/264-1150.

California

The LIVERMORE AMATEUR RADIO CLUB is sponsoring the East Bay area Amateur Radio/Electronics/Computer swap meet on the first Sunday of every month, 7 Nov., 5 Dec., 1993; 2 Jan., 6 Feb., 1994, from 7 a.m. to 12 noon at Las Positas College, N of I-580 at the Airway Blvd exit. Covered spaces are available at no extra cost in the event of rain. Admission is free. Sellers pay \$10 space fee. Refreshments are available. Talk-in on 147.045+ from the west and 145.350- (100 Hz) from the east. Contact Noel Anklam, KC6QZK, at 510/447-3857 eves or leave message days at 510/783-2803.

Connecticut

The SOUTHCENTRAL CONN. AMATEUR RADIO ASSN will hold its 14th annual flea market on Nov 14, starting at 8 A.M. at the Branford Intermediate School, 185 Damascus Rd., Branford, CT. VE exams available. Admission \$5. Vendors \$15 advance, \$20 tables, set up at 7 a.m. Talk-in 146.61(-). Reservations no later than 1 Nov., none by phone. For info or reservations SASE SCARA, P.O. Box 705, Branford, CT 06405-0705. For info only call Brad at 203/265-9983 — 24 hrs.

Florida

The PELICAN CHAPTER OF Q.C.W.A. will have their 3rd Annual Family Style Picnic on 17 Nov. at shelter #13, Lake Seminole Park, St. Petersburg, FL. Picnic starts at 11:00 local time. The picnic this year will be a catered meal of fried chicken, escalloped potatoes, corn on the cob, fresh garden salad, rolls & butter,

dessert, drink, prizes and fellowship. All this for a \$7.50 donation. For information contact K9BSL at 813/822-9107.

Illinois

The CHICAGO ARC will hold the Fall Ham Auction at the DeVry Institute of Technology, 3300 N. Campbell, Chicago, on 14 Nov. starting at 12 noon until all is sold. Door opens at 10 a.m. for sellers to bring items for sale and buyers to inspect them.

The ALLEN COUNTY AMATEUR RADIO TECHNICAL SOCIETY, INC. will host the Fort Wayne Hamfest & Computer Expo and 1993 Indiana ARRL State Convention 13-14 Nov. Open 9 a.m. to 4 p.m. on Sat. and 9 a.m. to 3 p.m. on Sun. at the Allen County Memorial Coliseum Expo. Over 820 tables in one 108,000 sq. ft. climate controlled room, with prizes, forums, meetings and VE testing. Admission is \$5.00 at the door, no advance sales. Tables: flea market — \$15, premium (commercial) — \$30, Electrical hookup — \$25. Talk-in on 146.88(-). Contact Fort Wayne Hamfest & Computer Expo, P.O. Box 10342, Fort Wayne, IN 46851. For general info call 219/484-3317, for table info call 219/483-6305.

Kansas

The NORTH EAST KANSAS AMATEUR RADIO CLUB & The ARRL will host the fourth annual 'FEST 1993 on 13 Nov., from 9 a.m. to 3 p.m. at the Knights of Columbus Grand Hall, 3907 W. Burlingame Rd., Topeka, KS. Features include swap tables, license exams, seminars, fox hunt & fun! Admission fee is \$3 in advance, or \$5 at the door. Swap tables are \$10 in advance or \$15 at the door (if available), includes 1 admission ticket. Set-up Fri. night and 7 a.m. on Sat. Talk-in on 146.955(-) WV0S Repeater. Contact Rob Nall, WV0S, 5707 SW 28th Terr., Topeka, KS 66614-2420; 913/271-8899 (24 hrs).

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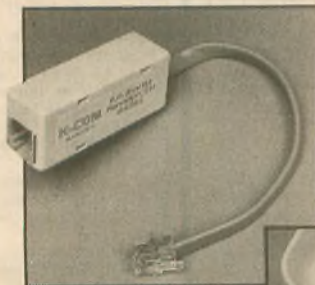
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Louisiana

The NEW ORLEANS AMATEUR RADIO CLUB, INC. will host the Greater New Orleans Hamfest '93 on 27 Nov., from 0800 to 1530, at the St. Bernard Cultural Center, 8245 West Judge Perez Dr., Chalmette, LA. Features include forums, VE testing, door prizes, etc. Vendor tables \$10 each for a 8' x 30" table. Exhibitors may set-up on 26 Nov. from 1600 to 2100 CST and from 0700 to 0800 CST on 27 Nov. Contact Greater New Orleans Hamfest 1993, P.O. Box 51822, New Orleans, LA 70152-1822; Stan Pape, AA5PN, 504/394-4928; Duncan McCarthy, N5NBI, 504/392-6517; Don Ducote, N5QPO, 504/394-6162.

