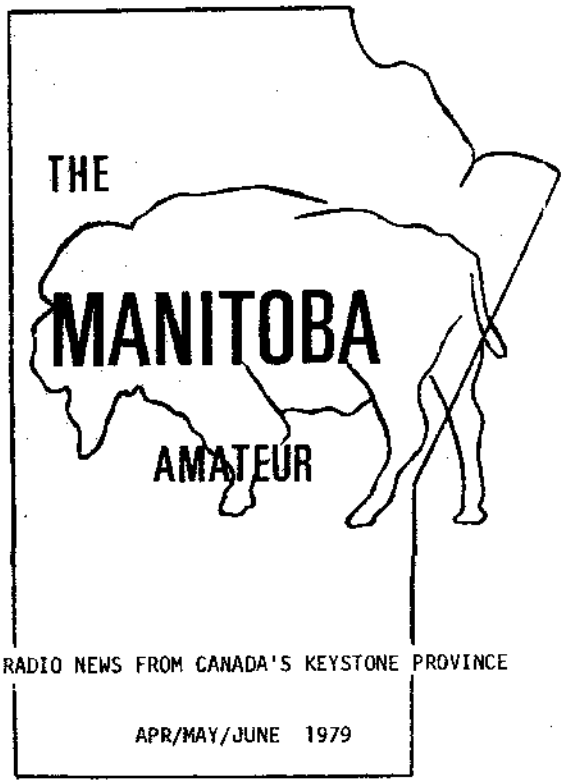
Amateur Radio League of Manitoba

Incorporated



RADIO NEWS FROM CANADA'S KEYSTONE PROVINCE

APR/MAY/JUNE 1979

Vol 5, No 6

The Amateur Radio League of Manitoba Inc.

The object of the League is the advancement of Amateur Radio within the Province of Manitoba, Canada, by such means as may be appropriate, including the holding of conferences, exhibitions, hamfests, contests and the making of representations on behalf of the League and its members to government or other authorities, groups or individuals.

Editorial.

Well summer is just about upon us and I find it hard to concentrate at my desk, as we all probably do. With such a fine spring and the prospects of a good summer I am certain that Steve, VE4AI, will miss us. Steve is retiring from RRCC to Vancouver Island (Sidney) as VE7ACF and from what he tells me it will be an excellent QTH. As most everyone knows Steve has been a very active person in VE4 land; with ARLM & CARF, the 'MANAM', the'VE4 CALLBOOK' and the auctions to name a few, besides being actively on the air. We wish you the best Steve and will look for you on the bands.

FOR SALE

1. Viking Navigator X_{mtR}, 40 w. input (c.w. only), V.F.O/Xtal Control, 160-10 meters, 6 CL6 Driving 6146, Differential-Sequence Keying, V.F.O. very stable, Mint Condx, Price $100.00 (Firm), Manual included, self contained power (115VAC), Pi-Net output 40-600Ω ant. load.

2. Viking Courier, Linear Amp for 500 watts input on S.S.B./cw, 200 watts input on A.M., covers 80-10 meters, uses pair parallel 811 A's, uses pair parallel 866's (SR), Forced Air Cooling, T.V.I. Suppressed, Pinet-work output 40-600Ω ant load, drive required - 5-35 watts, Excellent condx., Manual included, price $175.00 (firm), self-contained power (115VAC).

3. Viking matchbox (ant. tuner), 1 kw rating on C.W., 2 Kw S.S.B. (P.E.P.), SWR indicator, bridge & R.F. Pick-up unit, transmit/receive, relay D.P.D.T. internally, mounted and wired in. 80-10 meters, manual included, price $275.00 (firm), mint condx. * You don't need low-pass filter(s) if you have this match box between your Xntr and ant.

4. HQ-110C Hammarlund Rcvr., Hamband only, covers 160 - 6 meters, twin dials, clock/timer/S-meter, AM/CW/SSB, ant. trimmer, "Q" multiplier, selectivity 100Hz-13KHz, mint condx.,manual included, price $150.00 (firm).

These items may be purchased separately or as a 4 piece package deal. The 4 pc. package deal will be sold for 10% less than the sum total of the 4 pcs. A great starter (C.W.) station. Contact: John Bell, VE4OL, 453 Rita St., Winnipeg, Manitoba, Ph. 832-6857, Roland Crull, VE4RS, 414 Talbot Ave., Winnipeg, Manitoba, Ph. 668-0038.

If political conventions were held behind closed doors, a lot of stupid suggestions would never reach the public.

PRESIDENT'S MESSAGE

It seems like only a few weeks since I wrote a short message attesting to the readiness of Manitoba's amateur population to assist in flood relief by providing an alternate and effective means of communication. This spring we have been hit by just about every other type of catastrophe -- record high temperatures, drought, high winds, forest fires of terrible consequence, viny chloride spills and even an invasion of airborne volcano dust! Certainly all of these events should emphasize to all the necessity for amateurs to be ready to assist again should the need arise. An HF set capable of 12 volt operation; a 2 meter rig with a suitable battery pack and portable antennas to complement your emerging equipment would all help to provide the basis of a quick reaction capability. It is my hope that by the time this issue is printed that Red Lake, Clear Lake and the other fire-threatened communities will be out of danger. We can only hope then that our province will be spared any other emergencies for quite a while -- we've had enough; but if any need arises, I'll be ready -- will you?

I recently received a letter from Art, KØQQ of Minot, ND who is working, along with a group of DX minded hams, to have the International Peach Gardens awarded a special country status like 4U1UN, New York or perhaps (more fittingly) 8Z4, Neutral Zone. Don, WGAM has submitted this request to the DXAC Committee for consideration. I personally am not in favour of a proliferation of "Mickey-Mouse" calls for non existent "countries," however, this proposal would permit VE4 and W/KØ operators from the local area to put our province on the map internationally. Perhaps our DOC may even be willing to issue a suitable commemorative callsign (or would it require international agreement between FCC and DOC?) Anyway it is an interesting suggestion and if you feel strongly about it one way or the other let Art know.

So until next issue, I hope everybody enjoys a carefree and relaxing summer with lots of DX (or whatever turns you on) and no QRM.

73, Noel, VE4CF

May 20, 1980, The Editor, MANAM.
Dear John: It is with regret that I must now move on to another province and another provincial society. I have enjoyed being associated with the VE4's for 10 years and with the "Nuts & Bolts" of producing the MANAM and the VE4 Callbook. With this issue, and with the 1980/81 Callbook I will hand over to someone else. Who that will be is not yet decided but I'm sure some of the ARLM members will volunteer to assist. My new call is VE7ACF: QTH-Sidney B.C., and I should be active from there sometime in September. Thanks to all and my apologies to those who had to buy bifocals to read the Callbook.

DE EX VE4AI

Learn from the mistakes of others. You can't live long enough to make them all yourself.

DX For The Lazy Scot

Don Cameron VE4AES

The first year of my ham career was primarily devoted to making sure that I would get through the advanced examination as soon as possible. Sure, I worked the odd bit of DX when it was available; mainly Russians and South Americans in the evening on 20 meters and Japan and Europe on 15 meters at the weekend. However, for the most part I was happy to hammer away at CW contacts with other North American stations. That is, until I got my 10 meter phone endorsement and was able to participate in the new world of phone DX. However, with much willpower I kept going with the CW and ignored the lure of 2 meter FM until I had the advanced ticket signed, sealed and delivered.

My early exposure to DX had convinced me of one thing; inverted vees do not cut the mustard on 10, 15 and 20. So my next priority was to get a half decent antenna system for these bands. "Easy", you say, "stick up a 50 ft. tower with a good yagi or quad at the top of it." However, my years of training and experience as a research scientist has resulted in a rather peculiar mentality. That is, I am most reluctant to accept the first solution which comes to mind for any problem. I find that if you spend some time thinking about it you generally come up with a more appropriate answer. So, I employed the scientific method, which goes as follows.

First, define the problem. I want to work DX reliably, but I do not have the ambition to crash through pile-ups at will, or to beat VE5DX in contests.

Second, what is required of a DX antenna system? It must throw as great a fraction of the available power as possible in the favoured direction and it must radiate this power at an angle which is as low as possible. Also, it should have deep nulls in other directions to eliminate QRM.

Third, what secondary factors must be considered in arriving at a solution? Your correspondent is of Scottish anscestry, so the solution should be cheap. Your correspondent is lazy. His XYL thinks that towers, quads and yagis are ugly. So do his neighbours and the planning scheme of the town where his QTH is located.

So, while the 50 ft. tower with the yagi or quad meets the technical requirements best, it is certainly not going to satisfy the secondary factors. By now you are probably thinking, "you don't get something for nothing" or "there are no free rides in ham radio." True, but for $120 and about three hours of effort I got a pretty fair DX antenna system.

The answer? Verticals, that's right, verticals, not one, but two; i.e. phased verticals. A single vertical meets the requirement of low angle radiation, but is omni-directional. However, get two and phase them and you have 3.5 to 4.5 dB of gain and some very useful nulls from a Manitoba QTH. So, when I had the chance to pick up two Cushcraft ATV-3, 10, 15 and 20 meter trapped verticals for $32 each at the Dayton Hamfest, I grabbed them. We used one for the Pinawa field day station with excellent results. I am now using two with even better performance.

Now for the details, the antennas are mounted on the roof of the house with their bases at 22 ft. They are used in a groundplane set-up with three tuned radials for each band for each antenna. They are spaced at $\lambda/4$ of 20 m or 17'.4". Equal lengths of feedline are taken to the shack, where different lengths of phasing line can be switched in as shown in Figure 1.

