

**NORTH SHORE AMATEUR RADIO CLUB INC.**

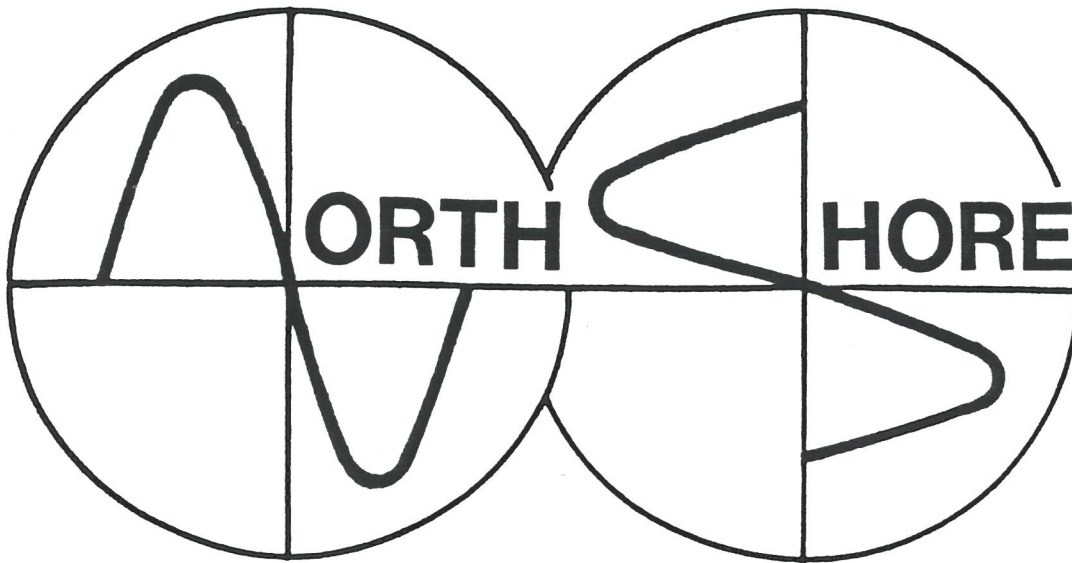
P.O. BOX #171, OSHAWA, ONT., L1H 7L1



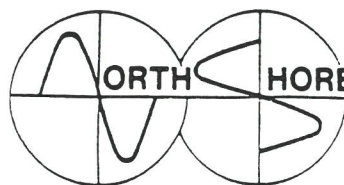
*June 19/86*

**First Class Première classe**

VE3CRK  
Ralph Day 86  
454 Holcan Ave.  
Oshawa Ont.  
L1G 5X6



**AMATEUR RADIO  
CLUB**



**NORTH SHORE AMATEUR RADIO CLUB INC.**

**P.O. BOX #171, OSHAWA, ONT., L1H 7L1**

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**DIRECTORS**

VE3KQE	President	Reno Torresan	668-8760
VE3NIP	Secretary	Frank Lane	434-6657
VE3CEU	Treasurer	Colin Bell	723-7842
VE3OHN	program co-ordinator	Roy Norton	623-7125
VE3KSP	Vice President / Past Pres.	Neil McAlister	668-4161

**WHO TO CALL ...**

VE3GDF	Registrar	Keith Wyard-Scott	723-5758
*****	Community Relations	-- vacant --	*****
VE3CRK	special events	Ralph Day	576-8738
VE3ADD	get well cards	Ted Brant	668-3561
VE3AAF	2-meter net	Roy Miller	852-5447
VE3LHZ	membership list & mailing labels	Paul Dale	579-2877
VE3QG	financial auditor	Harry Westwood	683-5104

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**CLUB STATION . . . . . VE3NSR**  
**CLUB REPEATER . . . . . VE3OSH 147.72 MHz in, 147.12 MHz out.**

**CLUB NET**

The 2-meter net, hosted by Roy, VE3AAF or a stand-in, takes place every Thursday at 19:30 local time, on the Club's repeater, VE3OSH. Great CW code practice is provided by Bernie, VE3ATI, starting at 20:30.

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**CONTRIBUTIONS TO "SPARKS"**

Please mail your contributions to the club mailbox, or, if they are more urgent, contact the Editor directly. SPARKS goes to press on the 25th of each month. Unless otherwise stated, opinions in SPARKS are those of the writers, and do not necessarily reflect those of NSARC Inc..

