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, March 21, 2018 @ 7:00 PM**

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

PROGRAM: Foxhunting (Hidden Transmitter) Hunting Information Session complete with 'show and tell'. There will be various presenters.

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	Chris Wiesner	**VA3SM**	**va3sm@yahoo.ca**
Refreshments	Hans Winsen	**VE3OR**	
Radio Communications	Peter Hodgson	**VE3UR**	**ve3ur@rac.ca**

Meeting Minutes: February 21, 2018

Directors attending**: President Tim Pekkonen VE3UO, Vice President Dave Ackerman VE3UGT,** Past President Mike Papper VE3OX, Director at Large Mike Drake VA3BKQ, Treasurer Allan Twamley VE3XQV, Secretary Bob Moore VE3QWB, Radio Comms Peter Hodgson VE3UR, Refreshments Hans Winzen VE3OR, Webmaster Chris Wiesner VA3SM.
Members & Guests attending: 28

President Tim opened the meeting by welcoming members & Guests mentioning Jeff VE3OWT, John VA3JO, Jim VE3NWN and Jamie VA3RZD, who drove from Oshawa, and saying Eric VA3EG had some stuff on a table for folks to take home.

Silent Key Announcements – No new silent keys to report. Tim reminded everyone that members are asked to contact any member of the Executive regarding Silent Keys they hear about.

Tim asked for a **motion** to accept the January 2018 minutes, as published in QRM Newsletter: motion by Gerry VE3APF, seconded by Chris VA3SM. **Carried**.

Treasurer report: Allan VE3XQV said there are no changes since reported in the recent newsletter, the club`s bank balance is $ 4768.88.

Repeaters: Tim VE3UO reported both repeaters are Status Quo.

Announcements: The next Foxhunt is on Sunday March 18, 1:30pm in Belleville. The starting point to be announced. The next Tour of The County is on Sunday May 5.

Basic Radio Course: Mike VE3OX said he had only one student so far, but there is still over a month before classes start. Allan VE3XQV informed us,that one student has dropped out. Tim asked for a show of hands of anyone interested in taking an Advanced Course, five people put their hand up. Tim asked Mike to check and see what would be required to put on an Advanced course.

New Business & Announcements from members present: no new business.

Matt VE3FL reported that Prince Edward County will let PERC use the Internet at the repeater site, so they will be moving their IRLP node from Joe's residence and they will be looking at providing APRS as well.

Lee VA3LHM has some Morse code books with CD's available that he will give away.

Tim mentioned we would be holding a 50/50 draw with the proceeds going to PERC and there would also be a raffle, Brian VA3BRW donated a new still-in-the-box unused Hard Drive case, which you plug a hard drive into, and connect to a computer via USB. The 50/50 Draw earned Jamie VA3RZD $ 21.00, the hard drive case was won by John VA3JO. Congratulations guys. Thanks to Mike VA3BKQ for running the draw this evening.

We then had a break, thanks Hans VE3OR for the drinks & snacks.

After the break, Matthew VE3FL gave us an interesting and informative presentation on the history of Arduino microcomputers and how he has programmed and used them.
Thanks Matthew.

Our next meeting will be on Wed. March 21, 2018 7:00 PM

Minutes taken by Bob Moore, VE3QWB (@rac.ca), QARC secretary.

Ham Radio Advanced Course

There has been very little interest shown in a Basic Course, but we have some interest in an Advanced Course. The plan as it sits is to start it on **Monday April 16** and hopefully finish no later than **Monday June 11**. The Instructors have been approached and still have to determine the schedule but it will be Monday and Wednesday evenings. For further information contact Mike Papper VE3OX at 613-969-1744, or **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 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** .

Canwarn Training

Apparently a preliminary schedule of Canwarn Training sessions has come out. The Belleville session is scheduled to be held on Saturday **May 26** at 9:30 AM at the Belleville Library.

2018 Hamfests & Fleamarkets

Saturday March 17 -	Ham-Ex 2018, Brampton, ON http://www.ham-ex.ca/
Saturday March 24 -	Hamfest 2018 – Laval QC http://crall.ca/wpcontent/uploads/2018/01/Hamfest2018En.pdf http://crall.ca/activites/hamfest/
Saturday April 7 -	Montreal ARC Fleamarket, Lasalle QC http://www.marc.qc.ca/fest/fest.html
Saturday April 7 -	Iroquois ARC Fleamarket http://iroquoisarc.ca/
Saturday April 28 -	42nd Annual Durham Hamfest, Pickering, ON https://secure.eton.ca/rac/events/detail.php?event_ID=1885
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/
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

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

Let's Go Foxhunting - 2018 Schedule

Sunday	**March 18**	1:30 PM	Belleville
Sunday	**April 8**	1:30 PM	Belleville (Ride -along)
Saturday	**May 5**	12:00	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** .

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 the April QARC meeting to give a presentation on this topic.(ve3uo)*

Treasurers Report

		Feb 28, 18
Current Assets		
Chequing/Savings		
	Chequing - BMO	4,721.23
	Petty Cash	45.15
Total Chequing/Savings		4,766.38
Total Current Assets		4,766.38
		4,766.38
Equity		
Opening Balance Equity		4,850.84
Net Income		-84.46
Total Equity		4,766.38
		4,766.38

Ordinary Income/Expense		**Jul '17 - Feb 18**
Income		
	Contribution To Club	5.00
	Dues	985.00
	Other Income	115.71
Total Income		1,105.71
Expense		
	Bank Service Charges	17.50
	Donations	100.00
	Field Day	231.42
	Insurance Expense	620.58
	Meals & Entertainment	19.18
	Miscellaneous Expense	9.04
	Office Supplies	52.35
	Refreshments	132.20
	Repeater Expense	7.90
Total Expense		1,190.17