

Quinte 'QRM'

Newsletter of the Quinte Amateur Radio Club, Inc.
 546 Montrose Road, Belleville, Ontario K8R 1B3
 Web: www.qarc.on.ca quinte.arc@gmail.com

NOTICE OF MEETING:

DATE / TIME: Wednesday, April 18, 2018 @ 7:00 PM

LOCATION: Loyalist College (Pioneer Building), Room P13
 284B Wallbridge-Loyalist Rd, Belleville

PROGRAM: Measuring Ground Conductivity in typical Amateur Installations - Ground Conductivity Experiment presented by Phil Gebhardt VE3ACK.

VE3QAR - 146.985 MHz (118.8 Hz)	VE3QAR - 444.475 Mhz - Yaesu System FUSION (118.8 Hz)
Monthly Meetings: 3rd Wednesday @ 7:00 PM Loyalist College (Pioneer Bldg) Belleville	Hams 'n Eggs: Saturdays @ 8:00 AM Quinte Restaurant, 135 Cannifton Rd, Belleville
Radio Amateurs of Canada (RAC) www.rac.ca 720 Belfast Road, Suite 217, Ottawa, ON K1G 0Z5 E-mail: rachq@rac.ca Phone: 613-244-4367 or 1-877-273-8304	Innovation, Science and Economic Development Canada Amateur Radio Service Centre www.ic.gc.ca/callsign 2 Queen Street E, Sault Ste. Marie, ON P6A 1Y3 E-mail: ic.spectrumamateur-spectreamateur.ic@canada.ca Phone: 1-888-780-3333 Fax: 705-941-4607

QARC DIRECTORS 2017-18

Directors - Elected

President	Tim Pekkonen	VE3UO	tim.ve3uo@gmail.com
Vice President	Dave Ackerman	VE3UGT	ve3ugt@rac.ca
Secretary	Bob Moore	VE3QWB	ve3qwb@rac.ca
Treasurer	Allan Twamley	VE3XQV	atwamley@oxpoint.ca
Director at Large	Mike Drake	VA3BKQ	va3bkq@rac.ca
Past President	Mike Papper	VE3OX	ve3vmp@rac.ca

Directors - Appointed

Webmaster www.qarc.on.ca
Refreshments
Radio Communications

Chris Wiesner
Hans Winsen
Peter Hodgson

VA3SM
VE3OR
VE3UR

va3sm@yahoo.ca

ve3ur@rac.ca

Meeting Minutes: March 21, 2018

Executive attending: President Tim Pekkonen VE3UO, Vice President Dave Ackerman VE3UGT, Past President Mike Papper VE3OX, Treasurer Allan Twamley VE3XQV, Secretary Bob Moore VE3QWB, Refreshments Hans Winzen VE3OR, Webmaster Chris Wiesner VA3SM. Total attendance: 27

President Tim waited for late arrivals, then opened the meeting at 7:05 by welcoming everyone.

Motion to accept February 2018 minutes as published in QRM Newsletter: Motion by Eric VA3EG, seconded by Peter VA3PGB. Carried

The treasurer was asked if any updates since the report in the newsletter. Treasurer Allan VE3XQV reported a balance of \$ 4607 with some dues coming in and expenses for the upcoming Advanced course manuals.

Tim informed us of talks with the TriCounty Radio Club re a merger with QARC. A few years ago they had up to 50 members, that number is now down to 9 paid up members and one life member, with 2 already members of QARC. The merger would bring 7 new members, and their dues, into QARC, their two KFR repeaters, UHF & VHF, and their \$1500 , for repeater maintenance and maybe linking with QAR. The 7 new members to QARC will then be included in QARC's RAC insurance. They will be holding their last meeting next Wed. to talk about the merger. If they vote to merge, QARC will hold a vote on the merger in April.

