

From the Gavel...



Welcome everyone to the start of a new club year! I hope you all had an enjoyable and relaxing summer.

The summer began where our club year ended: Field Day. We had a good showing this year as a 10A station. The weather was ideal, at least on the first day. Propagation was up and down but the Field Day crew held their own on the various bands including a last-minute substitution by George VE3YV working his CW magic in the FSV. Lorne VE3CXT also repeated his performance this year as Chief Cook and Bottle Washer by procuring a delicious Saturday supper and Sunday breakfast from Shopsy's. Many thanks also goes to Tom VE3TWG for co-managing Field Day with Lorne. Tom was instrumental in working with the City of Mississauga to ensure we had adequate parking and restroom access, among other logistical details.

Speaking of pumping RF into the ether, the VE3MIS club station has undergone some improvements over the summer. The monster Force 12 40m/80m directional antenna is now tuned and working fine business. Additional work was carried out on replacing the 160m dipole and tidying up the coax and control lines. Thanks to Rick VE3IMG, Asim VE3XAP and the rest of the crew who have worked hard to make the club station the "Crown Jewel" of MARC. Thanks also goes to Jerry at Danmax for his continued support.

Another activity the club has undertaken is obtaining tower and radio room space at Fire Station 112 on Creditview Road. This has been an ongoing project for a couple of years and over the last six months some serious discussions occurred. The plan is to install a new 6m repeater at Station 112 and use the adjacent 75 foot tower to support the repeater

antenna. In the meantime, we are awaiting a response from the City of Mississauga, hopefully finalizing the deal. Stay tuned.

Speaking of the 6m repeater, we are now on the air! Undertaken by our new Repeater Manager Dave VE3XDS and with the assistance of Michael VE3TKI, Thomas VA3TMB and Bruce VE3IL, these talented individuals have designed and built a fully-functioning 6m repeater. The new VE3MIS machine can be found on 53.250 MHz (-1 MHz offset, no PL). If you've got the appropriate radio gear, give the new repeater a try.

ARES has also been active over the summer. In a recent meeting with the Mississauga's Emergency Manager, Catherine Blair, our ARES group has been invited to participate in a Mississauga Simulated Emergency Test on September 28. This is the first time we've been asked to be involved and it certainly speaks volumes about the impression we've made. Kudos to Dan VE3NI, and Michael VE3TKI, for their efforts.

Finally, Earle VE3XEL and his assistants again will be holding the Basic licencing course. Classes begin September 14 and run until December. Here's hoping we get a good turnout and keep growing the hobby.

And there you have it. A quick recap of the goings-on these past few months and a look ahead to the future. I hope to see you at the upcoming meetings.

73 --- Jeff Stewart VA3WXM

This Month

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Sunday Brunch

Sunday brunches are held on the first Sunday of each month. Time is 9:30AM at Shopsy's, 6986 Financial Drive Unit 5 Mississauga (at the corner of Mississauga Rd and Derry Rd). All are welcome to come out and have an opportunity to chat in an informal setting.

Club Nets

2 Metre Tuesday Night Phone Net Join in on the chatter starting at 8:30PM every Tuesday on the club repeater. Hosted by various net controllers. 145.430MHz Tone 103.5 Minus (-) offset. Contact our VHF Net Manager, **Lorne (VE3CXT)**, if interested in becoming a net controller.

75 Metre Sunday Night Net Starts at 8:30PM every Sunday. Hosted by various net controllers. Contact our HF Net Manager, **Michael (VE3TKI)**, if interested in becoming a net controller.

Commentary



September is the start of the new club year at the Mississauga Amateur Radio Club (MARC) and an exciting year it promises to be. Jeff, VA3WXM, has given us a forward looking

view in From the Gavel.

In this issue of The Communicator, I welcome back the Roving Reporter with an article on our club president, Jeff Stewart, VA3WXM. Hopefully the Roving Reporter will be a regular column delving into the minds of unsuspecting club members to find out their amateur radio beginnings and possibly some previously undocumented operating tip.