Editor	Neil McAlister	VE3KSP	668-4161
assisted by	Frank Lane & his kids	VE3NIP	

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**JUNE MEETING -- FIELD DAY PLANNING SESSION !**

The next club meeting is on **Tuesday, June 10** at 20:00 hours in the cafeteria at O'Neill Collegiate in Oshawa. This will be the last meeting before the summer break. Regular business will be followed by a coffee break, courtesy of Martin VE3NSD and his XYL. For the technical program, Tony, VE3IAT, will discuss **antennas** and **DX-peditions**. Field Day enthusiasts are urged to attend for a planning session.

**"SPARKS" IN THE NEWS**

NSARC's petition to the DDC concerning new licensing requirements, which we published in the March "SPARKS", was reproduced in full in the May issue of CARF's "TCA" magazine. Only one typo: They said our illustrious President's name is "Rena"! Wonder what the OM (?) thinks about that!

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**SUMMER SALAD**

With the advent of good weather come "summer holidays" for many of us, and for the club too. The last regular club meeting until the fall takes place on Tuesday June 10. However, there will be many interesting club-related activities to keep those of us who remain in the area amused during the coming summer months.

**Field Day** is scheduled for for the weekend of June 21. Bill, VE3MLW, has offered his considerable expertise as Field Day Director, and he is looking for operators. The Nonquon Canoe race will need our help on June 7th. Glen, VE3LIZ is co-ordinating communications for this event. Later in the summer, the annual corn roast in August is something to look forward to as well. We'll have the annual "Sermon On the Mount" get-together at the repeater site. The amateur radio display at the Canadian National Exhibition in Toronto, VE3CNE, will require support from NSARC: Our contact man is Joe, VE3IHS. Stay tuned to the Thursday night net this summer for details on these and other events.

There will be lots to do around here during June, July, and August, but summer also takes people away from home. Naz and I will safari around her ancestral haunts in Kenya in the late summer, returning in time for some touring closer to home with Yan, our visiting Chinese student, before her fall semester starts at the university. I regret that because of these travels I won't be available to write the customary September issue of "SPARKS". The club would appreciate a stand-in Editor for September if anyone cares to take over the job temporarily. Otherwise, the next issue will be in October. In the meantime, have a good and safe summer, and SPARKS will be back in the fall, though probably a month late.

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**FOR SALE**

- \* 5-element FM broadcast receiving antenna. Neil, VE3KSP.
  - \* Kenwood TS 520S transceiver. Negotiable. Bill, VE3MLW. 623-2846.
- 

**SMITHS FALLS A.R.C. HOLDS FLEA MARKET**

Visited the Smiths Falls A.R.C.'s annual ham radio flea market at the Air Force Legion Hall in Smiths Falls, Ont. on Saturday May 10th, in company with Don, VE3ATJ. Hall and parking lot were packed to capacity with about 30 tables including two commercial vendors, and many area hams visiting from as far away as Ottawa (even Whitby!). They say it was the biggest and most successful event that the Smiths Falls club has ever held. Found a great pair of used headphones, making the trip really worthwhile!

## MARK YOUR CALENDAR

We can circle the second Tuesday of September, the 9th, as the time of the next regular meeting of the club after the summer recess. Thought we'd better put in a word for this now, since there will be no SPARKS to remind us about it in advance!

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## NONQUON CANOE RACE: AMATEURS WANTED!

Glen, VE3LIZ, is again co-ordinating amateur radio communications for the annual Nonquon Canoe Race in Port Perry, on June 7. He needs operators with handi-talkies and mobiles. If you've never taken part in this event before, the lake Scugog and area is a pleasant spot on a summer weekend.

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## THAT RAVENSCROFT CASE

Most readers will be aware of this legal dispute in Ottawa with far-reaching implications for all Canadian Amateurs. NSARC Inc. voted to send a cheque to the Ravenscroft defense fund last year. In the precedent-setting decision about this case, the court decided against the amateur, John Ravenscroft, and in favor of the plaintiff, his neighbour, who had complained that Ravenscroft's amateur Radio station was interfering with various electronic appliances in his home. The judge's written decision, reproduced from the June issue of The Canadian Amateur, is included in this issue of SPARKS.