All dimensions are for 20 m. For 10m the spacing is $\lambda/2$ and each phasing line is $\lambda/4$. On 15 m we have $\lambda/3$ and $\lambda/6$ respectively. The spacing is free-space distance, while the phasing lines are electrical equivalents of RG-58/u. You can see that when the switch is in position 2 each antenna is fed with an equal length of feedline

and a broadside pattern results. In positions 1 and 3, end-fire patterns are obtained. The patterns for 10m and 20m are shown in Figure 2.

The radiation patterns for 15m cannot be deduced from the textbooks, but they are somewhat between the 10m and 20m patterns. Experience on the air suggests that they are more like the 20m patterns. The direction of the lobes is determined by the orientation of my house, which runs from SW to NE. The three $\lambda/4$ radials for 15m are used to guy the antennas to the eaves. The radials for 10m and 20m are made from 18 swg copper wire and are nearly invisible from the ground. Total cost of the mounting hardware was about $30, for a total of $120 after paying exchange and duty on the antennas. Erecting time was about three hours. However, the snow was on the roof by the time I got around to putting them up, so I still have to do some tuning to reduce the SWR on 20 m and 10 m when spring comes.

Well, it's cheap and easy to put up, but does it work? It sure does. When working Europe, which is my main interest, being on ex-G, I get signal reports 3-5 s-units better than with my inverted vees. The front-to-back on 20m and front-to-side on 10m is about 4-6 s-units. Working some North American stations, where the low angle of radiation is less important, produces much less spectacular results. However, never has it been inferior to the inverted vees.

Recently, my station with this system and a Swan 350 has been compared with a 3-element yagi at 44 ft and a TS-820 on 10 m and 15 m, and a 2 element quad at 60 feet with a TR-7 on 10 m only, both in Pinawa. The results from these tests show that as far as received signal reports in Europe are concerned, my station performs at least as well as the other two.

There is no doubt that the quad and yagi having only one major lobe on each band and have flexible directivity by using a rotor are better antenna. Also, the verticals do pick up more local noise, but Pinawa is usually a quiet QTH. One advantage of the phased verticals is being instantly able to change directivity at the flick of a switch. In the 10 m contest I found this to be very useful when working US stations. If contacts dried up while beaming SE I could usually keep my QSO rate up by going to SW, and vice versa.

The phased vertical system is by no means the ultimate DX antenna, but it does everything I expected and more. Now, instead of me calling DX stations, they call me. If you have the room, the inclination and effort, and about $1000, by all means go the 50 ft. tower with a beam route. However, if you cannot manage this, roof-mounted phased verticals certainly beat a dipole any day.

There is nothing really new in this article, but the use of this type of antenna system is relatively rare on the DX bands. The reason for writing it is because I am sure many of you have seen articles on phased verticals and wondered if they really work. Well, you now know that there is one amateur in Manitoba who can vouch for them.

If you want to know more, give me a call on the MEPN, or get hold of the last two years of 73 magazine, where you will find some really good articles on the subject.

Estate Sale

- YASU SSB FT 101E Transceiver - new condition
- Rotating antennae head and control box
- Transmitting Key
- Ear Phones
- Other related books and equipment

All items can be seen in Winnipeg by arrangement - Phone (204) 857-8105

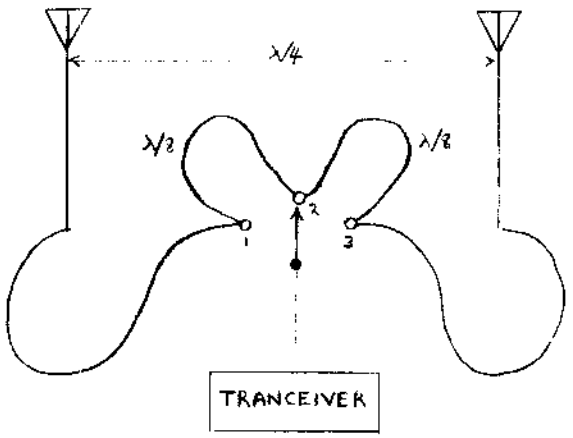


FIGURE 1 : The Phasing and Switching Arrangement

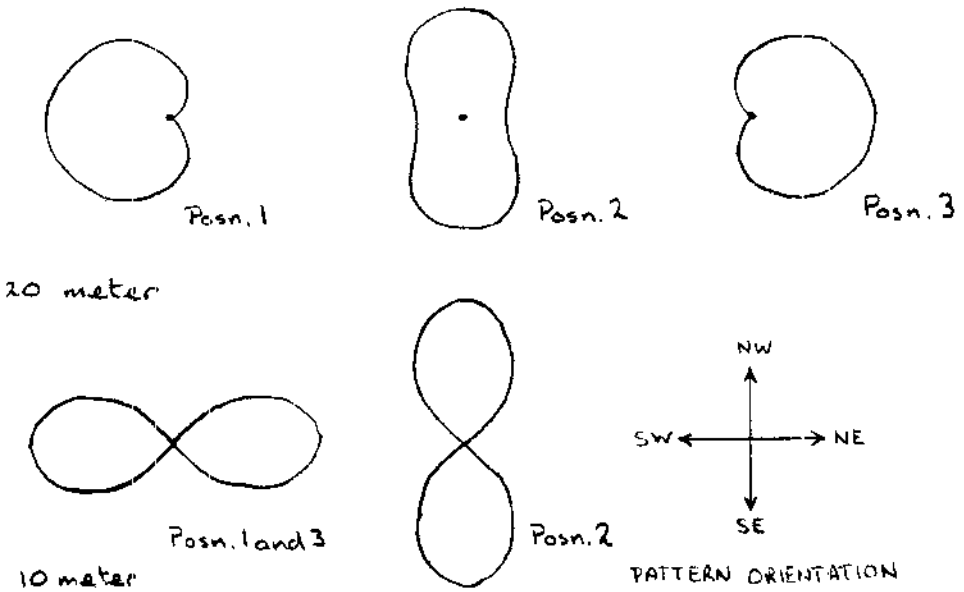


FIGURE 2 : Directive Patterns Obtained with Various Switching Positions

CANADIAN AMATEUR RADIO FEDERATION INC.
FEDERATION DES RADIO AMATEURS DU CANADA INC.

P.O. BOX 356
KINGSTON, ONT.
K7L 4W2

CARF NEWS SERVICE

More than a hundred packet radio fans have received a twenty-page report on the activities of experimenters in Montreal, Ottawa and Vancouver. CARF has undertaken to print and distribute these reports on a continuing basis. Technical co-ordinator of this new venture is Hugh Pett VE3FLL. This first issue and the next four may be obtained by sending five dollars to "Packet Radio Mailings" in care of CARF Inc. Box 356, Kingston, Ontario, K7l 4W2.VE3FLL may be contacted through the same address.

The Aurora Phone Net is back on the air after an absence of ten or twelve years. It spans Canada nightly on 7060 kilohertz at 0300 Zulu time. Initial control station was Ward Warren, VE4WR, in Winnipeg.

The Canadian appearance on 7050 to 7100 megahertz caused an outcry from some U.S. operators who work CW DX. Coutesy dictates that one should listen well before transmitting and try not interfere with the W1AW bulletins and code practise sessions when they are on. With the shoe now on the other foot, Canadians can remember their problems when the U.S. phone band was extended to 3775 kilohertz. Operations on that band were also a bit hectic for a while but eventually things were sorted out.

....Amateurs who still wish to comment on an ARRL idea to move the U.S. phone banc down to 14.150 megahertz had better do so soon because the ARRL committee considering this move will report back to the ARRL Board of Directors on July 24, according to VE3OT. Comments should go to Fred Towner, VE6XX, Canadian Division vice-director, at 123 Rundelridge Close, Calgary. CARF would appreciate a copy.

....Last year's recommendation by the Tariff Board that import cuties on Amateur transmitters and transceivers should be removed may surface as an accomplished fact very soon. CARF News Service learned that if the duty is to be removed, such notice will appear in the budget speech in the upcoming session of this new Parliament. Scuttlebutt was that we can be optimistic that it will appear.

....The Vancouver Sun reports that for the first time, the Canacian Coast Guard obtained a conviction against two B.C. marine channel users for profane language. The two fishing boat operators got off easy with a $150 fine each, although the maximum penalty under Section 25 of the General Radio Regulations could have been one thousand dollars or jail for six months or more. CARF is now co-ordinating illegal operation reports on the Amateur bands with the intent of presenting a fully documented and extensive case to DOC management for more enforcement action in vilations occurring in our bands. Instruction on how to report illegal operations in an adequate form will shortly be circulated to clubs and will appear in the June issue of our national magazine, "TCA".

....The commemorative prefixes CZ6 and XJ5 respectively, will be available to Alberta and Saskatchewan stations to mark the seventy-fifth anniversary of the formation of the two provinces and their entry into Confedration. They may be used from July 1 to September 30, this year.

....In a letter to CARF, DOC says that it is attempting to accelerate the pace of research and development of designs of consumer electronic equipment in order to reduce its susceptibility to radio interference. DOC was replying to a letter which was drafted by the CARF committee chairman VE3TT. DOC stated that all of the concerned agencies, the Canadian Standards Association, the Canadian Radio Technical Planning Board and CARF will be urged to support this move. The Department has already issued a contract to Bell-Northern Research for an evaluation of the urban radio invironment, as part of this increased effort. The results will be available to manufacturers as a follow-up to an earlier DOC bulletin on the interference problem. Amateurs may brush up on their knowledge of interference prevention by asking their DOC office for the booklet "How to Identify and Resolve Your Radio and TV Interference Problems".

....In its current publication, the federal agency known as Emergency Planning Canada, which replaced the well-known "EMO", carries a letter suggesting that it was time that a Canadian national amateur radio emergency service was developed. Such a measure was recommended seven years ago by a conference of Amateurs sponsored by the then EMO at Arnprior. For various reasons the plan for such an organization was not followed up but the time now seems ripe for further work to be done on it.

