Ottawa Amateur Radio Club

Groundwave

P.O. Box 8873, Ottawa, Ontario, Canada, K1G 3J2

April 2013

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From the Editor:

The Rideau Lakes Cycle Tour is again looking for volunteers to help operate. See the request inside.

April is homebrew night. Be sure and bring along your favourite homebrew item for show and tell.

Hope to see you at the meeting.

Ian Jeffrey, VE3IGJ, Editor

Check out our Web Page: ***www.oarc.net***

Next Meeting 7:30 pm, Wednesday, April 10th in the Colonel By Room at Ottawa City Hall

In This Issue....

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Articles may be submitted for use in this publication provided that they portray events or activities that promote Amateur Radio. Letters and comments are also welcome. Submissions may be made by mail addressed to the Editor care of the OARC, or by e-mail to "ve3igj@rac.ca". Deadline for submissions occurs three days after the regular monthly meeting of the OARC.

Please support your local radio organisations. They support you!

Club Information

The Ottawa Amateur Radio Club Inc. is an association of Radio Amateurs devoted to the promotion of interest in Amateur Radio communications in the National Capital Area and to the advancement and achievement of club members.

Regular Meetings of the OARC Inc. are held on the second Wednesday of each month (except July and August) in the Honeywell Room which is on the second floor of Ottawa City Hall, formerly Regional Municipality of Ottawa Carleton Headquarters, on Lisgar Street. Meetings commence at approximately 19:30 hours. Further details about each meeting is elsewhere in this publication.

Executive Meetings of the OARC Inc. are normally held on the first Wednesday of each month at 19:30 hours. Contact the President to confirm the date, time and place of the next meeting.

The CAPITAL CITY FM Net meets every Monday (except some holidays) at 20:00 hours on the club repeater **VE2CRA 146.940(-)** to pass traffic and to make announcements of interest to Amateurs in the National Capital Region.

The SWAP Net is a service provided and conducted by Ed Seib, VA3ES. This feature appears on the Capital City FM Net. To list items and make inquiries, got to http://www.ncswapnet.ca. You may reach Ed at 613-738 8924 or e-mail him at va3es@rac.ca.

The Rubber Boot Net runs week days at 07:30 on VE3MPC, 147.150 + hosted by Ed, VE3GX or Mike, VA3TJP. The Rubber Boot net has been running since the early 1980's and is popular for the early risers and the go to work crowd.

The POT-HOLE Net is a SSB/HF net sponsored by the Ottawa Valley Mobile Radio Club and is conducted every Sunday at 10:00 hours on **3.760 MHz**. All amateurs are welcome to check in.

The POT-LID CW Net is an informal slow-speed **CW** net sponsored and conducted by Ed Morgan, VE3GX, and meets every Sunday, except during July and August, at 11:00 hours on **3.620** MHz, to promote interest in CW and CW procedures.

The QCWA CHAPTER 70 Net meets every Monday evening at 19:30 hours on repeater VE3MPC **147.150(+).** You do not have to be a QCWA member to participate.

The Ottawa Valley VHF/UHF SSB Net is sponsored by the West Carleton ARC. Look for it every Tuesday night (except the first Tuesday of the month) around 21:00 on **144.250,** (roll calls after net on 50.150, 432.150, 222.150, and 1296.100.) Horizontal polarization is preferred.

VE3TEN

Tuning in the beacon so that it makes sense requires you tune to **28.175** on **CW** and read the tone that is there . The spaces between the elements are the higher tone. If that doesn't work, tune to **28.175.28** on **lower sideband** for better results.

Voice (VHF) 146.94/146.34 100Hz CTCSS required
(UHF) 443.300/448.300

VE3TVA Amateur Fast Scan Television Repeater
Currently off the air and looking for a new home.

IRLP Node 2040 146.94/146.34 (VE2CRA/VE3RC)
(Code 411 for info) (Code 204 for activity)
(Code 88 for time)
For further information please contact the Repeater Chair.