Massachusetts

The MAYFLOWER AMATEUR RADIO CLUB will host a flea market on 13 November from 9 a.m. to 3 p.m. at the Plymouth Memorial Hall Bldg. in Plymouth Center (Rt. #3A). There will be walk-in exams and refreshments. Admission is \$2.00, children under 12 free. Tables are \$12.00 each in advance and \$14.00 at the door if available. Talk-in on 446.625(-) and 146.55 simplex. Mail checks with payment for tables to M.A.R.C., P.O. Box 766, Plymouth, MA 02362. Please include a SASE. For flea market info call, Jon WS1K 508/746-0162 or Jim NM1F 508/747-2224 evenings. for exam info call Bob 508/747-6022.

Michigan

The HAZEL PARK AMATEUR RADIO CLUB will sponsor the 28th Annual Swap and Shop on 5 Dec., from 8:00 a.m. to 2 p.m., at the Hazel Park High School, 23400 Hughes St., Hazel Park, MI. Admission \$4.00 advance or at the door. Tables \$13.00 (reservations must be received with check, none by phone). Plenty of free parking. Talk-in on 146.64(-) (DART). For information contact HPARC, P.O. Box 368, Hazel Park, MI 48030.

Minnesota

The annual COURAGE CENTER HANDI-HAM winter hamfest will be held 4 December, 1993 starting with registration at 8:30 a.m. There will be a Handi-Ham equipment auction, flea market, dinner at noon and program. Talk-in on 146.79(-). For more information contact Don Franz, WØFIT, 1114 Frank Ave., Albert Lea, MN 56007.

North Carolina

The JOHNSTON AMATEUR RADIO SOCIETY, INC. is sponsoring the 5th Annual "JarFest" 21 Nov., from 8 a.m. to 4 p.m. at the American Legion Complex in Benson, NC. Admission is \$4 in advance, \$5 at the door; children accompanied by an adult enter free. Tables are \$6, tailgating spaces \$3. Table set-up will begin at 6:30 a.m. Talk-in on 147.87(-). For reservations and/or info contact Bill Lambert, AK4H, 8917 NC 50 N., Benson, NC 27504; 919/894-3352 evenings from 7-10 p.m.

Ohio

The NORTH COAST AMATEUR RADIO CLUB will be holding their fall hamfest on 4 Dec., from 8 a.m. to 2 p.m. at the Saint Clarence Church, 30106 Lorain Rd., North Olmsted, OH 44070. Features include electronics, computers, prizes, food and free parking. Admission is \$3.00 in advance, \$4.00 at the door. 6' tables

are available for \$8.00 and \$6.00 for each additional table. Talk-in on 145.29(-) and 224.76(-) repeaters. Information on NCARC packet BBS NO8M, or Dan Sarama, KB8A, NCARC President at 216/267-5083; or Rick Mace, N8VKE at 216/483-4818.

Pennsylvania

The CENTRAL PENNSYLVANIA REPEATER ASSN will sponsor the Hershey Hamfest on 13 Nov., from 8 a.m. to 1 p.m. at the Hershey Armory. VE testing begins at 9 a.m., preregister by 8:30 a.m. Admission is \$3 YLs and children under 12 free. Tailgating is \$5.00. Talk-in on 145.47(-) and 145.29(-). Contact Harold Bear, N3LZH; 717/566-8895.

South Carolina

The GRAND STRAND AMATEUR RADIO CLUB will host the first Myrtle Beach Hamfest on 13 Nov. at the Myrtle Beach High School. Testing will be conducted by the local ARRL VE team, bring your license (and a copy) and a check for \$5.60 (no cash accepted). Admission to test site only is free. Admission to bldg. is \$5 adult, children under 12 free. Advance tickets is \$4. Dealer tables are \$15 each (with electricity). Regular tables are \$10 (without electricity). Talk-in on 145.11(-), Conway, WD4JMT, repeater. Contact GSARC, P.O. Box 2135, Myrtle Beach, SC 29577. For table information call Mrs. Wood at 803/293-7888.