....Any unusual signals heard on OSCAR 7 Mode over the coming weeks will probably be VE1SAT, the OSCAR Atlantic Amateur Radio Club in Halifax, conducting digital data tests in preparation for the Phase Three telecommand and telemetry.

....Effective when daylight time comes in, here is a new schedule for the CARF News Bulletins transmitted from VE3TCA, the anchor station for CARF News Service. On Sundays (Zulu Time): -- Sideband on 14.140 MHz at 1745 Zulu;
-- CW on 14.078 MHz at 1900 Zulu;
-- Teletype five level, followed by 8 level after CARFNET on 14.078 MHz at 2030 Zulu, and
-- Sideband on 3755 kilohertz at 2200 Zulu, and
on Tuesdays (Zulu Time); -- CW on 3630 kilohertz at 0000 Zulu
-- Teletype 5 level followed by 8 level, on 3630 kHz at 0030 Zulu.

....With illegal operation and intrusion on the Amateur bands becoming more and more of of problem, CARF is taking steps to co-ordinate documented reports from Amateurs and discuss them with the DOC at an appropriate level. In cases where adequate information is supplied and the circumstances warrant it, CARF will press DOC for remedial action. The June issue of TCA will contain an article on how Amateurs can help to police our bands by compiling the detailed information required for further action.

....The upcoming launching of another Oscar satellite in May is focussing attention on Amateur outer space communication. In the meantime, here in Canada, a Manitoba group which set up an inner space project last July with the flight of a repeater in a high altitude balloon experiment conducted by the National Research Council, is now recruiting members and financing to continue similar future experiments. The Canadian Amateur Radio Research Group Club, formed in Manitoba last year to launch the "Skyhook" balloon-borne repeater can be contacted by writing to Jim Barrie, VE4KF, Secretary of the Club, at Box 1785, Gimlim Manitoba, ROC 1BO.

....A recent HR Report states that a new Russian 'woodpecker' has appeared and has been spending a lot of time pecking away on the low end of ten metres. This bird's nest appears to be in the Kamchatka peninsula in Siberia. In contrast to this, another Russian bird, an Amateur satellite signing "RSO", is being ground tested according to reports heard from a station signing "RS3A". The satellite reportedly inputs on 145.910 to 145.950 meghertz and outputs on 29.410 to 29.450 megahertz. It also has a beacon on 29.450 megahertz which sends seven telemetry channels.

New Regs!

CARF News Service has already distributed copies of the new regulations to affiliated clubs and through these pages now brings them to the individual Amateur. A number of the changes were the result of recommendations to DOC from the CARF National Symposiums held in the past three years.

When studying these amendments, one should remember that there are still rules in other sections of the Radio Regulations and Radio Act which apply to all radio services, including the Amateur Service. An example of this is the requirement for logging which appears in sections previous to those amended; that requirement was not changed.

The Minister of Communications, pursuant to subsection 7(1) of the Radio Act, is pleased hereby to amend the General Radio Regulations, Part II, C.R.C., c. 1372, in accordance with the schedule hereto.

Dated at Ottawa, February 26, 1980

DAVID S. H. MACDONALD
Minister of Communications

SCHEDULE

1. (1) Section 2 of the *General Radio Regulations, Part II*, is amended by adding thereto, immediately after the definition "Act", the following definition:

"'amateur station' means a station that performs an amateur service; (*station d'amateur*)"

(2) All that portion of the definition "terrestrial service" in section 2 of the said Regulations preceding paragraph (*a*) thereof is revoked and the following substituted therefor:

"'terrestrial service' means a radiocommunication service provided by an amateur station, a coast station, a land station or a mobile station, and consists of the following categories of service:"

(3) Paragraph (*c*) of the definition "terrestrial service" in section 2 of the said Regulations is revoked and the following substituted therefor:

"(*c*) "amateur service" being a radiocommunication service for purposes of self-training, intercommunication or technical investigation carried on by persons who are interested in radio technique solely with a personal aim and without pecuniary interest;,"

(4) The definition "terrestrial service" in section 2 of the said Regulations is further amended by adding thereto, immediately after paragraph (*p*) thereof, the following paragraph:

"(*p*.1) "radiodetermination service" being a radiocommunication service using the propagation properties of radio waves to obtain information relative to the position of an object,"

2. (1) Paragraphs 4(*a*) to (*f*) of the said Regulations are renumbered as paragraphs 4(*b*) to (*g*) respectively.

(2) Section 4 of the said Regulations is further amended by adding thereto, immediately preceding the renumbered paragraph (*b*) thereof, the following paragraph:

"(*a*) amateur stations;"

3. (1) Subsection 7(1) of the said Regulations is amended by deleting the word "and" at the end of paragraph (*d*) thereof, by adding the word "and" at the end of paragraph (*e*) thereof and by adding thereto the following paragraph:

"(*f*) amateur station licences."

(2) Subparagraph 7(3)(*a*)(viii) of the said Regulations is revoked.

(3) Section 7 of the said Regulations is further amended by adding thereto the following subsection:

"(5) Amateur station licences may be issued for amateur stations."[1]

4. The headings preceding section 42 and sections 42 to 64 of the said Regulations are revoked and the following substituted therefor:

"AMATEUR SERVICE

Frequencies Allocated

42. The radio frequencies in the bands between the lower frequency limits set out in column I of an item of Schedule II and the higher frequency limits set out in column II of that item are allocated for the use of amateur stations.

Conditions Applying to the use of the Frequency Band 1.8 to 2.0 MHz

43. (1) No person shall operate an amateur mobile station on any frequency in the band 1.8 to 2.0 MHz.

(2) Any person operating an amateur station using frequencies in the band 1.8 to 2.0 MHz at a permanent location in the area set out in an item of Schedule X shall comply with the frequency and transmitter power for day and night operation set out in that item.

(3) Where, in respect of an item of Schedule X, a frequency band is marked with an asterisk, a person described in subsection (2) may be authorized by the Minister to use a power level of 1000 watts during the day and 200 watts at night if

(*a*) he applies to the Minister in writing; and

(*b*) the Minister is satisfied that such use will not cause interference to stations providing a radiodetermination service.

(4) For the purposes of Schedule X, "transmitter power" means the maximum direct current power supplied to the anode or collector of the final stage of the transmitter.

[1] as amended by SOR/78-702, 1978 *Canada Gazette* Part II, p. 3618

Interference to Radiodetermination Service

44. Any person operating an amateur station in a frequency band shown in any of items 10, 12 to 16 and 18 of Schedule II shall ensure that harmful interference is not caused to any station providing a radiodetermination service in that band and shall not claim protection from interference caused by the operation of such a station.

Interference to Fixed Service

45. Any person operating an amateur station in the frequency band shown in item 11 of Schedule II shall ensure that harmful interference is not caused to any station providing a fixed service in that band and shall not claim protection from interference caused by the operation of such a station.

Frequencies for Operation of Radio-controlled Models by Amateurs

46. The licensee of an amateur station may operate radio controlled models

(*a*) in the frequency bands 40.66 to 40.70 MHz and 2450 to 2500 MHz designated for industrial, scientific and medical purposes, if the power output of the transmitter does not exceed five watts; and

(*b*) in all frequency bands above 53 MHz allocated for use under section 42.

Types of Emission

47. Where, in these Regulations, symbols are used to identify a particular type of emission, they shall have the following meanings:

(*a*) "A0" means an emission that is unkeyed or unmodulated;

(*b*) "A1" means telegraphy by the on-off keying of an unmodulated carrier;

(*c*) "A2" means telegraphy by the on-off keying of an amplitude modulating audio frequency signal or by the on-off keying of the amplitude modulated carrier;

(*d*) "A3" means telephony by amplitude modulation;

(*e*) "A4" means facsimile by amplitude modulation of a carrier, either directly or by a frequency modulated sub-carrier;

(*f*) "A5" means television by amplitude modulation;

(*g*) "F1" means telegraphy by frequency shift keying where one of two unmodulated carriers is being emitted at any instant;

(*h*) "F2" means telegraphy by the on-off keying of a frequency modulating audio frequency or by the on-off keying of a frequency modulated emission;

(*i*) "F3" means telephony by frequency modulation;

(*j*) "F4" means facsimile by direct frequency modulation of the carrier;

(*k*) "F5" means television by frequency modulation;

(*l*) "P0" means a pulsed emission without any modulation intended to carry information (e.g. radar);

(*m*) "P1" means telegraphy by the on-off keying of a pulsed carrier without the use of a modulating audio frequency;

(*n*) "P2" means telegraphy by the on-off keying of a modulating audio frequency or audio frequencies or by the on-off keying of a modulated pulsed carrier;

(*o*) "P3" means telephony by pulse modulation;

(*p*) "P4" means facsimile by pulse modulation;

(*q*) "P5" means television by pulse modulation; and

(*r*) "P9" means any type of pulse modulation not described in paragraphs (*l*) to (*q*).

QUALIFICATIONS OF RADIO OPERATORS FOR AMATEUR STATION OPERATION

Classes of Certificates

48. To qualify as an operator of an amateur station, a person shall hold

(*a*) a radio operator's

(i) Radiocommunication Operator's General Certificate,

(ii) First Class Certificate,

(iii) Second Class Certificate,

(iv) Advanced Amateur Class Certificate,

(v) Amateur Class Certificate or

(vi) Digital Amateur Class Certificate;

(*b*) a station licence issued pursuant to subsection 5(4) of the *General Radio Regulations, Part I*;

(*c*) a station licence for an amateur station issued by the government of the United States or

(*d*) an authorization issued by the Minister in the case of a person temporarily in Canada who is

(i) a resident and citizen of a country other than Canada or the United States, and

(ii) the holder of a valid amateur station licence issued by the government of the country of which he is a citizen,

where the Minister is satisfied that the government of the country of which that person is a citizen grants the same privilege to Canadian citizens.

