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La Revue des Radio Amateurs Canadiens

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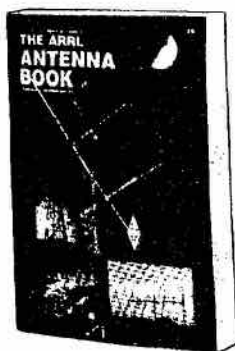
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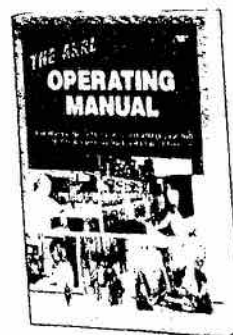
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1. To act as a coordinating body of Amateur radio organizations in Canada;
2. To act as a liaison agency between its members and other Amateur organizations in Canada and other countries;
3. To act as a liaison and advisory agency between its members and Communications Canada;
4. To promote the interests of Amateur radio operators through a program of technical and general education in Amateur matters.



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# EDITORIAL

*A Western Viewpoint*

## *To be or not to be— the National Organization in Canada?*

By Norm Waltho VE6VW

I've heard it said: "Why should CARF and CRRL merge? What is there to merge, anyway, when CARF is the only All Canadian Organization."

To the person who stated the above, I reply:

Do we really need any National group in Canada? I say we do, so the bureaucracy does not run rampant with our hobby of frequencies, technology and enjoyment. We have had symposia to enable the main groups in Canada (CARF, CRRL, DOC) to sit down at one table and work out solutions to enhance the Amateur radio hobby.

Looking at numbers, the two National organizations in Canada, (about 5,000 members each) only represent an Amateur population of about 10%. If you look back at the past few symposia, there has been such a small input of information from the Amateurs that the involvement would be about 1% of the National total.

I think we should combine our forces (CARF/CRRL) and have a stronger body to lobby with the Government. One benefit could be that CARF wouldn't have to have symposia to hobby the DOC. Most countries only have one organization at the National level. There's the RSGB which looks after the strong body of Amateurs in Great Britain. Then there is DARC in Germany. They seem to be a very strong Amateur body! Have you ever received a QSL card saying the Amateur is *not* a member of DARC? In the U.S.A. the ARRL does the lobbying to the FCC. So, you see, maybe one organization would be fine.

On the other hand, maybe we should keep both of the present National Organizations? In this way we can keep confusing all of the new Amateurs as to what is what and who is who. Many times in my travels, Amateurs ask: "Who is TCA?", "Who is QST?", "How can I get both magazines?"

After much explaining to the Amateur as to what each organization is, what they do and which magazine they represent, the new Amateur walks away in total confusion with a bewildered look on his face. Then given them the lowdown as to the costs of each organization! Now the Amateur is looking at a

\$1200 bill and thinking, "That's just for the National Organizations!!" what about the provincial groups and possibly some local town/city or special interest groups?

All of a sudden the new Amateur goes home, sits in front of his/her rig and wonders what to do. Take a loan out or just join what he/she can afford? The new Amateur spent much time and energy trying to get his/her licence and no one ever told them about the politics of Amateur Radio in Canada. This is why some new Amateurs just hide in the shack, don't get involved with clubs or organizations and listen. Isn't that SWLing? That, unfortunately, is where some of our newest Amateurs end up.

Now, on another note, what about the provincial groups? It seems that in the West, the provincial groups are struggling to stay afloat. What do they do as a provincial group? They occasionally represent the provincial Amateurs at symposia. They co-ordinate surplus equipment purchase and distribution. Some groups are the co-ordinating bodies for vehicle licence plates. And finally, the provincial groups try to co-ordinate the 2 metre frequencies in the province. With the onslaught of 2 metre linking, this task now becomes interprovincial. Maybe the National Organization should be handling this one.

It all boils down to one question: Do we need the provincial organizations? Could we do without them and merge them into a National Organization with a provincial Amateur Director representing the provincial Amateurs at the National level?

Given the number of organizations in Canada, there are many Amateurs who hold numerous offices in various groups, clubs and organizations. This involves many hours of meetings and other related tasks which robs them of valuable operating time. Did we join Amateur Radio to attend meetings and work, or did we join Amateur Radio to operate and make new friends around the world?

**-THINK ABOUT IT.  
WHAT DO WE AS AMATEURS  
WANT?  
ORGANIZATION  
OR  
CONFUSION?**

# LETTERS

## OPEN LETTER TO ALL AMATEURS AND CLUB EXECUTIVES

It can be assumed that with the introduction of Amateur Restructuring there will be in the future sizeable increase (possibly doubling to 8000+) in the number of Amateurs in British Columbia.<sup>1</sup>

Most of these new Amateurs will, in all probability, come from the ranks of the GRS/CB fraternity.

The new Amateurs will be introducing onto the Amateur bands and possibly HF bands, most if not all of the poor (disgusting) operating procedures which they have been accustomed to using on GRS/CB.

In the Vancouver/Lower Mainland area there are indications already of what can be expected in the future, all you need to do is monitor the local repeaters.<sup>2</sup>

I can only assume that this is a result of Amateur examination standards having been lowered in the past couple of years, thereby enabling this type of individual to become certificated, who would otherwise not have been able to pass the examination.

The question that needs to be addressed NOW is:

"How does the Amateur fraternity deal with new Amateurs who operate in an unacceptable manner?"

There are innumerable ways that problems could be caused to others, most of which are not covered by complaints to the DOC.

It is strongly recommended therefore that club executives<sup>3</sup> generate discussion among their respective members to formulate suitable plans NOW in order to be ahead of the game and be ready to deal with individuals causing problems.

Any comments on the above would be appreciated, if you respond to this letter, please do not make the message 'private', since I would like to generate

discussion to enable as many points of view as possible to be expressed.

Jim Dean VE7ZX

Your letters will be picked up through VE7KIT in Vancouver and also Amateurs will be kept informed. PLEASE— Give the above some concern to 'our frequencies' which are likely to become another CB band.<sup>4</sup> I don't want that to happen, DO YOU?

## ONE VIEW IN RETURN

I have just finished reading your editorial in the latest ARLA newsletter. While you certainly raise some points worthy of consideration, permit me to disagree with the underlying tone of your message.

The point has been made ad nauseum that Amateur Radio is a rapidly aging hobby, with demographics that would make a mortician smile. This rapidly aging, shrinking group currently occupies a large spectrum of publically owned frequencies worth literally billions of dollars. These facts are not open for debate; the question is, what should our response be to this problem? A jaundiced reading of your rather xenophobic editorial exposes the hidebound thinking that has been all too common in ham circles. It is precisely this "private men's club" attitude that has made our hobby so inaccessible to younger new blood that any healthy organization needs to ensure survival. As far as monitoring local repeaters for poor procedure, I can give you a couple of frequencies to try if you're looking for a cold shoulder and a snobbish clique. The criticism cuts both ways.

There most certainly is a problem with atrocious operating procedure on GRS, but trumpeting pompous disapproval and hiding our heads in the sand, refusing to talk with 'these people' (how do you identify them, Jim, do they wear signs around their necks?), is not constructive nor effective.

First, they are not 'our' frequencies, they are public property. It is our mandate to be responsible stewards and to promote their use. Or lose them. Rather than attempting to exclude people you don't like, an aggressive attempt to enrol them in your local club, friendly conversation at meetings and invitations to your shack to demonstrate how a real pro operates goes a long way to establishing a constructive link to improving our bands. Every club should have a member whose sole responsibility is to greet newcomers and engage them in conversation, linking them with other hams willing to lend a helping hand.

## SILENT KEYS

VESACC— Sydney E. Finlayson died Oct. 13, 1989 in Broadview, Saskatchewan, age 68. Syd had served during WWII with bomber command RCAF in Europe and North Africa. He received the Distinguished Flying Medal award for great gallantry over enemy territory. After the war he became an Air Traffic Controller and was well-known in ATC circles throughout Canada.

VE7JZ— J. Walter Riddle of Victoria B.C., October 1989.

As 'these people' become part of a group several well-recognized things will happen. One, others will know who they are, and social pressure will naturally occur to clean up their operating habits. Two, as members of the clan, they will not view themselves as 'nomads', living by their own laws. Lastly, they will learn that all hams are not elitist snobs, but for the most part, open and friendly. Friendships make for good behaviour.

I view the regulation changes as a last chance. Either attract new members and ensure ham radio is viable into the 21st century or perish. Suggesting relinquishing these precious frequencies and our rich heritage to commercial interests because of newcomers' poor operating habits is akin to nuking a forest because some people litter. Ham radio is a hobby my father loved, I love and that I hope my son will enjoy. Like all living things, we are being challenged to adapt or die. I vote for life.

Bren Adams VE6BYG

FROM THE  
NORTHERN  
SASKATCHEWAN  
AMATEUR  
RADIO CLUB, INC.



To Norm Waltho VE6VW:

I have been asked by Eric VE5HG to pass some descriptive information about our club to you. I was told that you are in CARF and interested in this region.

You were inquiring about our club—we number about 40 members; we have found a new source of revenue that has been a tremendous boost to our efforts (working BINGOS). We are working one bingo per month, raising anywhere from \$1200-\$2400 or each session. We have a Motorola MSR2000 repeater and an ACC RC-850 controller in Prince Albert here and in our Minatinas

<sup>1</sup> Proportionately in other provinces and territories.

<sup>2</sup> Tell me about it!

<sup>3</sup> The trick here is to keep the executive(s) absolutely free of these people and their influences

<sup>4</sup> Personally, rather than see this happen, I would prefer to see the Amateur Bands go to the commercial interests— wherein that portion of the RF Spectrum would be of some value to mankind, rather than abandon an important resource to cesspool status!! Reprinted from the BCEN NEWSLETTER June, 1989

site 75 km south. Also we have just finished installing our Spectrum repeater 110 km north of town equipped with the ACC RC-96 controller. These sites are UHF linked (north site not quite finished yet).

We help at many community events in the city here and in the north country. These agencies now think that they couldn't run their events without us. We have an on-going relationship with the city police and the RCMP regarding the reporting of accidents, suspicious vehicles, etc.

Ron Longhurst VE5AB  
Club President, NSARC  
421 20th Street West,  
Prince Albert, Sk  
S6V 4G8

#### PROUD TO BE CANADIAN

Just a very quick note to say 'Hello' and to thank you for the great job you are doing. Proud to be Canadian... I particularly enjoy the packet and QRP columns. They are both very well done. The more projects/circuits, the better.

All the best and keep it up. I look forward to a good winter of ham radio and really enjoy reading *The Canadian Amateur*. Here's hoping I can keep the outgoing QSL bureau busy!

Richard Parker VE5OT  
Local PBBS - VE5OP

*Thanks Richard, your package has been sent. To all the volunteers mentioned in Richards letter— GOOD SHOW!.. Editor.*

#### CQ SPARKS

Re: your story on VEOMMA. As Sparks on the Pacific Coast counterpart, the Wm. J. Stewart in 1939, I would like to contact some of the people involved with the Acadia Museum. Can you give me any names and addresses?

Al Miller VE7KC,  
162 Corry Place,  
Penticton, B.C. V2A 3S1

*Better still, here is your letter in The Canadian Amateur. The article on page 11 of Nov '89 TCA was written by Mel Lever of the Halifax Amateur Radio Club... Editor.*

#### HELP WANTED

The CARF Office needs the current addresses of the following Amateurs, listed by name and last known address. Let Debbie know at P.O. Box 356, Kingston, Ont. K7L 4W2.

Brooks New Horizons ARC, 16 Pine Ave., Brooks, Alta.  
Albert MacKinnon VE1ARS, Sydney ARC, 17 Dodd St., Glace Bay, N.S.  
A.M. Grant VE3EQR, 861 Sparrow Rd., Newmarket, Ont.

#### TCA COPIES

Copies of articles from *The Canadian Amateur* from Vol. 1 No. 1 Jan. 1973 are available. One article per issue \$2 post paid.

## Report from Moose Jaw

Here is a brief report of some activities of the Moose Jaw Amateur Radio Club, in reverse timing. On the long Labour Day weekend of September 1989, the Club set up a communications display in the Moose Jaw Western Development Museum as part of the Museum's special displays to celebrate the 40th Anniversary of the Saskatchewan Western Development Museums.

The Moose Jaw Branch of the Museum depicts the development of transportation in the province on land and in the air. Since communication is a vital part of rail and air transportation, the club sponsored a display of radio communication equipment from spark to modern transceivers. The World War II radio and radar equipment that the club had collected and delivered to the museum in past years had become scattered in various locations. The old type 19s, AT1s, 1154-55s, etc., a spark transmitter and old ham gear were placed in chronological order with an operational 2-metre and 'state-of-the-art' HF station complete with antennas and operators, ending the display. The stations were operated by club members from 1300 to 1700 hours Saturday, Sunday and Monday.

In July the club provided emergency communication from Canadian Forces Base Moose Jaw to the local and Regina hospitals during the air show at the base.

In June, Moose Jaw Amateurs provided communication along with other services for a simulated air crash south of the city. All essential services, EMO, medical, fire, engineering, police, etc. from both city and Canadian Forces Base and RCMP were involved in the exercise. Bandaged casualties provided by the Base and a nearby school were taken to hospitals by ambulance and helicopter. A meeting of all involved services followed the exercise and many suggestions for improving procedures were discussed.

Earlier in the year, ARES members were called out five times by the EMO to search for a missing six-year-old boy. Two weeks after he was reported missing, his body was found by a search group made up of Police, Amateurs and frontiersmen.

During the civic elections last all, ARC members manned about half of the polling stations to report, by radio, the results of the vote to City Hall staff. Three 2-metre nets were used. The antennas were set up on the roof of City Hall and net controls occupied the cafeteria on the fourth floor. Amateurs in the polling stations used 5/8 antennas and 10 watts or more power from their indoor locations, while the net control stations used low power to reduce interference between nets. The results were completely satisfactory. ■

## Very Last Call for Nominations Regional Directors 1990-92

A healthy organization is one in which the members take a serious interest in how well it is run. CARF policy is set by its Board of Directors who are six in number, of whom three are elected each year for a two-year term of office. Often, too many directors are elected by acclamation. Let's have plenty of nominations this time so that we can actually hold elections.

The following positions will become vacant Summer 1990. The terms of office will be for two years.

Atlantic Region  
Ontario Region  
Pacific Region

Nominations are required from full voting CARF members (Canadian residents with Canadian licences) of each region. Each nomination must be supported by the signatures of Five CARF full members and the acceptance signature of the nominee. If you wish your incumbent Regional Director to continue in office, he must be re-nominated.

Ontario members should note that the term of only one of their two Regional Directors (Toni Salvadori VE3NXQ) will expire in 1990. The term of the other (Dan Holmes VE3EBI) will expire Summer 1991.

The deadline for receipt of nominations is Jan. 15, 1990. Please address your nominations to Secretary CARF, Box 356, Kingston, Ontario K7L 4W2. Send by REGISTERED MAIL.



# River Relay

By Anthony F. Day

They call it 'The Land of the Mighty Peace', and on that summer morning I could see why. We had driven along gravel roads which turned to wheel tracks along a field of ripening barley, then with no warning, the ground opened up in front and we were looking at a thousand foot drop across a gorge over a mile wide. From that height, the Peace River looked little more than a stream, sandy islands showing, and the water placidly moving towards the headland downstream.

We could see for perhaps four miles upstream and two down. A hawk sailed along 500 feet below us. If we waited, we would see deer move along their paths towards the grazing yards in the Montagneuse Valley.

We weren't there to watch the wildlife, however, but to prospect the scene of a communications net which, somehow, I appeared to be responsible for.

In ten days time, a small fleet of river boats would be passing this point on their 160 mile journey from the B.C. Border to Dunvegan, and then Peace River Town.

The Mackenzie Planning Commission would be showing the Peace River Valley to some 125 people including an MP, the Environment Minister, a couple of MLAs, several mayors and sundry others of varying degrees of influence and importance... and they had been disconcerted to discover that for two days and 160 miles of remote wilderness, with scarcely any road access, that communication beyond the river valley, was impossible.

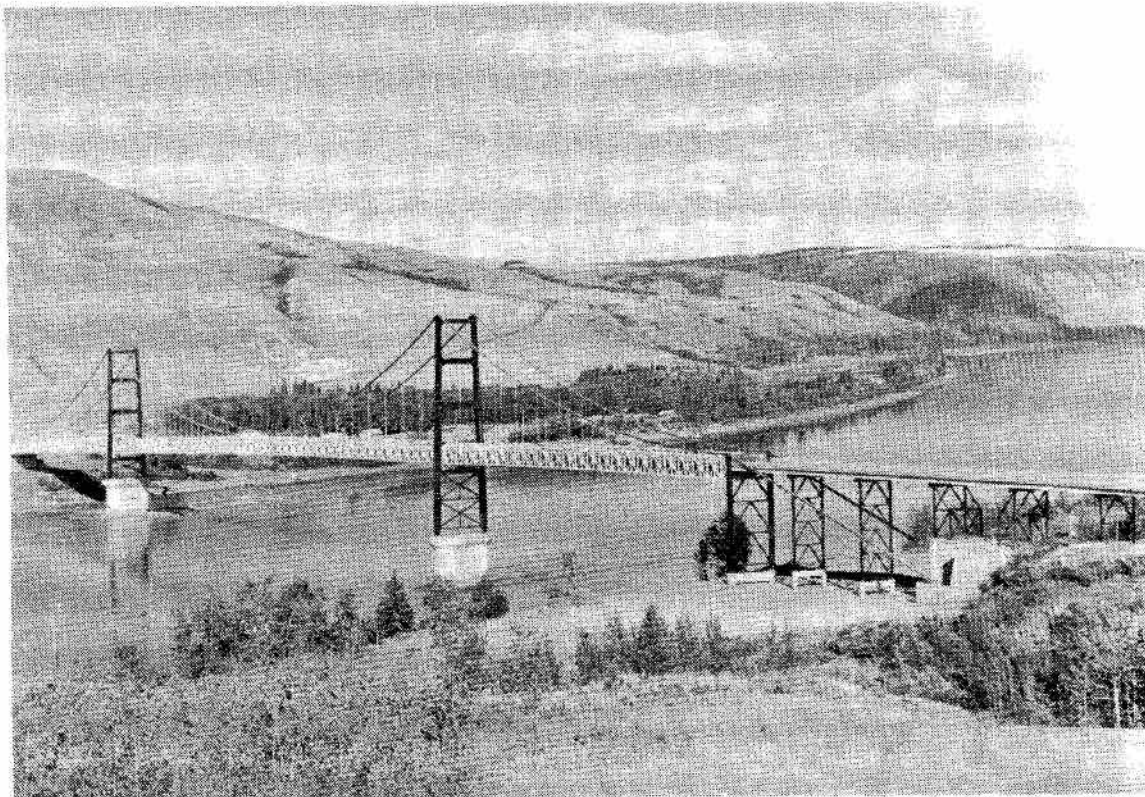
Impossible, that is, by any means. It was my job to show that it was distinctly possible by Amateur Radio.

The Peace River Valley is a cutting in the rolling soil of the district, that is seldom less than 800 feet deep, and in places, approaches a thousand. It has

*Left, above: Roy VE6ATN, the club president, on the Peace River. Photos by Tony VE6TFC and Phyllis VE6EVE.*

*Left, below: Two of the boats in the flotilla.*





no straight stretches longer than five or six miles, and is, by any standard, remote. In dry weather there are five or six access points in 160 miles. In wet conditions, that drops down to three.

The headlands above are slightly more accessible, but only by comparison with the river bed. In wet conditions, you'd be better off staying at home.

There are probably more difficult places to mount a communications net: I just don't know of them.

If the geography was bad, then the arithmetic was worse. The Peace Country Amateur Radio Club boasts about 30 members spread over ten thousand square miles. Holidays, other commitments, and work, cut down the number of possible operators to a handful.

I had had my licence just over a year, had no experience of any comparable operation, and was beginning to feel awfully lonely out there on the river banks. I had one enormous advantage though, that over the next few days proved decisive. It was in the form of my wife, who holds the callsign VE6EVE. Believe me, if you want something run properly, get the ladies to do it:

"Right," said she, "we need maps." So maps we got.

"Right," said she, "we need plywood." So plywood we got.

"Right," said she, "we need pins." So pins we got.

Then we spent most of a morning trying to recall our mapreading skills

and sticking coloured pins at any place that might fill two conditions:

1. It commanded a view of the river.
2. A car, truck or 4x4 could get there.

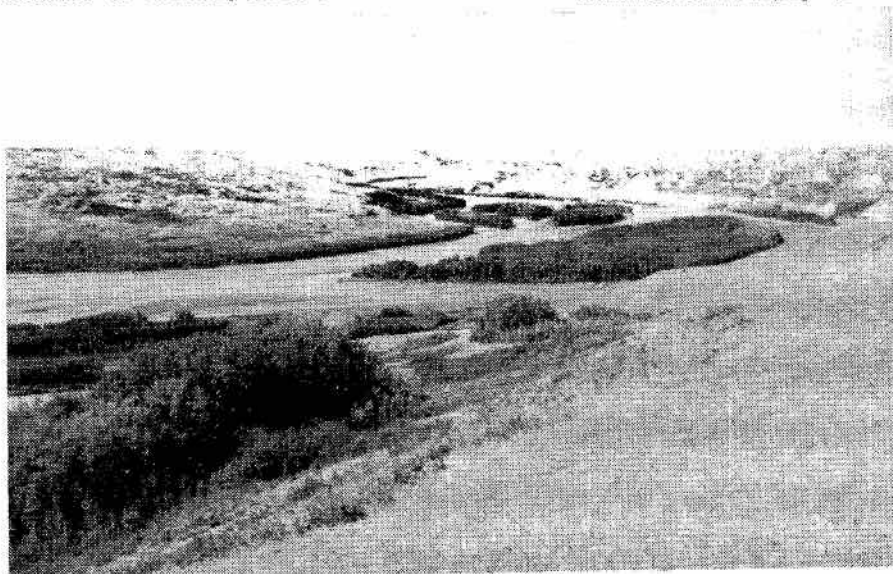
By lunch time, we had 15 pins on the maps and very little idea of the actual ground conditions.

"Right," said she, "get in your truck and go look." I headed out while she picked up the telephone and started to boost the financial status of Alberta Telephones. No false pride there. The chances of catching people on two

metres was remote, so when it works better, use the telephone.

My attempt to get to the first headland ended in a farmyard with no one at home and a large yellow dog advising me to go elsewhere. Access to the second headland had apparently been taken over by an oil company who had put in a good gravel road... and a locked gate. I couldn't even find the third one until a local resident, in the form of a ten year old girl, who had been born in

*Continued on next page* ▶



*Top: The Dunvegan Suspension Bridge on the Peace River.  
Above: A view of the River Valley taken by Carol VE6TEA.*



## RIVER (cont'd)

Bolivia, and her grandmother from Eastern Europe, undertook to pilot me. That foray was halted by barbed wire fencing across the track, and a large herd of Friesens exercising squatters' rights to the very sparse grass.

I returned home defeated.

Over the next few days, halting progress was made. Don, who holds VE6AKC, lives and farms ten miles north of the river in the Worsley area, offered his help and was able to confirm that the first projected observation point would be accessible and could command some 12 miles of the river.

Linda, who holds the call VE6LIN, Mike VE6XD and George VE6HX, all offered to cover points on the very difficult south bank. Carol VE6TEA, Ed, who appropriately holds the call VE6ED, and Bob VE6AAO confirmed they would be available. With Roy VE6ATN on one of the boats as well, it began to seem possible. Nine operators for the 80 miles that the boats would travel on Friday.

The military have a good word for my problem. Logistics... getting things, (and people), to the right place at the right time. The problem was compounded by the fact that no one really knew how well, or how badly, two metres would travel along the river. We could only guess and hope.

The general plan was to stage mobile units at prominent places overlooking the river, so that the hams in the boats, one at the front, George VE6HX, and one at the rear, Roy VE6ATN, would be in constant communication with a land unit. One unit would be stationed on high ground where it was hoped he could act as net control, and if needed, use his mobile telephone to summon help. VE6XD was the logical choice for this position and happily possessed a mobile phone.

But looking at a map and getting there, where every road looks like every other road, your car reads distance in kilometres and the ground was laid out in mile sections (as are the maps)... getting there is something else.

A dry run was not possible. Flagging the roads would help, but was chancy. Doubling up of mobile units seemed a good idea, provided one of the operators knew the way. Then if breakdown occurred, there would be some backup. So four observation posts were manned on the Friday morning, nominally with two units at each post, though it meant some shuffling to achieve it.

Then whilst the flotilla was beached for lunch, we would leapfrog and take up positions for the afternoon run. It almost worked the way we planned it.

We wanted dry weather, so on Thursday, there was two inches of rain. We wanted the boats to stay together so

we only had to cover a mile of river at one time. By two o'clock they were spread out over 20 miles or more, and by three o'clock, there were three stuck on sandbanks and one somewhere upstream, off on a jaunt of its own.

It turned into a race through mud and water to keep in contact. We'd no sooner reach an observation point, than the boats would be disappearing round the next bend, and the chase would be renewed. Somehow we managed it and, throughout the long day, there was about 15 minutes without radio contact.

VE6HX disappeared at about 4:30, and had us all worried until his cheerful voice reappeared to tell us that his battery pack had run down in the last five miles of the trip, but that all was well. I never did find out how he got back on the air.

So the first day ended without major mishap, and our flexibility, if not our planning, had proved adequate.

The next day was far easier. The roads were better, access was easier, and the mud was beginning to dry out. George

had to attend to private matters, so his place was taken by Don VE6NN. Dave VE6ALC turned out to help, and with a commendable show of initiative found a good spot for contact, after his instructions proved adequate.

By lunch time all boats were at the designated campsite, with only 15 miles of river left.

We could all relax and go home.

