

# THE RAMBLER

JUNE 1989 ISSUE

The Ottawa Valley Mobile Radio  
Club Incorporated

P.O.Box 5530

Station F

Ottawa Ontario

K2C 3M1



**NEXT MEETING: THURSDAY, JUNE 15, 1989**

**PLACE: CANTERBURY COMMUNITY CENTER, 2185 ARCH STREET**

**TIME: 7:30 P.M.**



The Ottawa Valley Mobile Radio Club Inc.  
P.O. Box 5530  
Station F  
Ottawa, Ontario  
K2C 3M1



LARRY WILCOX  
565 EASTVALE DR.  
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JUNE 1989 ISSUE

**OVMRC EXECUTIVE  
1988-1989**

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737-4937

**Vice-President**

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VE3KJQ  
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✠

**THE OTTAWA VALLEY MOBILE RADIO CLUB  
INCORPORATED**

**OVMRC SPONSORED ACTIVITIES**

**POT HOLE NET - OVMRC NET -**

Every Sunday, 1000 local time on 3760 kHz, SSB. All Radio amateurs are welcome to participate.

**THE WISE OWL NET - OVMRC NET -**

Rag chew net every Friday evening at 2000 local time on the club repeater VE3TWO - 147.30/90 mHz.

**VE3JW** - Amateur radio station of the National Museum of Science and Technology. The OVMRC helps maintain the station and schedules operators for the station as part of an Amateur Radio public relations display. VE3JW operates on all HF bands, both CW and phone. Slow scan TV is also demonstrated. For information or if you wish to operate the station, contact the Public Relations Coordinator.

**AMATEUR RADIO ACTIVITIES IN THE NATIONAL CAPITAL:**

**POT LID NET** - Sponsored by Ed Morgan VE3GX. An informal slow speed CW net meets each Sunday (except July and August) at 1100 hrs. on 3620 kHz to provide and stimulate interest and proficiency in CW procedures.

**CAPITAL CITY FM NET** - Sponsored by the Ottawa Amateur Radio Club Inc. every Monday evening at 2000 hrs. local time. Conducted on VE2CRA repeater 146.94/146.34.

**SWAP NET** - Sponsored by Ed Morgan VE3GX, each Sunday as part of the Pot Hole Net, and each Monday as part of the Capital City FM Net (except July and August). Ed may be reached at 733-1721 for listings and queries.

**THE MILITARY NET** - Sponsored and conducted by Frank, VE3MSC, Tuesdays at 2000 hrs. on VE3TWO 147.30/147.90 mHz.

**Membership** in the OVMRC is open to all those interested in Amateur Radio. Regular meetings are held on the third Thursday of each month (except July and August) at 2000 hrs. unless otherwise posted. Meetings normally take place in the auditorium of the Museum of Science and Technology on St. Laurent Blvd. (south of the Queensway).

The OVMRC provides code practice 24 hours a day. Dial 825-0786.

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**The Rambler**

Volume 32, Number 6  
June 1989

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**ANNOUNCEMENTS**

The next meeting of The Ottawa Valley Mobile Radio Club will be on Thursday June 15, 1989 at the Canterbury Community Center, 2185 Arch Street. The meeting begins at 7:30 p.m. sharp.

The agenda for the evening will be the election of the new slate of executive officers of the club for the 1989-1990 season. All positions are open for nominations. Let's see some new faces and fresh talent out there!

Publishing Committee:  
Fred VE3NJF, Eric VE3OTT, Don VE3PUZ

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# RAMBLINGS

*By Alan Boyce VE3LNH*

---

A year ago I set some objectives for this year's club activities. I wanted to see new members join the club, to bring new hams into the hobby, and to have fun. Measured against these objectives, I think that the Ottawa Valley Mobile Radio Club has had a successful year.

- Our club membership is at a new record high, with 152 members.

-Doug, Jerry, Pat, and Bryce have had almost complete success with their amateur radio licencing course, where almost all of the students have obtained their licenses.

- I have had fun, and those who came out to the various club activities and events also appear to have had fun.

More specifically, the club has continued the traditional events such as field day, the barbecue, the club banquet, and the flea market. Some traditional events have been enhanced. This year has seen a very impressive technical, social, and geographic range of speakers at our monthly meetings. Bob has made some significant improvements to the Rambler with his desk-top publishing tools.

In terms of new activities,

the club has recognized the contributions of Fred Noble, VE3BAJ, and Jerry Wells, VE3CDS, by awarding them life membership in the club.

Another significant activity was the Introduction to Amateur Radio program, developed for the September club meeting. The ideas generated and work done for this event will be reused in future presentations.

The only disappointment of the year was the sudden demise of VE3JW, and that was not lost so much as taken away. As we have said, though, we are committed to working with the National Museum of Science and Technology to revive the National Amateur Radio Station.

Outside of the club, there are some other changes in the wind. The restructuring of the Amateur Radio service has been under discussion for several years. It now appears ready for implementation in September 1990. This restructuring will cause profound changes to our hobby beyond the technical differences in the operating privileges. It will mean that our hobby is accessible to a different group of people, and this will cause the real differences.

The most important observation that I have, though, is that there is an eager crew ready to take the club on to new directions next year. There is a good mix of recent and long-time members willing to lead the club through the next year. Since the incoming executive will be the last group before the service is restructured, they will face even more changes and challenges than usual.

