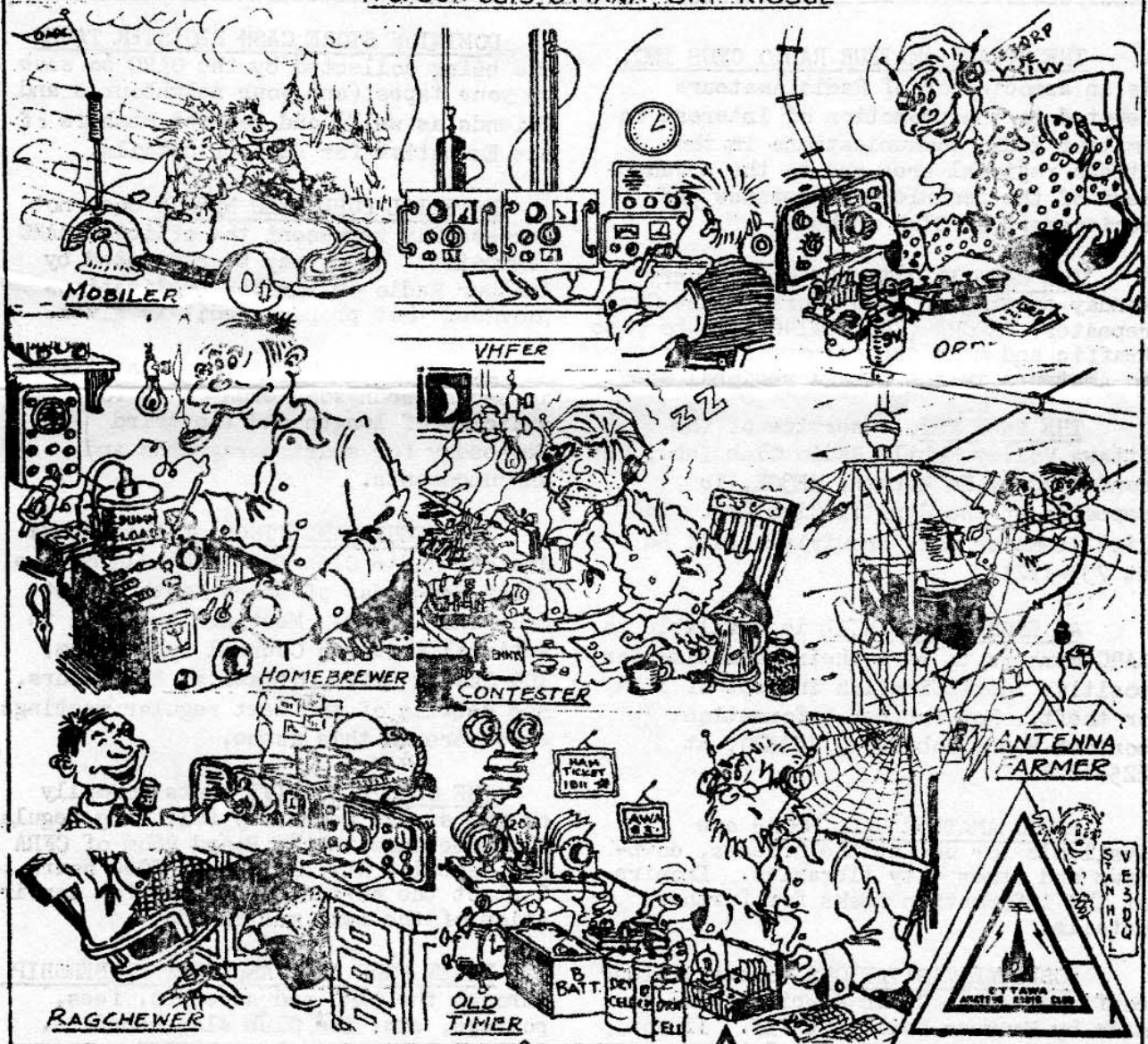




THE GROUNDWAVE

THE OFFICIAL BULLETIN OF THE OTTAWA AMATEUR RADIO CLUB INC.
P.O. BOX 8873, OTTAWA, ONT. K1G3J2



AMSAT

Club Call VE3RC



Repeater VE2CRA

--- THE GROUNDWAVE --- OFFICIAL BULLETIN OF THE OTTAWA AMATEUR RADIO CLUB INC. ---

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THE OTTAWA AMATEUR RADIO CLUB INC.