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Australian Ladies' ARA

The Australian Ladies' Amateur Radio Association, ALARA Contest will begin Saturday, 13 November at 0001 UTC, and ends Saturday, November 13 at 2359 UTC. This is one contest (combined CW and phone) run over 24 hours. **Eligibility:** All licensed operators throughout the world are invited to participate. Also open to SWLs.

Object: YL stations work everyone; OMs and clubs work YLs only.

Suggested frequencies: Bands to be used are 3.5, 7, 14, 21, and 28 MHz only.

28.380 to 28.410
21.170 to 21.200: 21.380 to 21.410
14.250 to 14.280
7.070 to 7.100
3.560 to 3.590

Operation: Phone and CW operation. Each station may be counted twice on each band for credit; once on phone, once on CW. All contacts must be made in accordance with operator and station license regulations. No net, list or crossmode operation. Operators of club stations may only use the club call for contacts, and MUST identify each contact as being that of a club station. Use of personal call signs while operating as a club member is not permitted.

Procedure: Phone: call "CQ ALARA Contest." CW: YLs call "CQ Test ALARA."

OMs call "CQ YL."

Exchanges: ALARA member: RS or RST, serial no., starting at 001, ALARA member, name.

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

Scoring: Phone; 5 points for ALARA member contacted, 4 points for YL non-member contacted, 3 points for OM or club station contacted.

CW: contacts where at least 1 operator is a Novice count double points, otherwise, same as phone.

SWL: 5 points for ALARA member logged, 4 points for YL non-member logged.

Logs: Single log entry (Australian YL Novices vying for the Florence McKenzie, CW trophy should indicate their CW scores separately). Logs must show date/time in UTC, band, mode, call worked, report and serial number sent and worked, whether it is a club station, and points claimed.

LOGS MUST BE SIGNED. Logs must show full name, callsign and address of the operator and show final score (points claimed). Logs must be legible, with no carbon copies. No logs will be returned. Decision of the Contest Manager will be final. Logs must be received by the Contest Manager by 31 December, 1993.

Mail logs to: Mrs. Marilyn Syme, VK3DM, PO Box 91, Irymple, 3498 Vic. Australia.

Awards: Certificates will be awarded to the following top scores: Overall top score; phone only; Australian YL CW; Australian YL Novice CW; ALARA member in each country and VK call area; YL non-member in each continent; OM in each continent; SWL in each continent; VK Novice; overseas YL CW; VK club station. Trophies will be awarded to top scoring Australian and DX YLs.

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Mention the RA.17 (or its US-made counterpart, the RA.71) and watch the eyes of many old-timers (and some not-so-old) light up!

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NEW PRODUCTS

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

Jade Products Marconi

Jade Products announces its newest product to its Fun-Kit line, the 160 meter twin-lead Marconi antenna.

The 160 Meter Twin-lead Marconi (AN-00001-01) is a complete, ready to install antenna kit consisting of all the necessary hardware, wire, twin-lead, connectors, and support rope.

This antenna provides a unique support for the twin-lead wire thus preventing failure of the twin-lead from fatigue and flexing often caused by hanging the twin-lead by a rope. The elbow support device gradually forms the bend for the twin-lead; two rubber friction grips secure the elbow in place. The location of the elbow is adjustable. This allows one to raise the antenna as vertically as one can, for Marconi antennas perform best when erected as vertically as possible.

Consequently the amount of vertical radiator reduces the amount of the horizontal radiator.

The antenna is approximately 126 feet long. If the elbow were to be located at 35 feet, the horizontal section would be just over 90 feet. This is shorter than an 80 meter dipole!

This antenna's performance is difficult to beat. It is approximately a 50 ohm radiator (depending on ground conditions and location of nearby metal objects, of course) and in most cases can be loaded without an antenna tuner.

Connection to the antenna is simple: one need only connect a coaxial cable to the supplied barrier strip and connect the ground to the shield side of the coaxial cable at the barrier strip connector. For those who have limited antenna space the antenna can also be used as a longwire antenna by shorting the two twin-lead wires together at the barrier strip connector and matching it with an antenna tuner for use on other bands.