This year's challenges have not been too burdensome. They have been made less onerous due to the teamwork demonstrated by the 1988/89 executive. I wish offer my personal thanks to the executive for their ideas and energy. I hope that next year will see such a conscientious and hard-working group as Doug, Archie, George, Ed, Leo, Bob, and Pat.

My final thought will be a well-worn theme. Like everything else, Amateur Radio gives us back what we put into it. At some time each of us must choose between allowing ourselves to be passively entertained, and contributing to the hobby and the community.

*Thank you all for giving me an enjoyable year.*

## EDITORIAL

By Bob Baillargeon  
VE3MPG

This is the last issue of the Rambler for the season. It's hard to believe that eleven issues have been produced. This will be my last issue. With this mailing I'll follow the path of past editors and sit back and let some new talent write some prose.

The designing of the Rambler on a computer, using desktop publishing software was interesting. Virtually anyone with a computer can produce similar results. There must be some budding publisher out there who would love the position of *Rambler Editor*.

I still believe that articles for the Rambler should be written by members of the club. From the past issues you can all see that some of our members can produce very readable material. If you have an aspect of the hobby that you enjoy, put it into words and get it to the Editor. Who knows, your story might spark some other member to write another point of view regarding your topic. You might even generate some potent opinions and views for the 'Letters to the Editor' column, like last month's Editorial column produced. At least someone is alive out there!

It has been a year since I've been on the HF bands. This summer I plan to revamp my antenna farm and get back on air. Slow scan TV is another interest I wish to pursue. With some top notch software for the Amiga, this will keep my interests peaked for some time. I also plan to write a column each month for the Rambler, by the deadline!

Leaving the post of Editor will give me time to pursue other aspects of the hobby and time for a million and one other things that need doing. There will be time for experimenting with those new

trends in amateur radio.

I wish to thank the publishing committee for the dedicated effort in the production of the Rambler. Eric, Fred, Don thank you. Pat Brewer had a hand in this too. The provision of the mailing labels and updating of the membership list and teaching the course at the same time was some feat. Thank you all.

## MINUTES

President Alan Boyce VE3LNH, opened the meeting and welcomed the President of the Ottawa Amateur Radio Club, Paul Cooper, VE3JLP, guest Joe Walcott VE3PDS, and prospective ham Peter Noel.

Pat Brewer, VE3KJQ, stated that the Flea Market raffle made a net profit of over \$347. Total profits, including food profits, were not yet available. The budget for '89-'90 will be voted on by members at the next meeting.

Pat reminded all present that Club membership fees were due. Application forms were included in the last Rambler.

Long-time member Merv Lemke, VE3CV, recently celebrated his 50th wedding anniversary. Congratulations, Merv! Art Stark, VE3ZS, is ill in an Ottawa Hospital. The new Directory of Amateur Radio Club Members for the National Capital Region, 1989 Edition, has been published by the Ottawa Amateur Radio Club Inc. Copies can be obtained through the Mobile Club for \$3.00 each.

Jeff Wilson, VE3RCI, volunteered to be the Field Day coordinator. It is possible that the OVMRC and the OARC will combine their efforts for F.D. (1800 UTC Sat. June 24 to 2100 UTC Sun. June 25).

Elections will be held at the next regular meeting in June, and a nominating committee has been named to find candidates for a

new slate of officers. Members will be contacted by phone.

Members present voted by ballot to consider bestowing the rare privilege of Life Membership on two club members nominated by the Executive. Results will be printed in the Rambler.

Bob Campbell, VE3KLK, will be the auditor of the Club's books for the year now coming to a close.

The main speaker of the evening, Pierre Burgoyne, VE2PBQ, gave a most interesting talk on his three visits to the West African country of Senegal. Pierre, who obtained his licence between his first and his last visit, covered many aspects of life in Africa, including village life, and city life in Dakar, the capital. Local hams were very friendly, and he made many QSO's, including many with Canada. Colour slides added to Pierre's presentation.

Refreshments were provided by Evelyn MacKinnon, VE3OAM for the 34 persons who signed the attendance sheet.

## IN MEMORIAM

Art Stark, VE3ZS, died in hospital, on the afternoon of June 6, 1989. Art known to most of the local amateurs as a familiar voice on repeater VE2CRA, was 87 years old.

Art's career with radio began as a ship's radio operator. He then joined the Department of Transport as a radio operator. During WWII he was a radio operator with the Ferry Command, aboard a flying boat. After the war he joined the Aviation Radio Service. He represented Canada at the International Civil Aviation Organization (ICAO). In 1956 he became Chief Radio Inspector of the Radio Regulations Branch. He was involved with the training of radio inspectors and judicial matters. He retired in 1969.

Art is survived by a daughter, Janice Godwin, VE3JMG. Interment will be on June 8, 1989, at Capital Memorial Gardens.

## Letters To The Editor

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Dear Sir:

I am writing to express my strong disapproval of the content of your editorial in the May 1989 edition of the Rambler. The expression of your own political views have no place in this publication, which is supposed to be the bulletin of The Ottawa Valley Mobile Radio Club, Incorporated.

Under the constitution of the Club, article two, paragraph seven, one of the purposes of the organization is:

*"To publish prior to each regular meeting a bulletin containing the notice of meeting, notices of motion and announcements etc. concerning Amateur Radio and the activities of the Club"*.