General Restrictions

49. (1) A person qualified pursuant to section 48 to operate an amateur station shall only use frequencies, types of emissions or modes of transmission authorized in sections 50 to 56.

(2) No licensee of an amateur station shall, under the authority of his radio licence, operate more than

(*a*) one station at a permanent location;

(*b*) one station at a temporary location; and

(*c*) one mobile station.

Foreign Amateur Operation

50. A person qualified pursuant to paragraph 48(*c*) or (*d*) may operate his station or a station licensed by the Minister and such person shall use the call sign, radio frequencies, types of emission or modes of transmission he is authorized to use in his own country, if those frequencies, types of emission or modes of transmission are authorized by these Regulations.

Packet Transmissions

51. A person holding a radio operator's certificate of proficiency that qualifies him to operate an amateur station may use radio frequencies in the range between the lower frequency limit set out in column I of an item of Schedule III and the higher frequency limit set out in column II of that item for packet transmissions employing such types of emission, other than pulse modulation, as may be selected by experimentation, on condition that

(*a*) the bandwidths prescribed in column III of that item are not exceeded; and

(*b*) the final RF output power does not exceed 100 watts peak power and 10 watts average power.

Digital Amateur Class Certificate

52. A person holding a radio operator's Digital Amateur Class Certificate may use frequencies in the range between the lower frequency limit set out in column I of an item of Schedule IV and the higher frequency limit set out in column II of that item, with the corresponding types of emission set out in column III of that item.

Amateur Class Certificate

53. (1) A person holding a station licence referred to in paragraph 48(*b*) or a radio operator's Amateur Class Certificate may use frequencies in the range between the lower frequency limit set out in column I of an item of Schedule V and the higher frequency limit set out in column II of that item, with the corresponding types of emission set out in column III of that item.

(2) Where a person holding a radio operator's Amateur Class Certificate satisfies the Minister that he has actively operated his station for at least six months, he may use frequencies in the range between the lower frequency limit set out in column I of an item of Schedule VI and the higher frequency limit set out in column II of that item, with the corresponding types of emission set out in column III of that item.

(3) Where a person holding a radio operator's Amateur Class Certificate satisfies the Minister that he has actively operated his station for at least one year, he may use frequencies in the range between the lower frequency limit set out in column I of an item of Schedule VIII and the higher frequency limit set out in column II of that item, with the corresponding types of emission set out in column III of that item.

Advanced Amateur Class Certificate

54. A person holding a radio operator's Advanced Amateur Class Certificate may use frequencies in the range between the lower frequency limit set out in column I of an item of Schedule IX and the higher frequency limit set out in column II of that item, with the corresponding types of emission set out in column III of that item.

Professional Classes of Certificates

55. (1) A person holding a current radio operator's

(*a*) Radiocommunication Operator's General Certificate,

(*b*) First Class Certificate, or

(*c*) Second Class Certificate,

may use frequencies in the range between the lower frequency limit set out in column I of an item of Schedule III or IX and the higher frequency limit set out in column II of that item, with the corresponding types of emission set out in column III of that item.

(2) A person holding an outdated radio operator's certificate of a class mentioned in subsection (1) may, on application to the Minister, obtain an Advanced Amateur Class Certificate without examination.

Authorization of Special Types of Emission

56. The Minister may, on request, authorize the licensee of an amateur station to carry on special experimentation on radio frequencies that are in a range between the lower frequency limits and the higher frequency limits set out in Schedule IV or IX, with types of emission that are other than those set out for the particular range in column III of the Schedule.

OPERATION

Operation by a Person Other than the Licensee

57. Notwithstanding that the licensee of an amateur station is at all times responsible for the operation of his station, he may

(*a*) permit a person to take part in communications if he retains physical control of the apparatus of his station; or

(*b*) permit a person who holds a radio operator's certificate referred to in paragraph 48(*a*) to operate his station using only such frequencies and emissions as the licensee is qualified to use or, if the person is not as qualified as the licensee, using only such frequencies and emissions as the person is qualified to use.

Station Identification

58. (1) The operator of an amateur station shall transmit his assigned call sign

(*a*) at intervals not greater than thirty minutes during any period in which the station is transmitting; and

(*b*) at the termination of

(i) a single transmission, or

(ii) each exchange of communications with another station.

(2) The call sign referred to in subsection (1) shall be transmitted

(*a*) by telegraphy in the International Morse Code,

(*b*) by telephony, or

(*c*) in packet transmission, as an ASCII mapping of the call sign transmitted within the packet header,

according to the type of emission authorized for the frequency being used.

Intercommunication and Technical Experiments

59. (1) The operator of an amateur station shall ensure that

(*a*) communications are exchanged only with other licensed amateur stations;

(*b*) his station is not used to retransmit types A3 or F3 emissions on frequencies below 28 MHz if such emissions are received from a station that is not authorized to use such emissions on frequencies below 28 MHz;

(*c*) communications are limited to messages of a technical nature or of a personal character for which, by reason of their unimportance, recourse to the public telecommunication service is not justified; and

(*d*) no secret code or cipher is used.

(2) Notwithstanding subsection (1), the operator of an amateur station may

(*a*) provide a radiocommunication service on behalf of recognized public service agencies during peace-time civil emergencies or during tests of civil emergency facilities, and

(*b*) conduct technical experiments using the apparatus of the station to transmit signals to receiving apparatus for the measurement of emissions, temporary observation of transmission phenomena, remote control by radio or similar experimental purposes.

Emergency Communications

60. Where an emergency situation exists, the operator of an amateur station may use his station to communicate any type of message for himself or on behalf of third parties, but he shall not accept remuneration in any form in respect of any such communication.

Prohibited Communications

61. No person shall operate an amateur station to communicate with a similar station of a country that has notified the International Telecommunication Union that it objects to such communications.

Third Party Communications

62. No person shall operate an amateur station to communicate a message on behalf of a third party to or from a similar station of another country unless such communications are authorized by an arrangement or agreement with the country concerned.

Operation on Aircraft

63. (1) No person shall install or operate an amateur station on an aircraft except as authorized by the Minister pursuant to subsection (2).

(2) The Minister may authorize the installation or operation of an amateur station on an aircraft if

(a) a written application therefor is submitted;

(b) the installation is technically acceptable, as determined by a radio inspector; and

(c) the installation does not impair the airworthiness of the aircraft, as determined by the Minister of Transport.

Operation on Ships

64. (1) No person shall install or operate an amateur station on a ship except as authorized by the Minister pursuant to subsection (2).

(2) The Minister may authorize the installation or operation of an amateur station on a ship if

(a) a written application therefor is submitted together with the written permission of the master of the ship; and

(b) the applicant gives an undertaking that the operation of the station will not interfere with the ship's other radiocommunication services.

Special Restrictions Applying to Amateur Stations Outside Canada

64.1 (1) Subject to subsection (2), the operator of an amateur station on board an aircraft or a ship shall, while the aircraft or ship is outside Canada or territory, restrict the operation of the station to frequencies in the bands 7.0 to 7.3 MHz, 14.00 to 14.35 MHz, 21.00 to 21.45 MHz and 28.00 to 29.70 MHz.

(2) Where an aircraft or ship mentioned in subsection (1) is outside Region 2 as defined by the Radio Regulations of the International Telecommunication Union, the operator shall not operate the station on frequencies in the sub-band 7.1 to 7.3 MHz.

APPARATUS AND TECHNICAL CHARACTERISTICS

64.2 The licensee of an amateur station shall ensure that

(a) his radio station is equipped with a reliable means

(i) of determining the operating radio frequency,

(ii) of preventing or indicating overmodulation in the case of a radiotelephone transmitter, and

(iii) of measuring the direct-current power input to the anode or collector circuit of the final stage where such power input exceeds four hundred watts;

(b) the amplitude modulation of his transmitter does not exceed one hundred per cent or use a bandwidth in excess of 6 kHz;

(c) the frequency modulation of his transmitter does not produce, except where packet transmissions are used, a frequency deviation exceeding, plus or minus,

(i) 450 hertz where type F1 emission is used,

(ii) 3 kHz where type F2 or F3 emission is used on any frequency below 52 MHz, or

(iii) 15 kHz where type F2, F3 or F4 emission is used in the frequency bands 52 to 54 MHz, 144.1 to 148 MHz, 220 to 225 MHz and 430 to 450 MHz;

(d) the pulse modulation of his transmitter does not produce signals that have a bandwidth in excess of

(i) 15 kHz in the frequency band 145.5 to 145.8 MHz, and

(ii) 30 kHz in the frequency band 434 to 434.5 MHz;

(e) the frequency stability in the frequency bands below 220 MHz is comparable to that which is obtainable using crystal control;

(f) the carrier is suppressed during periods of reception when the transmitter is operating on frequencies below 51 MHz;

(g) an unmodulated carrier is not emitted on frequencies below 51 MHz except during brief tests and adjustments that shall be terminated by the transmission of his assigned call sign; and

(h) television and facsimile signals do not have a bandwidth in excess of

(i) 3 kHz in the frequency bands below 434 MHz, and

(ii) 4 MHz in the frequency bands above 434 MHz.