I think I can say that it worked. We had 12 operators when we could have used 50. We had heavy fog and thick mud when we needed clear views and dry roads. Of 160 miles of river, we covered at least 140. We showed Amateur Radio working and performing a useful and potentially life-saving function to a large number of policy makers from Ottawa down to local level. Above all, at short notice, and under extremely difficult conditions, almost 50% of the local Amateurs turned out to man an emergency net. Perhaps that is the bottom line. ■

## Jasper-Banff Relay 1989

By Bill McPheeters VE6HO

The 10th Anniversary of the JB— how time flies. CARA has supported the race for seven of those years.

The weather was probably the best we've ever had, with no monsoons during the night. Tony VE6MX, Doug VE6CID and Phil VE6CCK set up two repeaters at Bow Summit and Moraine Lake road. These were linked together and worked very well. Communications were possible between station eight, which is at the bottom of the big hill south of the Columbia Icefields, and the finish line and Banff for local coverage.

Three stations passed information this year by packet radio. Saskatchewan River crossing (with their awesome computer displays) were manned by Dale VE6CPK, Ariana VE6CIX and Pat VE6CPT. Then Ken VE6AFO and Linda with Fritz VE6COL punched the keyboard and sent the runner information to Cal VE6LZ who, along with Dave VE6ADT and Tony VE6MX, looked after the Bow Summit leg.

Don VE6CG, Brian VE6ZS, Heinz VE6AGW and Steve VE6SWM took over the entire campsite at Station 113 and did their normal terrific job. Frank VE6ANL, Sheila VE6SOON, Gord VE6CNW and Don VE6EY provided coffee to everybody at Herbert Lake as well as seeing the morning arrive. Arnie VE6AXB with Tom VE6CRT directed the long line of runners to Duane VE6CAO, John VE6LL and George VE6VA at Station 16. The first place team from

Japan had passed by at about 02:00 and ultimately finished far ahead. Ian VE6JX, Bob VE6CBN and Dan VE6CAK at Station 17 hurried everybody by so they could get to sleep.

Phil VE6CCK and Jim VE6AUZ finished the race for this year. Thanks for your trailer, Phil, it was like home. All the while other people were tending to their affairs. Speaking of affairs, Ted VE6FE and June hid away on the Moraine Lake Road with their repeater all night, Hermann gave communications with the supply van from Sask River Crossing to Banff, and Doug VE6CID circulated all day and night.

The idea of having scanners with the race officials didn't seem to work too well, so next year maybe we can talk them into having real radio people with them.

As a non-communications aspect of the Jasper-Banff Relay, there were a group of hams who ran as part of the Alberta Amateur team. They are Ed Pluemeck VE6EDP, Larry Gadallak VE6VQ, Murray Paulson VE6BPM, Tom Boelhouwer VE6CRT and Bill McPheeters VE6HO. Alex Brown VE6GS was scheduled to run but was a late scratch because of an injury, however he and his wife Joan supported the team for the entire 24 hours. Any ham or direct member of their family who would like to run in the 1990 relay, call me as soon as possible.

Thanks to you all and especially to Sheila SOON, what a co-chairman! (Oops— person.) ■



# Ham on Wry?

By Bj. Madsen VE5FX

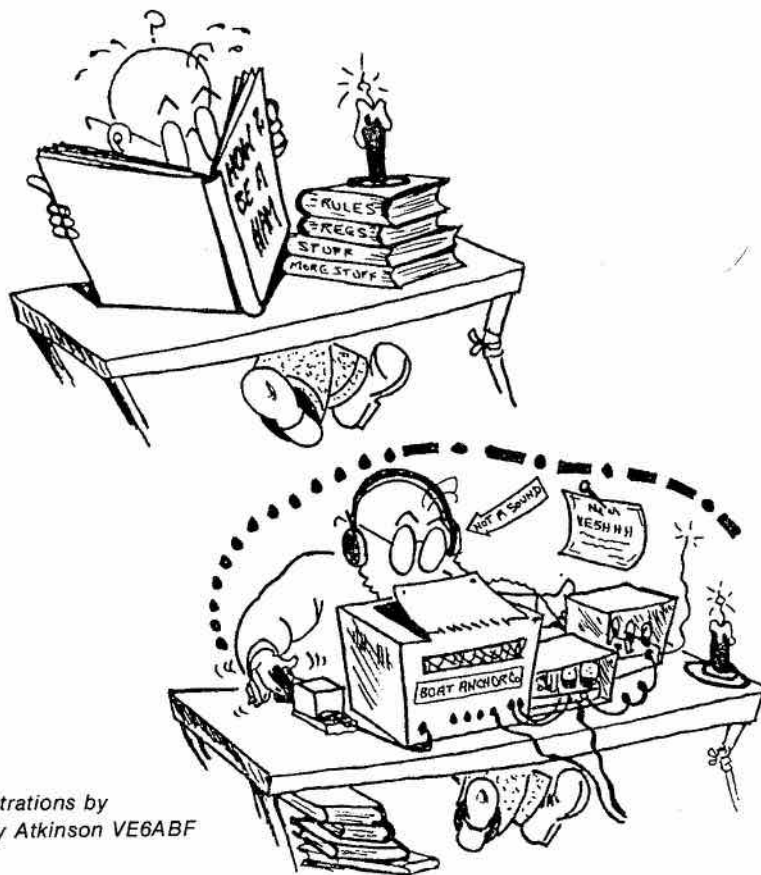
A couple of years ago, the DOC in VES land decided that they would allow Amateurs the option of designing their own call signs from the list of available calls, two or three letter suffixes. It was assumed that the 100 or so two-letter suffixes that were still available would soon disappear, but that was not the case! The fad that developed was to choose a three-letter suffix conforming with one's initials, and I suppose that IS more personal than some random pair of letters.

After attending the winter classes sponsored by the local club for Amateur Radio licensing, and duly memorizing the 500 questions and their answers from the DOC bank of questions, Henry H. Harris was able to successfully complete the requirements for an Amateur Licence. As his friends had done, Henry chose a personalized call sign, VESH HH, and set about equipping a 2-metre station so he could talk with his new peers.

All went well in Amateur Land for Henry. His new friends spoke glowingly of the rare ones to be worked on HF, the nets to be checked into and the rags to be chewed and incidentally helped him to equip an HF station by selling him a surplus transceiver, tower, rotor and antenna. Henry was ready to go on the air, and the boys had gotten rid of their old gear.

Henry, in his pre-ham days, had acquired an iambic paddle and keyer and had worked hard to develop his CW skills. He found that dots and dashes could be 'inserted' in the iambic mode, and he became quite proficient at this technique. As we all have done, he practiced his call sign more than anything else, holding the 'di' paddle and simply inserting ONE 'dah'. As often happens with one's call sign, familiarity causes the spaces to shrink (21 'dits' and one 'dah').

After taking his beam back down from the tower and retuning it to the CW end of the band, he was ready to transmit. He practiced into his dummy load until everything felt right, and then threw the switch connecting his new transceiver to the beam. He tuned up and down on the 'Novice' portion of 15 metres, looking for someone calling CQ. QSOs, however, were not forthcoming. It seemed that even if the station calling CQ was coming in 599, when Henry sent 'de VESH HH VESH HH VESH HH K', he was generally met with



Illustrations by  
Terry Atkinson VE6ABF

a string of QRZs or simply ignored, with the other station often changing frequency before resuming his CQ call.

Panic began to set in. Experienced Advanced Hams (who no longer worked CW) were called in to check the station and all was found to be in order. They even made a couple of 'phone' QSOs to prove that it all worked. (They had forgotten that they weren't supposed to do that, but oh, well). They went away having given Henry a clean bill of health, but the logbook at VESH HH remained barren.

Henry decided to take the initiative and call CQ—he had been practicing and could do that with his keyer by holding the 'dah' paddle and simply inserting 'dits'. That didn't seem to be any better—There were no takers, even on a good band. Finally, one of the locals happened across him on the band, hopelessly calling CQ, and realized what was happening. Henry's signal sounded like a runaway keyer! NNMA followed by a string of perfectly formed dots and one dash, all run together and totally undecipherable!

The local was able to diplomatically

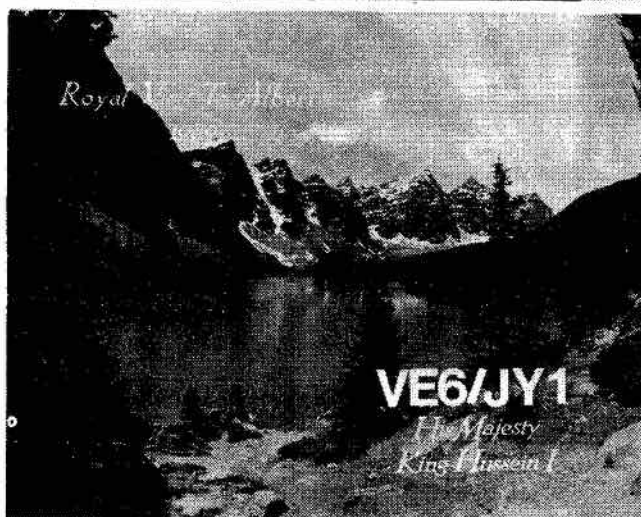
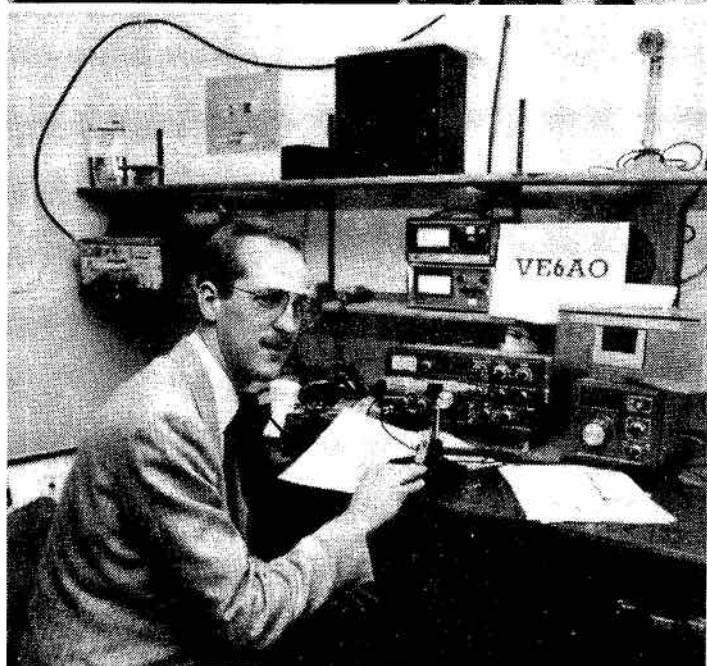
explain to Henry about the merits of character spacing and how the iambic keyer may be better than sliced bread, but it doesn't know when one character ends and another begins. Henry put his iambic paddle and keyer on swap-and-shop and began to practice up with a straight key and a tape recorder.

In due course, his CW was under control, and other than having to be very careful about character spacing in his call sign, he was doing fine. After several great months with the key, he even got to the point where he could work a UA3 on 20 metres well enough to have a reasonable expectation of eventually getting a QSL card.

With his speed up to a really solid 15 wpm, Henry again attended some winter classes, this time with the Advanced ticket in mind. After memorizing another question bank, he was able to successfully write his exam and was awarded all the privileges of an Advanced Amateur Radio Operator. What does Henry find awaiting him on the 'phone' band? Perhaps we'll find out later. ■

# King Hussein I visit to Alberta

Photographs by Victor Post Photography



Top: Victor Post VE6VIP, presenting King Hussein I with the QSL of Moraine Lake, seen above.

Left: Steve Vautour at the Calgary Amateur Radio Club station VE6AO.

By Ken McGregor and Norm Waltho

When a world-famous King, who is also an Amateur radio operator, crosses paths with a world famous photographer, who is a very active person in Amateur radio, the combination is a first for Canada. King Hussein I of Jordan, known by the call of JY1 in his

own country, now has the Canadian callsign of VE6JY1.

Victor Post with his callsign VE6VIP, first heard of King Hussein's visit to Alberta through his contact with the Alberta government. For the last 14 years, Post has been the official photographer for every royal tour to Alberta. Post suggested a reception or

demonstration for his Majesty would be the opportunity of a lifetime for Alberta Amateur radio operators.

Post had read that when his Majesty visited England he was given the use of an English callsign and used a station to talk to Amateurs in other countries. Post felt it would be an equal thrill for the King to receive a Canadian callsign, a QSL card and perhaps meet with Amateurs and use a station in Canada. The Chief of Protocol discussed the matter with the Premier of Alberta. After some evidence of King Hussein's interest in Amateur radio was brought to their attention they agreed to allow a reception.

The Ambassador in Jordan was requested to inquire if King Hussein would be interested in attending a reception held by Radio Amateurs during his visit to Alberta. The King replied he would be very interested in meeting with Radio Amateurs.

Once Post knew the reception was set, arranging a Canadian callsign took a phone call to Ray Flatt, Regional Director of Communications Canada in Edmonton. The King uses JY1 as his Jordanian callsign so the Canadian—specifically western prairie province—call prefix of VE6JY1 was requested.

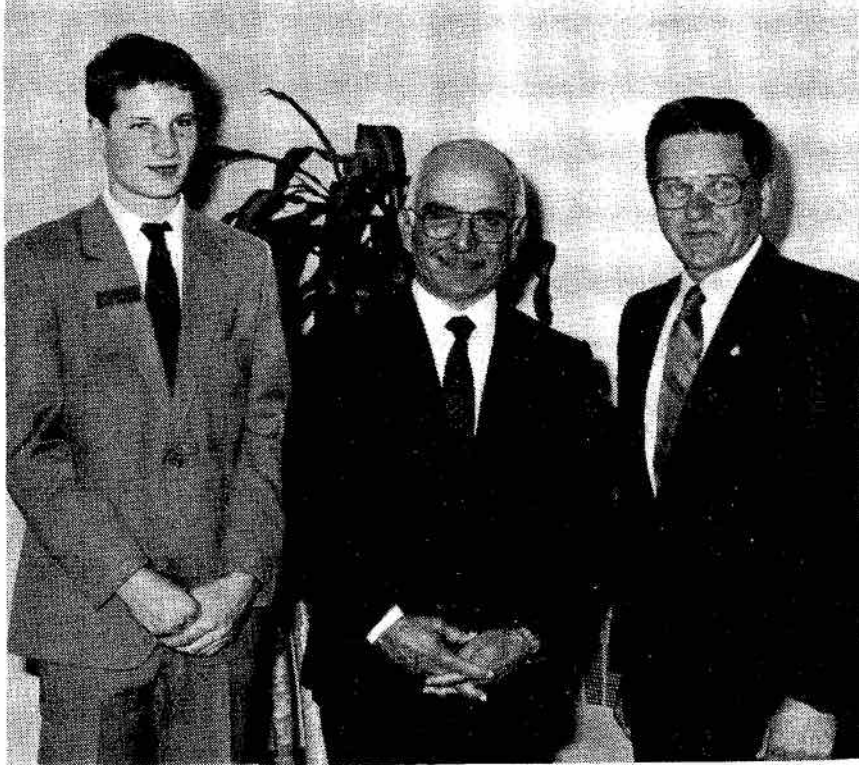
At this stage Post was hit with a kidney stone attack, so other Amateurs took over the preparations. Norm Waltho VE6VW, the Amateur Radio League of Alberta's president, took over the reception planning. Norm VE6VW

*Continued on next page* ▶

*Top, L to R: Kelly Walters VE6KTW (youngest Amateur in Alberta), King Hussein I JY1, Dave Gervais VE6KD.*

*Left: Col Ali Kinj Shoukri JY3AK, King Hussein I JY1, in background Earle Smith VE6NM, Norm Waltho VE6VW.*

*Below: King Hussein I JY1 addressing the group of Amateurs at the reception.*





## ▶ KING (cont'd)

is also the incoming QSL bureau chief and thus knew who the most active DXers were in the province. Norm made a list of about 175 Amateurs who might be eligible, but only 60 could be chosen to attend due to space and time limitations.

After two days on the telephone, Norm lined up 65 Amateurs from all areas of Alberta who could attend. Keep in mind that the reception was on the 16th of October which was a Monday, also the voting day in Alberta, and allowing only two weeks to put the reception together. He then printed up some invitations, made some name tags so everyone was consistent, booked the Penthouse of the Palliser Hotel in Calgary and arranged a buffet for the occasion. The list was then forwarded to the Royal Canadian Mounted Police for a security check of everyone.

Post made a QSL print of Moraine Lake with the King's call letter's superimposed in a 11 x 14 size and had it framed for presentation. Post also made a copy in 8 x 10 size for every person who attended.

A local distributor, Alfa Communications, sold the Amateurs a Yaesu FT411 for the amount left over from the money they had collected for the reception. At that, they paid less than half the cost of the radio, a fact that will not be forgotten by the Amateurs of Alberta. Norm was also helped by Dave VE6KD, John VE6BOS and Hart Lemmle VE6PA.

Post managed to convince the doctors of the importance of his getting out of the hospital so, after minor surgery, he started the King Hussein I tour on Oct. 13, 1989, with the arrival of the King's L1011 jet. Post took his car with him throughout the tour equipped with a Kenwood TS440s radio. If the opportunity presented itself, Post wanted the King to be able to use a radio to talk to Alberta Radio Amateurs.

The King was made aware that Post has had his car equipped with a radio so if he wished he could talk to Amateurs. This opportunity presented itself when the King, Queen and Prince went for a walk at Lake Louise. Len VE6LEN was standing by as a net controller in Edmonton and in 11 minutes 13 Amateurs had the thrill of their lives. As soon as the King said 73 to the net a pile-up occurred as Amateurs from all over the country tried to catch a word with the King. An aide approached Post later with a request for the names, call signs, frequency and time of the contacts with the Canadian Amateurs for the King's QSL card. The King was very excited by the use of the radio to speak with Amateurs, some of whom he would be meeting two days later at the reception. At the time the King operated under Post's call sign and his own Jordanian call sign.

The presentations were moved to the



*King Hussein I operating from the handheld FT411 that was presented to him at the reception.*



*Above: L to R: Bob Burley VE6ARJ, Hart Lemmle VE6PA, Vic Post VE6VIP, Bill Austin VE6WP, Eric Austin VE6BBP all QSO'd with VE6JY1 from the aircraft from the Calgary club station.*

end of the reception so the King could first have an informal meeting with the Alberta Amateurs. The reception went off as planned.

The King entered and was introduced to Victor Post VE6VIP who in turn introduced Norm Waltho VE6VW, President of the Amateur Radio League of Alberta. Then Ken Oleke VE6AFO, Representative of the Amateurs in Calgary and Dave Clarke VE6LX, Vice-President of the Northern Alberta Radio Club in Edmonton, were introduced to the King. Roy Usher VE6EA was introduced as one of the longest operating Amateurs in Alberta (60 years) as well as one of the youngest Amateurs Kelly Walters VE6KTW. The King then shook the hand of every Amateur in the room.

The presentations started with Paul Neufeld, Calgary Regional Director of Communications Canada, presenting the King with a framed permit giving him the callsign of VE6JY1. Post then presented the King with his framed QSL card. Post gave the King the Yaesu handheld with the warm suggestion, "I hope you use it while you are here and all over the world but return to Canada to use it again real soon." Much to the King's surprise, as soon as he received the radio a voice using his new callsign welcomed him to the air. Hart Lemmle had been standing by in a corner of the room waiting for a signal to be the first Canadian Amateur to speak to the King using his new callsign. When it was the King's turn to speak, he thanked the Amateurs for their warmth and friendship. He had QSL cards prepared for the Amateurs who had spoken to him from Post's radio at Lake Louise two days before. He also mentioned he wished to speak to the Amateurs while his plane was flying east later that night. The media did some interviews with the Amateurs after the King had made his exit. Post went to the airport to photograph the King, Queen and Prince as they departed at 9 p.m.

After the king left from the airport to return to Jordan, Post was picked up by Lemmle and Vautour and taken to a Calgary Club Station set up in a car club house outside Calgary. It was arranged that his majesty would meet the Amateurs on 14.135 MHz USB about an hour after take-off.

In the shack were Bill Austin VE6WP, his son Eric VE6BBP and Bob Burley VE6ARJ, all from the Northern Alberta area. The Calgary area Amateurs were still working on local election coverage for the media so the station was unused at the time. Post tried to call his majesty several times with no response, although he was interrupted several times by Amateurs from various parts of Canada asking him if he had got his call right. They had never heard of a call like VE6JY1, all Canadian callsigns end in letters. Coupled with Post's VE6VIP it



Roy Usher welcoming King Hussein I; DOC Ray Flatt, Paul Neufeld in the background.

must have sounded strange to them. After calling for about a half hour, a faint 3/5 signal came back, VE6VIP, VE6JY1 calling. After regaining his composure, Post answered but conditions on 20 metres then were quite poor. His Majesty was flying just over the Ontario/Manitoba border. His Majesty suggested the 40 metre band so they QSY'd to 7.055 but they still had problems hearing the King. Finally it occurred to Post that airline HF radios all work on upper sideband, not lower. When the radio was switched to upper sideband, the King's signal came in beautifully at 5 by 9. Everyone present took turns at the mike wishing his Majesty a good trip home. Then they handled a net on 40 metres as 18 other Amateurs made contact. At 10:35 his Majesty returned to 20 metres and worked many other parts of Canada.

Meanwhile, while this was going on, VE6VW and VE6AKY were motoring back home to the Edmonton area with the hope of working VE6JY1 on 20 metres. When we arrived home we QUICKLY tuned up on 20 metres and worked his Majesty while flying over Canada using his new callsign. A great thrill after a long trip back from Calgary.

The King's visit has done more to rejuvenate interest in Amateur Radio than any other event in recent memory. Post and the Amateurs of Alberta would like to thank his Majesty, King Hussein VE6JY1, for his co-operation in holding the reception and his interest in Amateur Radio. Post has also discussed the possibility of a set schedule to contact the King on Oscar 13 and on 20 metres. ■

#### BIG EVENT

The Niagara Peninsula Amateur Radio Club Inc. is holding their 12th Annual Big Event, a Hamfest and Dinner-dance on Feb. 3, 1990 at the C.A.W. Hall, 124 Bunting Road, St. Catharines, Ont. Admission \$3, tables \$12 commercial and \$5 non-commercial. Dinner-dance tickets available only in advance. Talk-in: 147.24/84. For further information please write NPARC Inc., P.O. Box 692, St. Catharines, Ont. L2R 6Y3 or telephone (416) 682-4844.

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# Avonlea Repeater Group Report

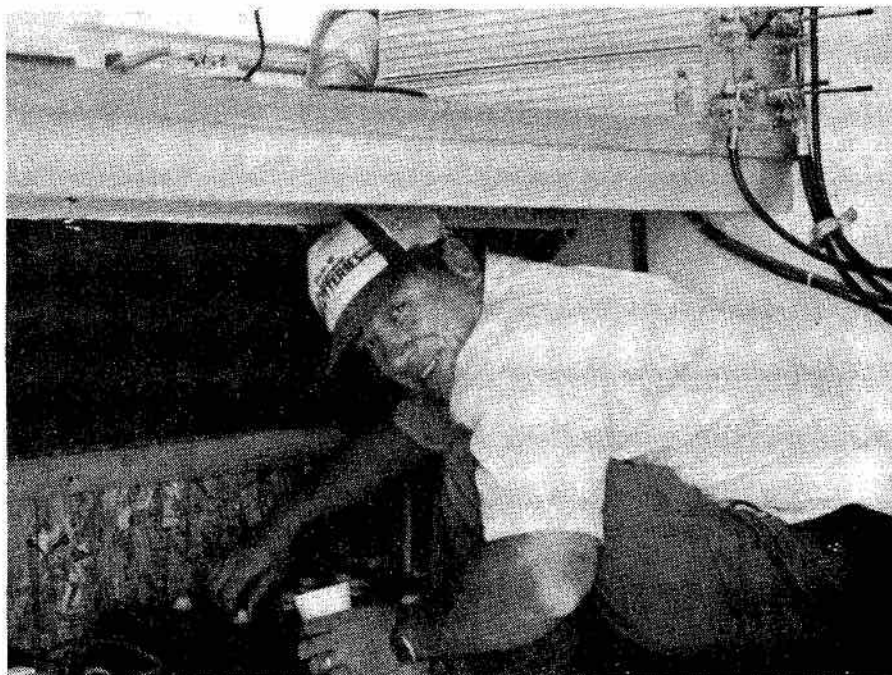
By David Meadows VE5IQ  
Chairman, Avonlea Repeater Group

The Repeater Group is a consortium of about 55 Amateurs mainly in the Regina, Moose Jaw area who are interested in voice and digital communications using VHF and UHF. The repeater callsign is VE5ARG. The voice repeater frequencies are 147.06/146.46 and 444.150/448.150. To use the Regina area remote link use 147.06/147.66. The digipeater operates on 145.01.

The repeater site is located 40 air miles southwest of Regina near Avonlea in the Dirt Hills, 3000 ft. above sea level. Site access in winter is difficult, so a standby VHF repeater is maintained on site. The VHF voice repeater covers a 75 mile radius for mobile operation. The repeater is regularly accessed by Saskatoon Amateurs using base stations. The VHF repeater is intended for linking when arrangements can be made. The site has a remotely controlled frequency agile transceiver, remote 'in link' from Regina and a digipeater. Each repeater operates at 100 watts. The voice repeaters have sub-controllers that are tied to a main station controller.

The Technical Group is busy making sure all station functions are in good order for the winter months.