is an association of Radio Amateurs devoted to the promotion of interest in Amateur Radio communications in the Ottawa regional area and to the advancement of the technical competence and achievement of Club members.

THE CAPITAL CITY NET meets every Monday evening at 2000 hours on the Club repeater, VE2CRA (146.34/146.94), to pass traffic and make announcements of interest to Amateurs in the Ottawa regional area.

THE SWAP NET, a service of the Ottawa Valley Mobile Radio Club Inc., and conducted by Ed Morgan, VE3GX, is repeated on the Capital City Net. To list items or make enquiries, call Ed at 733-1721.

AN ENGRAVING PENCIL is available to OARC members to mark their valuables for positive identification in case of loss or theft. For further information contact Penny Robinson, VE3ERO, at 225-1276.

RADIO AMATEUR CALL BOOKS are available for use at the Orleans, downtown and other city libraries. Enquire at the information desks for further details.

HOSPITAL VISITATIONS to any Amateur confined to the Civic Hospital will be made by Maureen Neill, VE3FZY. If you know of any Amateur confined there who would appreciate a visit, call Maureen at 725-4748 (233-9941 after 5:30)

SEE YOUR NAME IN PRINT!!! -- in National and International publications. Write an article to be published in THE GROUNDWAVE and then watch it travel! Many local articles have been reprinted in Club bulletins. all across North America.

DOMINION STORE CASH REGISTER TAPES

are being collected by the OARC so save up your tapes (and your neighbour's and friends as well) and contact members of the Executive for further details.

MATERIAL PUBLISHED HEREIN does not necessarily represent the official OARC viewpoint. Items may be reprinted by Amateur Radio or similar publications provided that proper credit is given.

DEADLINE FOR COPY for regular issues is second Wednesday each month for articles of length and the third Wednesday for short paragraphs and announcements.

THE REGULAR MEETINGS of the Ottawa Amateur Radio Club Inc. are held on the first Wednesday of every month except July and August. Meetings are held in National Research Council Auditorium, 100 Sussex Drive, Ottawa at 2000 hours. See details of the next regular meetings elsewhere in this issue.

THE OARC EXECUTIVE meets normally on the second Wednesday following regular Club meetings in the Board Room of CFRA 150 Isabella St., Ottawa at 2000 hours. Contact the current Executive for Confirmation of the next meeting date.

RENEW YOUR ARRL AND CARF MEMBERSHIP through the OARC and save M.O. fees, postage, etc. The Club also benefits. Contact Brian Barsalou, VE3IBX, at 829-7340, for further details or remittance forms.

MINUTES OF THE OTTAWA AMATEUR
RADIO CLUB, INC. 4 June 1980

The meeting was called to order at 2000 hours by Paul VE3ICV, president. Visitors to the meeting included Bill Hollick, Ying Hum VE3FB and VE3MHM. Following correction of Ken Kendall's call to VE3IHZ (not VE3IHZ), the minutes of the May meeting were approved as published in the Groundwave on a motion by VE3BDO, seconded by VE3JRX.

Paul VE3ICV suggested that it had been a dry spring, and would likely be a dry fall unless someone is willing to take over the coffee duties at the meetings.

It was reported that the club membership now stands at 292. Also, Paul announced that Ken VE3PU has submitted his resignation as membership chairman, so a replacement is being sought. The members present gave a round of applause in appreciation for Ken's much valued services over the years.

