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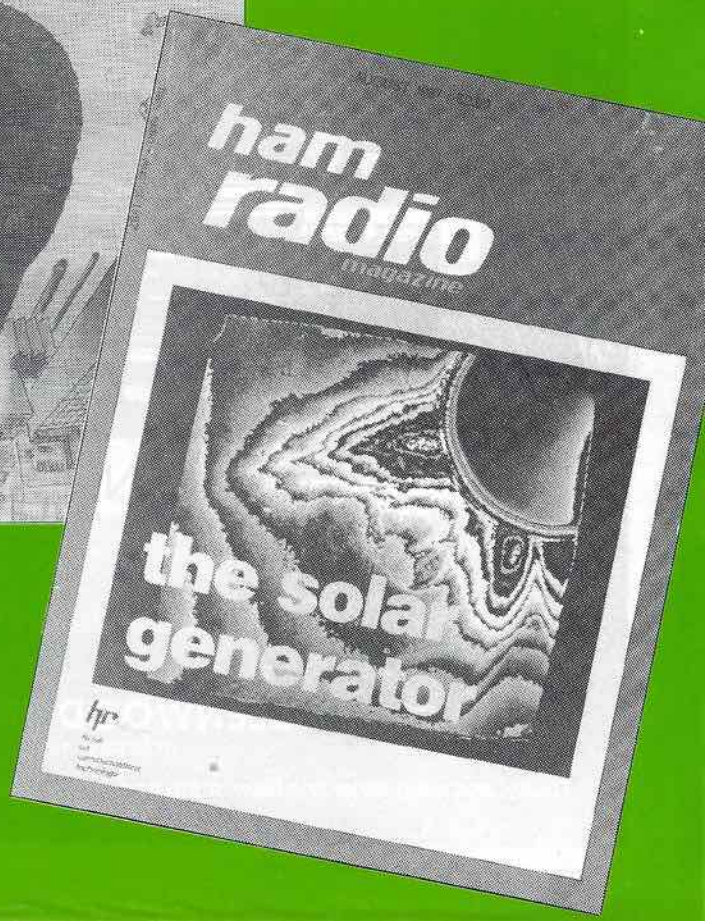
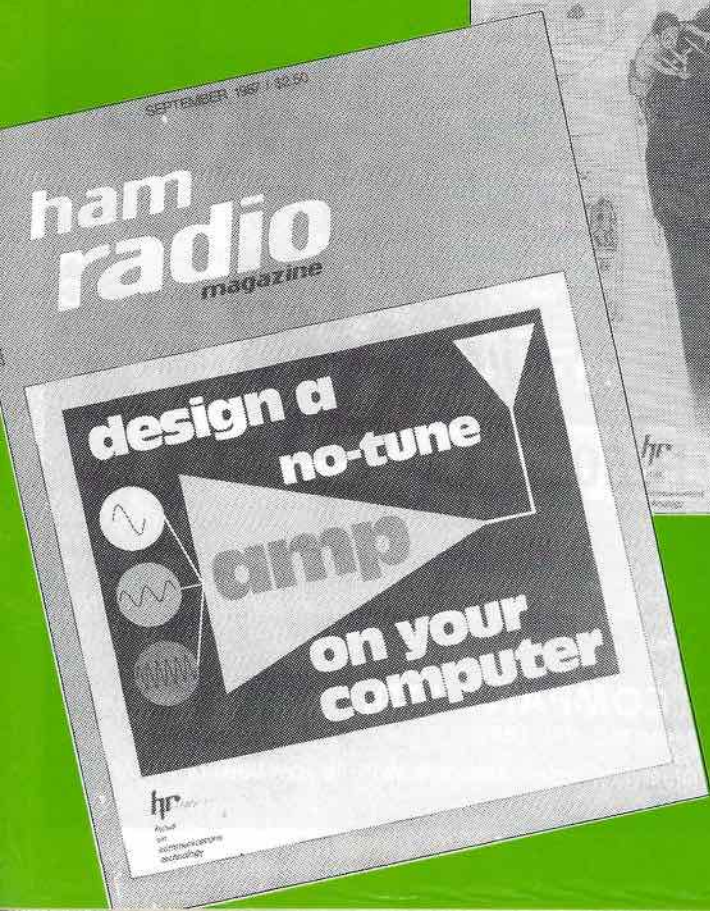
La Revue des Radio Amateurs Canadiens

APRIL 1988

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# THE CANADIAN AMATEUR

Canada's Amateur Radio Magazine

April 1988

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The Canadian Amateur is published in Canada 11 times per year to provide Radio Amateurs, those interested in radio communications and electronics, and the general public with information on matters related to the science of telecommunications.

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## WHAT IS ?

The Canadian Amateur Radio Federation, Inc. is incorporated and operates under a federal charter, with the following objectives:

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 the Department of Communications;
4. To promote the interests of Amateur radio operators through a program of technical and general education in Amateur matters.



# EDITORIAL

## Become a part of history

BY BERNIE BURDSALL  
VE3NB

Our Editor, George Sansom, asked me to write something other than war stories, so this is it.

I do hope these editorials are read and absorbed as there certainly are a lot of good ones. I found Art Blick's 'Looking Around', February '88 very interesting as it gave the history of CARF and recalled the names of the Amateurs who have done so much to sustain it over the years. What Art did not say was the amount of time, effort and money spent by these dedicated Amateurs to travel to meetings, symposiums and conventions, generally at their own expense.

This dedication is not, of course, restricted to CARF members. Most provincial societies and local clubs do the same thing. It is what keeps the hobby of Amateur Radio going. Sure we enjoy operating and experimenting but we must be vigilant and protect the Amateur bands and privileges.

"Look forward, not back," as Ron Walsh wrote in the January '88 editorial; I agree. CARF has survived from its birth in 1967, struggled through its early years and now has become a well-established and lusty 21-year-old, well able to make its own way in the world of Amateur Radio alongside its fellow organizations. We are not as old as the 74 years of ARRL, but with your support and membership we will achieve the goals of a single National organization. Remember, numbers count. It is not too early to be thinking of a new name for this unified organization. What name do you suggest?

Which brings to me to the reason I let George 'volunteer' me for this. At the present time, Mike VE3PRW and I, well-fortified with tea by our attractive

and efficient Office Manager, Debbie, are working (unpaid) at the Kingston office sorting through the many boxes of records and old magazines to set up a complete history of CARF— an 'Archives', in effect. We have complete sets of TCA magazines from Vol. 1, No. 1, 1973 to the present. We will be pleased to make copies of articles for members. The 'minutes' of meetings of any organization must be on file as they are the legal records of actions and decisions. We are, however, missing some minutes and other information from the 1967/68 years and welcome originals or copies if anyone has them.

So please have a 'spring cleaning' and send anything that may be of interest to us at Kingston, direct or via a CARF official. Letters, photographs (please do not write on the back of them as it may show through, but put the information on a separate piece of paper), financial reports, minutes, newsletters, old money... no QSTs please.

Let us have it before it is too late and your survivors throw it in the garbage.

A note to letter writers, including CARF officials: ALWAYS DATE your letters, memos, communications, etc., otherwise it is difficult to file these items accurately. Don't sort out the material, we'll do that. Generally about 5% of the material given to Archives is historically valuable. Under the National Archives of Canada Act, all records under the control of a government institution and all ministerial records cannot be destroyed without the consent of the National Archives... imagine the tons of 'bumf', tied up with red tape, that has to be sorted!

# LETTERS

## DOC DISCONTINUES PUBLICATION OF NAMES, CALLS

*Since the recent decision by the Justice Department and the DOC to discontinue publication of Amateur Radio Operators' names, calls, etc. The Canadian Amateur has received a number of letters complaining bitterly about this ruling. Portions of this correspondence are included here; your comments are welcome... Editor.*

Dear Mr. Sansom,

You are probably familiar with the recent circular letter from Tom Atkins VE3CDM, President of CRRL, in which he points out that because of the Canada Privacy Act, DOC has taken the position that names, addresses and call signs of licensed radio Amateurs are personal information and, therefore, can no longer be released.

I vehemently disagree with DOC's position in this regard, as do all the other Amateurs with which I have discussed the matter. We believe that such matters as one's health, marital status, personal habits such as smoking or drinking, religious beliefs, political affiliations, etc. are personal information deserving protection under the Canada Privacy Act, but certainly not names, addresses and call signs.

Does this mean that names, addresses and telephone numbers may no longer be published in all Canadian telephone directories? Surely a telephone is analogous to an Amateur transceiver, and certainly a telephone number is analogous to an Amateur radio call sign.

One can, however, by paying an extra fee (\$2.15 per month in British Columbia) have his name, address and telephone number withheld from publication in a telephone directory.

My suggestion, therefore, as I outlined on the back of CRRL's card, is that they (and CARF also) should try to prevail upon DOC to enclose a 'Yes or No' type questionnaire with their annual licence renewal forms. In this way all Canadian Amateurs could be polled. A 'Yes' response would indicate the Amateur's willingness to have the information published. A 'No' response would enable an Amateur to have his information withheld from publication. However, those indicating 'No' would be required to remit an extra amount along with their licence renewal fee. I haven't had a legal opinion on this, but it certainly seems that if it's legal

in telephone directories, then it should also be legal in other directories.

Furthermore, failure to remit the required extra fee, even if a 'No' response is indicated, would nullify the 'No' response and the information would be released for publication.

Also failure to indicate either a 'Yes' or a 'No' response would be considered as 'Yes' response.

Respectfully yours,  
Norman A. MacLeod  
VE7KY

Dear Mr. Sansom,

To paraphrase a Ham colleague, "It seems to manifest a malicious and profound hatred of the Amateur Radio Service."

What have we done to merit such hatred? Is it our many public service activities? Is it because we are so willing to offer without charge our time, equipment and expertise to the community in times of natural disasters and/or various other such emergencies? Or is it simply professional jealousy because of the fact that we are always ready, willing and ABLE to quickly furnish communications in the aforementioned emergencies when the facilities of other agencies have either failed or proved inadequate?

... Another Ham colleague advises that the Canada Privacy Act is balanced by the Freedom of Information Act. However, if some Ham in Botswana, for example, in trying to find my name and address in the callbook, discovers to his dismay that Canadian Radio Amateurs are the only ones in the whole world not listed, a fat lot of good the Freedom of Information act will do him! Likewise a fat lot of good it will do us when we are hurriedly trying to locate fellow Amateurs to render assistance in an emergency!

Although such a measure should not be even remotely necessary in the present instance, perhaps the Freedom of Information Act can be invoked to now and forever after allow publication of the names, addresses and call signs of *publicly licensed* Amateurs in all future editions of the callbook, as is presently done by every other nation on Earth that doesn't wish to appear a laughing stock to the rest of the world.

Every Ham in Canada should be urged to write to the Minister of Communications to strenuously voice

his objection to this latest ridiculous outrage.

Respectfully yours,  
Norman A. MacLeod  
VE7KY

Mr. R.W. Jones,  
Director General,  
Radio Regulatory Branch,  
DOC

Dear Sir,

The Canadian Amateur Radio Federation has recently been informed that the Department of Communications will no longer provide the list of names and addresses of Canadian Amateur Radio Stations. This position is apparently based on implementation of the Privacy Act.

CARF believes that this decision is wrong for a number of reasons and strongly urges your Department and other government departments to review this position.

Amateur stations are required by law to identify themselves by their call signs. Internationally the vast majority of contacts are confirmed by 'QSL' cards, written confirmations of contact. These cards have traditionally been a part of Amateur Radio for over 60 years. Many shortwave listeners and other countries also provide valuable information for the Amateur by sending reception reports even though the Amateur has not been in direct contact with him.

All countries of the world except the U.S.S.R. provide station address information. The U.S.S.R. handles all incoming cards at government expense through a centralized QSL bureau. If Canada chooses not to provide this information, we will be the only country in the world whose licensed Amateurs could not receive incoming cards.

The application of the Privacy Act to these names would seem unusual in that call-sign/address correlation is akin to the telephone book; one must have a cross-reference list to know which number to dial. In the case of Amateur Radio, certain other related exclusions are also in the law, for example Amateur transmissions are not subject to the confidentiality requirements applied to commercial communications which are overheard on the airwaves.

For many years (since 1920) the Callbook magazine published in the United States has been the international source for call sign/address information, but many organizations in Canada have also produced directories from DOC-supplied material. Examples include SONRA, the Society of Newfoundland Radio Amateurs, and ARLA, the Amateur



Radio League of Alberta. A successful Canadian publication a few years ago was the Canadian Callbook.

Many Canadian businesses related to Amateur Radio rely on the DOC address information for advertising circulars. While American businesses can advertise in the big, large-circulation magazines published there, this is not cost-effective for smaller Canadian businesses. Thus direct mailing provides one of the few ways they can introduce themselves to the Canadian Amateur community.

Finally, the quantities of QSL cards exchanged in Canada confirm the popularity of the practice, and implicitly the desire of Canadian Amateurs to be able to continue the practice. In Ontario alone, the bureau handled in excess of 1000 pounds of cards last year (1986). This does not include the numbers delivered directly through the mail. It would be very difficult, if not impossible, to deliver these cards if address information were not available.

The Canadian Amateur Radio Federation urges your Department to work with the Justice Department to find a resolution to this problem.

Yours sincerely,  
John Iliffe VE3CES,  
President, CARF

Right Honourable Brian Mulroney  
Prime Minister of Canada  
Dear Mr. Prime Minister:

With respect sir, I submit that your government is unnecessarily undermining its credibility with the 23,000 Amateur radio operators of Canada.

My complaint focuses on a recent decision of the Department of Communications to cease publishing and distributing the names, addresses and radio station call signs of Canada's 23,000 licensed Amateur radio operators. This decision impacts on our sovereignty with respect to our right to expect our government to control and protect the dissemination of personal information concerning its citizens....

... Only in the Communist Bloc countries is such drastic suppressive action undertaken... to limit the possibility of written communication. I urge you and your government to reverse this decision and adopt an alternative which protects the right of an individual Amateur radio operator to prohibit the listing of his name without suppressing the right of the overwhelming majority to have their names so listed in world wide publications...

...By leaving the gathering and publishing of information of this nature to existing American subsidized organizations, the govern-

ment is providing those with influential alliances and potential markets in the United States, who control world wide listings, an unfair opportunity to control and benefit from the sale of gathered information which, by right and prudence, should be under the control and protection of the government of Canada solely for its benefit and the benefit of its radio Amateur citizens.

As an alternative, I urge you sir to have your government adopt a policy of 'management by exception' with respect to the listing and publishing of the traditional Amateur radio names, addresses and call signs. This could be instituted by means of the annual licensing renewal procedure whereby the licensee may elect to prohibit the listing of their personal information by ticking a form box with a 'check mark' and/or personal signature. This would satisfy the desire of the overwhelming majority of Canadian Amateurs to have their personal information listed and still afford privacy to those who wish to remain 'unlisted'. To fail to pursue this or a comparable procedure is to invite the dissemination of personally unapproved, inaccurate or incomplete listings by private parties for profit and without any government control over the impact such processes will have on Canadians and their need to be protected from possible exploitation.

J.F. Hopwood VE7AHB

#### ON REALLOCATION

I am afraid that this letter will probably raise the ire of many in the Amateur community, and will lose me a lot of friends and make a lot of enemies. But I have to express my views on an issue that has led to a number of articles and a lot of discussion lately; that is, the reallocation of Amateur frequencies.

Usable spectrum space is limited, and demands for that space are increasing. I think we must recognize that many (though certainly not all) of these demands involve uses that affect positively our way of life.

We should also recognize that at present we Amateurs hold a disproportionately large amount of the spectrum space, much of it little used. Amateurs over the years have justified having so much of the spectrum with arguments such as, 'these frequencies are of no value to anyone else', 'Amateurs are in the forefront in the development of the technologies needed to make sure of higher frequencies', 'Amateurs serve the community in times of disaster and need the frequencies', etc.

Each of these arguments has been valid in the past, but I question

whether or not they are valid today. By and large, the Amateur community per se is not the leader in communications technology, and, more and more, is being and will be replaced by more reliable means of communications in times of emergency. Today, Amateur radio is a hobby, a fact borne out by the appeals made to DOC concerning changes to licensing procedures and by the willingness of DOC to make changes that would enable more people with limited or no technical background to enter the Amateur ranks.

Since Amateur radio is a hobby that provides enjoyment only to those in its ranks without providing any significant benefit to society at large, how can we morally object to reallocation of underused and probably unneeded portions of the Amateur bands for purposes that have, in many cases, the potential to benefit society?

I think we accept the fact that there are more legitimate uses of the spectrum than the meaningless exchange of weather reports and signal reports in a short QSO with someone in another part of the world. I believe we must also accept the fact that, like it or not we will ultimately, despite all our efforts and all our arguments and all our special-interest pleading, have our spectrum space reduced in the name of the public good. Instead of wasting our effort in fighting what is inevitable, perhaps we should be increasing even more our effort to examine and develop ways to ensure that we use most efficiently the spectrum space that we will be allowed to have.

I think it's about time that we took our heads out of the sand and stopped whining. Let's recognize that, whatever it may have been in the past, today Amateur radio is a hobby and, as such, is secondary in importance to most of the other uses of the spectrum. Let's see if we can find ways to ensure the greatest enjoyment to those engaged in this hobby within the bands in which we are given the privilege to operate.

George Morgan VE3JQW

#### AMATEUR HOLIDAYS IN FLORIDA

Many of us come south in the winter to escape the cold of Canada, especially those retired and from Ontario.

The conditions found in Florida are good for Canadian Hams; my wife Helen and I are very pleased with the reception we get here... she likes the Park activities and I like the local Amateur radio 'gang' activities.

*Continued on next page* ▶

## LETTERS (cont'd)

Remember you're a visitor and should behave even better than you may do at home, although you may not agree with everything you see.

We reside for six months in Canada and six months in Lakeland Fl. U.S.A. I always close down our house in Canada completely, partly because it's less expensive and partly because the insurance company is more receptive to a place which has not been damaged by water or electrical problems when they are 'disconnected'.

We think that there in Lakeland we can live as cheaply on a 0.75/dollar as we can in Canada on a Canadian dollar, the reason being that things are about 3/4 the price they are in Canada.

Be sure to check out the area in which you may consider staying; don't just come down and slap your money down and then decide that one or the other of you would sooner be home or somewhere else.

Helen's mother used to live in Florida and we have been coming here for many years before I-75 was built and before I retired. So don't forget— take a good look at your proposed site of residence and take a short visit to talk to the other Hams who come here and Take A Chance.

I don't like heavy traffic so we avoid the coastal areas of the state and if the locals want to exceed the speed limit then GO AHEAD MAKE MY DAY. Hi, I'm a visitor and I try to abide by the laws of the country in which I'm a guest.

There are many IF's and BUT's so if there are any questions ask one of the Florida Sno Birds, and if you like, come on down, and as the locals jokingly say— keep Florida green, bring money! That's a joke, son.

So for now, CUL. Yo all come back d'yah heah.

Dick VE3BIS

### A LOOK AT CODE

First, I would like to congratulate CARF on their success in creating such a fine magazine as *The Canadian Amateur*. It pleases me to see a Canadian magazine for Ham Radio Operators, as it is not only important to keep our independent identity, but to also recognize the difference in general character between us and our American counterparts.

Second, I would like to address the issue of increasing the diminishing number of Ham operators. Outside of the basic fact that many of the older operators are passing on, the biggest problem with the membership seems to be with the general interest of the population in obtaining their licence,

or more specifically their Advanced standing.

Through my own observance, there seems not only to be fewer people trying for their ticket, but fewer still who are bothering to obtain their advanced standing. The reason for this appears to be the somewhat unreasonable, if not antiquated, regulations concerning code.

Since the government has decided that code is an essential part of the qualifications for obtaining an Amateur Standing there is no sense in even discussing the idea that it should be eliminated from the process totally. After all, nobody likes parallel parking but without it any one could pass their driver's licence on the first try. Let's be realistic about the whole process. Hamming is supposed to be a hobby, one that these days is very diversified. Many Hams enjoy code, but there are also a great number of others who took up the hobby in order to enjoy the other aspects, including that of having the opportunity to converse with other human beings. In this already over mechanized society, it is unfortunate that even our hobby is being dictated by how well we can communicate by mechanical sounds.

I have heard the arguments about code being necessary for emergency purposes and I also have a tendency to agree with the argument at times, but with the number of Hams who centre their hobby around the use of code, and those who have facilities to generate code mechanically, there doesn't seem to be any shortage of people who could be available in an emergency situation. But as things stand with the regulations concerning the passing of code both at 10 wpm and again at 15 wpm for their Advanced standing, there is a problem developing in the basic survival of the hobby. Popular consensus leads to the idea that code is a painful yet necessary part of licensing, but after proving our ability to pass the code once, why should we have to add insult to injury and have to pass it twice? We are probably the only group of people who have to hate our hobby in order to do something that we are supposed to be doing because we enjoy it.