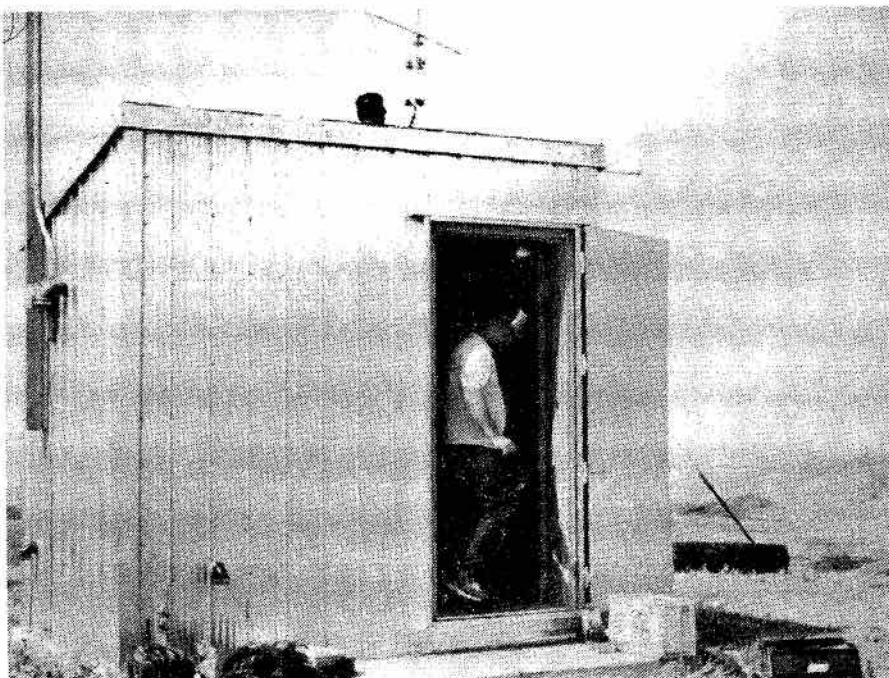
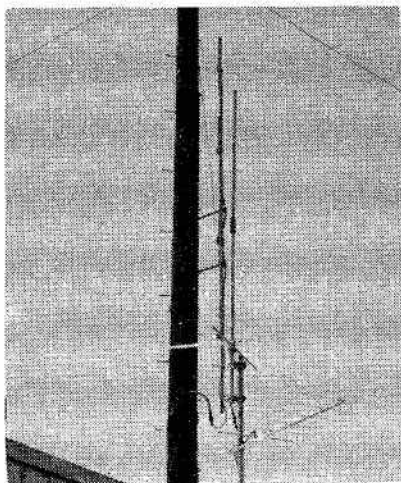
The Avonlea Group operates a public service net at 9:30 local time daily. We extend an invitation to all Amateurs to use our facilities and join our repeater group. ■



Above: George Harwood VE5UU maintaining battery plant.

Below: Doug Appleton VE5DA in the repeater building.

Below, left: The aerial farm; main repeater aerials are at top of pole—90'.



# Hamfest '89

Regina, Sask.

By Bill Wood VE5EE

Hamfest '89 was held on August 11, 12 and 13 in Regina. The hamfest, sponsored by the Regina Amateur Radio Association, attracted Amateurs from all over Western Canada, as well as a few from Ontario.

The weekend provided information and demonstrations for technical buffs, a meeting place for packeteers, the flea market crowd and many other aspects of Amateur Radio.

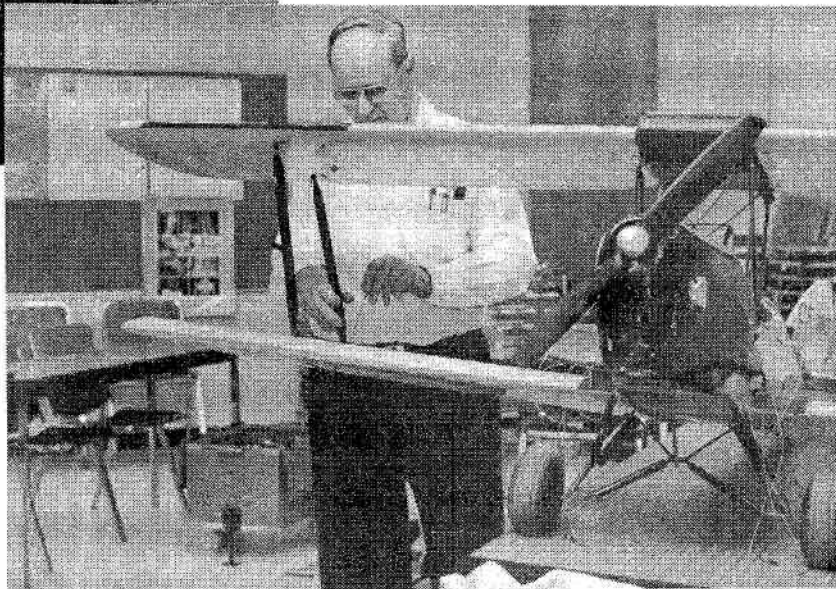
Saskatchewan Amateurs are more than aware of the difficulty of overcoming geographical barriers insofar as VHF/UHF communications are concerned. It has been a desire of many Saskatchewan Amateurs to link up with counterparts in the neighbouring provinces and in the states on VHF and packet frequencies. As a result of the efforts of a group of dedicated Amateurs, Saskatchewan is linking both inside and out. Hamfest was an opportunity for these people to get together and compare notes.

We were pleased to have CARF President John Iliffe join us for the hamfest. We put John to work and he very capably shared a presentation on lightning and grounding as well as information about CARF and restructuring. Ken Oelke, CRRL Mid-West Director, also joined us from Calgary.

Saskatchewan Amateurs are a relatively small and scattered population. Establishing repeater networks and packet links are expensive per capita, but the same pioneering spirit which brought our grandparents here has given us the determination to overcome the obstacles we find in the paths of communication. Perhaps that is why we are often accused of not being on the air— we are busy trying to find new ways to link up with the rest of Canada! ■



Top: Orlo Kollybaba VE5OTK in charge of the talk-in station.  
Middle: The Hamfest 13 Metre Band— (left to right) Orlo Kollybaba VE5OTK, Gil Paradis VE5PG, Jerome Kuntz VE5KZ, Ted Odling VE5TO, Alex Beaton VE5OI.  
Right: Radio control model planes on display— Tiger Moth pictured here with its owner, Wilbur Sedwick.







Above: Packet radio demonstration— Chris Morgan VE5BAR seated, (left to right) Bill Wood VE5EE, Tom Roney VE5AAI, Syl Kulyk VE5YK, Erich Quiring VE5HG, Gordon Gwillim VE5UJ, Brian McArton VE5BJM.

Below: Ken Stuart VE5KF - Flea Market co-ordinator and shopper Jerome Kuntz VE5KZ.



Above: Manning the booth, VE6AFO, CARF President John Iliffe VE3CES, and Mid-West Director Norm Waltho VE6VW.





# THE CARF NATIONAL QSL BUREAU

THE CARF NATIONAL QSL BUREAU has an outgoing service for members. In other words, we send your cards to other Bureaux for you. This includes Overseas, American and other Canadian Bureaux. This service is free to CARF members. If you consider current airmail rates, it takes only 30 cards per year to pay for your CARF membership. Here's how it works:

1. Sort all cards alphabetically by prefix.
2. Sort Canadian cards numerically by call area.
3. Place small lots of cards in strong heavy envelopes and seal securely. Wrap heavier packages in strong paper or put in cardboard box. Tie securely. Do not staple!
4. Address your package as shown in diagram to Box 66, Islington, Ont.
5. Do not register cards. This only delays them, costs more, and is not really necessary.
6. If you want proof that CARF has received your cards, enclose a self-addressed stamped postcard or envelope with 'Receipt' marked on it.
7. If a package has been damaged on arrival (very rare), CARF will send you a list of cards received so that you can check if any were lost.
8. As proof of CARF membership include your current label from *The Canadian Amateur* or copy of same.

Name, Call Return Address	PRINTED MATTER	Correct Postage
CARF National QSL Bureau P.O. Box 66 ISLINGTON, ONTARIO M9A 4X1		

## Provincial Bureaux (sponsored by CRRL)

Your finished package  
should look like this.

To RECEIVE cards from YOUR Provincial Bureau, send a quantity of pre-addressed (including your callsign) 5"x7" envelopes, along with money for postage (money is better than stamps as the postal rates are always changing). Your Provincial Bureau will forward cards to you on a regular basis and inform you of the need for more postage money. Although the addresses of the Provincial Bureaux are found in the latest International Callbook, we have included them here for the benefit of CARF members. This service is for all Canadian Amateurs. These bureaux are operated by Volunteers— please give them your help, consideration and thanks.

VE1QSL Bureau  
Box 141,  
Petitcodiac, N.B.  
EOA 2H0

VE4QSL Bureau  
Box 365,  
Carman, Man.  
ROG OJ0

VE7QSL Bureau  
8922-148 Street  
Surrey, B.C.  
V3R 3W4

VO1/VO2QSL Bureau  
Box 6,  
St. John's, Nfld.  
A1C 5H5

VE2QSL Bureau  
2960 Douglas Avenue  
Montreal, Quebec  
H3R 2E3

VE5QSL Bureau  
739 Washington Dr.  
Weyburn, Sask.  
S4H 3C7

VE8QSL Bureau  
2 Taylor Road,  
Yellowknife, N.W.T.  
X1A 2K9

VE3QSL Bureau  
Box 157,  
Downsview, Ont.  
M3M 3A3

VE6QSL Bureau  
Box 1890,  
Morinville, Alta.  
TOG 1P0

VY1QSL Bureau  
Box 4597,  
Whitehorse, Yukon  
Y1A 2R8

For more information write **CANADIAN AMATEUR RADIO FEDERATION**,  
P.O. Box 356, Kingston, Ont. K7L 4W2, (613) 545-9100.

# Oblast Update

This is an update (September 89). The only change is that there are now 17 oblast numbers not in use. (43, 180, 181, 185 gone).

The U.S.S.R. is divided for administrative and territorial purposes into 179 oblast-level units (in addition to oblasts, these include krays, autonomous SSRs, autonomous oblasts, autonomous districts, and five of the smaller SSRs), numbered 001 through 192 (17 of the numbers are not now in use).

Any location in the U.S.S.R. lies within one or another of the 15 Soviet Socialist Republics and within one or another of the 179 oblast-level units. Changes occur from time to time, the most recent were announced in Sovetskiy Patriot of 23 October 1988 (included in the lists sent with this).

The Russian Soviet Federated Socialist Republic (RSFSR) contains over 75% of the country's land mass

and over 50% of its population— it spreads all the way from the East to West.

Box 88 offers a diploma for working 100 oblasts.

Most oblast hunters are not interested in the name of the oblast, as Soviet stations normally send only the number (sometimes they call it 'region', but these days they recognize that western stations know what 'oblast' means). So the most useful list is the one that identifies each oblast number by the nature of the callsign, sorted into the order of oblasts and alpha order of callsign elements.

In the days before 1984, the number in a callsign was higher as you moved East. With the new system this is not so, but where possible they leave it that way until they have run out of assignable numbers.

Our thanks to W4KM (who translates Soviet periodicals) and UW3AX (who sent the latest changes).

Soviet call signs, updated to end of 1988 (courtesy W4KM and UW3AX). (Includes changes of 25 Aug 88 and 7 Sept 88 listed in Radio Feb 89). RSFSR oblasts are identified by the number and first letter following. Except for RSFSR, oblasts are identified by the letter before and the letter after the number.

Applies to 2 x 3 calls beginning U or R; 2 x 2 calls beginning with R; new 2 x 2 calls (number not matching the pre-1984 system) outside the RSFSR. All 2 x 3 calls ending with WA to ZZ are collective stations. Old 2 x 2 calls (number matching the pre-1984 system - number increasing from West to East) may not conform. Memorial calls, expeditions etc may not conform. Letters sk at the end of a name normally mean "...skaya" (district of).

OBL	C/S	REPUBLIC / OBLAST NAME
		RSFSR (A, V, W, Z before nr)
169	1A	Leningrad City (maybe 1B too)
136	1C	Leningradsk (maybe 1F too)
088	1N	Karelsk
113	1O	Arkhangelsk
114	1F	Nenetsk
120	1Q	Vologodsk
144	1T	Novgorodsk
149	1W	Pskovsk
143	1Z	Murmansk
125	2F	Kaliningradsk
170	3A	Moscow City (maybe 1B too)
142	3D	Moscovsk (maybe 1F too)
147	3E	Orlovsk
137	3G	Lipetsk
126	3I	Kalininsk
155	3L	Smolensk
168	3M	Yaroslavsk
132	3N	Kostromsk

160	3P	Tul'sk
121	3Q	Voronezhsk
157	3R	Tambovsk
151	3S	Ryazansk
122	3T	Gor'kovsk
123	3U	Ivanovsk
119	3V	Vladimirsk
135	3W	Kursk
127	3X	Kaluzhsk
118	3Y	Bryansk
117	3Z	Belgorodsk
156	4A	Volgogradsk
152	4C	Saratovsk
148	4F	Penzensk
133	4H	Kuybyshevsk
164	4L	Ul'yanovsk
131	4N	Kirovsk
094	4P	Tatarsk
091	4S	Mariysk
092	4U	Mordovsk
095	4W	Udmurtsk
097	4Y	Chuvashsk
101	6A	Krasnodarsk
109	6E	Karach-Cherkessk
108	6H	Stavropol'sk
089	6I	Kalmytsk
093	6J	Severo-Osetinsk
150	6L	Rostovsk
096	6P	Chech-Ingushsk
115	6U	Astrakhansk
086	6W	Dagestansk
087	6X	Kabard-Balkarsk
102	6Y	Adygeysk
174	8T	Ust' Ordynsk Buryatsk
175	8V	Aginsk Buryatsk
165	9A	Chelyabinsk
154	9C	Sverdlovsk
140	9F	Permsk
141	9G	Komi-Permyatsk
158	9H	Tomsk
162	9J	Khanty-Mansiysk
163	9K	Yamalo-Nenetsk
161	9L	Tyumensk
146	9M	Omskaya



145	90	Novosibirsk			GEORGIA (F)
134	9Q	Kurgansk		012	F-F subord rayons
167	9S	Orenburgsk		015	F-O Yugo-Osetinsk
130	9U	Kemerovsk		014	F-Q Adzharsk
084	9W	Bashkirsk		013	F-V Abkhazsk
090	9X	Komi ASSR			ARMENIA (G)
099	9Y	Altaysk		004	G-G subord rayons
100	9Z	Gorno-Altaysk			TURKMENIA (H)
103	0A	Krasnoyarsk		191	H-A Ashkhabad City
105	0B	Taymyrsk		180	now part of 193
110	0C	Khabarovsk		044	H-E Maryysk
111	0D	Yevreysk (Jewish ASSR)		043	now part of 193
153	0F	Sakhalinsk		045	H-W Tashauzsk
106	0H	Evenkiysk		046	H-Y Chardzhousk
138	0J	Magadansk			UZBEKISTAN (I)
112	0J	Amursk		189	I-A Tashkent City
139	0K	Chukotsk		053	I-B Tashkentsk obl
107	0L	Primorsk		049	I-C Kashkadarinsk
085	0O	Buryatsk		173	I-D Syrdarinsk
098	0O	Yakutsk		047	I-F Andizhansk
124	0S	Irkutsk		054	I-G Fergansk
166	0U	Chitinsk		051	I-I Samarkandsk
104	0W	Khakassk		048	I-L Bukharsk
129	0X	Koryaksk		050	I-O Namangansk
159	0Y	Tuvinsk		185	now part of 051, I-I
128	0Z	Kamchatsk		052	I-T Surkhandarinsk
		UKRAINE (B, T)		055	I-U Khorezmsk
075	B-A	Sumsk		181	now part of 173, I-D
076	B-B	Ternopol'sk		056	I-Z Karakalpaksk
080	B-C	Cherkassk			TADZHIKISTAN (J)
063	B-D	Zakarpatsk		040	J-J subord rayons
060	B-E	Dnepropetrovsk		192	J-K Khatlonsk (**formed 1988**)
070	B-F	Odessk		042	J-R Gorno-Badakhshansk
078	B-G	Khersonsk		041	J-S Leninabadsk
071	B-H	Poltavsk		---	J-X (**dissolved 1988**)
073	B-I	Donetsk			KAZAKHSTAN (L)
067	B-J	Krymsk		---	L-A (made part of 020 1988)
072	B-K	Rovensk		016	L-B Tselinogradsk
077	B-L	Kharkovsk		028	L-C Severo-Kazakstansk
059	B-M	Voroshilovgradsk		029	L-D Semipalatinsk
057	B-N	Vinnitsk		025	L-E Kokchetavsk
058	B-P	Volynsk		027	L-F Pavlodarsk
064	B-Q	Zaporozhsk		190	L-G Alma-Ata City
081	B-R	Chernigovsk		017	L-I Aktyubinsk
074	B-S	Ivano-Frankovsk		019	L-J Vostochno-Kazak
079	B-T	Khmelnitsk		024	L-K Kzyl-Ordinsk
065	B-U	Kiyevsk		026	L-L Kustanaysk
066	B-V	Kirovogradsk		022	L-M Uralsk
068	B-W	Lvovsk		031	L-N Chimkent'sk
062	B-X	Zhitomirsk		020	L-O Guryevsk
082	B-Y	Chernovitsk (**1988**)		023	L-P Karagandinsk
069	B-Z	Nikolayevsk		018	L-Q Alma-Atinsk obl
187	T-J	Sevastopol City		178	L-R Dzhzhkazgansk
186	T-U	Kiev City		021	L-T Dzhambul'sk
		BYELORUSSIA (C)		030	L-V Taldy-Kurgansk
188	C-A	Minsk City		---	L-Y (made part of 026 1988)
009	C-C	Minskaya			KIRGIZIYA (M)
008	C-I	Grodnensk		036	M-M subord rayons
005	C-L	Brestsk		034	M-N Oshsk
007	C-O	Gomelsk		---	M-P (made part of 033 1988)
010	C-S	Mogilevsk		033	M-Q Issyk-Kul'sk
006	C-W	Vitebsk		---	M-T (made part of 036 1988)
		AZERBAIJAN (D)		039	O-O MOLDAVIA (O)
001	D-D	subord rayons		038	P-B LITHUANIA (P)
003	D-K	Nagorno-Karabakhsk		037	Q-G LATVIA (Q)
002	D-N	Nakhichevsk		083	R-R ESTONIA (R)
					-end-

# International Amateur Radio Network

Glenn Baxter K1MAN, Long Point Lodge, Belgrade Lakes, Maine, U.S.A. 04918

## IARN TRIP TO SOVIET UNION IS CANCELLED

The trip of our five member IARN delegation to the Soviet Union was cancelled at the last minute due to network activation on 14.275 MHz for Hurricane Hugo. We hope to reschedule the trip some time next year and IARN Soviet Director, Victor Goncharsky UB5WE, is planning to make another attempt to attend the Dayton Hamvention this year along with IARN Berlin Chapter President Bob Bruce DJ0XC.

Meanwhile, the requested IARN repeater in Yerevan, capital of Soviet Armenia, is scheduled for installation in December 1989 or January 1990. This repeater, financed by IARN Berlin and IARN, U.S.A., is designed and built by George Caswell K1MON.

## HURRICANE HUGO

We handled traffic for 19 different islands and thus 19 disasters rolled into one. IARN responded with eight jump team operators deployed to Puerto Rico, St. Thomas, St. Croix and Culebra. Two jump team operators are still very busy on St. Croix and St. Thomas. Many new modes of communications have been used for the time in a full blown emergency including FAX, computer BBS, Packet, Telex, AMTOR, MCI Mail, along with the usual SSB voice and landline voice links.

The new combination made use of over two dozen volunteers at IARN Headquarters and three Tandy IBM compatible computers. We now have a new Q & A data base of all our St. Croix traffic which IARN St. Croix Director and Red Cross Communications Officer Dave Moritz, WB8ZQN, is using to good advantage. IARN sent eight synthesized CB handheld radios, several Cushcraft antennas, and one MFJ TNC to the Caribbean for long term servicing with other gear going and coming with individual jump team operators.

The big technological star has been AMTOR, which has supplied IARN with its long haul links for large volumes of traffic. All traffic gathered by IARN West Coast Director Frank Collins N6TAF was by computer BBS.

We expect to be working on Hugo related work through the first of the year. The details of our Hugo work have been covered on two IARN broadcasts. For your souvenir copy, send one blank C-90 cassette along with 45¢ return

postage to: IARN, Belgrade Lakes, Maine 04918 U.S.A.

## SAN FRANCISCO EARTHQUAKE

IARN activated quickly after the earthquake in San Francisco. The status reports came rapidly along with outgoing traffic which ran throughout the night and around the clock. K1MAN secured at midnight and by 4 a.m. WA9F was managing 14.275 MHz quite efficiently with traffic flowing into and out of California. At about 9 a.m. the morning after the quake, we opened a second frequency on 14.270 MHz.

There was a fair amount of international traffic, most notably from the Soviet Union... for the first time in history. The Soviet traffic was turned around very quickly and large amounts of traffic were shipped to West Coast IARN, N6TAF, via computer BBS. Sixty pages of this, courtesy Bill Pasternak WA6ITF.

Brian Breton, a new ham on the way, volunteered full time at IARN headquarters, and within several days, the California communications crisis was over and we were back to full time work on Hurricane Hugo with most work related to St. Croix and our new Q and A data base requested by St. Croix Director WB8ZQN.

## IARN SSB AND DIGITAL EMERGENCY TRAFFIC PLAN

During a world wide communications emergency, IARN will use SSB on 14.275 MHz as a primary control and logistics frequency, with 14.265 MHz for voice bulletins, 14.075 MHz for AMTOR bulletins, and 14.285 MHz as a secondary SSB frequency for health and welfare traffic. IARN operates on 14.275 MHz in five modes:

Mode 1— Full activation, continuous traffic, continuous NCS duty, IARN broadcast on 14.265, 3.975 and 28.475 MHz.

Mode 2— Semi activation, intermittent traffic, continuous NCS duty, IARN broadcast on 14.265, 3.975 and 28.475 MHz.

Mode 3— Full alert, continuous monitoring, IARN broadcast on 14.275, 3.975 and 28.475 MHz.

Mode 4— Semi alert, general monitoring, IARN broadcast on 14.275, 3.975 and 28.475 MHz.

## DIGITAL MODES

IARN uses several digital modes and digital networks to help support traffic handling. These include:

1. Traffic transfer worldwide via FAX, especially where third party restrictions are getting in the way.

2. Telephone computer file transfer.

3. Telephone computer BBS.

4. HF AMTOR files transfer, especially for long haul links between traffic modes such as U.K. to U.S. etc.

5. HF AMTOR BBS.

6. Normal packet networks.

Certain Node Managers will be assigned by the Network Manager or Assistant Network Manager to compile and keep up to date a master reply list of all traffic in case a Node Manager or Node Station must drop out from participation. We now have two IBM compatible programs available to keep track of traffic. One, available on four 3 1/2" disks, requires a hard drive and the other, available on three 5 1/4" disks, does not. If you want to examine either, send us blank disks along with return postage: IARN, Belgrade Lakes, Maine 04918 USA. ■

## PACKET PROPOSED FOR SHUTTLE

Heath Company recently donated three HK-21 pocket packet TNCs (Terminal Node Controller) to the NASA Johnson Space Centre Amateur Radio Club in Houston. As part of the Shuttle Amateur Radio Experiment (SAREX), it is proposed that an HK-21 be used on a March 1990 shuttle flight.

Packet radio allows digitized information— voice, images, and data—to be transmitted over radio frequencies. In this experiment, Amateur radio band frequencies will be used to transmit packetized data to and from the shuttle.

If the project is approved, one of the packet radios will be specially adapted for space travel. NASA will mount it into a protective SAREX casing unit and modifications will be made for use in zero gravity.

— Radio-Electronics

## SMALL WARNING

From 'reliable sources' we have learned that DOC is listening. They have several trucks monitoring VHF signals through the repeaters and otherwise. Give your full call sign, including the prefix during your QSO. You could get a 'pink slip'. Also conduct yourself in a manner befitting a 'Ham'.

— Tx PARC

# Remember When?

Some of these codes are no longer standard. Note the change in punctuation characters! Courtesy 1924 Citizen's Radio Call Book.

## International Morse Code and Conventional Signals and List of Abbreviations to be Used in Radio Communication

### INTERNATIONAL MORSE CODE AND CONVENTIONAL SIGNALS

To be Used for all General Public Service Radio Communication

1. A dash is equal to three dots.
2. The space between parts of the same letter is equal to one dot.
3. The space between two letters is equal to three dots.
4. The space between two words is equal to five dots.