See the excellent Education Update article by Earle Laycock, VE3XEL. The Basic Course starts on September 14th.

The technical article this month is about two operating aids for PSK31. If you have observed PSK31 on any of the bands, you may have seen some very dirty PSK signals. The PSK31 Operating Aid article addresses this issue.

Be sure to read the short description on QuickMix. This may just be the applet that you have been looking for.

The Communicator is one of MARC's methods for communicating information to club members and is your newsletter. Let me know what you would like the newsletter to be and what you would like it to include. I solicit your input on topics for articles i.e. antennas, kits you have built, great operating experiences, operating tips, book reviews, etc. for consideration by the technical committee.

Without your constant support in the form of ideas, suggestions and article submissions, we would not have such a fine newsletter month after month. I look forward to hearing from all you budding or aspiring authors. Your experience is what makes amateur radio what it is. Let's hear from you.

I can be reached at any club meeting or via email at va3tpv@rogers.com.

See you at the first meeting on September 10th.

73, Ed, VA3TPV.

Executive Directors

President	Jeffrey Stewart, VA3WXM
1st Vice President:	Rick Brown, VE3IMG
2nd Vice President:	Ki-Hup Boo, VA3PEN
Treasurer:	Scott Gregory, VA3NMI
Secretary:	Asim Zaidi, VE3XAP
Past President:	Rick Brown, VE3IMG

Club Managers

Membership Manager	Dave Harford, VA3DFH
Education Manager	Earle Laycock, VE3XEL
House / Visitor Host Manager	Murray Yewer, VE3JMY
Newsletter Editor	Edward Spingola, VA3TPV
Net Managers HF Net	Michael Brickell, VE3TKI
VHF Net	Lorne Jackson, VE3CXT
Repeater Manager	David Shilling, VE3XDS
Assistant	Michael Brickell, VE3TKI
Assistant	Sheldon Pimentel, VE3SPJ
Assistant	John Lorenc (Sr), VA3XJL
Trustee	John Duffy, VE3DRZ
Club Station Manager	Rick Brown, VE3IMG
Assistant	Stefan Bejusca, VA3OBR
Assistant	Asim Zaidi, VE3XAP
Field Day Joint Chairman	Lorne Jackson, VE3CXT
Joint Chairman	Thomas Godden, VE3TWG
FSV Manager	David Malar, VA3MLR
Assistant	John Duffy, VE3DRZ
Program Manager	Thomas Bernard, VA3TMB
Assistant	Lorne Jackson, VE3CXT
Webmaster Manager	Dave Harford, VA3DFH
Assistant	Rick Brown, VE3IMG
Legal Consultant	Lorne Jackson, VE3CXT
Public Info/ Media Relations	Tony Champion, VA3QC
Education Basic Course Prime	Earle Laycock, VE3XEL
Advanced Course Prime	Thomas Bernard, VA3TMB

Audit Committee

Auditors Coordinator	Basil Burgess, VE3JEB
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Public Service

ARES Emergency Coordinator	Dan Goodier, VE3NI
Assistant	Thomas Bernard, VA3TMB
Assistant	Michael Brickell, VE3TKI
Assistant	David Malar, VA3MLR
Assistant	Bob Boyer, VE3XBB
Assistant	John Duffy, VE3DRZ
CANWARN Manager	Peter Mosher, VA3PKM
Special Events / Walks Manager	Bob Boyer, VE3XBB