Let's be good to ourselves and to the hobby before our exclusive club becomes one that no-one even wants a membership in. If the code regulations continue to stand the way they are, there will be fewer and fewer people wishing to join those on the HF bands and a major part of the hobby will soon be neglected. A basic and very logical suggestion would be to keep the theory stipulations for licensing but to get rid of the

Advanced code of 15 wpm. This would spark the interest of many Amateurs in trying to obtain their Advanced and would get many of us out of the woodwork and back in to the hobby that we deary love.

Denis A. Gagnon VE6AGE

*The 'Code Requirement' under 30 MHz is an international agreement signed by all countries belonging to the ITU. As a member of this body, Canada is required to comply with its policies where they relate to communications. This includes Amateur Radio... Editor.*

### CARF/CRRL UNIFICATION

1. A few weeks ago, I printed a copy of the CRRL packet bulletin #1. Item 1 really grabbed my attention! It indicated that CARF had withdrawn from merger negotiations. I'm very disappointed to learn that merger negotiations have stalled.

2. The Canadian Amateur community NEEDS a single unified national organization to represent the interests of all Amateurs. We are facing deregulation, licence restructuring, spectrum policy review and future WARC's. Without a unified national organization, I fear that our Amateur 'Hobby' will be seriously weakened. The results will be disastrous to our Amateur Service.

3. I strongly urge the CARF executive to get back to the 'bargaining table' despite any real or perceived obstacles. Maybe the solution is an 'outside arbitrator'.

4. Last word— get on with the merger, and soon!

R.J. (Bob) Bond VE1BJZ

### HAMMING IT UP

I am returning the master copy of the CARF video 'Hamming it Up'.

The TV station in Sault Ste. Marie was very impressed with the overall quality, content and the manner in which Amateur Radio was presented in this video. They like it so much they aired it on two separate occasions.

Local Amateurs who viewed it were thrilled that such a high quality product was made available to them and the general public. Hopefully this video will encourage more people to become involved in our fine hobby.

The Algoma Amateur radio club would like to thank the Saskatchewan Radio Club for producing such a fine video and also CARF for allowing us the pleasure of viewing it.

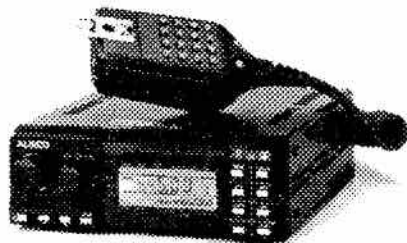
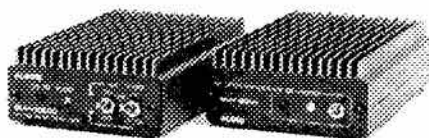
Garry MacMillan VE3PHB

*Thanks Garry, we agree! The 3/4" version is still available for airing on local TV stations. Cost is \$35. \$30 will be refunded if the tape is returned to CARF HQ within 21 days... Editor.*



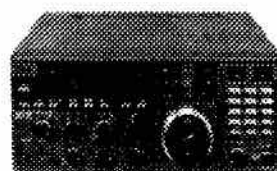
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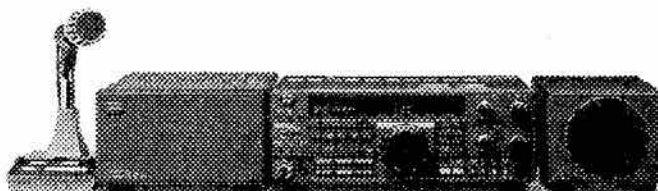


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# The Townsend Report

## *Canadian municipalities and the regulation of radio antennas and their support structures*

BY BILL WILSON VE3NR

This interesting report, which is of great importance to Amateurs, was prepared for DOC by David Townsend, Professor of Law, University of New Brunswick. The Department is inviting comment by April 30.

Mr. Townsend notes in his report that there are about 230,000 licensed antennas in Canada and that these antennas are usually sited with the fullest regard to the technical factors that will ensure the effectiveness of the station. Traditionally, little attention has been paid to the effect such antennas will have on the community.

Attitudes about the appearance and safety of the local environment have begun to change. Residents and local governments have started to demand that local interests be considered within the authorization process when such facilities can impact negatively on them. Today almost all buildings, structures and facilities in municipalities are planned to minimize undesirable impacts. Usually there are consultative mechanisms, and local opinions and interests are taken into account either as relevant or controlling factors in the authorization process. Currently when antennas are erected in Canada no consultation occurs.

AM broadcast antenna arrays and Amateur antennas used to be the prime concerns. However, satellite TV receiving-only dishes have now been added to the list and the fear is that direct broadcasting satellites will result in these antennas growing like mushrooms. Closer in the future are antennas for multipoint distribution systems and cellular radio systems.

Many municipalities have attempted to solve the problem with bylaws, many of which have caused Amateurs much concern. Recently municipalities asked the federal government to clarify the extent to which local bylaws may regulate radio antennas and their supporting structures. The result is what I have chosen to call the 'Townsend Report'.

Extensive research and analysis is a

characteristic of this report which runs over 100 pages. The realities of federal regulation of antennas are explored under the headings: interference management; location of antenna; height of antenna; co-location of antennas, safety regulations (RF emission exposure limits, aeronautical obstruction regulation, and structural and electrical regulation); aesthetics; environmental impact and consonance with local planning. A chapter which analyzes constitutional jurisdiction in relation to radiocommunication ends with a section on the case for a greater municipal role.

Professor Townsend reports that recent trends in constitutional interpretation tend to buttress provincial and municipal claims to greater involvement in the regulation of physical apparatus and antennas. Although the Supreme Court has yet to consider the interaction of federal jurisdiction over the physical aspect of radio communications and provincial and municipal interests in the regulation of land use, certain developments suggest an increased responsiveness to local concerns. He cites two very recent court cases to make his point. Some sort of consultative process is one way to solve the present confusion, thus retaining federal control and ensuring an avenue for considering local interests. Apparently this is now being followed in the case of airport development.

An extensive review of the regulation of antennas in the United States has been made as the U.S. federal government and the municipal governments both have powers to regulate antennas. To give some idea of the scope of these powers, here are the headings under which federal powers are examined: interference management; location of antennas and their structures; height of antennas and their support structures; co-location of antennas; environmental impact, safety regulation; aesthetics and the express preemption of the local regulation of

antennas. Municipal government powers are examined under: location of antennas and their structures (antenna moratoriums, zoning control, co-location of antennas, setback); height of antennas and support structures; safety regulations (RF energy exposure limits, structural adequacy, construction safety site security, site size) and aesthetics (design of support structure; colour of antenna and support structure; screening/landscaping; siting requirements).

The situation in the States is that while local administrations may regulate many aspects of antennas and supporting structures, the federal government's power to manage the spectrum is not unreasonably impeded.

Buried back in the review of the U.S. situation is the note that the FCC, in Memorandum Opinion and Order PRB-1, has preempted all local ordinances which effectively prohibit or significantly inhibit Amateur Radio communications!! This preemption protects Amateurs from such things as overly restrictive height limitations, unreasonably expensive application fees and time-consuming zoning variance procedures.

The report then gives guidance to municipalities based upon the following legal principle stated by the Department of Justice 10 years ago. Provinces, and hence municipalities, do not have legal power to create enforceable rules which relate directly to radiocommunications; however, a properly framed bylaw relating only incidentally to radio communications may co-exist with federal legislation provided such bylaws do not prohibit or unduly restrict the conduct of radio services or the operation of federally licensed radio stations. Here are the highlights of that guidance which are of interest to most Amateurs:

1— Provinces, and therefore municipalities, may not manage the use of the radio spectrum or any aspect of the nature or sources of



radio interference experienced within municipal boundaries. To the extent that bylaws contain interference rules, they are of no effect.

2— Despite issues of local safety, municipalities may not set or police limits on citizen exposure to RF energy. Provincial health and safety legislation must also defer to federal authority.

3— Local ordinances attempting to deal with antennas are ineffectual to the extent that they propose to prohibit the siting of licensed or unlicensed antennas.

4— Municipal rules may not expressly control or limit the height of an antenna system for aesthetic or any other purposes.

5— Local administrations have no lawful jurisdiction over the structural adequacy of an antenna or its supporting structure.

6— A local government has full control over lands in which legal title is vested in the municipality but it cannot create private rules which cause itself or its lessees to breach federal spectrum management policy or aeronautical obstruction regulations. Local governments cannot coerce radio stations to locate within a designated area as opposed to some private site.

7— If an antenna support structure is to be used for some purpose in addition to supporting an antenna, or if structures ancillary to a radio station are to be co-sited with the antenna, the municipality has control over the health, safety and aesthetics of the structure as these do not relate to the operative capacity of the radio system.

8— If an antenna or its support structure is close enough for the antenna, its support structure, ice or other debris to fall and cause damage to a neighbour's property, third party liability insurance may be required by a municipality.

9— Where an antenna and supporting structure is to be sited within or immediately adjacent to an area where a strong and compelling local interest exists, such as a residential, heritage or recreational area, painting and screening of the antenna and support structure may be required by a municipality so long as the operative capacity of the radio station is not impaired and the cost is not unreasonable.

10— Where an antenna and its supporting structure are to be mounted on a building, a municipality may set certain structural requirements regarding the strength, lightning grounding, etc. of the existing building.

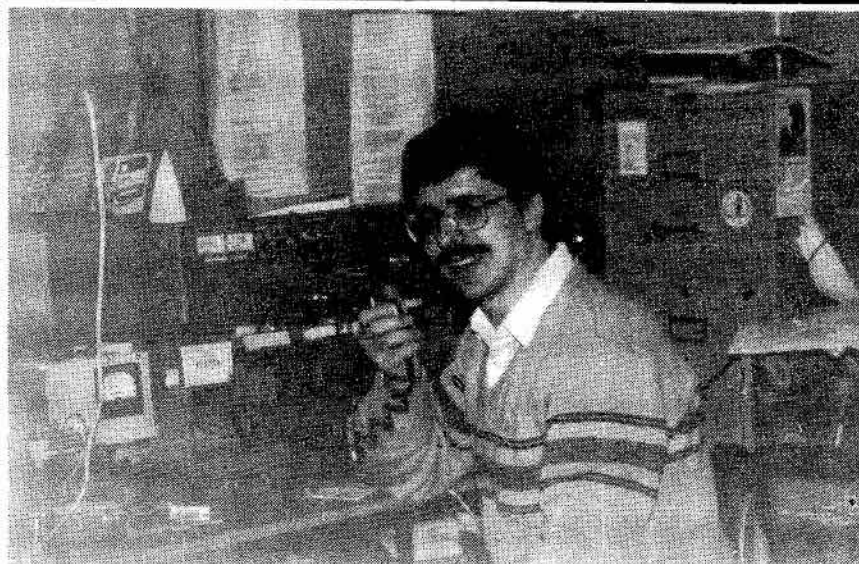
Professor Townsend concludes his report by suggesting that the DOC

has two options. It can inform the municipalities of their rights and take no other action. He does not like this option. Alternatively, if DOC decides to do something, a number of issues will have to be considered. Which land use and environmental policies are to be applied? Will such policies have a national or local perspective? Should the decision-making be taken at the federal level, should it be done by the DOC, the Canadian Radio-television and Telecommunications Commission (CRTC), Environment Canada or a new antenna tribunal?

DOC wants to know what the public thinks before they make any decisions. Because antennas are essential to Amateur Radio, Amateurs should get this report, study it and

make their views known to the DOC. Copies are available from any DOC Regional Office or from DOC Information Services in Ottawa.

Some closing words of advice— Amateurs concerned right now with a specific antenna problem should base any action they plan to take on the full report rather than this brief summary. This report will have no bearing on covenants and certainly will not save an Amateur from actions in court for nuisance such as happened to Jack Ravenscroft. Hopefully by the time the next nuisance case comes to court judges will have read the Townsend report and realize that radio interference is a very complex matter that cannot be dealt with in an offhand way. ■



## Traducteur

Michael Ricard VE2DDT est le traducteur des Bulletins de Nouvelles de CARF depuis plus d'un an. Il a débuté à la suite d'une annonce que Dino VE2FSA avait mise dans un Bulletin, demandant les services d'une personne pouvant traduire en français les Bulletins de Nouvelles.

Quoi que n'étant pas très près l'un de l'autre, Dino à Montréal, et Michel à Chicoutimi, ils ont essayé, et voilà, cela dure encore. Ils se transmettent les Bulletins par modem téléphonique, en attendant de pouvoir utiliser la transmission par Paquet.

Radioamateur depuis janvier 1984, Michel essaie par la communication DX, de mettre un frein à sa soif du voyage. "Je peux le faire par la magie des ondes" dit-il. Il affectionne tout particulièrement les communications avec l'Europe, surtout en RTTY, le CW n'étant pas sa matière forte.

Michel est aussi président du Club Radioamateur Saguenay-Lac-Saint-Jean depuis deux ans. "J'aime ce hobby et je veux le faire connaître à tout le monde. Ma station n'est pas très grosse. Je demeure dans un appartement et il n'y a pas possibilité d'ériger une tour avec des antennes directionnelles, j'opère sur une dipôle toute bande en HF, pour le VHF j'ai toujours mon portatif sur moi."

Son souhait: "que de plus de gens comprennent la satisfaction que nous avons à contacter tous les coins du monde et à voyager de cette façon, ou encore d'aider les scouts du coin à contacter une troupe d'ailleurs."

Une anecdote: Lors de son premier contact HF, en lançant CQ CQ de VE2DDT, il s'aperçoit de la disparition de toute station, devinez pourquoi? Le DOT. ■

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A receive Normal/Reverse software switch eliminates retuning and Unshift-On-Space reduces errors under poor receiving conditions.

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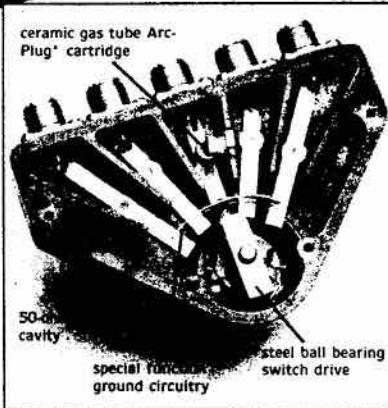
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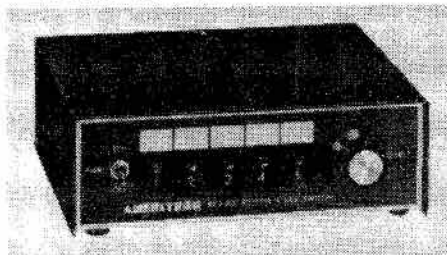
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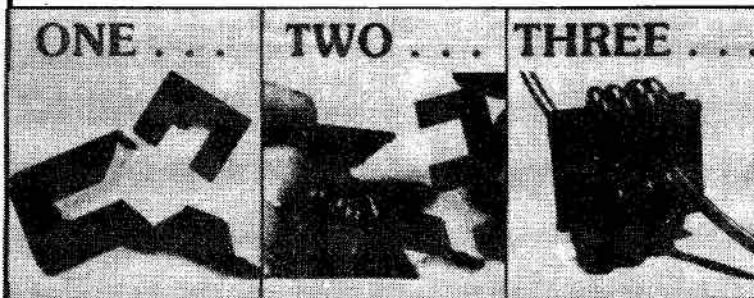


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# The Ravenscroft Appeal

The Ravenscroft appeal judgement has been handed down. Ralph Cameron VE3BBM attended the hearings and has compiled a comprehensive report on the proceedings.

'The Cameron Report' will be featured in *The Canadian Amateur* over the next two months. For those who wish to receive a complete copy of the report, send a large (8½" x 11") SASE to CARF, Box 356, Kingston, Ont. K7L 4W2. 74¢ in Canadian stamps will suffice for Canadian addresses, foreign orders should include four IRCs.

## COURT OF APPEAL FOR ONTARIO

RE: TIMOTHY HOUGHTBY AND DALE HOUGHTBY v. JOHN RAVENSCROFT AND HELEN MAY RAVENSCROFT

BEFORE: BLAIR, KREVER AND GRIFFITHS J.J.A.

COUNSEL: W.L.N. SOMERVILLE, Q.C.

and C.D. BREDT  
FOR THE APPELLANT,  
ANGELA HENRY  
FOR THE RESPONDENT  
HEARD: JAN. 29, 1988

## ENDORSEMENT

The appeal and the cross appeal are both allowed in part and the judgment appealed from is varied as hereinafter indicated.

The respondents sought and obtained an injunction against the appellants. The evidence indicated that the interference complained of could have been substantially eliminated by the addition of certain suppressive devices, but the respondents refused to permit corrective action to be taken. The injunction being an equitable remedy and therefore discretionary, it is our view that it ought not to have been granted in the broad terms specified in the judgment appealed from in view of the unreasonable refusal of the respondents. The injunction is vacated forthwith and the appellants are ordered within 90 days or within such additional time as the parties may agree or a District Court judge may order to arrange for the modification of the electrical and

electronic appliances and equipment of the respondents so as to suppress the interference emanating from the appellants' radio station to a standard approved by the Department of Communications at no expense to the respondents.

If the appellants fail to modify the respondents' equipment, as aforesaid, then on application of the respondents to a District Court judge the injunction shall be reinstated. If the respondents refuse to co-operate with the appellants or permit reasonable entry to their premises for the purposes of effecting the suppression, the injunction will be permanently vacated.

The cross-appeal of the respondents shall be allowed to the extent of increasing the figure of \$2,500 in paragraph 2 of the judgment to \$5,000, not because we consider the learned trial judge's award was inordinately low, but because we are of the view that additional compensation should be awarded to the respondents in view of the

additional inconvenience to which they will be subjected. Paragraph 3 of the judgment interest \$509.41 will be described as interest on the total damages at trial of \$2,558.60 and there will be no other order as to pre-judgment interest.

The Court found no merit in the appellants' constitutional argument that the respondents could operate the radio station without restriction by the common law of nuisance.

The respondents were not called upon to reply to the appellants' argument that the defence of statutory authority applied in this case because it would have been unfair to the respondents in view of the fact that the defence as not raised in the pleadings or at trial. The Court expresses no opinion on the applicability of the defence of statutory authority to this case.

There will be no costs of the appeal or the cross-appeal and, as already indicated, the award of costs to the respondents at trial will stand.

February 4, 1988

## The Cameron Report

### TRIAL COVERAGE OF THE RAVENSCROFT APPEAL BY RALPH CAMERON VE3BBM

ONTARIO COURT OF APPEAL  
SUPREME COURT OF ONTARIO  
Thursday January 28, 10:30 a.m.  
Courtroom No. 2

1. Houghtby; T and Other vs Ravenscroft; J and Other  
DC Jud. Dist. of Ottawa Carleton 7  
Apr 86 date of Judgment  
BLAIR, KREVER, GRIFFITHS, J.J.A.

The above caption appeared as a mute advisory on the Daily Notices, to those who entered the venerated halls of Osgoode Hall, Toronto to attend the Appeal hearing of the case of Jack Ravenscroft VE3SR who had been found to be a nuisance by a County Court Judge. The trial effectively shut down the operation of an Amateur Radio station under the common law of nuisance as opposed the Radio Act.

The circumstances surrounding

this case will be argued long after VE3 Signal Radio became the first victim of what is perceived by some to be a pseudo legal technical inequity. He didn't stand alone in Osgoode Hall; countless Radio Amateurs across Canada and indeed, around the world have shared his frustration, anxiety, and disbelief at an increasing intolerable laxity in dealing with this problem called 'interference'. Susceptibility problems and acid rain have much in common. They have been professionally ignored and tolerated to the point of needing an immediate antidote. Its victims are many. It involves us all.

Read on.

Order of Presentation:

Supreme Court of Ontario: Justices Blair, Krever, and Griffiths.

Appellant: VE3SR. Represented by Mr. W. Summerville, Q.C.; Mr. Christopher Bredt; consulting, Mr. John Hylton. Diane Oleskiew, Student-at-Law.

Respondent: Represented by Ms. Angela Henry.

In attendance Day 1 - D.O.C. Toronto Regional Office: Mr. G. Brochet

Mr. Carl Olsen

DOC Ottawa Mr. David Townsend

Amateurs: VE3FN, VE3KDT, VE3ASO, VE3ON, VE3BBM, VE3DQG, two Amateurs from London, Ont.

At the start of the Appeal, Justice Blair indicated the three justices had read the Factums submitted in advance. The Factums contained the legal arguments upon which the Appeal is based.

## CONDUCT OF THE COURT

In the Court of Appeal, both sides attempt to present arguments which support the evidence taken at trial. By reference and some inference the Court may decide to alter, rescind or dismiss the judgment obtained at trial. The presentation of a summary of the issues began with Mr. Summerville's address to the Court. During the presentation of issues and arguments, the Supreme Court Justices are in position to question in detail the legal substantiation and circumstances leading to the arguments so presented. Attendees in the court are attentive and apprehensive. Every issue is enunciated clearly and deliberately; however, the acoustics of a 100-year-old building with 15-foot ceilings somewhat absorbs the words directed toward the three justices. We are 15 feet from the Bench.