The antenna comes with complete installation instructions. Only a screwdriver and wire stripper are needed to prepare the antenna.

Price \$39.95. Jade Products, Inc., P.O. Box 368, East Hampstead, NH 03826; 603/329-6995.

When looking for a clue as to why something goes wrong, never rule out sheer stupidity.

—The Yarn, Norway, ME

Azden's headset with boom microphone

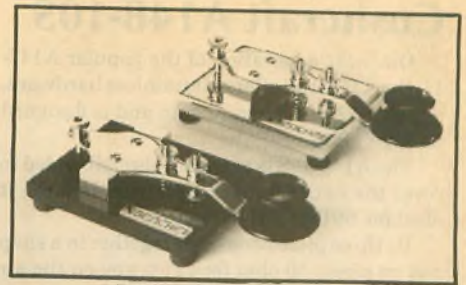
A new headset with an attached boom microphone has been announced by the Communications Division of Azden Corporation. Azden, a manufacturer and dealer of amateur and commercial two way radios and accessories, is located at 147 New Hyde Park Road, Franklin Square, N.Y. 11010; phone 516/328-7501 and FAX 516/328-7506.

Designated model HS-03, this boom mike headphone with its specially shaped audio frequency range and light weight has been specif-



ically designed for communications applications. The adjustable headband provides a perfect fit for all sizes. The padded earpieces cover the ear so that outside sounds are reduced but not eliminated. Low frequency noise such as power supply hum and high frequency interference such as hiss and static are significantly reduced. Amateur Radio operators, contesters, traffic handlers and emergency personnel as well as police, fire, ambulance, dispatchers, etc. will find these headsets will meet the rigorous demands of extended hours of operation.

For more information, contact Sid Wolin, Manager, Communications Division.



Bencher's new "RJ" hand keys

Bencher, Inc, manufacturers of the popular BY and ST series of iambic and noniambic paddles, announced today the introduction of the new "RJ" hand Morse keys.

Developed in response to requests from a number of customers and dealers, the new hand key was designed as a "clean sheet of paper" product. Although conventional designs were studied, no effort was made to copy them. Rather the goal established by the engineering team was that of creating a product that would utilize modern materials and manufacturing techniques to meet traditional needs. For example, oil impregnated sintered bearings are used for the pivot points and stainless steel adjustment screws are used throughout. A complete range of locking adjustments of all movements and tensioning is provided.

Departing from its traditional practice of using the prefixes of rare countries as the product identifier the "RJ" designation is in honor of the memory of Jim Rafferty, N6RJ, who was a close friend and once fellow co-worker of Bencher management.

The keys are available in two versions, Model RJ-1 (\$69.95) with chrome plated parts on a black painted steel base and Model RJ-2 (\$79.95) with chrome plated parts on a chrome plated base. The new keys are available immediately in limited quantities.

BENCHER, INC.; 831 N. Central Street, Wood Dale, IL 60191; 708-238-1183, fax 708-238-1186.

Too Busy To Learn CW?

No time to "study" CW? CW Lite is the answer. Learn code quickly, easily, effortlessly as you take a "mental vacation" once each day. Sit back, relax, and LEARN CODE while you recharge your batteries in just a few minutes. This tape uses hypnosis conditioning and subliminals to rapidly teach you the code. Much faster and easier than mere copy practice tapes. You'll be copying code with the best of them in no time at all. For those who have NOT tried and failed with the old fashioned systems. CW Lite \$15.95 ppd (+\$3/two-day delivery) in US

Within 60 days after starting with CW Lite, I was able to copy 15 WPM in my head. I took my CW test and passed on the first try—N3KRE