The expression of the Editor's or anyone else's political opinions on events not related to Amateur Radio is not mentioned. The only allowed political opinion would be that pertaining to the government regulation of Amateur Radio under these rules.

If it is the intention that the content and purpose of the Rambler is to be changed to include this new material, an amendment to the constitution of the club must be presented for consideration and approval by the full membership. This amendment should be submitted to the membership at the earliest occasion.

If such an amendment is passed by the membership, I will give serious consideration to leaving the club, after seeing my opinions published on abortion, current and past governments, Ottawa drivers and the many other "hobby horses" that I ride when not talking about Amateur Radio. If it is appropriate and fair to publish one member's personal political opinions, it is only fair that all members have the right to express their views in print.

Early in life I was taught that one did not discuss sex, religion or politics at the dinner table in order to avoid disagreements. I believe that the same policy should be followed at the Rambler. I feel that you owe the membership of the club a formal apology and a promise to restrict your editorials to the subject of Amateur Radio and the club.

A.R. Beveridge, VE3RCS  
Member Number 152

Dear Member,

*The views stated in my editorial are my own opinions and not those of the OVMRC. Maybe you do not agree with the forum I chose to express those sentiments, but I felt strongly about this issue, strong enough to confront some disagreement, and it is not against the OVMRC constitution. Articles*

*have appeared from time to time in past issues of the Rambler that did not pertain to Amateur Radio. No one challenged those.*

*Early in life I learned to discuss issues unrestricted. The dinner table was the only time of the day when the whole family was brought together. Some spirited discussions sometimes ensued. And yes, a lot of the time religion, politics, and too, sex was openly discussed. This liberal discussion, as a family, was healthy. I learned to respect other opinions and differing views. The individuals right to freedom of the press or speech should be protected, not censored. I find it's better to be controversial than to be universally adored.*

*-Bob Baillargeon, VE3MPG, Editor*

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Dear Sir,

I read with disbelief the editorial in the May Rambler which included what looked like a press release from peace activists and anarchists, in which amateurs were urged to attend a 'peace rally' against Amrx89. Political material, particularly that of a left wing nature, has no place in an amateur publication, in my opinion. May I suggest rather that you consider expressing your feelings as an individual amateur to the leader of the world's largest arms exporter, and also one of the "most repressive human rights violators in the world". Your letter should be in the spirit of glasnost, and the address is of course "Box 88".

Now that we have both had our say, let's get back to amateur radio.

73,

Sidney Moorcroft, VE3GVI.

Dear Sydney,

*Oh, Sydney, "right wing" is ok? Why do you equate "left wing" with people who are only interested in promoting and hoping for peace in our time?*

*Gosh, now I know what Wayne Green feels like when a deluge of letters from amateurs hit his desk! If you read 73 Magazine, you'll notice that a lot of the time Wayne's editorials often do not pertain to amateur radio. His money making schemes and his political views are often expressed. Come on guys re-read the April Editorial - "The future is not going to be the same as the past."*

*-Bob Baillargeon, VE3MPG, Editor.*

## U.S. AMATEURS REACT TO DEREGULATION OF THE SUB-BANDS

According to the W5YI Report of April 1st, the ARRL has reacted sharply to the proposed sub-band deregulation in Canada. The President of the ARRL wrote Tom Atkins, VE3CDM, President of the CRRL, on March 9th and asked him to make ARRL views known to DOC.

The highlight of the Report is a quotation from the letter, as follows: "If the Department wishes to deregulate amateur radio mode subbands in Canada, and to rely on voluntary compliance with good operating practice to avoid domestic and international difficulties, of course it has every right to do so. This approach is taken by a majority of the world's telecommunications administrations, and the Department is substantially correct in stating that the amateur community is self-policing. The real question is how the Canadian Amateurs will respond to deregulation. We have every faith in our Canadian brethren to act responsibly, if given the proper guidance. However we believe that it is the responsibility of the Department, in proposing to upset the existing equilibrium, to emphasize to its licensees the extreme importance of Canadian Amateurs observing the voluntary band plans that have been developed through the representative international mechanisms of the IARU."

*April 5, 1989.*

## OLD CERTIFICATES TO BECOME VALID HEIRLOOMS

When the restructuring takes effect there is every probability that new Amateur certificates will not be issued to existing Amateurs. DOC is anxious to save

money. The validity of existing certificates will be recognized in the new Regulations and they will become heirlooms. Those who want their certificates to be endorsed for the sake of history should arrange with their nearest DOC Office to do it soon. Endorsements will no longer be granted the moment the sub-bands are deregulated and Amateur privileges extended.

*April 18, 1989.*

## A NEW "RADIOCOMMUNICATION ACT" IS NOW BEFORE THE HOUSE

The new "Radiocommunication Act", known as Bill C-6, is almost the same in substance as that tabled last August 17th and which died when the election was called.

The proposal to establish ticket offences, which may interest Amateurs and was introduced in the last Act, has been revised to provide more statutory protection to offenders.

Otherwise, the changes are editorial and include the splitting of some sections and the renumbering of most sections. A section-by-section comparison is therefore not possible.

Amateurs, broadcasters and consumers will benefit from this Act because it will place responsibility for the proper design and construction of "radio-sensitive" electronic equipment on manufacturers where it belongs.

Amateurs should follow the passage of this Act through the House and be prepared to support it with letters to their M.P. should there be attempts to weaken the bill and the government's control of radio-susceptible equipment.