Note: The IRLP link is not connected to ECHOLINK. Please do not try to connect using the alpha keys on your keypad. It just confuses the operator.
Note: The IRLP link is disabled during the Capital City Net each Monday. It is disabled from 2000 to 2145 Mondays except for May to August when the link is disabled from 2000 to 2020.

March Minutes

Meeting Opens
- 2013-03-13 19:39 EST

Guests
- Pete VE3FPM

Recent Events

Club project
- things are wrapping up now, one more session to go

RAC Planning Meeting
- was a chance to meet some of the directors of RAC
- lots of discussion not just about RAC, but also amateur activities

Question Bank Review
- RAC did a review of the question bank and made a number of recommendations
- the recommendations were sent in to Industry Canada today
- did a lot of work to make sure the answers were clear, non-ambiguous and equal in French and English meanings

Diefenbunker
- the tower setup as previously described is going to the museum's board for funding
- current estimate is $3.4k
- we proposing to match funding to a max of of $2.2k
- Why?
1) Fits our goal to support and promote amateur radio in the Ottawa region
2) excellent visibility to the club for amateur radio activities
3) the club has operated at the Diefenbunker for the past 4 years
- Glenn VE3XRA asks for a motion to fund $1.7k up to a max of $2.2k
- Richard VE3UNW moves a motion to fund the full $3.4k
- no supporters.
- Margaret VA3VXN moves a motion to fund $1.7k up to a max of $2.2k
- Bryan VE3QN seconds

Show and Tell
- Jean VE3DNI has a DDS board to show that was made by a fellow ham, AA8C.
- he's looking for a PIC programmer to program the MCU on the board

Meeting Topic
Dr Nur Serinken talks to us about HF Propogation Prediction

Prizes
50/50 - $17.00 to Janice VA3PAX - returned to the club

Meeting Closed
- 2013-03-13 21:35 EST

Dates to Remember

2013

Feb. 9, 10	Canada Ski Marathon
Apr. 10	Homebrew Night
Jun. 12	OARC AGM and Elections
Jun. 22, 23	Field Day
Jul. 1	RAC Canada Day Contest
Sep. 7	Hamfest
Sep. 30	Membership Renewals Due
Nov. 1	Joe Norton Award Subm. Due
Dec. 28	RAC Winter Contest

mk's Word

SDA—The Software Defined Antenna

Note this is not a software designed antenna. Rather, in the manner of, and conceived as an ad (junk)t to the SDR, or Software Defined Radio, the SDA is an infinitely configurable antenna, capable of emulating any of a number of more constrained, hardware defined antennas. For any given antenna type, the only limitation is the physical size of the antenna. Here's how it all works: (hold on to your hats kids...)

Recent advanced investigations into the physical properties of Unobtainium * have revealed previously unsuspected characteristics. By exciting small amounts of this material with laser light of a red-green colour (which has recently come to be known as "ductapeish", or "silver"), it has been found that it is possible to change its properties from that of a non-conductor ** to that of a conductor.

Therefore, given an array of arbitrarily small segments of Unobtanium wire, or dots, all in physical contact with their neighbours, it is possible, by software control of the Red-Green lasers and associated mirrors, to turn any of these "dots" into conductors or insulators at Will (or at Harvey, if you insist). This means that an antenna made of a cube of these dots and associated control equipment can be configured as a wire of any shape and orientation. (These wires consisting of a string of "dots" are, of course, called "dashes") Thus, an antenna may be fabricated as, for example, a right hand helix during the transmit portion of a communication, and reformed as a left hand helix during receive. This has already simplified the problem of communication by reflection from aircraft, buildings and other reflecting objects.

Further experiments on construction of an ambidextrous helix are now in the works. In addition, it may be used to dynamically change the polarization of a linear antenna to counteract the effects of Faraday rotation as a signal propagates through the ionosphere. I'm sure others will think of other uses for this breakthrough beyond merely adjusting an antenna to resonance.

Of course there are still some practical problems to be overcome, such as the complete lack of physical strength of Unobtanium, which necessitates the enclosure of such an antenna in a supporting housing. At HF and below, enclosing a half wavelength cube of the stuff becomes a formidable task, especially since it is so dense.