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Cushcraft A148-10S

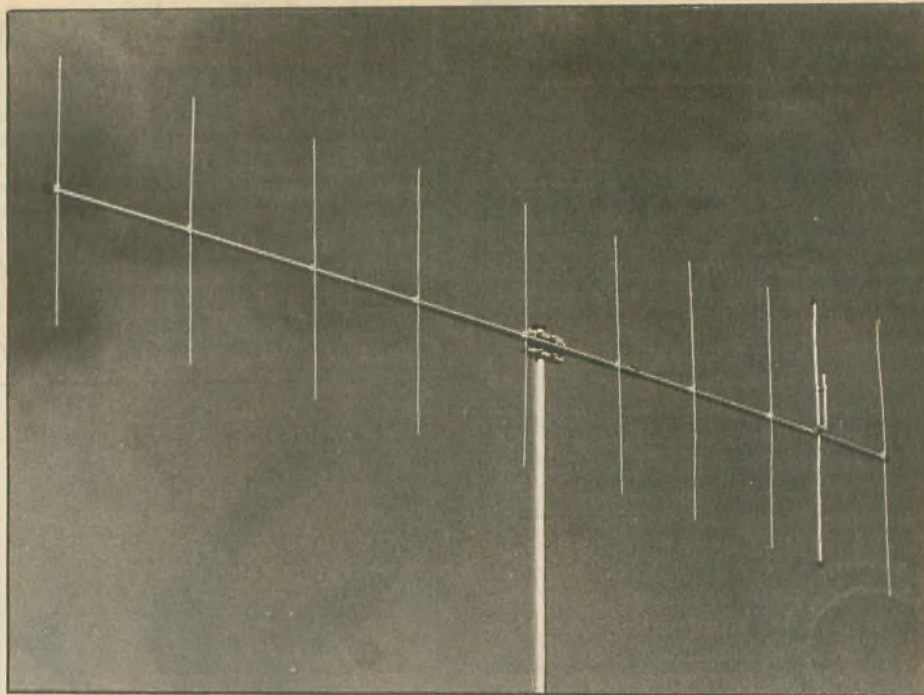
Our next generation of the popular A147-11, the A148-10S offers all stainless hardware, a potent 13.2dB forward gain and is designed for high efficiency.

The A148-10S is extremely broadbanded to cover the entire 2 meter spectrum making it ideal for SSB or FM operation.

Its three piece boom goes together in a snap and its direct 50 ohm feed puts you on the air in minutes.

The A148-10S is a high gain economical 2 meter Yagi.

Just when you learn to make the most of it, most of it is gone.



The Cushcraft A148-10S



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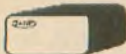
BC02 Battery Charger Module

Same as BC01 less enclosure, EMI filter & meter. Can be mounted in an existing user supplied enclosure..... \$39.95

BC03 Battery Charger Module

Same as BC02, minus transformer. Needs 16 - 21 VAC 50/60 Hz at 1.2 amps..... \$29.95

EK01, EXPERIMENTER'S KIT



\$44.95

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16-00001	421F123 IF XMFR	\$ 1.50
17-20002	2N5179 RF NPN	\$ 1.50
17-20003	2N3906 G/P PNP 10 for	\$ 3.00
17-20004	2N3904 G/P PNP 10 for	\$ 3.00
31-00001	Enclosure (7.5 x 8.5 x 3.5" h/w & manual)	\$33.95
45-00001	NE602AN Mixer Oscillator \$2.25 ea. 6/	\$ 10.00
45-00002	MC1496L Mixer	\$ 3.00
45-00003	UC3906 Battery Charger	\$ 7.50
45-00004	NE604AN IF/LIM/PHASE Detector....	\$ 5.00
45-00005	8044ABM Curtis Keyer Chip	\$17.95

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A stand-alone, multi-intensity gray-scale HF weather fax demodulator and display software package. This IBM-compatible software receives and displays satellite maps and WE-FAX images in 16 levels of gray. In addition to gray-scale images, AEA FAX II also receives and decodes CW, RTTY, and NAVTEX transmissions.

Top notch features make AEA FAX II easy to use, right out of the box:

- An on-screen tuning scope makes tuning a breeze.

- A fax station database allows the user to keep a log of their favorite stations and search that log quickly and easily by name, country, and time.

- AEA FAX II works with or without a mouse, and is menu driven.

- The user can export images to GIF and PCX files, enabling the user to manipulate the images in many popular graphics programs.

- AEA FAX II offers support for COM1-COM 4. • Demodulator simply plugs into the back of the computer and plugs into the external speaker jack of your HF SSB receiver, making

installation a snap.

- With a VGA monitor, AEA FAX II displays highly detailed gray-scale images. CGA and EGA monitors can also be used.