It was raised by the Court that an adequate physical map showing the location of respective properties was lacking, for reference purposes. This appeared to have little effect on delaying the proceedings.

A summary of the events leading to the present Appeal was led by Mr. Summerville and included the references contained in the Appeal book(s). A technical knowledge of these facts made it easy to understand the relevance of questions raised by the Court. Much cross examination occurred during the summary presented to their Lordships and it was clearly evident the Court possessed an uncanny degree of understanding of the issues read.

One of the first questions raised by the Court was to clarify the sector which was critical to causing the effects described. The azimuth of 149 degrees appeared to cause some confusion because the DOC report and the evidence presented at trial seemed to differ.

The DOC report stated that powers as low as five watts still caused some

of the complainant's effects. The fact that these levels were recorded by DOC was immaterial because no evidence was submitted that these power levels should result in absolutely no interference. This came as no surprise because *at no time was this aspect of the DOC Report examined and correlated to the effects caused.*

The question of sensitivity of the locale may have been more solidly confirmed, had a DOC witness been directly asked to apply his professional judgment by stating the effects noted at such low power levels were inconsistent with what would be technically expected or acceptable.

The fact that the small walkie talkies used by the DOC caused severe interference to the organ was an *inference* that the organ was very susceptible. It appears to be an inference not accepted by the Court as fact. In retrospect, a definite statement is needed by witness to have any legal effect.

Note: There were other facts obtained about the organ during the gathering of technical information relating to its performance. Because these facts were never restated in affidavit form the evidence was not presented, was not included in the Record of the Court, nor was it felt at the time to be relevant by the Ottawa counsel.

The Court heard the reference to testimony that new models of the organ supplied by the Yamaha Company do have adequate shielding and filtering to suppress the effects experienced by the complainants. Evidence was presented that a TV receiver was affected by another interference source which was suggested to be a home appliance or power tools. We also heard that VE3SR contacted all the nearby neighbours, but aside from the complainants only one neighbour immediately behind him had experienced a 'very minimal' problem. The TV set in question was located in a very low signal area and used "rabbit's ears" type antenna.

Note: Having had a direct working relation with the local Yamaha Service Manager, I can attest to their attentive responsible attempt to solve the problem. The distributed wiring of the organ makes suppression more difficult than more compact synthesized types. Construction was daisy-chain chassis.

## CHARACTER OF THE LOCALE

The question was raised as to who submitted the letter from the Department of Communications relative to the effects being experienced by the complainants. The letter was signed

by the Minister of Communications and states the problem in unequivocal terms. This seemed to raise some discussion about why the letter was included as an Exhibit. It appeared to have little effect in delineating the problem to the Court. Those Amateurs familiar with the case and present in the Court knew that such a letter signed by the Minister was very unusual. The letter clearly enunciated the problem, yet appeared to have little effect on the outcome of the Appeal.

Evidence was included in the transcript from trial that the complainant had received and recorded Morse code transmission on the partially suppressed organ. The tape which had been played at trial was badly distorted and required two playings to recover the call sign of another Radio Amateur located some 500 feet west of the complainant's residence. It was curious that no questions were raised as to whether this other Amateur had caused a similar effect upon his neighbours.

During the period from trial to appeal, VE3SR received written notice from the complainant's solicitor on at least two occasions, stating that he was "contemptuous of the Court" and had caused additional interference after the injunction had been placed on him. It was further stated that these incidents were to be introduced at appeal as constituting "new evidence". Such letters are, of course, seen by no one except VE3SR and do not become part of any Court Record. The irony of the allegations is that I was in possession of VE3SR's transmitter before and after the letters were received. It is still in my possession (Feb. 12/88).

Evidence at trial was also recorded which indicated a spectrum analyzer placed in VE3SR's basement for a period of ten days recorded very strong GRS signals. While only a short length of wire was used as an antenna, the GRS signal in comparison to VE3OAI, 500 feet away, was at least 6 dB stronger. VE3OAI's transmitter was running 100 watts. The source was noted on at least two occasions and was never traced. Transmissions appeared to commence about 7:15 to 7:30 a.m. Another broadband noise, similar to that generated by a power tool or hair dryer, appeared throughout the VHF spectrum. The level was almost equal to the signal generated by VE3OAI. This too was never found. It is suspected that subsequent interference suffered by the complainant was caused by one or more of these sources.

*Continued on next page* ▶

### HUMOUR AT TRIAL

Jack's senior counsel explained the complainant had called the local DOC office repeatedly to have the foregoing interference investigated. This was done one morning at approximately 7:30 a.m. Mrs. Ravenscroft responded to the knock on the door and explained that her husband was still in bed. The inspector was satisfied in this regard and reported so in his record. Mrs. Ravenscroft had been cross examined at the trial on this issue. The record indicates the type of question: "Isn't it easier for your husband to get up and run to the door if somebody surprises you like that in the morning?"

One interesting facet of Mrs. Ravenscroft's testimony which did not get repeated at the appeal, but would be of general interest is the following from the Record: Mrs. Ravenscroft had been confused by the judge as being a witness because he had forgotten the Court order named both Jack and his wife as defendants.

The Court: "She's a party. We decided that the parties could stay. Don't you remember that? It's long time back, but..."

The Witness: "And I may add, to my sadness, that on January 10th, I was served by the bailiff at my door. I had lived all these years and never knew a thing—this is the first time I have been in a courtroom and I find it a little offensive, because I had no..."

The Court: "You shouldn't feel like that. I spend most of my time here."

Humour such as this broke the stressful tension of the previous three days at trial. The only other occasion was the muffled laughter from Amateurs in the gallery when the squeaky, high pitched CW, recorded by the complainant, was identified as belonging to a distant neighbouring Amateur.

### INTERFERENCE— 'CHICKEN AND EGG'

A further summary presented to the Court covered portions of the DOC Report and the makers of the affected television sets. The Court commented that some of the sets affected were name brands and as such were not unusual appliances.

An argument was presented that the reaction noted on the TV sets was not unusual because of the effects to be expected from the proximity of receiver and transmitter. Several times the Court made the argument that it was the transmitter that caused the interference and that, if the transmitter were to be removed, the source of the interference would disappear. It was pointed out that if either the TV or the transmitter were turned off the

problem would be eliminated.

The Court argued that the organ could not create interference; whereupon, we argued that the organ did not cause interference, but it was responsible for the injunction. Our statement, as a simplification, that it was, "a chicken and egg situation" seemed to summarize the somewhat exasperating experience of trying to create an understanding with the Court. It garnered few points.

Counsel for VE3SR proceeded to recap the complainant's evidence and referred to the transcript of one of the DOC inspectors who had been subpoenaed to appear as witness for the complainants. This person had been present at the DOC tests done on Nov. 12, 1985, (actually Oct. 17, 18, 21 & 22, 1984) about six weeks prior to receipt of the legal letter citing nuisance.

### TEST METHODS

The Recorded testimony clearly states that VE3SR's station was examined and, "it was confirmed to be operating within the bands set aside for Amateur use and he was not exceeding his power limits". In addition, spectrum analysis revealed no detectable harmonics or spuri.

Questioning had then proceeded to elicit how the electronic furnace control came to be operating and it appears to have activated the furnace after an hour and one half of running tests. When the furnace suddenly activated, a furnace repairman who had been asked to attend for the tests, was directed to install a toroid in the thermostat control leads, just inside the furnace itself. This device prevented the energy from causing a malfunction of the control and the furnace was considered to be suppressed.

As a matter of interest, testimony from the Court transcript indicates that the criteria for the tests run by DOC were stipulated by the Toronto office of DOC. Reference to the testimony of Hubert Pambrun, District Manager of DOC states that on the first day of testing a threat was made by the plaintiffs to discontinue testing if certain tests were not run. When questioned on this point Mr. Pambrun replied, "There was a mention that if the defendant wouldn't increase the power in one of those antennas that the tests would be suspended, so at that point..." It was also learned that 200-300 cases of EMI occur each year in the Ottawa area alone.

The Court records also indicate that the microwave oven which caused considerable sympathy and concern for damage due to malfunction, never did operate or even malfunction during the four days of testing. Had

the microwave oven malfunctioned it would have been the first case on record. Had the oven been returned for the technical recall to which it had been subject, it is entirely possible so much speculation, innuendo and false alarm could have been avoided. As it was the recall was performed by the manufacturer at no cost. VE3SR was never notified that the board had been replaced yet considerable attention was given at trial to all the effects produced by the faulty board.

One should appreciate the elements which made the organ particularly sensitive to radio energy, in this instance. The organ, which had been a family gift, was about two years old, so there was some reluctance to permit modifications.

A considerable amount of time was spent poring over circuit diagrams of the organ in order to offer a best guess of how to have the most effect for the least amount of effort. Cooperation of the Yamaha service manager was a tribute to the exemplary service one can expect from this firm. Five separate trips were required with all materials being supplied free of charge except aluminum foil. Toroids were tried with very little effect. Several ferrite beads and bypasses were tried and it was claimed a reduction of 75% of the effect was made.

### ABILITY TO SUPPRESS

Attention was given to the fact DOC would normally provide reasonable technical assistance in cases of this nature, at no charge to the complainant. Emphasis was given to DOC testimony that stated all of the equipment could be completely suppressed with some being more difficult than others. When asked about the suppression of the organ it was stated no opinion could be offered because familiarity with the internal circuitry was lacking. (A short break was taken by the Court.)

Next the interest turned to the DOC Interference publication and its contents. Further argument was made related to the application of the Common Law of Nuisance. One case of particular importance involved a case heard in the Nova Scotia Court of Appeal and related to Trans Canada Airlines.

### LAWS & ACTS & STATUTES

The TCA case appeared to raise courtly eyebrows. One Justice stated that the conflict is one of law and not of statute. It was to him astonishing that the Radio Act removed the right of the Law of Nuisance to regulate the conduct of a Federal undertaking. This of course was our contention.



A further case was cited which occurred in Alberta. The Court found that the Common law of contract in that province is not equal to Federal law. It was stated by this Court to be analogous to Provincial law. So the issue was presented to draw parallels with previously determined cases. Justice Blair commented that when he had been in living in Ottawa, Mayor Charlotte Whitton had decreed that no TV antennas would be permitted. We all know the result of that wishful thinking.

To support the issue being presented, reference was made to Sec. 64.4 of the Radio Act in respect of interference. The Act does not support Departmental involvement in cases of non-radiocommunication devices. Such are circumstances in the present case.

The counsel for VE3SR argued that this case is one where the Federal Act and the Provincial regulation conflicted. It seemed clear the Federal Government has exclusive jurisdiction while the current judgment results in the diminution of two properties. Concurrently, the organ was capable of being used for radio communication.

Further argument was pursued to claim there was much evidence to support the suppression of the interference by filtering devices. It was felt there should be an obligation on the complainant to have this done since the interference was the inevitable result of the operation of VE3SR. (In this instance).

## SUPREMACY OF LAW

To conclude the issue of Federal vs. Provincial supremacy of law, a case involving Trans Canada Pipelines in 1951 was cited. The details of this case were used as a comparison involving a hypothetical antenna falling on a neighbouring property. In this case there would be an application of common law of nuisance. It was submitted for consideration by the Court that in the present circumstances the law of Nuisance may not be in force where it will extinguish a facility within the

### ELECTRONICS QUIZ

- Have you ever seen a quarter wave?
- Have you ever seen a voltage age?
- Have you ever seen a centre tap?
- Have you ever seen a band pass?
- Have you ever seen a net work?
- Have you ever seen an element beam?
- Have you ever seen a negative lead?
- Well, have you ever?

—Cathy VE3GJH

exclusive jurisdiction of a Federal law.

The Court was treated to the technical differences between a beam and vertical antenna so they could fully appreciate the allegations made the DOC Report with respect to azimuth/interference.

The next Act cited was the Department of Communications Act and Justice Krever questioned the effect of a statute vs. a regulation. Sec. 4/S refers to the powers of the Minister. Since this issue seemed to have been raised by the Court several times at differing times throughout the hearing, it is now obvious some determined focus was taking place. This was not quite so apparent from the first time and the eyebrows were raised.

The next issue related to more modern and current examples of facts associated in some way with this case: the commonality of radio frequency interference, the issue raised by the intent of the 'Electromagnetic Compatibility Bulletin'; the results obtained from making this a 'voluntary' regulation.

Previous cases relating to CFRB, Orangeville, Ont. and Mirabel were all led to draw similarity of issues deemed relevant.

In the Mirabel Airport case, a labour strike halted construction. Since the Labour laws were Provincially regulated, the case was made that a Federal undertaking of construction was not subject to a provincial law.

Under the Rules of Evidence in Criminal proceedings it was determined that when the RCMP was being forced to reveal information to a Provincial Court judge, the case was dismissed. This was another example cited which compared Federal vs. Provincial or common law jurisdiction.

At 3:25 p.m. that afternoon, Christopher Bredt prepared to argue further issues for VE3SR. Mr. Bredt submitted the argument that the conduct (of VE3SR) does not amount to an actionable nuisance. Mr. Bredt conceded that, "If there is no nuisance, then there is no statutory authority or Constitutional issue." By contrast if there is nuisance then there should be a heavier burden, according to Linden's Law of Torts. Heavier burden was defined to the Court as being substantial and significant interference.

In cases of Nuisance there was the doctrine of, "competing interests". It has been stated in classical texts that these competing interests should be balanced. A lengthy but important presentation was made describing the complainant's equipment, the degree

of interference and the degree of suppression achieved. Evidence submitted had come from the records of McLarty and Pambrum (DOC) and Perrin (VE3FN).

## 'RECEIVING APPLIANCES'

Ray Perrin, VE3FN and Director of CRRL, when cross examined as a witness was asked by the complainant's counsel, "Who represents the interests of people affected by Amateur radio operators?"

Ray: "Presumably the Consumer's Association would be a good place to start.

Counsel: "There is no organization that specifically represents them, though, is that correct?"

Ray: "I think the Consumer's Association would represent any consumer of any product. In fact, I have spoken to them on this very matter."

Counsel: "You mean they represent them only in the sense that they represent people who have defective products; is that right?"

Ray: "I don't think that's what I said. I think the Consumer's Association is there to represent consumers who are purchasing virtually any product and it would be nice if the Consumer's Association could alert people to the problems that have been out there for decades."

Counsel: "Does the Relay League alert operators to the problems that they can cause?"

Ray: "Yes, but in this particular case they're not causing it."

Counsel: "Well, I'm sorry, have you witnessed the interference in the Houghtby home?"

Ray: "No, ma'am. But, if it doesn't involve a radio receiver which at least in particular of an electronic organ it is not a radio receiver, was not designed to be a radio receiver and starts acting like a radio receiver, it seems to me there is something wrong with it."

Counsel: "But that is not the cause of the interference is it?"

Ray: "Yes, it is. Technically, it is the cause."

The Court felt an additional day would be required to complete the arguments and in view of the weekend coming it was decided to start proceedings an hour earlier, i.e. 9:30 a.m.

The Court adjourned at 4:00 p.m.

## NEXT ISSUE

The details of the appeal conclude next issue with Day 2, Jan. 29, 1988.



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# 1987 Canada Day Contest

The 1987 edition of the CARF Canada Day contest was one of the most successful to date, providing fun and entertainment for 93 avid radio sportsmen. Along the way, two new all-time records were set and three new records were established in new entry categories.

In the single op all-band mixed category, K4LTA convincingly took first place with a 119k score, and wins the 'Atlantic Ham Radio' trophy. Bob's strength lay in the fact that he was able to work two more multipliers combined with 225 more DX QSOs than VE6DZ, his nearest competitor. Sandy managed a 74k score enroute to second place, while Bob VE3JAB, although having made more VE QSO's than Sandy, had 11 fewer multipliers, a deficit he couldn't overcome. Bob scored third place with 57k.

In the two new single-op categories for the Canada Day contest, Joe CK3CPU and Dean CK1CBF set the initial records. Joe placed first over VE3KK in the all-band CW section. Dean established his record in a similar fashion over Garth VE1DX. CK3CPU will receive the 'Hobby-tronique Trophy' and CK1CBF will be putting the 'Glenwood Trading Trophy' in his shack.

Competition in the single op 20M category really was hot. Paul CK1CYL used his 602 DX QSOs to good 31% advantage, rolling up 91k, doubling the 1985 record of 40k set by VE3MFW. He will be taking the 'C.M. Peterson Trophy' home to Sydney. In fact, Paul worked eight fewer VE QSO's and one less multiplier than B.J. (the second place entrant), who checks in with 65k. B.J. CK5FX nudged past Gary CK3XN for second place overall on the strength of 22 multipliers and 195 VE QSOs, on both counts more than anyone else in this category. With 36 entrants, this entry class is the most popular of all categories.

In the second of the old records to be broken, VE6JO more than doubled the existing record of 9.9k in the single op 40M category, chalking up more than 22k. He takes home the 'John Clarke Trophy'. Willy worked more than double the number of QSOs and VE QSOs than Eugene VE6CIZ did.

Eugene, second place entrant, squeezed in one more VE and four more multipliers than Alan VE6LQ, leaving Eugene with 7.2k and Alan with 6k, good enough for third place.

The single op 80M and single op 160M categories had seen considerably less activity than single op 20M or 40M, with two entrants on 80M and one on 160M. On 80M, Gus VE6GUS came within 1200 points of the record (13.6k) by working 72Qs, 67 of them with other VE types, and 15 multipliers. His 12.4k was well above the other competitor, Chris CZ2AC, who worked 6 other VEs from his Churchill Falls QTH, for 300 points.

On 160M, the only competitor in this Canada Day entry class was Kari OF3GD with a score of zero. Kari worked five Europeans, but didn't manage to hear any VEs. Therefore no multipliers were available to him. Congratulations to Gus, Chris and Kari, all of whom will take home certificates for their efforts.

In the multi-single category, Canada's Lahr connection, DA2CF, was again active, this time winning, with a score of 28.5k, the 'ComWest Trophy'. The XJ1PEI gang was in second place with 8.4k score.

In the multi-multi category, the stalwart CK7ZZZ crew piloted their station to 432k, establishing the record in this, the last of the new entry categories. Second place goes to the Kanazawa University station, JA9YBA, with 2.5k.

The 'Presidents Trophy' goes to VE2VCA who almost doubled the nearest competitor's score with 109k. VE2VCA (Tony VE2KM) placed first, ahead of CK3TCA (VE3OXT and VE3CES), who had a score of 61k.

As may be seen by the results, there is a lot of opportunity for a contestor to place well up in the standings, or take home some hardware for the wall. There were no entrants in the single op 6, 10 or 15M categories (although relatively low sunspot activity thus far in cycle 22 may have had something to do with it!).

There was low activity in the single op 160M and 80M band categories. Pick and choose your category carefully, then plan out your strategy before the contest begins based on band conditions, activity and your

location. Balance your quest for lots of QSOs with searching out a needed multiplier. Perhaps another antenna would have given you that VY1 on 160, or if your code wasn't so rusty you could have worked many more stations and multipliers which otherwise elude your log sheets...

There are still some holes in the trophy list for the Canada Contest series. Sponsors are needed for the single op 6M, single op 10M, single op 15M, single op 80M and single op 160M classes. Trophy sponsorship is a great but inexpensive means for your club or group to receive some publicity and to make itself known.

You will be doing your part to make the CARF contests even better.

Never tried a contest before? Well, the Canada contest in December and the Canada Day contest in July are great places to start. They aren't hazardous to your health, don't cost anything to enter, are loads of fun and you may win something for your efforts! Don't forget, send in your entry, no matter how low it is. Even one Canadian contact in the single op 160M, 15M, 10M or 6M Categories would have been a winner this time! OF3GD won with a score of zero. I bet you get the point. I'm sure there would be more activity in any of the single band entry classes if more trophies were available for activity on them. Talk it up at your next club meeting and get in on the action before all the trophies are sponsored.

When completing the contest log using the multiplier chart: each time a new multiplier is worked, place your QSO number for the contact in this box rather than an 'X'. This enables the contest chairman to easily locate and verify your new multiplier. As well, some scores have had to be adjusted because of contacts claimed on 2M. This band has been dropped from the contest. Contacts made on 2M do not count. For the most part, logs were accurately scored, with only a few adjustments. A fine job by all contesters.

That is it for this year's running of the Canada Day Contest. Don't forget, entries for the Canada Day contest go to VE1CCM and entries for the

*Continued on next page* ►



**CANADA DAY (cont'd)**

Canada Contest go to a new address this year: J. Parsons VE6CB, Acton Corners Rd., Oxford Mills, Ont. K0G 1S0. Congratulations to all the winners.