Mike VE3OX reported there were no students for the Basic course, but the Advanced Course is all set up, it starts 16 April with exam 11 June. There are 4 students, the 3 instructors, Dave Ward, VE3BIP, Matthew Dwight, VE3FL, & Eric Pierce, VA3EP, have picked which chapters to teach. The classes will be on Mondays and Wednesdays at Mike's QTH.

At the April meeting, Phillip Gebhardt VE3ACK, brother of Eric, VA3EG, will give a presentation on his Ground Conductivity Experiment.

The Community Policing PITTER PATTERN Run will be held on Sunday April 22. Contact Tim VE3UO if you can help with communications for this event. An Offence Declaration Form is required. Tim will have them with him. The 5K & 10k start at 10:45 AM @ Loyalist College. (Note: Sunday conflicts with ONT QSO Party)

At the May QARC meeting, we will be holding election of club directors for for 2018-19. Past President Mike Papper VE3OX will be running the election, if you want your name to stand for a position, or want to nominate someone, contact Mike. If anyone has a project they would like to bring for “show and tell” bring it to the May meeting, for presenting after the elections.

At the June meeting we will be holding our annual Trunk Sale, in the parking lot.

Eric Pierce VA3EP reported that Prince Edward County has offered Internet access for their repeater VE3TJU, so they are looking into IRLP, APRS and a 440 MHz link to QAR.

Tim welcomed the visitor that just came in and asked him to introduce himself. It was Jack VA3JB from Brighton, a guest of Lee’s VA3LHM. Lee also had a Heathkit transceiver, and asked if anyone wanted it. Peter VA3PGB acquired it.

Eric VA3EG had brought a box of books & things, folks could help themselves to the contents, but he wanted the box back.

Hans VE3OR reported the 440 Fusion repeater at Loyalist College is still not hooked up to the Internet. The college tech has been off, maybe if someone would hook up a used FT100 at their home, it could be used to access the Fusion system. Tim said Greg VE3CH was talking to the tech about it.

Brian VA3BRW told us about his wife's cousin transiting from Jacksonville, Florida across the Pacific on their catamaran, and checking-in daily at UTC 0300 on the Pacific Seafarers Net <https://www.pacseanet.com> on 14.300 Mhz. Although Brian could not hear it directly (RF), he was able to listen via Internet-connected Northland Radio <http://kiwisdr.northlandradio.nz/?f=14300usb> in New Zealand. Brian sent an email message to the net controller, which was passed to the voyagers during the net.

BREAK: Thanks to Hans VA3OR for the drinks and snacks, and to Chris’ VA3SM XYL for the delicious banana bread.

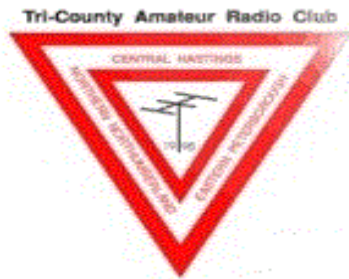
At 7:55 we started the presentations on foxhunting. There were various presenters & equipment demos, fox radios and different direction finding antennas. Thanks to everyone that participated.

The next Tour of The County foxhunt will be on Saturday May 5. If anyone is interested in being a “ride-along” to see what goes on, contact any of the executive.

50/50 Draw (Proceeds to PERC) Don Barber VE3IVS won \$ 16.50

The next QARC meeting will be on 18 April, 7 pm.

Minutes taken by Secretary Bob Moore VE3QWB (@rac.ca)



Tri-County Amateur Radio Club - Quinte Amateur Radio Club Merger

The Tri-County Amateur Radio Club will dissolve at the end of their current fiscal year on July 31, 2018.

All members in good standing of the Tri-County Amateur Radio Club as of July 31, 2018 will become members of the Quinte Amateur Radio Club for the remainder of the 2018-19 fiscal year. (July 1, 2018 - June 30, 2019).

All Life Members of the Tri-County Amateur Radio Club in good standing as of July 31, 2018 will become Life Members of the Quinte Amateur Radio Club as of August 1, 2018.

