



Ottawa Amateur Radio Club

Groundwave

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

CLUB EXECUTIVE

President

Diane Bruce VA3DB
(H) 613-225-9920
va3db@rac.ca

Past President

George Roach, VE3BNO
(H) 613-234-0885
ve3bno@rac.ca

Vice-President

Dave Green, VE3TLY
(H) 613-728-8606
ve3tly@rac.ca

Secretary

Vacant

Treasurer

Janice Neelands VA3PAX
(H) 613-236-9291
va3pax@rac.ca

Directors

Wayne Getchell, VE3CZO
(H) 613-225-7989
Getch@magma.ca

Ian Jeffrey, VE3IGJ
(H) 613-837-7393
ve3igj@rac.ca

Harrie Jones, VE3HYS
(H) 613-739-9365
hjones@chumottawa.com

Gord Holmes, VA3GFH
(H) 613-828-8478
va3gfh@rac.ca

Check out our Web Page: www.oarc.net

December 2006

Congratulations to Dave Goodwin, VE3AAQ, just elected RAC director for Ontario north/east region.

Don't forget, membership renewals are now overdue. A membership renewal form is included in this newsletter. Mail it in or bring it to the December meeting.

Be sure to sign up for your FREE OARC club name badge on or before the December meeting.. See the repeated article on page 7.

Due to its success last year, Trivia Night is again planned for the December club meeting. Janice Neelands is coordinating.

Mike Kelly, VE3FFK, describes the OARC charger project in his column. Mike has also called a meeting for one-half hour before the December general meeting starts, to plan the final details for the project. Be sure to be there, sign up, and make a down payment. See you there.

Ian Jeffrey, VE3IGJ



DECEMBER MEETING 7:30 pm, December 13th in the Honeywell Room at Ottawa City Hall

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Membership
 Gord Holmes, VA3GFH
 (H) 613-828-8478
 va3gfh@rac.ca

Groundwave Editor
 Ian Jeffrey VE3IGJ
 (H) 613-837-7393
 ve3igi@rac.ca

Delegated Examiner
 Mike Kelly, VE3FFK
 (H) 613-322-0669
 ve3ffk@rac.ca

Coffee Guy
 Brian Campbell, VE3ZRK
 (H) 613-737-3933
 ve3zrk@rogers.com

Historian
 George Roach, VE3BNO
 (H) 613-234-0885
 (Fax) 567-2372
 ve3bno@rac.ca

Webmaster
 Dianne Bruce, VA3DB
 (H) 613-225-9920
 va3db@rac.ca

IRLP Manager
 Cary Honeywell, VE3EV
 (H) 613-590-9873
 ve3ev@rac.ca

Repeater
 Harrie Jones
 (H) 613-739-9365
 hjones@chumottawa.com



Ottawa Amateur Radio Club

Groundwave

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 "ve3igi@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 (2nd floor of the Old Teacher's College) 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 at 20:00 hours on the club repeater **VE2CRA** 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, call Ed at 613-738 8924 or e-mail him at va3es@rac.ca. Also available on the web: <http://www.igs.net/~swap>.

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 Thursday evening at 20:00 hours on repeater **VE3TWO 147.300+**. 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.

The Ottawa Amateur Radio Club bulletin "Groundwave" is published and distributed to club members by mail. Publication dates may vary but it is hoped that the bulletin arrives at its destination before the events listed in it have expired. The bulletin is not published for July and August when meetings do not occur. Every effort is made to provide accurate information in the bulletin, however we are all human and mistakes can be made. The OARC accepts no responsibility for any damages that may result from this. The opinions expressed in this bulletin are only those of the author.

Voice (VHF) 146.94/146.34 100Hz output tone
 (UHF) 443.300/448.300

VE3TVA Amateur Fast Scan Television Repeater
 Video/audio beacon & input 439.25 MHz (audio sub. 443.75)
 Video/Audio output 914 MHz (FM)

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.

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.



November Minutes

The OARC monthly meeting was held on November 8 2006 at Ottawa City Hall, Ottawa, ON and was called to order at 19:36 by President Diane, VA3DB.