A —	N —	1 —
B —	O —	2 —
C —	P —	3 —
D —	Q —	4 —
E .	R —	5 —
F . .	S . .	6 —
G —	T —	7 —
H . . .	U . .	8 —
I . .	V . . .	9 —
J . —	W . —	0 —
K —	X —	
L . . .	Y . —	
M —	Z —	

Period	.....
Semicolon	.....;
Comma	.....,
Colon	.....:
Interrogation	.....?
Exclamation point	.....!
Apostrophe	.....'
Hyphen	.....-
Bar indicating fraction	...../
Parenthesis	.....()
Inverted comma	.....'
Underline	....._
Double dash	.....--
Distress call	.....SOS
Attention call to precede every transmission	.....ATTN
General inquiry call	.....Q
From (de)	.....(de)
Invitation to transmit (go ahead)	.....BT
Warning—high power	.....HP
Question (please repeat after.....)—interrupting long messages	.....Q
Wait	.....W
Break (bk.) (double dash)	.....--
Understand	.....K
Error	.....N
Received (O. K.)	.....R
Position report (to precede all position messages)	.....P
End of each message (cross)	.....X
Transmission finished (end of work) (conclusion of correspondence)	.....E

### INTERNATIONAL RADIOTELEGRAPHIC CONVENTION

List of Abbreviations to be Used in Radio Communication

Abbreviation	Question	Answer or Notice
PRB	Do you wish to communicate by means of the International Signal Code?.....	I wish to communicate by means of the International Signal Code.
QRA	What ship or coast station is that?.....	This is.....
QRB	What is your distance?.....	My distance is.....
QRC	What is your true bearing?.....	My true bearing is.....degrees.
QRD	Where are you bound for?.....	I am bound for.....
QRF	Where are you bound from?.....	I am bound from.....
QRG	What line do you belong to?.....	I belong to the.....Line.
QRH	What is your wave length in meters?.....	My wave length is.....meters.
QRJ	How many words have you to send?.....	I have.....words to send.
QRK	How do you receive me?.....	I am receiving well.
QRL	Are you receiving badly? Shall I send 20?.....	I am receiving badly. Please send 20.
	.....	.....
	for adjustment?.....	for adjustment.
QRN	Are you being interfered with?.....	I am being interfered with.
QRN	Are the atmospherics strong?.....	Atmospherics are very strong.
QRO	Shall I increase power?.....	Increase power.
QRP	Shall I decrease power?.....	Decrease power.
QRQ	Shall I send faster?.....	Send faster.
QRS	Shall I send slower?.....	Send slower.
QRT	Shall I stop sending?.....	Stop sending.
QRU	Have you anything for me?.....	I have nothing for you.
QRV	Are you ready?.....	I am ready. All right now.
QRW	Are you busy?.....	I am busy (or: I am busy with.....). Please do not interfere.
QRX	Shall I stand by?.....	Stand by. I will call you when required.
QRY	When will be my turn?.....	Your turn will be No.....
QRZ	Are my signals weak?.....	Your signals are weak.
QSA	Are my signals strong?.....	Your signals are strong.
QSB	Is my tone bad?.....	The tone is bad.
QSB	Is my spark bad?.....	The spark is bad.
QSC	Is my spacing bad?.....	Your spacing is bad.
QSD	What is your time?.....	My time is.....
QSF	Is transmission to be in alternate order or in series?.....	Transmission will be in alternate order.
QSG	.....	Transmission will be in series of 5 messages.
QSH	.....	Transmission will be in series of 10 messages.
QSI	What rate shall I collect for?.....	Collect.....
QSK	Is the last radiogram canceled?.....	The last radiogram is canceled.
QSL	Did you get my receipt?.....	Please acknowledge.
QSM	What is your true course?.....	My true course is.....degrees.
QSN	Are you in communication with land?.....	I am not in communication with land.
QSO	Are you in communication with any ship or station (or: with.....)?.....	I am in communication with..... (through.....).
QSP	Shall I inform.....that you are calling him?.....	Inform.....that I am calling him.
QSQ	Is.....calling me?.....	You are being called by.....
QSR	Will you forward the radiogram?.....	I will forward the radiogram.
QST	Have you received the general call?.....	General call to all stations.
QSU	Please call me when you have finished (or: at.....o'clock)?.....	Will call when I have finished.
QSV*	Is public correspondence being handled?.....	Public correspondence is being handled. Please do not interfere.
QSW	Shall I increase my spark frequency?.....	Increase your spark frequency.
QSX	Shall I decrease my spark frequency?.....	Decrease your spark frequency.
QSY	Shall I send on a wave length of.....meters?.....	Let us change to the wave length of.....meters.
QSZ	.....	Send each word twice. I have difficulty in receiving you.
QTA	.....	Repeat the last radiogram.
QTE	What is my true bearing?.....	Your true bearing is.....degree from.....
QTF	What is my position?.....	Your position is.....latitude.....longitude.
TR	Position report?.....	

\*Public correspondence is any radio work, official or private, handled on commercial wave lengths.

When an abbreviation is followed by a mark of interrogation, it refers to the question indicated for that abbreviation.

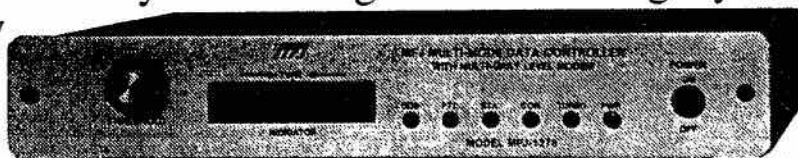


# MFJ gives you *all 9* digital modes and keeps on bringing you state-of-the-art advances . . . while others offer you *some* digital modes using 3 year old technology

MFJ-1278

\$ 459.00

## NEW MULTI-GRAY LEVEL



No 3 year old "NEW" technology at MFJ!

Using the latest advances, MFJ brings you 9 exciting digital modes and keeps on bringing you state-of-the-art advances.

You get tons of features other multi-modes just don't have.

### Only MFJ gives you all 9 modes

Count 'em -- you get 9 fun modes -- Packet, AMTOR, RTTY, ASCII, CW, FAX, SSTV, Navtex and full featured Contest Memory Keyer.

You can't get all 9 modes in any other multi-mode at any price. Nobody gives you modes the MFJ-1278 doesn't have.

### The best modem you can get

Extensive test in *Packet Radio Magazine* prove the modem used in the MFJ-1278 copies HF packet more accurately than all other modems tested.

The MFJ-1278 is the *only* multi-mode with a *true* DCD circuit for HF. This dramatically reduces sensitivity to noise and dramatically increases completed QSOs.

### Exclusive Built in Printer Port

Only the MFJ-1278 has a dedicated printer port that lets you plug in your Epson or IBM compatible printer.

You don't need to buy an optional \$40 cable just to plug your printer into your MFJ multi-mode.

### New Easy Mail™ Personal Mailbox

You get MFJ's new Easy Mail™ Personal Mailbox with soft-partitioned memory so you and your ham buddies can leave messages 24 hours a day.

### 20 LED Precision Tuning Indicator

MFJ's unequaled tuning indicator

makes it really easy to work HF packet.

And unlike others, you use it exactly the same for all modes -- not differently for each mode.

Just tune your radio to center a single LED and you're *precisely* tuned in to within 10 Hz -- and it shows you which way to tune!

### Multi-Gray Level FAX/SSTV Modem

You'll see tomorrow's news today when you copy outstanding FAX news photos with crisp, clear details.

MFJ-1278 is the *only* multi-mode with a built-in multi-gray level modem. It lets you transmit and receive high resolution multi-gray level FAX/SSTV pictures with an appropriate terminal program.

### Only MFJ can transmit FAX . . .

Most packet stations can receive FAX. But only the MFJ-1278 lets you transmit FAX without internal modifications that disable other modes.

So now you can send your own pictures, maps and diagrams by FAX to stations throughout the world.

Too bad they can't send theirs to you . . . unless they disable other modes

### One FREE Upgrade!

When you buy your MFJ-1278 today, you don't have to worry about missing new modes and features that come out tomorrow.

Why? Because your MFJ-1278 comes with a coupon good for one free eeprom upgrade exchange that'll add new features.

### Plus More . . .

Plus you get . . . 32K RAM (not 16K), free AC power supply, Host mode that lets MFJ-1278 serve as a KISS interface

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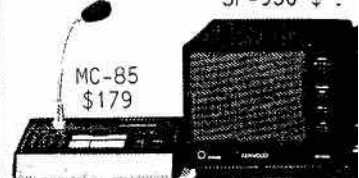
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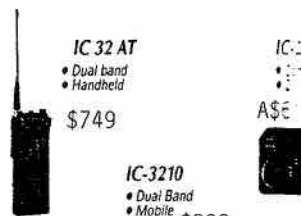
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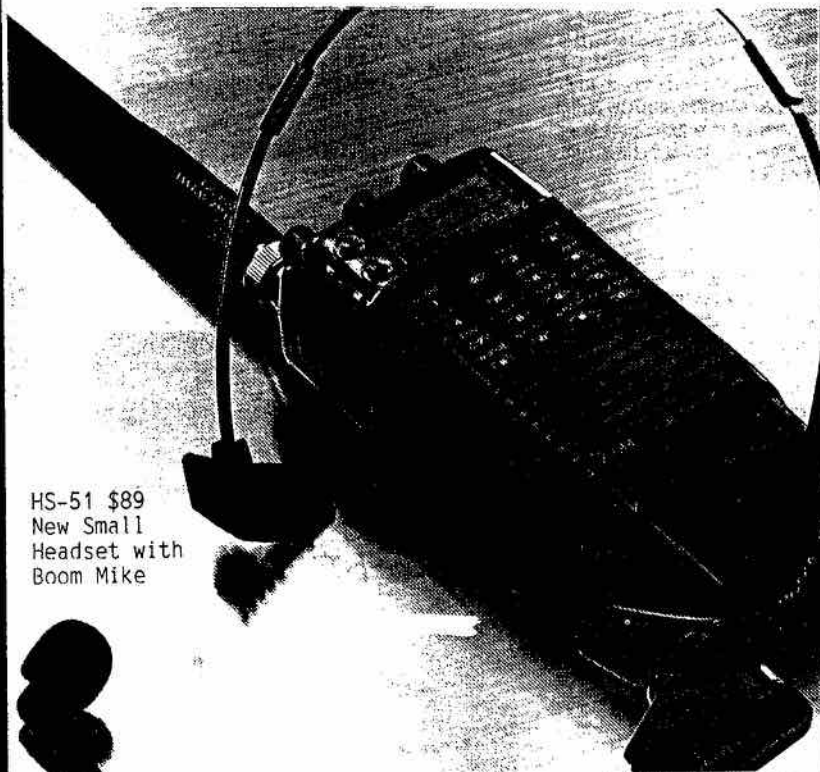


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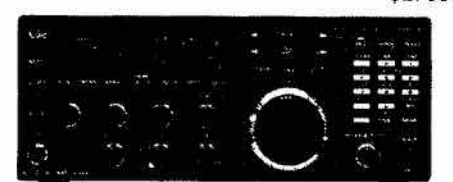
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# Canadian Broadcasting Stations

- CFAC**—The Calgary Herald, Calgary, Alberta. 430 meters, 697 kilocycles, 2000 watts.
- CFCA**—Star Publ. & Printing Co., 18 King St. W., Toronto, Ontario. 400 meters, 749 kilocycles, 2000 watts.
- CFCF**—Marconi Wireless Telegraph Co. of Canada, Ltd., 1047 Canada Cement Bldg., Montreal, Quebec. 440 meters, 681 kilocycles. Daily ex Sun 1:1:30 pm, music, weather, stocks. Mon & Fri 7:30-9:30 pm, bedtime stories, reports and music. 500 watts. Eastern Standard time.
- CFCH**—Abitibi Power & Paper Co., Ltd., Iroquois Falls, Ontario. 400 meters, 749 kilocycles, 500 watts.
- CFCK**—Radio Supply Co., Ltd., 10229-101st St., Edmonton, Alberta. 410 meters, 731 kilocycles, 250 watts.
- CFCL**—Centennial Methodist Church, Victoria, B. C. 400 meters, 749 kilocycles, 500 watts.
- CFCN**—W. W. Grant Radio, Ltd., 708 Crescent Road, N. W., Calgary, Alberta. 440 meters, 681 kilocycles, 1750 watts. Tues 11:30 pm to 1:30 am, Sat 10 pm to 12 midnight, Sun 11 am to 12:30 pm. Standard Mountain Time. Slogan: "The Voice of the Prairie."
- CFCQ**—Radio Specialties, Ltd., 791 Dunsmuir Ave., Vancouver, B. C. 450 meters, 666 kilocycles, 40 watts. Daily ex Sun & Wed 7:30-8 pm. Sun 7:30-8:30 pm, music and entertainment. Pacific Standard time.
- CFCR**—Laurentide Air Service, Ltd., Nickle Range Hotel, Sudbury, Ontario. 410 meters, 731 kilocycles, 200 watts.
- CFCT**—The Victoria City Temple, 1110 Douglas St., Victoria, B. C. 410 meters, 731 kilocycles, 500 watts.
- CFCU**—Jack V. Elliot, Ltd., 123 King St. W., Hamilton, Ontario. 410 meters, 731 kilocycles, 20 watts.
- CFCW**—London Radio Co., 314 Dundas St., London, Ontario. 430 meters, 697 kilocycles, 600 watts.
- CFDC**—Sparks Company, Wallace & Fitzwilliam Sts., B. C. 430 meters, 697 kilocycles, 50 watts.
- CFHC**—Henry Birks & Sons, Ltd., 708 Crescent Road, N. W., Calgary, Alberta. 440 meters, 681 kilocycles, 1000 watts.
- CFLC**—Chas. Guy Hunter, 551 Adelaide St., London, Ontario. 430 meters, 697 kilocycles, 100 watts.
- CFQC**—The Electric Shop, Ltd., 144 Second Ave. North, Saskatoon, Sask. 400 meters, 749 kilocycles, 200 watts. Daily ex Sun 1:1:30 pm. Mon, Tues, Thurs & Fri 7:30-9 pm. Sun 9 pm, Church Service. Slogan "The Hub City of the West."
- CFRC**—Queen's University (Dept. of Electrical Engineering), Fleming Hall, Queen's University, Kingston, Ontario. 450 meters, 666 kilocycles, 1500 watts.
- CFXC**—Westminster Trust Co., Columbia & Begbie Sta., New Westminster, B. C. 440 meters, 681 kilocycles, 50 watts.
- CFYC**—Victor Wentworth Odium, Mercantile Bldg., 318 Homer St., Vancouver, B. C. 400 meters, 749 kilocycles, 20 watts.
- CHAC**—Radio Research Club, 51 Sachville St., Halifax, N. S. 400 meters, 749 kilocycles, 500 watts. Nightly with news service, government reports and musical programs, 8 p.m., Eastern standard time. Slogan "Come to Nova Scotia."
- CHBC**—The Albertan Publ. Co., Ltd., 708 Crescent Road, N. W., Calgary, Alberta. 410 meters, 731 kilocycles, 500 watts.
- CHCE**—Western Canada Radio Supply, Ltd., 919 Fort St., Victoria, B. C. 400 meters, 749 kilocycles, 20 watts.
- CHCM**—Riley & McCormick, Ltd., 708 Crescent Road, N. W., Calgary, Alberta. 440 meters, 681 kilocycles, 1000 watts.
- CHCS**—The Hamilton Spectator, Spectator Bldg., Hamilton, Ontario. 410 meters, 731 kilocycles, 2000 watts. Daily 6:30-7 pm and 10 to 11 pm, music and entertainment.
- CHNC**—Toronto Radio Research Society, 46 Laurier Ave., Toronto, Ontario. 350 meters, 856 kilocycles, 200 watts.
- CHXC**—J. R. Booth, Jr., 28 Range Road, Ottawa, Ontario. 435 meters, 697 kilocycles, 1200 watts.
- CHYC**—Northern Elec. Co., Ltd., 121 Shearer St., Montreal, Quebec. 341 meters, 881 kilocycles, 500 watts. Wed 9-11 pm, Sun 7-11 pm. Eastern Standard time.
- CJBC**—Jarvis Street Baptist Church, Toronto, Ontario. 312 meters, 967 kilocycles, 4000 watts.
- CJCA**—The Edmonton Journal, Ltd., Journal Bldg., Edmonton, Alberta. 450 meters, 666 kilocycles, 500 watts.
- CJCD**—T. Eaton Co., Ltd., Queen St., W., Toronto, Ontario. 410 meters, 731 kilocycles, 100 watts. Mon, Wed & Fri 4-5 pm. Eastern Standard time.
- CJCE**—Sprott Shaw Radio Co., Room 1604, Tower Bldg., Vancouver, B. C. 400 meters, 749 kilocycles, 150 watts.
- CJCF**—The News-Record, 39 S. Cameron St., Kitchener, Ontario. 295 meters, 1030 kilocycles, 300 watts.
- CJCK**—Radio Corp. of Calgary, Ltd., 1731 College Lane, Calgary, Alberta. 316 meters, 950 kilocycles, 500 watts.
- CJCM**—Dr. J. L. P. Landry, Mont-Joli, Quebec. 312 meters, 967 kilocycles, 500 watts. Daily 5-6 pm, news in French and music, 10:30 pm to 1:00 am, news in French and English, vaudeville. Mon, Wed, Sat 8:30-10 pm, music and talks in French. Eastern Standard time. Slogan, "Trois semaines en bas de Quebec (three weeks below Quebec)."
- CJGC**—London Free Press Printing Co., 440 Richmond St., London, Ontario. 430 meters, 697 kilocycles, 200 watts.
- CJSC**—The Evening Telegram, 81 Bay St., Toronto, Ontario. 430 meters, 697 kilocycles, 500 watts.
- CKAC**—La Presse Publ. Co., Ltd., Cor. St. James St. & St. Lawrence Blvd., Montreal, Quebec. 425 meters, 714 kilocycles, 2000 watts. Daily ex Sat 4 pm, weather, news, stocks, 4:30 pm musical tea. Mon, Wed & Fri 1:45 pm, classical concert, 4:30 pm, dance orchestra. Tues, Thurs & Sat 7 pm, kiddies stories in French and English, 7:30 pm, classical concert, 8:30 pm, studio entertainment, 10:30 pm, dance orchestra. Sun 4:30 pm sacred concert. Midnight Frolics, first and third Tuesday of each month. Eastern Standard time.
- CKCD**—Vancouver Daily Province, 142 Hastings St. W., Vancouver, B. C. 410 meters, 731 kilocycles, 2000 watts.
- CKCE**—Canadian Independent Tel Co., Ltd., Wallace Ave. & Ward St., Toronto, Ontario. 450 meters, 666 kilocycles, 2000 watts.
- CKCI**—Le "Soleil" Limitee, C. W. Lindsay Bldg., Cor. St. John & St. Eustache St., Quebec, Que. 310 meters, 970 kilocycles. 200 watts Thurs & Sat 8:30 pm.
- CKCK**—Leader Publ. Co., Ltd., Regina, Sask. 420 meters, 713 kilocycles, 2000 watts.
- CKCO**—Dr. G. M. Geldert (For Ottawa Radio Ass'n), 282 Somerset St. W., Ottawa, Ont. 400 meters, 749 kilocycles, 200 watts. Sun & Tues 7-10 pm, music and entertainment.
- CKCX**—P. Burns & Co., Ltd., 712 Rosedale Crescent, Calgary, Alberta. 440 meters, 681 kilocycles, 1000 watts.
- CKLC**—Wilkinson Elec. Co., Ltd., 2119 Seventh Ave. N. W., Calgary, Alta. 400 meters, 749 kilocycles, 200 watts.
- CKOC**—Wentworth Radio Sup. Co., Ltd., Hamilton, Ontario. 410 meters, 731 kilocycles, 100 watts. Slogan, "In the Garden of Canada."
- CKY**—Manitoba Telephone System (Provincial Govt.), Winnipeg, Manitoba. 450 meters, 666 kilocycles, 500 watts. Daily ex Sun, 12:30-1:30 pm. Daily ex Sat & Sun 4-5 pm. Tues & Fri, 8:15-10:30 pm. Thurs 8:30 pm (rented to Canadian Nat'l Railways ("CNRW")). Sun 7 pm, Church Service. Central Standard time. Slogan, "Manitoba's Own Station."
- CNRC**—Canadian Nat'l Railways, Calgary, Alberta. 440 meters, 681 kilocycles, 1000 watts.
- CNRE**—Canadian Nat'l Railways, Edmonton, Alberta. 450 meters, 666 kilocycles, 500 watts.
- CNRM**—Canadian Nat'l Railways, Montreal, Quebec. 341 meters, 881 kilocycles, 2000 watts.
- CNRO**—Canadian Nat'l Railways, Jackson Bldg., Bank St., Ottawa, Ont. 435 meters, 689 kilocycles, 500 watts. Wed & Sat 7:30 pm, stock reports, 8pm Chateau Laurier Hotel Orchestra, 8:45 studio program, 10:30 dance program. Slogan, "The Largest Railroad System in the World." Eastern Standard time.
- CNRR**—Canadian Nat'l Railways, Regina, Sask. 420 meters, 713 kilocycles, 2000 watts.
- CNRS**—Canadian Nat'l Railways, Saskatoon, Sask. 400 meters, 749 kilocycles, 500 watts.
- CNRT**—Canadian Nat'l Railways, Toronto, Ont. 400 meters, 749 kilocycles, 2000 watts.
- CNRW**—Canadian Nat'l Railways, Winnipeg, Manitoba. 450 meters, 666 kilocycles, 2000 watts.



# •CQ DX•CQ DX•

Paul Cooper VE3JLP, RR 2 Metcalfe, Ontario K0A 2P0  
613-821-2167



## THE NCDX BEACON PROGRAM

I wonder how many readers make regular use of the Northern California DX Foundation's worldwide 20 metre beacon system? Perhaps some of you don't even realize that this system has been operating on 14.100 MHz for some years now, giving everyone the opportunity to make a useful check, in real time, of band conditions. For those unfamiliar with the beacons, here are the details. Look for their signals on 14.097 MHz. There are now nine stations transmitting in a ten-minute sequence as follows:

### Station/Location/Time

4U1UN/B- United Nations, NYC 00:00  
W6WX/B- Stanford University, CA 00:01  
KH6O/B- Honolulu Com. Col. HA 00:02  
JA2IGY- Tokyo, Japan 00:03  
4X4TU/B- Tel Aviv University 00:04  
OH2B- Espoo, Finland 00:05  
CT3B- Maderia Island 00:06  
ZS6DN/B- Transvaal, South Africa 00:07  
LU4AA- Argentina 00:08

Each transmission begins with the station identifier, transmitted at 100 watts, followed by a series of ten second dashes at 100, 10, 1 and 0.1 watts. The transmission closes with the station ID at 100 watts again. Those 10 dB power steps are precise and are useful in 'S' meter calibration as well as in judging band conditions. Each station uses a simple vertical antenna to ensure an omni-directional pattern.

Lately I have found the beacon frequency suffers from QRM from HF packet stations; it doesn't take much interference to squash that small signal. However there are enough times when the frequency is clear to keep me checking it when, for example, I want to know if the afternoon path to Africa has opened up. I believe there are long term plans to add another beacon transmitter in Australia; this would certainly be a useful addition to the group. I think the foundation deserves a lot of credit for launching this big project and ensuring its continuing success.

## PITCAIRN ISLAND BICENTENNARY

Thanks to Ellen White W1YL/4 in her September QST anniversary that falls on Jan. 23, 1990. This will be the 200th Anniversary of the landing of Fletcher Christian and the *Bounty* mutineers on the island. On this date in 1790, Tom Christian's ancestor, in the company of

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22 September 1989  
Date #4011 Secretary

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eight other members of the Bounty's crew, together with 12 Polynesian women, six men and an infant settled the island for the first time.

While no details are yet available, keep a sharp look out for special event stations on the island around Jan. 23. One of the lesser known facts about the island is that it has the highest percentage of any country in the world, six hams out of a total population of 50. I make that 12%. Contrast that with Canada with roughly 0.1% of the population holding a ticket!

## BITS AND PIECES

**The Colvins Again**— I see in *QRZ DX* that Lloyd and Iris are off again, this

time with a six month swing through some rare DX locations in Africa. Not many details are available at the moment, but their first stop will be in Burkino Faso, where they will probably use the calls XT2KG and XT2QL. QSLs should be sent to YASME, P.O. Box 2025, Castro Valley, CA 94546, U.S.A. **FT5X Kerguelen Island**— It's good to read in *QRZ DX* that a new batch of operators are due to arrive on Kerguelen Island, in the far southern Indian ocean, this November. Three of them plan to be active on the Amateur bands. FT5XA, whose home call is F6EUX and who has operated as

Continued on next page

► DX (cont'd)

FT8XA and J28EO; Francois FT5XH, who has also been active using F6GYV and FO8IK and finally Yves FT4XI, whose home call is FD1PYV. A quick check of the 'QSN' columns in two recent Newsletters show no reports of activity from Kerguelen at all. Let's hope the new arrivals make FT-X a more common call on the bands this winter. **UA2F Kalingrad**— Those of you still looking for Kalingrad, one of the rarer Soviet 'countries', might want to check the DX net on 14.222 MHz at 0520 UTC. UA2AO is the call and we understand he has been checking in regularly with this net (October, '88). QSLs should go to UA2FM's callbook address. (Your columnist is still looking for a UJ contact. I thought I had struck oil on October 18th when I heard UJ8AH on 14.012 MHz calling CQ around 2050 UTC. Unfortunately conditions were not very good and he didn't hear me, so I'm still looking!)

**Long Path-Indian Ocean**— I was fortunate enough to work a couple of stations in the Indian Ocean recently (October '89) via a long, or was it crooked, path. I had the beam pointing to the North West when I heard 3B8CF on Mauritius calling CQ on 14.030 MHz at 0230 UTC. I gave him a short call and he came back to me with a 559 report; he was 519 with me. He then carried on calling CQ with no takers, nobody else seemed to have noticed him, the conditions being poor that day. The next day at about the same time I heard Jean FR5DD on 14.040 MHz and we exchanged reports. The moral is check for long path signals when there is a chance of this kind of opening, sometimes they pay off handsomely.

**ZK1 North Cook Islands**— I wonder how many readers managed to add North Cook to their DXCC score this fall?

In October the redoubtable ZL1AMO

**10-10 INTERNATIONAL NET**

The 10-10 International net was formed some years ago to promote more extensive use of the 10 metre band particularly during the sunspot minimums. Amateurs may obtain a 10-10 number by working ten 10-10 members, logging name, callsign, QTH and 10-10 numbers. These are then sent to your area manager with \$6 U.S. You will receive a certificate, plus regular copies of the 10-10 newsletter, and, of course, your own 10-10 number.

By exchanging 10-10 numbers with other members on 10 Metres, you can qualify for various awards, plaques, etc. Call VE1BIJ on 28.250 for your first 10-10 number.