VE3KFR VHF & UHF repeaters to remain on the air in their current configurations. All equipment owned by the Tri-County Amateur Radio club becomes the property of the Quinte Amateur Radio Club.

The Tri-County Amateur Radio Club Account balance of approximately \$1500 will be closed and the funds deposited into the Quinte Amateur Radio Club account with the express intent of these funds to be designated for VE3KFR & VE3QAR repeater maintenance and upgrades.

Occasional Social get togethers of Radio Amateurs in the Tri-County area are encouraged to continue, as are the Saturday morning breakfasts in Campbellford.

The above to be presented as a MOTION and voted on at the Tri-County Amateur Radio Club Meeting on April 25, 2018; and as a NOTICE OF MOTION at the Quinte Amateur Radio Club Meeting on April 18, 2018 and voted on as a MOTION on May 16, 2018.

Ham Radio Advanced Course

The plan for the course has been finalized. It will start on **Monday April 16** and hopefully finish no later than **Monday June 11**. The instructors for the course will be Eric Pierce VA3EP, Dave Ward VE3BIP, and Matthew Dwight VE3FL. Eric Pierce will be the Delegated Examiner. The course will be on Mondays and Wednesdays from 7:00 to 9:00 PM with the exception of QARC meeting nights and Victoria Day Monday. It will be held at the Children's Safety Village in Belleville. For further information contact Mike Papper VE3OX at mikepapper@gmail.com .

Community Policing Pitter - Patter Run

This year's Community Policing Pitter Patter Run will be on **Sunday April 22**. Once again it will be at Loyalist College but the start time has been changed to **10:45 AM**. The Courses(s) remain the same. Once again the assistance of the club is being requested for back up communications, and as always an Offence Declaration Form will have to be filled out. If you can assist, please contact Tim VE3UO at tim.ve3uo@gmail.com . If your friends and loved ones would like to participate in the run, they can register at www.myracetime.ca .

Mandarin MS Walk & MS Bike Tour

No information officially yet, but it appears this year's date for the Belleville Mandarin MS Walk is **Sunday May 6**. See: http://mssoc.convio.net/site/TR/Walk/OntarioDivision?pg=entry&fr_id=5875 for more info.

The 2018 MS Bike Tour in Prince Edward County is on **Sunday July 8**. See: http://mssoc.convio.net/site/TR/BikeTour/OntarioDivision?pg=entry&fr_id=5986 for information on this event.

Both the Prince Edward Radio Club & QARC have assisted with communications for both these events in previous years, and it is hoped we can do so again this year. More information to come.

2018 Hamfests & Fleamarkets

- Saturday April 28 - 42nd Annual Durham Hamfest, Pickering, ON
https://secure.eton.ca/rac/events/detail.php?event_ID=1922
- Saturday May 12 - 34th Annual Smiths Falls Fleamarket
<http://www.ve3rlr.ca>
- May 18-20, 2018 - Hamvention® 2018 @Greene County Fair & Exposition Center, Xenia, OH
<http://hamvention.org/>
- Saturday June 2 - Rochester NY Hamfest -
<https://www.rochesterham.org/hamfest.htm>
- Sunday** June 3 - Central Ontario Hamfest - <http://www.hamfest.on.ca/>
- Saturday June 16 - SteelTown "Tailgate Treasures" Summer Swap Meet
<http://www.hamiltonarc.ca/events/summer-swap/>
- Saturday July 14 - 44th Annual Ontario Hamfest at Milton Fairgrounds
<https://www.barc.ca/ontario-hamfest>
- Saturday August 11 - Parry Sound ARC Hamfest, Nobel, ON
<http://www.ve3rpl.com/>
- Saturday August 25 - 10th annual 'Junk in The Trunk' Sale, Newmarket, ON
https://secure.eton.ca/rac/events/detail.php?event_ID=1934
- Saturday September 8 - Ottawa (Carp) 22nd Annual Hamfest
<http://www.oarc.net/fleamarket>
- Saturday September 15 - VHARA Swap Meet 2018, Bobcaygeon, ON
<http://www.vhara.ca/>
- Saturday October 13 Hamilton ARC Hamfest, Ancaster, ON
https://secure.eton.ca/rac/events/detail.php?event_ID=1907
- Saturday October 20 - Montreal South Shore Hamfest, Longueuil, QC
<http://www.ve2clm.ca/articles.php?lng=fr&pg=120>
- Saturday November 3 - 42nd Annual York Region Hamfest, Markham ON
https://secure.eton.ca/rac/events/detail.php?event_ID=1943