**SINGLE OP— 14 MHz**

CALL	QSO	VE	PTS	MULT.	SCORE
CK1CYL (NS)	802	187	4378	21	91,938
CK5FX	409	195	2986	22	65,692
CK3XN	588	150	3360	19	63,840
NF9V	154	96	1308	19	24,814
VE7DGI	169	156	1738	12	20,736
CK1BDK (NB)	201	50	1112	17	18,904
VE7FY	184	103	1466	11	16,126
OF7XE	444	30	1956	8	15,648
VE4ALP	151	94	1300	11	14,300
K8AQM	96	68	872	13	11,336
VE3NXO	73	64	720	13	9,360
VE6AGV	96	54	764	12	9,168
VE3AEQ (PEI)	65	42	552	16	8,832
CK1ZJ (NB)	150	44	884	9	7,956
VE3BQL	35	29	334	18	6,012
GB6AR	55	50	540	11	5,940
YV57AL	50	47	558	10	5,580
VE6AZZ	49	39	450	12	5,400
VE6RI	51	34	528	10	5,280
VE3AMP/4	43	37	474	10	4,740
VE2DCC	35	28	388	11	4,268
VE3OBQ	32	24	332	12	3,984
VE1BUN (PEI)	29	18	284	10	2,840
VE3BTQ	25	21	262	10	2,620
KE2N	26	23	262	9	2,358
CT2BM	36	26	300	7	2,100
WB8HLI	15	11	142	7	994
H18LC	10	10	140	7	980
EA7PTH	14	14	160	6	960
VE6GK	16	8	152	5	760
AA6EE	14	6	112	4	448
CT1CWT	23	4	132	3	408
YU7FT	10	6	76	4	304
YU7KM	13	4	96	2	192
YV1C	15	3	78	1	78
ON8WN	5	2	32	2	64

**SINGLE OP— 7 MHz**

CALL	QSO	VE	PTS	MULT.	SCORE
VE6JO	125	81	1166	19	22,154
VE6CIZ	62	38	516	14	7,224
VE6LQ	81	37	606	10	6,060
VE3AAT	42	24	312	5	1,560
KD9WR	27	12	180	6	1,080
YU7SF	7	4	52	2	104
OK2ABU	3	3	30	2	60

**SINGLE OP— 3.5 MHz**

CALL	QSO	VE	PTS	MULT.	SCORE
VE6GUS	72	67	830	15	12,450
CE7AC	6	6	60	5	300

**SINGLE OP— 1.8 MHz**

CALL	QSO	VE	PTS	MULT.	SCORE
OF3GD	5	0	20	0	0

**SINGLE OP— All Band Phone**

CALL	QSO	VE	PTS	MULT.	SCORE
CK1CST (NS)	423	121	2578	27	69,606
VE1DX (PEI)	336	182	2616	21	54,684
CK3EFX	131	99	1198	14	16,772
VE3OXX	82	62	820	20	16,400
VE7HAM	103	79	966	16	15,456
VE6PW	58	49	686	19	13,034
VE7XC	43	37	474	13	6,162
VE3TJL	36	25	354	11	3,894
VE2AMN	32	23	266	12	3,192

**SINGLE OP— All Band CW**

CALL	QSO	VE	PTS	MULT.	SCORE
CK3CPU	266	155	2114	21	44,396
VE3KK	130	67	982	28	27,496
VE6BST	195	69	1254	17	21,318
VE2LRE	68	40	652	18	11,736
VE7EJS	94	35	666	14	9,212
VE1BXI (NS)	39	35	446	17	7,582
KL7UR	71	32	512	13	6,656
VE2RO	46	27	346	15	5,190
N0FMR	49	27	398	11	4,378
W6TVP	20	20	240	11	2,640
W0VEN	17	17	172	11	1,892
VE7CAL	26	8	172	6	1,032
L11ENL	16	10	124	6	744
AA4XM	11	10	124	6	744

**SINGLE OP— All Band Mixed**

CALL	QSO	VE	PTS	MULT.	SCORE
K4LTA	499	178	3144	38	119,472
VE6DZ	237	140	2048	36	73,584
VE1JAR	257	172	2292	25	57,290
VE5RC	111	103	1288	39	49,842
WD9INF	194	92	1388	28	38,864
VE1APG (NB)	125	88	1076	36	38,736
VE1CIT (PEI)	187	138	1776	18	37,968
VE2GMT	167	68	1100	19	21,660
VCLQST	89	60	816	19	15,504
VE2NGY	67	43	566	21	11,886
W4IQI	60	48	548	21	11,508
CK1OMU	47	32	448	16	7,040
VE7EK/1	48	28	380	13	4,940

**VCA/TCA CLASS A**

CALL	QSO	VE	PTS	MULT.	SCORE
VE2VCA	278	147	2274	48	109,152
CK3TCA	225	105	1650	37	61,050
VE4VCA	139	111	1242	34	41,228
VE2TCA	108	85	1162	29	33,698
CK7VCA	151	90	1244	26	32,344
CK6VCA	334	112	2088	13	27,144
VY1TCA	76	61	790	20	15,800

**MULTI OP— Single TX All Band**

CALL	QSO	VE	PTS	MULT.	SCORE
DA2CF	225	208	2380	12	28,560
XU1PEI (PEI)	90	64	844	10	8,440

**MULTI OP— Multi TX All Band**

CALL	QSO	VE	PTS	MULT.	SCORE
CK7ZZZ	912	433	6646	65	431,990
JA9YBA	72	13	336	7	2,562

# The Stump Antenna

*A no tower solution for the active Amateur in suburbia!*

BY RALPH CAMERON  
VE3BBM

How many times did you wish you could just lay that dipole on the ground and tie on the feedline. No towers, no supports. Sounds easy doesn't it? It is. During the summer, the opportunity arose to test a theory discussed and still being evaluated to test the properties of underground antennas. Now, for some, the prospect of an underground antenna may sound ridiculous, yet the U.S. Army has found that under some conditions standing waves actually appeared on the surface of a lake, some six miles from an experimental underground dipole. Fascinating enough for me—I wanted to try the same thing during removal of our long-cherished source of shade in the backyard—our Linden tree.

An excavated channel in the ground, when fed at the centre with a balanced feedline, will radiate quite well—when driven with sufficient power. In fact, at the VLF frequencies such antennas propagate very well with small amounts of power. One

such antenna in the midwest can reach out into the Pacific Ocean with the equivalent of 4-5 watts of power. Hence the interest in experimenting with these subterranean radiators.

Every antenna needs a method of launching incident energy and coupling it to the so-called 'ether'. My plan initially was to use the remaining tree stump to accomplish this. After all, healthy tree roots contain a viscous conductive serum which has proven to have the necessary permittivity needed to achieve low loss and virtually no SWR. Feeding the antenna does require some knowledge of porosity science because we have found radiation to take place in a manner very nearly the same as osmosis.

Every high school lad and lassie remembers the old trick with the carrot. The class experiment was to insert a carrot in water overnight and come back the next morning only to find our orange tuber had sucked up all the water. By use of the piezoelectric effect it has been found that reverse osmosis can occur. This

happens with our stump antenna. The electrical energy is really 'squeezed' from the stump, root system and coupled earth frame in much the same way an ink jet printer works. In the latter, a piezoelectric crystal with a microscopic hole in it is subjected to an electric current. The result, as we all know, is that the crystal distorts and causes the ink to be squeezed, quite forcibly, from the jet. So much for theory. Since the system described is the subject of an applied patent, no further technical details can be given. The results speak for themselves.

The use of an old Wayne-Kerr impedance bridge confirmed that the impedance was quite low at the feed-point—on the order of a few ohms. In order to increase this, the stump was quadrated, i.e. separated into four distinct sections. This method actually is preferred because it enabled power to be coupled during the first test. The photo shows the author just after the quadrating took place. The large groove barely visible in the center of the stump is the point at which the feedline was attached. A balanced feedline or balun and coax is needed here.

A fair amount of power is lost at the feedpoint incidentally, because of the porosity and humidity of the annual rings at this point. Not to worry, this antenna performed beyond all expectations. Those contemplating duplication of this antenna should be sure that the feedline is attached with a material closely approximating the Reynolds number of the modulus of elasticity of Linden wood. The actual method used is proprietary only because the two materials in contact cause an effect similar to a 'Crazy Glue' reaction. We have not yet been able to analyze the chemical composition which occurs, but suspect it is a thermal bond. A future article will clarify some of these details.

As in most antennas, it is important that the feedline comes away from the main radiator at right angles, for a  $\frac{1}{4}$  wavelength at least. On 80M this poses some problems, yet when



Author points to feed point attachment area.

Continued on next page ►

## ► STUMP ANTENNA (cont'd)

asked by neighbours if I have an external antenna, I am able to say with righteous indignation, and a fair amount of legal import, "I have an external feedline." Feedlines are not subjects of municipal bylaws or Federal Acts and as such exempt the owner from writs of mandamus, etc.

Another interesting fact about the lowly Stump antenna, as might be imagined, during contests it is advisable to water the surrounding soil frequently as this improves the ground plane for our 'feedline'. Two of my old favourite experimenters, VE3KLI and VE3BHW, report 'tremendous' signal increases after rain storms. A byproduct for the Isaac Walton fans is that fishworms abound on the surface of the lawn after 15 minutes operation. The adjacent garden tomato plants continue to grow well into November, due to elevated soil temperature. For those neighbours curious enough to inquire about what appears to be a rather inconspicuous piece of vertical coaxial cable, it is easy to say you are using an underground antenna and they immediately leave you alone. One of my neighbours even offered to water the thing for me. I don't know why but, I'm suspicious. Wouldn't you be?

Agriculture Canada was consulted on the best disease repellent to use when saturating the stump, after amputation of the above ground portion. It seems copper sulphate solution is an ideal preservative as well as an aid to conductivity and so performs a dual role. This removed my concern about how long the antenna would function.

I should mention some other observations not at first noticeable when the antenna was installed. Our nearby cedar hedge is developing a lean toward the dipole formed by the radiation of the root system. When keying, during CW operation, a distinct odor of cedar is present in the backyard. The neighbours find this one of the more pleasant aspects of this invisible antenna, and it is not unsightly or objectionable.

There is advice to newcomers who attempt to use this antenna:

1) It works better for old timers, especially PLs who can water it frequently.

2) The antenna is unobtrusive, meets existing CSA standards, local covenants, bylaws, is safe, fireproof, climbproof, shockproof and, best of all, is readily consumable after useful life. Canines are unaware of its existence.

3) It presents no aeronautical hazard and requires no certification

of mechanical fitness or special painting.

4) Several versions of the Stump antenna are planned. We expect to have the fixed three-element version, a modified Bobtail array in eastern cedar. This antenna will appear to your neighbours as three seven-foot Eastern cedars. Another Lodgepole pine version will be marketed in the West sometime next June. Think of the possibilities in an apple orchard or Kiwanis reforestation area.

There is one problem, peculiar to Saskatchewan, in using the Stump antenna, as coniferous trees over four feet are difficult to find. The deciduous variety do not perform to expectation at all. It is a result of the greater number of current branches that discourage porosity and hence prevents the RF from taking root.

A special configuration of pygmy larch in a four element VHF array is planned for the North coast of Newfoundland. This version is also popular in Carbonear. Also, the quad aux Sapins is soon to become available to VE2s living near Place Ville Marie. This model comes with bilingual instructions in the approved side-by-side format.

As with all superior radiators, there is one precaution necessary: ground currents flowing in the vertical feedline are apt to radiate and hence distort the conical ground wave pattern. Above ground cover using chokecherry shrubs has been found effective in confining radiation where it belongs.

Experimenters are invited to share their observations with this antenna. Some results have really stumped the experts.

### L'ANTENNE-SOUCHE

-solution hors pylône pour amateurs banlieusards

Oui! les antennes invisibles rayonnent!

Avez-vous souvent souhaité déposer un dipôle à terre, y raccorder la ligne, sans avoir à vous soucier de supports, de pylônes etc. Ce serait bien facile. Eh bien, c'est possible. Cet été, nous avons eu l'occasion de vérifier une théorie en discussion et encore en cours d'évaluation sur les propriétés des antennes souterraines. Je sais que pour certains l'idée même d'une antenne enterrée paraîtra ridicule. Néanmoins, l'armée américaine a découvert que, sous certaines conditions, des ondes stationnaires apparaissaient réellement à la surface d'un lac à quelque 10 km d'un dipôle expérimental enterré. Excité par ce résultat, je décidais de tenter l'expérience à l'occasion de la coupe de mon chère tilleul, source d'ombre de mon jardin.

Un conducteur placé dans une tranchée, attaqué au centre par une ligne équilibrée, rayonnera très bien si on applique une puissance suffisante. En fait, aux très basses fréquences (VLF) ces antennes se comportent très bien avec de petites puissances. Une antenne de ce type peut atteindre de Pacifique à partir du Midwest avec l'équivalent de 4 à 5 W HF. On voit donc l'intérêt des expériences sur les antennes enterrées.

Toute antenne doit pouvoir libérer l'énergie reçue et la diffuser dans ce qu'on est convenu de nommer "l'éther". A l'origine, je comptais utiliser la souche de mon défunt tilleul pour remplir ce rôle. Après tout, de bonnes racines renferment un sérum visqueux suffisamment conducteur qui permet d'obtenir un taux de stationnaires pratiquement nul avec des pertes très faibles. L'attaque d'une antenne requiert quelque connaissance des technologies en matière de porosité car nous nous sommes aperçus que les radiations avaient lieu sous une forme rappelant le phénomène d'osmose.

Tout(e) étudiant(e) d'école secondaire connaît le truc classique de la carotte. On place une carotte dans l'eau et on s'aperçoit le lendemain que la carotte a absorbé toute l'eau du récipient. Grâce à l'effet piézoélectrique, on s'est rendu compte qu'il était possible d'obtenir une osmose à rebours. C'est ce qui arrive avec notre antenne souche. L'énergie électrique est littéralement étranglée par la souche et les racines et couplée à la terre à la manière d'une imprimante à jet d'encre. Cette machine emploie un cristal piézoélectrique percé d'un orifice microscopique. Quand ce cristal est traversé par un courant, il se déforme et l'encre est violemment projetée. Nous n'endrons pas davantage car le procédé fait l'objet d'une demande de brevet. Les résultats sont éloquentes.

Mesurée au moyen d'un vieux pont d'impédance Wayne Kerr, l'impédance s'avéra très basse au point d'attaque, de l'ordre de quelques ohms. Pour augmenter son impédance, la souche fut quadratée, c'est-à-dire divisée en quatre sections distinctes. Cette méthode est préférable en pratique car elle permet de coupler la puissance d'entrée dès le premier essai. Sur la photo on peut voir l'auteur avant l'opération de quadrature. Le gros sillon à peine visible au centre de la souche est le point d'attache de la ligne d'alimentation, qui doit nécessairement être du type coaxial ou symétrique.

Par suite de la porosité et de



l'humidité présente dans les anneaux du bois, une bonne part de l'énergie appliquée est dissipée au point d'entrée. Les expérimentateurs désireux de réaliser cette antenne devront s'assurer que la ligne est fixée avec une substance très proche du nombre de Reynolds relatif au module d'élasticité du bois de tilleul. Notre méthode est confidentielle pour la seule raison que le contact direct entre les deux substances provoque une réaction similaire à celle de la colle forte. Nous n'avons encore pu analyser la réaction chimique qui se produit alors mais nous pensons avoir affaire à un lien thermique. Nous comptons donner davantage de détails dans un futur article.

Comme c'est le cas pour la plupart des antennes, il convient que la ligne sorte du brin rayonnant à angle droit pour une longueur au moins égale à un quart d'onde. Cette condition est difficile à réaliser sur 80m. Mais si mes voisins m'interrogent sur une possible antenne extérieure, je peux leur répondre avec une vertueuse indignation et une bonne dose de condescendance légale: "Je n'ai qu'une ligne extérieure d'antenne". En effet, les lignes d'alimentation d'antenne échappent aux règlements municipaux ou aux lois fédérales et, dans ces conditions, dispensent leur propriétaire de bref de mandamus, etc...

Pendant les contests, on n'oubliera pas d'arroser fréquemment le sol autour de l'antenne-souche afin d'améliorer la conductivité du contre-poids terrestre. Deux de mes collaborateurs, VE3KLI et VE3BHF, signalent d'extraordinaires augmentations de la force des signaux après un orage. Une conséquence subsidiaire de ce phénomène est l'afflux de vers à la surface de la pelouse, après 15 minutes d'émission. Les pêcheurs ne manqueront pas de s'en réjouir. Les tomates plantées dans le jardin proche continuent de grossir jusqu'en novembre en raison de l'élévation de la température du sol. Si des voisins se montrent assez curieux pour vous demander des explications sur la présence de ce coax vertical, il est facile de leur répondre que vous disposez d'une antenne souterraine et ils vous laissent aussitôt en paix avec vos expériences. Un de mes voisins s'est même proposé de se charger de l'arrosage. Je suis perplexe, j'ai quelques appréhensions, se douterait-il de quelque chose?

On consulta le ministère canadien de l'Agriculture sur le meilleur antiseptique à utiliser pour en saturer la souche après ablation de la partie émergeant du sol. Il semblerait qu'une solution de sulfate de cuivre offre une

protection idéale contre la maladie tout en améliorant la conductivité, remplissant ainsi une double fonction. Cette précaution m'enlève le souci de la durée de cette antenne végétale.

Je mentionnerais ici quelques observations non discernable au moment de l'installation de l'antenne. Notre haie de cèdre toute proche s'est inclinée vers le dipôle formé par le réseau rayonnant des racines. Pendant le trafic télégraphie, on perçoit une distincte odeur de cèdre dans le jardin. Pour les voisins, il s'agit d'un des plus agréables aspects de mon antenne invisible, inexistante, ni laide ni insupportable.

Voici quelques conseils aux néophytes désireux d'employer cette antenne:

- 1) cette antenne fonctionne mieux pour les amateurs chevronnés, surtout pour ceux capables de l'arroser fréquemment;
- 2) cette antenne est discrète, conforme aux normes CSA, aux règlements municipaux. Elle est sans danger, ininflammable, incassable, impossible à escalader et surtout, elle peut être brûlée sans délai après usage. Les chiens l'ignorent.
- 3) cette antenne ne présente aucun danger pour le trafic aéronautique, ne requiert aucune licence de bonne construction ou peinture spéciale.
- 4) plusieurs versions de l'antenne-souche sont à l'étude. Nous envisageons un modèle à trois éléments, ensemble modifié en cèdre du Liban. Ce modèle se présentera pour vos voisins comme trois cèdres du Liban de 22 mètres de haut. Un modèle en pin sea commercialisé dans l'ouest vers le mois de juin

prochain. Songez aux possibilités de cette antenne pour un verger d'arbres fruitiers ou dans le cadre d'un projet Kiwanis de reboisement! On rencontre en Saskatchewan un problème particulier pour l'utilisation de l'antenne-souche: il est en effet difficile de trouver là-bas des conifères de plus d'une mètre de haut. L'espèce à feuillage caduc ne fonctionne pas du tout comme on pourrait s'y attendre en raison de l'abondance de branches qui détruisent la porosité et empêchent ainsi la haute fréquence de prendre racine.

Un modèle de conception spéciale, en mélèze nain, quatre éléments sur VHF, est prévu pour la côte nord de Terre-Neuve. Ce modèle est également populaire à Carbonear. Nous envisageons aussi de mettre bientôt à la disposition des VE2 habitant aux alentours de la Place Ville-Marie notre futur modèle "Quad aux Sapins" qui sera livré avec instructions bilingues dans la formule "jouxtante" approuvée.

Comme pour toute antenne à hautes performances, une précaution s'impose: le courant de masse circulant dans la ligne verticale d'alimentation peut causer un rayonnement parasite susceptible de modifier le diagramme conique d'onde de sol. Une couverture de sol au moyen de petits arbustes s'est montrée efficace pour limiter le rayonnement aux points désirés. Tous les expérimentateurs sont invités à nous faire part de leurs observations sur l'antenne-souche dont certains résultats ont fait germer le cerveau des experts. ■

## DOC forms restructuring committee

You may have been wondering what was happening with regard to the proposed restructuring of the Amateur Service. In October, 1987, the DOC told CARF that we should expect a wait of about two years at least until the details were finalized and the new rules were in place.

The DOC has now taken the next step. A committee has been formed and the first meeting is to be in Ottawa on Feb. 2 (as at the time of this writing, January 7).

CARF has been invited to have a representative on the committee, as will CRRL. Other members will be DOC personnel and a non-Amateur academic with qualifications in radio.

The mandate of the committee will be to:

- Determine the jobs to be done to implement the new rules,
- Set a due date for completion of the new regulations,
- Set the ground rules under which the work will be done,
- Determine a critical path to complete by the due date,
- Assign the various tasks among the committee members.