Copies of the new Act should be available now from DOC Regional Offices.

*April 20, 1989.*

## DOC WATCHING FCC PLAN TO ALLOW UNLICENSED USERS TO SHARE SPECTRUM WITH AMATEURS

DOC is following closely an FCC plan to allow all kinds of low-powered unlicensed radio operations under Part 15 Rules to operate in six bands, four of which are now allocated to Amateurs. This will be done in an effort to expand the benefits to manufacturers and users of unlicensed devices of all kinds and simplify FCC Rules.

The first band is that at 902-928 MHz presently allocated Amateur, Mobile except aeronautical mobile, and Radiolocation all secondary status as well as Fixed primary status in ITU Region 2.

Other Part 15 operations will be allowed in bands at 2300-2450 MHz now allocated Amateur secondary, Fixed, Mobile and Radiolocation primary world-wide and 5725-5850 MHz now allocated Amateur secondary and Radiolocation primary in Regions 2 and 3. Part of the Amateur band immediately above 5850 MHz may also be involved. The fourth that will probably be hurt the most in the future is the 24.00-24.25 GHz band presently allocated exclusively to Amateur and Amateur-Satellite on a world-wide basis.

While U.S. amateurs may be the first to feel the pinch especially at 902-928 MHz, Canadian amateurs will be a close second. Recall the DOC proposal to allow wireless office communications operations in the 902-928 MHz band. While CARF filed a brief on that proposal, DOC has made no policy decision as yet. The FCC action just raises the pressure favouring that operation since it would also be permitted in the States under the new Part 15.

Amateurs around the world will eventually feel the effects as the pressure grows in other coun-

tries to use these bands too for similar unlicensed operations.

*April 24, 1989.*

## **INTERIM BAND PLANS RECOMMENDED FOR CANADIAN AMATEURS**

Amateurs will recall that CARF has asked for input from Canadian Amateurs regarding the band plans they feel should be followed. See April TCA. Comments are being received. However, it now appears better to wait until after band deregulation takes effect and Canadian Amateurs have some experience before Canadian band plans are finally developed. In this way our plans will be more timely and certain to meet our needs under the new regulatory environment.

CARF's current recommendation is that, as an interim measure, Canadian Amateurs continue to observe the divisions of the bands between narrow and wide bandwidth emissions as they are set out by DOC in Schedule IX of the Radio Regulations published for Amateur use in Radio Information Circular 25.

Canadian Amateurs can then give the matter of replacement plans the serious consideration it deserves without the rush of trying to meet a date for the start of band deregulation that is unknown.

Obviously it would be unwise to accept the imposition of band plans which were formulated by an international organization in which the majority of Canadian Amateurs, country-wide, have not had the opportunity of prior input. Also these plans are not generally known in Canada and may not meet the unique needs of Canadian Amateurs. It is of greater importance for us to respect actual practice and usage patterns followed in Canada and world-wide in order not to cause undue inter-

ference.

In taking its decision to deregulate the bands, it is quite obvious that the Department has every confidence in the ability of Canadian Amateurs to manage their spectrum, a view that it has expressed frequently over the past several years. Their opinion is well justified when the performance of Canadian Amateurs is compared with that of the other users of radio across Canada.

The statement that "the Department has a clear responsibility for providing guidance" is being seen by Canadian Amateurs to be demeaning of their character and ability. That it is made by a Canadian Amateur organization at the request of an American Amateur organization makes the wound much deeper.

*May 5, 1989.*

## **GOOD PROGRESS BEING MADE ON THE RESTRUCTURING**

DOC, CARF and CRRL met in Ottawa May 27th and, working together, made good progress on the restructuring. The basics of the new structure and the question banks got the most attention. Here the important details:

There will be, subject to minor changes in the drafting process, only one wallet-sized certificate which may have up to four levels of qualification, namely: Basic Qualifications, Morse Code (5 wpm) Qualification, Morse Code (12 wpm) Qualification and Advanced Qualification. Every Amateur will have to have at least the Basic Qualification to get a license.

Those holding Advanced and Amateur Certificates will be deemed, under the new regulations, to have Basic, Morse Code (12wpm) and Advanced Qualifications while those holding Amateur Digital Certificates will be deemed to have only Basic and

Advanced Qualifications. Those with credit for theory or regulations only will not be grandfathered in while those with 5 or 12 wpm credit will have to pass the Basic Qualification exam to get a certificate.

An Amateur with a Basic Qualification certificate will be allowed to operate on Amateur bands above 30 MHz using all classes of emission and power up to 250 watts. One may build and operate all station equipment excepting non-kit home built transmitters.

Those with the additional Morse Code (5 wpm) Qualification will be permitted to operate additionally on all modes below 4.0 MHz while those with Morse Code (12 wpm) Qualification will be able to operate additionally on all modes on all Amateur bands.

Those with the Advanced Qualification will be permitted to operate additionally at 1 KW max power input, sponsor repeater and club stations and remotely controlled fixed stations and build, in addition to kits, home-brewed transmitting equipment.

George Spencer, VE3OZW (CRRL) and Earle Smith, VE6NM (CARF) have made good progress on the technical question and answer banks while DOC is to prepare the Regulation bank. The approval process for the restructuring Regulations has just been started.