Coupling the feed line to the antenna is difficult, since it is difficult to get anything to stick to Unobtainium. Magnetic coupling has been tried, but it seems to react with great reluctance.

The physical implementation of the lasers, mirrors and associated control hardware (and software) has proven to be a problem, but a careful trading off of size vs number of elements, and the corresponding granularity of the adjustments possible is converging on a series of solutions for the various applications proposed. It is still quite difficult to get the antenna to change configuration in real time, mostly because the software continues to insist on going to the Internet to check Facebook to see how other systems in use are currently configured, and to receive updates on the health of the lasers and mirrors everywhere else. Once this problem can be solved, things should speed up.

73, Happy April Fuels Day
mk VE3FFK

* See previous articles in many publications, especially April issues.

** Similar to Administratium, Unobtainium is usually a non-conductor, and a non-anything else, too. In many other ways the two materials are quite opposite. For example Administratium is found almost everywhere, while Unobtanium is, by definition, rare.

Ham Radio Stats

Demographics

Few governments maintain detailed demographic statistics of their amateur radio operator populations, aside from recording the total number of licensed operators. The majority of amateur radio operators worldwide reside in Japan, the United States, Thailand, South Korea, and the nations of Europe. The top six countries by percentage of the population are Japan, Slovenia, Taiwan, South Korea and Thailand. Only the governments of Yemen and North Korea currently prohibit their citizens from becoming amateur radio operators. In some countries, acquiring an amateur radio license is difficult because of the bureaucratic processes or fees that place access to a license out of reach for most citizens. Most nations permit foreign nationals to earn an amateur radio license, but very few amateur radio operators are licensed in multiple countries.

Gender

In the vast majority of countries, the population of amateur radio operators is predominantly male. In the United States, approximately 15% of amateur radio operators are women.[6] In China, 12% of amateur radio operators are women.[7] The Young Ladies Radio League is an international organization of female amateur radio operators.

A male amateur radio operator can be referred to as an OM, an abbreviation used in Morse code telegraphy for "old man", regardless of the operator's age. A female amateur radio operator can be referred to as a YL, from the abbreviation used for "young lady", regardless of the operator's age. XYL was once used by amateur radio operators to refer to an unlicensed woman, usually the wife of a male amateur radio operator; today, the term has come to mean any female spouse of an amateur radio operator, licensed or not. Sometimes the wife of a ham operator is called a YF (wife). Although these codes are derived from English language abbreviations, their use is common among amateur radio operators worldwide. Incidentally, the most common language heard in the HF amateur bands (the bands below 30MHz that support worldwide communications) is English.

Country	Operators	% population
Japan	1,296,059	1.012
US	738,497	0.239
Thailand	176,278	0.275
S. Korea	141,000	0.288
Germany	75,262	0.092
China	68,692	0.296
Canada	69,183	0.201
Spain	58,700	0.127
UK	58,426	0.094
Russia	38,000	0.026
Brazil	32,053	0.016
Italy	30,000	0.049
Indonesia	27,815	0.011
France	18,500	0.028
Ukraine	17,265	0.037
Argentina	16,889	0.042
Poland	16,000	0.041
Australia	15,328	0.067
India	15,679	0.001
Denmark	8,668	0.156
Slovenia	6,500	0.317
South Africa	6,000	0.012
Norway	5,302	0.106

AMSAT has sent the club a CD-ROM containing 26 years of annual AMSAT-NA Space Symposia and other material. I If you would like to borrow it for a look please let me know and I can bring it to the meeting.

Ian Jeffrey, VE3IGJ

EMRG INSTALLS OARC TNC

Anyone who knows me well realizes that I tend to overcommit myself to the extreme, so projects last years, not weeks or months. In the Fall of 2008 the OARC donated a Kantronics KPC3-Plus TNC to EMRG. The TNC was destined to provide communications between Ottawa and the Ottawa Valley, primarily to support the Red Cross. It is now Spring 2013 and the TNC is configured and installed.

The TNC is now VA3OFS on 145.010 Mhz, located in Barrhaven. VA3OFS-1 will be the multiple PBBS, VA3OFS-7 will be the node and hopefully in the future VA3OFS-10 will be the Winlink gateway.