- There were no guests.
- The minutes of the October meeting were approved.
- Diane, VA3DB, made a brief announcement calling for volunteers to fill the secretary and director positions that remain vacant. There were no volunteers.
- Diane raised the issue of our participation as an official RAC station in the upcoming RAC Canada Winter Contest. Last year's organizers will not be available this year. There were no volunteers.
- Greg, VE3Y TZ, summarized the OARC name badge program that is underway this year. Paid up members have until Dec. 13 to notify Gord Holmes, VA3GFH, by email or by sign up sheet of their interest to participate. Badges will be distributed at the January meeting.
- Janice, VA3PAX, reminded club members of the annual Trivia night quiz planned for the December meeting. She suggested that we organize ourselves into four teams before the meeting.
- Mike, VE3FFK, summarized the status of the club hardware project: the construction of a gel cell charger from a kit plus a power distribution system based on Anderson Powerpoles. He estimates the total cost will be about \$100. Interested club members will have an opportunity to commit to the project at the December meeting. They will be asked to pay a 50% deposit at that time.
- Dave, VE3TLY, introduced the night's speaker, David Conn, VE3KL, who gave a very interesting presentation on the need for and design of chokes for suppressing antenna currents on antenna feedlines. The talk clearly outlined the rationale for the use of chokes and illustrated the use of an on-line calculator and 'hotlinks' developed by David. The talk was followed by a lively series of questions and comments from club members.

Dates to Remember

2006

- Sep. 2 OARC Hamfest and RAC Forum
- Sep. 30 Membership Renewal Deadline
- Nov. 1 Joe Norton Award Subm. Due
- Dec. 30 RAC Winter Contest

2007

- Feb. 10,11 Canada Ski Marathon
- Apr. 11 Homebrew Night
- Jun. 13 OARC AGM and Elections
- Jun. 23,24 Field Day
- Jul. 1 RAC Canada Day Contest

- The 50/50 draw (\$21.50) was won by Ying, VA3YH.
- The meeting was adjourned at approximately 21:30.

- Dave Green, VE3TLY

On Wednesday, November 22nd, 2006, the Committee of Tellers consisting of Gary Hyatt, VE3MJT, George Roach, VE3BNO, and Guy Charron, VA3FZA, met at the RAC Headquarters to count the ballots received for the election of Director for the Ontario North/East Region. Daniel Lamoureux, VE2KA, RAC Treasurer and Vice President International Affairs, represented the RAC Executive, and confirmed the findings of the Committee. The results follow:



Candidate: Dave Goodwin, VE3AAQ: 271

Candidate: Bill Unger, VE3XT: 199

The Committee of Tellers declares that the successful candidate for the Ontario North/East Region is Dave Goodwin, VE3AAQ.

Mr. Goodwin will commence his two-year term of office on January 1st, 2007.

Satellite Communications Training

You've heard it before, "Amateur Radio's future is in space". Past accomplishments in space are warrant of our ability out there. NASA is ever more confident in that ability after assessing the many tasks we have performed for them. Amateur Radio on board the International Space Station is continually growing in importance as requested and approved by every astronaut who have been in the solitude up there. In recent weeks, discussions on how best to implement Amateur Radio for the soon-to-be station on the moon, to allow astronauts to vent off, have been on a positive note. The building of Phase 3E, Express and Eagle are well underway, as well as Phase 5A, ordered by NASA to orbit Mars.

Albeit, future in space is right now, if only you have a 2m radio. VO-52, AO-7, NO-44 and the ISS are a few satellites you can listen to for voice, packet, APRS, SSTV and school contacts. And some of them will allow you to uplink on 2m. FO-29, SO-50, and AO-51 have been working very well if only you have a little more equipment.

At VE3JW, your Amateur Radio Exhibit station, we have all the necessary equipment to carry regular satellite communications with the existing and the upcoming satellites. Not only is this equipment available for you to use, but we have set up a short course to help you get acquainted and work satellites.

The course is open to all certified Radio Amateurs, comprises three 2-hour sessions which you can attend at your leisure, in your own time. Pick a date and time (7 days a week) from 10AM to noon, 1PM to 3PM or 3PM to 5PM. No charge for the course or entry to the Museum. Register with Maurice-André, 613-749-9010, ve3vig@rac.ca, or VE3JW station 613-991-6749.

This course will introduce you to satellites, make you aware of the many factors having effect on their signals, and provide you with hands-on practice until you've completed contacts on your own. For a list of the subjects covered in the course see below.

Maurice-André Vigneault, VE3VIG

Amateur Radio Exhibit Group VE3JW

Canada Science and Technology Museum

TRAINING FOR SATELLITES AT THE VE3JW STATION

1 - INTRODUCTION TO SATELLITES

- First AR Sat 1961
- Different Size
- Launch and Orbit
- Inclination, Anomaly, Attitude
- Squint Angle, Spin Modulation
- Polarization,
- Frequencies, Bands, Modes
- Inverting Transponder

2 - INTRODUCTION TO PRACTICAL

- Antennas - Handheld, Stack, Dish
- Radios - Handheld, Mobile, Base
- Split, Trace, Doppler
- Antenna controls
- Satellite tracking
 - Software
 - Keplerian Orbital Elements
 - Computer clock sync.