Paul reminded the members present that the club now owns two sets of professional linesman's belts which are available for loan to those planning antenna work. Also, the club has a two meter rig which may be used by any hospitalized member.

The club is planning to sponsor a picnic in cooperation with the Ottawa Valley Mobile Radio Club, probably in August. Details will be announced on the Capital City Net (Monday evenings at 2000 hours on VE2CRA) and the Pot Hole Net (Sundays at 1000 hours on 3760 kHz).

It was announced that if there were enough material submitted, a summer edition of the Groundwave would be published. (Because of insufficient material, it was later decided not to produce a summer edition-Ec.)

Volunteers are needed to provide communications for a flying rally to be held on June 21 by the Winchester Flying Club. The OVMRC will be

coordinating the event, but will require assistance. Those interested should contact Blayne VE3EEH.

The annual Home Brew night will be the featured event at the October meeting. Now is the time to finish that project that you have been putting off.

The Club Directory will be published during the summer. It is hoped that this will be a combined directory which will include the members of other local clubs. Ed VE3KLP is responsible for the publication this year. He has reported that it is essentially complete except for a few final commitments for advertising. Extra copies will be available for \$1.00.

The ARRL is considering making a proposal to the FCC to expand the U.S. twenty meter phone band to 14.150 MHz. Amateurs wishing to comment on this proposal should send them to:

Fred Towner, VE6XX
123 Rundlerridge Cr. N.E.
CALGARY, Alberta
T1Y 2L2
Telephone: (403) 261-5800

Note that Fred's address is incorrect in the Callbook. It was suggested that we make certain that overseas amateurs are aware of this proposal, and that they be urged to send their comments to the ARRL. In other ARRL/CRRL news, it was reported that Ron Hessler has resigned as president of the CRRL.

Murray VE3JSO suggested that in addition to individual comments on the above ARRL proposal, the club should submit a letter on behalf of its members opposing any expansion of the U.S. 20 meter phone band. It was so moved by Bud VE3ET and seconded by Fred VE3IO. The motion was carried unanimously. George VE3BNO suggested that "we should have thought of this before Canada expanded its phone section of the 40 meter band".

George VE3BNO reported on the failure of the Arienne launch vehicle carrying AMSAT Phase III, resulting in its loss. He played a recording of the countdown and a status report of the AMSAT net shortly after the aborted launch. VE3BNO moved that the club donate an additional \$100 to the AMSAT organization to give both moral and financial support. The motion was seconded by VE3BYX and was carried.

DOC amateur exams are scheduled for the following dates: June 18, 1980; October 15, 1980; February 4, 1981; April 15, 1981; June 15, 1981; and October 21, 1981.

Paul VE3ICV reported that he has QSL cards for the following: VE3JCG, VE3JCN, VE3JCO, VE3JCW, VE3JCZ, VE3JLM, VE3JLN, VE3JMN, VE3JQL, VE3JSC, VE3JSF, VE3JSM and VE3JKS. These cards may be collected from Paul.

John VE3DYJ, Field Day Chairman, reviewed the plans for Field Day and presented a slide show of activities at past Field Days. The managers for the various stations are:

- 80-20 phone John Metcalfe VE3HWW
- 80-20 CW Wally Clark VE3CBE
- 40-15 Phone Ralph Carsten VE3LOE
- 40-15 CW John Gilbert VE3CXL
- OSCAR ?
- Natural Power ?

A demonstration of a typical Field Day contact.

Wally VE3CBE presented applications of helical resonators and phased verticals to reduce interference between stations for field day. These applications will be tested later in the month.

Thanks to all the operators who participated, the communications provided for the Lions Club parade were very successful.

The meeting was adjourned at 2200 hours.

MESSAGE FROM THE PRESIDENT

Although there have been no formal meetings since June, the OARC has been far from inactive over the summer.