I would to thank the OARC for their continued support of EMRG. This excellent partnership has been in place for many years and it is this partnership that makes it so easy for EMRG to write a letter each year to the CBC stating that the OARC and repeater VE2CRA support emergency communications.

Now there are many people who reading this will ask the question, “why use packet radio?”. There are many reasons for this, so I’ll try to capture some of them;

- There are existing VHF packet nodes in the Ottawa Valley and the owners plan to continue supporting them.
- New software applications make the use of packet look like sending an email. With less Amateurs to help in an emergency, this allows the sending of messages to be off loaded to the client.
- Clients are not asking for data communications, emails or sending pictures. It is ARES (EMRG) that wants to use data to make it easier to send information like lists of equipment or medications. This is simple text information that can be slow and error prone to send on a voice net. For example; “The hospital needs Amiodarone, Cetacaine and Diltiazem”.
- Packet is cheap and reliable. There is a lot of equipment out there, new KISS TNCs like TNC-x are quite cheap, and newish TNCs like the KPC-3Plus that the OARC bought for EMRG, support memory expansion and multiple mailboxes, so they are an emergency BBS in a box.
- There are still places within Eastern Ontario that use dialup Internet, so assuming broadband for linking, or gateways is not always possible.
- We need to support a common solution that can be used throughout Eastern Ontario. Pembroke must be able to send a message to Ottawa and if EMRG goes to Pembroke to provide Mutual Aid, we need to take equipment that will work there.

Packet radio may be old and it may not be fancy, but it does what we need and fits our price range and skillsets.

If you have questions, you can send me an email.

Peter Gamble, VE3BQP
pgamble at emrg.ca

March Director's |Report

On February 15th to the 17th RAC Directors, Deputy Directors, the President and Executive Members met for a face to face planning session in Ottawa. Prior to this meeting all of our deliberations over the last several meetings dealt with the fact RAC was going broke. That is no longer the case and in 2013 our books will show a small profit In addition to increasing our reserves membership is continuing to increase. We now have approximately 260 Maple Leaf Members; 3 years ago we had none. If you have recently become a member or renewed your membership, THANK YOU. If you have let your membership lapse would you please take a moment and send me an email telling me why?

The main purpose of the meeting was to map out the future of RAC for the time frame of the next 2+ years. The 3 primary goals we have set for ourselves are as follows:

- Grow the number of Amateurs in Canada
- Grow the membership of RAC
- Influence public and political opinion on a National, Provincial and Municipal level to protect and enhance Amateur Radio Privi leges

As we roll out new ideas you will be kept up to date on our progress. In an effort to hear from more Amateurs RAC has purchased software called Go to Meeting and Go to Webinar. This will allow us to set up group meetings between Executive and Amateurs around the region. This will increase two way dialogs. I hope to begin these sessions in May. Some of the Amateurs I hope to meet with are Deputy and Assistant Directors, Club Presidents, Section Managers and their teams. This would also allow us to start webinars on other topics: DX, QRP, µControllers, Antennas or whatever subjects you care to talk about. If you have some expertise and are willing to share it with fellow Canadian Amateurs let me know.

I am also available to meet with any of your clubs via Skype in the meantime. Let me know if you or your club is interested.

Rita and I will be taking a holiday and I will still have email but it may take a little longer to reply for the next little while. Thanks for your patience.

If you have any questions or concerns please email me at ve3xt@rac.ca

Bill VE3XT

North East Ontario Regional Director

Radio Amateurs of Canada

RAC Field Organization, Industry Canada Meet in Ottawa

2013-03-06

Recently, a meeting was held at Industry Canada's Ottawa headquarters, a follow up to last year's Canadian Amateur Radio Advisory Board (CARAB) where an offer to meet on operational issues was made.

During the meeting RAC shared documents relating to the Field Organization Review Pro-

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Rideau Lakes Cycle Tour

Greetings,

Support of the Rideau Lakes Cycle Tour (RLCT) will again require many talented, volunteer radio operators to help out on the weekend of June 8 and 9, 2013. If you can volunteer for one or both days, or lend equipment to another licensed amateur, please contact us. If you know another ham who would be interested in volunteering for this event, please consider relaying this message to them.