CLUB CALENDAR FOR 2009/2010

September, 2009

01 Tue VHF/UHF - 2 Meter Net
03 Thu Exec Meeting
06 Sun HF - 75/80 Meter Net
08 Tue VHF/UHF - 2 Meter Net
10 Thu Club Meeting – The Great Annual Quiz Night
11 Fri Worked All Europe DX Contest
13 Sun HF - 75/80 Meter Net
14 Mon Basic Class 1 and Registration
15 Tue VHF/UHF - 2 Meter Net
17 Thu Radio Night at Club Station
17 Thu ARES Meeting
19 Sat Halton County Radial Railway - Special Event
20 Sun HF - 75/80 Meter Net
21 Mon Basic Class 2
22 Tue VHF/UHF - 2 Meter Net
24 Thu Club Meeting - Member's night
27 Sun HF - 75/80 Meter Net
28 Mon Basic Class 3
29 Tue VHF/UHF - 2 Meter Net

October, 2009

01 Thu Exec Meeting
04 Sun HF - 75/80 Meter Net
05 Mon Basic Class 4
06 Tue VHF/UHF - 2 Meter Net
08 Thu Club Meeting – Speaker's night
11 Sun HF - 75/80 Meter Net
13 Tue VHF/UHF - 2 Meter Net
15 Thu Radio Night at Club Station
15 Thu ARES Meeting
18 Sun HF - 75/80 Meter Net
19 Mon Basic Class 5
20 Tue VHF/UHF - 2 Meter Net
22 Thu Club Meeting - Member's night
23 Fri CQ WW DX Contest
25 Sun HF - 75/80 Meter Net
26 Mon Basic Class 6
27 Tue VHF/UHF - 2 Meter Net

November, 2009

01 Sun HF - 75/80 Meter Net
02 Mon Basic Class 7
03 Tue VHF/UHF - 2 Meter Net
05 Thu Exec Meeting
07 Sat ARRL Sweepstakes
08 Sun HF - 75/80 Meter Net
09 Mon Basic Class 8
10 Tue VHF/UHF - 2 Meter Net
13 Thu Club Meeting - Speaker's night
15 Sun HF - 75/80 Meter Net
17 Tue VHF/UHF - 2 Meter Net
19 Thu Radio Night at Club Station
19 Thu ARES Meeting
21 Sat ARRL Sweepstakes

22 Sun HF - 75/80 Meter Net
23 Mon Basic Class 10
24 Tue VHF/UHF - 2 Meter Net
26 Thu Club Meeting - Member's night
27 Fri CQ WW DX Contest
29 Sun HF - 75/80 Meter Net
30 Mon Basic Class 11

December, 2009

01 Tue VHF/UHF - 2 Meter Net
03 Thu Exec Meeting
04 Fri ARRL 160 Meter Contest
06 Sun HF - 75/80 Meter Net
07 Mon Basic Class 12
08 Tue VHF/UHF - 2 Meter Net
10 Thu Club Meeting – Potluck dinner
11 Fri ARRL 10 Meter Contest
13 Sun HF - 75/80 Meter Net
14 Mon Basic IC Examinations
15 Tue VHF/UHF - 2 Meter Net
17 Thu Radio Night at Club Station
17 Thu ARES Meeting
18 RAC Canada Winter Contest
24 Thu Christmas – NO club meeting

January, 2010

07 Thu Exec Meeting
14 Thu Club Meeting - Speaker's night
21 Thu ARES Meeting
28 Thu Club Meeting - Speaker's night

February, 2010

04 Thu Exec Meeting
11 Thu Club Meeting - Speaker's night
18 Thu ARES Meeting
25 Thu Club Meeting - Speaker's night

March, 2010

04 Thu Exec Meeting
11 Thu Club Meeting - Speaker's night
18 Thu ARES Meeting
25 Thu Club Meeting - Speaker's night

April, 2010

01 Thu Exec Meeting
08 Thu Club Meeting - Speaker's night
15 Thu ARES Meeting
22 Thu Club Meeting - Speaker's night

May, 2010

06 Thu Exec Meeting
13 Thu Club Meeting - Speaker's night
20 Thu ARES Meeting
27 Thu Club Meeting - Speaker's night

NOTES

1. Meetings start 7:30PM at St. Thomas A Becket Church Hall, 3535 South Common Court unless otherwise noted.
2. Brunch is at 9:30AM unless otherwise noted.
3. Classes are from 7:00PM - 9:00PM at Meals On Wheels at 2445 Dunwin Drive

Visit our website: <http://www.marc.on.ca> for any updates of the calendar.