For more information on these events, see: <http://rac.eton.ca/events/upcoming.php>

Let's Go Foxhunting - 2018 Schedule

Saturday	May 5	12:00 noon	Bloomfield - 'Tour of The County'
Thursday	June 7	7:00 PM	Belleville
Thursday	July 5	7:00 PM	Belleville
Thursday	August 2	7:00 PM	Belleville
Sunday	Sept 9	1:30 PM	Belleville (Ride-along)
Sunday	October 14	12:00	Bloomfield - 'Tour of The County'
Sunday	November 4	1:30 PM	Belleville

For more information please see www.ve3bip.org .

Canwarn Training

Canwarn Training for our region has been scheduled as follows:

May 14 - Peterborough - 7 PM - Peterborough Lawn Bowling Club, 577 McDonnel Street

May 26 - **Belleville** - 9:30 AM - 3rd floor Conference Room, Belleville Public Library, 254 Pinnacle St., Belleville

Please RSVP for these sessions by contacting Geoff Coulson, Warning Preparedness Meteorologist, Environment Canada at Geoff.Coulson@ec.gc.ca

Ground Conductivity Experiment

Philip Gebhardt, VE3ACK

Timeline: March - September 2018

Test Duration: 1 day

Data Collection: September 2018

Purpose

The purpose of the activity is to measure the ground conductivity in typical amateur installations using a standard test circuit.

Uses

The data collected will be particularly well-suited to vertical antennas and ground wave (specifically surface wave) propagation. Although it can also be applied with caution to horizontal antennas and space waves where there is a ground-reflected component. The concept of conductivity is particularly noteworthy in localities such as the Niagara Region where stations may be situated close to a large body of water. For example, if two vhf stations are on opposite sides of the lake, it can be shown that if there is a direct wave and a reflected component, then for a given path length there is an optimum relative height for the receiving antenna and the transmitting antenna for a given signal path length. (See attached file Lloyd's Mirror-1.pdf and particularly note Fig. 9.10 and Fig. 9.75.)

Limitations

The values for ground conductivity collected for specific, individual sites can be considered absolute for the specific, experimental setup as described in my attached article which I wrote for *Monitoring Times*. (See attached file Gebhardt - Conductivity.pdf.) Since residential voltage is used to power the experiment, that means the values are accurate for a 60-Hz signal. But just as attenuation in a transmission line is frequency dependent, a similar frequency effect is present in ground conductivity. Therefore, the ground conductivity values obtained by the method used for this experiment will be relative values on the hf amateur bands. That is, the calculated values will not be directly applicable to the 160-, 80- or 40-metre, etc. bands, but the relationship between conductivity of, for example, rich farmland and dry, sandy soil will still hold at these shorter wavelengths.

Benefits

By engaging in this activity, NPARC will contribute useful, technical information and raise awareness within the amateur radio community of the variation in soil types and the effect of the different soil types on ground wave (that is, surface wave) propagation and signal path loss (and, consequently, range). Depending on the scope of the experiment, the process could be instrumental in increasing awareness among amateurs of the effects of temperature, moisture and salt on ground conductivity.