The committee will be under the chairmanship of Maurice Nunas, Acting Director spectrum operations of the DOC Telecommunications Regulatory Branch. ■

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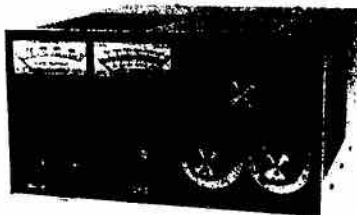
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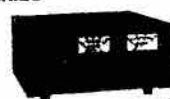
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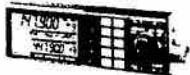
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# UHF Utilization

## A.E.S. WIND PROFILER

The March Issue of *The Canadian Amateur* featured the 'Communique' from the Adhoc Committee' explaining why 441.0 MHz was chosen as an operating frequency for the Atmospheric Environment Service's Wind Profiler, to be installed at Egbert, Ont. Since that time we have received many letters, news releases and various diagrams of computer simulations. These show how the Wind Profiler will have disastrous effect on reception by Amateur hub repeaters located near the radar transmitters. We can't print it all, but have included a letter from the Ontario Director General of the DOC and parts of the News Releases from SAAC, The Spectrum Allocation Advisory Committee. This private Toronto-based group is not only opposed to the placement of the CADR on 441.0 MHz but to its presence anywhere in the 440 MHz band. Read on!— Editor

Dear Mr. Iliffe:

This is further to the concerns expressed by the Amateur community regarding Environment Canada's plans to install and operate a Clear Air Doppler Radar transmitter near Egbert, Ont.

As you know, a committee was formed to review present radio Amateur UHF frequency utilization in Ontario and to provide input with respect to a suitable frequency assignment which would have the least disruptive effect to Amateur operations. I am pleased to advise that the department has had the opportunity to review and analyze the committee's report.

The committee's first recommendation was to accommodate the radar system in the 401-406 MHz band. Due to the potential interference that such an assignment could cause to the search and rescue satellite service operating in that band, we are unable to comply with this recommendation. The Department accepted and concurred with the committee's recommendation of 441 MHz as a suitable frequency in the 430-450 MHz band.

To further minimize the potential for possible disruption to Amateur operations in this band, a meeting was held Jan. 11, 1988 between representatives of the Amateur committee and Environment Canada. The purpose of this meeting was to ensure that both parties were aware of their respective existing and future planned use of the 430-450 MHz and

to mutually explore options in the radar's design and operation which would ensure minimal disruption to Amateur operations.

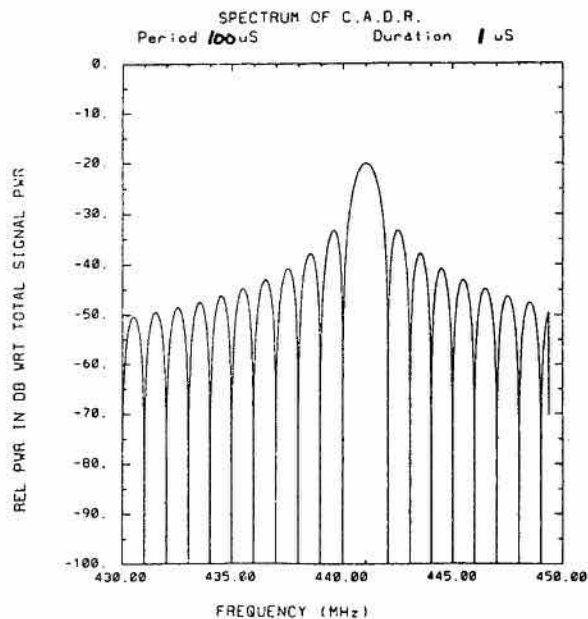
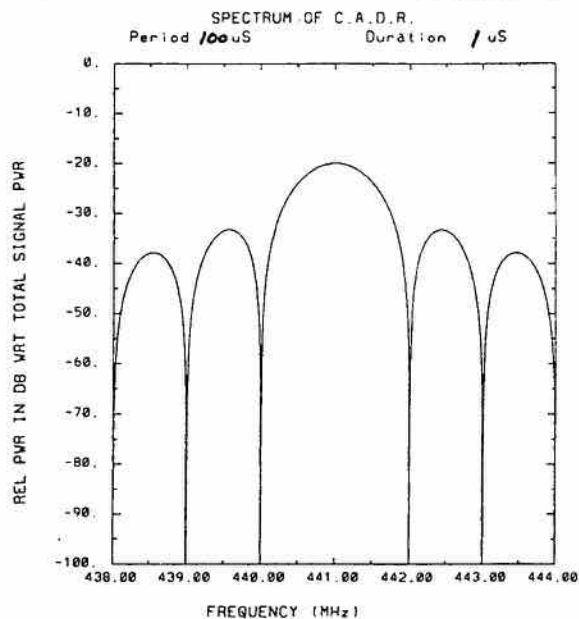
The department has received a large number of letters from a variety of sources, outlining common concerns with respect to the 430-450 MHz band assignment for the proposed radar installation and its possible adverse effect to Amateur operations. I trust that the foregoing information will be communicated to CARF's membership informing them of the current status and decisions that have been reached on this matter.

Departmental staff would be pleased to discuss and answer any questions which you may have on this matter. The manager of our Toronto district office is M. Power who may be reached at (416) 973-6270.

Yours sincerely,  
W.D. Lyon  
Director General  
Ontario Region

## DOC RECLASSIFICATION POSES MAJOR THREAT TO CANADIAN AMATEURS

The Department of Communications has announced that it is assigning a frequency of 441 MHz to a meteorological aid scheduled for



installation this summer at Egbert, Ont. Such an installation, if permitted to proceed, will have an immediate and devastating effect on the extensive FM repeater link systems operating throughout Ontario.

Of greater importance, it could have long term national and international repercussions that could affect all Canadian Amateur operations.

The assignment of a frequency in the 70 cm band to a meteorological aid is in strict violation of an international treaty to which Canada is a signatory. DOC has reclassified the meteorological aid as a radiolocation device.

The wind profiler system to be installed by the Atmospheric Environment Service (AES) is a high-power, triple beam, broadband, one megawatt radar designed solely to study high-altitude wind profiles. As such, it clearly and correctly falls within the definition of meteorological aid service: "a radiocommunication service used for meteorological, including hydrological, observation and exploration."

If the DOC succeeds in its reclassification, the results could be disastrous for Amateur radio.

The AES Egbert installation is the first of several planned by AES across Canada. Halifax, Windsor, Edmonton and Vancouver have already been mentioned as other possible sites. Under the reclassification, DOC could assign any frequency within the 70 cm band, with the very real possibility that existing Amateur satellite uplinks could be rendered useless; ATV, weak signal and EME operations could become impossible

in many areas, and FM repeaters and link systems could be forced out of the band completely.

Both the CRRL and CARF objected to the DOC frequency allocation within the Amateur portion of the 70 cm band.

— Spectrum Allocation Advisory Committee

### CADR GRAPHS

The following graphs were produced by an electrical engineer based on pulse durations, pulse repetition rates and data obtained from existing wind profilers. This data, together with Fourier analysis principles and, with the aid of a computer, produced the resultant graphs.

The scale on the left side of the graphs represents total signal power. The inherent nature of pulsed radar emissions leads to transmitter energy being dispersed over an extremely wide bandwidth, thus the carrier representation on the graph never reaches 0 dB.

One megawatt ERP, average power, is the minimum level that the CADR will operate. This represents +90 dBm and must be added to the scale at the left side of the graph to obtain quantitative analysis of the effects the CADR will have on Amateur radio operations within the 70 cm portion of the band.

For example:

Referring to the first graph: Period = 100 us. Duration = 1.0 us. At the operating frequency of the CADR, 441 MHz, the graph shows a signal level of -20 dB wrt total signal power of one megawatt (+90 dBm).

+90 dBm

-20dB

+70 dB = 10,000 watts

The CADR will emit ten thousand watts of RF energy at 441 MHz!

Similarly: referring to the same graph, at a frequency of 436.5 MHz, in the middle of the international satellite band, the CADR will emit -42 dB wrt total signal power.

+90 dBm

-42dB

+48 dB

= 63 watts of RF energy pointed up at the satellites!

Similarly, at the start of the FM repeater Input allocations, on 447 MHz, the CADR will emit an overall power level of +43 dB or the equivalent of 20 watts of RF energy.

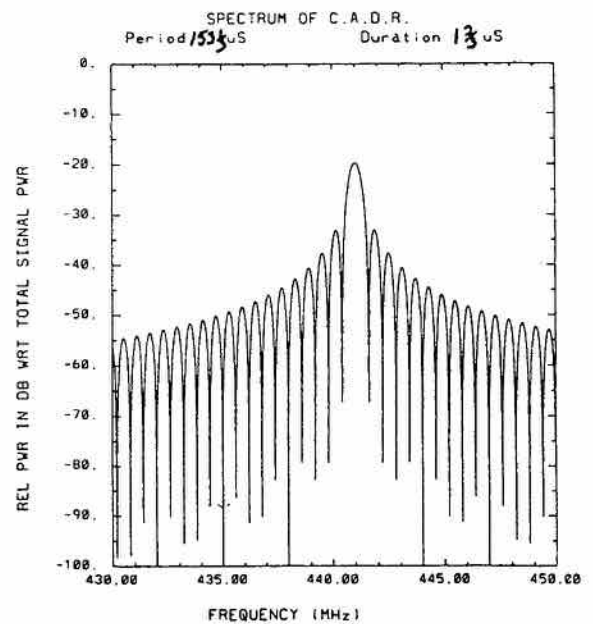
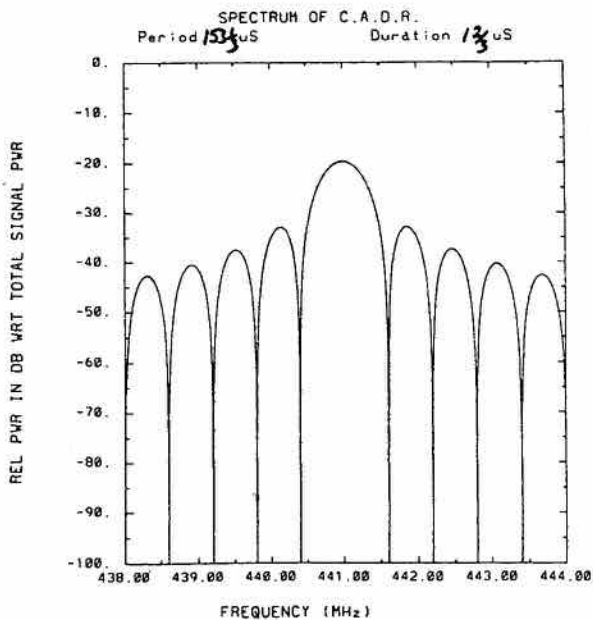
NOTE:

Some sections of the country have repeater inputs beginning at 442 MHz. The signal power at 442 MHz will be +58 dB or just under 1000 watts!

Increased power of the CADR, changing pulse and repetition rates, scatter and spurious emissions will all contribute to compound interference to Amateur radio operations within 70 cm.

After looking at the graphs, do you really want this on 70 cm?

Persons requiring more information should contact:  
Spectrum Allocation Advisory Committee  
P.O. Box 1026, Station 'F'  
Toronto, Ont. M4Y 2T7



# Excitement & Tragedy

BY ERIC COLMER VE7CCJ

Excitement and tragedy was shared by the Greater Victoria Ham fraternity recently, in the form of 'Old Timers Hockey' and a 'Boating Accident' on Elk Lake.

For those not acquainted with the annual hockey event, radio stations are manned in the headquarters of COHA, the Harbour Towers Hotel, and eight arenas in the local area. About 56 operators are required to man all stations for the three-day competition of close to 156 games.

After each game the score sheets are delivered by the official scorekeepers, to the radio operator for transmission to HQ where it is recorded on the main tote board. At the conclusion of each series of eight games (except the last day) the headquarters station announces the final scores for the edification of each arena operator. These score sheets are made available to all arena officials to keep the general public up to date with the overall playoffs.

In addition to reporting scores, messages are passed between arena officials and HQ regarding such things as: rules of the game, equipment requirements, medical or ambulance needs, program and souvenir replenishment, etc. Being a 'Labatts' sponsored affair, we must not forget to maintain a supply of 807s for the boys!

This year a vote of thanks should go out to co-ordinator Dick Russel VE7OV and Wilf Stevens VE7WS for a job well done, and a special bouquet to all operators who helped to make it such a huge success. On the technical side, Al Muir VE7BEU reported only one minor station breakdown which was quickly rectified.

While the hockey tournament was just getting underway an emergency call went out on two metres calling for operators to accompany search parties for a boating tragedy on Elk Lake, on the outskirts of Victoria.

Two nine-man racing shells manned by the University of Victoria rowing team were caught in a sudden storm and overturned, sending the 18 members into the chilly waters. A small powerboat rescued the rowers from the first craft but rowers from the second craft were rescued after

clinging to their shell for 45 minutes. Darryl Smith, 19, of Youbou, B.C., died in hospital of hypothermia. The body of his teammate, Gareth Lineen, 19, of Victoria, has still not been found.

On the evening of the accident, an emergency call was put out on two metres for volunteers to provide communications for the search teams. Usually a 'fan-out' call is made through the Provincial Emergency Program (PEP) but Bill VE7WSH of the Saanich Emergency Program (SEP), realizing that most of the hams on the fan-out schedule would be occupied with Old Timers Hockey, put a call out on the Victorial Repeater asking for help. Shirley and Bert Nix, VE7FME and VE7DCY, heard the call and immediately went into action, Shirley as 'Control' station and Bert at the lake assisting in the search.

Bill and Ron VE7CVO, with their radio equipped campers, headed for the lake to act as 'Base' stations. Jim VE7FDC, Dave VE7FEL and Frank VE7GCO also fell into line. Each accompanied a search team to scour the whole shoreline of the lake. The weather was unusually stormy, cold, dark and wet. Although the search was called off at 9 p.m., many of the searchers did not get back to base until around 9:30.

Saturday morning the teams were out again with George VE7GDF, Louie VE7FOR, Jack VE7DFJ, Ron VE7FBA and Dave VE7AIN, with Shirley again manning the 'Control' station. Jim VE7DJR assisted in lining up operators on all local repeater frequencies and Al Fast VE7XZ took over as base station at Elk Lake, in the Victoria Emergency Program's (VEP) newly modified radio van. This was Al's chance to baptize the new rig which stayed on the job until the land search was called off.

Speaking of tragedy, it was just one year ago that the ham fraternity of this area was called out for a land search of Mount Douglas for the body of 20-year-old Marguerite Telesford, who left her home for a routine morning run and has not been seen since. A massive search of the area using RCMP helicopters, dog teams, search and rescue officials, hundreds of citizens and infra-red material,

proved fruitless. Amateur radio operators accompanied each search team to provide communications for this massive operation.

From 'Hockey Excitement' to 'Tragedy', the weekend proved to be a very busy period for Amateur Radio operators in the Greater Victoria Area. We thank them all.

## PLAISIR ET TRAGEDIE DU SPORT

Recemment, un tournoi de hockey et une tragique course d'aviron ont fait éprouver le même jour aux radio-amateurs de la région de Victoria le plaisir et le drame des événements sportifs.

Le tournoi de la Coupe du Pacifique des Séniors canadiens du hockey réunissait cette année 90 équipes. Comme de coutume, les radio-amateurs assurèrent toutes les communications de cette rencontre avec l'efficacité qu'on leur connaît.

Rappelons ici aux lecteurs peu familiarisés avec cette manifestation annuelle que les stations-radio sont installées aux studios de CHOA, à l'hôtel Harbour Towers et dans les huit patinoires locales. Une équipe minimale de 56 opérateurs est indispensable pour manoeuvrer toutes les stations chargées de couvrir les 156 parties disputées pendant les trois journées de la Coupe.

Après chaque partie, le résultat est communiqué par les officiels à l'opérateur radio de service que le relaie au Quartier Général de la Coupe où il est affiché sur le grand panneau. A l'issue de chaque série de huit parties (sauf le dernier jour), la station centrale proclame les résultats définitifs à l'intention des directeurs de patinoires (arenas) qui reçoivent tous les palmarès afin que le public soit tenu informé des finales.

En plus de la transmission des résultats, les stations sont chargées de l'écoulement du trafic entre le Quartier Général de la Coupe et les directeurs de patinoires. Il s'agit de messages relatifs aux règlements sportifs, aux demandes de matériel, aux besoins en secours médicaux et de services d'ambulance, de réassortiment en programmes et souvenirs, etc. Puisque la Coupe est patronnée par les brasseries Labatt,



on veille aussi à conserver une provision de 807s pour les joueurs assoiffés...

Nous voulons cette année exprimer notre particulière gratitude aux deux coordinateurs Paul Russel VE7OV et Wilf Stevens VE7WS pour une mission accomplie avec brio et offrir nos félicitations à tous les opérateurs qui ont contribué à l'immense succès de cette manifestation. Côté technique, Al Muir VE7BEV n'eut à déplorer qu'une panne mineure de matériel, rapidement réparée.

Le tournoi venait à peine de débiter qu'un appel d'urgence était lancé sur le 2m demandant des opérateurs pour accompagner les équipes de recherche formées à la suite d'un accident de sport nautique survenu sur le lac Elk aux environs de Victoria.

Deux yoles de course, montées par un équipage de neuf rameurs membres de l'équipe d'aviron de l'Université de Victoria, se trouvèrent prises dans une tempête soudaine et chavirèrent, projetant leur équipage dans l'eau glaciale. Un canot à moteur repêcha les hommes de la première yole mais ceux de la deuxième ne purent malheureusement être rejoints qu'après être demeurés cramponnés à leur yole retournée pendant 45 minutes. Darryl Smith, 19 ans, de Youbou, B.C., conduit à l'hôpital, y décédait peu après des suites d'une hypothermie. Le corps d'un de ses coéquipiers, Gareth Lineen, 19 ans, n'a pu encore être retrouvé.

Le soir de cet accident, un appel d'urgence était lancé sur le 2m demandant des volontaires pour assurer les liaisons-radio entre équipes de recherche. Dans un cas de ce genre, un appel est habituellement diffusé dans le cadre du Programme Provincial d'Urgence mais Bill VE7WSH, membre du programme d'urgence de Saanich, sachant que la plupart des opérateurs susceptibles de répondre à l'appel étaient à ce moment retenus par la Coupe de Hockey des Séniors, lança un appel de détresse sur la répétitrice de Victoria. Shirley et Bert Nix VE7FME et VE7DCY l'entendirent et s'organisèrent aussitôt. Shirley opéra la station 'centrale' tandis que Bert se rendait au lac pour participer aux recherches.

Bill, avec Ron VE7CVO, dans leurs caravanes-radio, se dirigèrent vers le lac en tant que stations 'mobiles'.

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Chacun d'eux accompagnait une équipe de chercheurs chargée d'explorer toute la rive. Jim VE7FDC, Dave VE7FEL et Frank VE7GCO se joignirent bientôt à eux. Le temps était exceptionnellement orageux, froid, gris et humide. Bien que les recherches aient été suspendues à 21 h, la plupart des éclaireurs ne rentrèrent pas à la base avant 21 h 30.

Le samedi matin, les équipes étaient de nouveau sur le terrain avec George VE7GDF, Louie VE7FOR, Jack VEDFJ, Ron VE7FBA et Dave VE7AIN tandis que Shirley continuait sa veille à la station 'centrale'. Jim VE7DJR s'employa à recruter d'autres opérateurs sur les fréquences de toutes les répétitrices locales tandis que Alf VE7XZ assurait le trafic de la station mobile du lac Elk, dans le car-radio nouvellement aménagé, appartenant au Programme d'Urgence de Victoria. Ce fut l'occasion pour VE7AI de donner à cette station le "baptême du feu". Il demeure en poste jusqu'à la fin des recherches sur les rives du lac.

En évoquant cette tragédie, il convient de noter qu'il y a juste une année que les radio-amateurs étaient appelés à participer à une battue au Mont Douglas envoyée pour retrouver la jeune Marguerite Telesford, 20 ans, mystérieusement disparue après avoir quitté son domicile pour une banale course matinale. Malgré un quadrillage serré du terrain, le concours des hélicoptères de la GRC, de maîtres-chien, de spécialistes des battues, de centaines de volontaires et de détecteurs à infra-rouge, les recherches demeurèrent vaines. La Amateurs accompagnèrent toutes les équipes de terrain et assurèrent toutes les liaisons-radio de cette vaste opération.

Ainsi, de la fièvre du hockey à la tragédie du lac, cette fin de semaine s'avéra particulièrement mouvementée pour tous les amateurs de la région métropolitaine de Victoria. Qu'ils en soient tous remerciés. ■

(traduction VE1ZI  
ex VE1BQL)

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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 print or type, 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.



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SPECIFICATIONS AND PRICES  
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# The Mangaroo Tower Case

## VE3NCM of Burlington, Ont. sought justice in the court and won!

BY RALPH CAMERON  
VE3BBM

### BACKGROUND

On July 22, 1987, Ken Mangaroo of Burlington Ontario began fulfilling a dream common to many Amateurs—pouring the base for his new tower. It was three months later that the 56-foot, seven-section Trylon tower was capped with 2M beam and TH3-MK3 Triband antenna.