For a change, the weather for Field Day was almost ideal this year; not too hot and no rain. Despite a rather poor attendance, we again managed to keep all four stations on the air for the full 24 hours. Because of very poor conditions on 80 m, and perhaps because there were fewer stations taking part in the activity this year, the final score was slightly down from last year's. The 20 m phased verticals described by Wally VE3CBE at the June Club meeting worked beautifully so that there was no mutual interference between the 80/20 phone and CW stations, even without Wally's tuned cavities. However, there was interference between the two 40/15 m stations! Back to the drawing board!

By now, all club members should have received a copy of the 1980 Club Directory, which has been expanded this year to include the other major clubs in the Ottawa and Eastern Ontario region. (Our apologies to those who were left out--no offence was meant, but we had to call a stop somewhere to get the thing out at all!) Congratulations to Ed VE3KLP for a splendid job in putting it all together. Incidentally, extra copies will be available at the Club meetings for \$1.00 each.

The Club Picnic was held at Vincent Massey Park on Sunday, August 10th. The weather man again cooperated so that the 25-30 who turned out had a good time.

I hope to see you all at the September meeting--PLEASE won't somebody take over the coffee? Don't forget Home Brew Night in October!

73,

Paul VE3ICV

NEXT MEETING

The next regular meeting of the Ottawa Amateur Radio Club, Inc. will be held on Wednesday September 3 1980 in the Auditorium.

The featured speaker for the September meeting will be Gerry VE3GK who will be talking about DX antennas, and in particular, his "5 over 5" 20 m beam.

A Volunteer is still needed to look after preparation of coffee at the end of the club meetings.

--/--/--/--/--/--/--/--/--/--/--/--/--/--/--/--

HOME BREW NIGHT

Once again, home brew night is approaching. At the October meeting, club members are invited to bring along any project which they have built (or are in the process of building). Be it big or small, sophisticated or simple, showroom quality or obviously built on a bean can, bring it along to show and talk about to your fellow amateurs. The club trophy for outstanding technical achievement will be awarded, along with other prizes.

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LETTER TO ARRL/CRRL

At the June meeting of the OARC, the Executive were instructed to send a letter to the ARRL/CRRL commenting on the ARRL suggestion that the 20 m U.S. phone band be extended to 14.150 MHz. The following letter was prepared:

OTTAWA AMATEUR RADIO CLUB, Inc.
P.O. Box 8873
OTTAWA, Ontario
K1G 3J2

Frederick H. Towner, VE6XX
Secretary and ARRL Canadian Vice Dir.
123 Rundleridge Close N.W.
Calgary, Alberta
T1Y 2L2

Dear Fred:

The Ottawa Amateur Radio Club has a membership approaching the 300 total. At a recent club meeting the possible expansion of the U.S. 20 meter phone band to 14150 was discussed. The membership voted unanimously against such an expansion and directed the club executive to make members' wishes known to the CRRL/ARRL.

A review of the overseas callbook indicates that U.S. amateurs comprise 55% of all amateurs listed. Under the existing band scheme the 45% of non U.S. amateurs have exclusive use of the frequency range 14100-14200. This equates to 40% of the spectrum from 14100-14200 and is therefore reasonably equitable.

Should the proposed expansion of the U.S. phone band occur then non U.S. amateurs would have exclusive use of the region 14100 to 14150, i.e. 45% of the world's amateurs would have 20% of the band. This would be a grossly inequitable subdivision and cause widespread disruption of communications outside the United States.

One should also consider the existing band division in terms of split frequency operation when "DX-ing" occurs. It is very common for a DX station to transmit in the region of 14190 to 14200. He (or she) then listens in the area 14200 to 14220 for U.S. amateurs and 14160 to 14180 for non U.S. amateurs.

Should the proposed band expansion take place then three possibilities are likely to occur:

- 1. The DX station will listen for U.S. amateurs above 14150 and non U.S. amateurs below 14140. This would leave so little spectrum available for the rest of the world outside the U.S. phone band that normal communications would effectively cease.