Suggested retail price for AEA FAX II is \$149.00 and it's available from your favorite amateur radio dealer. Upgrades from earlier versions of AEA FAX may be purchased directly from AEA by calling Stacy at (206)774-1722.

For more information, please contact: Advanced Electronic Applications, P.O. Box C2160, Lynnwood, WA 98036; Phone: 206-774-5554, Fax: 206-775-2340

PC Pakratt for Windows

The first and only data controller program for Microsoft Windows™ on the market today. PC Pakratt for Windows is a full-featured Windows application for controlling the entire AEA family of data controllers, including the industry-standard PK-232MBX, PK-88, and PCB-88 as well as the PK-900, DSP1232 and DSP 2232.

Support for dual port controllers makes PC Pakratt for Windows ideal for use with the PK-900 and DSP 2232.

Support for Windows functions (such as cut and paste, background execution, multitasking, etc.) make PC Pakratt for Windows extremely simple to operate. An easily customized user interface and extensive on-line context-sensitive help further simplify operation.

PC Pakratt for Windows supports standard control program features such as split screen operation, binary file transfers, QSO logging, macro facilities, on-screen status display, and much more. Supported modes include PACTOR, Packet, AMTOR/SITOR, Morse, RTTY (Baudot/ASCII), NAVTEX, TDM, and SIAM (Signal Identification and Analysis).

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When will AMSAT-OSCAR-13 be in range?

ROSS FORBES, WB6GFJ

Those just starting out in the world of OSCAR communications would like to know when they can hear a satellite. The following charts are produced to give you a rough idea as to when OSCAR-13 will be within range of your location. The three charts as printed are centered on the following geographic locations East = New York City; Mid = St. Louis, MO; West = Reno, NV.

As you read the chart nearest your location, keep in mind the following details — all dates and times are given in UTC. The date is printed on the left hand column and the UTC hour along the top.

A dash mark indicates the satellite is out of range and therefore not able to be heard. The letter "B" indicates OSCAR-13 is audible at that location and signals should be heard between 145.810 and 145.880 MHz (SSB and CW). A letter "O" indicates the satellite is audible, but the only signal you will hear is the telemetry beacon on 145.810 MHz. the letter "L" indicates the satellite is audible but will hear signals between 435.650 and 436.000 MHz (SSB and CW).

Remember, if a letter is printed on the chart, you should be able to hear OSCAR-13.

For more information about OSCAR, please send an SASE to either of the following: Project OSCAR, P.O. Box 1136, Los Altos, CA 94023-1136; AMSAT-NA, P.O. Box 27, Washington, D.C. 20044. WR