The important target dates are: 1 Sep 89 for CARF and CRRL to give DOC final changes to the technical question banks; 1 Nov 89 for final approval of all question and answer banks; 1 Dec 89 for the notice in the Canada Gazette Part I asking for public comment; 1 Mar 90 for publishing the approved Regulations in the Canada Gazette Part II and 1 Sep 90 for the restructuring to take effect.

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Ottawa Valley Mobile Radio Club  
Operating Budget 1989 - 90

**CLUB REVENUES**

Memberships . . . . .		2100.00
Fleamarket sales . . . . .		400.00
- tables	300.00	
- food	100.00	
Raffle sales . . . . .		750.00
- fleamarket	700.00	
- other	50.00	
Bank interest . . . . .		100.00
Miscellaneous sales . . . . .		100.00
 Total Revenues . . . . .		 3450.00

**CLUB EXPENSES**

Rambler . . . . .		700.00
- postage	600.00	
- supplies	100.00	
Station operation . . . . .		180.00
- code phone	140.00	
- licences	40.00	
Repeater maintenance . . . . .		100.00
Public service events . . . . .		100.00
Social events . . . . .		250.00
- barbecue	75.00	
- field day	75.00	
- intro night	100.00	
Fleamarket expense . . . . .		70.00
Raffle prizes . . . . .		500.00
- fleamarket	400.00	
- other	100.00	
Membership support . . . . .		150.00
Insurance . . . . .		600.00
Photocopier . . . . .		700.00
- maintenance	650.00	
- supplies	50.00	
Office expenses . . . . .		100.00
 Total Expenses . . . . .		 3450.00

**George Dew VE2OWW, Treasurer**  
**June 1, 1989**



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## Financial Statement for 1988 - 89

(To be audited)

### CLUB REVENUES

Memberships . . . . .	2049.00
Fleamarket (tables & sales) . . . . .	311.48
Fleamarket (raffle) . . . . .	705.00
Bank interest . . . . .	154.60
Miscellaneous sales . . . . .	176.00
 Total Revenues. . . . .	 3396.08

### CLUB EXPENSES

Rambler supplies. . . . .	142.84
Rambler postage . . . . .	605.54
Photocopier operation . . . . .	658.10
Code phone. . . . .	124.52
Field day . . . . .	56.26
Club BBQ. . . . .	20.00
Awards / Social . . . . .	75.77
Insurance . . . . .	580.00
Post office box . . . . .	26.20
Station licences. . . . .	40.00
Miscellaneous . . . . .	198.94
New members - introduction. . . . .	128.38
Fleamarket expense. . . . .	58.33
Raffle expense. . . . .	352.51
 Total Expenses. . . . .	 3067.39
 Balance forward from previous year . . . . .	 1725.86
Net profit on year . . . . .	328.69
Balance forward to next year . . . . .	2054.55

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### AMATEUR RADIO COURSE

Balance forward from previous year . . . . .	0.00
Course revenues. . . . .	1763.00
Course expenses. . . . .	1191.28
Balance forward to next year . . . . .	571.72

**George Dew VE2OWW, Treasurer**  
**June 1, 1989**

# FIELD DAY 1989

## With Participation of *The Ottawa Amateur Radio Club Inc.*

by  
Jeff Wilson, VE3RCI

Mark these dates on your calendar- June 24-25 -because it's Field Day time again and we want everyone to come out for a turn at the key (sorry about that one). Not only are we holding Field Day at a prime location - Mooney's Bay (see map), but we're joining forces with the OARC to achieve a critical mass of operators. In addition, we're holding the Club's Summer Bar-B-Q at the Field Day site on Saturday night! So come on out and socialize, even if you don't want to operate. Food always tastes better in the great outdoors!

We hope to set up two 20' X 20' tents (courtesy of DND via AI, RCS) for two HF stations, operating as VE3JW. There is even talk of operating 160 meters! If you've never operated this band from your balcony or backyard, this may be your chance. A VFH Packet station may also be there. We may have a 10-15-20 meter tribander beam and tower and some choice dipoles for 40 and 80 meters strung from the trees. We'll need help stringing all these antennas, so please keep the morning of Saturday, June 24 open. Having never participated in Field Day before, I'm really interested to see how its all done, especially operating from a generator, relay-

ing messages, keeping DUPE sheets, etc.