— VE1BIJ

was off on another of his many Pacific DXpeditions, this time putting the fairly rare North Cooks Islands on the air. I found him on 14.026 MHz at 0316 UTC on Oct. 24. QSLs, of course, to his New Zealand Call Book address.

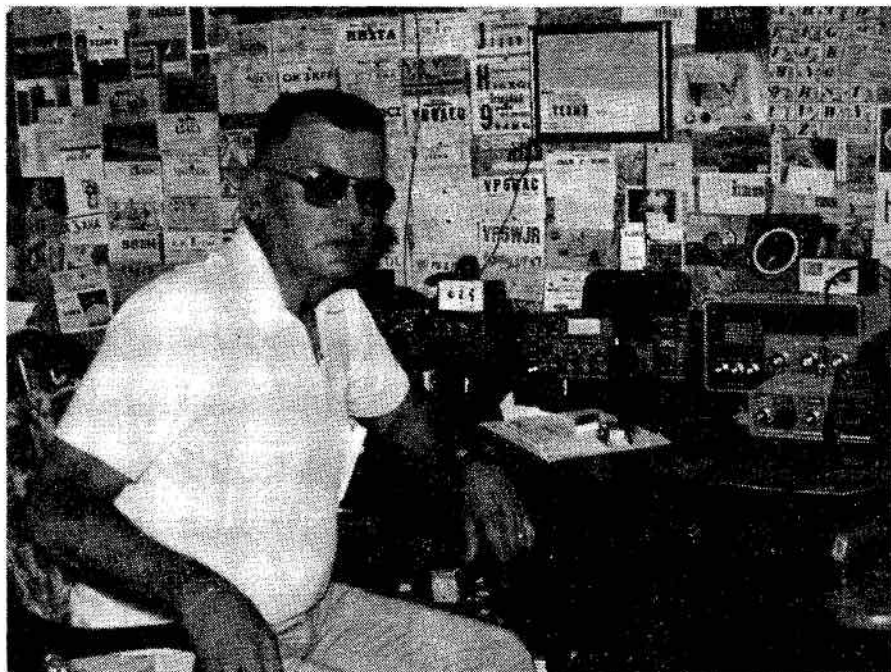
**KH3 Johnston Island**— *Inside DX* reports that Peter KNOOE/KH3 will be QRV for more than a year from this island that lies 600 miles SW of the Hawaiian Islands. He plans to be active in all major DX Contests and tells us that we can find him on 1.832 MHz at 1130 UTC, 3.505 MHz at 1145 UTC, 7.003 MHz at 1115 UTC, 14.024 MHz at 1030 UTC, 14.205 at 1230 UTC and 21.335 MHz around 0230-0300 UTC. Your

QSLs should go to K9UTY. Another station active from KH3 is KA3HMS/KH3. He is reported to favour 20 metre phone. QSLs to KA3HMS.

**APOLOGIES**

Sorry about the short length of the column this month. I have had to submit two month's columns in a two-week period as I am off to the U.K. for the annual trip in the first two weeks of November.

Thanks are due to the following sources for some of the material appearing in this column: *QRZ DX*, *NCDX*, *Inside DX*, *QST*, *NZ9E*, *VR6MW*.



Cecil Fardoe VE4AEE

## Brandon ARC assists Red Cross effort

By Cecil Fardow VE4AEE

During the July '89 forest fires in Northern Manitoba, the BARC was called upon by the local branch of the Red Cross to assist with back up communications for 1600 to 1800 evacuees who were flown in by Hercules and other aircraft.

We of BARC were happy to have been called, as we believed the exercise would encourage the local powers to give us authorization to install a 2-metre antenna on the library building. The Red Cross offices are in the basement.

With rubber duck and 1/4 wave antennas, only one of our repeaters

could be accessed. Good assistance and co-operation by the Red Cross made the task much easier for both parties.

The families were returned home on August 1, 3 and 4 and again the BARC assisted with personnel on 2-metres at the airport and the Red Cross office. The hams who volunteered were VE4LB, VE4US, VE4ID, VE4RD, VE4DC, VE4AJL, VE4AEE, VE4AAU, VE4CA and VE4XN. Many others offered their assistance and equipment. To date this was likely the largest undertaking by the BARC. 'GOOD SHOW' to all.

Future plans include linking, which should get past the planning stages this winter.



# Listening To The World

Sheldon Harvey, 79 Kipps St., Greenfield Park, Quebec J4V 3B1



Welcome to the 1990s. Having been on this planet for 3½ decades, I have to say that the 80s went by faster than the other two which preceded it. Personally I hope that things slow down a little for the 90s. I look forward to developments in the 90s as we head towards the 21st century. It should be quite an exciting period. We have certainly ended the decade with some rather startling events in the world, particularly in the Eastern block countries of Europe, which leads me to choosing this month's particular stop on our world tour via radio.

## COUNTRY OF THE MONTH

To this point in time some of the most astounding events I have ever heard over radio have come from the German Democratic Republic or East Germany, as it is known by some. The day-to-day dramatic changes taking place in and around Germany as well as some of the other Eastern block countries led me to some of the most interesting radio monitoring I have personally experienced. We will turn our attention in particular to the broadcasting activities from the German Democratic Republic. The state-run shortwave radio outlet from the GDR is Radio Berlin International (RBI).

The station was founded in 1959 and throughout its history, RBI and the GDR in general have been one of the most staunch supporters of the Communist system and this was directly reflected in the broadcasting of RBI. They have always been a blunt, straight-to-the-point broadcaster. The 'our system is best' approach came through strongly in their programming. They were very much self-centred and really didn't pay much attention to the outside world, but focused on their own affairs. So firm was the East German stand on Communism, that they were the first world power and the first shortwave broadcaster to support the actions of the Chinese Communist government during the demonstration of Tiananmen Square.

Well, will wonders never cease! By now I am sure you are all aware of the November developments in East Germany and the wholesale changes which took place. The changes also rather dramatically influenced the programming of Radio Berlin International. More details on this in a few moments. Let's get back to the operations of Radio Berlin International.

RBI broadcasts around the world in 11 languages: Arabic, Danish, English,

French, German, Hindi, Italian, Portuguese, Spanish, Swahili and Swedish. RBI uses a series of 50, 100 and 500 kilowatt transmitters located at Koenigs Wusterhausen, Leipzig and Nauen. RBI has referred to itself for many years as 'your DX-station', putting a heavy emphasis on radio programming for the avid shortwave listener and hobbyist.

The station operates its own DX club for listeners and publishes regular DX bulletins to their members. Membership is free of charge and you can join by sending in three reception reports on RBI transmissions. To maintain your membership, you must submit a minimum of one report per month.

There is an Amateur Radio connection to RBI as well. The host of the RBI DX programme which is heard in their Monday broadcast is hosted by Wolf Hess Y31NO, a very active Amateur Radio operator. Here is the English schedule for RBI broadcasts to North America. All the times quoted are in UTC or GMT:

2200 on 9730 kHz; 2245 on 9730 and 13690 kHz; 0045 and 0200 on 6080 and 11890 kHz; 0245 on 6080, 11785, 11890 and 15125 kHz; 0400 and 0445 on 11785, 13690 and 15125 kHz.

There is one broadcast per day, repeated several times. Programming consists of news, commentaries, mailbag shows, sports, science and technology and musical programming. They enjoy hearing from their listeners, so to comment on their programming, to send reception reports or to ask for their programme and frequency schedule, write to Radio Berlin International, 1160 Berlin, German Democratic Republic.

To return to the events of November in East Germany, I would like to relate to you some of the historic broadcasts which I was able to monitor on RBI. Here is a portion of the text of a commentary aired on Nov. 5, 1989 written by RBI's Director of Broadcasting, Klaus Fischer.

"Our daily news bulletins, commentaries and reports have told you in recent days and weeks that a process of change has been set in motion in our country. It is true and will remain true, that the German Democratic Republic is a state firmly rooted in Socialism, but it is regrettably also true that there have been problems and contradictions in our development and a diversity that did not receive due attention in public life in the GDR. We have to admit that our programmes

were largely about the sunny side of life here, and therefore reflected only part of the reality of our society.

"This is the reality and we who work as journalists at RBI accept the challenge. I'm certain that, in future, many of your questions about our country, including those you never asked, will be answered more fully. Doors that had hitherto been closed to the media and also doors we were too lazy or afraid to push open in the past, are now beginning to open.

"We now need your frank and sincere opinions and comments more than ever before, and I promise, in the name of the entire staff of RBI, that we'll answer all of your questions frankly and honestly."

Quite remarkable statements coming from Radio Berlin International. Tune into the station and listen to history in the making as more changes are upon the horizon as we head into the 1990s. Enjoy Radio Berlin International!

## UPDATE— CONFIDENTIAL FREQUENCY LIST

I have received a number of letters requesting more information about a publication which was reviewed in the Reviews column on page 22 of the October *Canadian Amateur* magazine. The book is the *Confidential Frequency List*. This book is the authoritative listing of international utility stations operating within the shortwave radio spectrum, including voice, CW, radio-teletype and fax frequencies in the 4 to 28 MHz spectrum and lists over 30,000 stations.

There are numerous charts supporting the frequency listings, including time zone maps, call sign lists, frequency and service allocation charts, plus the International Civil Aviation Organization High Frequency Area Charts, useful to the aviation buffs. There is also a basic introduction chapter explaining the various types of services and modes of transmissions found in the utility station spectrum.

This 376-page book is now in its seventh edition. Anyone interested in obtaining a copy of this book may order it by mail from me for the cost of \$25.95 Canadian, postage and handling included. Simply forward a cheque or money order to me at my address indicated above. For anyone interested in the utilities, you may already know that these types of stations are probably the most difficult types of station to try to confirm by means of reception reports.

Continued on next page



## ▶ LISTENING (cont'd)

The most difficult factor is that it is very difficult to obtain the mailing addresses of the stations. Most of these types of stations will verify reception reports with some very unique forms of QSLs. A most useful publication to assist the QSL collector in chasing down utility confirmations is the *Utility Station Address Guide*, Volume 1 and 2.

Volume 1 covers utility stations operating in the Western hemisphere. Volume 2 covers the rest of the world. Both books are set up on a country-by-country basis, giving the type of station, be it aero, maritime, military, time signal, etc., together with the complete mailing address for sending in your reception reports.

QSLing utility stations is a tricky thing. Due to the nature of the broadcasts which you hear, you are legally not at liberty to divulge the contents of the transmission which you received, but there are still ways to report what you hear. For example, if you monitor the international air control tower on the Azores, Santa Maria Aeradio, working various air traffic, you need simply write to the station giving them the frequency, date and time you heard them and perhaps the flight numbers of two or three of the airplanes they were working at that time. Each plane will identify itself with its name and flight

number, such as Air France 123 or Air Canada 078, etc. This amount of information will usually be enough to get you your confirmation, plus will not divulge any confidential information.

Even monitoring a personal ship-to-shore telephone conversation through a maritime operator can be verified. You would simply indicate again the time, date and frequency on which you monitored the transmission, together with the name of the shore station and the name of the vessel for which traffic was being run.

Most utility stations will confirm reports and will often send you interesting information about their station and services. The key is to be polite and to be patient. Remember that these stations are performing a public service and it is by no means compulsory for them to respond to your requests for confirmations, but many will give you access to some unique verifications from exotic places to add to your collections.

Volume 1 and 2 of the *Utility Address Guide* can be obtained through me at the cost of \$18.95 per volume. There is a special price for ordering both issues together: \$32. Again these prices include shipping and handling. There are thousands of stations operating within the utility world and some exciting and unique listening is

available to you at the dials of your general coverage equipment.

That's all for another month. If there is a particular country of the world which you would like to see profiled in this column, please feel free to drop me a line and I'll do my best to get it into an upcoming issue, or if you have questions with regards to a particular station or country which you are looking for on the shortwave bands, let me know and I'll try to find the answers for you. I look forward to your comments and inquiries. Until next month!

### TOWERS TAXED? IT COULD HAPPEN!

A bill has been introduced into the current New Hampshire legislature that will enable cities and towns to tax communications antenna towers as real estate!

HB-243-FN, while aimed primarily at commercial and broadcast towers, includes CB/ham radio towers, backyard satellite dishes and even private TV antennas!

The bill authored by Representative McRae of Hillsborough District 6 has been referred to the Ways and Means Committee.

— Greater Milwaukee  
DX Association




**Get Results!**

**THE CANADIAN AMATEUR**

**SWAP SHOP**

Canada's Amateur Radio Magazine

A  OF

BADGE HONOUR

**QUARTER CENTURY WIRELESS ASSN.**  
(founded 1947)

\*\*\*\*\*

If you were first licenced in 1964 or earlier, you can belong to the exclusive society of QCWA. Join Southern Ontario Chapter 73 - and exchange memories, experiences, banter and technical information with others of your own generation at our twice-annual luncheon meetings and on weekly nets. Special pins, certificates, and QSL stamps also recognize those who have held a ham licence for 50, 55 or 60 years.

Our next get-together is scheduled for May 12th next at the Mohawk Inn, Campbellville, Ont. - on Guelph Line 100 yards north of Highway 401. JOIN US! Bring a friend whether a prospective member or not!

For fees and applications contact the Secretary, Phil Wharton, VE3RE, Box 183, Waterford, Ont. NOE 1Y0. Other Chapters in the National Capital Region, Alberta, and British Columbia. Ask for contacts.

**170 ACTIVE CHAPTERS WORLDWIDE!**

# ARES AMATEUR RADIO EMERGENCY SERVICE

Bob Boyd VE3SV, P.O. Box 356, Kingston, Ontario K7L 4W2



## CALIFORNIA EARTHQUAKE

While the emergency nets were still busy with traffic from Hurricane Hugo, a second major disaster struck our neighbours to the south. The U.S. west coast from Santa Barbara at the south to beyond Sacramento at the north, and including the San Francisco-Oakland area, was struck with an earthquake of intensity 7.1 on the Richter scale. At the time of writing, fatalities are in excess of 60 and property damage is estimated to be as high as six billion dollars.

Who can forget the terrifying views, on TV, of the catastrophic fire in the Marina district of San Francisco, or the crushed cars under the collapsed upper deck of the Nimitz freeway in Oakland?

In a matter of minutes following the 15 second quake, the telephone system throughout the area became inoperative, partly due to earthquake damage, but more particularly due to overload from many thousands of calls into and out of the disaster zone. Within minutes, a number of stations that had survived the tremor were on the air with damage and casualty reports, as well as messages of reassurance from survivors. For the next week or more, literally thousands of welfare inquiries were fed into the area by IARN and ARES stations all over the continent. The majority of these messages read simply "ARL 19 addressee," thus making effective use of one of the ARRL numbered radiograms. (In case you don't have your list at hand, ARL 19 means "Request health and welfare report on ---". Some operators passed as many as 25 welfare messages into the area at a time, on behalf of their local Red Cross organization.

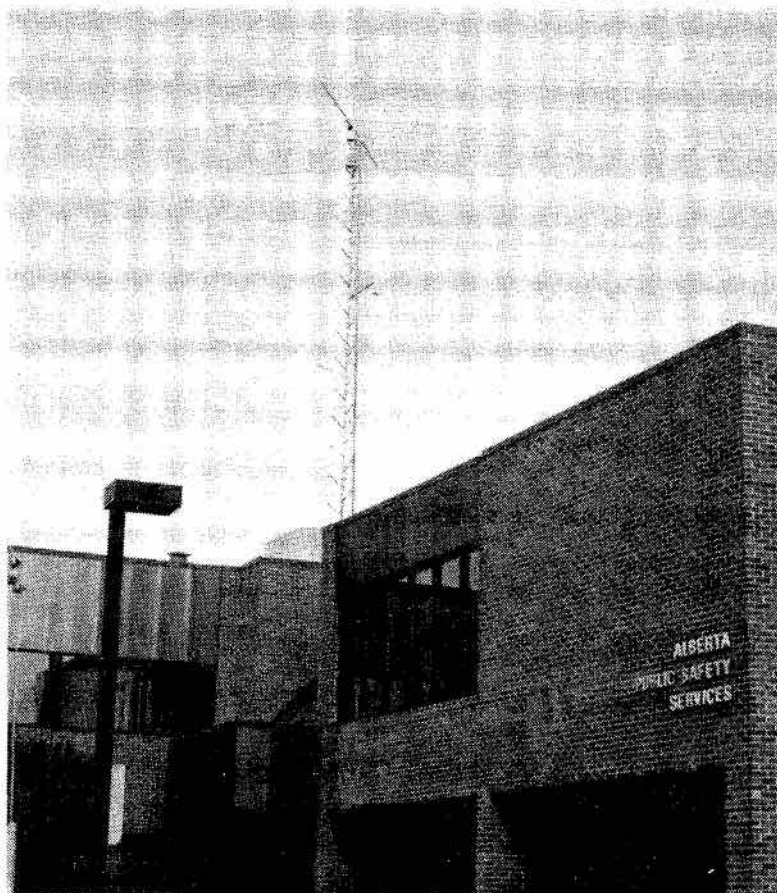
While it is too early to assemble a comprehensive report on Amateur Radio's response to the California Earthquake, it is safe to say that once more a major contribution was made by ARES.

The rupture was the seventh substantial earthquake in California since the 1906 San Francisco quake which killed 700 people. Disastrous though it was, it was not 'The Big One' that has been expected for years. The San Andreas fault, which is one of the greatest fractures in the world's crust, passes within eight miles of the centre of San Francisco. For years, pressure has been steadily mounting along the fault. Whole areas of California have been slowly moving as a result of the strain. While the quake relieved pressure along part of the fault, there remains a

Continued on next page



Above: Bill Gillespie VE6ABC at the controls of VE6GOC in Edmonton. Below: The HF and VHF antenna installation for VE6GOC on top of the Edmonton headquarters building of the Alberta Public Safety Services.



► **ARES (cont'd)**

region some 20 km just to the north that did not rupture, and which consequently now presents a higher risk in the future.

In Canada, the attention of seismologists has been focused on the Juan de Fuca fault which runs beneath the Pacific Ocean from the centre of Vancouver Island to Oregon. Movement along the fault line could create a massive earthquake on Canada's west coast, including the greater Vancouver area.

As noted in an earlier column, Canadian authorities on our west coast have been paying increased attention to the possibility of a major quake. There are indications that the San Francisco disaster has stimulated even greater interest. We wish Ernie Savage VE7FB, SM and SEC for British Columbia, well in his continuing efforts to heighten interest in ARES in his province.

**VE3GOC ET AL**

In strong recognition of the role of Amateur Radio in disaster communications, Emergency Preparedness Canada has created VE3GOC, and has assisted with the funding of VE1GOC and VE6GOC.

VE3GOC is located in the federal government's emergency headquarters (known there as 'the bunker') at Carp, not far from Ottawa. The intended purpose is to supply and co-ordinate emergency HF communications when commercial facilities are either unavailable or impaired to the extent that they cannot rapidly exchange vital information of interest to federal government agencies.

The station's chief operator is Nick

**TORONTO POLICE CHARGE SEVEN WITH STEALING TELECOMMUNICATIONS**

The charges were laid after so many calls were made to a pager company's voice mailbox automated message service that normal business was sometimes brought to a halt, according to *Bulletin*, the newsletter of the RadioComm Association of Canada.

As many as 10,000 calls per month were being generated by the hackers who formed a club called 'Scannerville'. Another group of hackers calling itself 'Pagerville' has been known to tie up paging terminals with messages sent by modem. Strangely, there was a gang-style rivalry between these groups. Many involved in the hacking used the facilities for social or dating purposes.

Send Letters to the Editor to: Editor, *The Canadian Amateur*, Box 356, Kingston, Ont. K7L 4W2.

Evanoff VE3BED, an employee of EPC. It is operated by various members of the public service in Ottawa who are licensed Amateurs.

Equipment includes Yaesu and Racal HF transceivers, each with linear amplifier, and an ICOM two metre transceiver. Antennas comprise a TH6DXX beam, an all band vertical and an inverted vee dipole.

So far, the station has been used for emergency communications related to the Mexican earthquake, the Edmonton tornado and the DC-8 air crash at Gander.

VE1GOC is just being set up near Fredericton, N.B. I have been unable to secure any information on it to date, but will provide a description in a later column.

VE6GOC has been established in Edmonton, at the headquarters of the Alberta Public Safety Services, with joint funding by APSS and EPCC. Bill Gillespie VE6ABC, who is co-ordinator for Alberta ARES, played a leading role in setting up the station and getting it on the air. The equipment comprises a Racal HF station complete with 65-foot tower and three element beam and dipole antennas along with a two metre

transceiver with a Ringo Ranger antenna. The HF station is capable of RTTY operation. When the station operates in support of APSS it uses the callsign VE6ACD.

With the commissioning of these emergency stations, Canada's ability to provide communications in a disaster has been significantly increased.

(Our thanks to Bill Gillespie VE6ABC and Moe Lynn VE6BLY who provided information on VE6GOC and J.D.W. Peters of Emergency Preparedness Canada who supplied the description of VE3GOC.)

*It is hoped that this column, which is being submitted to both The Canadian Amateur and to QST Canada, can become an ongoing source of news and information for members of both organizations on ARES activities across Canada. ARES members and particularly ECs are invited to send along information on what they are doing and on any developments they would like to share with other ARES groups. Bob Boyd VE3SV will pull this together in future columns, all with the objective of increasing our collective ability to serve our community and our nation, should disaster strike.* ■

## Electro-Cross 4

By Dave Bennett VE7YJ

Here we feature Q-codes, 77 of them, from the standard international list and the ARRL QN series. Do you know what they all mean? Codes may be found horizontally, vertically or diagonally, backwards or forwards, up or down. Draw a ring around each code you find. Blank letters have been filled by Z.

Y	Q	O	N	Q	N	Q	N	F	Q	R	L
R	S	U	Q	Q	N	G	Q	R	L	N	S
Q	R	Q	R	O	Q	Q	P	Q	Q	Z	Q
Q	Q	N	A	Q	S	D	N	Q	N	R	Q
Q	S	U	Q	T	U	E	Q	N	H	U	Q
Q	Q	V	S	X	Q	Q	U	C	T	Q	Q
N	S	T	G	Q	Z	R	X	T	Q	T	N
M	M	Q	B	R	Q	V	N	Q	Q	R	K
T	R	Q	R	R	Q	D	Q	U	Q	R	S
N	Q	N	W	R	S	R	N	S	Q	Q	Q
Q	N	B	S	Q	X	R	Z	R	Q	N	U
Z	A	S	Q	R	I	J	N	Q	P	S	Q

Codes, QNA, QNB, QNC, QND, QNE, QNF, QNG, QNH, QNI, QNJ, QNK, QNL, QNM, QNN, QNO, QNP, QNQ, QNR, QNS, QNT, QNU, QNV, QNW, QNX, QNZ, QRA, QRB, QRC, QRH, QRI, QRK, QRL, QRM, QRN, QRO, QRP, QRQ, QRR, QRRR, QRS, QRT, QRU, QRV, QRW, QRX, QRY, QRZ, QSA, QSB, QSD, QSG, QSK, QSL, QSM, QSN, QSO, QSP, QST, QSU, QSV, QSW, QSX, QSY, QSZ, QTA, QTB, QTC, QTH, QTR, QTU, QTX, QUA, QUC, QUH, QUN, QUR, QUS.



# QUA

## News and Views from around the world

### CANADA

RAQI asked the Department of Communications for definitions of malicious interference and bad language, and the position of DOC regarding enforcement of the regulations on those matters. They asked:

Under what conditions would DOC intervene?

What evidence would be acceptable? Who should confront the offending party and in what way?

DOC (Quebec Region) replied by first quoting the provisions of the Radio Regulations Part 2 regarding malicious interference or false or fraudulent messages, and on gross or obscene language. They went on to explain that DOC does not require precise definitions to decide whether an infraction has occurred, but relies on the circumstances surrounding an incident, or the context in which a message is transmitted. Examples would not serve the spirit of the law.

When one or more licence holders think they are victims of one of these types of interference and ask for the assistance of DOC, they should provide all the information they can to help identify those responsible. In case these are known by the complainants, they may also submit a witnessed declaration relating their observations or conversation that took place with the person responsible for the interference.

Later it will be the task of the DOC to inform the guilty party by certified letter of the regulations and his obligations. If he continues to commit the offences, representatives of the Ministry will be empowered to gather the necessary proof, with technical measurements and visual observations, inspection of the station, identification of the party, and to recommend suspension or to start legal action.

It seldom happens, but it is a fact that an ordinary citizen may, unless there are restrictions by legislation, proceed directly to make a complaint. Although DOC is ready to follow these procedures, they encourage Amateur organizations to continue their efforts to sensitize their members, and the general body of Amateurs, to the need for proper behaviour on the Amateur bands.

— Radio Amateur du Quebec

### U.S.S.R.

There are probably more than two million 'radio-Amateur constructors' in the U.S.S.R. (the number is not known because only about 60,000 are

associated with the national organization DOSAAF). 'Radio-Amateur constructors' include experimenters building computers, electronic musical instruments, more or less anything electronic.

At a recent exhibition of the work of 'constructors', one of the TV sets was tuned to a West German program on a European satellite.

The 'constructors' are restive because the recent re-organization of the Amateur Radio hobby centres on people interested in communication, of whom there are about 50,000 with individual stations and about 50,000 licensed to operate at collective stations.

### UK2BBB

This collective station seems to have been unfairly disqualified from some contests, including the 1986 CQ-M, when the station call was UP1BWW. In each case the alleged offence came to the attention of the station only after the official results were announced, and in each case the judges later agreed the charges were not justified. In one case the entry had been mislaid by the judges, and the station charged with omitting to put in an entry (a serious offence sometimes leading to licence suspension).

### DX Clubs

The advisability of trying to operate a nationwide DX club is being questioned. Several regional DX clubs are operating, and it seems likely this is the way things will go.