Few of us have legal expertise, but one feature of the judgement is clear. It was apparently considered irrelevant whether the ham was transmitting on frequencies other than those assigned to Amateur Radio, or whether the neighbour's defective appliances were receiving assigned amateur frequencies. Ravenscroft is appealing this decision, but if he loses the final judgement, the implications for the rest of us will be ominous. A complaint from anyone could inhibit us from using the Amateur frequencies that we are licensed to use whether or not our own equipment is at fault.

How did things get this far out of hand? Legal action is surely the last resort for a neighbour who thinks that he is being put upon by a thoughtless ham. It's been said again and again: Co-operation is the only way to deal with TVI. The right way to deal with a TVI complaint is to SHUT DOWN and get technically-competent help. It would be hard to escape the conclusion that, by continuing to transmit, knowing that he was causing problems for his neighbour, Mr. Ravenscroft was just begging for trouble.

The judge who ruled against Ravenscroft seems to have thought so too. He sends a clear message that amateur radio is a privilege, not a right. If our thoughtless exercise of that privilege interferes with our neighbours, petty quibbles about whose "fault" it is will get us nowhere: The rules will be interpreted or changed to defend the interests of the public against a handful of obstinate hams who bug them.

The only people who come out on top in a situation like this are the lawyers, who always collect their fees. Whichever side wins the appeal, this Ravenscroft affair has given all of us Canadian amateurs a black eye.

# The Ravenscroft Decision

**DISTRICT COURT OF ONTARIO  
BETWEEN:  
TIMOTHY HOUGHTBY and DALE  
HOUGHTBY  
Plaintiffs  
and  
JOHN RAVENSCROFT and HELEN  
MAY RAVENSCROFT  
Defendants**

**Appearances:  
M. Angela Henry for the Plaintiffs  
J. Ronald Scott for the Defendants  
THE HONOURABLE JUDGE W.T.  
HOLLINGER:**

## REASONS FOR JUDGMENT

This is an action for damages for nuisance caused by the transmission of radio signals and for an injunction to restrain the Defendants from transmitting radio signals from their land, or in the alternative, damages for injuries and expenses incurred by the Plaintiffs as a result of such radio transmissions.

The Plaintiffs, a married couple, have resided at 39 Laurie Court in Kanata for more than ten years. They have two children, Cheryl, aged 13 and Cindy, aged 7. Both children attend school. Timothy Houghtby, a bus driver, is on shift work and his wife works for the federal government. The Plaintiffs have an electric organ, a colour television set and a stereo in their living room; a microwave oven and a radio in the kitchen; a television set in each of the children's bedrooms; a radio in their bedroom; and a television set and furnace in the basement. The organ was purchased in the late summer of 1984 and all of the other appliances are several years old and are used by all members of the family. The organ is used by Mrs. Houghtby and Cheryl, who takes lessons and practises either in the morning before school or in the afternoon after school. The Plaintiffs have testified, and I find as a fact, that no unusual problems were experienced in connection with the Plaintiffs' equipment prior to the Spring of 1984.

The Defendant John Ravenscroft and his wife purchased 34 Binscarth Crescent in July of 1983. Prior to that time they had lived in the Province of Quebec where he worked and operated his own amateur radio station which he set up in 1956. The City of Kanata appealed to him for various reasons but mainly insofar as he was concerned, because it had cable television, the telephone and power lines were buried and the city was prepared and did grant him a licence to erect a 50-foot tower. The licence from Kanata was obtained before the purchase of his house. Exhibit 1 shows the location of the Ravenscroft residence with its two radio aerials and residence of both O'Grady and the Plaintiffs. As well it shows a north south line. The testimony of Ravenscroft is that on the 12th of October, 1983 he set up a low power station with a vertical antenna, transmitter and receiver

and since that date, except for the date of the injunction, he was on the air on a daily basis or 3 to 4 times weekly. His testimony is that all his radio activities are shown in his logs filed, with this very important exception, that the logs do not show the times during which he transmits but does not make contact. The 48 foot tower with a 4-element rotary antenna on top was erected and came in to operation on September 6th, 1984. Ravenscroft's current licence to operate is filed as Exhibit No. 18. The licence authorizes the licensee to establish and operate a radio station as described in the approval application. The application however is not filed. A clause on the back of the licence stated: "The Department may, at a future date, require the licensee to install filters, tone coding devices, reduce the effective radiated power and/or antenna height as appropriate." Apparently no action was taken by the Department under this clause. The Defendant's transmitter, licensed at 1,000 watts, has a maximum radio frequency power of 800 watts.