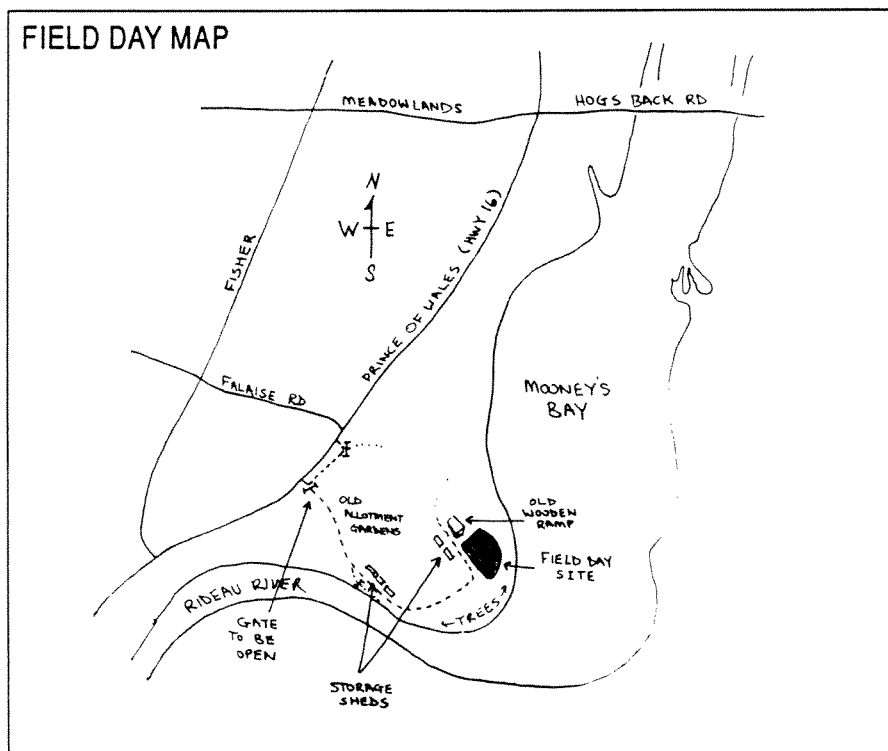
All you new Amateurs out there (myself included), here's your chance to get on HF phone before your 6-month endorsement or Advanced status, whichever comes first. You can operate while an Advance Ham keeps the log. With nothing but short QSOs, you won't have the time to develop "mike fright". This is a great chance to meet fellow Hams and

members of the other club. Lasting friendships could be made at the operating table while working Mongolia on 40 meters at 4 am!... or Cornwall on 160 meters. Who's to say?

From now until Field Day I'll be looking for more "participants" so let me know if and when you'll be out. Please call me or leave a message at 837-9598. More details will be hammered out before the June 15 meeting, so I'll present an update then. Also keep your ears open on the Monday OARC Net and Friday Wise Owl Net and local BBS. Tell your friends (the public, that is) so that we get some Field Day spectators - it's worth 100 points to our score!

One final note - it is the policy of this Field Day coordinator that apathy and "Oh, somebody else will do it" attitudes among OVMRC members is not allowed! That being said, you now have no excuses (apart from weddings in Dryden, right Doug?) not to attend this year's Field Day. It's going to be the best ever, so think SUN for Field Day weekend!

FIELD DAY MAP



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# HOW THE FAA AND NASA PLAN TO COMBAT WIND SHEAR

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Wind shear--the sudden change in wind speed and/or direction that can cause an aircraft to stall or drop rapidly, possibly crashing--is blamed for more than 500 deaths in almost 150 crashes in the past 15 years. It is especially dangerous if it strikes as a 150-mph microburst or a downdraft during takeoff or landing, when the flight crew has neither sufficient time nor altitude to react safely.

That's why the Federal Aviation Administration has stepped up its effort to develop equipment capable of detecting the phenomenon early enough to enable pilots to avoid it. It recently awarded a contract to Raytheon Co. for a ground-based airport radar system that alerts controllers to developing wind-shear conditions within 50 miles of the airport. And in concert the National Aeronautics and Space Administration, the FAA is in the midst of a five year program to develop airborne technologies to pinpoint hazardous weather. They

include microwave radar, laser-based light-detection and ranging (lidar) systems, and infrared detection. The business potential for companies able to provide any of the systems ultimately chosen is huge. Prices could range from \$50,000 to \$100,000 per aircraft; thousands of planes will have to be instrumented. The award to Raytheon's Equipment Division in Sudbury, Mass., covers development and installation of 47 systems at airport terminals. The radars would provide ground controllers with a 5-to-10 minute warning if dangerous winds were approaching. Controllers would relay the warning to planes.

The multiyear contract includes an option for Raytheon to build 55 more systems to equip additional airports. The contract has a potential value of \$282.5 million if all 102 of the systems are installed. The first radar will be delivered in late 1991 to the FAA's Technical Center in Atlantic City, N.J.

However, a warning from the groundbased terminal Doppler weather radar won't be enough to combat wind shear. The FAA has ruled that all commercial and commuter aircraft with 30 seats or more must be equipped with on-board systems by 1994.

The FAA seeks eventually to provide instantaneous on-board warning of dangerous wind shifts, rather than having the TDWR relayed via ground controllers. The aim of the FAA-NASA effort is to provide the flight crew with an on-board alert in time to provide a 30-to-60-second window for evasive action.

For now, however, the ground-based radar "is the first line of defense," says Herb Schlickemaier, project manager for airborne wind shear in the FAA's Flight Crew Systems Research Branch in Washington, D.C. For his part, Raytheon's Thomas McDonagh, manager of weather programs in the Equipment Division, says installation of the 102 TDWR systems "would cover between 80% and 90% of the flying public."

The 5.60-to5.65-GHz C-band Doppler radars will transmit a narrow pencil beam to a range of 90 km, about 55 miles. The system can detect targets as small as raindrops, determining their velocity by measuring frequency shifts in the return signals. Raindrops blowing toward the antenna, for example, reflect a higher frequency than those that are moving away from it.

McDonagh says the return signals will be analyzed by a minisupercomputer operating in real time. It will be programmed to implement meteorological pattern-recognition algorithms developed by the Massachusetts Institute of Technology's Lincoln Laboratory in Bedford, Mass.,

that screen for hazardous winds. Raytheon is designing the klystron based radar transmitter, receiver, and signal processor for each radar system. The antenna and its pedestal, tower, and radome will be purchased, as will the minisupercomputer and two kinds of displays to be used by air-traffic controllers in the airport tower.