— Radio courtesy H4KM

### AUSTRALIA

VK3TL gives some useful information on the design of QSL cards. The most important factor is size, and the most satisfactory size is 140mm by 85mm, which will fit into a 145 x 90 envelope and will stack and file easily. Avoid vertical-type cards. A card should be thick enough to stand handling, but not so thick that it incurs heavy postage cost.

If the card is double sided, with artwork on one side, make sure the call is prominent and with at least 18mm high letters, printed horizontally. If it is one-sided, make sure the sender's call is much more prominent than that of the receiving station. Do not have dots, dashes or hyphens in the call. If two calls have to appear on the card, have small boxes next to them or ticks or crosses. Avoid old-fashioned or computer-type lettering. Keep the design simple but visible. Be careful about glossy surfaces, which

sometimes do not take ink very well, and the call may rub off!

On a two-sided card it is preferable that the call of the station to receive the card be written at the top of the data side, with the word 'To' in front of it, and if there is a QSL manager, that call too should go on the card. It is of great help to the QSL bureau if these call signs are written at the top of the reverse side of a single-sided card. Zeroes should have a slash through them, and Us and Vs should be clearly written. C can be easily mistaken or L if not written with a clear curve.

On a one-sided card, the receiving station's call should come first and be separated from the rest of the report data. Make it clear whether it is the confirmation of a QSO or a listener report. 'Confirming QSO' is very clear. It should also be clear whether it was a 2-way QSO and what mode was used. Always show the time in UTC as a four-figure group. The best form for the date is '7 March 1989' — use of figures for day and month have cost many people a confirmation because of the confusion between the American month-day-year form and the more universal day-month-year.

Include your complete postal address. All entries should be in ink and unaltered. Every card should include at least: station worked, date, time, frequency, mode, RS(T).

— Amateur Radio

### CHINA

Stations are being licensed with individual calls, beginning with the BZ prefix. One of the first was Kang Wu Zhilyuan BZ4SAA (Tong Jia Xiang 25, Suzhou City, P.R. of China). Kang also operates at BY4SY and was at BTOZML on Mount Everest in 1988.

### NETHERLANDS

During October and November 1989, Netherlands stations were authorized to use a special prefix, adding a 6 immediately after the PA, PI, PB, etc. (PA1- became PA61-). This was to commemorate the 60th anniversary of the first exams and licences for PA Amateurs. The first was issued to PAOBZ in August 1929.

VERON issues a special certificate to DX stations working (listeners hearing) 15 stations using the special prefixes. An extract from your log, signed by two other Amateurs, will suffice, sent to PAOBN through the bureaux before March 31, 1990. Any bands, any modes, endorsements for HF, VHF/UHF/SHF, CW, SSB, SWL. ■

this info from Old Man, October 1989

# PACKET RRP

Bernie Murphy VE3FWF, 3 Herrington Court, Nepean, Ont. K2H 6B9

## BRIEF REVIEW OF PAST DECADE

Now that we are into a new decade, it might be useful to briefly review what has transpired over the last years with regard to digital devices and digital communications. Packet radio, as we know it today, did not even exist 10 years ago. The IBM PC was not yet announced. It is interesting to note that a 64 Kilobyte memory board or an S-100 computer system (do you remember the S-100 systems?) was over \$850. In today's dollarettes that would be over \$1700.

Today, you can purchase a whole IBM PC clone including a monitor, a 40 megabyte hard disk, and dot matrix printer for less than \$1200! The cost of digital hardware continues to drop every year. There is no reason to believe that this trend will not continue in the years to come.

## A BRIEF PEEK INTO THE FUTURE

Trying to predict what might occur is a tricky issue at best. Here are some of the developments that will touch ham radio. Multi-media communications will be become a reality. With worldwide media exchange standards such as X.400, it will be possible to exchange electronic mail with attached digitized voice and graphics.

Today, these multi-media systems are being developed in Universities and large corporations. Ham radio should be able to avail itself of realtime digitized voice with error correction within the next 10 years. This would mean the demise of SSB as we know it today.

Impossible you say? Well, how many hams use AM (Ancient Modulation) today? If digitized voice is better and more spectrum efficient than the current method, the migration will indeed occur. Like all technological evolution, the changes will be gradual. I would also predict that certain ham radio modes of communications such as CW will still be around for a long time. A CW ham station operated by a human is still a very inexpensive method of communicating— not very efficient but quite functional.

## NEWSLETTERS

Over the last few months, I have received many copies of various ham radio newsletters. One of the finest is called the *VE7RAM Newsletter*. This newsletter is produced by Warren VE7EHL. The June 1989 issue was 20 pages long. For more information on the *VE7RAM Newsletter*, please contact The VE7RAM Users' Group, P.O. Box 264, Sorrento, British Columbia V0E 2W0.

Another fine little newsletter is called *Packet Racket North*, published by John VE3OTH who hails from North Bay, Ontario. Murray VE1TE has produced a fine piece of work called *VHF Packet Radio in New Brunswick*.

For more information, or to join in on the activities of the Fredericton group, you may write or contact Dennis Moore, 659 Mitchell St., Fredericton, NB, E3B 3S7.

Yet another fine newsletter comes from 'down under'. The Australian Amateur Packet Association produces a quarterly newsletter called *Digipeat*. This group also produces a useful packet radio reference card style booklet. For more information regarding the activities of our Australian friends, please write to The Australian Amateur Packet Radio Association, 59 Westbrook Avenue, Wahroonga N.S.W. 2076.

## PACKET NEWSLETTER REVIEW

BY MOE LYNN VE6BLY

How many people know that there is a newsletter called *QZX* strictly for the ZX80, Timex 1000, 1500 and 2068, QL and Z88? Well, there is, and the group supporting this newsletter is alive and well according to a letter received along with three back issues of *The Journal Covering Amateur Radio and Sinclair Computers*. Alex F. Burr K5XY is the publisher. His address is 2025 O'Donnell Drive, Las Cruces, New

Mexico, 88001. Alex indicates that there are a number of Sinclair magazines in business, but *QZX* is the only one with strictly Amateur Radio content. The membership fee is \$15 per year.

The journal publishes complete programs and hardware projects submitted by members. Membership is made up entirely of Amateurs and other users of Timex or Sinclair computers who are not necessarily computer experts but have a good technical background in electronics. These users quickly learn about their computers.

The latest venture of Timex/Sinclair computers was for packet radio. A gadget called 'COMLINK' is highly touted in *QZX*. Of course, one should look into any device in further detail before laying out any hard earned cash! Reviewing the December 1988 *QZX* newsletter, it appears that the COMLINK device is a RS-232 converter that allows one to connect a TNC to a Timex or Sinclair computer. A review of the COMLINK was written by Alex K5XY in the June 1986 issue of *QZX*. Given the price and availability of Timex/Sinclair computers (used Timex/Sinclair computers can sometimes be found at garage sales and at flea markets at rock bottom prices), the combination of a Timex/Sinclair computer and the COMLINK adapter could make up an economical dedicated packet arrangement. ■

## To My Neighbours

### Notice concerning alleged interference from this transmitter

(1) You have called to my attention, the fact that transmission from my station are causing interference to your TV reception.

(2) Interference such as you have described is not caused by HAM operations, as HAM stations cannot and do not cause TV interference. Nor is this interference the result of any malfunction of my equipment or poor operating habits, for my station is not a HAM station.

(3) Be advised that your Government is placing a \$500 per year tax on all TV receivers. Because it is difficult at this late date to obtain a listing of TV set owners for taxation purposes, our government has established a vast network of TV jamming installations with the goal that TV set owners will

make themselves known to these jamming stations so that their names can be added to the tax rolls. This station is just such an installation.

(4) Your government greatly appreciates you turning yourself in. You will be one of the first to be taxed. You have also verified that this first jamming equipment is functioning properly.

(5) We also have made a note of this time and channel, and reported this jamming. This information will be given to several TV program rating services.

(6) You have therefore provided a valuable service to the entertainment industry and to your government.

(7) So that you will not be the only one taxed, please be patient as we continue our TV jamming operation.

— Ottawa Groundwave  
via Algoma Amateur

# QRP

Moe Lynn VE6BLY, 10644-146 St., Edmonton, Alberta T5N 3A7

Judging from the prolific appearance in Amateur radio publications of neat little transmitters (in a Sucre box) and a receiver earlier in the same lozenge box we are still better off buying a kit from wherever. Avoiding back orders is very difficult in your back yard.

## WORLD RADIO QRP

Columnist Rich Arland K7YHA in the September issue is doing 'mini product reviews' on multimode data controllers (MMDCs). After presenting a good case for every active QRP'er to enter the world of Digital Communications in the August issue, he had decided price is not the only consideration. I always thought digital communications was

## QRP ACTIVITY

### QRP ARCI

#### Fall/Winter Net Schedule

Net	QRG	NCS	Day	UTC
TCN*	14060	W5LXS	Sunday	2300
		ANCS-NM7M		
SEB**	7030	K3TKS	+Wednesday	0001
		ANCS-KH6CP11		
GSN	3560	W5LXS	+Thursday	0200
		ANCS-W5XE		
GLN	3560	KH6CP11	+Thursday	0200
NEN	7040	WA1JXR	Saturday	1300
		ANCS-W1FMR/K3TKS		
WSN	7040	W6RCP	Saturday	1600
		ANCS-W6JHIQ/W6SIYINJ7M/K1V7XINM7M		

\* On weekends of major contests, TCN will meet one hour later.

\*\* If conditions on 7030kHz are poor, QSY to 3535kHz at 0030Z.

+ Evening of the day before for WVE

### Other QRP Nets

MI-QRP	3535	K8JRO	+Wednesday	0100
VE-QRP	14060	VE6BLY	Sunday	1900
NWQRP	7110	N7MFB	+Tuesday	0400
		+ Evening of the day before for WVE		

Please remember to tell your friends about the QRP Nets. They might decide to join us after seeing how friendly we can be.

## Upcoming Contests

(CW unless otherwise noted)

Jan. 14, 2000-2400Z
Winter Fireside SSB Sprint
March 11, 2000-2400Z
Classic Sprint (CW & SSB)
April 14, 1200Z to April 15, 2400Z
Spring QRP Contest
May 27, 2000-2400 local time
Hootowl Sprint
July 15, 2000-2400Z
Summer Homebrew Sprint
Aug. 12, 2000-2400
Summer Daze Sprint (SSB)

when a person use the fingers on one or both hands to send Morse code. Would it be duplex digital communications when sending the same information using both hands on two different frequencies? It certainly saved a lot of repetition and work with multi-address messages back in the 'good old daze'. Should anyone be interested in reviews of the MFJ-1278, Kantronics KAM, or AEA PK-232 they will be given 'full blown product reviews' in forthcoming issues of *Worldradio*.

## ARCI QRP QUARTERLY

Another fine issue Volume XXVII Number 4 arrived well ahead of my deadline. It is doubtful we have room to reprint all the pertinent QRP articles in one issue but the editor-in-chief will decide. The Fall/Winter net schedule and Upcoming Contests is reproduced here. To summarize an article by Don KASUOS that he calls 'The Lil Sucre Transmitter' because it is built into a metal lozenge box with hinged lid: He has the typical 2N2222 as crystal oscillator into a 2N3553 or 2N5152 or a third choice 2N5262 driving a 2N4403. How he manages to switch five crystals with a 10 position switch all mounted inside that little box is a mystery to me, looking at the picture anyway.

Don also built a receiver by the same name and authored an article in April *QRP Quarterly*. It had a unique VFO from the bench of Doug W1FB which he calls an 'electronic attenuator'. The idea uses a 2N4416 FET and as the gate bias is varied by a 10k pot (multi-turn we presume) the junction resistance also varies, thus influencing the series capacitance, in turn lowering the frequency. His project appears to be one for someone well advanced in circuit design, troubleshooting and construction. Personally, I like it when all the parts arrive in one neat little package, which is not meant to take anything away from Don, Doug or anyone else who delights in delving into the unknown reaches beyond our small space ship.

## RF AND CANCER

Here we go again! This time it is an article from *QST* by Ivan A. Shulman MD WC2S in three and one third pages involving 42 notes throughout his verbiage. No more than what has been mentioned before and that is sell your linear including the power supply used to heat the shack! Actually it is a summary of all the other articles to which the doctor refers. His mention of Preventative Measures all add up and should be heeded by all operators (male

or female). "No one should be in the near field of an antenna." This includes hand held radios which he recommends being used in the lowest power setting to carry out communications.

What does he think Amateurs are anyway? They always reduce power to that which is sufficient to maintain contact! Anyone for QRP? The doctor cites 16 separate items under the heading of Preventative Measures involving RF and toxic chemicals around Amateur radio installations. See page 31 in the October issue of *QST* for a more informative rendition.

## GLEANINGS

Les VE6AHM phoned me today (Nov. 13, also being my accident 2nd anniversary) asking about an address for the W7EL transceiver. Whether he orders one or not doesn't seem to be the question, but rather how soon can one be had. You see, he also asked for Small Parts Centre's telephone number, which speaks for itself. Was refreshing to hear from a newcomer to QRP, Les.

I also talked to Bob VE6UX on 20M who will have no part of QRP but runs a kilowatt all day. He still wasn't interested in anyone working 13 countries with 5 watts in about three hours over the course of a few days. I leave the rig on what sounds like a nice DX frequency, fiddle around with my C128, beam headed north and wait. Today the strains of ULSV/A pounded in almost S8 from Kildin Is. He had to move out of some QRM and when he did settle down my report was 599. QSL to Box 1087 Murmansk 57, your QRP doing fine 73 dit dit. Just the standard run of the mill DX contact and Anatol was knocking them off left and right without a pile-up.

Vern VE1CU wrote again with an update on his pursuit of a QRP rig. His was the only enquiry for the ONER board which hardly calls for production start-up. Maybe an exchange of ideas in this column will scare up someone willing to make boards or equipment appearing in *The Canadian Amateur*?

Les VE3REX sent me a review of the Butterfly HF5B and asked for the one on the HF4B mentioned here in September in exchange. Not hard to do when the copier is in the basement and the request included an SASE. That controversial antenna is now in the hands of Micki VE6EXT who heard VE6ES was satisfied with his. Jack VE6BOX (silent key Oct. 28) had made a gift of his Butterfly over a year ago and it

Continued on next page



## QRP (cont'd)

remained partially assembled on the roof of our garage for almost two years. Jack showed no signs of reneging when offered the fruits from the sale to Micki.

## CONGRATULATIONS

Also thanks to Jim VE1AEQ for getting his QRP mention in *The Canadian Amateur* CQ DX column. It took a little while but the bait finally snagged Jim. We are working on a certificate for you when CQ DX finally goes QRP!

## LATE GLEANINGS

Bob NM7M wrote telling me about his November issue of *The Canadian Amateur*. (Who said, "No one reads this column"?) Seems I may have incorrectly worded the report of packeteers leaving a local PBBS because the SYSOP wanted things all his way. Needless to say when the report reached a certain SYSOP the story may have been blown out of proportion. Seems strange for some reason only one SYSOP phoned (so far, anyway). What I should have said so that there was no misunderstanding was a local packeteer left the fold because each time he was on the board someone was telling him the right way to do his QSOs. After so much of that, the fellow 'packed it in', and whether he has been back remains a mystery. Others report the same advice came during RTTY and AMTOR QSOs. What appears to be 'know it all' is more often someone over indulging in his or her offer to help, albeit the offer is made in all sincerity. Somewhere, sometime, you will find yourself in a similar predicament and someone will misconstrue your intentions.

Bill W7GHT sent along another disk with a nice letter and the Idaho Montana Net (IMN) newsletter. They are all geared up for future emergencies after going through Idaho forest fires, Hurricane Hugo, and the San Francisco Earthquake all in the course of three months or so. They also train daily on their traffic nets, so are well prepared each day to meet any, or at least most, emergencies. He advised me on last night's net that he had dispatched two packet messages as an experiment. Our home BBSs are a stone throw for packet, but it doesn't always work that way, so we shall see.

A letter and invitation from Jean Nance to join *Meeting 64/128 Users Through the Mail*, of which she is President at R1, Box 151, St. Joseph, IL, U.S.A. 61873 for a fee of \$10 U.S. per calendar year. They issue a bi-monthly newsletter called 'Commodore Mail Link' and she included a nominal roll of over 93 members from the U.S. and some foreign countries including Canada. Jean expects their editor, Bill Robertson, to issue a list of 12 Amateurs

who belong to the three year old club along with the next nominal roll.

On last viewing the W7EL kit that Al VE6AXW assembled, it looked like something off the shelf of an electronics store. Compliments ranged from, 'Is it a new keyer?', to 'What is it?'. When he would explain it as a complete transmitter and receiver, no one would believe him. Bob VE6RM told Al he is

going to order one right away in case his IC-761 breaks down.

Don't forget the QRP frequencies mentioned last month, then take a look at the Net Schedule and Upcoming Contests. It would be nice to have some input from those who received their full Christmas wish list. Actually, any input whatsoever is welcome for use in *The Canadian Amateur*. ■

# YL News & Views

Cathy Hrischenko VE3GJH, 2 Dalmeny Road, Thornhill, Ontario L3T 1L9

I mentioned some time ago that Clare EI7CW and OM Ken EI9AB were selling their home and planning to sail around the world. Seems to be a lot of this going on in the Amateur Radio circle. After a short delay, they are now on their way. They sailed south across the Bay of Biscay and six days later docked in Spain at a small fishing village called Lage. After visiting for the better part of a week, they headed for the South Coast along the Guadiana River which forms the frontier between Spain and Portugal. From here they travelled to Gibraltar. Clare comments on the large fraternity of 'Cruising Hams' and plans to check into the Clara nets using her trusty TS 140 when propagation permits.

## NEWMARKET CHIT CHAT

It was nice to see a good turnout of YLs at the Newmarket Fleamarket (Ont.). Heather VE3HQH works so hard behind the scene to make sure everyone has food and drink. Her OM and daughter were also there to back her. Thelma VE3CLT and Grace VE3MCO handled the QSL Bureau. Barb VE3BFN dropped by our table. She and Charlie were ready to leave for Florida. Audrey VE3KGS was at the table next to us with her OM. Nora VE2HAX and OM were selling for a change, also Donna VE3BMN and her OM. I was glad Ruth VE3ATP visited, as I hadn't seen her for ages. Other visitors were Ann VE3HAI, Helen VE3PUA, Gail VE3GSQ and Wendy VE3ERT who bought a new rig there. Her Dad and nephew have calls. Now her OM and mother-in-law are studying. Jean VE3BCP, Libby VE3IOT and another 'nameless' couple I didn't get on my list because of sales, dropped by to say hello.

## EUROPEAN YL-DX NET

Every Thursday at 1700 UTC; frequency 14.243 MHz plus or minus; Net Control GM4YMM Christine and helpers.

All YLs & DX stations are welcome; All other OMs are also welcome to work YLs and DX stations on the net.

## CLARA NEWS

The CLARA welcome group has been

busy again but this time on the west coast. Joy VK2EBX says she's coming back down to earth after a most enjoyable trip to Canada. A highlight was the opportunity to meet Elizabeth VE7YL, Bobby VE7CBK and Margaret VE7DKC. The plane was four hours late leaving Sydney and she wondered if the plans (to be met at the airport) would still materialize. The first thing she saw was a large computerized banner saying 'Welcome Dan and Joy'. A great deal of talking was fit into a small amount of time! Margaret VE7DKC and OM Al VE7KC took them for a tour of Vancouver the following morning. From there they went to Edmonton. She said, "I can truly say the warmth and hospitality of these Canadian friends, none of whom we had met before, was a wonderful experience, and certainly exceeded all expectations." Again, YL International Friendship is appreciated.

## ZL YLs

Thanks to VE7AHB for passing along the following info about ZL YLs.

The first recipient of the Certificate of Merit was presented to Ruth ZL3PL for her long service as South Island representative and Net Control over a period of 12 years. Also Anne ZL3VR received one for her efforts in fostering interest in Amateur Radio.

I hear quite a few of our Canadian YLs have been hospitalized. Get well wishes to you all.

Don't forget GOTA Feb. 24-25, 1990, and Happy New Year! ■

## FACTORY RECALL

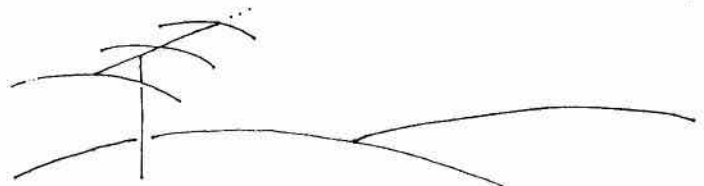
In October '89 a small number of defective second edition CARF Callsign and Address books escaped our quality checks and were sold. CARF will replace these at no charge on receipt of the original preface page dated 'Second Edition October '89. Sorry about that.

## BACK ISSUES

Back issues of *The Canadian Amateur* magazine for 1988/89 are available from the CARF office for \$2.50 each post paid.

# OVER THE HORIZON

Bob Brown NM7M,  
504 Channel View Dr.,  
Anacortes, WA, U.S.A. 98221



It is not uncommon for people to get historical facts wrong, even reversed in order. On the lighter side, I've had students walk up to me and remark with some degree of amazement that the methods of classical physics are just like those of quantum physics. So with that experience behind me, I am fully prepared for the day when a young whipper-snapper, with a neat handie-talkie hanging from his belt, is going to come up to me and remark that the ionosphere is really like a big repeater in the sky. I'm not sure just what I'll have in reserve for a reply but it might be something like, "I've never thought of it in quite that way!"

On the other hand, what if I had thought about the matter; what would I say? Perhaps my first remark would be something like, "Yes, the ionosphere really is a great repeater; moreover, it serves everyone and is quite inexpensive, not involving any annual dues." Beyond that, from an administrative standpoint, I could say that it doesn't require attendance at any committee meetings or work parties devoted to its annual maintenance or periodic repair. Moreover, aside from being a low budget affair, it has other virtues, the least of which is being broad-banded.

But, as a repeater, the ionosphere has its problems; for one thing it is always in the simplex mode. And there's no 'alligator' to keep transmissions down to size, particularly those by 'tuners'. And it suffers from a poor design, going up to moments of high performance in three to four years and then slowly back down to marginal conditions, repeating that cycle endlessly every 11 years or so. If it weren't so inaccessible, one might be tempted to try and fix it.

OK, that was fun, and I suppose we could go on like that forever, drawing more and more parallels between the ionosphere and repeaters. But after a while, we'd really be 'reaching' and our credibility would be brought into question. So let's be serious again and expand on the poor design mentioned in the last paragraph. That was a light touch, going to the heart of the problem, the fact that the ionosphere really isn't so 'broad-banded' after all and has frequency characteristics which vary in the course of a solar cycle.

Now the extent to which a Radio Amateur is aware of the frequency characteristics of the ionosphere depends on the operating frequencies he/she uses. For those who operate mainly at the lower end of the HF

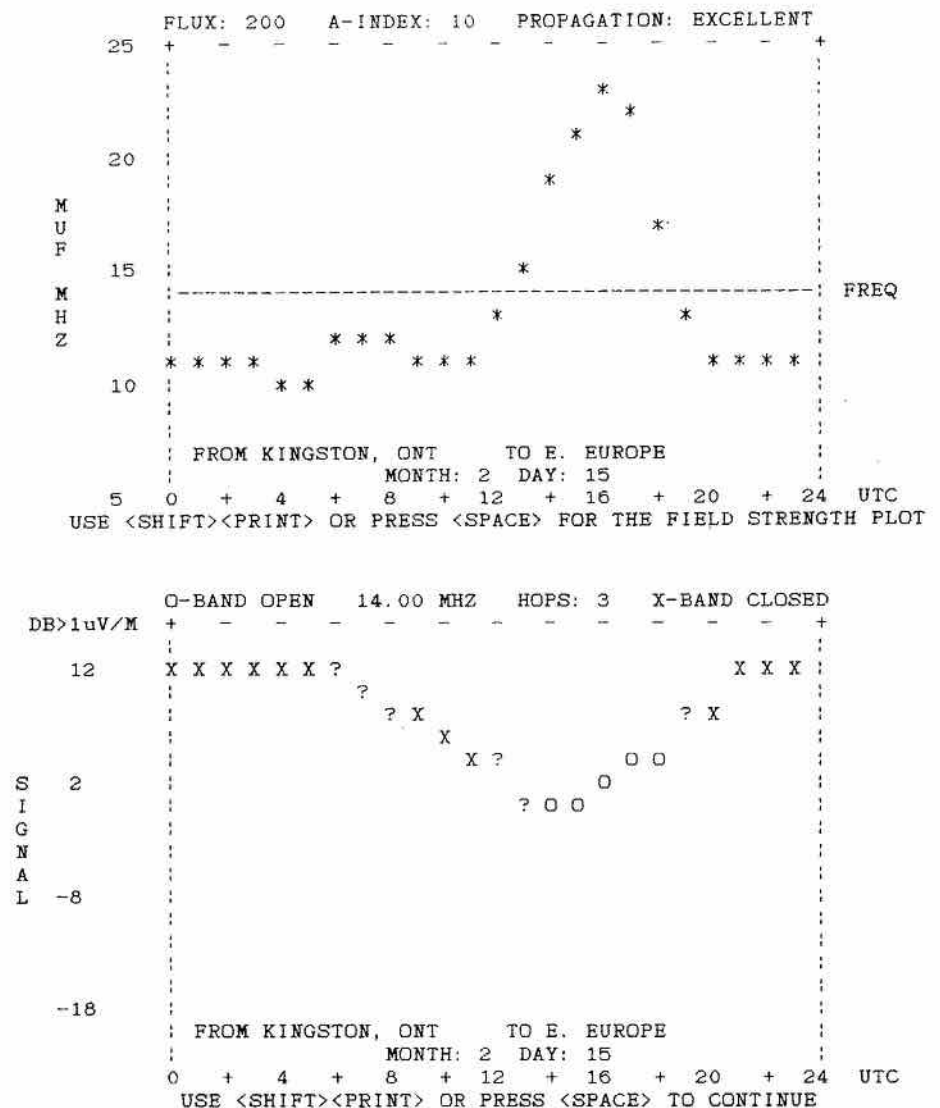
spectrum, down around 3.5 MHz, the ionosphere 'hangs heavy over their heads'. Thus, it can be used day or night but, unless a path is in darkness, their signals can't get out very far. That's due to the strong absorption of signals in that frequency range when solar radiation creates the D-region down below 100 km altitude. At night, the D-region essentially disappears and the 3.5 MHz band opens up.