Power

64.3 Subject to subsection 44.2(2), the operator of an amateur station shall ensure that the station power,

(a) if expressed as direct-current input power, does not exceed one thousand watts in the anode or collector circuit of the transmitter stage supplying radio frequency energy to the antenna; or

(b) if expressed as RF output power measured across an impedance matched load, does not exceed

(i) 2250 watts peak envelope power for transmitters producing any type of single sideband emission,

(ii) 750 watts carrier power for transmitters producing other types of emission,

(iii) 100 watts peak power and 10 watts average power for transmitters that are pulse modulated and operate at frequencies below 1215 MHz, or

(iv) 2500 watts peak power and 25 watts average power for transmitters that are pulse modulated and operate at frequencies above 1215 MHz.

Interference

64.4 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.

Change of Address

64.5 The licensee of an amateur station shall notify the Department of any change in his postal address."

5. Schedules II to VI of the said Regulations are revoked and the following substituted therefor:

SCHEDULE II (ss. 42, 44 and 45)

Item	Column I Lower Frequency Limit	Column II Higher Frequency Limit
1	1.800 MHz	2.000 MHz
2	3.500 MHz	4.000 MHz
3	7.000 MHz	7.300 MHz
4	14.000 MHz	14.350 MHz
5	21.000 MHz	22.450 MHz
6	28.000 MHz	29.700 MHz
7	50.000 MHz	54.000 MHz
8	144.000 MHz	148.000 MHz
9	220.000 MHz	225.000 MHz
10	* 430.000 MHz	450.000 MHz
11	** 902.000 MHz	928.000 MHz
12	*1 215.000 MHz	1 300.000 MHz
13	*2 300.000 MHz	2 450.000 MHz
14	*3 300.000 MHz	3 500.000 MHz
15	*5 650.000 MHz	5 925.000 MHz
16	*10 000.000 MHz	10 500.000 MHz
17	24 000.000 MHz	24 050.000 MHz
18	*24 050.000 MHz	24 250.000 MHz

* see section 44 ** see section 45

SCHEDULE III (ss. 51 and 55)

Item	Column I Lower Frequency Limit	Column II Higher Frequency Limit	Column III Maximum Bandwidth
1	220.100 MHz	220.500 MHz	10 kHz
2	220.500 MHz	221.000 MHz	100 kHz
3	221.000 MHz	223.000 MHz	25 kHz
4	223.000 MHz	223.500 MHz	100 kHz
5	433.000 MHz	434.000 MHz	100 kHz
6	24 000.000 MHz	24 010.000 MHz	

SCHEDULE IV (ss. 52 and 56)

ITEM	Column I LOWER FREQUENCY LIMIT	Column II HIGHER FREQUENCY LIMIT	Column III TYPES OF EMISSION
1	144.000 MHz	144.100 MHz	A1,
2	144.100 MHz	145.500 MHz	A0, A1, A2, A3, A4, F1, F2, F3, F4,
3	145.500 MHz	145.800 MHz	A0, A1, A2, A3, A4, P0, P1, P2, F3, F4,
4	145.800 MHz	148.000 MHz	A0, A1, A2, A3, A4, F1, F2, F3, F4,
5	220.000 MHz	221.000 MHz	A0, A1, A2, A3, A4, F1, F2, F3, F4,
6	223.000 MHz	225.000 MHz	A0, A1, A2, A3, A4, F1, F2, F3, F4,
7	430.000 MHz	433.000 MHz	A0, A1, A2, A3, A4, F1, F2, F3, F4,
8	434.000 MHz	434.500 MHz	A0, A1, A2, A3, A4, F1, F2, F3, F4, P0, P1, P2, P3,
9	434.500 MHz	450.000 MHz	A0, A1, A2, A3, A4, A5, F1, F2, F3, F4, F5,
10	902.000 MHz	928.000 MHz	A3, F3,
11	1 215.000 MHz	1 300.000 MHz	A0, A1, A2, A3, A4, A5, F1, F2, F3, F4, F5, P0, P1, P2, P3, P4, P5, P9,
12	2 300.000 MHz	2 450.000 MHz	A0, A1, A2, A3, A4, A5, F1, F2, F3, F4, F5, P0, P1, P2, P3, P4, P5, P9,
13	3 300.000 MHz	3 500.000 MHz	A0, A1, A2, A3, A4, A5, F1, F2, F3, F4, F5, P0, P1, P2, P3, P4, P5, P9,
14	5 650.000 MHz	5 925.000 MHz	A0, A1, A2, A3, A4, A5, F1, F2, F3, F4, F5, P0, P1, P2, P3, P4, P5, P9,
15	10 000.000 MHz	10 500.000 MHz	A0, A1, A2, A3, A4, A5, F1, F2, F3, F4, F5, P0, P1, P2, P3, P4, P5, P9,
16	24 010.000 MHz	24 250.000 MHz	A0, A1, A2, A3, A4, A5, F1, F2, F3, F4, F5, P0, P1, P2, P3, P4, P5, P9,

SCHEDULE V (ss. 53(1))

ITEM	Column I LOWER FREQUENCY LIMIT	Column II HIGHER FREQUENCY LIMIT	Column III TYPES OF EMISSION
1	1.800 MHz	2.000 MHz	A1,
2	3.500 MHz	4.000 MHz	A1,
3	7.000 MHz	7.300 MHz	A1,
4	14.000 MHz	14.350 MHz	A1,
5	21.000 MHz	21.450 MHz	A1,
6	28.000 MHz	29.700 MHz	A1,
7	50.000 MHz	50.050 MHz	A1,
8	50.050 MHz	51.000 MHz	A1, A2, A3, F1, F2, F3,
9	51.000 MHz	54.000 MHz	A0, A1, A2, A3, A4, F1, F2, F3, F4,
10	144.000 MHz	144.100 MHz	A1,
11	144.100 MHz	148.000 MHz	A0, A1, A2, A3, A4, F1, F2, F3, F4,
12	220.000 MHz	221.000 MHz	A0, A1, A2, A3, A4, F1, F2, F3, F4,
13	223.000 MHz	225.000 MHz	A0, A1, A2, A3, A4, F1, F2, F3, F4,
14	430.000 MHz	433.000 MHz	A0, A1, A2, A3, A4, F1, F2, F3, F4,
15	434.000 MHz	450.000 MHz	A0, A1, A2, A3, A4, F1, F2, F3, F4,
16	902.000 MHz	928.000 MHz	A3, F3,
17	1 215.000 MHz	1 300.000 MHz	A0, A1, A2, A3, A4, F1, F2, F3, F4,
18	2 300.000 MHz	2 450.000 MHz	A0, A1, A2, A3, A4, F1, F2, F3, F4,
19	3 300.000 MHz	3 500.000 MHz	A0, A1, A2, A3, A4, F1, F2, F3, F4,
20	5 650.000 MHz	5 925.000 MHz	A0, A1, A2, A3, A4, F1, F2, F3, F4,
21	10 000.000 MHz	10 500.000 MHz	A0, A1, A2, A3, A4, F1, F2, F3, F4,
22	24 010.000 MHz	24 250.000 MHz	A0, A1, A2, A3, A4, F1, F2, F3, F4,

SCHEDULE VI (*ss. 53(2)*)

Item	Column I Lower Frequency Limit	Column II Higher Frequency Limit	Column III Types of Emission
1	1.800 MHz	2.000 MHz	A3,
2	3.500 MHz	3.725 MHz	F1,
3	7.000 MHz	7.050 MHz	F1,
4	7.100 MHz	7.150 MHz	F1,
5	14.000 MHz	14.100 MHz	F1,
6	21.000 MHz	21.100 MHz	F1,
7	28.000 MHz	28.100 MHz	F1,
8	28.100 MHz	29.700 MHz	A3, F3."

6. Schedule VIII to the said Regulations is revoked and the following substituted therefor:

"SCHEDULE VIII (*ss. 53(3)*)

Item	Column I Lower Frequency Limit	Column II Higher Frequency Limit	Column III Types of Emission
1	434.000 MHz	450.000 MHz	A5, F5,
2	1 215.000 MHz	1 300.000 MHz	A5, F5,
3	2 300.000 MHz	2 450.000 MHz	A5, F5,
4	3 300.000 MHz	3 500.000 MHz	A5, F5,
5	5 650.000 MHz	5 925.000 MHz	A5, F5,
6	10 000.000 MHz	10 500.000 MHz	A5, F5,
7	24 010.000 MHz	24 250.000 MHz	A5, F5.

SCHEDULE IX (ss. 54 and 56)

Item	Column I Lower Frequency Limit	Column II Higher Frequency Limit	Column III Types of Emission
1	1 800 MHz	2.000 MHz	A1, A3, F3.
2	3 500 MHz	3 725 MHz	A1, F1.
3	3 725 MHz	4 000 MHz	A1, A3, F3.
4	7 000 MHz	7 050 MHz	A1, F1.
5	7 050 MHz	7 100 MHz	A1, A3, F3.
6	7 100 MHz	7 150 MHz	A1, F1.
7	7 150 MHz	7 300 MHz	A1, A3, F3.
8	14 000 MHz	14 100 MHz	A1, F1.
9	14 100 MHz	14 350 MHz	A1, A3, F3.
10	21 000 MHz	21 300 MHz	A1, F1.
11	21 300 MHz	21 450 MHz	A1, A3, F3.
12	28 000 MHz	28 300 MHz	A1, F1.
13	28 300 MHz	29 700 MHz	A1, A3, F3.
14	50 000 MHz	50 050 MHz	A1.
15	50 050 MHz	52 000 MHz	A1, A2, A3, F1, F2, F3.
16	52 000 MHz	54 000 MHz	Aø, A1, A2, A3, A4, F1, F2, F3, F4.
17	144 000 MHz	144 300 MHz	A1.
18	144 300 MHz	148 000 MHz	Aø, A1, A2, A3, A4, F1, F2, F3, F4.
19	220 000 MHz	221 000 MHz	Aø, A1, A2, A3, A4, F1, F2, F3, F4.
20	223 000 MHz	225 000 MHz	Aø, A1, A2, A3, A4, F1, F2, F3, F4.
21	420 000 MHz	433 000 MHz	Aø, A1, A2, A3, A4, F1, F2, F3, F4.
22	434 000 MHz	450 000 MHz	Aø, A1, A2, A3, A4, A5, F1, F2, F3, F4, F5.
23	902 000 MHz	928 000 MHz	A3, F3.
24	1 215 000 MHz	1 300 000 MHz	Aø, A1, A2, A3, A4, A5, F1, F2, F3, F4, F5.
25	2 300 000 MHz	2 450 000 MHz	Aø, A1, A2, A3, A4, A5, F1, F2, F3, F4, F5.
26	3 300 000 MHz	3 500 000 MHz	Aø, A1, A2, A3, A4, A5, F1, F2, F3, F4, F5.
27	5 650 000 MHz	5 925 000 MHz	Aø, A1, A2, A3, A4, A5, F1, F2, F3, F4, F5.
28	10 000 000 MHz	10 500 000 MHz	Aø, A1, A2, A3, A4, A5, F1, F2, F3, F4, F5.
29	24 000 000 MHz	24 250 000 MHz	Aø, A1, A2, A3, A4, A5, F1, F2, F3, F4, F5.