McDonagh says the FAA-mandated 5-to-10-minute warning that dangerous weather is approaching is "to enable aircraft to avoid the hazardous area. We'll be looking for gust fronts, which are slow-moving and not especially intense, but are precursors to violent microbursts. The goal is to identify the precursors before the microburst occurs." A microburst can strike the ground with a velocity as high as 160 mph, flattening large trees much in the same way that a tornado does, he says.

Tests last summer of a prototype Doppler radar at Denver's Stapleton Airport have encouraged the FAA. During the two-month evaluation, the MIT system detected 47 microbursts within five miles of the airport.

While Raytheon develops the radar, others are at work on the airborne forward-looking technologies that will follow it. Unlike ground-based radar, an airborne system could be tied directly into the flight director, an instrument that helps guide the aircraft. Using one of the on-boards systems, the flight crew could immediately be apprised of an approaching microburst and directed on how best to avoid it.

#### GETTING CLOSE

"The technology is tantalizingly close," says the FAA's Schlickemaier. By 1994, he says, for the first time, we'll have a system on board that can give a

time-critical alert." Of the three kinds of systems the FAA and NASA are studying, the X-and K-band radars work only in wet weather, lidar works best in dry weather, and infrared seeks out temperature variations in the atmosphere.

Radar is the most mature technology of the three. NASA is doing the microwave radar studies in house. NASA's Rowland Bowles, technical director for windshear programs at Langley Research Center in Hampton, Va., says ground clutter is the main problem for radar, possibly causing signal returns to resemble hazardous weather patterns. But Bowles and Raytheon are both confident that ground clutter can be overcome with sophisticated signal processing and pattern recognition algorithms.

Lidars aren't confused by ground clutter, but some contend that rain blacks out a lidar by attenuating the laser beam. Not so, says Russell Targ, senior staff scientist at Lockheed Missiles & Space Co.'s Research and Development Laboratory in Palo Alto, Calif. Targ says two kinds of lidars his company is developing have been able "to gather ample data to show that there's a hazard and help a pilot avoid that hazard from 4 km away." That's enough distance to provide a 40-second warning, Targ says. The lasers in the systems are either carbon dioxide at 10.6 mm or holmium YAG at 2.1uM.

"We can sense and measure the strong winds right up to the core of a microburst," Targ says. "We can't penetrate the core, but our system will paint a picture of the microburst." Such a lidar system would carry a price of about \$100,000 per aircraft, he estimates.

Donald R. Rogers, cofounder of Turbulence Prediction Systems

of Boulder, Colo., says his company's infrared-based systems can detect the temperature differentials that occur during microbursts. "Microbursts are a cold-area event," he notes, "and we can pick up that cold area." Rogers says the IR system would sell for about \$50,000. "The advantage of IR is that it works in both dry and wet microbursts," he says.

Neither the FAA's Schlickemaier nor NASA's Bowles is backing one of the airborne technologies over the other. Both say the airlines and system builders will decide which is chosen. "Different airlines may opt for one or the other," Bowles says. "Not everyone will choose the same thing."

--Lawrence Curran and Tobias Naegele

*Article taken from the Jan 89 issue of Electronics magazine.*

#### CHARGES LAID

Public information obtained from Communications Canada and the Provincial Courts states that Adrian Brooks former licensee of VE3GOJ and VE3OEA, has been charged under section 4-1 of the Radio Act. The charge is operating a radio station without a license. He is to appear in Provincial court on March 27, 1990.

# Radio Shack

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April 28, 1989

Mr. Alvin Gabrielson  
Radio Shack  
279 Bayview Drive  
Barrie, Ontario  
L4M 4W5

Dear Mr. Gabrielson:

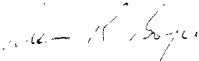
The Ottawa Valley Mobile Radio Club wishes you to be aware of our concern over the marketing strategy of the HTX-100 10-meter mobile transceiver. We are concerned that unlicensed persons may obtain possession of this transceiver.

As you are aware, Section 3 of the Radio Act restricts the possession of Amateur Radio transmitters to holders of an Amateur Radio Licence. Since the majority of Radio Shack customers and staff are not Amateur Radio Operators, they probably are not aware of the terms of the Radio Act. The wide promotion and availability of this product increases the chance that this transceiver may be sold and used illegally.

We urge you, as a socially responsible manufacturer and distributor, to take independent action to guarantee that this product and all other Amateur Radio Equipment distributed by Radio Shack are sold only to Amateur Radio Operators.

Thank you for your time; we look forward to receiving your response.

Sincerely,



Alan R. Boyce  
President, O.V.M.R.C.

**Radio Shack**

DIVISION OF INTERTAN CANADA LTD

TELEX 06875506

279 BAYVIEW DRIVE P.O. BOX 34000 BARRIE ONTARIO CANADA L4M 4W5

TELEPHONE 705-728-6242

FAX 705-728-2012

May 11, 1989

Ottawa Valley Mobile Radio Club  
P.O. Box 5530, Station F  
Ottawa, Ontario  
K2C 3M1

Attention: Mr. Alan R. Boyce

Dear Sir:

This is in reply to your letter of April 30, 1989 in which you commented on the introduction of the HTX-100 10 Meter Amateur band transceiver through Radio Shack stores in Canada.