By going to the 7 MHz band, the absorption of signals in the D-region decreases, almost by a factor of four, and daytime paths are open out to distances in the order of 1500 km. That limit is set by the E-layer, lying above the D-region at about 115 km altitude.

The E-layer, again created by solar radiation, essentially reflects or returns 7 MHz signals incident on it during the day. At night and into the early hours of the morning, the E-layer disappears and 40 metre band opens up for DXing. When compared to the 3.5 MHz band, it is more hospitable, suffering less from noise due to 'static crashes'.

Up to this point, the main concerns were the D- and E-regions, there being nothing to suggest that the ionosphere would fail to support propagation. However, on going higher in frequency, say 14 MHz and above, the ionosphere does not always do that. That is another way of saying that at times RF waves are

Continued on next page



## HORIZON (cont'd)

not returned toward the earth by the ionized regions, most notably the F-region. Thus, while a path may be open during part of a day, RF waves going out on multi-hop paths from point A to point B, there can be times when signals simply do not get through no matter how much power is radiated by a transmitter. At those times the ionosphere is essentially transparent and RF waves just continue on into space after passing through the various regions.

With that, the degree of complexity increases in discussing propagation. Thus, signal strength considerations and E-layer reflections continue to be important, but now the additional aspect, whether the operating frequency is below the critical ionospheric frequency for signal return, becomes a significant factor in the discussion. So the original question at lower frequencies—"will my signal be heard?"—now becomes two questions in series, "can my signal get through?" followed by "and if it does, then will it be heard?"

At this point, one can go into an extended discussion of critical frequencies of the ionosphere, say those values obtained by vertical soundings from the ground. That would be followed by a discussion of making corrections for oblique incidence of RF waves on the F-layer and then the concept of maximum useable frequency (MUF).

While the former, critical frequencies, are important in these discussions, we tend to lose sight of them as MUF predictions are readily available in the Amateur literature, month-by-month or even a year in advance.

As a result, there are many opportunities to deal with the first question, "will my signal get through?", but after that has been settled using some sort of prediction, what usually follows is nothing short of a deafening silence. To put it another way, either the second question, "and if it does, then will it be heard?", is never answered by the prediction or even worse, it was never asked by the operator making the original inquiry.

Now, if one has a MUF prediction for a path that is based on current values of the sunspot number or 10 cm flux, it is not all that hard to make a crude estimate that will deal with the second question, telling when the signal might be heard. Thus, one first has to sort through the MUF data and find all the hours when the operating frequency is below the MUF for the path. Then with the aid of a world globe or, better yet, the simple DX EDGE which graphically displays the sunlit and dark portions of the earth in the course of a day, one can work through those times and make an estimate when the great circle path has the least solar illumination or the

greatest darkness. Times like that are when the D-region absorption will be the smallest and the signal strength the greatest, assuming the path to be open.

That approach is a step in the right direction but it suffers from being strictly qualitative, only giving rough indications about signal strength. Moreover, it does not involve transmitter power or the antenna gain, two important considerations. Given those problems, another approach would be to turn things around, use quantitative methods to work out what signal strengths would be in the course of a day assuming the path were open, then, using MUF data, one could note or delete those times of day when the MUF is too low and also when the E-layer cut-off frequency is too high. That would give the desired result, but it does require a method that works out the details of the path, in so many hops and a corresponding radiation angle, to evaluate absorption loss with all the traversals of the D-region.

There are computer programs that can do just that sort of calculation, MINIPROP Version 2.0 by W6EL and PROP&MUF, one that I've devised. The output of MINIPROP gives numerical results that go to one's printer while PROP&MUF uses simple screen displays. To see what I mean, consider the results shown in Figure 1. There, you find a 'screen dump' from PROP&MUF for both the MUF and signal strength data on a path from a QTH in Kingston, Ontario to Eastern Europe when the solar flux is 200 and the A-index is 10.

Immediately, you see that on 14 MHz, the MUF data indicates the band would be open from about 1300 UTC to 1800 UTC and the signal strength calculation shows that to be the case. However, for the lower bands, 7 and 10 MHz, the E-layer cutoff becomes important and D-region absorption shifts the DX opening to times of darkness on the path, 2200 UTC to 0500 UTC. Going to the higher bands, 18 and 21 MHz, the DX opening would be like that on 14 MHz except narrower in time because of MUF considerations. For those conditions of solar flux, the 28 MHz band would be closed.

There are other, more elegant approaches to the problem; ones that start from the transmitter and move toward the receiver, hop by hop, evaluating whether propagation is open for a given mode or not. Two programs along those lines are IONPRED from Radio Netherlands, found on some BBSs, and MINIPROP Version 3.0, available from W6EL for \$49.95 U.S.

Being rather sophisticated, both programs are longer and require more computer running-time but do provide more details on the modes that are open. However, quite often the simpler

programs prove to be more than adequate.

Finally, the extent to which the ionosphere returns signals at the upper end of the HF spectrum depends on the level of solar activity. We know this from the days of solar minimum when the 28-30 MHz band was never open. Now, near solar maximum, things are more promising on the 10 metre band but still vary considerably with the rise and fall of solar activity. So keep an eye on 'the numbers', your ear to the bands and enjoy it while you can; solar maximum doesn't last forever!

One last point on prediction programs; they are based on the average behaviour of the ionosphere, all the hills and valleys having been smoothed out. On that basis, MUF predictions could be as much as 10% higher than predicted for 50% of the time, or, to take the Devil's side, they could be lower by that amount for 50% of the time. Myself, I can live with those uncertainties and even explore marginal conditions that one sees in the propagation predictions. Clearly, trying to work DX or keep skeds on the bands using such predictions is superior to the 'wet finger in the wind' approach of HF propagation. ■

### LETTERS TO THE EDITOR

All signed letters to the Editor are eligible to be printed, space permitting. The Editorial staff reserves the right to omit libelous and slanderous material and make spelling and grammatical corrections. Please make an effort to type, print or write very neatly. Thank you... Editor.

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# CONTEST SCENE

Dave Goodwin VE2ZP, 15 Oval, Aylmer, Quebec J9H 1T9

## CONTEST CALENDAR

Dec 31-Jan 1 ARRL Straight Key Night  
Jan 6-7 Hunting Lions CW Contest  
Jan 6-7 ARRL RTTY Roundup  
Jan 6-7 Caltech Quickie CW Contest  
Jan 13 SCCC Novice Contest  
Jan 13-14 Hunting Lions SSB Contest  
Jan 13-15 ARRL Jan VHF Sweepstakes  
Jan 14 ARCI QRP Winter Phone Sprint  
Jan 20-21 Texas QSO Party  
Jan 20-21 North Dakota QSO Party  
Jan 20-21 Michigan QRP Club CW  
Jan 26-28 CQ WW 160M CW Contest  
Jan 27-28 UBA CW Contest  
Jan 27-28 YL-ISSB YL/OM CW Contest  
Jan 27-Feb 4 ARRL Novice Roundup  
Jan 28-29 1990 Winter Classic Radio Ex  
Feb 3 Carnival de Quebec CW  
Feb 3-4 Vermont QSO Party  
Feb 3-5 New Hampshire QSO Party  
Feb 10 Carnival de Quebec SSB  
Feb 10-11 QCWA CW Party  
Feb 17-18 ARRL DX CW Contest  
Feb 23-25 CQ WW 160M SSB Contest  
Feb 24-25 UBA SSB Contest  
Feb 24-26 Maine QSO Party  
Mar 3-4 ARRL DX SSB Contest  
Mar 9-11 Japan Int'l CW DX Contest  
Mar 10-11 QCWA SSB Party  
Mar 24-25 YL-ISSB YL/OM SSB Contest  
Mar 24-25 CQ WW WPX SSB Contest  
Courtesy John Dorr K1AR and CQ Magazine

## CQ WW SSB 1989

The contest has come and gone, and conditions were fairly good, but not nearly as exciting as last year.

The low bands were a particular disappointment, with very poor propagation across the Atlantic. Openings from the west to Europe and from the east to Japan on the high bands were poor to non-existent. Ten was, however, an excellent place to be, with openings extending well beyond sunset. Ten benefitted from a relatively low MUF, enhancing some longer paths, but polar paths were very difficult, due to the aftermath of a solar disturbance earlier in the week.

Canadian participation was fairly high, and I have plenty of rumoured scores. To wit:

VE2ZP AB 4647Qs est 5.1M  
VO1MP AB 4000 Qs gross  
VO1SA AB? not talking  
VE7EIK 28 1392QS 28z 89c 411k  
XL3XN 28 unknown  
VE3RMM/2 21 656Qs 29z 106c 234k  
VE2RI 3.5 375Qs 15z 30c est. 35k  
VE6OU/XL3 MS est.9M.  
VE1ASJ MS 6137Qs 139z 471c  
8.5539M  
XL3CPA MS 3496Qs 107z 313c  
3.7002M  
CF1IDX MS 3214Qs 88z 260c 2.691M  
XL3XO MS unknown  
VE8RCS MS unknown

I received comments in writing from

George VE7EIK, who remarked on having no propagation to eastern Europe, and having only 200 Ws in the log! JAs were his bread and butter to a greater extent than normal. The lack of Ws was a real surprise to George, as he expected the U.S. Novice enhancement to make high rates possible all day long. I must agree with George, as the time I spent below 28.5 was nowhere near as productive as above.

VELASJ was the home of the various high-scoring VE1 MSs we have seen the last few years, and this year they finally got 'round to using Andy's well known call sign. Armed with VE1DH's software, they had a final score within minutes of the end of the contest. 'DH has apparently produced a superb piece of software. but like all software, it's still in development.

VE6OU/XL3, operating from John's superb station on the Niagara Peninsula, imported some western talent this year in the person of Jim VE5DX. This is one of the rare sightings of Jim east of the Manitoba border. There is also tell of John recruiting Bob VE3KZ as part of the team. If so, it's great to hear Bob returning to contesting after too long an absence. Bob's own location is spectacular in itself, and from it was made the still current MM record in the CQ WW SSB of more than 10 Meg.

## CONTEST SOFTWARE

As mentioned last month and in several other issues, I was given a demonstration copy of W2GGE's software for the CQ WW DX and ARRL DX contests. W2GGE has produced a quite useful package that has many of the same features as K1EA's software. There are, however, some limitations. The human interface (what the screen looks like) is very simple, almost too simple. The programme, according to VE7EIK, actually crashes if you enter a KC4, KC6 or KX6 call, with the consequence that you lose anything that is not backed up. It backs up log entries at an interval set by the operator, and becomes noticeably slow when it does so.

While W2GGE has produced some basically sound software, these little glitches make it seem less appealing to me than K1EA's, and the difference in cost makes me a decided advocate of K1EA. W2GGE is producing his software as a business, and the cost is about \$39 U.S. for each of the contests he supports, which include the CQ WW, ARRL DX and WPX contest. K1EA covers all these plus the WAE and one VHF contest for a contribution of \$25 U.S. total. While K1EA has its blind

spots, particularly with newer U.S. prefixes, these are easily corrected. Plus, if you feel like copying it to someone else, you won't feel guilty, cause it is 'shareware' of a sort.

Sorry W2GGE, but it's tough for a businessman to compete with an enthusiastic volunteer.

## ZONE 2

As mentioned last month, I went up to the Home of Kent VE2LJ in Harrington Harbour for the 'phone. That is the only possible explanation for the 4647Qs I made in the contest. Kent is located on an island on Quebec's lower north shore, 1700 km east of my home, and get this, further east than any VE1. Being surrounded by salt water and being virtually the only one on from a rare Zone does wonders for your appeal. Now I have a taste of what it's like to be at the bottom of a real pileup. The rates on 10 metres, where Zone 2 appears to be especially in demand, were fantastic, reaching 235 in one hour Sunday afternoon, and never below 170/hr whenever I was on that band.

I had a special reason to be disappointed in the low bands. The coax to the 160 antenna was contaminated, and lousy. The coax to the 80 metre antenna was actually burned up, and the GAP antenna (advertised in CQ) didn't perform worth toffee. As I arrived only 30 hours before the contest, I didn't have any time to check the situation out before the contest. Rather than take that time, I enjoyed the hospitality of some of Kent's friends on the island, including Amy Evans and her wonderful scallop supper, and Rev. Janet Smith whose company was very welcome on the afternoon before the contest. The lesson learned by me was to be sure to come up in plenty of time to enjoy the hospitality and get things set up properly.

Plans for a return next year have already been made, and maybe I'll still have a shot at the record. Harrington, by the way, has a population of 324, is located on an island in the Gulf of St. Lawrence 500 km east of Sept-Iles, 300 km east of the end of the road, and the only way in or out is by boat. It is wonderful place to visit, and even though I'm 30 years away from it, it might be a great place to retire.

Thanks to Kent, Amy and Janet for helping make my stay so enjoyable.

That's all for this month. Next month, I should have rumours from the CQ WW CW. I hope you all enjoyed the Canada Contest.

Continued on next page

## CALTECH QUICKIE CW CONTEST 1700-2100Z Sat. Jan. 6

This is a new one and only 4 hours long, so be alert or you'll miss it. The intent is to provide some operating activity to replace the void left by the cancellation of ARRL QSO Parties and the *73 Magazine* World SSB Championships. U.S. and Canadian stations work each other in this one as Single Operator, All Band, CW only entries.

**Exchange:** Former call sign (or 'none'), name, state/province. Guest operators send their own current or former calls and their own names. Former call signs may be any one call if you possess several.

**Scoring:** You may work a station once per band. Multiply the total number of QSOs by your state/province multiplier (count multipliers only once in the contest, not per band). The Canadian multipliers are Maritime (VE1, VO1 and VO2), VE1-7, and Yukon/NWT (VY1 and VE8).

**Frequencies:** Use 10, 15 and 20 metres only between xx.030 and xx.050 MHz.

**Awards:** There will be a trophy awarded to the highest scoring entrant. Certificates will be awarded to the highest scoring station in each state (100 QSOs minimum) and to the top ten finishers.

The usual penalty and disqualification clauses exist. Send logs to

California Institute of Technology Amateur Radio Club, Caltech 218-51, Pasadena, CA 91125. Entries must be postmarked no later than Feb. 10, 1990 to be eligible for awards. MS-DOS formatted diskettes will be accepted as logs. Include an SASE for full rules and/or results.

## ARRL RTTY ROUNDUP

1800Z Sat. to 2400Z Sun., Jan 6-7

This is the second annual all-digital contest sponsored by the ARRL. Any station may work any other station worldwide. You may operate more than one digital mode, but QSOs and multipliers are counted once regardless of modes used.

Operation is limited to 24 hours out of the 30-hour contest period. Two rest periods must be taken in two separate blocks of time and clearly marked in the log.

**Modes:** Baudot, RTTY, ASCII, AMTOR and packet.

**Bands:** 3.5-30 MHz on those frequencies recommended for digital operation (no 10, 18 or 24 MHz).

**Categories:** Single operator, multi-band, (1) less than 150 watts output, (2) 150 watts or more. And multi-operator, single transmitter, all band.

**Exchange:** Signal report and QTH. State for the U.S., province for Canada. DX will send a serial QSO number.

**Scoring:** One point per QSO. A station

may be worked once per band for QSO credit.

**Multiplier:** Each U.S. state (48), each VE province (12) and each DXCC country, counted only once, not once per band. (KH6 and KL7 are countries; VO1/VO2 counts as one VE province.)

Entries with 200 or more contacts must submit a duplicate QSO check sheet.

**Awards:** Certificates to the top-single operator, both low and high power, and multi-operator scorers in each ARRL/CRRL section, and each DXCC country. Novice/Tech entrant with at least 50 QSOs will also receive a certificate.

Contest forms are available from the ARRL for an SASE and two units of first-class mail and are recommended.

Postmark your entry by Feb. 7 and send it to: ARRL RTTY Contest, 225 Main St., Newington, CT 06111.

## ARRL VHF SWEEPSTAKES

1900Z Sat. to 0400Z Mon., Jan. 13-15

This is the 43rd ARRL January VHF Sweepstakes. ARRL headquarters recommends that you use the official log forms. It will make your log keeping and the scoring much easier. A large SASE to Newington will get you the necessary forms.

Complete rules will be found in the December issue of *QST*. ■

# Get RESULTS!

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(613)-283-3570

Canada's Amateur Radio Magazine

# CLUB CORNER

J.P. LeBlanc VO1SK/VP9LA, Box 356, Kingston, Ont. K7L 4W2

While in Ottawa on business, I had the pleasure of attending the September meeting of the Ottawa Amateur Radio Club. It was nice to see a large turnout and to meet TCA's DX column editor Paul VE3JPL as well as Francis Salter VE3MGY.

The main topic in this last batch of newsletters are reports of Field Day activities. Looks like quite a few clubs got involved, with some setting up pretty impressive stations. The other topical subject is the recent announcement that CARF and CRRL have decided to sit down and talk merger again. Maybe this time...

Jim Vanderwal VE7ELS has won the University of British Columbia President's Entrance Scholarship. Good luck with the studies, Jim.

Congratulations to Ken Pyke VE3OGM who has been selected as the only Canadian to be part of the Yaesu 1989 Design Team. Ken is an extremely active member of the Scarborough Club.

the fun they had at this year's Canadian Jamboree. For a lot of them, their memories will include PEIARA's Amateur Radio Station CJ1PEI. Scouts were treated to demonstrations of Packet Radio, Slow Scan TV, HF Phone and CW, and two metres. Many took the opportunity to operate the equipment and to query local Amateurs about Ham Radio. Skeds were kept also with a number of scout troops internationally.

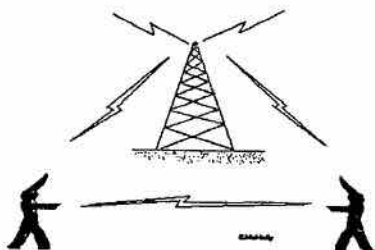
## CJ1PEI

The tent is down now, but the 14,000 Scouts attending CJ'89 will never forget

Continued on next page

## AMATEUR RADIO

WORLD WIDE COMMUNICATIONS



AMATEUR RADIO SOCIETY  
OF DRYDEN

REPEATER - VE3DRY - 147.84/24MHz

### FLYING HIGH

The Dryden Ontario Club was involved in the Ignace air show. Gary VE3MOR, Susan VE3NNX, Carolyn VE3JIM, Roy VE3BJD and Bob VE3IDJ provided communications. A good day was had by all and the hamburgers at the home of Bob and Carolyn were terrific.

### AWARDS

Congratulations to Paul VE3ZED on winning the Nortown ARC Paul Yates Award. Paul won the award for his efforts in teaching code and theory classes.

The York ARC has presented the club's Harvey Bell Award jointly to Bruce VE3AAY and John VE3WHY. This award was started years ago in memory of Harvey Bell, and is presented in recognition of service to the club and promotion of Amateur Radio. The Club will also be sponsoring a \$500 scholarship at Huron Heights Secondary School; as well as assisting Rick VE3LSZ in setting-up an Amateur Radio club at the Newmarket High School.



## THE VALUE OF ONE MEMBER

- 10 members standing in a line, one disliked the president, then there were 9.
- 9 members planned to work quite late, one forgot his promise and then there were 8.
- 8 members with good deeds of heaven, one lost his enthusiasm and then there were 7.
- 7 regular members got into a fix — they quarreled over the program and then there were 6.
- 6 members were very much alive, one moved away and then there were 5.
- 5 members wishing there were more, one became indifferent and then there were 4.
- 4 members cheerful as could be, one complained of too many meetings and then there were 3.
- 3 eager members knew what to do, one joined a fishing club and then there were 2.
- 2 faithful members, our rhyme is nearly done, one got discouraged and then there was 1.
- One lone member won his neighbor true, brought him to meetings and then there were two.
- Two earnest members, each enrolled one more — that doubled their number and then there were four.
- Four sincere members worked and couldn't wait, till each had won another and then there were eight.
- Eight enthusiastic members got eight more and in just six more verses the enrollment is 1,024!!!

REMEMBER: Personal contact and making others feel they are important and necessary to your organization is VITAL!!!

The life blood of any fraternal organization is new and active members.



**PUBLIC SERVICE**

As I read through the many club newsletters I receive for this column, I'm amazed at the time and energy being provided by Amateurs across Canada in providing communications support to various organizations. I read an interesting comment by Cal VE6LZ, President of the Calgary ARA, in the club's September issue of *Key Klix* regarding public service events. Here is what Cal had to say: "Some people contend we are doing too much and even a few who feel we should stick to traffic handling and emergency communications only—that what we're doing now is not what Amateur Radio is all about. There was a time when I would have agreed. But times have changed.

There is a growing number of hams who are mainly, if not exclusively, on VHF/UHF—for whatever reason—and these people have paid out good money for some very nice equipment. But, even with repeaters, their range is quite limited when compared with HF. And let's face it, talking to the same people all the time gets kind of dull. It's kind of like carrying a loaded rifle but not having much to shoot at. I think quite a number of these people have found an alternative—an outlet, if you like—to make more and better use of their gear by participating in communication events. And there are some less obvious side benefits. Exposure of Amateur Radio to the public, 'frontrow seats' at an event, participating in someone else's leisure activity, field experience in emergency preparedness and a feeling of accomplishment, in having helped make something better through your efforts, just to name a few.

With the growing threat of the loss of some of our VHF/UHF band assignments, it seems to me that we can only benefit our cause with a well established track record of public

service. In a light to keep frequencies, I'm sure we could get at least some of these organizations on our side."

The North Okanagan Radio Amateur Club provided communications for the Penticton Ironman Triathlon. Sixty-eight Amateurs took part. The club's Search and Rescue group was called out on four occasions for short durations.

**NATIONAL MUSEUM OF SCIENCE AND TECHNOLOGY**

The Ottawa Valley Mobile Radio Club has received a commitment from the museum that the club station VE3JW

will be incorporated in the new communications exhibit. The club has been invited to contribute suggestions during the research phase, so that the planning, design, and construction of the exhibit will result in the best possible product.

**NEW CLUB BULLETINS CONTINUE TO ARRIVE**

Welcome to first time bulletins from the Surrey ARC (*VE7SAR Communicator*); *Packet Racket North*—The Packet Radio Newsletter for Northern Ontario published by John VE3OTH; and The Burlington ARC *Printed Circuit*. Welcome aboard!



**FOR SALE: HOME** in Nakusp, B.C., 733 Columbia Crescent. Nine yrs. young, 1450 sq. ft. plus 325 sq.ft. court-yard-sundeck. Beautifully fenced and landscaped. Double garage, Sauna with pool. Underground wiring, sewer, street lights, side walks. **EXCELLENT DX-Location.** Curling, fishing, golf, Hot Springs, Ski Hill. Contact VE7EHD, 604-265-3175.

**WANTED:** Wireless set no. 19 equipment and accessories. Especially looking for power amplifier and pocket-watch. I am willing to buy and/or trade equipment. Please write to Chris Bisailion VE3CBK, RR#1 Old Carp Road, Kanata, Ont. K2K 1X7.

**FLORIDA QTH:** For Rent, Indian Rocks, St. Pete's, 1 bedroom condo, Beach, Year Round Sun, Pool, tennis, hot tub. Contact Ron VE3NKS, week/monthly rates. Call: 416-875-2621.

**WANTED:** Old telegraph bugs (speed keys) such as Xograph by Rolph Brown, Wilcox by Fred Wilcox, Dow bent and rotatable by Dow or help in locating such, 73. Smiley, P.O. Box 5150, Fredericksburg, Va. 22403, U.S.A. WB4EDB.

**WANTED:** 12 Volt 20 Amp Regulated P/S. Kenwood PS-50 preferred; possibly Kenwood PS-430, Icom PS-30, PS-55 or other brands. Contact James Dawe VE6FD, Box 887, Sub P.O. #11, Edmonton, Alberta T6G 2E0.

**WANTED:** The following new or used Yaesu Equipment. External VFO or FT-77. FT-700-DM or FT-707-DM. A 2-metre & 70 cm transverter board for a FTV-707. Ask for Frank VEF3AM, (705) 672-3579, P.O. Box 906, Haileybury, Ontario P0J 1K0.

**WANTED:** Used 80-10M transmitter in good working condition, reasonably priced, and at least partially solid-state. Will pick up unit in Kingston-Toronto-Barrie area. Please write to Leo Koski VE3AUT, 1166 Milburn St.,

Peterborough, Ont. K9H 6P2, giving make, model, short description and price.

**WANTED:** Kenwood TS-430 trans - Yaesu YC601B Digital Display, FT301D Trans, FT901DM Trans, FT225RD 2M Trans. Also used 10M Mobile All Mode Trans. Tim Montroy VE3YTV, 2115 Ridgeway St., Thunder Bay, Ont. P7E 5J8 (807) 623-2488.

**FOR SALE** Dentron Clipperton 'L' Linear, 2 kW, output one thousand watts plus, new condition. Hi-Gain Vertical 18AVT, five band antenna. Cushcraft A147-11 - eleven element 2 metre antenna - price negotiable. Harold Brindle VE3JNR, 14 York Road, Willowdale, Ont. M2L 1H5. Phone (416) 449-6386.