On the day the base was being poured, neighbours complained to the police that Ken's utility box trailer had been parked on the street. In this particular area there is a bylaw that limits such parking to three hours. Ken received two \$10 parking tickets within 21 hours. Probably an ill omen.

### NEIGHBOURS

The neighbourhood in which Ken Mangaroo resides is a modern, clean and well-maintained area of Burlington. Neighbours come from all walks of life and include medical doctors, engineers and accountants. There are well-educated residents who hold responsible positions in marketing management and Regional management. One would expect a degree of tolerance and neighbourly concern in such a neighbourhood.

**Note:** A Formal Petition signed by Ken's neighbours was commenced on June 27, 1987 and was accompanied by an affidavit serving notice that a Motion was to be made before a Judge on July 29, 1987 requesting, "An interlocutory injunction restraining the Defendant from erecting or continuing to erect a radio transmission tower on his property..." In Part of the Motion it stated, "We as taxpayers with considerable investment in our property know that such an unsightly structure in the neighbourhood will drastically reduce the property values and therefore request that the City prohibit the tower to be erected."  
(ref. Court File SC 883/87)

### STATEMENT OF CLAIM

On Aug. 12, 1987 Ken was shocked to receive a 'Statement of Claim'

issued by the Local Registrar in Milton, Ont., for the Supreme Court of Ontario. The statement required Ken to respond to the defence of the claim within 20 days. Failure to defend the claim could have resulted in a judgment in absentia against VE3NCM.

### STATEMENT

Thirty-one of Ken's neighbours had decided that VE3NCM was not to erect a tower on his property. The Claim reads in part:

1. The Plaintiffs claim:

(a) (i) A permanent and interlocutory injunction restraining the Defendant (VE3NCM) from erecting or continuing to erect a radio transmission tower on his property at 1347 Bryanston Court, Burlington, Ontario or in the alternative,

(ii) Damages in the amount of \$250,000.00;

(b) Prejudgment and Postjudgment interest pursuant to the Courts of Justice Act, S.O., c.11, 1984;

(c) Their costs of this action;

(d) Such further and other relief as this Honourable Court deems just.

... Reference made to domestic address and date of tower construction...

5. The Plaintiffs state that the proposed radio transmission tower will cause them to suffer irreparable harm in that:

(a) The Plaintiffs will be deprived of the quiet enjoyment of their property;

(b) The said radio transmission tower constitutes a nuisance;

(c) The said radio transmission tower is a potential hazard to the safety of the persons and residences in the neighbourhood;

(d) The proposed radio transmission tower, if completed, will result in a substantial reduction in the value of the residential properties adjacent to that property upon which the radio transmission tower has been constructed;

(e) The said radio transmission tower may interfere with the communications facilities used by the Plaintiffs, including, but not limited to the following:

- (i) television;
- (ii) radio; and
- (iii) telephones

(Statement of Claim repeated).

6. In addition, and in the alternative, the Plaintiffs state that the proposed radio transmission tower, if completed, will result in a substantial reduction in the value of the residential properties adjacent to that property upon which the radio transmission tower has been constructed. The Plaintiffs are therefore claiming damages for loss of property value.

### SECOND AFFIDAVIT

A second affidavit signed by one of Ken's neighbours attached a letter as Exhibit 'A', signed by one Barbara Beers, B.Comm., Sales Representative for Royal LePage, a residential real estate service in Burlington. As part of the public record, this letter states in part:

"Further to your request regarding the effect of an erection of the radio tower on the adjacent property, we wish to confirm from an aesthetic point of view, an unsightly tower would definitely be detrimental not only to the properties within view of the tower but the said property with the tower."

"A specific dollar figure is difficult to assign as resale price is determined by what a potential purchaser is willing to pay and potential vendor is willing to accept. It is not, however, unreasonable to estimate resale value could be affected by as much as \$10,000 depending on how potential purchasers perceive the 'eyesore.'" (ref. SCOM 740/87) Supreme Court of Ontario.

As if two affidavits weren't enough to dissuade Ken, a third one was received from someone who had previously resided beside an Amateur in an entirely different neighbourhood. The author of the affidavit stated his neighbour had erected a radio tower, from which he claimed substantial interference with TV, radio and telephone reception. This affidavit supported the claim of "potential for interference." (ref. SC 883/87)

### AMATEURS TO THE RESCUE

Ken sought help from the CRRL and received direction to engage the

*Continued on next page* ▶



## ► MANGAROO (cont'd)

services of I.V.B. Nordheimer from the firm of Fraser & Beatty, Toronto. Some may remember that Mr. Nordheimer successfully defended Bob Forbes of Mississauga in 1981. The Forbes case was dismissed.

In his professional manner, Mr. Nordheimer instructed Ken to obtain a statement from the local DOC Manager to set out any previous violations with the Department. The replay dated Aug. 18, 1987 from S. Ribee, District Manager for the Hamilton District Office of DOC, states in part:

"During this period of time, our department has not been directly involved or recorded a report of radio or television interference attributed to the operation of your station while residing at 215 Miller Road, Stoney Creek, Ontario."

### FURTHER LEGAL HELP

In order to refute the allegation of the Plaintiff's statement of claim, it is necessary to obtain affidavits from those in positions of offering professional witness. One such expert witness who was willing to provide an expert assessment of effect to property values in the case before the Court was Evan Herriot of Scarborough, Ont. What Mr. Herriot had to say must have been 'nice calypso music' to Ken. Mr. Herriot's affidavit reads, in part, as follows:

1. "I am a licensed Real Estate Broker and am an Accredited Appraiser of the Canadian Institute

(AACI). I have been a Licensed Broker for 38 years and an Accredited Appraiser for 36 years. I have qualified consistently as an expert witness before the Supreme Court of Ontario, District Court of Ontario, Judicial Arbitration Board, Ontario Municipal Board and the Tax Review Board. I have been active as a professional appraiser throughout Canada, especially in Southern Ontario and specifically in the Burlington area."

Mr. Herriot had read the letter attached to the second affidavit above, relative to a real estate assessment. He states:

3. "In my experience and in my professional opinion, it is incorrect to say that the resale values of the properties adjacent to and in the neighbourhood of the subject property of Mr. Ken Mangeroo could be affected by the construction of the proposed radio transmission tower."

4. "I have made a study of the impact of radio transmission towers on the resale value of residential property for the Municipality of Metropolitan Toronto and I believe that the conclusions reached in that study are true. Based on that examination, I am of the opinion that the construction of the proposed tower by Mr. Mangeroo will have no effect whatsoever on the value of the surrounding properties." (ref. SC 883/87)

### THE JUDGMENT

On Aug. 26, 1987 The Honourable

Judge Clarke, Local Judge of the Supreme Court of Ontario ordered that the motion of the plaintiffs be dismissed.

The following reasons for judgment have been included to provide details of why the Judge dismissed this action.

"Despite the able argument by Mr. Spears (counsel for the plaintiffs) the application for interlocutory injunction is dismissed. I find that the applicant has not met the criteria set out in Yule Inc. etc. 17 O.R.(2) 505. On all the evidence I am doubtful that a substantive issue exists in law.

(A) The loss or impairment of aesthetics is *not* a valid ground for a complaint. (See Walker et al v. Pioneer Construction Co., 8 O.R. (2) 35.)

The applicant's evidence with respect to loss of property value is *not* compelling. The Respondent's evidence is more persuasive and credible.

(B) The applicant is satisfied with respect to the safety aspect. Therefore this is *not* an issue. In any event, I find the Respondent has complied with all *Federal* and *Municipal* requirements.

(C) The applicant's evidence with respect to radio interference is not convincing. Not only does Mr. Campbell live in a different neighbourhood but he has no expertise in electronics. I prefer the evidence of the applicant particularly as it relates to past experience, his testimony that HAM installations do not cause interference, and the availability of simple remedies such as filters.

(D) I *cannot* find that irreparable harm will ensue to the complainant if the interlocutory injunction is *not* granted or that the balance of convenience favours the applicants."

"In the result the motion will fail. Costs are reserved to the trial Judge"

"J.H. Clarke"

(ref. S.C. 883/87-Aug. 26/87)

### AUTHOR'S NOTE

Ken kindly consented to provide the necessary documentation so this story could be told in some detail. Detail is necessary because Amateurs are wont to speculate when they lack details. This aspect has been noticeable during the Ravenscroft ordeal. There seems to be a badge of honour associated with the one who can most convincingly concoct a plausible story, even when the facts are absent! It is hoped the course Ken followed will be of use to other Amateurs, in similar circumstances. It is also hoped the circumstances do not arise again. Single copies of any of the affidavits or Motions are available, for postage, from the author. ■

## Hams Beware— TV marketeers want 220 MHz Band

TV Answer Inc., a U.S. based company, petitioned the FCC in December 1987 for a 500 kHz segment at 220.5 MHz for TV viewer interactive response service via radio because it's cheaper than using traditional coax cablevision or telephone lines. TV Answer makes an unsubstantiated 'claim' that audience interaction response in marketing products via radio would be economical where it had not been so using cablevision or phone lines. A patented single pulse transmit unit activated by a hand infra-red keyer and using 216 MHz to 222 MHz band allocations allows TV viewers to send 'pay-per-view' or home shopping instructions by radio to a central programming source.

CARF is alarmed at this proposed

misuse of valuable 'finite' radio spectrum when a tried and proven technology using existing terrestrial land cable facilities is readily available in urban and suburban communities. Amateur radio has set aside portions of the 220 MHz to 222 MHz band for experimental and network packet radio systems for community emergency social services communications. It seems the marketeers covet this very valuable radio spectrum for short term economic objectives which are, at best, questionable and unproven, and in turn, if the petition is granted, would destroy the more beneficial long term use of this spectrum by Amateur radio for vital volunteer emergency social services communications using packet radio. ■

# Another Benefit to CARF Members

CARF's primary duty is to provide membership services to the Amateurs of Canada. For this reason, it gives me great pleasure to introduce our newest service: discount subscription rates for *Ham Radio* magazine.

*Ham Radio* was founded in March 1968 and has provided high quality technical articles on state of the art communications technology since

then. CARF has been appointed "exclusive Canadian subscription representative," effective immediately.

We are now able to offer a 12.5% discount on the normal subscription price of \$41 (CDN). The price THROUGH CARF is \$35 for members and \$40 for non-members.

CARF is convinced that the combination of Canadian news in *The Canadian Amateur*, along with the high technical quality of *Ham Radio*, will enhance your enjoyment of our hobby. The two magazines are, and will continue to be, mutually complimentary.

John Iliffe VE3CES  
President, CARF

## NEW! From CARF! HAM RADIO MAGAZINE

12½% DISCOUNT (Members Only)

CARF has been appointed exclusive Canadian Subscription agent for HAM RADIO Magazine.

The normal subscription rate is \$41 (Cdn) per year. CARF will be charging \$40 in view of the recent rise in the Canadian dollar. As a CARF member you can receive a 12½% discount and pay only \$35 for your annual Ham Radio subscription.

Use the handy order form below:

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**PENTICTON ARC  
 ELECTRONIC FLEA  
 MARKET AND AUCTION**

**Sunday April 24, 1988**

9 a.m.-3 p.m.

251 Dawson Ave., Penticton B.C.

*WELCOME ALL HAMS, SWL, CB,  
 COMPUTER AND ELECTRONIC  
 BUFFS*

*Vendors may pre-register by phoning: Orin  
 Beebe 492-6129 or Al Stark 492-8782*

**ENTRANCE FEE:** Donation to club auction  
 or club project

Vendor tables: 5 items or less - \$2.00

6 items or more - \$5.00

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**ELECTRONIC AUCTION AT HIGH NOON**

Donations for the club auction are most  
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Electronic boat anchors, paperweights, and  
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Doors Open - Vendors 8:00 a.m.

Public - 9:00 a.m.

Come sell some goodies,

Or buy a few

Meet your old friends,

Make some new ones too.

See ya there! *Talk in on 34/94 or 52 simplex*



*Plan to  
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- INFORMATION BOOTHS
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- FREE EQUIPMENT TESTING BOOTHS.



## ONTARIO HAMFEST

The Burlington Amateur Radio Club is again this year pleased to host the 14th Annual Ontario Hamfest, July 9, 1988.

This year's event will be held in the beautiful facilities of the central arena in Burlington. Everything is inside; No dust! No rain! Over 200 tables! Dealer tables will be \$25 for first 8 feet and this includes one admission. Additional 8 foot tables will be \$10 each.

This event will feature Amateur radio equipment, computers, electronic equipment, antennas from HF to microwave and much more.

Don't miss Ontario's largest Hamfest— Register now! Details: Ontario Hamfest, P.O. Box 836, Burlington, Ont. L7R 3Y7.

### POLAR BRIDGE DIPLOMA

The CRRL is offering a diploma to commemorate the Canadian-Soviet Union Transpolar Ski expedition. Titled the '1988 Polar Bridge Diploma' it will be awarded to Amateurs and SWLs who fulfil the following: 3 different calls from N.W.T., Canada (VE8), 3 different calls from Asiatic RSFSSR, USSR (UA9 or UAO), 1 base camp call from either the USSR or Canada, 1 call from the National Capital Region of Ottawa, Canada, and 1 call from the National Capital Region of Moscow, USSR. All nine two way QSOs or loggings must take place between Feb. 15 and June 15, 1988. Send your application, certified log (no QSLs) and 10 IRCs (or \$5) to Garry Hammond VE3XN/VE8XN, 5 McLaren Ave., Listowel, Ontario, N4W 3K1.

### CLEANING UP OUR ACT

There is no such thing as a 'second operator' (unlicensed)—it is a rationale for a bootlegger.

Do not use 'we'-as a pronoun, when you mean 'I'. The Royal 'We' is reserved for Kings and Popes.

Don't say, "QRZ, is anyone using this frequency?" QRZ means "is anyone calling ME!"

Don't use the lover's goodbye, by continually signing, but endlessly talking.

Do not use 'break' it is a CB term, and it is impolite to interrupt, unless very urgent.

Don't use a DOUBLE BREAK, it is used as an emergency signal on many nets.

Never say, "OVER AND OUT," you cannot mean both.

Don't give flattering reports, most Amateurs are looking for critical ones.

Do not tune up on the air— use a dummy load. —UPDATE

# Social Events

## QUEBEC HAMFEST

Quebec Provincial Hamfest will be held on Sunday May 22, 1988 at the Tracy Curling Club. (Eye Ball QSO evening Saturday 21 at 20:00) Admission \$4, table (outdoor) \$6, (Indoor) \$8. Limited Quantity, please reserve before May 15. Open at 0900 (0700 Exhibitors). For more information write to Sorel-Tracy ARC, P.O. Box 533, Sorel, Q.C. J3P 5N6 Canada.

Le Hamfest Provincial Du Québec aura lieu au club de curling de Tracy le dimanche 22 mai 1988 à 0900 (0700 pour les exposants). (Soirée rencontre samedi 21 mai à 20:00). Admission \$4, table extérieure \$6, intérieure \$8. N.B. quantité limitée, prière de réserver avant le 15 mai. Ecrire à C.R.A. Sorel-Tracy C.P. 533 Sorel Q.C. J3P 5N6 Canada.

## PENTICTON ARC ELECTRONIC FLEA MARKET AND AUCTION

Sunday April 24, 1988, 9 a.m.-3 p.m., 251 Dawson Ave., Penticton B.C.

Welcome all hams, SWL, CB, Computer and Electronic buffs. Vendors may pre-register by phoning: Orin Beebe 492-6129 or Al Stark 492-8782. Entrance fee: Donation to club auction or club project. Vendor tables: 5 items or less, \$2; 6 items or more, \$5.

Refreshments available, Electronic Auction at high noon. Donations for the club auction are most welcome. Electronic boat anchors, paperweights and other surplus items accepted.

Doors open to public at 9 a.m. Talk in on 34/94 or 52 simplex

# Ski Trek

## BY AL D'EON VE3AND

It began in March, 1988 and will last 90 to 100 days. A ski expedition from Severnaya Zembya in the Soviet Union to Cape Columbia, Canada via the North Pole, it is an adventure for Canadian and Russian skiers as well as a scientific expedition to make geomagnetic, glacial and meteorological observations. Experiments will be conducted in physiology and biochemistry to determine the limits of human endurance and social isolation. According to expedition leader Dr. Dmitri Shapro, "We are going to join two continents with a ski track. It is a walking trip... to show that we are very close neighbours."

He's right, since it is only 980 km to the North Pole from Russia, and 750 km from the Pole to Canada for a total distance of 1730 km.

The trek is privately organized and financed by Komsomolskaya Pravda (Soviet Youth Newspaper) and the Polar Bridge Company, a group organized by the Canadian participants, supported by commercial sponsors.

All equipment is contained in backpacks weighing from 36 to 41 kilograms (80 to 90 pounds) and includes tents, sleeping bags, inflatable rubber rafts, heaters, cookers, food, scientific equipment, navigation and communications gear.

Supplies are being delivered in six air drops, one about every two weeks.

The aircraft will land in an emergency only.

Communications will be handled entirely by Amateur radio. Daily contact will be maintained with the expedition from support bases in Canada and the Soviet Union.

Navigation is being handled by Project Nordski Comm.—a truly international project. Using the facilities of SARSAT/COSPAS, the search and rescue satellites, as well as the Amateur radio satellite called U.SAT.OSCAR 11. With its 'talking computer' on board it will be possible for the skiers to hear their location read to them over the 2 metre hand-held Amateur FM radio (145.825 MHz) as UoSAT passes over them about every 100 minutes. Celestial navigation will be used also when possible.

Support Groups are located in Severnaya Zemlya, Dikson and Moscow in the U.S.S.R., the Soviet North Pole Station 28, where both Russian and Canadian Amateur radio operators will be stationed, Resolute Bay on Cornwallis Island, Ottawa and Toronto.

Training took place last August in the Tien Shan mountains of Soviet Central Asia and at Frobisher Bay, Baffin Island in November/December 1987.

Major obstacles the skiers have to overcome are open water, thin ice, pressure ridges, low temperatures (-50° Celsius), winds and storms. ■

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We carry a vast assortment of items ranging from medical, laboratory, scientific, photographic, optical, antiques and other strange pieces for the experimenter and enthusiasts as well as schools, labs and electronic firms. If in the area when we are open, feel free to drop in and browse.

Always happy to answer queries by phone or mail. If we are not available and you are using 283-5195 (connected to our warehouse), an telephone answering machine will come on the line for any message. Our residence number is 283-0637 and has no answering machine facilities.

A few more items selected from our stock: (1) Aluminum clad military transit cases, approx. 22"x23"x31" high. Removable lid and carrying handles. \$70.00 (2) Keyboard terminals, G.E. Terminet 340's. \$90.00 (3) Keyboard terminals, Datacom 400's. \$90.00 (4) Photoflood lighting panels approx. 6'x4' on castors. 60 sockets wired in three banks with each bank switch controlled. Up to 250 watts per socket. Ideal for the budding photo studio. Two units only. \$150.00 each. (5) RemAc Model 301 circuit board drilling machine. Manually positioned X and Y coordinates use optical readout. With light table for viewing initial artwork. \$600.00 (6) Sartorius single pan (200g max) chemical balances. \$65.00 (7) Radio Shack TRS80 Model III computer with two disc drives \$200.00 (8) Impedance bridge, General Radio Model 650A with 650P1 amplifier. \$150.00 (9) Impedance bridge, General Radio Model 1650A. \$250.00 (10) Enlarger, photographic 35 mm, Leitz Focomat 1C with f4.5. Focotar lens and red filter. \$325.00

# Smiths Falls Amateur Radio Club

## FOURTH ANNUAL FLEA MARKET

### Saturday, May 14th

R.C.A.F.A. (Airforce Assoc. Bld.)  
44 Abbot St. North

Doors open — Exhibitors 7:30 a.m., Public 9 a.m.

Table Reservations— \$5.00 (Admission included)

Contact— Baxter Smith VE3BFX, 613-283-7852

Ample Parking - Refreshments - Admission \$1.00

Dealers expected: Art Stark VE3ZS, ICOM of Canada, H.C. MacFarlane Electronics Ltd., Hobbytronique Inc. and others.

Talk-in frequency: 147.81/21

Paul Cooper VE3JLP  
RR 2 Metcalfe Ont.  
K0A 2P0

### THE PERFECT QTH REVISITED!

February's column gave readers a chance to study John Connor's work in calculating the best and worst QTHs in the world for working DX. You may recall that his calculations showed the best location was 5A, Libya and the worst ZL8, Kermaec Island. I thought the subject was then probably closed unless somebody volunteered to refine further the listing with subtle modifiers like north-south propagation is normally easier than east-west and so on.