The Houghtby's evidence is that in the spring of 1984 they began to have problems with their microwave oven which was lighting up by itself. Sears, the seller, was advised and made a service call costing the Plaintiffs \$41.68 (Ex. No. 2) the oven was then taken by Sears and some modifications were made and a new control panel installed. Insofar as Sears is concerned, the unit at May 8th, 1985 was in full working order. No other charges were made for this service. I am unable to find on a preponderance of credible evidence that the problem of the microwave was caused by the Defendant's transmissions. In my view, it could have been caused by a faulty control panel. The report from Sears is filed as Exhibit 17.

In the fall of 1984 the Plaintiff's Yamaha organ began to emit a high pitched squeal and John Brennan, an electronic organ technician employed by the seller, attempted to rectify the complaint. His report is filed as Exhibit 15. Certain steps were taken over the course of several service calls and these are listed on page 2 of his report. He concluded that the procedures reduced the interference by about 75%. He reported that his company had very few R.F. interference problems in the Ottawa area and that this was the worst he had encountered. He testified that the Plaintiffs called off further attempts at suppression although he thought more could be done.

At or about the same time the Plaintiffs' furnace began to activate by itself and the Department of Communications (D.O.C.) and a furnace technician installed a Torroid collar. Although this seemed to correct the problem, I accept the Plaintiffs' testimony that even during the tests conducted by D.O.C. they heard the furnace go on and off although it did not start up. As well, the Plaintiffs noted the interference in the stereo and a black and white television set in a child's bedroom not on cable. Interference continued on radio and television sets and the Plaintiffs testified that the interference experienced on July

18th 1985, damaged one set and the cost of repair was \$112.73 (Exhibit 4). Because of the fear of the microwave oven activating itself, the Plaintiffs took out further insurance at a cost of \$32.00 yearly. (Exhibit 7). Long distance bills on account of this problem in the sum of \$26.66 are filed as Exhibit 8.

At the request of Defendants, the Department of Communications conducted tests to determine which electrical devices in the Plaintiffs' residence were affected by the radio transmission from the Defendant's amateur radio station, the subjective level of impairment to the operation of each of the electrical devices which is affected by the said transmissions, and the operational parameters of the amateur radio station at which each of the electrical devices is no longer affected. The report is filed as Exhibit 14. The findings show that the microwave oven was not activated at any azimuth or on either antenna. Tests were conducted on the electronic organ. Using full transmitter power with the beam antenna and rotating it in 30-degree steps the results showed that with the antenna pointing between 243 and 70 degrees there was nothing heard on the organ. From 70 degrees, the strength of the signals being heard increased in intensity until a maximum level was reached at 145 degrees (beam antenna pointed at the Plaintiffs' residence). At this point the Defendant's voice could be heard reasonably clear at a volume that was equivalent to that of an average conversation. As the beam was rotated further, the level of the signal diminished until at 243 degrees it disappeared altogether. The report further states: "With the beam at 145 degrees (worst case) the transmitter power was reduced in steps to determine at what level the signal would disappear with the following results:

800 watts - conversation level  
100 - loud whisper level  
50 - whisper level  
25 - soft whisper level  
10 - strain to hear but still objectionable

"The vertical antenna produced approximately the same result. The power had to be reduced to under 10 watts before the sound of the Defendant's voice through the organ was at its minimum level." The report further states that: "Throughout these tests, adjustments of the volume controls did not have any significant affect on the level of the defendant's signal as heard through the organ's amplifier."

The tests on the 21" colour television set with Philips Cable Converter disclosed that when the antenna was rotated away from the Plaintiff's house to azimuths of 175 degrees and 115 degrees, the impairment was reduced to a point where it was just perceptible on a few television channels. The signals were most noticeable on the screen when the antenna was pointed at 145 degrees. The pattern seen consisted of light wavy diagonal lines that were perceptible on several channels when viewed from a distance of 3.5 feet. At 10 feet, the normal viewing distance, trans-