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VE exam schedules

As a service to our readers, Worldradio presents a feature listing those VE exams, times and locations which are sent to us. Please remember that our deadline for publication is 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	Date	City	Contact	Notes
Alabama				Michigan			
12/4/93	Dothan	George, WA4MZL 205/793-4580	pr pref.	12/9/93	Trenton	Stan, K8SB 313/676-6248	p/r
Arizona				Minnesota			
12/4/93	Tucson	Joe, K7OPX 602/886-7217	w/i	12/18/93	North Branch	Brad, NØMIN 612/629-6962 or 612/444-9814	
Arkansas				Missouri			
12/22/93	West Memphis	Gene, AB5BL 501/739-4029	w/i OK	12/4/93	Antonia	Jim, WAØFQK 314/942-2268	no w/i
California				12/8/93	Big Bend	Gregg, KAØVWC, 314/567-8777	p/r only
12/5/93	Concord	Gene, WW6H 510/254-5090	w/i	12/11/93	Dutzow	Ed, WDØELL 314/459-6581	w/i ltd.
12/7/93	Fremont	KJ6EP 510/791-6818	w/i only	12/18/93	Valley Park	Dave, NØDN 314/225-1952	p/r only
12/11/93	Sunnyvale	408/255-9000 24-hr.	w/i only	12/23/93	Seneca	Les, AAØGY 417/781-4331 (d), or 417/776-8420 (e)	w/i OK
12/11/93	Willits	Don, WA6ACX 707/459-3980	w/i only	Nevada			
12/18/93	Redwood City	408/255-9000	w/i OK	12/11/93	Reno	WS2Z 702/851-1176	w/i
12/27/93	Sunnyvale	408/255-9000 24-hr.	w/i only	New Jersey			
Florida				12/8/93	Fort Monmouth	MARS 908/532-5354	w/i
12/6/93	Dunedin	Marv, WC2G 813/938-7810	p/r or w/i	12/11/93	Cranford	24-hr. hotline: 201/377-4790	
12/11/93	South Miami	Ross, AC4KZ 305/233-7462	w/i OK	12/16/93	Bellmawr	WA2VQG 609/933-1500	w/i
12/18/93	Melbourne	WB9IVR 407/724-6183	w/i OK	New York			
12/28/93	New Port Richey	Marv, WC2G 813/938-7810	p/r or w/i	12/4/93	Carmel	Mike, AJ1J 914/644-5546	p/r pref., w/i OK
Georgia				12/4/93	North Tonawanda	Vern, AA2AC 716/634-5276	p/r only
12/26/93	Sandy Springs	John, AB4GK 404/381-5291	w/i OK	12/5/93	Yonkers	AC2V 914/237-5589	w/i OK
Idaho				12/6/93	Manhattan	VE 24-hour hotline 212/456-5224	w/i OK
12/11/93	Boise	W7JMH 208/343-9153	w/i	12/11/93	Hamburg	Norm, KD2KK 716/824-1148	p/r only
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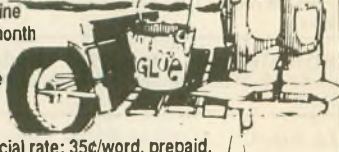
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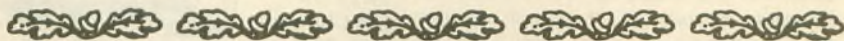
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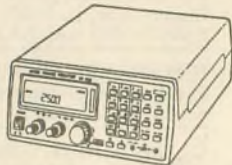
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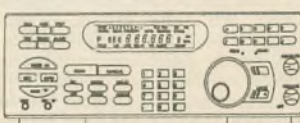


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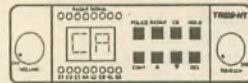
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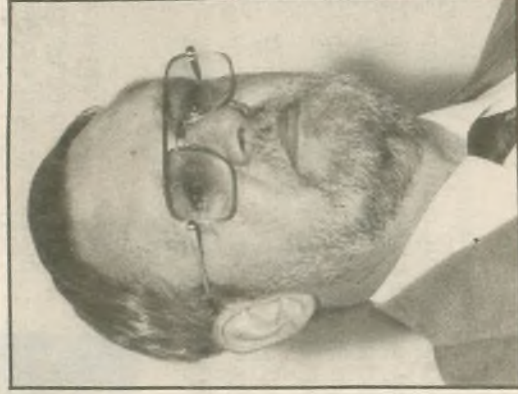
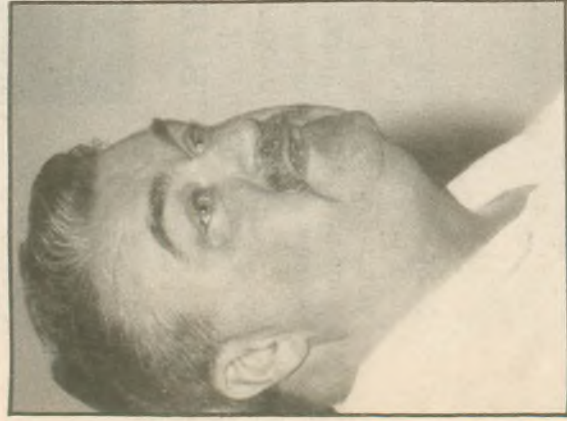
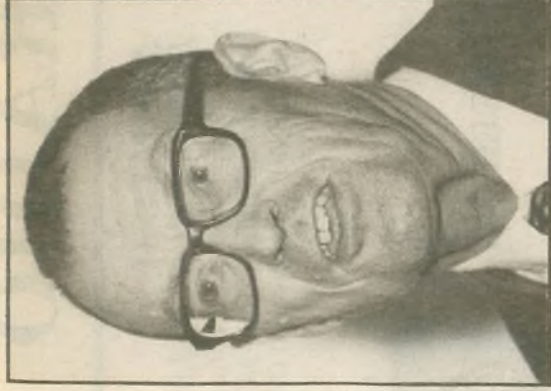
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