TRANS-CANADA ON 900 MHZ MOBILE?

Yes, by 1986, this should be a reality with direct communication by satellites orbiting high over the equator. Your editor attended a three-day radio common carrier convention in Ottawa recently and heard several excellent papers delivered on advances in satellite-based in-band 900-MHz transponders (fancy repeaters).

It is already a reality with experiments carried out in cooperation with a large eastern seaboard trucking firm. The equipment is modified GE commercial 800-MHz mobile gear and offers mobile-to-mobile or base-to-mobile communications over any part of the eastern USA.

The present system is using a helical roof-mounted antenna to access the satellite. Future satellites propose to use deployable dishes from 15 feet to several hundred feet in diameter which will eliminate the need for any gain on the earth-based transceivers. a typical one watt ERP will be more than adequate.

These large dishes will not be used for one single high-gain beam but a group of many in a trunked configuration. By breaking Canada for instance into 16 separate areas, the same transponder frequency can be re-used in other parts of the country simultaneously by up to 16 users. By trunking of many channels, it will offer odds of busy circuits similar to that of not receiving a dial tone when you pick up the telephone receiver.

You are probably saying, what has this to do with Ham Radio? Well, directly, very little; but I will venture to say that Amateurs will probably be the first with an in-band transponder relaying mobile signals, since we have been given a new piece of spectrum from 902 to 928 MHz to replace 420 to 430, it would be feasible to offer direct mobile access. Since this Amateur satellite would not boast a huge antenna, there would be a need for

higher gain on the mobile or fixed station.

The days of single-wire, 19-inch antennas may be replaced by a helical device mounted on the trunk, pointed skyward. I say "may" because at the moment we know only that it is technically feasible to provide such a service to the amateurs. I have several names of Ottawa-based DOC boys who we may be able to interest in attending a meeting next season to discuss these proposed additional satellite-based commercial land mobile services... are we interested?

de Kitchener-Waterloo ARC News

VE RECORD ON 10 GHZ

On May 3, 1980, two groups of people from the West Island ARC Microwave Group successfully communicated over a distance of five miles on the three-centimetre (10 GHz) band. The transmission path was from St. Joseph's Oratory to the intersection of Trans Canada highway and Cote Vertu, St. Laurent. Signals were 5 x 7 both ways.

The two teams were Keith Baker, VE2XL, and Don Jarvis, VE2DWG, at St. Laurent with Keith Ballinger, VE2AQU, and Dave Lester, VE2FMF, at the Oratory. Equipment used was Gunnplexer-based transceivers of Don's design running 10mW RF with 17-dB horn antennas. Talk-back was provided on 2M FM.

Despite initial problems with modulation on the St. Laurent team's transceiver, two-way contact was first established at 1606 GMT. Several transmissions were exchanged from which valuable lessons were learned. First it was found that the path must be line-of-sight. The first attempt was from the Bazar car park over what seemed to be an optical path to the mountain but turned out to be extremely lossy. Moving the transceiver to the top of the building (accomplished by Don climbing the Comm-Plus tower) provide a considerable improvement. Second,

there will have to be some shielding provided across the mouth of the horn antennas, preventing wind from blowing into them. It was discovered that cold air was being blown down the antenna onto the Gunn diode in the oscillator causing a cooling effect with quite significant frequency drift. Indeed, it appears the St. Laurent team had an interesting time trying to track the other transmitter.

Following slight system improvements by Don, our next attempt will be from Mount Royal to Hudson, P.Q. Would you like to join us?

de Keith Ballinger VE2AQU
West Island ARC News

MICROWAVES MICROWAVESHAZARD

Microwaves ... are they harmful? The Port Authority of New York thinks so. It has postponed the start of television operations from the new 10-channel, \$20-million broadcast centre atop One World Trade Centre because the powerful transmitters may pose a hazard to sightseers and office workers.