mitter power was lowered by steps and at 10 watts the wavy line disturbance disappeared. With the vertical antenna and power at 500 watts a faint diagonal line was just perceptible on one channel and disappeared when the power was lowered to 200 watts. The tests on the Sears 12" television set, tuned to Channel 13 showed that when the radio antenna was pointed at the Plaintiff's house (145 degrees) and the transmitter at full power, both the picture and sound were totally blocked out. With power reduced to 5 watts and Morse code being sent, the effect was barely noticeable. Using the same power but sending voice signals, the video was disrupted by black horizontal bars and tearing of the picture with the voice being heard in the sound. The vertical antenna produced the same results as the beam at 145 degrees. Patterns on the television screen caused by the radio signals could be seen with this antenna at all power levels. The test on the Philips 21" television connected to the cable, showed that when the transmitter antenna was at 145 degrees the problem appeared as light perceptible diagonal lines at least on one channel until the power was reduced to 50 watts. At 500 watts using the vertical antenna no patterns were visible and the sound was not impaired. The tests on the 21" Sears television set (connected to the cable) produced no evidence of the Defendant's radio signals on any channel with either antenna at any power. The tests on the console stereo using the beam antenna and full power the azimuth could be changed from 205 degrees to 70 degrees with no impairment. Outside this range the radio transmitter signals were perceptible with the strongest ones when the antenna was pointed at 145 degrees. Reducing transmitter power to 50 watts all but eliminated the transmitter signals. Using the vertical antenna at 500 watts, the radio signals could be heard but barely audible when transmitter power was lowered to 25 watts. The tests on the Juliette AM table radio showed that radio transmitter signals could be heard at full power and the beam pointed towards the Plaintiffs' residence. When power was reduced to 400 watts and moving the antenna away to 115 or 175 degrees, the signal no longer affected reception and the vertical antenna power had to be reduced to 25 watts before the Defendants' signals could no longer be heard in the background. The Realistic AM clock radio was tested with the transmitter operating at 800 watts and the beam antenna set at 145 degrees. The signals could be heard in the background of one distant AM station near the lower end of the dial. When the power was reduced to 100 watts reception was not impaired. Using the vertical antenna the signals could be heard over local AM radio stations. Only when the transmitter's power was reduced to 25 watts did the signals no longer affect operation.

The conclusion states as follows: "The tests indicate that several electrical devices in the Plaintiffs' residence are affected by the operation of the Defendant's radio station. The tests also indicate that the radio station can be operated without affecting the Plaintiffs' electrical devices by limiting the azimuth of the beam antenna or reducing the power of the transmitter.

"The tests did not involve any determination of the extent to which further

modifications to the Plaintiffs' electrical devices would reduce or eliminate the interference. Past experience in similar interference problems indicate that a resolution is feasible by the addition to the filtering components to the electrical devices affected by the radio transmissions."

I am satisfied on the evidence before me that it would be difficult and probably impossible to completely suppress the Plaintiffs' equipment from interference caused by the Defendant's radio station. As well, the attempts at suppression could well occupy a fair amount of time and would cause a good deal of inconvenience to the Plaintiffs and loss of use of the equipment, while further suppression was attempted.

The Plaintiffs contend that it is the transmission from the Defendant's radio station that interferes with the electrical appliances in their home while the Defendants submit that they are operating the amateur radio station properly and within the terms of the licence granted to them and that the electrical appliances in the Plaintiffs' residence malfunction in that they do not adequately reject the radio transmission signals.

The Minister of Communications in his letter of June 13th, 1985 filed as Exhibit 13 appears to address himself to the problem as follows: "The malfunction of various devices in your residence is not the result of any improper operation of the amateur radio station but rather the inability of these devices to adequately reject the amateur's transmissions. Manufacturers in Canada and abroad are aware of the need to design any items using solid state electronics to operate satisfactorily in the presence of radio waves but often have chosen to modify affected units as a lower cost alternative to including the added protection in all units sold."

Section 64.4 of General Radio Regulations, Part 11 states as follows: "Where interference to the reception of radiocommunications is caused by the operation of an amateur station, the Minister may require that such steps be taken as are necessary for the prevention of the interference, and the operator of the station shall comply immediately with any such requirement." In the case before me, the Minister took no action. In fact the Plaintiffs got relief only by way of an interlocutory injunction granted after the action was commenced.

Salmond of the Law of Torts, 16th ed (1973) at page 56 states: "The damage to proprietary interests which is sufficient to found an action of nuisance may consist either in (1) some interference with the beneficial use of the premises occupied by the Plaintiff, or (2) some physical injury to those premises, or to the property of the plaintiff situated thereon. Any substantial interference with the comfort or convenience of persons occupying or using the premises is a sufficient interference with the beneficial use of them within the meaning of this rule."