Types of Soil

As you can see in Table 1 in the attached article, I defined the types of soil as poor soil, moderate soil, fair soil, etc. For that article, these categories were sufficient. However, in an amateur radio situation, the question becomes: What is poor soil? Or, what exactly is average soil?

To circumvent the vague terms I used in the article and to make the experiment useful to amateurs, the following types of terrain should be considered for testing:

- Flat, fertile, rich farm land
- Average soil
- Flat, dry, sandy soil
- Residential area (town)
- Residential area (city)
- Industrial area
- Fresh water area
- Coastal area

In addition, it should be noted that ground conductivity is dependent on temperature. It may therefore be useful to extend the test period, so soil can be tested in the summer and then again when the ground is frozen in the winter. Also, as indicated in the graph in the accompanying article, moisture level affects ground conductivity. It would be useful to test the conductivity during a 'normal' period and again during a period of heavy rainfall or spring run-off. Both the temperature test and the moisture test would only need to be conducted at a single test site to illustrate the effects and ensure that amateurs are aware of the effect these two factors have on conductivity.

Test areas

Obviously, NPARC does not have access to a coastal area. Nor does the club have access to flat, dry, sandy soil. It is for these reasons that NPARC needs to engage other clubs. The assistance of a club in a coastal area, which might include Atlantic Canada where land abuts an ocean, would be necessary. Similarly, NPARC would need to enlist the assistance of a club in a flat, dry, sandy soil area such as Arizona where a desert exists.

Test Set-up

The circuit diagram for the test set-up appears in the attached article. If we enlist the assistance of other clubs, then they would be responsible for constructing their own test set-up according to my instructions.

Publicity

Initially, an announcement will be required in *TCA* to solicit the assistance of other clubs. Once a date is established for the tests specific to NPARC, this can be announced in *TCA* to invite members of other local clubs to participate. This could also conceivably be announced on nets. We should also seek publicity for our event in local newspapers and, if possible, on cable channels and acquire radio and television news coverage. We could publicize the event at colleges and universities and perhaps solicit the assistance of faculty and students. It might be feasible to engage the Professional Engineers of Ontario as I did when I conducted a field engineering test with high school students to test Young's double-slit experiment at 147 MHz. (See attached file *Young's Double-Slit.pdf* and file *Gebhardt - Double Slit.jpg*.) In 1801, Young performed his experiment at light wavelengths; in 2009, the students showed that the same effect occurs on the 2-metre amateur band.

Note: Phillip VE3ACK will be at this month's QARC meeting to give a presentation on this topic.(ve3uo)

Treasurer's Report

	<u>Mar 31, 18</u>	Ordinary Income/Expense	<u>Jul '17 - Mar 18</u>
ASSETS		Income	
Current Assets			
Chequing/Savings		Contribution To Club	5.00
Chequing - BMO	4,529.94	Dues	1,035.00
Petty Cash	<u>142.15</u>	Other Income	115.71
Total Chequing/Savings	<u>4,672.09</u>	Radio Courses Income	<u>47.00</u>
Total Current Assets	<u>4,672.09</u>	Total Income	1,202.71
TOTAL ASSETS	<u><u>4,672.09</u></u>	Expense	
LIABILITIES & EQUITY		Bank Service Charges	20.00
Equity		Donations	100.00
Opening Balance Equity	4,850.84	Field Day	231.42
Net Income	<u>-178.75</u>	Insurance Expense	620.58
Total Equity	<u>4,672.09</u>	Meals & Entertainment	19.18
TOTAL LIABILITIES & EQUITY	<u><u>4,672.09</u></u>	Miscellaneous Expense	9.04
		Office Supplies	52.35
		Radio Courses Expense	188.79
		Refreshments	132.20
		Repeater Expense	<u>7.90</u>
		Total Expense	<u>1,381.46</u>
		Net Ordinary Income	<u>-178.75</u>
		Net Income	<u><u>-178.75</u></u>