Education Update

By Earle Laycock, VE3XEL

Where did the summer go? It's hard to believe we are starting another year of ham activities. From the education front, I am pleased to report that we have another Industry Canada accredited examiner in our club: Basil Burgess VE3JEB. Basil is one of our Basic and Advanced instructors and I am pleased to have Basil's help in the area of examination.



Basic Course

Our Basic Course is about to start on Monday evening at 7:00PM, September 14th 2009. The Red Cross Meals on Wheels have kindly provided use of their classroom at the Meals On Wheels/Canadian Red Cross building, 2445 Dunwin Drive, Mississauga. This is west of Glen Erin Drive and north of Dundas Street. Because of renovations, the classroom is slightly smaller this year so we all will get to know each other better! The course will run until December 14th when the final examination will be held.

We welcome our instructors back including: Basil VE3JEB, Jody VE3ION and Thomas VA3TMB. This year Ed VA3TPV will be assisting us with special demos and background information, when not writing this newsletter. Our new repeater manager, Dave VE3XDS, will be doing a special class on our repeaters. I thank Michael VE3TKI for his help in past years in this area. Repeater theory is of the basic curriculum and the MARC repeater system is an important component of our club, so we devote a significant portion of our teaching on the subject. A special thrill for my fellow instructors and myself is that Dave was a graduate of our courses and has become a prominent member of our club over a short period of time. It's really rewarding for us to see young people learning the hobby and succeeding.

The RAC Basic Study Guide Version 7 has been out of print for months and RAC was promoting the Hamstudy Basic 2009/2010 Study Guide. This guide contains just the bare bones information to pass the exam and built around the question bank which it contains. The Hamstudy Basic Guide also has an online component and a trial membership to RAC. I am glad to report that the RAC Basic Study Guide Version 8 is now available and will be the preferred text for the course as it contains much more information about amateur radio.

The accompanying Picture is the Pizza Nite: Graduation Ceremony at the Club Station for 2008 Year's Basic Class. Shown Left to Right are Richard Kennedy VE3RHD, Brian Clough VA3BPC, Robert Hudson VE3CWU, Ric East VA3XRE, David Shilling VE3XDS and Eric Hutchins VA3PSK.

Advanced Course

Thomas VA3TMB and Basil VE3JEB will be teaching the Advanced Course

again this year, starting in January. This course has quickly become a favourite of many hams in the area who wanted to upgrade their license and learn more about the theory of radio. Watch our website for class details. The course will be held in the same location as the Basic class.

Morse Code

If sufficient people are interested, we will hold a Morse Code class starting in January. Please contact me (Earle VE3XEL at "ve3xel @ rac.ca" (remove blanks) or 905-823-1345 to let me know if you are interested in this course.

Radioworld Support of Education

I would like to acknowledge the support MARC Education receives from Jack Summers VA3XR, General Manager, of Radioworld. Jack has provided a discount to us over the years on the purchase of course supplies and this year is offering a \$50 gift certificate to the Basic student who achieves the top score on the Industry Canada examination. Thanks Radioworld.

My thanks again to the volunteer instructors and others who support and make our education program the success that it is. We are attracting students not only from Mississauga but also Burlington, Oakville, Toronto and Brampton areas. MARC is well known.

73, Earle, VE3XEL

Einstein on Radio

Albert Einstein, when asked to describe radio, replied: "You see, wire telegraph is a kind of a very, very long cat. You pull his tail in New York and his head is meowing in Los Angeles. Do you understand this? And radio operates exactly the same way: you send signals here, they receive them there. The only difference is that there is no cat."