Flemming, Law of Torts, 4th ed (1971) at page 346 states: "The paramount problem in the law of nuisance is, therefore, to strike a tolerable balance between conflicting claims of landowners, each invoking the privilege to exploit the resources and enjoy the amenities of his property without undue subordination to the reciprocal interests of the other .... Legal intervention is

warranted only when an excessive use of property causes inconvenience beyond what other occupiers in the vicinity can be expected to bear, having regard to the prevailing standard of comfort of the time and place."

Linden, Canadian Tort Law (3d) at page 465 states: "Where an activity is authorized by legislation, no strict liability is imposed unless the defendant is found to have been 'negligent'. -- Consequently courts have distinguished between one group of activities which may subject an enterprise to strict liability, and another group of legislatively authorized pursuits, which do not import liability except where some fault is proven. The main rationale for this partial immunity is the old standby of the intention of the legislature. It is pretty obvious that no intention with regard to civil liability is usually articulated in the statute. It is therefore up to the courts to determine the best way to treat these legislatively authorized activities." He goes on to state: "The common law courts have sought to preserve the protection afforded individuals by its principle of strict liability, and have stoutly resisted the invasion of the defence of legislative authority.---

One court has proclaimed that grants of legislative authority are not "charters to commit torts", nor do they grant a "carte blanche" to create nuisances --. The philosophy that emerges from the cases is that if legislatures wish to immunize certain activities for the public good, they should do so expressly and provide for alternative compensation to the victims of this exercise of public power. If they do not do so expressly, the duty of tort law is to protect the private rights of the individuals damaged as long as this can be achieved without doing violence to the legislation."

Accordingly, in *Walker et al v Pioneer Construction Co. (1967) Ltd.* 8 O.R. (2d) at page 35, Morden J granted an injunction to alleviate a nuisance arising from the emanation of noise which constituted a real interference with the comfort or convenience of living according to the standards of the average person.

In *Nor-Video Services Ltd. v. Ontario Hydro* 19 O.R. (2d) 107, as a result of the defendant building an electric power installation close to the plaintiff's cable television operation, the plaintiff was forced to stop supplying one television channel to its subscribers. The plaintiff alleged nuisance resulting from negligence. The question to be answered by the court was: (1) Was the plaintiff's interest which had been invaded or interfered with one which the law would protect? and (2) Was the conduct or activity of this defendant of such a nature that it should be subject to legal liability? The basis of the plaintiff's claim was its inability to use and enjoy property to the same extent and with the same result before the defendant's intervention.

At page 114 Robins J stated: "The notion of nuisance is a broad and comprehensive one which had been held to encompass a wide variety of interference considered harmful and actionable because of their infringement upon or diminution of an occupier's interest in the undisturbed enjoyment of his property. I can see no warrant for refinements in approach which would preclude from protection the interest in TV reception even assuming it to be a

recreational amenity. In this day and age it is simply one of the benefits and pleasures commonly derived from domestic occupancy of property; its social value and utility to a community -- cannot be doubted. The category of interests covered by the tort of nuisance ought not to be and need not be closed, in my opinion, to new or changing developments associated from time to time with normal usage and enjoyment of land." He held that television reception is an interest worthy of protection and entitled to vindication in law.

Accordingly I find that an interest entitled to protection has been unreasonably invaded by conduct which

forms a basis for liability and the tort of nuisance has been established. Not being convinced that the radio transmission damaged the microwave oven or a television set, I disallow the Sears Service call of \$41.68 and the TV repair bill of \$112.73 (Exhibit 4). I intend however to allow increased insurance costs of \$32.00 (Exhibit 7) and long distance telephone calls of \$26.66 (Exhibit 8).

A permanent injunction will therefore issue restraining the Defendants from transmitting radio signals from their home and land at 34 Binscarth Crescent, Kanata, Ontario, that interferes in any way with any

electrical equipment situated on the Plaintiffs' land, municipally known as 39 Laurie Court, Kanata, Ontario. I assess special damages in the amount of \$58.60 and general damages in the amount of \$2,500 for inconvenience and interference with the enjoyment of their various pieces of electronic equipment. There will therefore be judgment to the Plaintiffs for the sum of \$2,558.60 together with costs and interest in accordance with the Rules from 1st December, 1984.