**FOR SALE** Kenwood TS-940S/AT transceiver, SP-940 Speaker, SM-220 Monitor Scope, all in excellent condition c/w original shipping cartons. Contact Wil. VE5ZJ, 27 Delaronde Rise, Saskatoon, Sask. S7J 3Z4. 306-374-8919.

**FOR SALE** TI99/4A computer with Kantronic Interface for sending and receiving CW including modulation, cass. recorder, command modules, TV screen and books of instruction - \$200.00. Paul VE3OFF 613-521-8182.

Please send your 'Swap Shop' notices to the *The Canadian Amateur Swap Shop*, Box 356, Kingston, Ont. K7L 4W2. Single insertion is \$1.00 minimum (10 words) and \$1.00 for each additional 10 words. To renew, send copy and payment again. Please TYPE OR PRINT CLEARLY! and put your membership number and call (not counted) at the end of your ad. Include your full address with postal code; if using a phone number, include the area code. The *Canadian Amateur* accepts no responsibility for content or matters arising from ads. This feature is for the use of members wishing to trade, buy or sell personal radio gear. It is not open to commercial advertising.



**1953 STATION**

Amateur radio station VE6YZ Ft. Chipewyan, Alberta, 1953. Left to right: Hallicrafters 540A with Johnson Viking VFO on top and Johnson Viking II with Turner D22 mic.

# LOOKING AROUND



Art Blick VE3AHU, P.O. Box 356, Kingston, Ontario K7L 4W2

During the past summer, a fellow fisherman was having trouble charging the battery that powered his trolling motor because his charger was only producing a maximum of 1 Amp although it was rated at 5 Amps. We opened it up, checked the components and found that the rectifier (a form of selenium (?) rectifier consisting of two metal plates, about 3 inches square, separated by a piece of cloth impregnated with selenium (?))—measured, using a standard VOM, around 500 ohms in one direction and around 450 ohms in the other. This was replaced with an 8 Amp silicon power diode and the charger resumed proper operation.

My friend was curious how the charger, and particularly how the replacement diode, functioned. It was then that I realized that my knowledge of the composition and operation of a P-N junction was very sketchy. Digging into semiconductor manuals produced this result:

The active portion(s) of semiconductor devices is the P-N junction. The majority of present-day semiconductor devices use silicon as their base with controlled amounts of impurities added to the silicon crystal so it becomes a better conductor of electricity. This conductivity can take two different forms called 'P' and 'N' type respectively.

N-type conductivity is similar to the conductivity in a metal due to the drift of free electrons. Silicon has four valence electrons in its outer shell and all are virtually locked in place by the covalent bonds of the silicon crystal lattice structure. When a donor impurity, such as phosphorous, is added, extra electrons (not required by the covalent bonds) are provided and are free to drift from negative to positive if an electric field is applied across the semiconductor. The 'N' designation implies 'negative' charge carriers (free electrons).

P-type conductivity in semiconductors results from adding acceptor impurities, such as boron that has three valence electrons, to the silicon crystal. The covalent bonds cannot be satisfied by only three electrons, so each acceptor atom leaves a 'hole' in the lattice structure which is deficient by one electron. These holes readily accept electrons, introduced by an external electric field, radiation or heat. When an external field is applied, electrons from the current source fill these holes from the negative end and jump from hole to hole across the

crystal. This drift of positively charged holes accounts for the term P-type conductivity.

When semiconductor regions of N- and P-type structures are formed in a semiconductor crystal adjacent to each other. This is called a 'P-N junction' and

is responsible for the action of semiconductor diodes. Figure 1 shows the charges in a forward-biased PN junction; Figure 2, in a reverse-biased PN junction; and Figure 3,

Continued on next page ▶

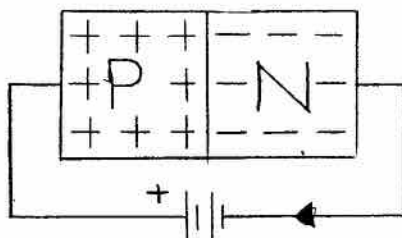


Fig. 1— Forward-biased junction  
— Large current flow

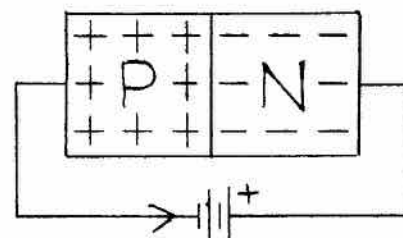


Fig. 2— Reverse-bias junction  
— Very small current flow

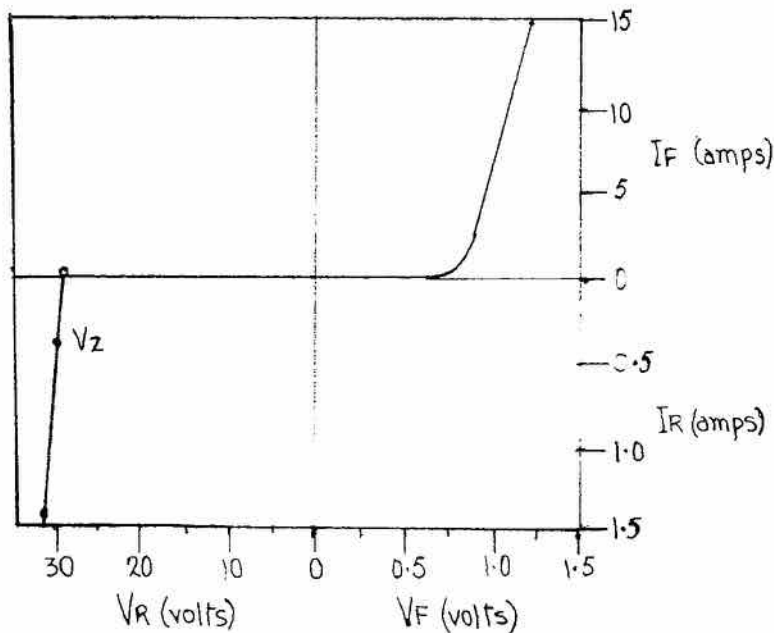


Fig. 3— Diode characteristics

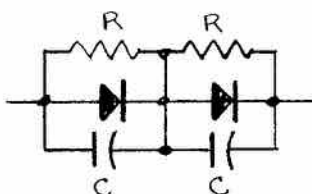


Fig. 4— Diodes in series

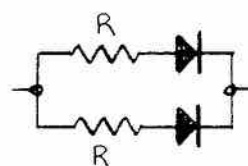


Fig. 5— Diodes in parallel

## ▶ LOOKING AROUND (cont'd)

voltage/current characteristics of a silicon diode (P-N junction).

In the forward-biased junction there is a large electron flow across the junction and a large current flow in the external circuit. Note that there is virtually no current flow until the bias voltage reaches about 0.7 volts. In the reverse-biased junction, there will be only a very small current flow as only a few charges drift across the P-N junction.

However, if the reverse-bias is increased past the peak reverse voltage rating of the diode, a very large current will suddenly flow. This reverse breakdown is correctly labelled 'zener breakdown' if it occurs at voltages less than six volts, and 'avalanche breakdown' when it occurs at higher voltages. In practice, either type of breakdown is commonly called the zener breakdown voltage ( $V_z$ ) and special types of diodes are available, called 'zener diodes', that are manufactured to breakdown at specified voltages. Commercial zener diodes are available with zener voltages ranging from 2.5 volts to 200 volts.

Diodes used for rectification are classed in two major groups—'signal' and 'power' diodes. Signal diodes are used primarily for detection purposes, only handle low currents and can function into the microwave regions. Device specifications include PRV (peak reverse voltage),  $V_f @ I_f$  (maximum forward voltage drop at indicated forward current),  $I_r$  (reverse current before PRV is reached) and  $T_{rr}$  (reverse recovery time in micro-seconds).

Power diodes are used for rectification up to frequencies around 20,000 Hertz, can have peak reverse voltage ratings up to 20,000 volts and can handle many Amps of current (300 Amps). Device specifications include  $V_r$  (peak reverse voltage),  $V_f$  (average forward voltage drop),  $I_o$  (average forward current rating),  $I_r$  (average reverse current rating) and  $I_{surge}$  (peak surge current).

Power diodes can be used in series (to increase  $V_r$  capabilities) or in parallel (to increase current handling capabilities) providing some precautions are taken (see Fig 4). The resistors across the series diodes are called equalizing resistors with an ohmic value of diode PRV times 500; the capacitors are 0.01  $\mu F$  used to suppress any spike voltages present in the circuit. The resistors in series with the parallel diodes serve to equalize the current through each diode and are selected to give about 1 volt drop at the average current flow of the circuit. ■

# It was "Mike's Fault"

By B.H. Burdsall VE3NB

I suppose I was forced into this by my daughter, although I had been muttering about doing something for some time.

"Dad," she said, "you are teaching my children rude words." I couldn't believe that; I might have peed on a bomber's tail wheel for good luck, but swear—never! "Yes," she continued, "when you take them for a drive and use your Amateur mobile rig, they hear these swear words and of course they must repeat them at home."

I have a Kenwood TM221A 2 metre transceiver which is a very good rig—small, powerful and sensitive—but the problem is with the microphone, or at least the way I use it.

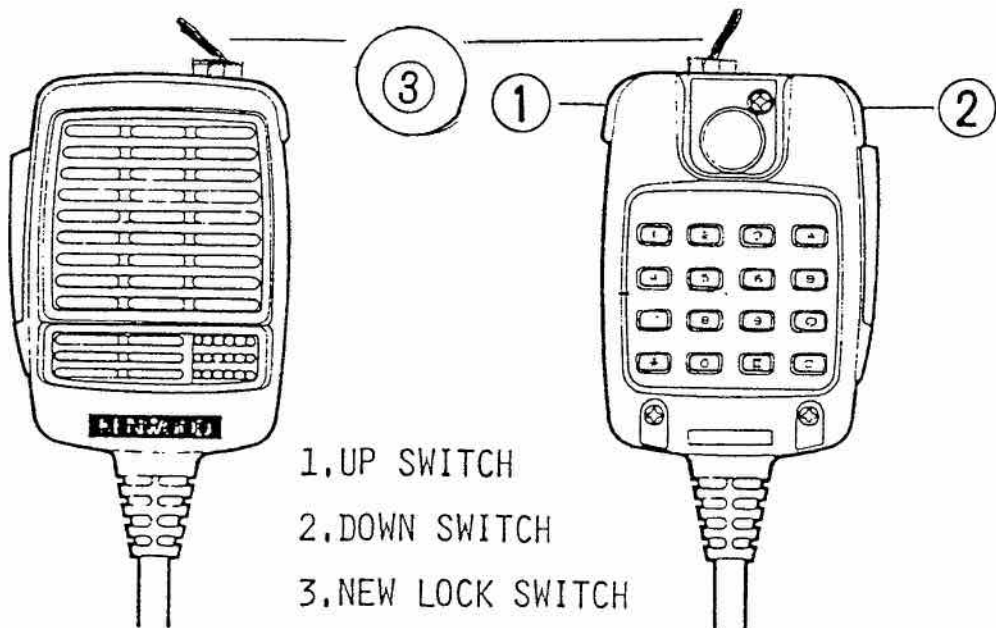
There are two switches, one at each side at the top, and they are used to step VFO or memory channels up or down, but when I hang the mike up during a QSO I often touch one or the other, changing frequency and losing everybody. This may have been the time I allegedly said a rude word.

How to fix it? We need a locking switch such as many rigs and hand-

helds have, so I opened up the rig but couldn't find a spot to install one.

The mike was then opened up very carefully, a spot was found inside the top corner of the back half, as shown, which would allow a micro-miniature switch (Radio Shack #275-625) to just fit. I made a mounting hole by using a hot soldering iron, and then I removed some of the plastic inside the case, again using the hot iron, so the new switch would fit squarely through the mounting hole. It was a tight fit, but it can be done.

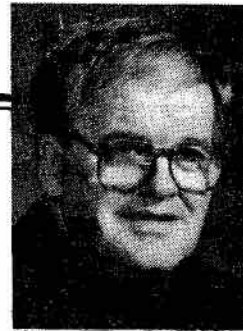
The UP and DOWN switches are connected by a black strap, with a black wire going down to the PTT switch. Remove this lead at the PTT switch and reconnect it to the central terminal of the new switch. Run a new black wire from one side of the new switch to the PTT switch where you took off the original black wire. Now put it all back together slowly, so no wires get broken or pinched. Now you can set your frequency with the UP/DOWN switches, throw the new switch to OFF, and you're locked. Perfect now, and no more rude words from Grandad. ■





# ANTENNAS

THE GAIN GAME by GERRY KING VE3GK



## ANTENNA ELEMENT TRAPS

I was assembling a Hygain TH6DXX, a 10-15 and 20 metre beam the other day and thought there might be some interest in the function of the traps. I have also included some practical information on how to build traps for a multi-band, 10-15-20 metre antenna.

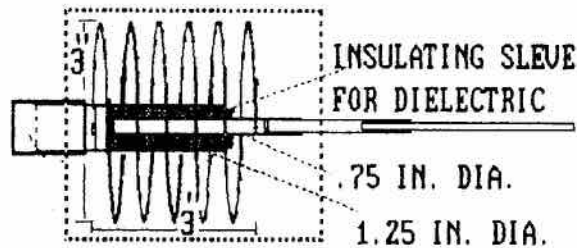
## RESONATE PARALLEL NETWORKS REVIEWED

When a certain amount of capacitance is connected in parallel with a certain amount of inductance, it results in a very high resistance at a certain frequency. In other words this combination of inductance and capacitance results in a special high resistance resistor designed to work at a narrow band of frequencies. Other frequencies above and below this frequency exhibit the opposite condition—a very low resistance.

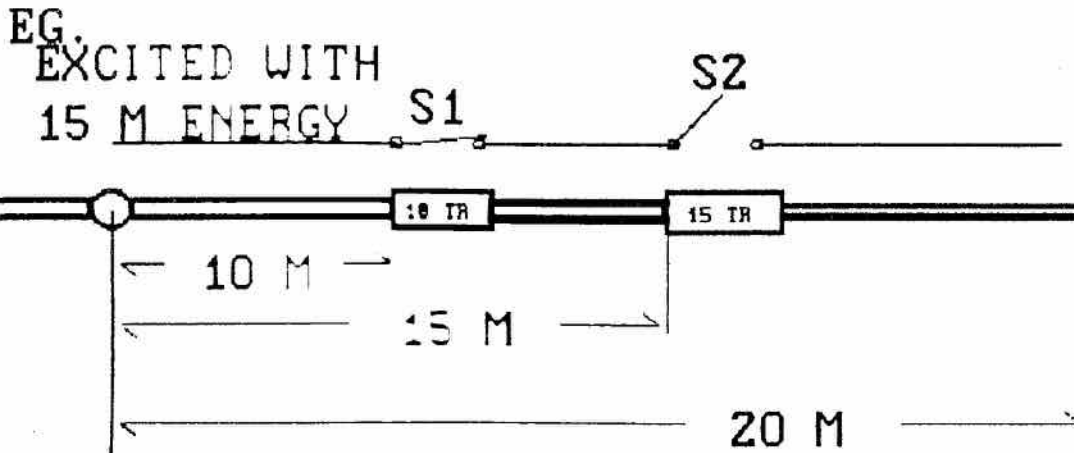
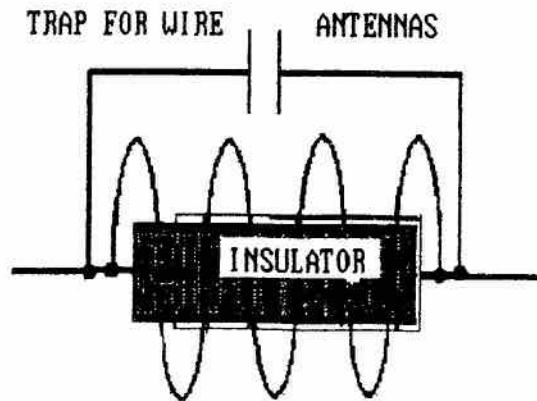
## SERIES RESONANT TRAP EXAMPLE

When a Tri-band 10, 15 and 20 metre beam is excited, for example, with 21 MHz energy only the length of element to the 21 MHz trap is used. This trap is situated  $\frac{1}{4}$  wave length (or 21 MHz) from the boom of a yagi. Its action is similar to that of an open switch at the low end of the 20 MHz band. The 21 MHz energy perceives the 10 metre trap as a closed switch and uses just part of the element.

Continued on next page ▶



TRAP FOR BEAM ANTENNAS



MULTI-BAND ANTENNA ELEMENT  
AUTOMATICALLY SWITCHED WITH TRAPS

On 10 metres, the length of element past the 10 metre trap is just excess baggage. Conversely, the 14 MHz signal perceives the 21 and 28 MHz traps as closed switches and uses the whole length of the element.

Please refer to the drawings for the practical application of the parallel tuned traps that are used in multi-band beams and wire dipoles. The capacitor is made by inserting one aluminum tube inside another with an insulating sleeve in between serving as the dielectric.

**TYPICAL TRAP FOR 20-15-10 METRE BEAM**

The capacitance should be around 25 pF when the tubes overlap about 5 inches for the 15 and 10 metre bands. The dimensions of the coil determine the frequency of operation. The coil is air wound from one tube to the other. The diameter and length of the coil should be about 3 inches. Allow 7 turns for 15 metres and 5 turns for 10 metres. About #8 aluminum wire should be used. Make an eyelet and securely bolt the coil to the element.

The final tuning should be done on both networks with a grid dip metre. Adjustments should be made to the coil and capacitor to resonate the network at the lower edge of the designated band.

**TYPICAL TRAP FOR 20-15-10 METRE WIRE DIPOLE**

The same values of inductance and capacitance apply. It is important that the voltage rating of the capacitor be in the 2 to 3 kV range. Several lower voltage capacitors could be assembled in series to make up the required voltage rating. The higher the power, the higher the kV rating should be. Remember when identical capacitors are installed in series you have to divide the value of one of them by the total number of capacitors in the string to get the total value of capacitance.

I hope you are getting something worthwhile out of the articles. Please write to me and let me know if there is a particular topic you would be interested in and, if I can, I will respond. ■

**TECHNICAL ARTICLES**

The Canadian Amateur welcomes technical articles. Please send them to the Technical Editor, Bill Richardson VY1CW, 36 Range Rd., Whitehorse, Yukon Y1A 3V1.

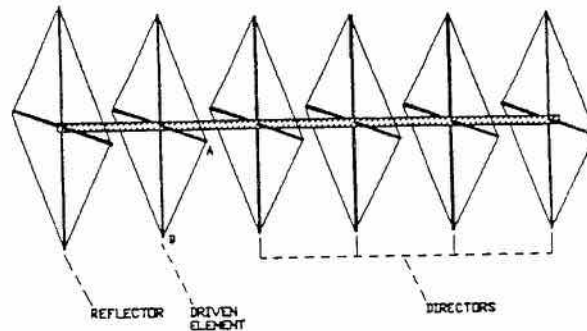
**VE3PHL'S DICTIONARY**

**OVSHINSKY EFFECT** The characteristics of a special thin field solid state switch that has identical response to both positive and negative polarities so that current can be made to have the same magnitude in both directions.

— via Hi-Q

**Product Review**

**Two-Metre Quad**



Almost everyone is on two metres now and almost everyone is looking for a better antenna. Well, your search may now be over. HF DXers have long been aware of the advantages of the cubical quad and the construction disadvantages. Converting these advantages to two metres has not always worked. The small size helps solve the construction problems, but narrow bandwidth and loading problems have plagued the VHF community. AAE seems to have solved all the problems in a unit they call the Q-144-6 (also available in the 3 element Q-144-3).

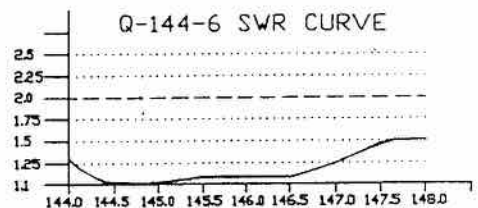
**Specifications**

- Measured gain over a 1/2 wave dipole: greater than 12 dB;
  - Beamwidth: +/-4 Degrees;
  - Feedpoint Impedance: 50 Ohm/SO-239 included;
  - Front to Back Ratio: greater than 24 dB;
  - Boom Length: 5 feet;
  - Turning Radius: 32.5 inches;
  - Weight: 4 pounds;
  - Mast Size Required: 1.75" Maximum;
  - Usable Bandwidth: 144-148 MHz SWR typically less than 1.15.
- Much smaller than other antennas of comparable performance;
  - inconspicuous, low-profile design lends itself to apartment/condo situations;
  - construction of the highest quality using fibreglass spreader and boom and 14 gauge THHN insulated stranded wire to prevent corrosion;
  - 50 Ohm impedance eliminates the necessity of a balun or network;

- lightweight- the smallest antenna rotors are adequate;
- Extremely short turning radius allows placement almost anywhere;
- not a kit. Tool-free installation. Average initial set-up 45 minutes; factory warranty and continuing support.

The Q-144-6 comes with complete assembly instructions including pictures and safety precautions. It may not be fair to say the instructions are simple because after looking at the antenna for a few minutes, you could probably assemble one with the instructions.

No matching network or balun is needed since the Q-144- represents a balanced 50 Ohm impedance. It is recommended that a high quality, low loss transmission line be used. You can expect performance to approximate Fig. 1:



The Q-144-6 is available from: Alabama Amateur Electronics, 3164 Chahaba Heights Road, Birmingham, AL 35243.

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MFJ	949D 300 Watt Ant. Tuner, Balun, Sw.....	\$ 245.00
A.E.A.	PK-232MBX NEW Multi-mode Interface.....	\$ 539.00
HY-GAIN	HAM IV Rotor, 15 sq. ft. windload.....	\$ 579.00
HY-GAIN	TH3JRS 3 element Triband Beam.....	\$ 469.00
CUSHCRAFT	A3 3 element Triband Beam.....	\$ 479.00
BENCHER	BY-1 Keyer Paddles, Black Base.....	\$ 99.00
RG-213/U	Mil spec 50 Ohm 97% shield NCV Jacket.....	\$ 68.00/c
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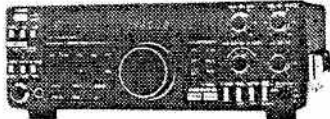
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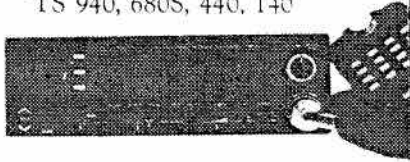
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## KENWOOD



TS 940, 680S, 440, 140



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TR-751A



TH-205AT, 215A  
415A, TH-205AT  
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## LEASE TO OWN

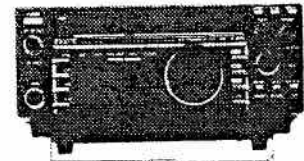
1. 48' TOWER, MAST BEARING, MAST; HAM IV ROTOR, ROTOR WIRE 100'; TH3JR. & BALUN, RG 213u 100'; 4 CONNECTORS; TS-140S, PS-430, DELIVERY TOTAL— \$3900.00  
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36 MONTH LEASE— \$311.71 per month  
42 MONTH LEASE— \$278.00 per month

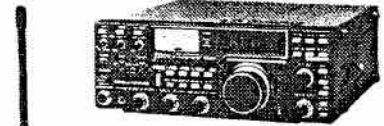
3. 48' TOWER, ROTOR, BEAM; ICOM IC-751A, ICOM PS-30, DELIVERY TOTAL— \$4900.00  
36 MONTH LEASE— \$179.14 per month  
42 MONTH LEASE— \$160.52 per month

4. 48' TOWER, MAST BEARING, MAST; HAM IV ROTOR & WIRE, TH3JR. & BALUN & WIRE; CONNECTORS; ICOM IC-735, ICOM PS-55, DELIVERY TOTAL— \$4200.00  
36 MONTH LEASE— \$153.55 per month  
42 MONTH LEASE— \$137.54 per month

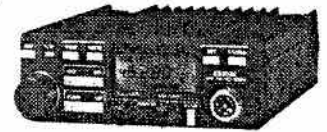
## ICOM



IC-725, 735, 765, 751A, 781



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IC-228H, 448A, 900

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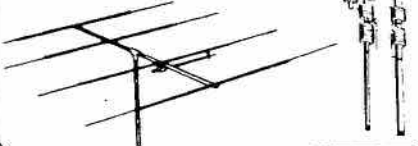
### PUBLICATIONS

- ARRL
- Radio Amateur Callbook
- World Radio TV Handbook
- Gordon West Radio School

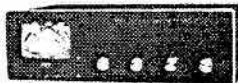


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## DUPLEX INDICATOR

Indicates plus or minus duplex.

## PRIORITY WATCH

Monitor any channel for calls while continuing operation on another frequency.

## TUNING STEP INDICATOR

Programmable tuning steps of 5kHz, 10kHz, 15kHz, 20kHz or 25kHz.

## 45 OR 25 WATTS

The IC-228H delivers 45 watts; the IC-228A 25 watts. Both include selectable low power.

## SRF INDICATOR

Shows signal strength when receiving, and relative output power selection when transmitting.

## SUBAUDIBLE TONES/BEEPER

Includes all subaudible tones built-in. TONE appears when the tone encoder is turned on. SQL lights when the optional UT-40 pocket beep function is activated (silently monitors for calls with your pre-programmed tone).

## WIDE BAND COVERAGE

Full reception of 138-174MHz including public service and NOAA weather bands. Transmit range of 140-150MHz includes MARS and CAP frequencies.

## 20 MEMORIES

Each memory stores any Tx offset and subaudible tone.

## MEMORY LOCKOUT

Lights when a memory channel is programmed as a skip channel.

- Wideband Coverage 138-174MHz Rx
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