The Roving Reporter

By Anonymous

Each month your roving reporter goes out into the cold dark night to meet at one of the many Tim Horton's in our area, not only to take in the smell of fresh coffee along with the smell of fresh donuts wafting through the air, but to snare some unsuspecting soul with a clandestine interview. The poor fellow who is sucked in this month is our erstwhile, first term president, Jeff Stewart (VA3WXM). Without further ado, let's see what he has to say.

Bio:

From: Windsor Ontario

Profession: PHD in Chemistry and Technical Advisor

Personal: married with very understanding and tolerant YL, 2 children

Amateur Status: Licensed for 10 years with Basic, Advanced and Cw endorsements. Member of MARC for 8 years.

RR: *How did you become interested in amateur radio?*

VA3WXM: I started listening to shortwave broadcasts when I was 12 years old and caught the radio "bug". I found it fascinating to listen to news shows, music and discussions from all around the world. Many times I would get a different perspective on current events.

RR: *Interesting that many of us were first drawn to radio in the same way. What are your favourite aspects of the hobby?*

VA3WXM: I enjoy the public service side of things. Giving back a little to the community. I do this by volunteering for the various walks that the club is involved with. I enjoy participating in Field Day and other events when time and family commitments allow. I also enjoy playing with antennas.

RR: *What other interests do you have and enjoy?*

VA3WXM: I enjoy swimming, spending time with my children and walking.

RR: *Why did you decide to run for president of the club?*

VA3WXM: I had semi-dropped out after our children were born due to time constraints. They are now a little older which means that I have a little more free time to get involved once again. The president position was open and seeing as how I had been on the executive as treasurer a number of years ago, I decided to put my name forward.

RR: *What does your station consist of?*

VA3WXM: Home: Icom 746PRO, Kenwood TK-790/890 dual-band V/U, Kenwood TK-290 V handheld, Kenwood TK-390 U handheld, Alinco DJ-596 dual-band handheld, Yaesu G-450 rotor, TGM 2-element mini-quad (10-20m), Comet GP-15 tri-band vertical, Delhi 30' tower. Car: Yaesu FT-8900 quad-band, Comet SB-15 dual-band 2m/70cm antenna, Larsen 6m antenna.

RR: *Great stuff Jeff and thank you for your time. I'm done. My coffee's done, so we might as well head off into the night and return to our respective homes. As always, it was a pleasure speaking with you and good luck with your term as president.*

73, RR,

Good Hamming

Fall Antenna System Tune-Up

By Ed Spingola, VA3TPV

The fall season is fast approaching, and if you have not already done so, now is the time to get your antenna system ready for the long cold winter months ahead.

I suspect that many amateur radio operators, having no clear antenna maintenance strategy, employ the principle of don't fix it until it breaks. This may be a good philosophy in warmer climates, but here in Canada, the last thing you want to do in October through April is antenna or

tower work. Here is a less than exhaustive check list of preventative measures.

1. Call before you dig. It's the law. If you are doing excavation work call Ontario One Call at 1-800-400-2255, a free service to locate underground cables and pipes. See www.on1call.com for more information.

2. Check your antenna system for abnormal SWR readings.
3. Replace any suspect coax or other transmission line which has an ingress of moisture.
4. Check antennas and towers for mechanical problems: missing or loose hardware. Repair or replace as necessary.
5. Check ground rods, including tower grounding, ground radials and lightning arrestor connections both indoor and out for corrosion or other signs of deterioration.
6. Check connectors for moisture, oxidation or corrosion. Tighten any loose connectors, Replace corroded connectors.
7. Waterproof coax and other connections i.e. rotor connectors as necessary.