DATED AT OTTAWA, ONTARIO, this 7th day of April, 1986.

(Signed) Judge W.T. Hollinger

NIAGARA FRONTIER INTERNATIONAL  
**HAM-O-RAMA**  
 HAMFEST AND COMPUTER SHOW

To our Canadian friends:

We are again presenting the "Niagara Frontier International HAM-O-RAMA Hamfest and Computer Show" at the Niagara Falls Convention Center. The date is September 6, 1986. The show will be open from 7:00 A.M. to 5:00 P.M.

Because of your gratifying support, we will again offer a reduction on the price of tickets but only if purchased in Canada. The ticket price will be \$4.00 in Canadian funds.

This year we will have two ticket outlets in Canada.

By mail, address: HAM-O-RAMA 86  
 Post Office Box 1107  
 S.A.S.E. Please Fort Erie, ONT L2A-5N9

By phone or mail: Ron Hawkes, VE3DNB  
 91 Manning Avenue  
 S.A.S.E. Please. Hamilton, ONT L9A-3E8  
 Phone: (416)383-7526

This discount rate will cease on August 20th, and after that date admission will be \$5.00 U.S. at the Convention Center.

We have arranged for more room for vendors, and vendors and the new upgraded flea market will be entirely under one roof.

We are again looking forward to your attendance at this international affair.

*Joe Fahrner*

Joe Fahrner  
 Publicity Chairman

# Canada Day Contest 1986

1 July every year, 0000Z to 2400Z.

These contests are open to all Amateurs. Everybody works everyone on 160 metres through to 2 metres in both CW and Phone.

**Classes:**

Single operator, all bands.

Single operator, single band.

Multi operator, all bands.

**Contacts:** All contacts between Amateur stations are valid. The same station may be worked twice on each band, once in CW and once on Phone. No cross-mode QSO's allowed.

**Exchange:** Signal report, Consecutive serial numbers, Province.

**QSO Points:** 10 points for each Canadian station, 4 points for stations in other countries. VEO counts as Canada and 1 multiplier. +20 points may be claimed for each contact with a CARF Official Station that uses the

suffix TCA or VCA. Official stations are not eligible for awards.

**Multipliers:** Total of Canadian Provinces and Territories worked on each band on each mode, i.e. VO1/VO2, VE1-NB, VE1-NS, VE1-PEI, VE2, VE3, VE4, VE5, VE6, VE7, VE8, VEO, VY1. Total of 2 per band using both modes.

**Frequencies, kHz:**

1810/1840	21025/21250
3525/3775	28025/28500
7025/7070/7155	50040/50110
14025/14150	144090/146520

We suggest phone on the hour and CW on the half hour.

**Entries:** A valid log must contain log sheets, dupe sheets or statement, and a summary sheet showing claimed scores, QSO's, a list of multipliers and calculation of claimed scores. Summary and Multiplier sheets are

available for a SASE. Entries must be mailed within one month of the contest, with your comments and photos, etc. to:

**CARF CONTEST**  
c/o N. Waltho VE6VV  
Box 1890, Morinville,  
Alberta T0G 1P0

**Awards:** Certificates will be awarded to top scoring entries in each class in each province, territory, U.S.A. and DXCC country. Trophies will be awarded to the top single-op all band and Multi-op all band stations.

**Results:** Results will be published in TCA prior to the next contest. Non-members of CARF may wish to include a SASE with their entry for a copy of the results.

The decision of the contest committee shall be final in all cases of dispute.

## CANADA CONTEST      CONCOURS DU CANADA

### MULTIPLIER CHART      CARTE DES FACTEURS DE MULTIPLICATION

Fill in QSO number sent of each new multiplier in the correct box

Entrez le numéro de QSO émis pour chaque multiplicateur nouveau dans le bon boîte

TOTAL MULTIPLIER =

MULTIPLICATEUR TOTAL =

Province Province Territory Territoire	VO1 VO2	VE1 NS	VE1 NB	VE1 PEI	VE2	VE3	VE4	VE5	VE6	VE7	VE8	VY1	VE0	TOTAL
Band/Mode Bande/Emission														
1.8 cw														
1.8 phone														
3.5 cw														
3.5 phone														
7.cw														
7 phone														
14 cw														
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