However I'm delighted to say that we have another entrant in the calculation stakes, Antonio Salvadori VE3NXQ. Antonio teaches Computing and Information Science at Guelph University and he found the challenge irresistible. With his skills it is not surprising to read that he had written his own program for his IBM PC clone, using Turbo Pascal. He turned this program loose on a data base of the Latitudes and Longitudes of all the DXCC countries plus the 50 U.S. states plus the Canadian provinces and a few other locations including Aruba (this man is really up to date!).

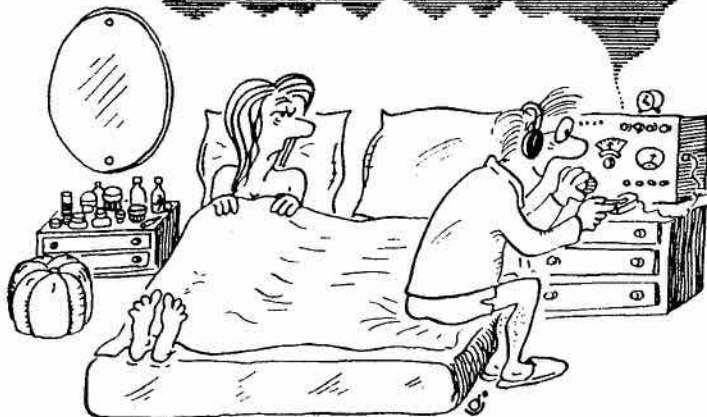
His program calculated the sum of all the distances for many of the data base locations to all the other locations. He told me that he was more than a little worried about how long the calculations would take as the formulas contained some horrendous trigonometric calculations which take a long time to evaluate even with state of the art computers.

His computer used a boosted processor and he started it running at 6:10 p.m. and it finally came up with the answer at 9:45 p.m.! Perhaps someone who knows more about computers than I do can tell us how many separate calculations were involved here, bearing in mind the fact that the IBM PC has a clock rate of at least 4.7 MHz.

Anyway, what we are all interested in is the results and how they compare with John's calculations. Antonio tells us that this program pin points the worst location as ZL8, Auckland Island, while his perfect location is GJ, the Island of Jersey in the English Channel. I think we have to accept that Antonio's calculations are more rigorous than John's. The February column's results were based on a data base of how many 4,000 km hops each country was from all others. There were obvious approximations in the data and I think that's why we don't have perfect agreement between

# •CQ DX•CQ DX•

## OKI DAU



Ing. Jaroslav Lukeš, Hráského 1929, 149 00 Praha 4 - Chodov

*Does your XYL have this problem? I suspect most DXers are guilty of this one occasionally!*

the two approaches. Having said that, I think the two sets of calculations carry the same broad message that Europe and the Near East is the place to be while the Pacific, in the general area of New Zealand, is definitely not the place to set up your shack.

As far as Canada is concerned, Antonio's calculations agree closely with John's. The best location is St John's, Newfoundland, and locations get worse as you move westward. Apparently Resolute, N.W.T., is better than any locations west of the Ontario-Manitoba border.

However even Canada's best location is, in terms of the total distance to all other locations, 100,000 km worse than Jersey.

Many thanks to John and Antonio for their work on settling this question. I hope other DX newsheets and magazines will republish this material, it deserves a much wider audience than *The Canadian Amateur* can reach.

### IS IT DX?

A letter from Marcel VE2ESI raises that old question, "What is DX?" How many thousands of words have been devoted to trying to pin this one down, especially by Hugh Cassidy WA6AUD in *CQ* magazine! Fortunately, Marcel's question is quite specific, so perhaps we can deal with it in less than a page.

The VE2ESI station in suburban Pointe Claire, Quebec, is not a 'Big Gun'. On the contrary, it is only a few dB above the QRP level. The rig is a

CW only Century 21 (No, it's not a real estate rig, it was made by Ten-Tek about ten years ago!) and it has an output of only 20 watts, I believe. The antenna is quite modest too, a Mini-Quad at 35 feet. Using this station Marcel put out a CQ last November on 15 metres; he only called for about a minute and back came HKOER. The time was 1700 UTC. Later a QSL card arrived through the mail confirming his contact with San Andres and Providencia, a small group of islands with DXCC status in the Caribbean sea of the coast of Nicaragua. Marcel asks me if I consider this a 'rare one'.

There are several ways of looking at this question, so let's take them one by one. First of all propagation. I'm not very surprised that there was a decent path between VE2 and HKO at the time of Marcel's contact. 1700 UTC is local noon in Eastern Canada and the path is a north-south one, usually the first to open up. It's true that it was just about the bottom of cycle 21, but even at that time 15 was opening up, now and then, when the conditions were favourable. Conclusion: This was not a propagation fluke but just favourable opening.

Now let's briefly look at Marcel's station. With the band open and feeding 20 watts into a small quad I would expect him to be putting quite a respectable signal down into the Caribbean, so it should not have been a difficult QSO for either station. What are we left with? What I'm going to call

*Continued on next page* ▶



the 'rarity factor' of an HKO from San Andres. Unfortunately, I do not have the Call Book in front of me but, from what I remember, there is a fair amount of activity from these islands; they are not super rare. Also I can't recall anyone mounting a DXpedition to the islands which usually means most DXers have worked them already.

So what do we conclude about Marcel's contact? I think I'd call it a good example of an 'intermediate-level' piece of DX, not super-rare but certainly much better than a contact with any of the Central American states or many of the Caribbean Islands. Before leaving the subject, I must add that these are, of course, my views of a contact with HKO, a country I have worked several times.

It can't be said often enough that defining what is and is not DX is a highly subjective business. If this is Marcel's first contact with San Andres I think he is fully entitled to regard this as a fine DX contact!

#### **'DX ONTARIO'**

Most of us working DX on the Amateur bands tend to forget that there is another group of keen DXers out there on the HF bands. Their stations tend to be simpler than ours, their antennas not so elaborate, and they have no transmitters, however they share our enthusiasm for winking out the rare ones. I'm talking, of course, of the dedicated hobbyists who monitor the HF and MF broadcast bands. Since 1975 those in Ontario have formed their own club, the Ontario DX Association, and I now receive their magazine, *DX Ontario*, every month.

This magazine is usually 90 pages long and is crammed with information on stations near and far, product reviews, general articles on DXing and so on. Dipping into it I find that some of their members also have their Amateur licences and enjoy the different challenge of logging some of those rarer broadcast stations in distant parts of the world. I haven't the time, at the present, to get involved in this extension of the hobby, but if I ever take that step I think membership in ODXA would be a great help. For those of you interested, write to Membership Secretary, P.O. Box 232, Station Z, Toronto M5N 2Z4.

#### **QSL CARDS AND THE BUREAU**

The February issue of *Long Skip* contains a copy of a letter from the Manager of the CRRL Outgoing QSL Bureau, Don Welling VE1WF. It includes several suggestions for making life easier for the bureau staff and hence speeding our cards on

their way through the system. First of all Don asks that we all put the call of the station to which the card is addressed in the upper right hand corner of either the front or the back of the card. If everyone does this, sorting of our cards at the bureau becomes much easier.

Don mentions again that perennial problem, the non-standard sized card. Apparently there are some Bureaus in other parts of the world that just won't accept cards that are either bigger or smaller than the standard size which he says should be 3½ by 5½ inches. This is the size that just about all the professional card printers use but it is not the size that occasionally appears when a special card is printed to advertise some historic event.

The 'Ontario— yours to discover' was a good example of a non-standard card that was widely used a couple of years ago and caused the bureaus additional work in handling them. It's strange how often these free cards are the wrong size. I'm presently negotiating with the National Capital Commission in Ottawa for a special card to advertise 'Destination 88', a year-long wing-ding of special events here in the nation's capital. The first thing they offered me was a very colourful post card printed on good quality stock which they have by the thousands. Only snag was the size— 5 by 7 inches!

Don's letter includes a few details of the volume passing through his bureau. In 1987 it was over 100,000 cards. I'm sure most readers of this column would want me to thank Don and his helpers together with Jean Evans VE3DGG and her crew who handle the cards coming in for their work on behalf of so many Canadian Amateurs.

#### **BITS AND PIECES**

**ZD9, Tristan da Cunha & Gough Islands**— Not much activity from these remote islands in the South Atlantic. Their neighbours to the north... and that's a relative term... St. Helena and Ascension Islands, ZD7 and ZD8 respectively, have quite a number of ham stations regularly on the air, so it's not usually a big deal to get a QSO with them. I checked the 'What have you heard' listings in the some of the DX publications I read every month and conclude that, at the moment anyway, there are only two active stations on ZD9. ZD9BV Andrio Repetto, 'Andy', seems to favour 15 metres sideband and was worked in early January on 21.265 MHz at 1800 UTC by stations in W0, W6 and VE6. QSLs should go to W4FRU. It appears that Andy is getting what *Long Skip* calls 'Pileup burnout' and tends to disappear when the going gets rough.

You have been warned! The other station on the island is ZD9CM who was also recently worked on 15 metre SSB at 1345 UTC by VE3NE. His QSLs should go to WV4F. Those of you who share my fascination with remote islands should beg, borrow or steal a copy of the January issue of *Long Skip*.

It's clear that John Sklepkowycz VE3IPR is another island freak as he reprinted five pages of articles from *The Geographical Magazine* which give the reader an excellent idea of the past and present of these rugged spots on the map of the South Atlantic.

**S9, Sao Tome**— Here's another rare spot, an island in the Gulf of Guinea off the African west coast. S92LB has been logged on both 20 and 15 metres. On 20 it's usually a list operation around 14.183 MHz at 2154 UTC. VE3IPR heard him recently putting a good signal into VE3, but getting on the list was, apparently, a pretty frustrating business. The 15 metre sighting was on 21.295 MHz at 1755 UTC.

#### **AN APOLOGY**

Sorry if this column is a bit thin on upcoming DX activity. I'm normally plagued with a six-week delay between submitting my copy and it arriving in your mail box. However this particular column has had to go to the printer even earlier since the April issue deadline is, for me, slap in the middle of a two-week vacation. I shall be down in J8, skippering a 45-foot yacht through the beautiful Grenadine Islands. Well, I have to take a rest from the tremendous strain of chasing DX and writing this column now and then!

Thanks are due to the following sources for some of the material appearing in this column: VE3NXQ, VE1BHA, VE2ESI, *Long Skip*, *DX Ontario* and *QRZ DX*. ■

#### **MAGAZINE EXCHANGES**

CARF and *The Canadian Amateur* are pleased to announce the signing of reciprocal agreements for reprints and magazine exchanges with the following international Amateur Radio organizations: Radio Rivista - Italy; CQDL - Germany; OM - Switzerland; URE - Spain; and Radio ZS - South Africa. We welcome the opportunity to add these to our list which already includes organizations from New Zealand, Australia, Great Britain, France and others. Thanks to Francis Salter VE3MGY for his efforts in negotiating these agreements.

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# CONTEST SCENE

## 1987 HF CHAMPIONSHIP CONTEST CANADIAN RESULTS

Category	Call	Score	QSOs	Mult
Mixed Mode	VE6DZ	81,951	385	59
	VE30EQ	4,592	108	14
	VO2AC	1,221	58	11
	VE7IQ	300	25	4
Phone Only	VE3XN	168,483	673	71
	VE1CBF	104,370	409	70
	VE7RG	8,220	68	30
CW Only	VE2XL	3,390	82	15
	VE3KP	136,512	611	64
	VE7QO	95,064	401	68
	VE2LJ	58,440	351	40
	VE6APN	21,384	177	33
	VE5AAD	13,195	142	29
	VO1AW	8,310	81	30

"What mighty contests rise from trivial things." (Alexander Pope, 1712).

An interesting observation by Mr. Pope. Does any reader know his call sign?

There are two items in the pipeline here this month, which I will proceed with forthwith.

The first item is the results of the 1987 HF Championship, the replacement for the Radiosport Contest. The top score overall went to Gary VE3XN with 168k. VE6DZ took the honours for the mixed category with 82k, while VE3KP came in first in the CW only competition with 136k.

Only 14 hardy souls sent in entries for this contest. Is this because no one else took part, preferring to spend their time barbequing in the backyard in July? Or was it a case of simply not sending in your log? Anyway, the full results are shown below.

The second item is shown in Figure 1. This is a little table that I have made up which summarizes the vital information for most of the major HF contests throughout the year. A couple of points of explanation about this table should be helpful.

The date given is the weekend/month. Thus, for example, the CQ 160 CW contest is on the last weekend of January, while the ARRL DX CW Contest is on the third weekend of February.

The column headed WORK tells you who you can work in that contest. All means that you can work everybody, although you may only get multiplier credit for working Canadians. DX in the ARRL DX Contests does not include the U.S.

In the send, receive and mult columns, 'section' refers to ARRL sections. Note that VE8 is generally considered an additional 'section' in contests.

Finally, the abbreviation 'nr' means to send or receive a serial number.

In a couple of instances, there was not enough room to fit an explanation in the boxes in the table. These are referred to in footnotes 1 and 2.

This is of course merely a quick reference guide; you should always

check the complete rules published by the sponsor of the contest if you intend to do any serious operating. But if you just want to get on and mess around in one of the contests listed here, there should be enough information for you to know what's going on.

This table should provide you with plenty of inspiration to get out there this spring and do some antenna work. How about a nice rotatable rhombic for 20 metres that can fit in a typical suburban backyard?

Anyway, I'll let you digest the information in this table and then I'll be back in a month. ■

CONTEST	DATE	WORK	SEND	RECEIVE	MULT
CQ 160 CW	Last/Jan	All	1	state, area, country	state + area + country
ARRL DX CW	3/Feb	DX	RSTprov	RSTpower	countries
CQ 160 SSB	Last/Feb	All	1	state, area, country	state + area + country
ARRL DX Phone	1/Mar	DX	RSTprov	RSTpower	countries
RSGB CW	2/Mar	Common-wealth	RSTnr	RSTnr	none
CQ WPX SSB	Last/Mar	All	RSTnr	RSTnr	prefixes
CQ WPX CW	Last/May	All	RSTnr	RSTnr	prefixes
IARU HF Chmpnship	2/July	All	RST ITU zone	RST ITU zone	zones
WAE CW	2/Aug	All	RSTnr	RSTnr	EU cntrys
WAE SSB	2/SEPT	All	RSTnr	RSTnr	EU cntrys
CQ DX Phone	Last/Oct	All	RST CQ Zone	RST CQ Zone	zones + countries
SS CW	1/Nov	US/VE	2	2	sections
SS Phone	3/Nov	US/VE	2	2	sections
CQ DX CW	Last/Nov	All	RST CQ Zone	RST CQ Zone	zones + countries
ARRL 160 CW	1/Dec	All	RST section	RST section	sections+ countries
ARRL 10M	2/Dec	All	RST prov	RST prov/stat	states + VE areas+ countries

### Footnotes:

1. Send area as follows: VO1, VO2, NB, NS, PEI, VE2, VE3, VE4, VE5, VE6, VE7, NWT, Yukon. 2. Send a receive NR, Precedence, Call, Check, Section.

### TECHNICAL TIPS

Buy a fingernail clipper for your tool box. They're great for trimming excess coax braid from around the clamp of a BNC connector before final assembly. At about \$1.19, it'll probably be the least expensive tool you own!

Zero Beat

# LOOKING AROUND

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The February issue of *The Canadian Amateur* contained copies of four letters exchanged between CARF and CRRL "to provide some insight... as to the state (of merger negotiations)". My personal comments following will, I believe, shed more light on why these negotiations have ground to a halt.

A couple of local Amateurs, not involved with CARF, were asked what they thought of the negotiations, etc, and both were of the opinion that CARF should get its financial statements properly audited and continue with merger negotiations! So, in case other readers have same feelings, let's try and set the record straight.

Both CARF and CRRL are federally incorporated and function under the provision of the Canada Corporations Act and a set of Bylaws approved by the Minister of Consumer and Corporate Affairs. As 'corporations without share capital', either organization can opt out of certain provisions of the Act providing that detail is provided in their bylaws as to conduct of that phase of business and this detail is satisfactory to the Minister.

The Sections 117 and 130-132 of the Act detail how a corporation should handle its Accounts and Audit and CARF follows these sections to the letter. For auditing purposes, members attending the Annual General Meeting shall appoint two auditors, who are not officials of CARF, and these shall examine the financial statements and shall make a report to the following AGM stating "whether, in his opinion, the financial statement... presents fairly the financial position of the company and results of its operation for the period of review in accordance with generally accepted accounting principles...".

To enable the auditors to make such a report, they "shall have access at all times to all records, documents, books, accounts, and vouchers of the company" and are entitled to require from the Directors and Officers information and explanations, as may be necessary, to enable the Auditor's report to be made. The Financial Statements shall be made by a qualified person/firm selected by the General Manager and necessary financial records, documents, files, etc., shall be given to this person/firm by the Treasurer and Office Manager. Note that no person holding official position in the Federation shall prepare or audit the Financial Statements.

In contrast, as CRRL has no provision for the holding of an AGM,

no Auditors can be appointed by the members and so their bylaws provide for the hiring of a qualified person/firm to prepare their Financial Statements and also to audit these statements. Yet the letter of CRRL, dated Oct. 14, 1987, states: "It will be difficult to make progress until CARF publishes an independently audited financial statement"!! Any examination of this situation brings out that it is CARF that "publishes an independently audited financial statement," while CRRL does not, for the person/firm that prepares its Statements also audits them.

So much for 'red herrings'. The reason why CARF has "concluded that there is no point at the present in continuing merger negotiations" is simple. The Review (Position Paper) was forwarded to the members of the Boards of both organizations in October 1986. In any negotiations between companies of this nature, the next procedure is for each organization to appoint a negotiating team and for these teams to meet and attempt to draw up the organizational, administrative and financial details of the proposed merged (or new) corporation. This necessary next step was approved by the CARF Board shortly after its members had evaluated the sections of the Review and this was again approved at the June 1987 meeting of the CARF Board.

To date, the only action taken by CRRL is their Minute #12 that noted that CRRL had "reservations about many aspects of merger" but "moved that representatives of the CRRL Board continue discussions with their counterparts in CARF with a view to merging the operations of CRRL and CARF into a single national Amateur radio organization." This meeting took place in August but it was October before CARF was informed of its content and informed that progress would be difficult "until CARF publishes an independently audited financial statement". Note that the CRRL resolution does not commit them to any positive action but merely to "continue discussions with their counterparts in CARF" which only means that the President and Vice President CRRL have their Board's permission to continue to correspond with the President and Vice President CARF.

If CRRL is serious about working "for the creation of a single national amateur radio organization for Canada," all they have to do is take the next step— confer with CARF as to composition, etc. of the negotiating


committee and set a place and time for its first meeting.

As I, and many others, have previously noted in *The Canadian Amateur* and other publications, the Canadian Amateur Radio Service is not in good shape. Current problems facing us include the lack of growth of Amateur numbers, the judgement handed down in the Ravenscroft case that an Amateur causing interference can be classed as a nuisance with possible legal action, the growing pressure on our VHF/UHF bands and a poor public image.

Certainly one of our primary means of combatting these, and other, problems will be the strongest voice that we can muster to the government and public. The information of a single, unified, independent national society should be a top priority to ensure that we do have this strong voice and it not be divided between two national groups that have a long history of rivalry, in-fighting and lack of co-operation.

From 1985 to now, there has been a spirit of co-operation between the two organizations, resulting, probably, from the resolutions of the Boards of CARF and CRRL that they should work toward the creation of a single national society. I am afraid that, unless a statesmanlike attitude is taken by the members of both Boards, we are in for another war of words with each organization attempting to gain membership support by showing that it was the other group that was the cause of merger negotiations grinding to a halt. Recent bulletins issued demonstrate that this has already commenced.

In my December column I stated, with reference to questions on the 1987 Question Bank: "This is not understandable as, back in 1983, at the review of questions to be used on Amateur examinations, officials of CARF and CRRL attending were told that, in future, no questions would be put on the question bank until they had the approval of both organizations." Information received was

*Continued on next page* 

## NEXT ISSUE

Due to the timeliness and importance of our feature on the Ravenscroft appeal, the continuing story of VE3NB's *Memories of 40 Squadron* will be found in the May issue of *The Canadian Amateur*. Also in that issue will be part 2 of the IPARN network.



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### APPLIANCE IMMUNITY— ANOTHER APPROACH TO AN OLD PROBLEM

The Barrhaven Immunity Report seemed to raise a few eyebrows and even had a positive effect in circles where compatibility sometimes causes spiralling frustration.

### HEATING DUCTS

One Barrhaven resident called me a week ago to say she was hearing voices and music coming from the heating ducts in her basement. So far I haven't been able to determine why this effect should suddenly happen to a resident who has occupied this home for 10 years. Could it be Bach's lost chord seeking a home after some many years of containment?