8. Check guy wires and replace worn or frayed cables.
 9. Check each year, before trouble occurs, and replace dacron or other synthetic rope halyard lines and corroded pulleys used for hoisting your favourite doublet.
 10. Check tower bases for corrosion and repaint or repair as necessary. Check for missing or loose hardware. Tighten and replace as necessary.
 11. Ensure there is no blockage of drain holes i.e. in traps, antenna tuner waterproof housings, etc.
 12. Check insulators for cracks and clean insulators with fresh water.
- The above items may sound like a lot of unnecessary work, but consider maintenance as insurance against something going wrong at an inappropriate time i.e. during a contest or rare DX QSO. Antenna maintenance will ensure a happy season of operating experiences.

PSK31 Operating Aid

By Ed Spingola, VA3TPV

Anyone who has operated ssb knows the importance of correct transmit audio level to avoid over modulating and creating interference. When you speak, the automatic limiting control (ALC) in the transceiver attempts to keep the rig from over driving. The requirement to not over drive also applies to PSK31 and other digital modes. There have been various articles written in the amateur radio journals on the proper adjustment of the PSK31 transmit audio level.¹ There is even a YouTube video by K7AGE² on this topic. On the internet, Steve O'Neal, N6CRR,³ has posted some good screen shots of PSK31 over modulating causing the PSK31 signal to splatter sidebands. Google displays many other hits on PSK31.

Are there any more reliable methods to ensure a clean PSK31 signal than looking at the ALC? The answer is yes. There are two products on the market, that I am aware of, which make the PSK31 audio level adjustment a sure thing. Clinton Hurd, KK7UQ⁴, produces the IMD Meter and George Rothbart, KF6VSG⁵, produces the PSK Meter. These products are described below.

IMD Meter by KK7UQ

The IMD Meter by KK7UQ⁴ is a stand alone instrument designed to display your IMD (Inter Modulation Distortion) while you are transmitting PSK31 or PSK63. No



connection to your rig is required, nor is a connection to your PC needed.

The RF signal is picked up by a short whip antenna on the meter, fed into an AGC controlled RF amplifier, the signal is detected, and sampled with an A/D converter under the control of a micro controller. The signal is analyzed by firmware on the micro controller and the equivalent IMD is calculated and displayed on a large 3 digit LED display built into the IMD Meter. The AGC RF front end has a wide dynamic range and adapts to power output

from QRP to QRO. PSK level setting is under the manual control of the operator, who can choose the output drive level consistent with a clean signal.

The RF signal quality is measured by analyzing the shape of the modulating wave form allowing accurate IMD readings to be produced in real time while transmitting – both in IDLE mode and even as you are transmitting text. It also adjusts to your transmitted signal levels automatically and handles QRP or QRO RF output. There are no levels to set or knobs to twist here. Just turn it on and it analyzes and displays automatically.

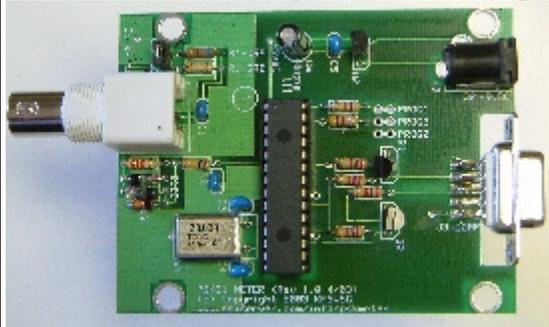
The IMD Meter also doubles as a relative HF Field Strength Meter with calibration approximately 1 dB per unit.

The IMD Meter comes with a well written manual and a DC power source (12 vdc , 200 ma.) for use with the IMD Meter. Plug the DC power connector into the receptacle in the side of the meter. Then plug the power supply into the AC power system. Your now ready to monitor PSK31 06 PSK63.

The IMD meter is no longer available in kit form and must be purchased fully assembled and tested.

PSKMeter by KF6VSG

The PSKMeter ^{5,6} (available in kit form) by KF6VSG is another product that assists you in producing that perfect PSK31 or PSK63 signal, one that occupies the least bandwidth and does not produce annoying splatter.