No one will go on the air until the radiation has been reduced to 30 microwatts per square centimetre. The US Occupational Safety and Health Administration accepted safety standard for microwave exposure is 10,000 $\mu\text{W}/\text{cm}^2$.

The existing 200-uw level is more than ten times the peak power levels that were measured at the US embassy in Moscow that was "hosed" with microwaves since 1962. More than one-third of the people who worked at the embassy were found to have blood disorders.

Microwaves cause water molecules in tissue to vibrate. This causes friction which in turn generates heat. This is how microwave ovens work. Exposure must be many thousands of times higher than that measured at the World Trade Centre to produce the amount of heat generated in a microwave oven. Also, over-exposure of the human eye to microwaves has been known to cause

cataracts.

Health and Welfare Canada sets the maximum level for exposure of the extremities in the range 10 MHz to 300 GHz at 10,000 $\mu\text{W}/\text{cm}^2$ when averaged over a one-hour period, or 1,000 $\mu\text{W}/\text{cm}^2$ in the range 10 MHz to 1 GHz.

QST, March 1980, reports a study in which field intensities are well below 10,000 $\mu\text{W}/\text{cm}^2$ for the typical Amateur and his neighbours.

de West Island ARC Newsletter

SHORTS

Hamilton ARC held an order-of-merit night to honour members who have given "more than their fair share" to the hobby and the community.

Kitchener-Waterloo ARC has membership records on a diskette. A TRS-80 produces mailing labels and invoices.

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 (CRRL)

Kenya's government may be trying to discourage Amateur Radio according to word from the Radio Society of Kenya. Effective June 1, all Amateur transmitters must be type-approved at a fee of \$150 each. Any modifications or repair will require a new type approval. (hr)

CZ6 and XJ5 are commemorative prefixes for Alberta and Saskatchewan respectively. Listen for them between July 1 and September 30. They mark the 75th anniversary of the two provinces. (hr Report)

EA0JC, Spain's King Juan Carlos, has been reported on 14,300 KHz at 2040Z. QSL direct to Palace Zarzuela, Madrid. (Txn Geoff Watts)

1NP, the North Pole expedition with K2BPP, K0BJ and N4ZG, was turned back about 300 miles from the pole. (hr Report)

HF Awards -- continued

Zone 24 is eastern Asia including parts of mainland China, Taiwan, Macao and Hong Kong.

Zone 26 is South East Asia: Thailand, Laos, Cambodia, Vietnam, Burma and the Andaman and Nicobar Islands.

Zone 34 covers the Sudan, Libya and Egypt.

Zone 39 includes Agalega and St. Brandon, Crozet and Kerguelen Islands, Malagasy, Reunion, Seychelles, Chagos and Heard Island.

Zone 27 has the Philippines, Guam and the Caroline Islands.

We Canadians can count ourselves lucky as there are many Canadian amateurs on assignment overseas who are only too pleased to give a new zone or country to a fellow Victor Echo. In my log, I can count Chuck VE3KHM operating as VS6CZ in zone 24, George VE3FXT operating HS4AMI in zone 26, Bill VE2BXP as 5H3BP in zone 37, Greg VE3JGC as CN8AK in zone 33, Gary VE3JKD as 9V1UK in zone 28, Elizabeth from VE7 land operating YBØADT also in zone 28, Rob VE3ACY as 5Z4YW in zone 37, plus a few others.

You can apply for a mixed band/mixed mode award which is obviously the easiest, or single band mixed mode or single band single mode--each increasingly more difficult of course.

The WAZ award is also issued for SSTV and RTTY operation. If you really like a challenge, try for a five band WAZ! Truly an outstanding achievement.

There is a charge of \$5.00 for the award. Your QSL cards can be validated here in Canada; there is no need to send them south of the border. You can obtain more up to date information and an application form by sending a SASE (U.S. stamp) to:
Leo Haijsman, W4KA
1044 Southeast 43rd St.
Cape Coral, Florida, U.S.A.
33904

REPEATER INSTALLED ON EMR TOWER

(This article by George VE3JQW is reprinted from the July 1980 issue of Intercom which is published by the Communications Branch of Energy, Mines and Resources Canada, and with the permission of the editor.)