SCHEDULE X (ss. 43)

Authorized Frequency Bands (MHz) and Transmitter Power in watts for day (dj) and night (n) Operation

Item	Area	1.800 to 1.825	1.825 to 1.850	1.850 to 1.875	1.875 to 1.900	1.900 to 1.925	1.925 to 1.950	1.950 to 1.975	1.975 to 2.000
1	British Columbia	500dj*	500dj	500dj	125dj	—	—	—	—
		100n	100n	100n	25n	—	—	—	—
2	Alberta	500dj*	500dj	500dj	500dj	125dj	—	—	125dj
		100n	100n	100n	100n	25n	—	—	25n
3	Saskatchewan	500dj*	500dj	500dj	500dj	500dj	125dj	125dj	500dj
		100n	100n	100n	100n	100n	25n	25n	100n
4	Manitoba	500dj*	250dj	250dj	250dj	250dj	250dj	250dj	500dj*
		100n	50n	50n	50n	50n	50n	50n	100n
5	Ontario North of 50° N. Lat	500dj 100n	125dj 25n	125dj 25n	125dj 25n	125dj 25n	— —	— —	250dj 50n
6	Ontario South of 50° N. Lat.	500dj*	250dj	125dj	—	—	—	—	125dj
		100n	50n	25n	—	—	—	—	25n
7	Province of Quebec North of 52° N. Lat.	125dj 25n	— —	— —	125dj 25n	125dj 25n	— —	— —	250dj 50n
8	Province of Quebec South of 52° N. Lat.	500dj 100n	250dj 50n	125dj 25n	— —	— —	— —	— —	— —
9	New Brunswick	500dj	250dj	125dj	—	—	—	—	—
		100n	50n	25n	—	—	—	—	—
10	Nova Scotia	500dj	250dj	125dj	—	—	—	—	—
		100n	50n	25n	—	—	—	—	—
11	Prince Edward Island	500dj	250dj	125dj	—	—	—	—	—
		100n	50n	25n	—	—	—	—	—
12	Newfoundland (Island)	500dj	125dj	125dj	—	—	—	—	—
		100n	25n	25n	—	—	—	—	—
13	Newfoundland (Labrador)	250dj	—	—	—	—	—	—	—
		50n	—	—	—	—	—	—	—
14	Yukon Territory	500dj*	500dj	500dj	125dj	—	—	—	—
		100n	100n	100n	25n	—	—	—	—
15	District of MacKenzie	500dj*	500dj	500dj	500dj	125dj	—	—	125dj
		100n	100n	100n	100n	25n	—	—	25n
16	District of Keewatin	500dj	125dj	125dj	500dj	250dj	—	—	250dj
		100n	25n	25n	100n	50n	—	—	50n
17	District of Franklin	—	—	—	—	125dj	—	—	125dj
		—	—	—	—	25n	—	—	25n.

REPORT OF THE MANITOBA A.R.R.L. EVENING PHONE NET

April 1980

No. of sessions 30
QNI Total Check-ins 923
QTC Formal Tfc. during net 35
QTC Formal Tfc. by the Individual Stations :-

4PG	62	4OE	13
4AEJ	61	4JA	11
4NE	41	4LB	10
4DP	36	4AAU	7
4TE	34	4ADS	7
4QJ	28	4AEE	3
4NM	20	4GB	2
4AAD	19	4ABU	1
4FK	16	4AG	1
4AED	14	4XN	1
		Total	387

While check-ins decreased, there was a notable increase in formal tfc. handled by the individual stations, compared to March.
A number of the net stations handled communications in connection with the Smileathon Contest sponsored by the Manitoba Dental Association.
Charlie 4GB has returned from the south recently and is checking into the net regularly. Noel, 4CF, was visiting the British Isles and during his absence Malcolm 4MG and Jim 4QJ took his place Monday nights as net controllers.
Malcolm 4MG has been experiencing some rig trouble recently but hopes to be back on the air very shortly.
Propagation has been fairly good during the month. There was some eastern station QRM on the net freq. but not as pronounced as it was during the winter.
Bill, VE4CR.

MARCH 1980

No. of sessions.....31
QNI Total Check-ins.....1285
QTC Formal Traffice during net....18
QTC Formal Tfc. by the Individual Stations :-

4AEJ	47	4FK	6
4PG	44	4NE	6
4QJ	27	4AAU	5
4TE	25	4CR	4
4JA	21	4LB	4
4QU	19	4NM	4
4RO	14	4AES	3
4AAD	8	4LN	3
4HR	8	4OD	2
4ADS	7	4ND	1

Total -- 258

Propagation in general during the month was good. Eastern phone and U.S. C.W. stations are still causing some QRM on the net frequency.

Check-ins and formal traffic have increased to some extent compared to February.

Joe, VE4JF is convalescing at his home in Brandon following a major operation in Wpg.; and we are very glad to report that he is doing very well.

Bill VE 4 CR

CRRL NEWSLETTER

A SERVICE TO AFFILIATED CLUBS

Number 1, 1980 April

A Message From the President:

It is with much pleasure, that through our organizational charges, we are now able to establish a new information service, not only for our own members and affiliated clubs, but also for the Canadian amateur community as a whole. This newsletter is but the first of many constructive and effective changes in this direction, where we have been somewhat lacking in the past.

The headquarters station of our bi-national society, W1AW, has already commenced broadcasting bulletins of special interest to Canadian amateurs, and an expanded network of Canadian bulletin stations will soon follow.

Now that we are a fully incorporated and self-governing ARRL division with our own and distinctive board of directors and executive administrative staff, in contrast to what could, to some degree, be construed as a "one man show" in the past, Canadian League activities will have a decided rebirth which will result in many increased services and benefits to Canadian amateur radio.

Now, as never before (since 1920), your ARRL-CRRL membership will not only assure you of being part of the exciting growth and prestiege of your organization (the members own the League), but also will help you daily, to enjoy more fully, your amateur activities... all for little more than the subscription cost of any of the other well-known international amateur publications.

I want to take this opportunity to express my personal appreciation and best wishes to the editor of this publication, Executive Public Relations Assistant Harry MacLean, VE3GRO, who I know will not only produce a most valuable, interesting and informative newsletter, but will also be working to create a visible and effective public relations program for the League in Canada.

Ron Hesler, VE1SH
Sackville, N.B., 1980 March 03

Your New CRRL Organization

Although the CRRL received its federal charter of incorporation around the end of October 1979, the formal operations of the corporation could not really commence until after the final results of the Canadian Division elections were realized late in the year.

Early in January therefore, the new Canadian Radio Relay League, Inc., began operations with an Executive Committee meeting which, amongst other things, ratified the following organization for the 1980 calendar year:

Officers and directors: President, Ron J. Hesler, VE1SH; Executive Vice President, Mitch Powell, VE7QT; Honorary Vice President, Noel D. Eaton, VE3CJ, Secretary, Fred Townes, VE6XX, Directors, Thomas B. J. Atkins, VE3CDM; A. George Spencer, VE6XN, Albert Daemen, VE2JJ; General Counsel, B. Robert Benson, VE2VW.

Executive Staff: Executive Administrative Assistant, Noreen Nimmons, VE3GOL; Executive Public Relations Assistant, Harry MacLean, VE3GRO; Executive Assistant to the President, Ray Perrin, VE3FN; Executive Assistant Directors, Fred Hammons, VE3HC, Martin Rosenthal, VE3MR, and Central QSL Bureau Manager, Brit Fader, VE1EQ.

Regional Officials: Senior Assistant Director, Gordon Sloane, VE3BMG; Assistant Directors, Randy Smith, VE3SAT/1, W. W. Loucks, VE1AR, George Davis, VE3BPW, William Hardie, VE3EFX, Ray Tuttle, VE3BNV, Sid Jones, VE6MJ, and Percy Crosthwaite, VE5RP. Public Relations Assistant, Tom McKee, VE3KQ; Al d'Eon, VE3AND, Wolf Antheunis, VE3EEA, Rick Proudfoot, VE3ILP, Mel Christian, VE3JTY, and Gil Frederick, VE4AG.

Other matters considered and acted upon by the Executive Committee included the novice licence proposals, opposition to the continuance of *wholesale* issuance of special prefixes, basic agreement to the proposed GRS operations in the 900 MHz band, relationships with other organizations, the new CRRL Newsletter, public relations, official bulletin stations, and program and other organizational matters.