3 - WORKING SATELLITES - AUTOMATIC MODE

- Setting up the computer
- Selecting a satellite
- Setting up the radio
 - Automatic tracking
 - Automatic Doppler

4 - WORKING SATELLITES - MANUAL MODE

- A few examples

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mk's Words

I'm sending this month's column to exec to keep everybody on track about the plans for the project -mk

It's time to talk a bit about the OARC project.

It was supposed to be a battery charger, a DC distribution point, a power supply and maybe it could wash the windows too. To eliminate most of the "metal bashing" and parts hunting that comes from a ground up DIY effort the whole thing would be built up around a kit. Well, of course there isn't a kit out there that does all this. At the last meeting a few people had other ideas, but I haven't seen a better starting point yet. Unless I hear a better idea real soon, the core will be a kit from A & A engineering that just charges batteries. It is built around a Unitrode UC3906. It is designed to do only one thing, but do it well. Building out from that is the power distribution part. This will be built on top of the kit. It shouldn't be much of a problem. There may be some metal bashing but the company that makes power poles also makes metal brackets that hold the connectors. Fuses beyond the kit will be up to each builder, since people have different styles of fuses in their equipment already. The power supply part is a bit tougher, since it requires a bigger transformer than the charger kit provides. The options are:

1. ditch the power supply and just build a transfer circuit so that downstream equipment can be transferred between the power supply and the fully charged battery when the AC line goes out.
2. ditch the charger case and transformer, and build the rest of the charger into a power supply. We can either stuff it into an existing supply, or build a power supply from the ground up.
3. ditch the power supply/ transfer circuit and stay with a single purpose charger. Simple but limited.
4. go all out and build the battery into a box that does everything outlined at the top of this note. If we go this route there will be a lot of shopping for batteries, boxes, power supply parts etc.
5. some combination of these, or something I haven't thought of yet.

Obviously we have some thinking and deciding to do before we go out and order bits. We also have to decide whether we keep this project as an in house OARC project, or allow others to come in as well. If we are going to wrap this all up before the snow melts we have to get started soon. I know some of you are going to say "Whatever you decide is OK, I just want to build, ..something" That's fine, but you should be in on the decisions so you know what went into the box in front of you. Let's get together a half hour before the OARC meeting and try to get things rolling. I'll have a sign up sheet there too. The current schedule has us kicking in half the cost of the kits at the December meeting, so we can start to order hardware. We can also swap ideas via email between now and then. The best way to get email to me on a daily basis is to send it to my callsign (ve3ffk) at winlink dot org. That way it goes via packet to me at the house. Just keep it short, since 1200 baud makes for a really skinny pipe these days. (my call sign at rac also gets to me, but only when I make my weekly trip to the library).

Random static:

Sorry about the mistakes in the October minutes, but if you were there you could still figure it out.

Remember to sign up for your free name badge. Have you ever been standing there yakking with somebody while thinking "I know the callsign is XYZ, but I can't remember the name"? It really detracts from the conversation you are having if half your mind is running through your mental callbook.

We still need more people to sit around the table at executive meetings. I hate to nag, but if you haven't done a turn there, it's time to step forward. The club only looks like it runs itself.

Collegetown still needs operators for their emergency operations centre courses. They especially need bilingual operators for Dec 6 and 7. They are

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running in English on Nov 22 and 23 if you want to have a look.

While typing I'm waiting for the results of the municipal elections to come in. I see VE3JLG is running one ward over from mine. I wonder if the elections will change what comes out of the antenna bylaw.

The antennas at the 160m contest site are ready for the December contest. We had just enough snow while working on them to ensure that they will work.

Another car rally, the Tall Pines out of Bancroft runs on the weekend of Nov 25. Toss in a few repair sessions for one of the local repeaters and free weekends become more scarce than sunny days in November. At this rate we will be looking back at Christmas and packing for the Canadian Ski Marathon before you know it.