The PSKMeter samples your transmitted RF through a T-tap on your coax, analyzes the results and sends the results to your computer where PSKMeter software adjusts your sound card audio output until the splatter disappears. With the PSKMeter you never have to worry about whether your sound cards levels have changed since the last time you were on the air. Just start transmitting and the PSKMeter takes care of the rest.

The PSKMeter sampling hardware consists of a single pc board with a BNC RF connector at one end and a 9-pin serial jack at the other.

If you don't have a serial port available on your computer, the PSKMeter will also work with a Serial-to-USB converter.

Notes:

¹ Steve Ford, WB8IMY, The Skunk at the Digital Party, QST, December 2007, pp 50.

² K7AGE, PSK31 Transmitter Level Adjustment, <http://www.youtube.com/watch?v=I3CwHaX7t5M>

³ Steve O'Neal, N6CRR, The Good, The Bad and the Ugly on PSK31, <http://www.eham.net/articles/12626>

⁴IMD Meter by KK7UQ, <http://kk7uq.com/html/imdmeter.html>

⁵ PSKMeter by KF6VSG, <http://www.ssiserver.com/info/pskmeter/>

⁶ Steve Ford, WB8IMY, PSKMeter, QST, February 2004, p 66

QuickMix

By Ed Spingola, VA3TPV

If you run multiple applications that require different audio mixer settings on your Windows computer, then a freeware application, QuickMix, may be what you have been waiting for.



QuickMix is a simple applet that allows you to store all or part of the current state of your audio mixer in a settings file, and to quickly restore the mixer to that state whenever you want. You can download QuickMix at: <http://www.ptpart.co.uk/quickmix>

RAC MEMBERSHIP APPLICATION/TCA SUBSCRIPTION OPTIONS

For two- or three-year memberships or renewals please contact the RAC Office given at bottom of this page.

Please enter applicable choice(s)

Please indicate New or Renewal:	
1 year RAC membership; (includes \$45.00 subscription for TCA) @\$50.00 plus GST or HST as applicable Total \$52.50 in BC, AB, SK, MB, ON, QC, PE, NT, NU Total \$56.50 in NL, NS, NB	
1 year RAC membership only; for a blind person <u>NO MAGAZINE</u> @\$20.00 plus GST or HST as applicable Total \$21.00 in BC, AB, SK, MB, ON, QC, PE, NT, NU Total \$22.60 in NL, NS, NB	
Family membership; price per extra family member @ \$20.00 plus GST or HST as applicable per year (one TCA per family) (Does not apply to simple subscriptions.) Total \$21.00 in BC, AB, SK, MB, ON, QC, PE, NT, NU Total \$22.60 in NL, NS, NB	

CONTACT INFORMATION

Name:	Call sign:
Address:	City/Town:
Province:	Postal Code:
Family Member Name	Family Member Call sign:
If you enter something on line above, a charge of \$20.00 (plus taxes) will be added to your membership	
Family Member Name	Family Member Call sign:
If you enter something on line above, a charge of \$20.00 (plus taxes) will be added to your membership	
Email:	Telephone #:

DONATION OPTIONS

Donation to the RAC Foundation enclosed	\$
Donation to the Defence of Amateur Radio Fund enclosed	\$
Donation to the Youth Education Programme enclosed	\$
Donation to the Amateur Radio Emergency Service (ARES) Programme enclosed	\$
Grand Total:	\$

PAYMENT OPTIONS (Cheque or)

Visa/MasterCard No:	Card Expiry Date (MM/YY):
Security code on back of card (CVV2):	
Name of person credit card is issued to:	



Mail to:

Radio Amateurs of Canada Inc.
720 Belfast Road, Suite 217
Ottawa, ON K1G 0Z5
Telephone #: 614-244-4367 or
877-273-8304, Fax: 613-244-4369
Email: rachq@rac.ca