To quote from the ARRL President's Annual Report, "A major organizational change has taken place in our bi-national society. The Canadian Radio Relay League (CRRL) was born during 1979. Congratulations and best wishes to CRRL President Hesler, VE1SH, and his volunteer board of directors as they continue to provide League members in Canada with representation and service. While any new organization will undergo certain 'growing pains,' it is hoped that CRRL will have few and their efforts will be fruitful."

QNC...

The 1980 Radio Society of Ontario Convention will be held at the Prince Hotel, Toronto, Ontario, 1980 October 3, 4 and 5. This is Canada's largest annual amateur gathering. For information and registration forms, write to RSO Convention Committee, Box 997, Station B, Willowdale, Ontario M2K 2T6.

The Winter Olympics special event station operated from Lake Placid, NY under the call VE3OLP/W2. The FCC will no longer issue special calls, even for events of this calibre, so the DOC kindly obliged!

CARF appears to be in the process of establishing its own traffic nets in Canada. We always thought that handling traffic was something the League-organized system did well. It has taken many years to establish the present system. The CARF move could split amateurs who enjoy handling traffic into opposing camps. Is this really what we want?

Noel Eaton, VE3CJ, well-known to amateurs in many countries, is the new ARRL Vice-President for International Affairs. Noel is also President of the International Amateur Radio Union of which CRRL is the Canadian member-society.

Want to sound off to your League officials? Both Mitch Powell and Fred Towner have been busy visiting clubs. They are willing to visit your club. Why not contact one or both and invite them to your club meeting soon?

Kuo-on Wong, VE7BC has left for China and hopes to be on the air from that country soon. In response to his request, the League offered a complete set of ARRL technical publication to leave in China as a gift.

Nominations are open for CRRL Amateur of the Year. Any Canadian League member or amateur organization may submit a nomination. The CRRL Executive Committee will determine the eligibility of all submitted nominations for the final ballot. All recipients of the CRRL Certificate of Merit for the year of the award, plus the previous year, will automatically appear on the ballot. The CRRL Board will select the Amateur of the Year.

Closing date for nominations is 1980 June 30. The Board will vote on the ballot as soon as possible after that. The Award plaque will be presented to the winner at the 1980 RSO Convention to be held in Toronto in October. Submit all nominations to CRRL, Box 418, Sackville, N.B. EØA 3CØ.

Who organized the Communications for the Mississauga evacuation? League people, of course. Congratulations to Charlie Powers, VE3APK, Noreen Mimmons, VE3GOL and Mike Goldstein, VE3GFN and all the other amateurs who were part of the ARES group that worked with the Red Cross to ensure a safe evacuation. The detailed story appears in your 1980 March QST, p. 50. Other accounts may be found in 1980 January ETI Canada, p. 43 and 1980 January TCA, p. 19.

Want the latest DX information before the weekend begins? Copy the W1AW DX Bulletin each Friday. A complete bulletin schedule appears in 1979 October QST, p. 111. Information is prepared by K1MEM and K1MM of the Southern New England DX Association - and it's good!

CRRL-ARRL membership is down slightly from last year. As of 1980 January 01, we have 4984 full members, 837 associate members, and mail out 189 subscriptions to QST alone, for a total of 6010. In view of the increase in dues and the decrease in the value of our dollar, it's all understandable, but we don't like it. Expect a membership drive soon. If you know someone who should be a League member, but isn't, have him read Mitch Powell's article on page 2 of this Newsletter. He'll get the idea!

Congratulations to the Victoria Short Wave Club, who recently celebrated fifty years of affiliation with the League.

CRRL NEWSLETTER

A SERVICE TO AFFILIATED CLUBS

Number 2, 1980 May

From the Secretary and ARRL Canadian Vice-Director:

I am pleased to have this opportunity to greet Canadian Division members via our new Newsletter. I am sure you will find the newsletter to be both informative and interesting.

During the next two years, there are a number of projects on which I hope to be able to solicit your advice and assistance. These projects are currently in the conceptual stage, and are primarily designed to strengthen amateur radio in Canada. I will, from time to time, present a draft of these plans in the pages of this newsletter. At that time, I will be asking for your input. Do not hesitate to respond. This is your organization, and we need your input to ensure that we are able to represent accurately our members' wishes.

Many of you will remember that I was appointed chairman of an ad-hoc committee to gather the opinions of Canadian amateurs regarding a recent proposal to move phone operation for U.S. Advanced Amateur ticket holders down to 14.175 MHz and U.S. Extra Class ticket holders down to 14.150 MHz.

I sent a letter to each Canadian SCM, asking that they put out a request on nets in their section, for all Canadian amateurs to drop me a QSL card with one calm, logical reason why the proposal should not be adopted. I can only say that I have been totally underwhelmed by the response. As of today, the scoreboard is:

Maritimes - 1	Manitoba - 19	British Columbia - 25
Quebec - 2	Saskatchewan - 5	YT/NWT - 0
Ontario - 2	Alberta - 26	Total - 79

I call this a most disappointing response to such an important issue. Canada is already in a weakened bargaining position due to the recent expansion of the Canadian phone band on 40 meters. Now with only 79 Canadian amateurs apparently caring about what happens on our 20 meter band, we are in an incredibly weak bargaining position.

If this proposal comes about, I hope that before you go about shouting that the League is destroying amateur radio, you will pause and reflect for a moment about what you did to help.

There are many things that can be done to strengthen amateur radio in Canada. They all require your help. Are you prepared to devote some time to the survival of your hobby?

For Western amateurs, I hope to be able to visit each club in the West during my term of office. I also hope to be able to attend each hamfest. You can assist me in this goal by bringing to the attention of your club executive that I am free to travel throughout the West, and that I am most anxious to visit your club.

If you have any ideas or suggestions you would like to put forward, that you feel will benefit amateur radio, please drop me a line. I will answer all letters as promptly as possible.

I look forward to working many of you on the air. When I am in the shack, I monitor 14.140 and 3.558 MHz. Also, I sked my father, WD6ERN (continued - page 2)

and my brother, KAoBNI every Sunday on 21.400 MHz at 0100 UTC. Please feel free to give us a shout.

I look forward to the privilege of serving amateur radio for the next two years as Secretary and Vice-Director of the ARRL Canadian Division. I look forward to your assistance in making Canadian amateur radio stronger, and more enjoyable for us all. Very 73.

Fred Towner, VE6XX
Calgary, Alberta, 1980 April 07

DOC News

The DOC is introducing a national computerized licensing system for the General Radio Service (GRS or CB radio). The move follows experimental introduction of the system in the Department's Pacific Region, and is expected to cut costs and improve service by allowing the Department to redirect manpower resources now tied to the task of processing licences manually.

The DOC advises that a revised ground conductivity map has been developed for Canada. Copies will soon be available for general distribution. The map formed part of Canada's proposal at a conference held in Buenos Aires in March, dealing with frequency assignments in the 535-1605 kHz broadcast band. This map will certainly be of interest to serious antenna experimenters across the country.

Reciprocal operating privileges with Japan should soon be a reality. Text of an agreement, approved by DOC and the Department of External Affairs, is now in the hands of the Canadian Embassy in Tokyo. W.W. Scott, Director of Regulations Development, Telecommunications Regulatory Services, DOC, writes, "Judging by a letter from the Japanese Amateur Radio League, there is little doubt that our proposal will be well received."

Weatheradio Canada

Occasionally there is an occurrence such as the disaster at Mississauga, but most emergencies requiring the assistance of amateur radio operators tend to be weather-related. Canadian amateurs can now receive up-to-the-minute weather information from one of six stations operated by Atmospheric Environment Services of Environment Canada. Locations and frequencies are as follows:

Vancouver	162.400 MHz
Regina	162.550 MHz
Winnipeg	162.550 MHz
Toronto	162.475 MHz
Montreal	162.550 MHz
Halifax	162.550 MHz

All stations operate in voice FM mode and have a range of about 65 km. Weather information is presented in five minute "cycles" and is broadcast continuously, twenty-four hours a day, seven days a week. Severe weather warnings are accompanied by a 1050 Hz audio tone designed to activate alarms in receivers fitted with decoders.

Now you know what to do with that old Motorola or GE Prog Line receiver strip cluttering up your shack!

_···_

Best wishes to the Canadian Amateur Radio Federation for a successful Regional Symposium to be held in Hamilton, Ontario 1980 May 17 and 18. Amateurs attending this Symposium will be making recommendations to the DOC concerning domestic frequency allocations, and changes in amateur regulations. Your editor attended a similar event in Montreal last November, and found it to be well-planned, interesting, and certainly of benefit to Canadian amateur radio.

THE CANADIAN RADIO RELAY LEAGUE, INC.

(CANADIAN DIVISION OF THE AMERICAN RADIO RELAY LEAGUE INC.)
MEMBER SOCIETY OF THE INTERNATIONAL AMATEUR RADIO UNION

ADMINISTRATIVE HEADQUARTERS SACKVILLE, N. B. E0A 3C0 CANADA

May 9th, 1980

TO: The ARRL & CRRL Board of Directors.

Gentlemen:

During my two terms, as ARRL Canadian Division Director, I worked very hard and diligently to found and achieve the self-governing and administering democratic reorganization of the Canadian Division into the formal incorporation of the CRRL. In point of fact, long before its formal incorporation, the CRRL literally became a self-governing organization and with all policies determined by its then informal Board of Directors and was, indeed, working well and efficiently, as an organization.

However, since the first of January, when the new Canadian Director and Vice Director took office, with a most apparent and total disregard, on their part, to the principles and intent on which the CRRL was founded, the CRRL, as a working organization, has become little more than a puppet with, apparently, the full support of the ARRL President and other ARRL officials.