73, keep warm

-mk VE3FFK

Brainteaser

Last month's puzzle:

Here's an old chestnut. Consider two capacitors of capacitance C each, one is charged to a voltage V and the other is uncharged. The stored energy in a capacitor is $(1/2)*C*V^2$. Now connect the two capacitors together. The charge divides equally between the two and therefore there is a voltage $V/2$ across each. The total stored energy in the system is now $2*(1/2)*(C*(V/2)^2) = (1/4)*C*V^2$. What happened to the other half of the initial stored energy?

Thanks to Brice for this one as well.

Answer:

The July/August 2003 issue of QEX has an article describing this problem. There were also several letters to the editor with further descriptions. A simple explanation follows.

As with all apparent paradoxes, there is something given as a truth that must be carefully examined. As you know, you cannot change the voltage on a capacitor instantaneously unless you have infinite current and therefore something strange can be expected here. As the puzzle is stated there is no resistance or inductance in the circuit—just capacitance. Therefore, the statement that “The charge divides equally between the two and therefore there is a voltage $V/2$ should be examined carefully. Who says the system comes to equilibrium instead of oscillating forever? Assume there were some inductance, L in series. Then, when the switch is closed the charge would oscillate back and forth between the two capacitors at some frequency, f . Now let the inductance approach zero and the frequency goes to infinity. Therefore, when the switch closes the charge oscillates at infinite frequency and does not split equally between the two capacitors. The total energy remains constant—some in each capacitor.

If however, there is even a little resistance in the circuit, as the charge oscillates back and forth, it dissipates energy in the resistance. The final result (after some mathematics) is that once equilibrium is reached, half of the original energy has been converted into heat.

See the article by Doug Smith and the letters for additional explanations.

This month's puzzle:

In a common carnival game a player tosses a penny from a distance of about five feet onto the surface of a table ruled in one-inch squares. If the penny (3/4-inch diameter) falls entirely inside a square, the player receives five cents but does not get his penny back; otherwise he loses his penny. If the penny lands on the table, what is his chance to win?

OARC Name Badges

Get your OARC name badge free!

The Executive of the OARC is pleased to announce the 2006-07 Name Badge Program.

All members who are in good standing on or before December 13, 2006 will be eligible for a free name badge. In addition to displaying your first name and call sign, the pin-on badge will show the club logo and name, and will measure approximately 3x2 inches. See below for the approximate design.

Members who are interested in taking advantage of this opportunity must contact our Membership Chair, Gord Holmes (VA3GFH), either by e-mail (va3gfh@rac.ca), by phone (613-828-8478), or by a sign-up sheet that he will have available at the October, November and December meetings. You must provide Gord with the spelling of your first name and with the call sign you would like to display. Only members who proactively contact Gord will get a badge.

If anyone wishes a second or a replacement badge, they can get it for the Club's cost which will be approximately \$5.50 plus tax this year only. In future years, due to the anticipated smaller numbers of orders, the cost will be approximately \$7.50 each plus tax. (It has not yet been decided whether badges will be free to new members in future years.)

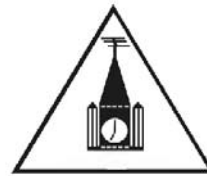
We hope to have the 2006-07 badges ready for distribution at the January meeting. The free badges were made possible this year due to the success of the Hamfest.

Remember you must have paid your 2006-07 membership fee on or before December 13, 2006 AND you must provide Gord with your information in order to be eligible for a free badge.

Wear your OARC badge proudly!

Greg Danylchenko, VE3Y TZ

Ottawa Amateur Radio Club



VE2CRA

DIANE

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baud) and AMTOR-FEC (100 Baud). ASCII (110 Baud) is sent only as time allows.

Code practice texts are from QST, and the source of each practice is given at the beginning of each practice and at the beginning of alternate speeds.

On Tuesdays and Fridays at 2330 UTC (6:30 PM EST), Keplerian Elements for active amateur satellites are sent on the regular teleprinter frequencies.

A DX bulletin replaces or is added to the regular bulletins between 0100 UTC (8 PM EST) Thursdays and 0100 UTC (8 PM EST) Fridays.

In a communications emergency, monitor W1AW for special bulletins as follows: Voice on the hour, Teleprinter at 15 minutes past the hour, and CW on the half hour.

FCC licensed amateurs may operate the station from 1500 UTC to 1700 UTC (10 AM to 12 PM EST), and then from 1800 UTC to 2045 UTC (1 PM to 3:45 PM EST) Monday through Friday. Be sure to bring your current FCC amateur radio license or a photocopy.

The W1AW Operating Schedule may also be found on page 102 in the November 2006 issue of QST or on the web at, <http://www.arrl.org/w1aw.html>.