The cycle tour is organized by the Ottawa Bicycle Club (OBC) and runs from Ottawa to Kingston on the Saturday, returning to Ottawa on the Sunday. The RLCT originally began in 1972 and, today, typically involves over 2000 cyclists. Fixed and mobile amateur radio communications assist the event to efficiently coordinate repair and relief vehicles across the entire 177 km course to help keep the cyclists safe and happy (and to remind the public about how magical radio can be when used correctly).

Communication support for this event is provided collaboratively via three neighbouring Amateur Radio Emergency Service (ARES) groups, namely: Frontenac County ARES, Lanark-North Leeds ARES and Ottawa ARES/Emergency Measures Radio Group (EMRG). Essential repeater and equipment support is also graciously provided by several other local amateur radio clubs and radio volunteers come from all over to help out.

The time commitment for radio operators working on the Ottawa leg of the course is expected to be about 5 to 7 hours on Saturday and again on Sunday (if you can only volunteer for one of those days, we would still appreciate your help). The Ottawa section of the course is to be comprised of 10 checkpoints, provided there are enough radio volunteers. There is also a need to place a radio operator in each of the 4 mobile rental vehicles and provide them free overnight accommodation in Kingston.

Basic recommended equipment for this event is: a 50 Watt 2-metre transceiver with CTCSS and instruction manual and a 5/8-lambda magnetic-mount omni-directional mobile antenna (or equivalent). For some checkpoints, a small 15-foot mast is desirable to reach some Ottawa-based VHF repeaters. Newcomers to the event are also most welcome and mentoring will be available. Don't own your own radio yet?

If you are a licensed amateur, keen to help, we will strive to make sure that you won't miss out on the fun due to a lack of radio equipment.

Please contact:
Gord Mein VE3FRB <ve3frb@rac.ca> or
Tyler Tidman VA3DGN <va3dgn@rac.ca>
for details, or to lend your support to the team and help make this event a success.

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ject that explained the operational structure and purpose of the project and spoke about our Training working group's work. Industry Canada presented an outline of their District Emergency Telecommunications (DET) emergency telecom organization and their roles and responsibilities. They also explained their initiatives relating to use of their HF radio system, voice and digital for exercises, regular drills and emergencies, expressing an interest in building on their interactions in this area with RAC members.

Both parties agreed at the end of the meeting that regular informal exchanges could be of value.

Doug Mercer, VO1DTM/VO1DM CEC
Chief Field Services Officer
Radio Amateurs of Canada

2012-2013 Membership Application/Renewal

Ottawa Amateur Radio Club Inc., Box 8873, Ottawa, Ontario K1G 3J2

☐Single $25 ($20 after Feb 1, 2013)
☐Family $30
☐Junior $15 (under 18 years of age)
☐New Ham - Free (if licensed in current Membership year)
☐Emailed *Groundwave* ☐Mailed *Groundwave* (add $10.00)

Please Note: Membership year is September 1, 2012 to August 31, 2013.

Family Name: _____ First Name/Initials: _____

Address: _____

City: _____ Prov: _____ Post Code: _____

Home Phone: _____ Work Phone: _____

E-mail address: _____ (For *Groundwave* mailing)

Callsign(s): _____
Qualifications: ☐ Basic ☐ Advanced ☐ Morse Code
Year Licensed: _____ RAC Member? Yes ☐

Other Family Members

Name: _____ Callsign(s): _____
Qualifications: ☐ Basic ☐ Advanced ☐ Morse Code
Year Licensed: _____ RAC Member? Yes ☐

Interests: _____

Comments/Suggestions: _____

All members who are in good standing on or before the December General Meeting will be eligible for a free one-time name badge. Members who wish a second or replacement badge may purchase one at the Club Price (approx $7.50 plus tax). Ordered badges will be available in January.

Do you want an **OARC NAME TAG?** Yes ☐ Second or Replacement Yes ☐

ORDER DETAILS - As to appear on badge:

First Name _____ Call Sign _____