An amateur radio two-metre repeater, VE3TWO, operated by the Ottawa Valley Mobile Radio Club, recently began transmitting from its new site --the penthouse atop the Sir William Logan Building. This new site will provide far better coverage than was possible from its previous location at the Museum of Science and Technology.

In its new location the repeater, which is simply a receiver that picks up a signal on one frequency (147.900 Mhz), an amplifier, and a transmitter that sends out the amplified signal on a second frequency (147.300 MHz), will enable the club to carry out its community services, the most important of which is emergency communications.

There are many members on call to assist, in the event of a disaster, a province-wide network known as COMSONT (Communications Ontario). COMSONT is run by radio amateurs throughout the province and works closely with both the Emergency Measures Organization and Emergency Planning Canada.

It came about at the instigation of EMO at the time of the fall of Skylab, and served as a major means for emergency communications during the Mississauga disaster last year. Efficient communications between the scene of a disaster and the local COMSANT controller can now be assured with the Ottawa club's repeater in its new location.

The Ottawa Valley Mobile Radio Club does other community work as well.

The club serves each year as the
--continued on page 11.

Repeater -- continued

communications link for the St. Johns Ambulance Brigade on the Metres for Millions walk, a function they also perform in the Whipper Billy Watson Snowarama for crippled children.

And the first official use of the repeater in its new location was providing radio communications for the Ladies Great Ride for Cancer along the Ottawa River Parkway in June.

Of course, not all the club's activities are of such a serious nature. The repeater also serves as an on-the-air meeting place for club members and others who want to discuss technical problems, or simply engage in some friendly conversation.

The club is very appreciative of the cooperation received from EMR, and in particular Science and Technology ADM Dr. John Keys, William McKim ADM Administration, William Cherpeta and Pierre Cholette, who worked out arrangements with DPW, and George St. George and Wally Kinsella who handled all the essential details.

Thanks also to the many officials of DPW, without whose cooperation and assistance, the move could not have taken place.

THE SMILE CORNER

An optimist is the fellow who takes the cold water thrown on his proposition, heats it up with his enthusiasm, turns it into steam and keeps pushing on.

The only money that goes as far as it used to--is the penny that rolls under the bed.

The music had just stopped at one of those modern dances where each partner twists around individually as he sees fit. As a youth walked toward the sidelines, a girl rushed up and thanked him for the dance. "I wasn't dancing", the young fellow re-

plied, "I was just trying to get past you to the pop machine!"

One bureaucrat to another: "Well, if we made a blunder, DON'T JUST STAND THERE, label it 'TOP SECRET' and file it away!"

What some stuffed shirts need is a couple of CUFFS!

--courtesy the TRANSBORDER

BASIC ANTENNA FACTS

A bought antenna is not a better antenna. A bought antenna is merely a more expensive antenna. A good antenna book is a better investment.

A poor antenna is always poor, but when conditions are good, it will work.

Proper tuning is an antenna correctly loaded.

A loosely loaded transmitter sounds awful when over-driven.

A tightly loaded transmitter overdriven sags at the knees and output may even reduce.

There are no magic boxes to improve the performance of a poor antenna, but it is easy to reduce the efficiency of a good antenna.

--courtesy The LARC Bulletin.

FROM THE EDITOR

We had hoped to put out a summer issue of the GROUND WAVE. However, we really had to scrounge to get enough material to fill this September issue. Don't you have some pet project or interest that you would like to share with your fellow Club members? This is your Newsletter. Why don't you share some of your experience or ideas?

73,
Murray VE3JSO

THE OTTAWA AMATEUR RADIO CLUB, INC.
P.O. Box 8873, OTTAWA, Ontario, Canada
K1G 3J2



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