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ARRL Operating Schedule

Morning Schedule:

Time	Mode	Days
1400 UTC (9 AM EST)	CWs	Wed, Fri
1400 UTC (9 AM EST)	CWf	Tue, Thu

Daily Visitor Operating Hours:

1500 UTC to 1700 UTC - (10 AM to 12 PM EST)
 1800 UTC to 2045 UTC - (1 PM to 3:45 PM EST)

(Station closed 1700 to 1800 UTC (12 PM to 1 PM EST))

Afternoon/Evening Schedule:

2100 UTC (4 PM EST)	CWf	Mon, Wed, Fri
2100 " "	CWs	Tue, Thu
2200 " (5 PM EST)	CWb	Daily
2300 " (6 PM EST)	RTTY	Daily
0000 " (7 PM EST)	CWs	Mon, Wed, Fri
0000 " "	CWf	Tue, Thu
0100 " (8 PM EST)	CWb	Daily
0200 " (9 PM EST)	RTTY	Daily
0245 " (9:45 PM EST)	VOICE	Daily
0300 " (10 PM EST)	CWf	Mon, Wed, Fri
0300 " "	CWs	Tue, Thu
0400 " (11 PM EST)	CWb	Daily

Frequencies (MHz)

CW: 1.8175 3.5815 7.0475 14.0475 18.0975 21.0675 28.0675 147.555
 RTTY: 3.625 7.095 14.095 18.1025 21.095 28.095 147.555
 VOICE: 1.855 3.990 7.290 14.290 18.160 21.390 28.590 147.555

Notes:

CWs = Morse Code practice (slow) = 5, 7.5, 10, 13 and 15 WPM

CWf = Morse Code practice (fast) = 35, 30, 25, 20, 15, 13 and 10 WPM

CWb = Morse Code Bulletins = 18 WPM

CW frequencies include code practices, Qualifying Runs and CW bulletins.

RTTY = Teleprinter Bulletins = BAUDOT (45.45)

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- Practical exercise

5 - WORKING THE ISS

- Ericsson, Kenwood, PCSat2
- Packet, APRS, Voice, SSTV
- Frequency selection
 - 145.800 MHz Downlink
 - Uplinks

6 - QSO info

- Call
- Grid Locator
- Quality of signal
- Name
- QTH

7 - PAPER WORK

- Log
- QSL
- Awards

Aviation Humour

A student became lost during a solo cross-country flight. While attempting to locate the aircraft on radar, air traffic control asked, "What was your last known position?"

The student replied, "When I was number one for takeoff."

And ...

"Flight 2341, for noise abatement turn right 45 degrees."

"But Center, we're at 35,000 feet. How much noise can we make up here?"

"Sir, have you ever heard the noise a 747 makes when it hits a 727?"

MEMBERSHIP APPLICATION / RENEWAL

Ottawa Amateur Radio Club, Inc.

Box 8873 Ottawa, Ontario K1G 3J2

- Renewal New New Ham (FREE if licensed in current membership year)
 Single (\$25, \$20 after Feb. 1) Family (\$30) Junior (\$15)
 Emailed PDF Copy Mailed Copy *Add \$5.00 for mailed copy of Groundwave.*

(Please note: membership year is September 1 to August 31.)

Family Name: _____ First Name/Initials: _____

Address: _____

City: _____ Prov: _____ Postal Code: _____

Home Phone: _____ Work Phone: _____ Ext _____

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

Callsign(s): | _____ | | _____ | | _____ | Fax: _____

Qualifications: Basic Advanced Grandfathered

Year Licenced: _____

Other Family Members

Name: _____ Callsign(s): | _____ | | _____ | | _____ |

Qualifications: Basic Advanced Grandfathered

Year Licenced: _____

Name: _____ Callsign(s): | _____ | | _____ | | _____ |

Qualifications: Basic Advanced Grandfathered

Year Licenced: _____

Name: _____ Callsign(s): | _____ | | _____ | | _____ |

Qualifications: Basic Advanced Grandfathered

Year Licenced: _____

Interests: _____

Comments/Suggestions: _____

KENWOOD

TS-480HX/TS-480SAT

HF/50MHz All-Mode Transceiver

KENWOOD
NETWORK COMMAND SYSTEM
with Voice over Internet Protocol capability



Bytown Marine Limited
Unit B1, 2212 Gladwin Crescent
Ottawa, ON, K1B 5N1

(P) 1-613-723-8424
(F) 1-613-723-0212
(E) gwalker@bml.ca