I have been fighting this "cancer" from within, for the past five months and, unfortunately, with little apparent support from any quarter whatsoever. As the founding "father" of the CRRL, I can no longer tolerate the manner in which the entire intent of the CRRL, Inc., has been warped beyond recognition, nor the puppet role in which it, as an organization, has been relegated. In all conscience, I simply cannot be a party to that which is clearly being dictated by those who, apparently, see their personal ambitions and autocratic authority being threatened.

With much regret and, unfortunately, much disillusionment with the present ARRL leadership, not to mention the supposed bi-national principles of the ARRL, I have no other alternative than to herewith submit my resignation, as CRRL President, effective immediately.

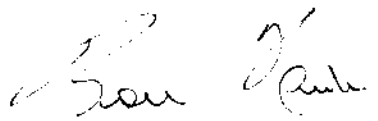
The many critics of the League operations in Canada, who have long alleged that the policies of the Canadian Division were led or otherwise dictated by those outside of our country were, I am now forced to conclude, to no small degree correct. During my two terms of office, I feel that I was quite successful in surmounting this

"interference" in our strictly Canadian affairs; however, as a result, I know that I made many enemies who, in the end, did not get me... they simply shot the self-governing administration status of the CRRL right out of the saddle. I am afraid that Hiram Percy Maxim might be turning in his grave!

As ARRL Director Powell once stated, in a different context (in a personal attack on the intentions and actions of the writer):

"For all sad works of tongue and pen,
The saddest was these: It might have been."

73,



Ron J. Hesler, VE1SH
President

WOODPECKER

The cat is out of the bag-or more appropriately-the woodpecker is out of the forest! I'm quite sure that what we have been listening to the last few years has not-repeat NOT been over the horizon radar at all. It is a "death ray" weapons research test program that utilizes enormous pulses of high current, high voltage electrons beamed in a stream through the atmosphere. Peals of laughter you say? Before you laugh further, I refer you to Scientific American, April '79 where the topic is treated in detail. Russian progress in this field is documented in rather good detail.
To Quote;'the controlled switch shorted a 2 ohm load in 5 nanosec, with an average current rise rate of 5X 1013 amp per sec. The discharge current was .25mega amp at 500 KV. "The pulse repetition rate was between 5 and 10 per second. Sound familiar? If this had been an over the horizon radar, more time would be required for the ionospheric - earth corridor to stop 'ringing' before the next transmission pulse. And radar is used continuously - not for a few dozen, or hundred pulses and then silence for several hours. Think about it!
Dave VE3GSO (CREDIT, LONDON Amateur Radio Club Inc.)

FOR SALE

1.	Swar 300B transceiver like new (260w pep) with built in AC & DC supply, VOX (provides semi-automatic break-in on CW) and desk mike	$550.00
2.	Matching VFO for above	100.00
3.	Tempo (FT-200) transceiver with home-built AC supply	500.00
4.	Heath HW-12 75M transceiver with built-in XTAL calibrator, DC supply and mike	130.00

Call VE4OL, John, Wpg 832-6857.

CANADIAN AMATEUR RADIO RESEARCH CLUB

Box 1785 Gimli, Manitoba ROC IBO

All Members of the Pinawa Repeater Group.

Dear Member, At the Annual General Meeting of the Pinawa Repeater Group (P.R.G.) held on Sunday 4 May 1980 I introduced the subject of U.H.F. linking of repeaters in Gimli, Selkirk, and Pinawa. This experimental link-up was conceived by the Canadian Amateur Radio Research Club (C.A.R.R.C.) who, in addition to setting up the U.H.F. equipment and necessary control systems, would be available to provide technical advice and assistance with day-to-day repeater maintenance.

With this link-up installed, normal repeater operation would be unaffected, but when the link is activated coverage could be extended from Hecla Island to Steinbach and from near the eastern shore of Lake Manitoba to Rennie, while further expansion of the system to include other repeaters would result in even wider coverage.

While the system proposed at present could be controlled by means of tone inputs from a touch-tone pad, control of a system of more than three repeaters in which only selected repeaters may be required to be activated, assumes a degree of complexity which demands, both for technical integrity and system security, that a digital keying-up method be employed. Thus it was proposed, from the start, that access to the system should be by means of a digital "key" available from C.A.R.R.C. The Selkirk/Gimli link should be in operation by the end of this year and the system will be expanded after this link has been proof-tested.

The P.R.G. meeting, while supporting the concept of linked repeaters, declined to join the experiment of it's present form, feeling that the need for a digital "key" for access to the system was not consistent with the Group's policy of operating an open repeater.

Only 8 members of the P.R.G. were present at the meeting at which this decision was made, (a quorum is 7), and if this decision stands the Pinawa repeater will be excluded from what we feel is an extremely useful and potentially exciting experiment. We feel that it is sufficiently important that all members of the P R.G. should have input to the discussion.

If you have any ideas about a tone input control system acceptable to the P.R.G. which would at the same time be practical, reliable and secure from accidental or malicious selection, we would be glad to consider them.

If, on the other hand, you feel that the use of a digital "key" does not, in fact, conflict with the open repeater concept and that Pinawa should be included in this experimental chain I would urge you to request the P.R.G. executive to re-open this question so that the voices of all active members of the Group may be heard.

73, J. Barrie - VE4FK, Secretary, Canadian Amateur Radio Research Club.

"An alligator just bit off my foot," one beatnik told his companion who also was dangling his feet in the river.

"Which one?" he asked.

"How do I know," was the reply. "You see one alligator, you've seen them all."

winnipeg amateur radio club

W.A.R.C. EXECUTIVE COMMITTEE

President	VE4[illegible]	MALLEY Dunn	**SPECIAL COMMITTEE**		
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Directors			Advertising	New appointee to be announced.	
Operations	[illegible]	[illegible] Massey	Awards	VE4SW	SANDY Wohl
Activities	[illegible]	[illegible] McIntyre	Historian	VE4AIM	MORT Patterson
			Q.U.A.	VE4AC	[illegible] Frederick
PAST PRESIDENTS					
Immediate	VE4[illegible]/7	[illegible]			
197[illegible]-1979	VE4[illegible]S	JOHN Gowron			

MAGAZINES - The following is a listing of magazines available for reference purposes.

[illegible] following issues: January 1946 [illegible]

ST. JAMES [illegible]

QST - bound [illegible] for reference purposes [illegible] years 1928 through 1979. There is also a set in circulation ([illegible] may be borrowed) for years 1927 up to present date. The staff at the library is doing an inventory and if any numbers are missing, we shall replace them if possible.

CQ - bound volumes for the years 1947 through 1979 for reference, plus a circulation set for the years 1946 to date.

In addition to the material in the two libraries, W.A.R.C. has a stock of magazines (list available on request). Some of these may be distributed to other libraries. They include CQ, Ham Radio, 73 and QST.

The St. James-Assiniboia Public Library requires a number of issues of QST to complete the 1929-1979 circulating copies. These are:

1929	January, February, March, May, August, October, November, December	1930	Mar, May, June, July, Aug, Sept, Oct, Nov, Dec.
1931	February, October	1932	August, November
193[illegible]	February	1943	Jan, Mar, June, Sept, Oct, Nov.
197[illegible]	February, May		

Also missing are the following issues of CQ:

1947	January	1956	May, October
195[illegible]	January, August, September		

If anyone has any of these copies and is prepared to make a donation to the Library ... please phone Mort Patterson VE4AIM at 832-4440 to arrange for a pick-up. Your assistance in completing the circulating copies will be appreciated.

[illegible]

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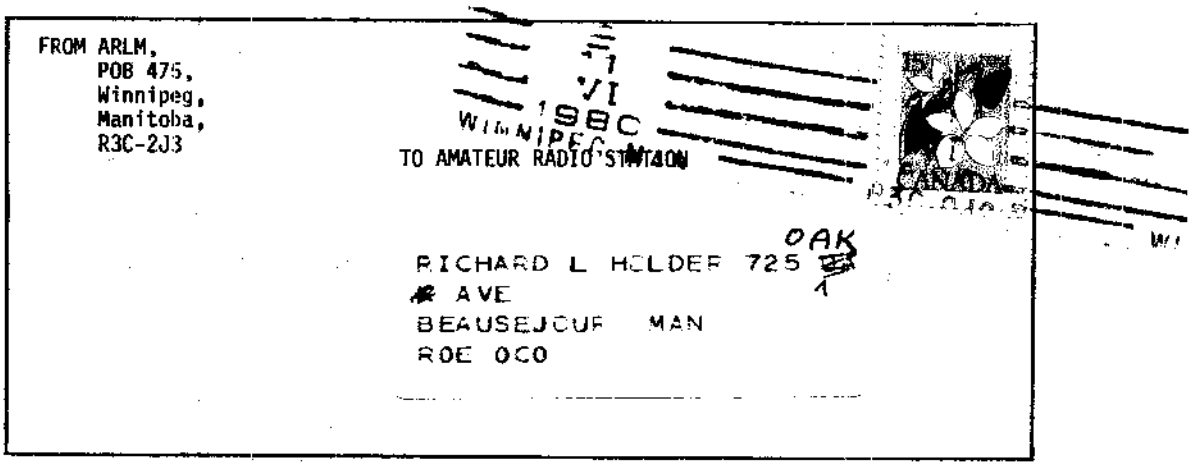

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ARLM MEMBERSHIP APPLICATION FORM ---

Detach and Mail with $3.50 Fee to: ARLM, Box 475, Winnipeg, Manitoba, R3C 2J3.

Name: _____ VE4 _____

Address: _____

_____

Area: Eastern _____, Western _____, Northern _____, (Check one)

$3.50 Membership paid by: Cheque ____, Money Order ____, Cash ____.

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