Before we decided to market this product in Canada I contacted the department of Communications and asked them to advise us on the equipment requirements and regulations governing the sale and use of amateur band radios in Canada.

I talked at length with Mr. Peter Dalton of the Spectrum Management Operations Division and he suggested we use a specific warning on the outside of the gift box and in the owner's manual. We will be having this warning printed on box and manual, as well as in our annual catalogue and any advertising we do on this product.

We will also be meeting with each of our 900 store managers at our annual meetings in August of 1989 at which time we will be informing them of the regulations governing use of this transceiver. Then to reinforce this information we will be sending periodic memos to our stores on amateur radios.

As I am sure you are aware, we cannot prevent someone from going to the USA and purchasing this unit and bringing it back to Canada for either legal or illegal use. However we will do our best to prevent it from happening through our stores.

I trust that this will allay your fears of illegal use of this particular transceiver.

Yours truly,



Alvin Gabrielson, Product Manager  
Radio Shack Canada  
Division of Intertan Canada Ltd

AG/sd

# Let the Sun Shine In! -Solar Power for Your Station

By Dave Harris  
VE3KMV

Obtaining a small low-cost high-grade solar panel led to some experiments in using a solar array for battery charging. Although sunshine is "free", the capital cost of solar power is quite high; it follows that any reasonable method of maximizing efficiency should be investigated. Important aiming considerations come into play, in order to maintain the best angle of incidence, but factors considered here will be solely electrical.

A very simple charging circuit consists of a reverse blocking diode, to prevent battery discharge into the array during darkness. Under sunlight, current is dumped into the battery at whatever rate the array can supply. This method is perfectly acceptable if the battery voltage and capacity are matched to the array, and if efficiency is not of great concern. There will be some uncertainty of the total energy delivered to the battery, and therefore its state of charge, unless some method of measuring and totalizing it is implemented.

If the array output voltage is

too low, a second one could be placed in series, with the effect of doubling cost, weight, and size. Low efficiency will result unless power is converted efficiently to the appropriate load voltage. Adjusting the number of cells is a possible compromise, but not usually practical.

The panel under test, a Solarex 220, is nominally rated at 12v and 1.5W capacity. It is a sealed unit, about 9"x7"x1/4", containing eight 2" cells which are cut into quarters and interconnected. Cost was less than \$30 CDN. I have characterized its voltage and current output over a range of lighting conditions and loads.

First, the two load extremes were tested: open circuit voltage and short circuit current. These values represent zero power, but mark the endpoints of an I-V curve which defines available output power. A family of load lines exists for various levels of illumination; a few were measured and plotted. I discovered readings changed as the panel heated up; the steady-state condition will be

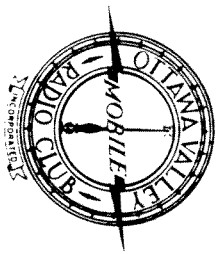
hot under bright sun, so those readings were used. Below are points taken from the curve of maximum output, at noon on a clear day with best angle of incidence:

I(I) mA	V(I)	vP(I) mW	%capacity
183	0.0	0	0
175	4.0	700	49
158	8.0	1264	88
142	10.0	1420	98
132	11.0	1440	100
120	12.0	1440	100
100	13.0	1300	90
70	14.0	980	68
50	14.5	725	50
25	15.0	375	26
0	15.4	0	0

Peak output power, or 100% capacity, occurs in the 10-12v range, too low to charge a 12v lead-acid battery. Driving the battery directly results in power utilization dropping to 50% or lower as the battery voltage rises.

To maximize power transfer, a system is required to adjust the load seen by the array to maintain it in its range of highest power output. To sense and adjust for maximum load power is feasible, but appears overly complex; one which regulates the panel output voltage around a fixed value should suffice. This voltage would feed a high-efficiency DC/DC convertor, which in turn charges the battery. It is vital that the conversion and sensing circuits be efficient enough that any advantage gained by this added complexity is not lost in the process.

An approach being tested is the use of an inexpensive 1-chip switching regulator, the Fairchild 78S40, as a step-up convertor. Typical efficiency with 11v input and 15v output is about 80%. It remains to be seen if this approach will work, and if the net gain in efficiency is enough to make it worthwhile.



## MEMBERSHIP APPLICATION/RENEWAL

Ottawa Valley Mobile Radio Club Inc.,  
 P.O. Box 5530, Station "F",  
 OTTAWA, Ontario K2C 3M1

Radio Call Sign

Family Name	Given Name & Initials	Preferred Radio Name
Address - Apartment, House Number, Street		
City/Town	Province	Postal Code
		Home Phone
		Business Phone

Applies for membership/renewal for the Membership Year.....in the following category:

- REGULAR MEMBER\* - as a licensed amateur..... \$15.00
- ASSOCIATE MEMBER\* - as a radio enthusiast..... \$15.00
- FAMILY MEMBER(S) - of a Regular or Associate Member..... \$1.00

Given Names

Total: \$ \_\_\_\_\_ Enclosed  Cheque  Cash

\* Includes subscription to *The Rambler*

Date

- New Member  Membership Renewal
- Association Memberships
  - CARF  CRRL
  - OARC  Other

**For Office Use**

Membership Number	
Membership Registered <input type="checkbox"/>	
Receipt Issued <input type="checkbox"/>	
Card(s) Issued <input type="checkbox"/>	
Subscription Registered <input type="checkbox"/>	