### MODEMS

Another resident phoned me to say he had a problem at night using his computer/modem on line. In fact he had two computers and frequently brought work from his government office to enter via modem in the evening. A few questions and a little waiting confirmed that as soon as a local radio station switched from day to night antenna pattern his level of interference prevented accessing the computer. A loan of a toroid proved beyond doubt that both problems were caused by conducted RF on the phone line. Lines in the home are unshielded and are obvious culprits to act like perfect antennas—the length is unimportant when close proximity exists. All other distribution telephone/power cables are buried in this community. Boy, it's nice to see the happy smile of someone who's just cured a problem.

### AUTO EMC

On several occasions I've noticed my 2M rig lock up when scanning

### LOOKING AROUND (cont'd)

that CARF and CRRL were requested to work together and submit further questions to the DOC for inclusion in the bank. CARF formed a committee to do this and they did forward a series of questions to CRRL for approval. CRRL replied that they did not agree with the questions submitted and would forward a new list to CARF. This was not done and, in consequence, DOC received no question bank input in this three-year period and had no choice but to revise, amend and add questions on the new multiple-choice format. I apologize if any embarrassment was caused to any individual through my lack of information. ■

# CROSSWAVES

from 145-147 MHz. The S meter indicates presence of signal but, try as I might I could hear no audio or ID. This effect has been noticed for at least a year and I thought it might be some spurious generated by the synthesizer in the rig. The same effect is noted when driving by the Canadian Tire on Clyde Avenue. A carrier appears and fades away as I leave the vicinity. The frequency in this case happens to be 145.590 MHz. The same one reappears when I approach the office and my S meter so indicates.

The Canadian Tire signal is obviously from some device radiating from the store. It may be a point of sale terminal of some kind. The same applies to the signal close to the office. One day I'll get daring and track it down or attempt to raise it by CQ on the frequency.

The puzzling signals which continue to lock the scanner appear on 145.05 and 146.05 and sometimes on 147.05 MHz. Notice the 1 MHz separation? They are suspicious of a computer clock. One day I switched off the ignition in the parking lot and lo and behold those spurs separated by 1 MHz disappeared. They are sure to emanate from the microprocessor located on the inside passenger side of the Aries wagon I have. I haven't had the courage to transmit on the frequencies indicated by lock up. Should I someday take off into orbit with little notice, kindly inform Chrysler Corporation.

A point to ponder is the effectiveness of some type of shielding on coax cable. Amateurs may wish to scan the entire 2M band with engine running and note the frequencies where lock up is achieved. Let me know how many you find and where they are, along with the model and year of vehicle. Maybe we'll find a prize for the one with the highest score. Remember to turn the engine off to confirm genuine spurs. What you hear in a parking lot will sometimes surprise you.

In a previous column I made mention that appliance-to-appliance compatibility or even legitimate interference for that matter can result in changes to the law. FCC Spec. 15 is a case in point. Radiated spectral effluent from some substandard office equipment resulted in a regulation limiting just how much a device can radiate before it becomes a nuisance. We desperately need a law like that here. We may have the start of something to come by the second quarter of 1988. A report presented at the Radio Advisory Board annual meeting hinted at such.

FCC Spec. 15 Part J has set limits which would wipe out most communication if it landed on an occupied channel in use by most spectrum users. Fortunately most noise generated is broad enough that some radio equipment can actually coexist with a computer terminal. In the U.S. an avionics manufacturer has found that due to the large number of computers on the production floor there is a great problem with computer-computer interference. Who would have suspected such a thing five years ago? Of course anyone who has operated a spectrum analyzer near a large mainframe is in for quite a spectacular on-screen display. The manufacturer has found that Class specifications are insufficient in congested areas to keep the EMI to tolerable levels. They may soon purchase only industrial grade Class B equipment to forestall these problems.

### QRM?

Here is an excerpt from the *Citizen's Guide*, Moose Jaw Sask., Feb. 20, 1923 (yes!). It had some interesting comments upon which we should all reflect. It reads as follows:

"... If the Wireless Operator can read the writing on the wall he will find food for thought in the February issue of *Radio News*, Page 1597. A few so called amateurs or 'hams' congest the ether by sending more or less meaningless messages, using a kilowatt of power, to a brother ham around the corner. The Radio Public which is trying to listen in on a radio Program or Musical Concert, is drowned out, and the blame is laid on the shoulders of the amateurs, thereby giving the whole body of amateurs over the entire country a black eye for the misdeed perpetrated by a few Hams who do not know the meaning of tuning 200 metres, and Broadwave, etc. See also the articles on Page 1451."

"Is the Radio Amateur Doomed?" again on Page 1460. "The Ayes have it. The Amateur can do many things to stem the tide of Public Opinion. In the first place he can put his 60 cycle Rock Crusher in the garbage can, where it belongs. He can then get down to his proper wavelength where his licence permits him to transmit. He can in many instances reduce his power when he wants to talk to his friends about his hook-up, who have probably seen it a hundred times and live in some cases as far away as 100 feet."

"It is recognized that the majority of

Continued on next page ▶

# From the Clubs...

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I wonder if this is a first. According to the WestCum ARC's *Newsletter*, members of the club provided communications for a group of bird watchers who were at Minudie trying to get a look at a rare bird (an Eurasian Kestrel) that had been sighted in the area.

Claude VE3CPD reviews in the Sudbury ARC's bulletin the results of 'Radio Week', which I referred to last month.

"By the time radio week began the students had been learning Morse code with keys and oscillators and listening to SW broadcasts on commercial receivers. The lower grades found Morse code to be tedious. This was to be expected considering their age. They were impressed by the foreign language broadcasts and the ability of hams to communicate with other countries without going through 'Ma Bell.' The grade 7s and 8s were by far the most receptive group to the entire project. They enjoyed scanning the bands and most worked daily on their Morse code. Their grasp of time and space permitted them to appreciate the uniqueness of a QSO between two

people on two different continents.

"The week ended with a CW contest between the classes. The grade 7s and 8s won this competition handily. Certificates were given to each student in the school who attempted to learn CW.

"We hoped to have an HF rig in the school. Unfortunately, despite Leo's (VE3MOK) best efforts we could not find another club to set up an HF rig in another city. (Not even in Ottawa/Hull?)

"The week was a limited success. It sensitized the students to an entirely new dimension of communications. More importantly, it brought information about hams into the homes of young parents and possibly future hams."

Claude wishes to thank the following who assisted: Andy VE3ANH, Barry VE3ZLB; Cork VE3BST, Don VE3MOW, George VE3GIE, Lee VE3PVM, Leo VE3MOK and Pierre VE3OTB.

The Quinte ARC put on a display of Amateur radio recently at the Quinte Mall and it was, apparently, very successful. Jo Ann VE3MNL planned it well, and the public received it so

well that it will be repeated next year.

And also from the Quinte ARC's *QRM Newsletter*, the following: "The dedication of the new CNIB headquarters in Belleville went very well. On Feb. 8, the Hon. Lincoln Alexander, Lieutenant Governor of Ontario, officially opened the building at 11 Victoria Avenue. QARC was present with the radio station of VE3TEX for HF and VHF set up on display. Norm VE3NFD, backed up by Jo Ann VE3MNL, did the honours. Norm arranged all the physical plans. John VE3MB helped to shake hands and generally keep the good fellowship going. The whole affair was very well done and reflects credit on all the dedicated people who work in our counties helping the over 1000 sightless folk here. Kudos to Leo VE3LAX and Harry VE3LXE, who kept a watch on 146.58 through the day so that our station at CNIB always had a ham to speak to."

## KAWARTHA NORDIC SKI TOUR

Thanks to the *Peterborough ARC News* for the following: "On Jan. 30 and 31 PARC again provided communications for the annual KNCS Cross-Country Ski Tour. On Saturday (in spite of the weatherman and some weird pager interference between Apsley and Haultain) things went well. Once again, we were indebted to VE3KBT for the use of his repeater VE3OCC for this event.

"Ollie VE3MT and Bill VE3MCD operated the base control station at Apsley and were kind enough not to regale the rest of us with reports on the pancakes and sausages that DCJ says are available there. Ib VE3MQB had to rough it at Bennet Cabin. Larry VE3NTQ, taking advantage of his position as Activities Director, saved the best location for himself. He had all the comforts of home at the Wolf checkpoint. He was provided with a soggy bale of straw to sit on and a leaky garbage bag tied to a tree branch to funnel the rain down his neck.

"Bill VE3HVC was 'ambassador-at-large' and used his radio duties and a sore knee as excuses for not skiing the 28 kms. Elmer VE3PXY and Mac VE3PBM were at the finish line at Haultain and still don't understand why at times they were broken up at Apsley but solid copy in Peterborough. A separate report has been prepared on some of PXY's antics at Haultain but PARC's legal advisor will not let us publish it due to concerns

Continued on next page

## CROSSWAVES (cont'd)

Amateur Sets in Moose Jaw are absolutely untuned and come in anywhere from 50 to 30,000 metres."

"It is true that the hours of 8 to 10 p.m., as agreed upon among the Amateurs themselves, have been kept fairly well by the majority, with some exceptions, but I would point out that many of the best Eastern stations have their Regular Concerts before 8 p.m. and some of the best western Concerts after 10 p.m."

"It is going to be very hard to prove to the average layman or listener that there is anything of real value being accomplished by this disturbance when the telephone would be so much more simple and convenient and they are also prepared to maintain the educational advantages of listening to the many instructive lectures, speeches and concerts intended for men, women and children, are of many times more value to the community than the one or two Hams talking about trivial personal matters."

"It is true that some Radio Amateurs served the country during the War, but it is to be remembered that men of wealth and ability in every walk of life also stepped out and served their country in those branches of investigation and experimenting where they

were best adapted, but you do not find those insisting on their right to cause an unnecessary inconvenience to a very much greater number of citizens in both the city and the country."

"I have no quarrel with the Amateur who endeavors to be decent: who keeps in his proper wavelength and uses a CW transmitter, and also keeps some judgement, but we all know that there is never an evening that someone does butt in between 8 p.m. and 10 p.m. and it is not always the younger boys either."

"There is, no doubt, a place for the Wireless Amateur, but he would be wise to remember that the listeners-in are many times in the majority and are against him and will, no doubt, eventually eliminate him from all the evening hours unless he makes an effort to prevent his pleasure from interfering with the great majority of listeners-in."

"R.E. Manley, Manager, Manley & Slater Radio Dept."

I plan to unearth those references to *Radio News* and see just what was said. Considering the source, one may ponder whether any bias was applied by the Manager of a radio store who was obviously interested in selling his radios. In this case Amateur Radio was in its infancy and was what one may call 'quite broadband.'

## Making use of Canada's Time Service

BY MARCUS LEECH  
 VE3MDL

For years I have been frustrated by the lack of stability of the time-of-day clocks used in modern computers. The basic problem is the use of cheap crystal oscillators as a timebase rather than the 60 Hz power line that was used in 'the good old days'.

In most parts of North America, the long term stability of the power line is extremely good, whereas cheap crystal oscillators can drift by several seconds a day. Two solutions are possible. Replace the cheap crystal oscillator with an expensive oven type

or TCXO or use an external time standard to drag your system clock back into synchronization. I chose the second method because it didn't void the warranty of the computer, it was less expensive, and it seemed more elegant.

The National Research Council of Canada operates a broadcast time service on 3.330, 7.335 and 14.670 MHz. Station call sign is CHU. They use two 3 kW and one 10 kW transmitters. During seconds 31 to 39 of every minute, a computer based time-code is broadcast in 103 type AFSK. The time provided by this code is UTC,

the international time standard. CHU uses a commercial cesium clock that is calibrated to the NRC primary standards once a day. The time provided is normally within .0001 seconds of the 'Truth'. The binary time code looks like Fig. 1.

Each portion (nibble) is encoded in BCD. The time code is sent twice, for error detection. Notice also that there is a leading BCD '6'. This allows you to detect the start of the code. In actuality, each nibble within a byte is reversed. Dr. Douglas of the NRC time lab tells me that the nibble reversal is due to a 6502 based project that was started but never finished. The format can't be changed now, so would-be time chasers must remember to reverse the nibbles.

I have built a simple 103 type modem with fast carrier detect circuitry that reliably decodes the AFSK portion of CHU's signal. This modem is based on the National 74HC942 modem chip. The fast carrier detect circuitry is necessary because the CHU bursts provide only .125 seconds of unencoded carrier before the actual time code. I have also written a program in 'C' for UNIX and VMS that synchronizes the system Time-Of-Day clock to the CHU signal. It would be relatively easy to adapt the program for use on home computers of practically any make.

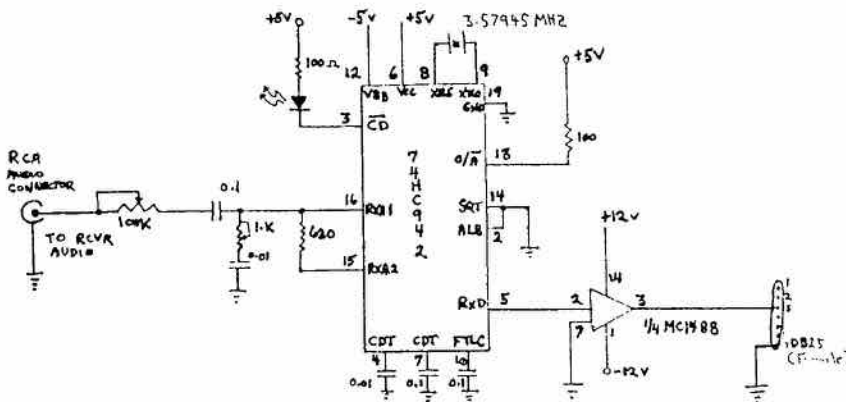
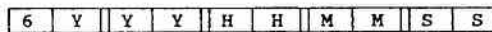
This system is currently used by my employer to synchronize the TOD clocks in the various mainframe computers throughout the organization. A big problem at high tech companies is RFI from computer and hardware lab sources swamping the front end of the HF receiver. I solved the problem by conducting a radio survey of the entire building and placed the receiver in the quietest location I could find. A good receiver and suitable outdoor antenna would also be beneficial.

The schematic should be self explanatory and the program can be obtained from the author, either by mail or VE3MDL&VE3JF packet or...! utzool! dcieim! nrcaer! gandalf! ml UUCPnet.

### REFERENCES

- 1- A.G. Mungall, Canada's Time Service, NRCC publication, 1983.
- 2- National Semiconductor Corp., 74HC942 Modem data sheet.
- 3- UNIX is a trademark of Bell Laboratories.

[ | ] represents a byte boundary. Y=year-day H=hour M=minute S=second]



All resistors in ohms,  
 All capacitors in  $\mu$ P

### CLUBS (cont'd)

about the new Privacy of Information act and fears of libel and defamation suits.

"On Sunday the checkpoints were manned by Bill VE3MCC at the Simmons checkpoint, Nick VE3LLJ at the Wolf and Rick VE3IOZ at Bennet's cabin. There was a half-hour delay in the starting times. Harold VE3KXB and Gord VE3LKG set up at Apsley by 8 a.m.; conditions were very poor—wet and mild.

"At about 9:45 an announcement was made to cancel the basic ski tour because of poor conditions. Those who wanted to could 'free-ski' down to Bennet's cabin and back but, for the

more experienced who wanted a tour, arrangements were made to have one up at Silent Lake, about 12 miles north, where conditions were better. About 17 or so went. The first of the 'free-skiers' who left at 9:30 arrived at Bennet's cabin at 10:30. All the marshals and checkpoint people were cleared out of the south areas by 11:40 and Bill and Nick were finished for the day. A decision was made to close Bennet checkpoint just after noon. So Rick, Harold and Gord were just waiting for the word it was all over. Rather a disappointing show all around, but we can truly blame the WX for it this time."



## Don't blow your fuse

**BY GERARD OF THE  
ALGOMA AMATEUR CLUB**

A fuse is a fuse is a fuse. Not so. A 3 ampere fuse has a large numeral 3 stamped on it, you say, and either a 125v or 250v on the other end, and that is all there is to it. Unfortunately it is not that simple.

Fuses use three basic construction methods: bead, filament, and element. They also come in normal blow, medium blow and slow blow. Each reacts to an overload with diminishing speed. The slow blow ones are used to absorb a temporary overload, the normal ones are used to protect sensitive devices, and the medium ones are for jobs in between.

Did you ever wonder what the differences were between types? A look at the following graphs will show that all three types will blow if subjected to a 120% overload for

more than 30 seconds. If you quickly zap a bigger current through a fuse, it will start to heat up, but if the stress is removed quickly enough, it will again cool without damage.

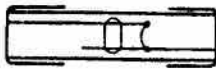
A fast blow fuse will survive a 180% overload for one second while a medium blow will take a 250% overload for the same time and a slow blow, 575% overload. If the stress is even shorter, such as 1/10 second, these figures increase to 260%, 350% and 750%.

Another important factor is the voltage rating of the fuse. 125 volt fuses use a different chemical composition than 250 volt fuses. The lower rating burns at a much lower temperature and leaves a residue. If a lower voltage rated fuse is used in a circuit designed for higher voltage, this residue can cause a self propagating arc inside the glass

cylinder. This negates any protection since the circuit will not open.

The design of a fuse is such that at the required point, the fusible link starts to melt. As the diameter of the link decreases, the resistance rapidly rises, generating more heat until it finally burns through. This is controlled by the type of material and dimensions of the fusible link. Some fuses have a spring as part of the link. This snaps the gap apart when the link melts.

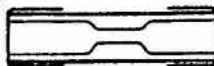
Some fuses are specially designed for protecting devices, such as electric motors or signal generator attenuators. It should now be obvious that this familiar device is much more complex and critical than most of us have ever thought. Next time that fuse blows, replace it with the required type or suffer the consequences.



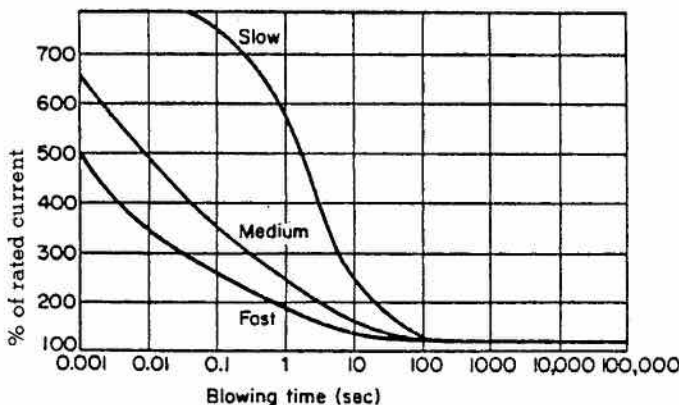
\*\*\*\*\* Bead construction



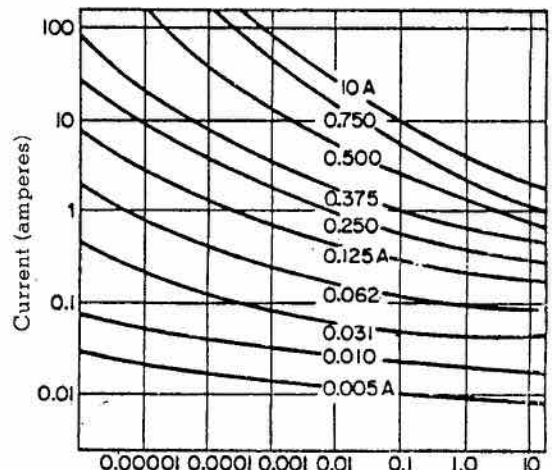
\*\*\*\*\* Filament construction



Element construction



Generalized blow times for fuses.



Fast blow time for instrument fuse

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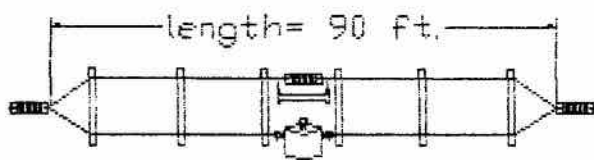
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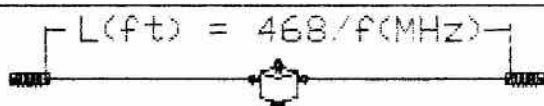
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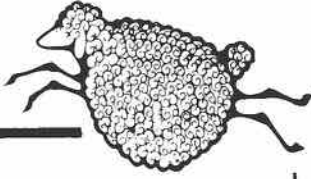
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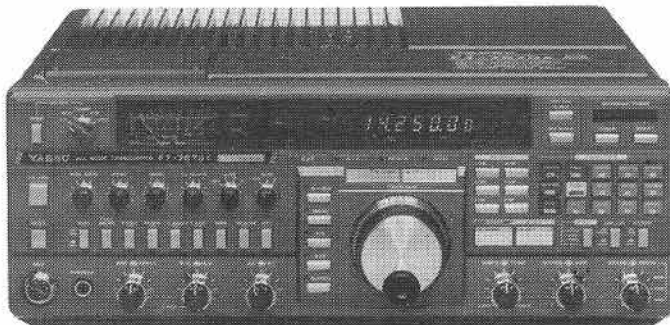
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